



*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*



**College of  
Public Health**

*Center for Public Health Systems  
and Services Research*

# Agenda

**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**

*Professor*

School for the Science of Health Care Delivery  
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## **George C. Runger, PhD**

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*Chair*

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*Director*

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## **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.**

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# 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

# CULTURE OF HEALTH ACTION FRAMEWORK



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

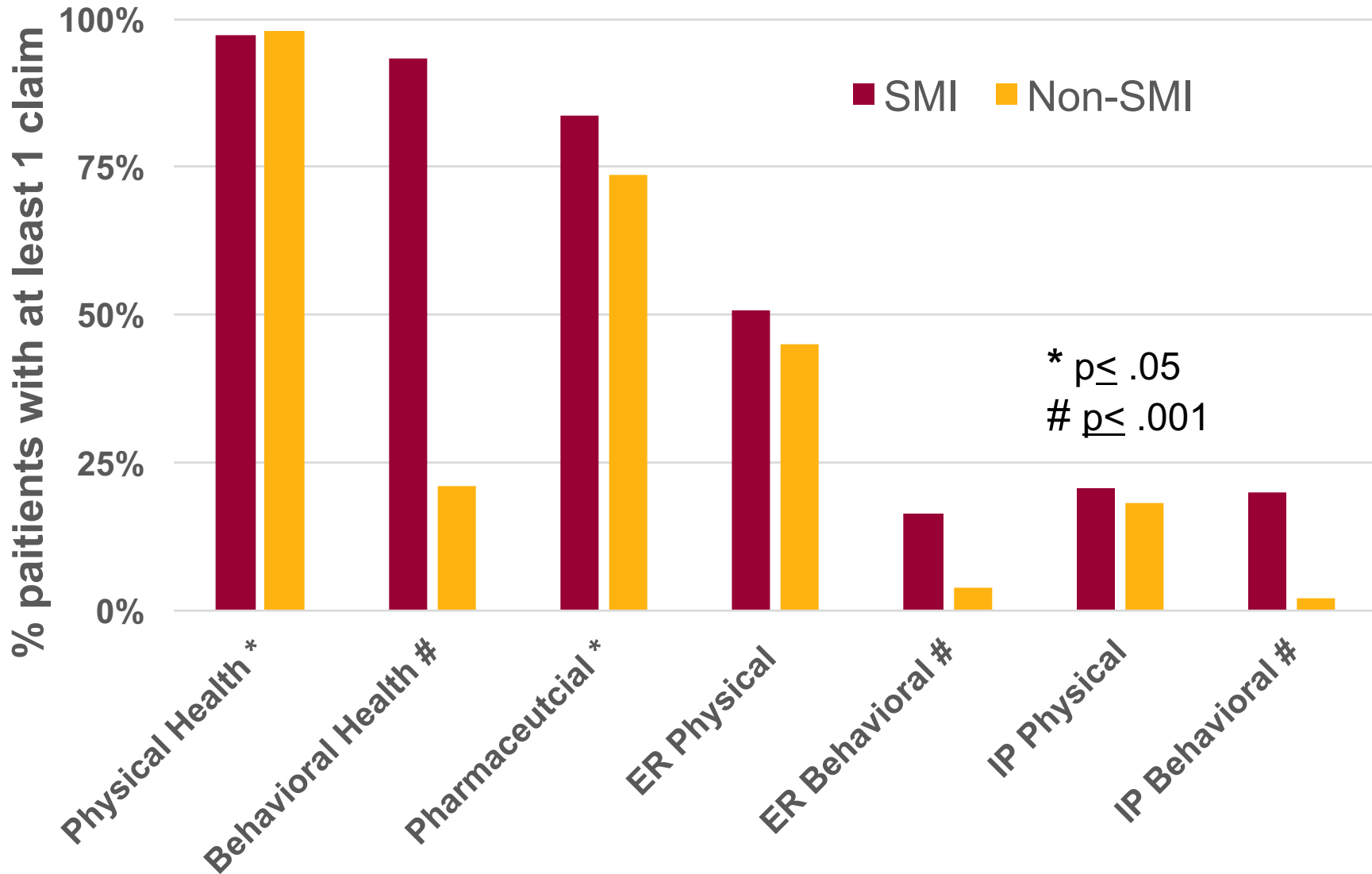


*Strengthening of multi-sector relationships through the sharing and co-mingling of data to create shared understanding of the multi-sector relationships*

Health	Local Government	Public Safety
AHCCCS	Maricopa County Managers Office	Phoenix Policy Department
Mercy Care/MMIC	Maricopa County Office of Public Health	Maricopa County Sheriff's Department
Crisis Response Network	Maricopa County Association of Government	Maricopa County Correctional Health Department
Connections AZ		Maricopa County Adult Probation
Providers (MARC PIR, RI Int.)		
Consumer Operated Service Programs		

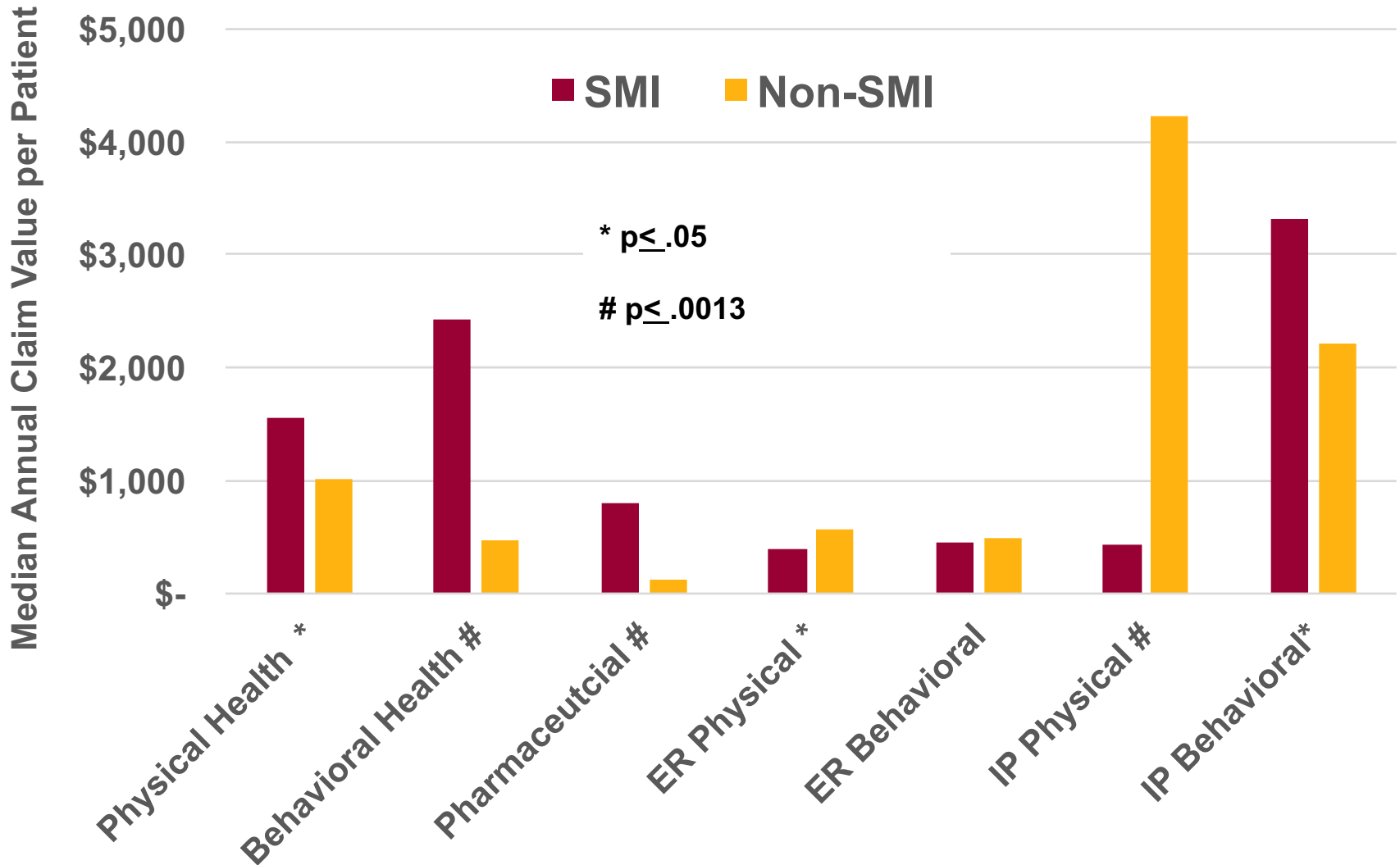
# Penetration

Maricopa County only, 4/2014-5/2015



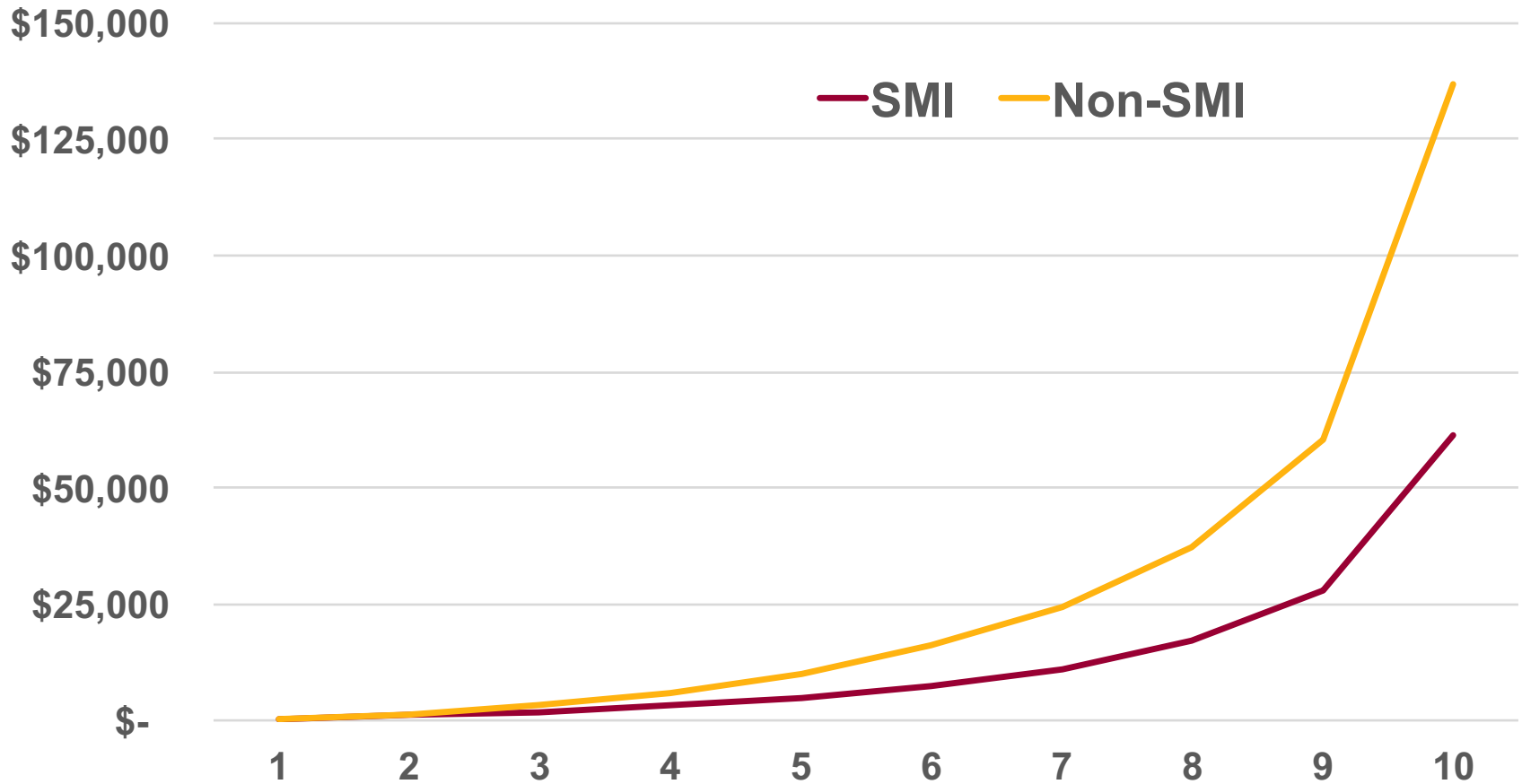
# Value

Maricopa County only, 4/2014-5/2015



# Health Claim Value

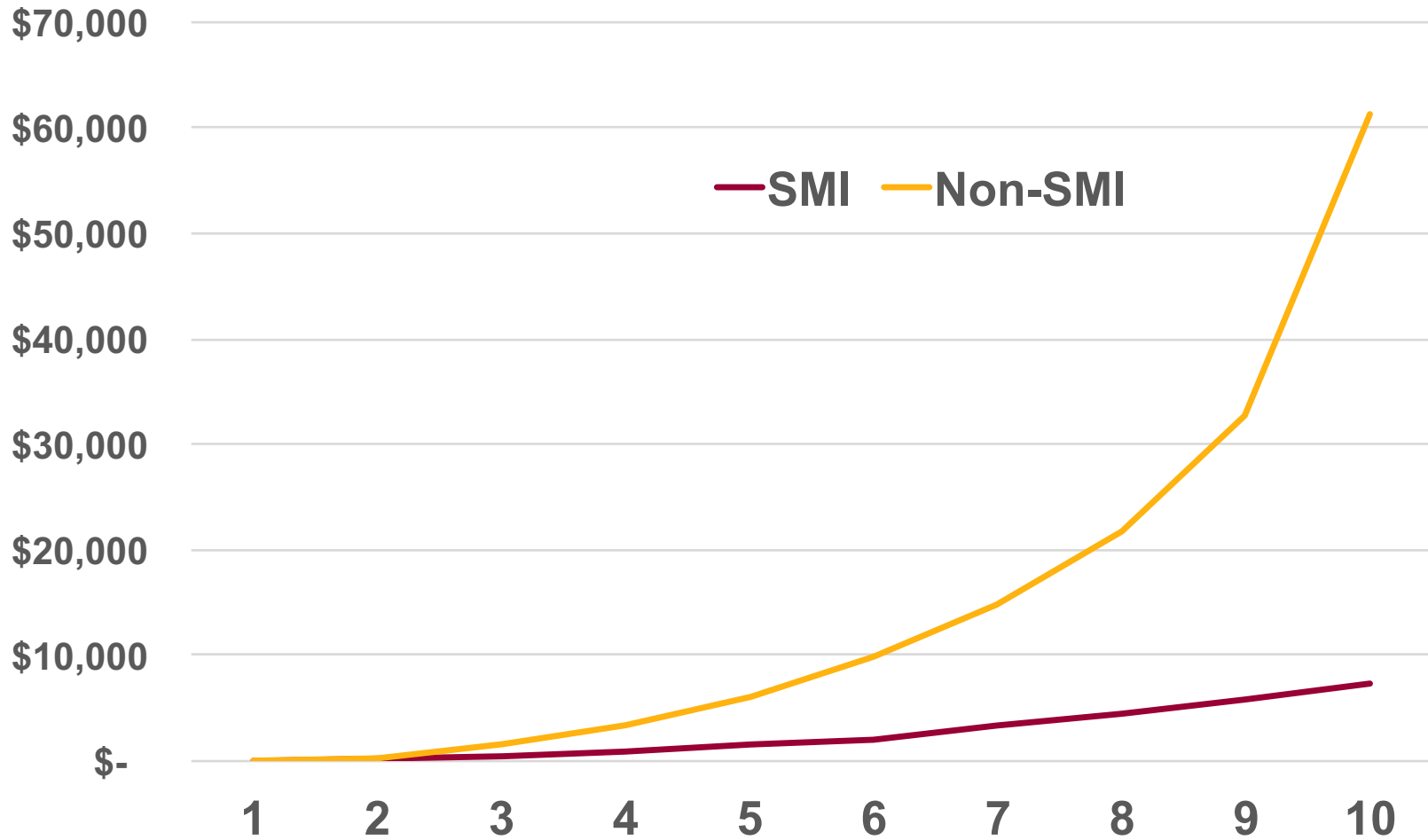
Maricopa County only, 4/2014-5/2015, *median* per patient





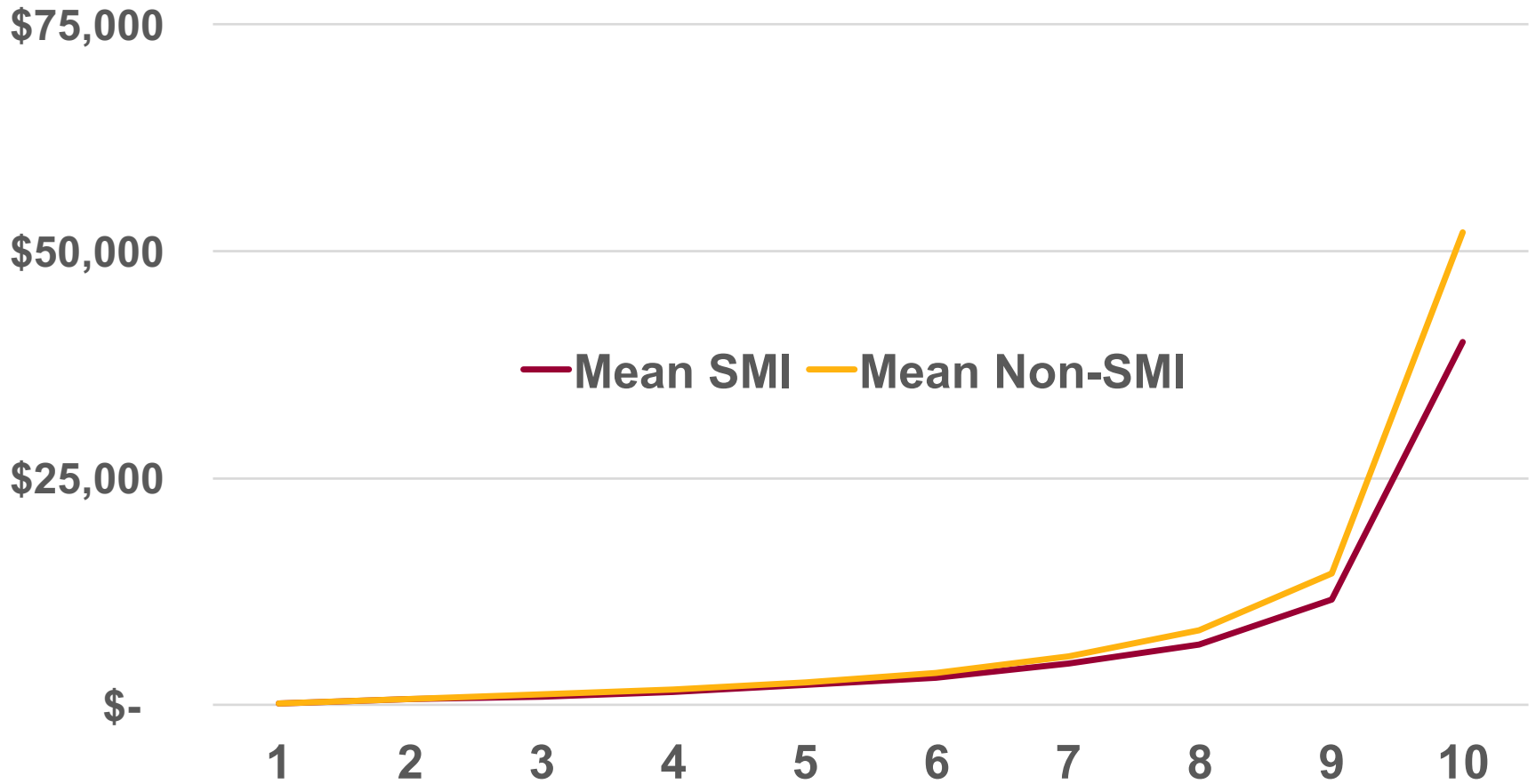
# Physical Health Claim Value

Maricopa County only, 4/2014-5/2015, *median* per patient

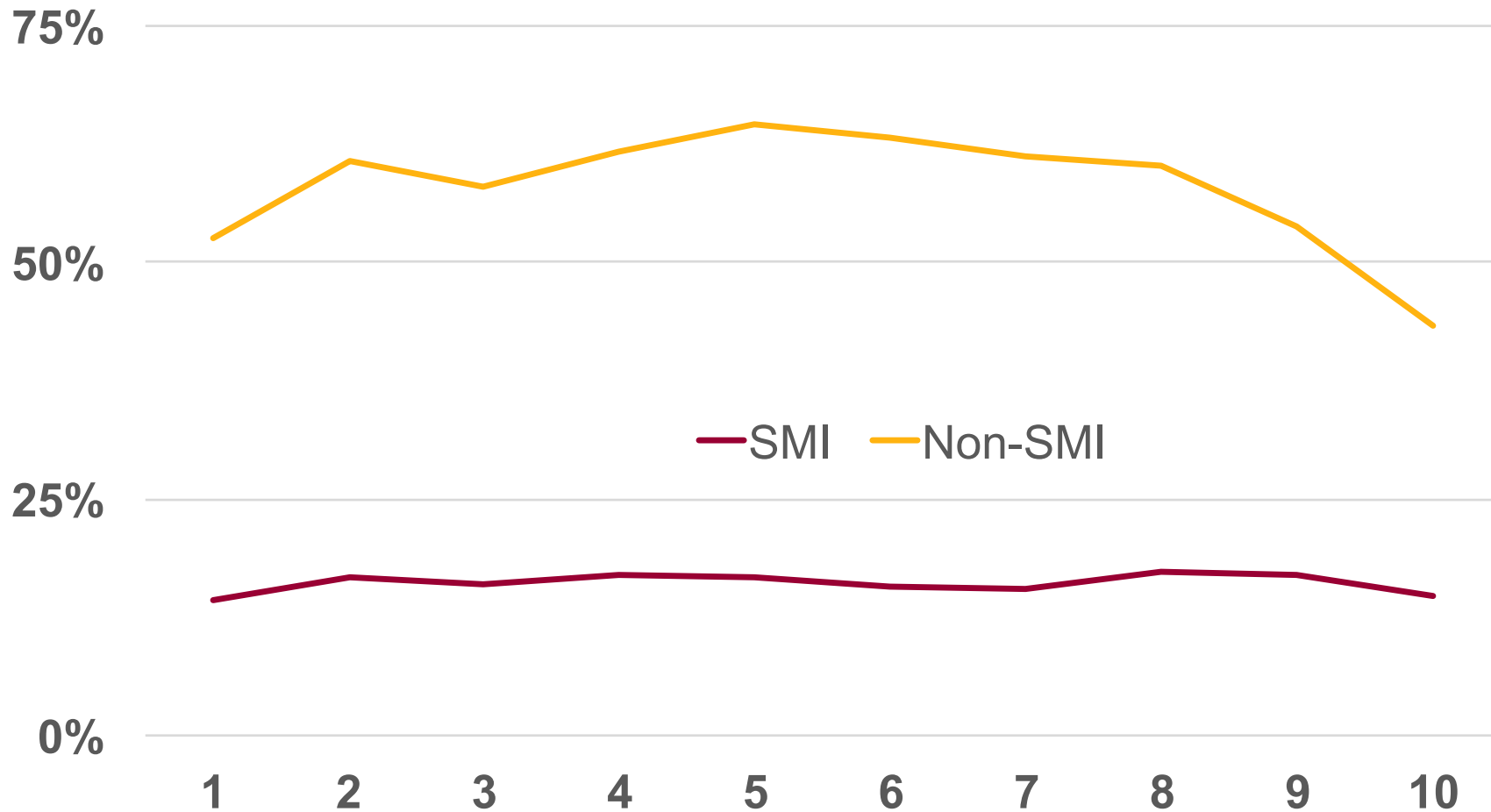


# Behavioral Health Claim Value

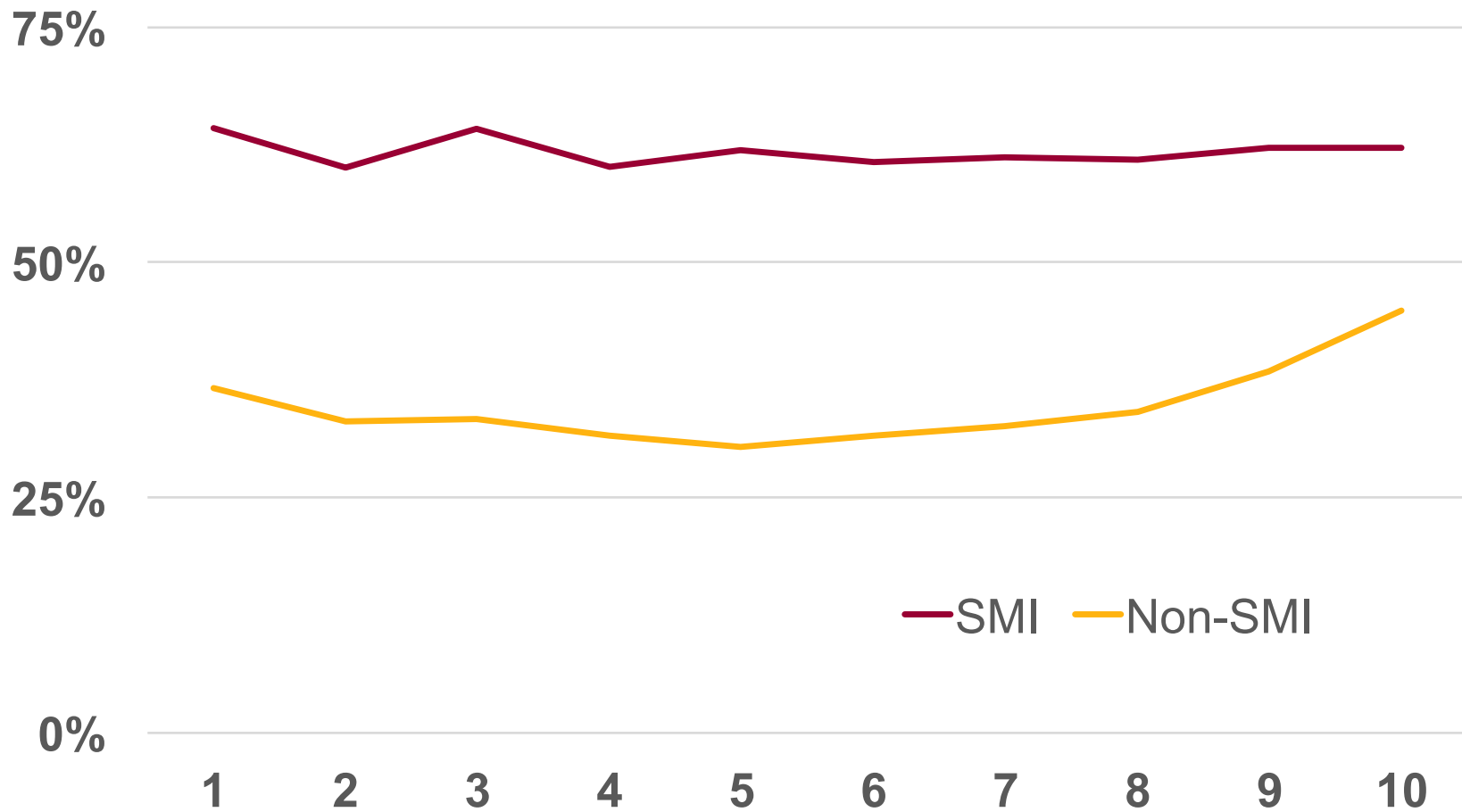
Maricopa County only, 4/2014-5/2015, average per patient



# Hispanics, By Cost Band



# Caucasians/Whites, By Cost Band



# Odds Ratio Claims by ICD Cluster

## SMI to non-SMI

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

# 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

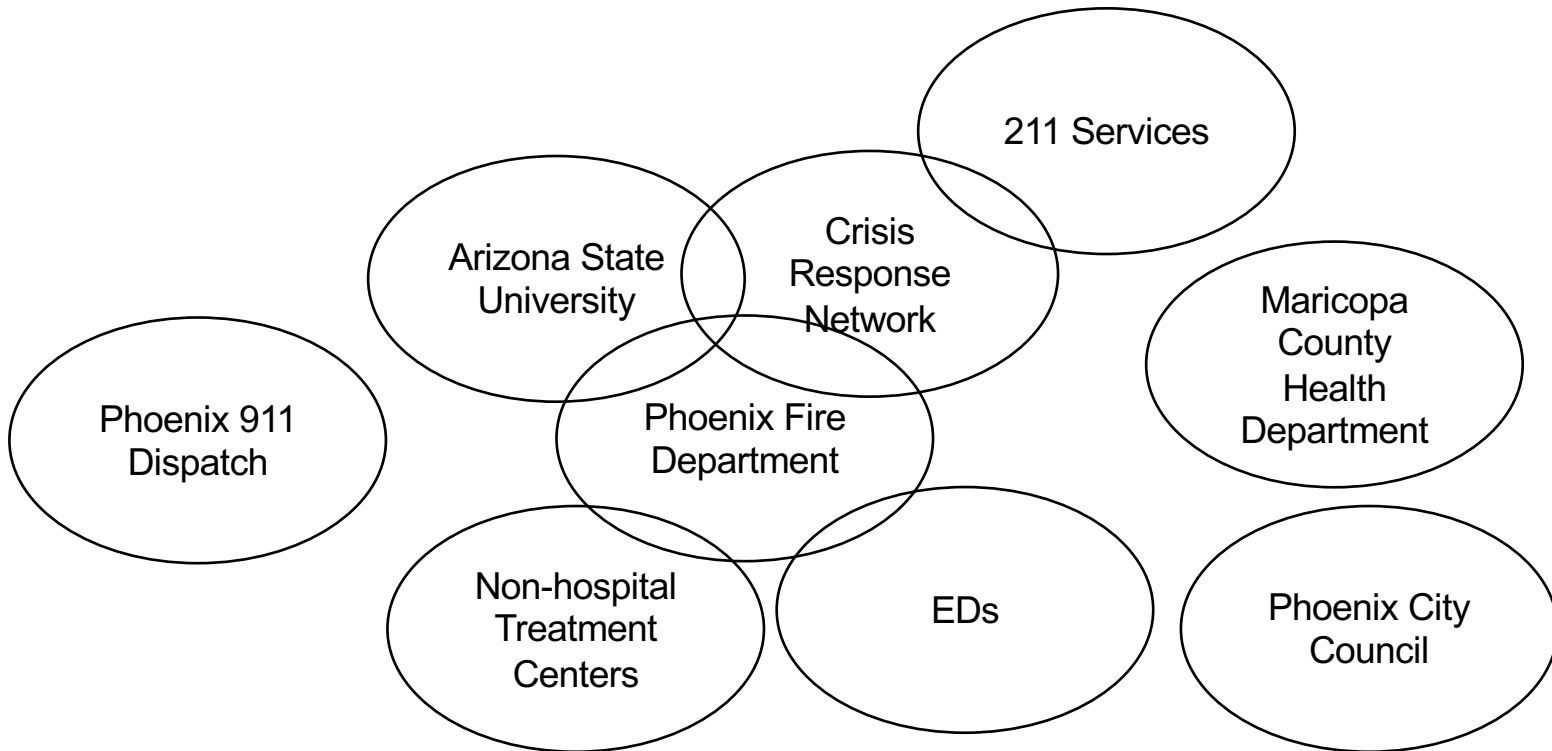
## Examples

- 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

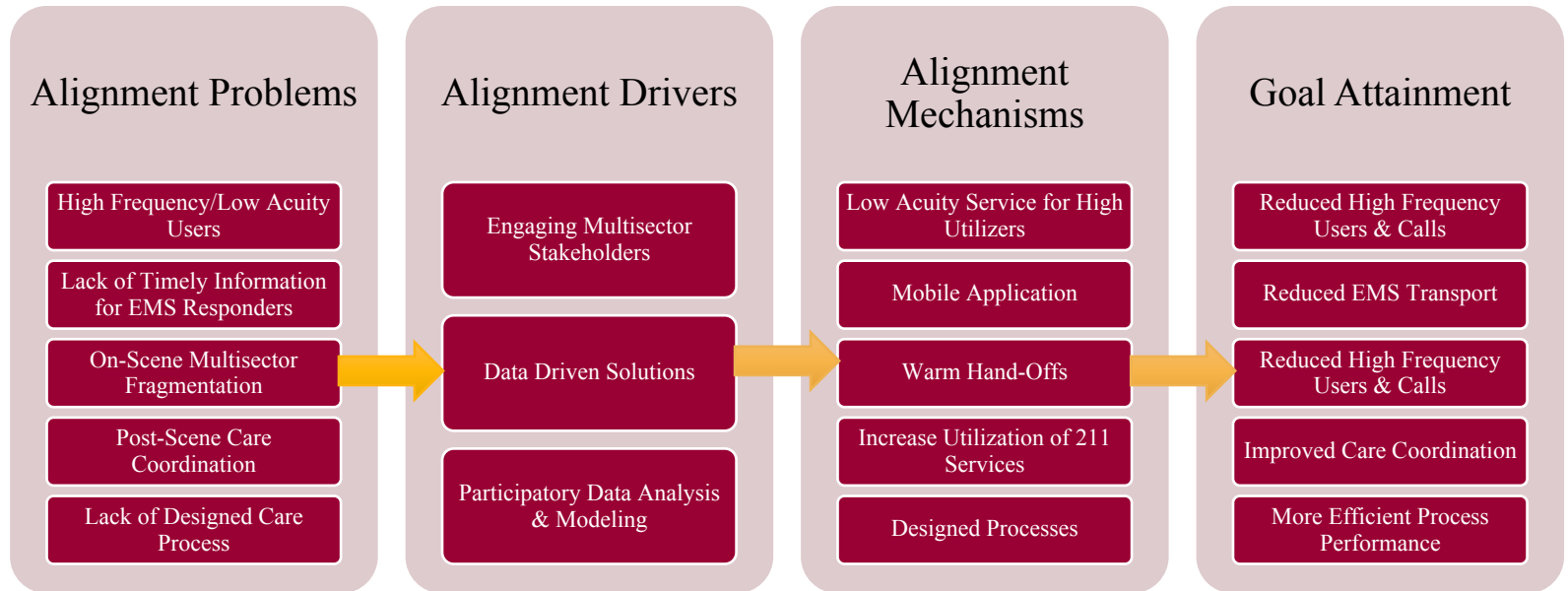


# Glossary

- 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



# 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

**LEGEND**

- ▲ FIRE STATION
- ADMINISTRATIVE LOCATIONS

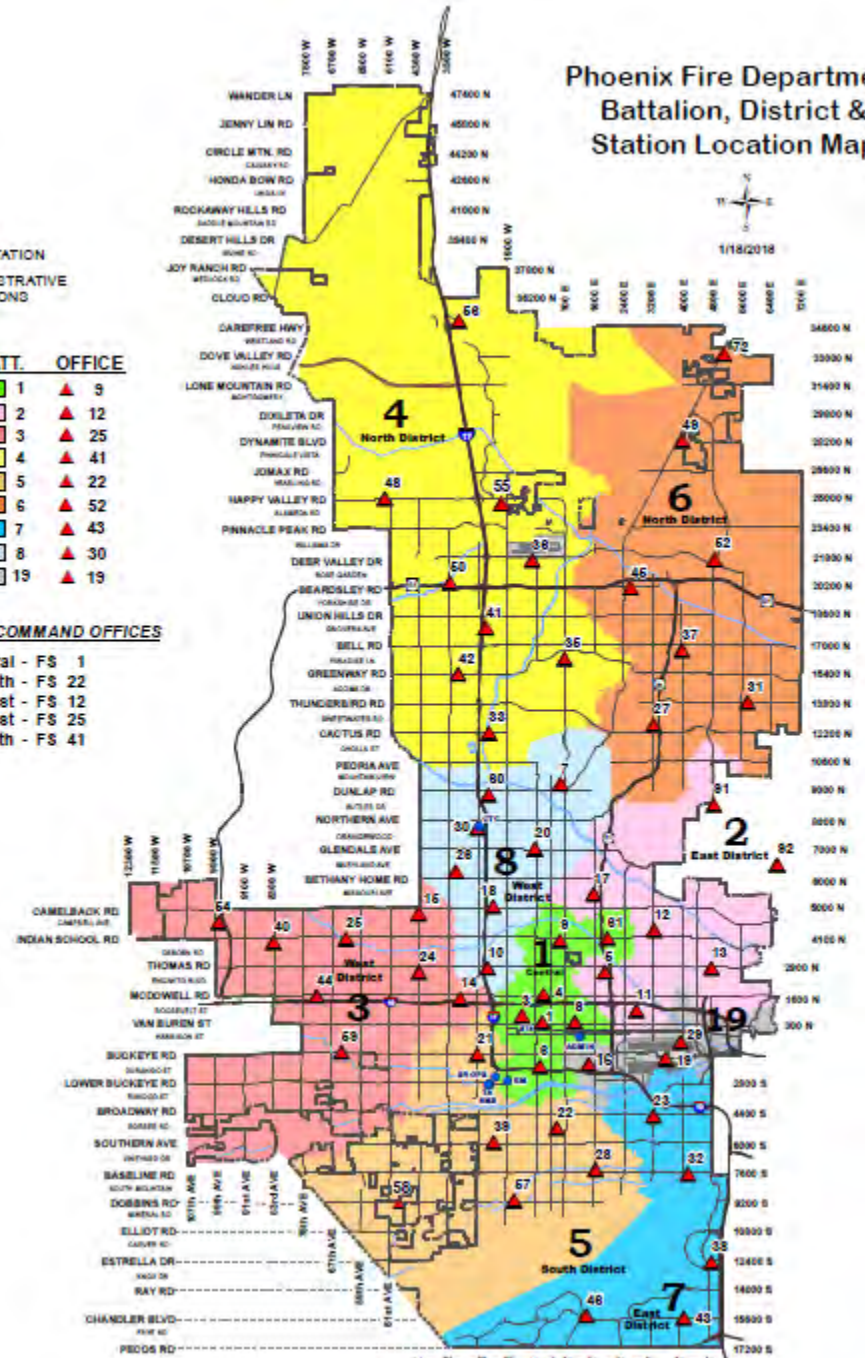
**DIST. BATT. OFFICE**

DIST.	BATT.	OFFICE
CD	1	▲ 9
ED	2	▲ 12
WD	3	▲ 25
ND	4	▲ 41
SD	5	▲ 22
ND	6	▲ 52
SD	7	▲ 43
WD	8	▲ 30
SKY	19	▲ 19

**DISTRICT COMMAND OFFICES**

- Central - FS 1
- South - FS 22
- East - FS 12
- West - FS 25
- North - FS 41

**Phoenix Fire Department  
Battalion, District &  
Station Location Map**



# Total EMS Calls Phoenix 2017

Total EMS Calls	Number of Calls	Percent
Police	2,155,000	91%
Fire	215,178	9%
Total	2,370,178	100%

# Fire Department EMS Calls

Type of Call	Number of 911 Calls	Percent
Fire Calls	21,730	10.1%
Other Calls	7,315	3.4%
EMS Calls	186,133	86.5%
Total	215,178	100%



## Crisis Call Center Services

- mobile team dispatches
- crisis transportation services
- emergency room-based assessments

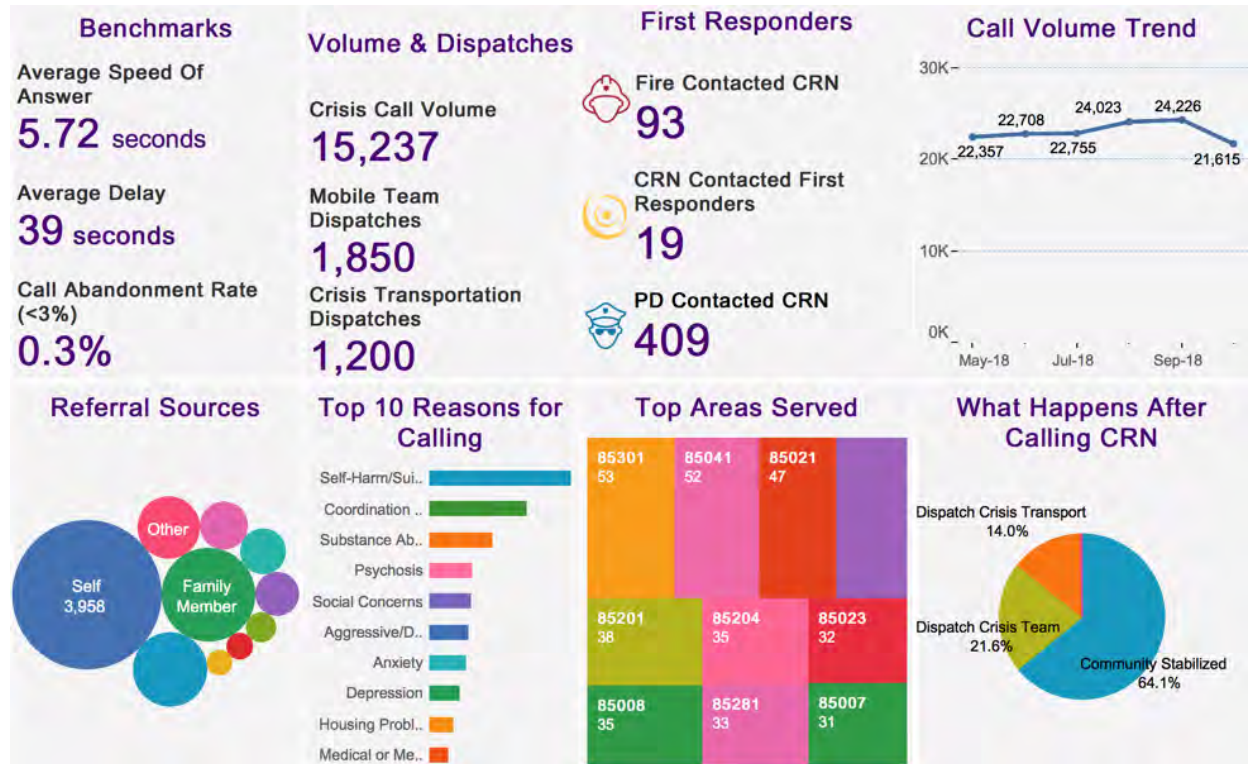
## 24-hour Peer-run Warm Line

## 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](mailto:William.J.Riley@asu.edu)

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# Respondent



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](http://www.systemsforaction.org)

# Acknowledgements

***Systems for Action*** is a National Program Office of the Robert Wood Johnson Foundation and a collaborative effort of the Center for Public Health Systems and Services Research in the College of Public Health, and the Center for Poverty Research in the Gatton College of Business and Economics, administered by the University of Kentucky, Lexington, Ky.



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and

