Arizona Substance Abuse Partnership
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Center for Health Information & Research
Overview
Presented by:
George Runger, Professor & Director
Gevork Harootunian, Principal Statistical Programmer

About CHiR
• CHiR began as a research group in 1999 before
organizing into a multidisciplinary unit
now part of the ASU College of Health Solutions.
• Our Board of Regents designated research
center serves as a community resource and
partner for individuals and organizations
seeking comprehensive health information,
data analytics and reporting for public,
private and research uses.
• We collect identifiable health information
and information on social determinants of
health from a variety of sources across the
state voluntarily.
• We can track the health care and well-being
of individuals and populations over time and
across providers and health insurers through
our linkable data sources.

Linkable Data Sources
• Arizona Medicaid Claims and Encounters
• State Inpatient and Emergency Department
  Data
• Community Health Center Electronic Health
  Records
• Criminal Justice Data
• Physician, Nursing & Pharmacy Workforce
  Information
• Vital Statistics Records (Birth/Death)
• PolicyMap (online data mapping tool)
• Other Health Care and Social Determinants
  Data

Characteristics
• Individual and health encounter data on
  millions of Arizona residents
• Geographically-based
• Secure storage & processing
• Voluntary data sharing partnerships

Our Services
• Data curation & integration
• Population health reporting
• Customized data requests
• Descriptive and predictive analysis
• Health outcomes studies
• Health workforce supply/demand
• Quality and performance assessments

Our Data Science & Analytic Capabilities
• Inferential Modeling
  Assess influential factors and impacts (i.e., patients,
  providers, geographies, etc.)
• Time Series
  Trends in care utilization
  Forecasting trends into the future with various population
  breakdowns
• GIS
  Mapping patient and provider locations, including distance
  and cost
  Cluster analysis
• Social Network Analysis
  Nodes: Providers/Community Services
  Edges: Individuals seeking care
  Identify influential providers/services & stable networks
• Data Mining & Machine Learning
  Neural Networks
  Support Vector Machines
  Random Forests

Extensive Network of Collaborations & Partnerships

Studies on Substance Use
Arizona State Opioid Response (SOR) Data Project

Sponsor: Arizona State University
Partner: ASU Fulton School of Engineering

Use of advanced analytics to improve application of evidence-based strategies to combat the opioid epidemic.
Using Machine Learning to Predict Opioid Misuse & Concurrent Opioid and Benzodiazepine Use

**Sponsor:** NIH

**Data Sources:** AHCCCS, Death Records

**Purpose:** CHiR is providing data sets and expertise to support studies at the UFL that use machine learning to predict oral and benzodiazepam use among older adults.

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Opioid Prescriptions & Wastewater-based Epidemiology

**Sponsor:** NIH

**Partner:** ASU Biodesign Center for Environmental Health Engineering

**Data Sources:** AHCCCS, City Wastewater

**Purpose:** CHiR integrated AHCCCS claims data with wastewater data from the City of Tempe, Arizona to evaluate novel methods for monitoring the opioid crisis.

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Assessing Variation in Opioid Prescribing Across Community Health Centers in Arizona

**Sponsor/Partner/Data Source:** ASU School of Health Care Delivery

**Purpose:** A collaborative project to analyze AHCCCS data to determine how opioid prescribing varies across Arizona community health centers with a focus on behavioral health integration, community integration, and patient well-being.

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Targeted Investments Program QAQI Quality Improvement Collaborative

**Sponsor/Partner/Quality Source:** AHCCCS

**Purpose:** A collaboration to supply TIP health care providers with monthly performance metrics and technical assistance to enhance their efforts to optimize integration of primary care and behavioral health for whole person care coordination.

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Mapping the Cost of Chronic Mental Illness

**Sponsor:** Chuck and Laurie Goldstein

**Partners:** ASU-Morrison Institute for Public Policy, Copa Health, Resilient Health

**Data Sources:** AHCCCS, HMIS, MCSO Bookings, Phoenix Open Data, Copa Health Roster and Assessments, Resilient Health Roster and Assessments

**Purpose:** A partnership to analyze the cost of supportive permanent housing on the cost and utilization for those suffering from mental illness.

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Arizona Medicaid Crisis Service Analysis

**Sponsor:** R International

**Data Source:** AHCCCS, MCSO Bookings

**Purpose:** A descriptive analysis to validate models built around the Child Response System called the Crisis Now Model.

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THANK YOU!