

Multisector Systems Analysis to Integrate Behavioral Health Policy: Successes and Challenges to Working Across Sectors

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Presenter Disclosures

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(1)The following personal financial relationships with commercial interests relevant to this presentation existed during the past 12 months:

No relationships to disclose

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Part 1: Goal & Aims of the ASU Culture of Health Initiative

RWJF Vision

To Build Culture of Health

- Every person has an equal opportunity to live the healthiest life they can—regardless of where they may live, how much they earn, or the color of their skin.
- Achieving lasting change will require different sectors to come together in innovative ways to solve interconnected problems.

Care Fragmentation for Behavioral Health Disorders (BHDs)

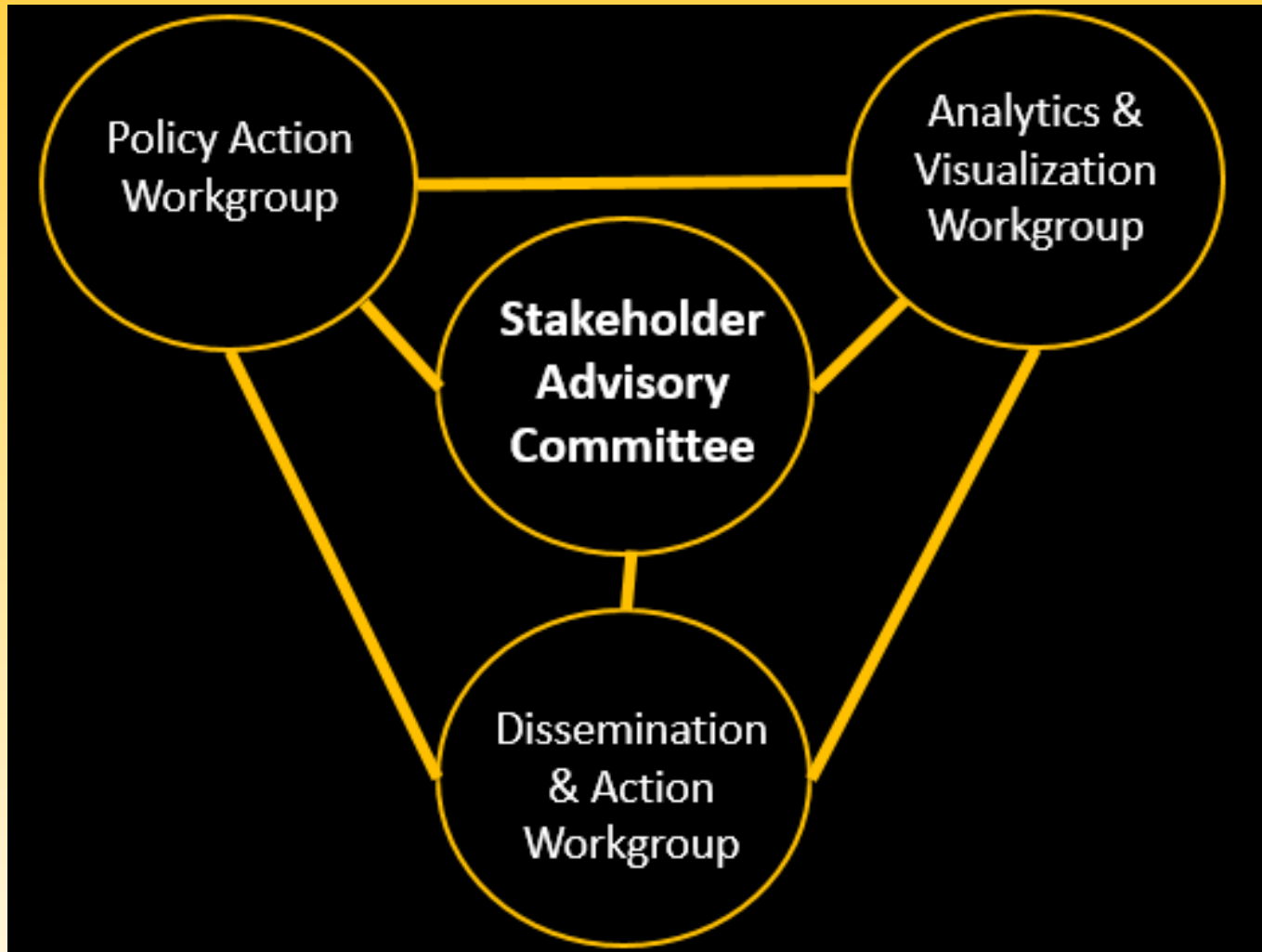
- The care fragmentation for patients with BHDs' is a striking example of overlapping financing mechanisms, conflicting policies and an institutionalization bias in our health care system

Part 2: Goal & Aims of the ASU Culture of Health Initiative

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.



Part 3: Description of Databases That ASU Possesses and Will Acquire for This Project

Methodological Approach

- A mixed-method approach using causal models through structural equations and quasi-experimental designs.
- Triangulate multisector evidence regarding alignment of the financing and delivery system.
- Model interventions and predict outcomes at the systems level (including microsimulation, data visualization, Delphi simulation, financial modeling).

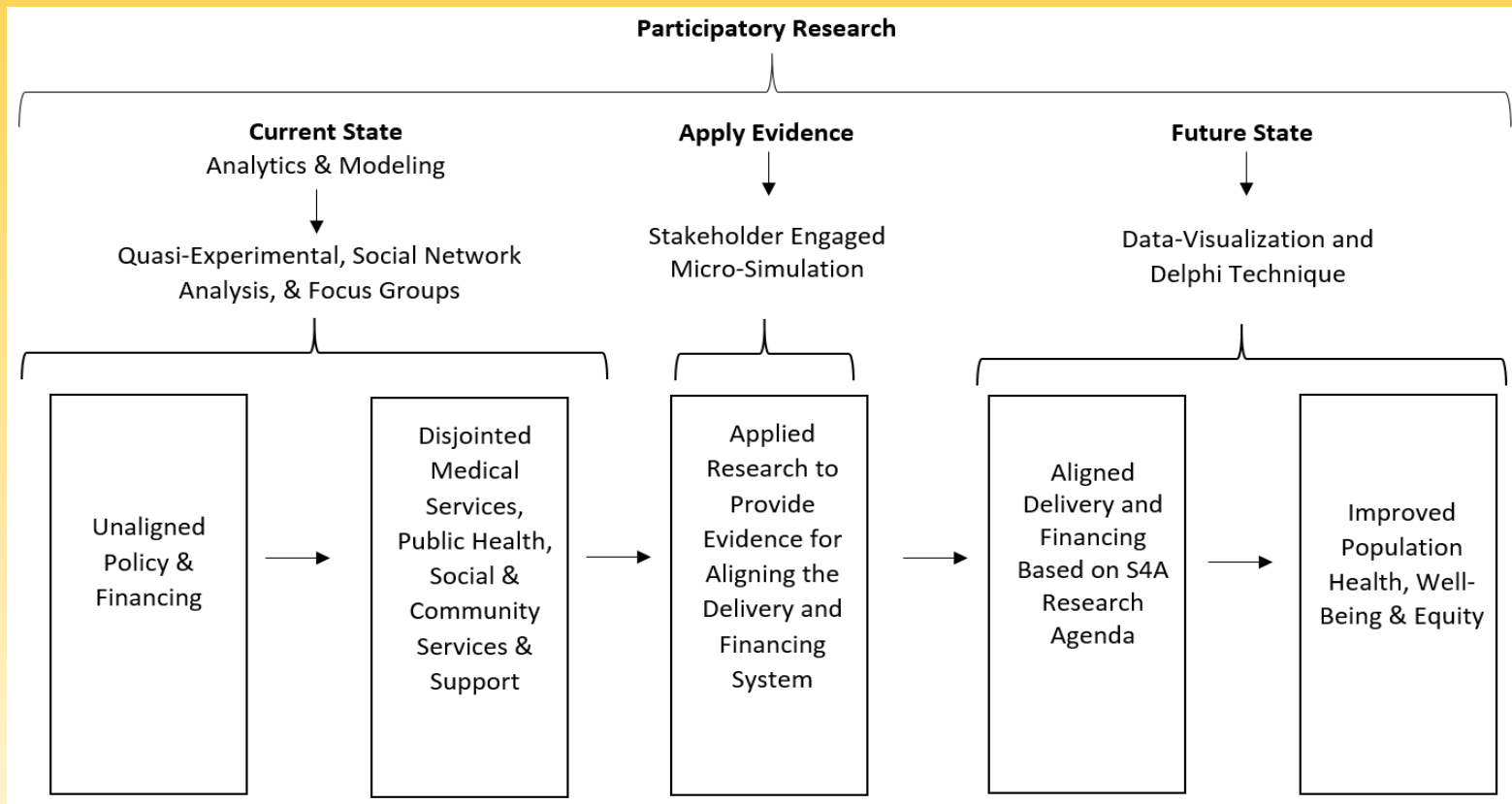
Medicaid (n=1 Million)

Target Population (n=20,000)

SMI

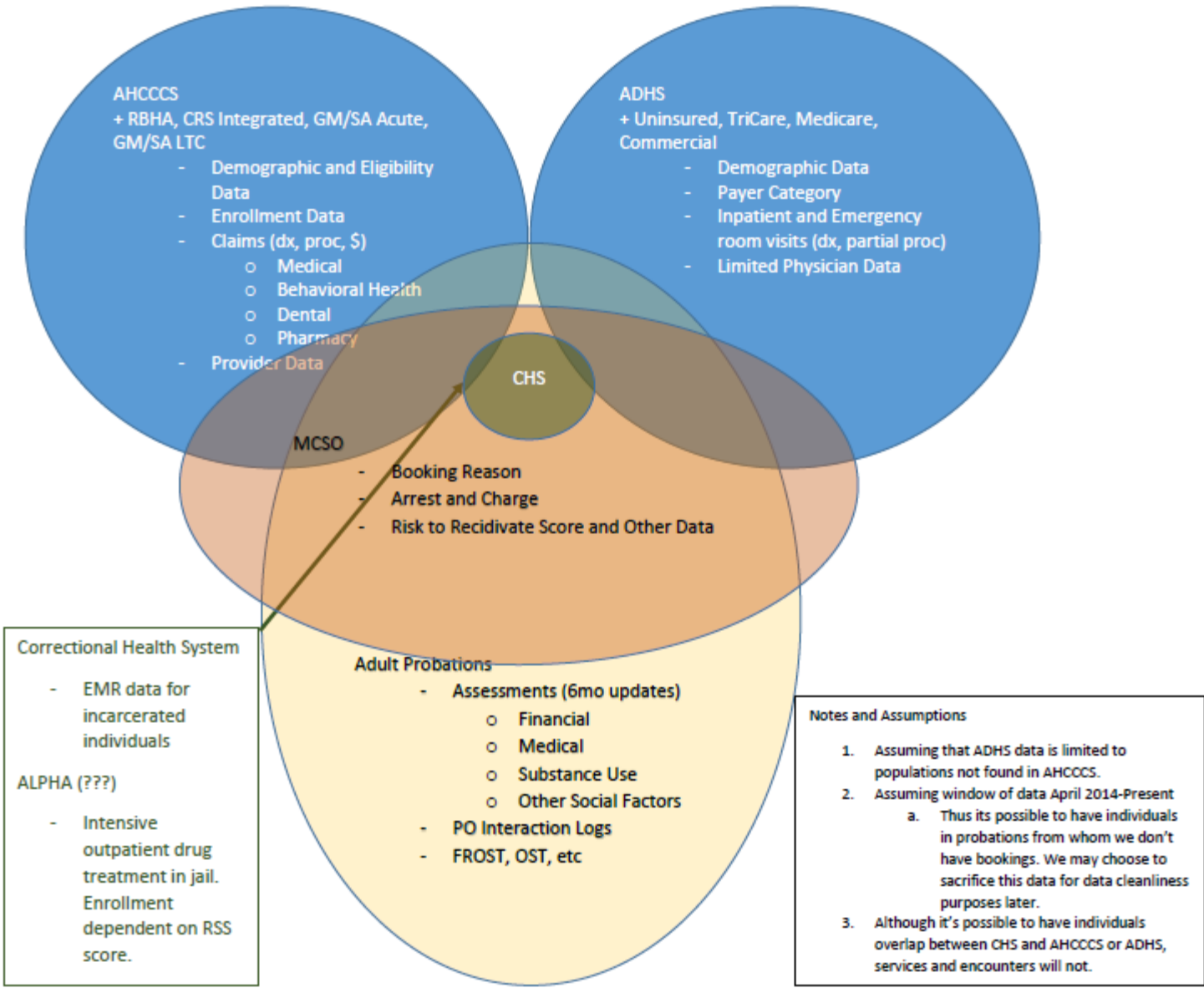
GMHSA

Children



Current and Additional Sectors

- Health
 - ADHS HDD, AHCCCS Claims Data
- Criminal Justice System-Maricopa County
 - Adult Probation Enterprise Tracking System (APETS)
 - Jail Booking Roster
 - Integrated Criminal Justice Information System (ICJIS)



Data Overview

- SMI patients with physical or behavioral claims over 26 week period
- 20,693 Patients with 1 to 78 claims each

Figure 1: Scatterplot of Behavioral Health Cost vs Total Cost



Cost Summary

	Claims	Costs	Mean	StDev	Median
Mental Health	305135	\$127,788,251	418.79	1343.91	98.17
Physical Health	244880	\$127,051,194	518.83	2354.36	143.05
Substance Abuse	15572	\$5,043,656	323.89	661.75	133.43
All	565587	\$259,883,102	459.49	1841.01	117

Physical and Behavioral Claims per patient

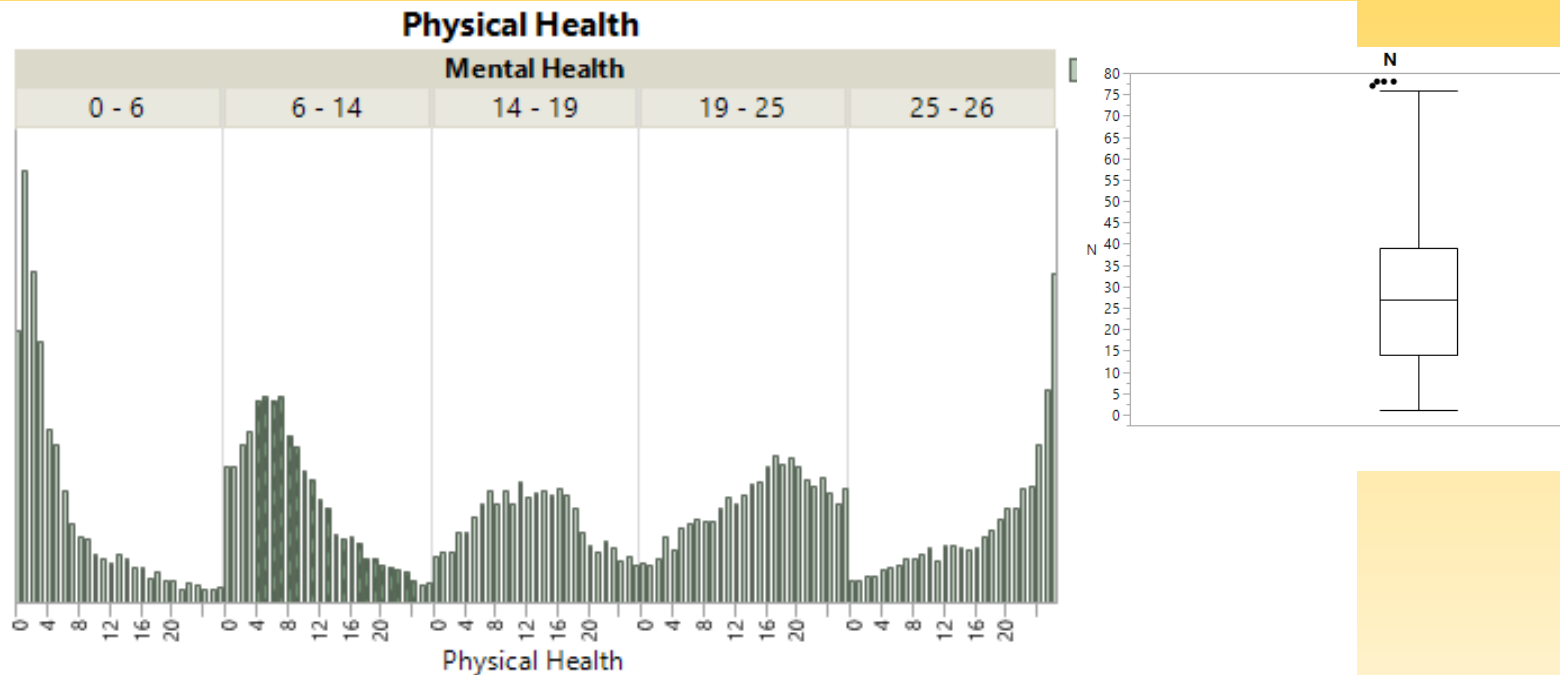
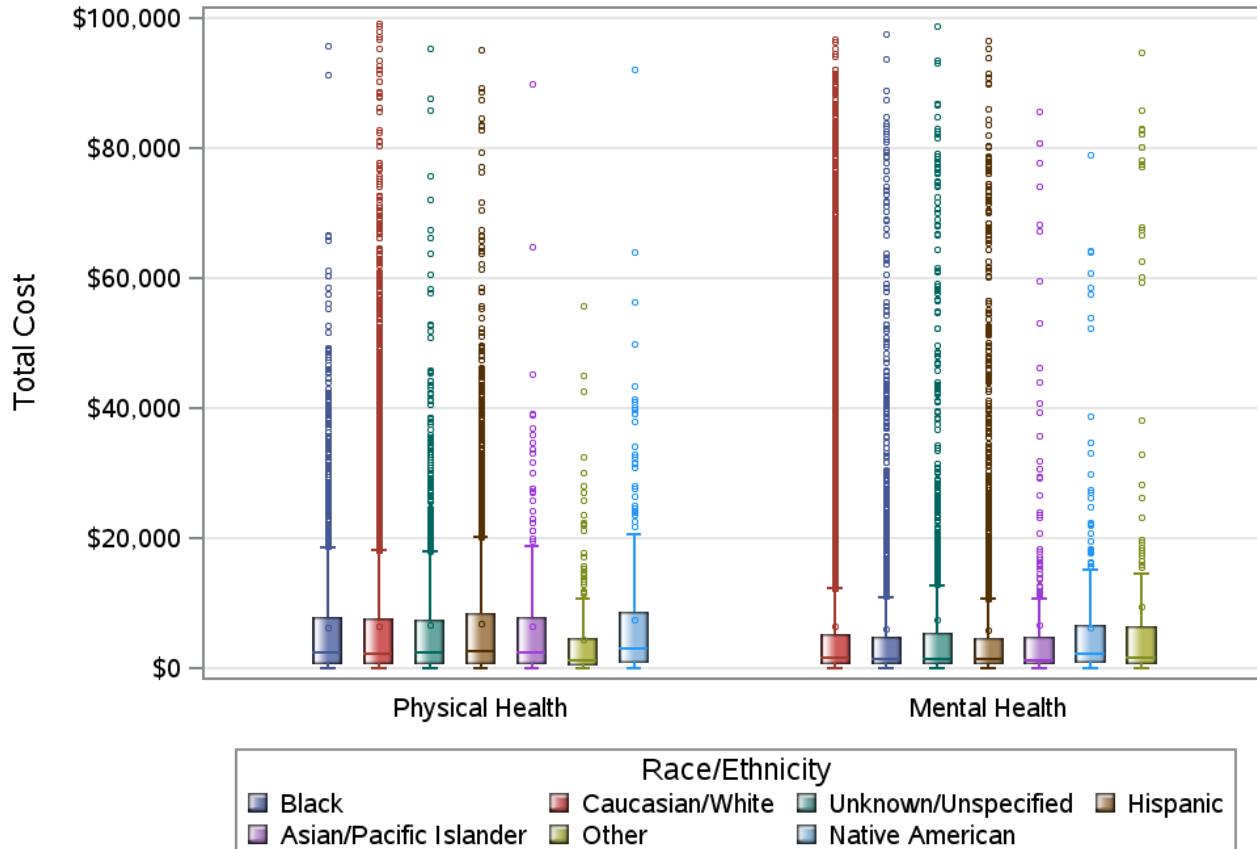


Figure 8 : Box-Plots of Behavioral Health Costs and Physical Health Costs by Race/Ethnicity



Successes

- The research is the intervention
 - Policymakers develop the research question, define the factors, and direct the data visualization
- The multisector alignment will result in substantially improved policy lead time
- Support from stakeholders
- Periodic stakeholder meetings

Challenges

- Acquiring data and integrating databases
- A shift in the conceptual model and additional research inquiry
 - Such as longitudinal stakeholder surveys and concept mapping

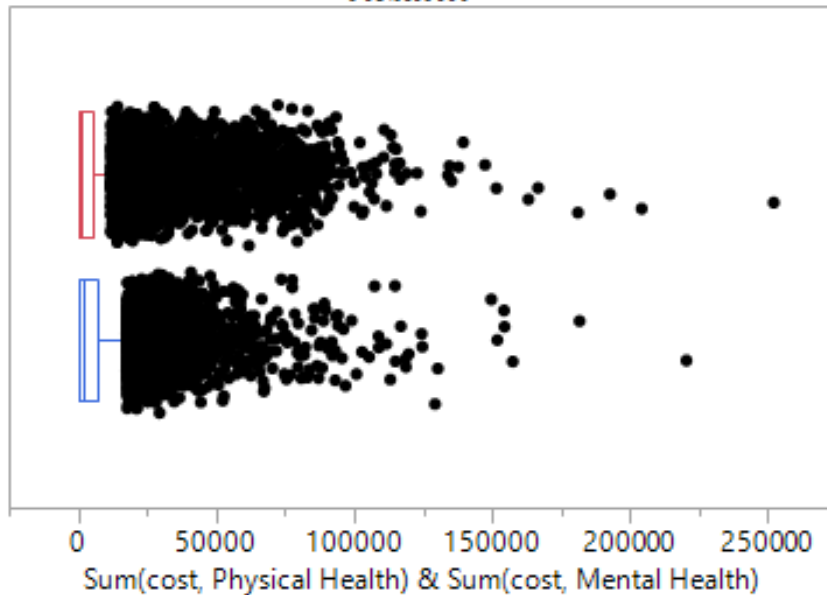
Acknowledgements

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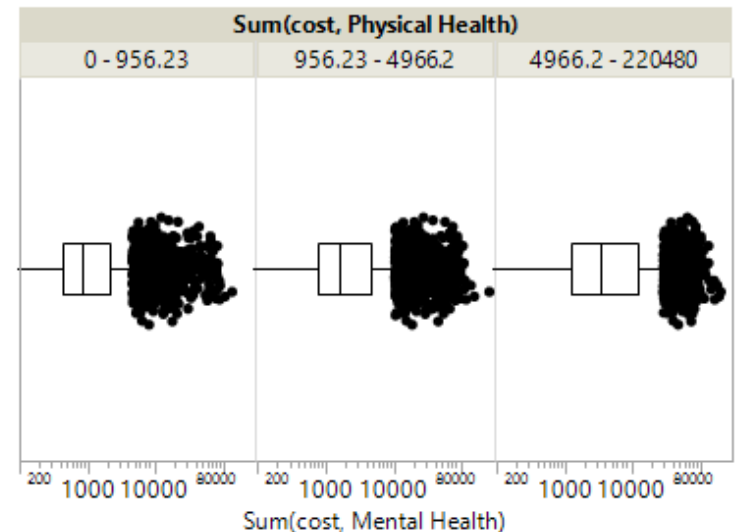


Physical and Behavioral Costs per Patient

Sum(cost, Physical Health) & Sum(cost, Mental Health)



Sum(cost, Mental Health)



Costs per Patient on Log Scale

- Physical and behavioral costs relationship

– correlation

$R =$

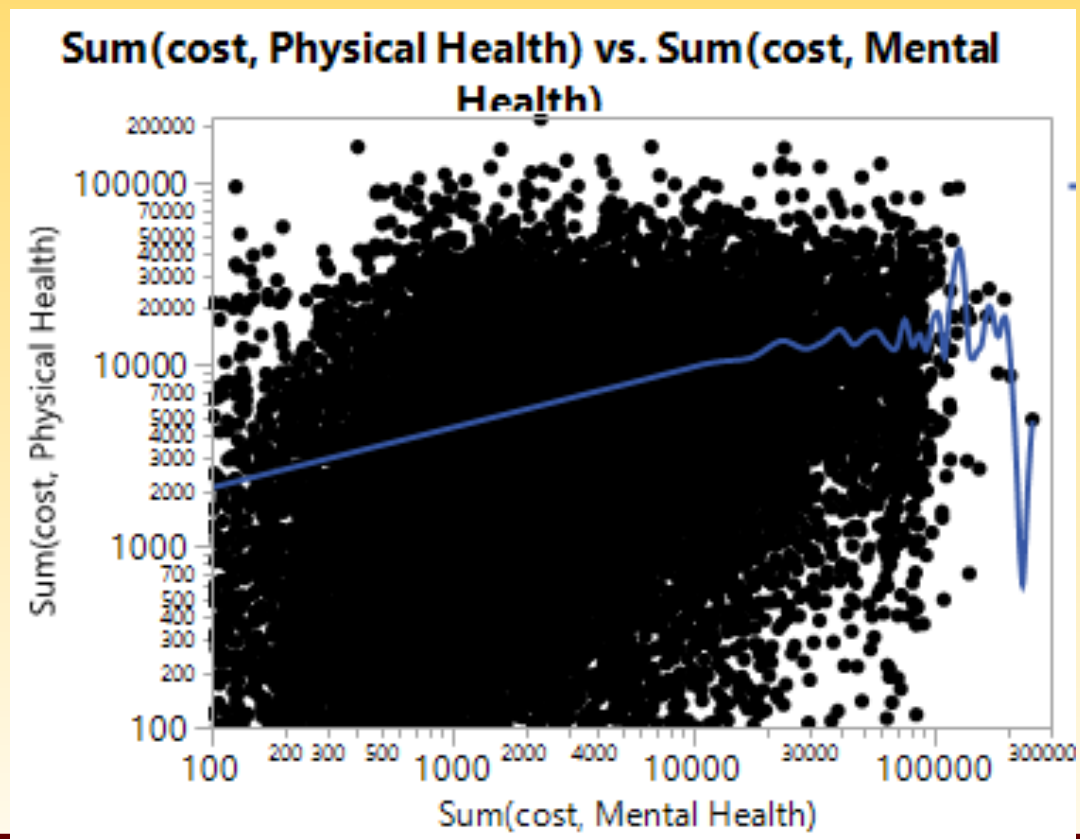


Figure 1 - 1: Scatterplot of Behavioral Health Cost vs Total Cost - 1th Decile

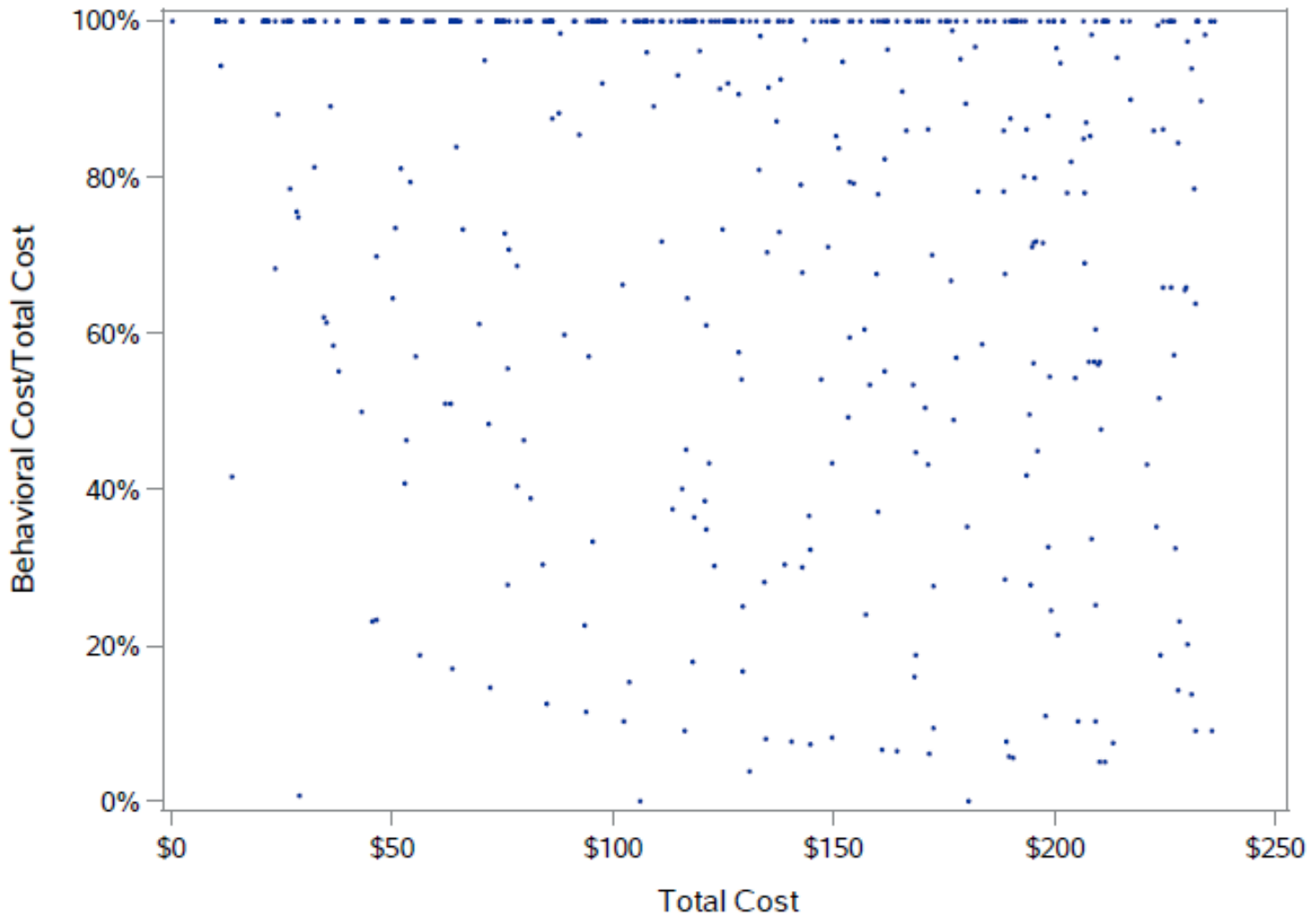


Figure 1 - 10: Scatterplot of Behavioral Health Cost vs Total Cost - 10th Decile

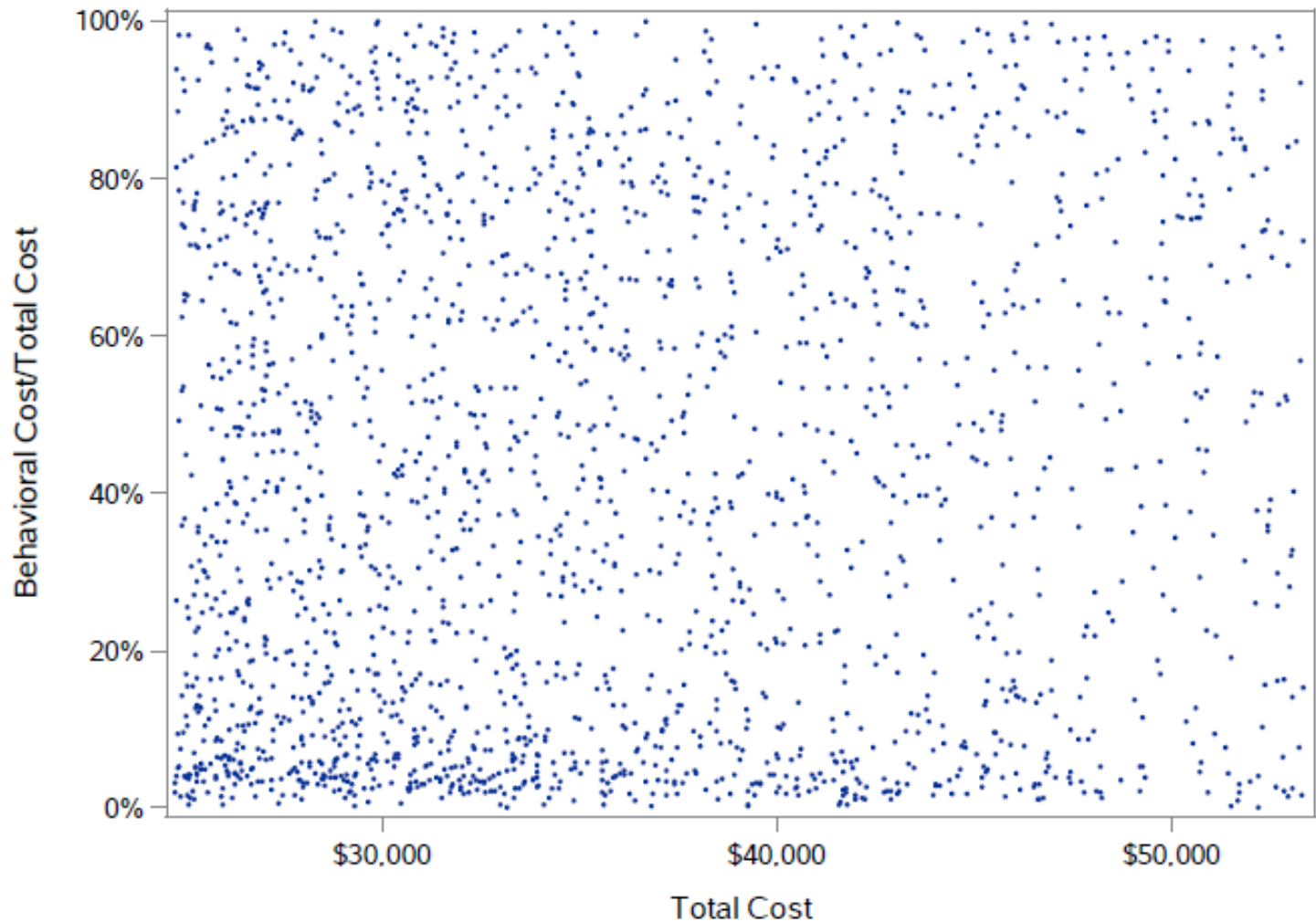


Figure 1 - 5: Scatterplot of Behavioral Health Cost vs Total Cost - 5th Decile

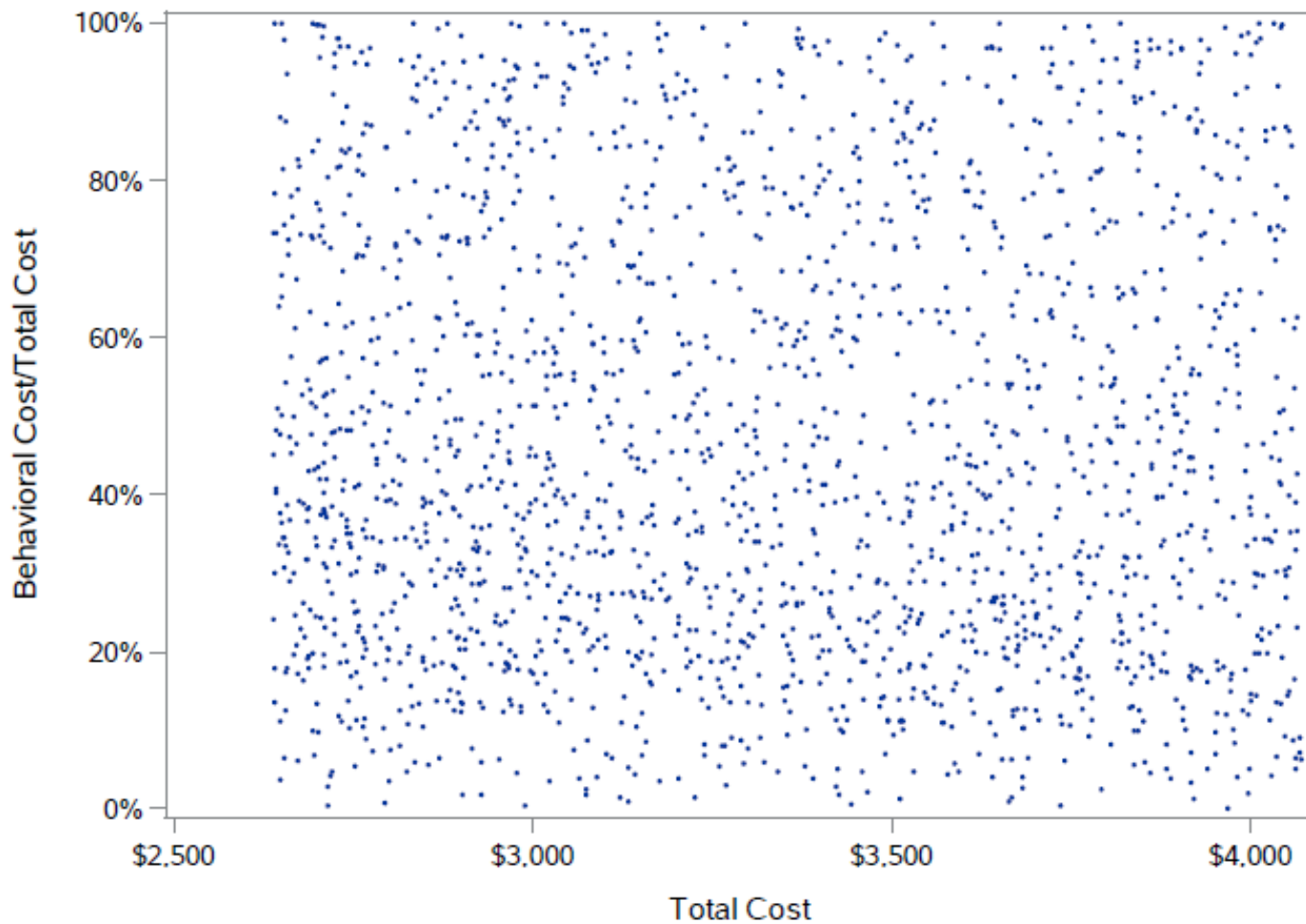


Figure 5: Scatterplot of Behavioral Health Cost vs Total Cost by Race/Ethnicity

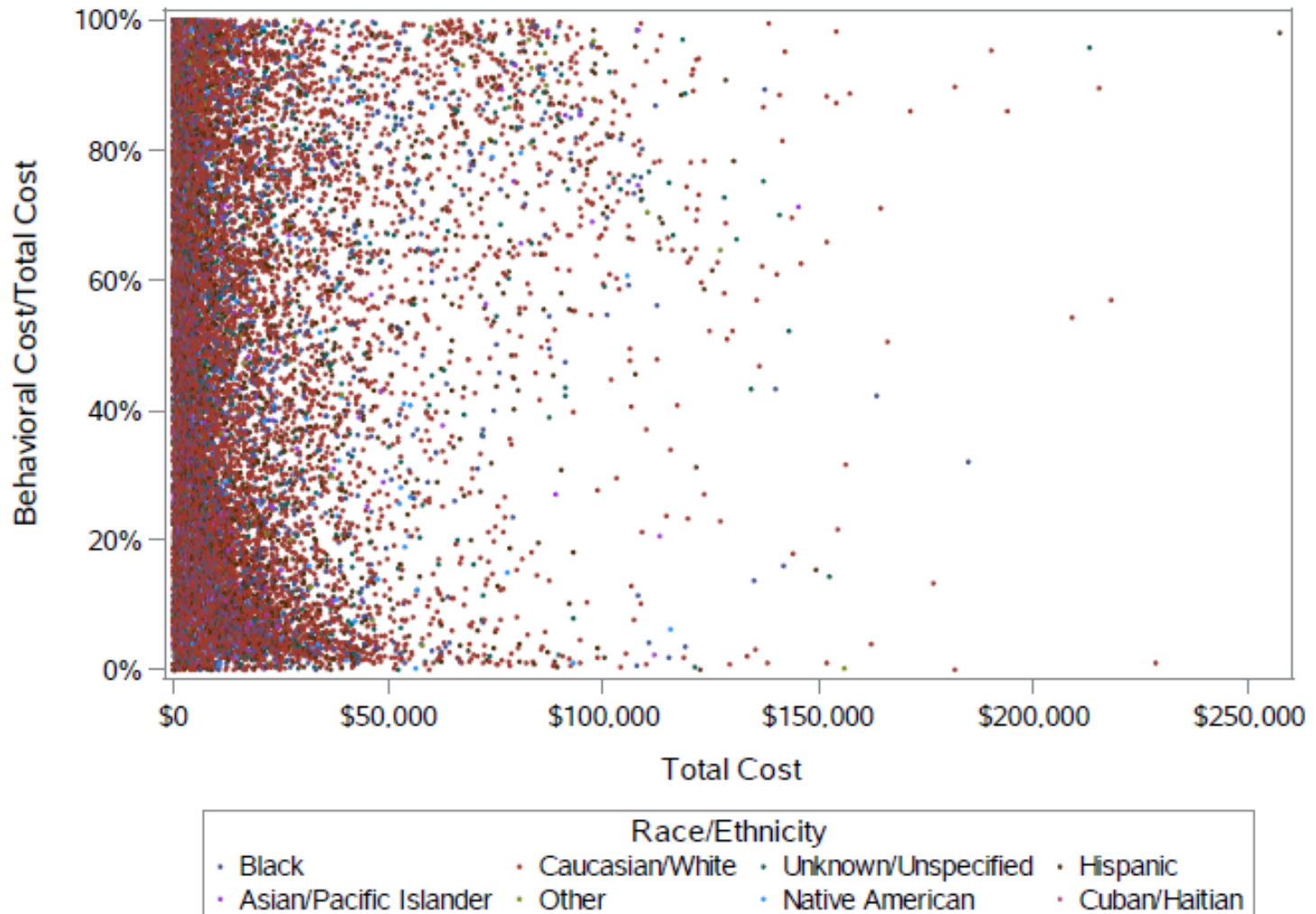


Figure 3: Scatterplot of Behavioral Health Cost vs Total Cost by Gender

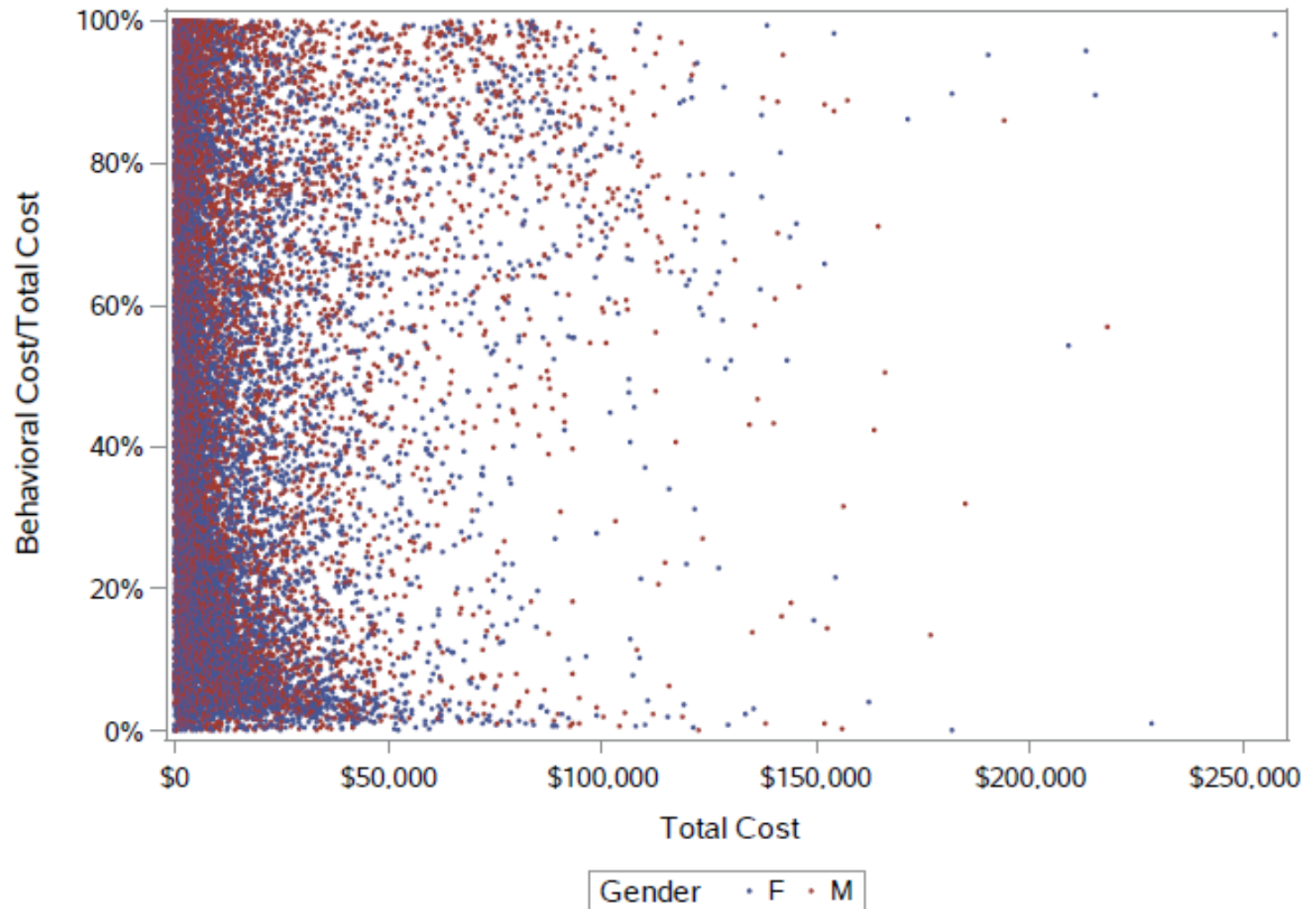
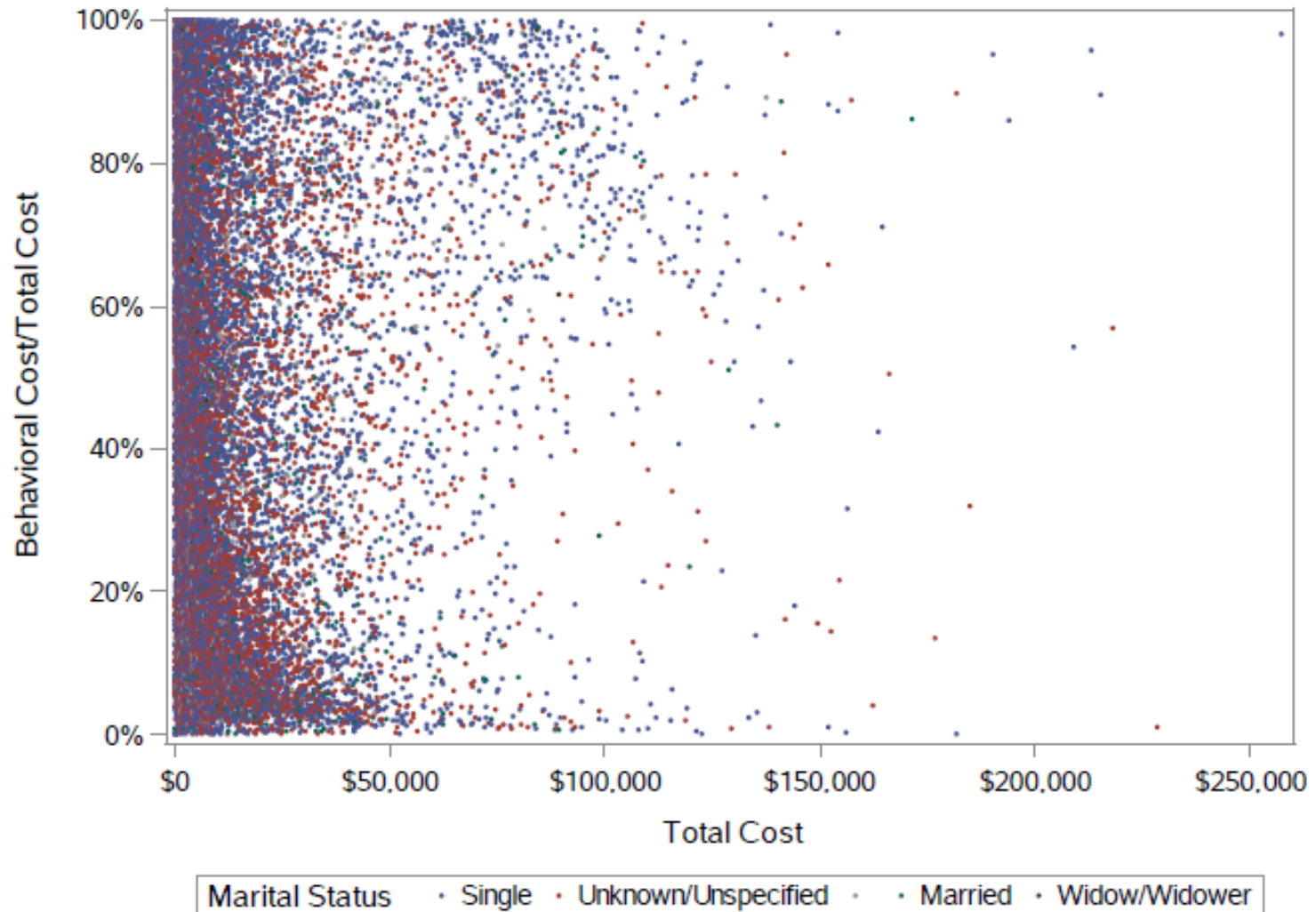


Figure 4: Scatterplot of Behavioral Health Cost vs Total Cost by Marital Status



FOUR AIMS

AIM 1: Create an *INTEGRATION QUOTIENT* for every individual enrolled in the RBHA network as SMI, 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.