John R. Kasich, *Governor*
Tracy J. Plouck, *Director*

Ohio's Public Health Suicide Surveillance System

**The Ohio State University (OSU),
Department of Psychiatry and Behavioral Health
and
Ohio Department of Mental Health and Addiction Services (OhioMHAS)
Office of Quality, Planning, and Research
March 30, 2016**

How Ohio's Surveillance Project Got Started. . .

Ohio Department of Mental Health and Addiction Services'
Mortality Study

- In 2009, the Medical Director at the Ohio Department of Mental Health and Addiction Services (OhioMHAS) began a mortality study to determine the most prevalent causes of death for clients in the public behavioral health care system.

- The study combined the Ohio Department of Health's death certificate data with both state behavioral health hospital records and claims from Ohio's community behavioral health providers.

The Ohio State University's
Mental Health Research Group

- In 2013 , researchers at College of Psychiatry convened a research group comprised of academic researchers, state policy analysts, and community members to focus on suicide in Ohio.

- The group decided to build on the OhioMHAS databases used in the mortality study to create a data surveillance data system.

What Is the Purpose of the Data Surveillance System?

- To determine high risk groups for the purpose of designing and implementing strategies to improve access to care.

- To study service utilization patterns to introduce and expand services

- To target outreach and training efforts in communities and organizations that experience high rates of suicide deaths

- To raise public awareness about the relevance of suicide deaths among Ohioans

What Process Does Ohio Use to Collect the Data?

Data Files

- The current process involves files from three state agencies:
  - Death Certificate Files from the Ohio Department of Health, Office of Vital Statistics.
  - Medicaid Claims from the Ohio Department of Medicaid
  - Community-base service claims for non Medicaid-covered clients from OhioMHAS
  - State hospital records from OhioMHAS

Match Algorithm

- As part of the 2009 mortality study, Case Western University developed an algorithm to match records accurately.

- Algorithm components include:
  - Social Security Number
  - First and Last Names
  - Gender
  - Date of Birth

What Are the Critical Data Sharing Agreements?

- Institutional Review Board Application since substance abuse clients are included in the analysis

- An interagency agreement with the Ohio Department of Medicaid

How Is the Data Analyzed?

- Incident Rates per 100,000 persons
    - Age adjusted comparisons of Medicaid and state incident rates

- Descriptive Statistics
    - Frequencies, percentages
    - Mean (SD)

- Bivariate analysis
    - Chi-square

- Logistic regression analysis
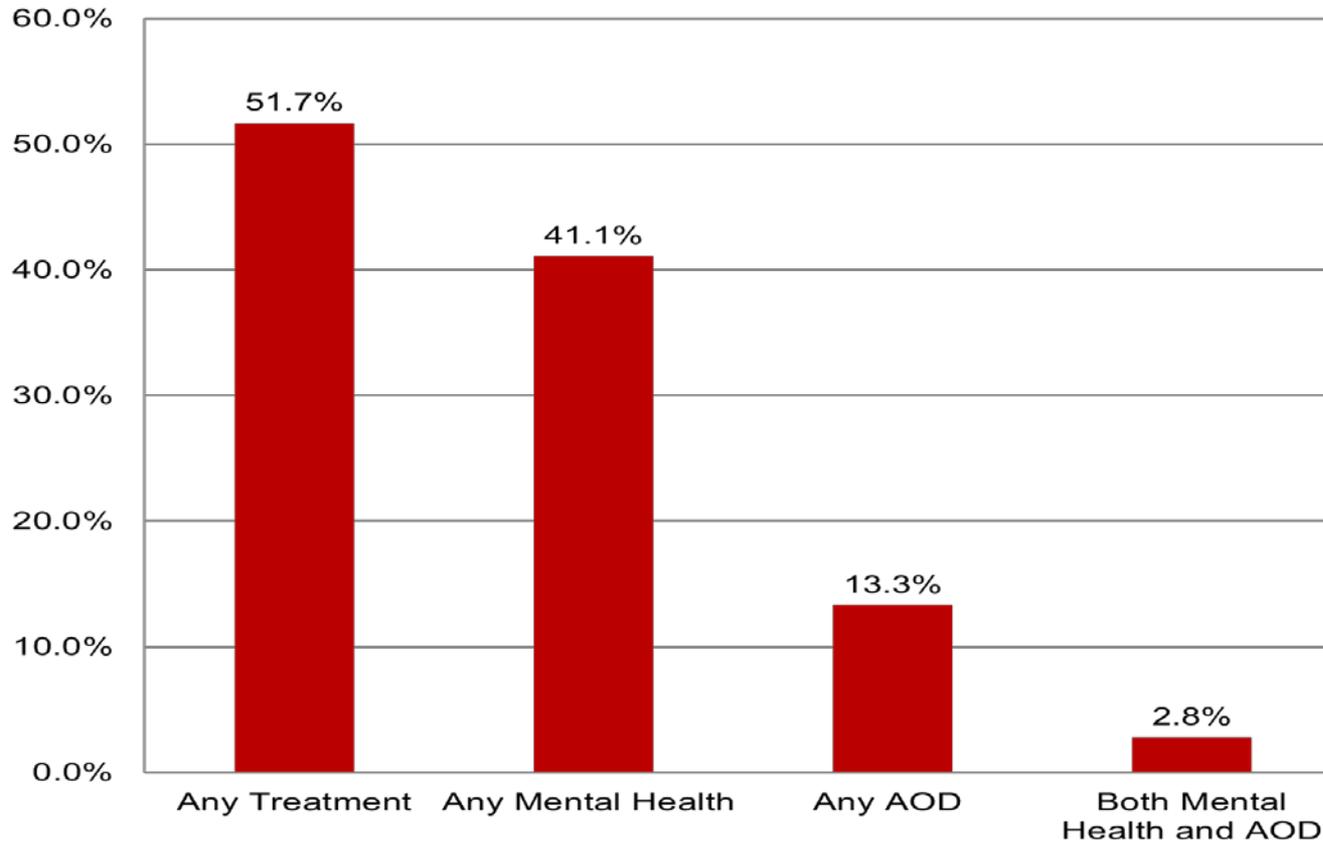   - Odds ratios and 95% intervals

Example:
Patterns and Predictors of Mental Health Service Use for Adolescent Suicide Decedents

Demographic and Clinical Characteristics of Youth Suicide Decedents

	N	%
Total	180	100.0
Age		
10-19	87	48.3
20-24	93	51.7
Gender		
Male	135	75.0
Female	45	25.0
Race		
White (Non-Hispanic)	148	82.2
Non-White[a]	32	17.8
Residence		
Metro	132	73.3
Non-Metro	48	26.7
Method		
Poisoning	22	12.2
Suffocation	87	48.3
Firearms	61	33.9
Other	10	5.6
Type of Insurance		
Medicaid	83	46.1
Uninsured	97	53.9
Primary Diagnosis		
Adjustment Disorder	17	9.4
Substance Abuse Disorder	54	30.0
Mood Disorder	60	33.3
Disruptive Behavior Disorder	15	8.3
Schizophrenia/Psychosis	8	4.4
Other	26	14.4
Dual Diagnosis		
Yes	33	18.3
No	147	81.7
Number of Diagnoses		
1	106	58.9
>2	74	41.1

Type of Services Received by Suicide Decedents

Type of Treatment Received among Suicide Decedents

Category	Percentage
Any Treatment	51.7%
Any Mental Health	41.1%
Any AOD	13.3%
Both Mental Health and AOD	2.8%

Factors Associated with Mental Health Visits Prior to Suicide
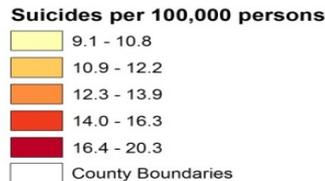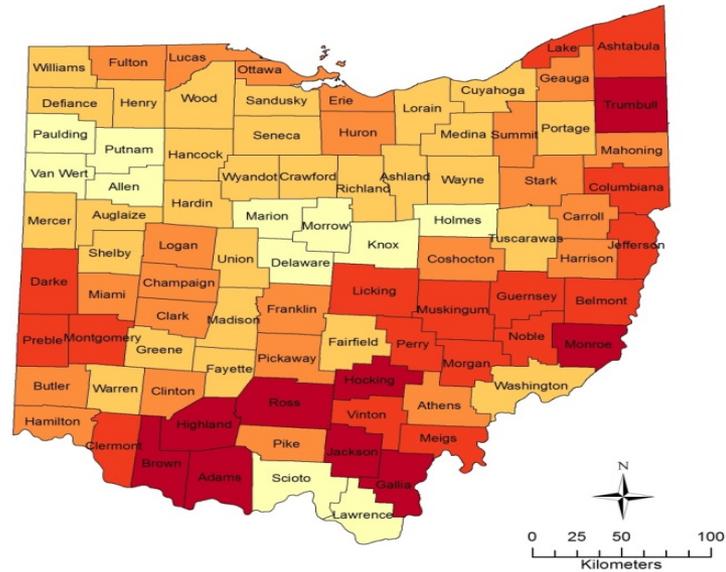

Odds Ratio and 95% CI for Factors Associated with Mental Health Visits within 60 days of Death by Suicide
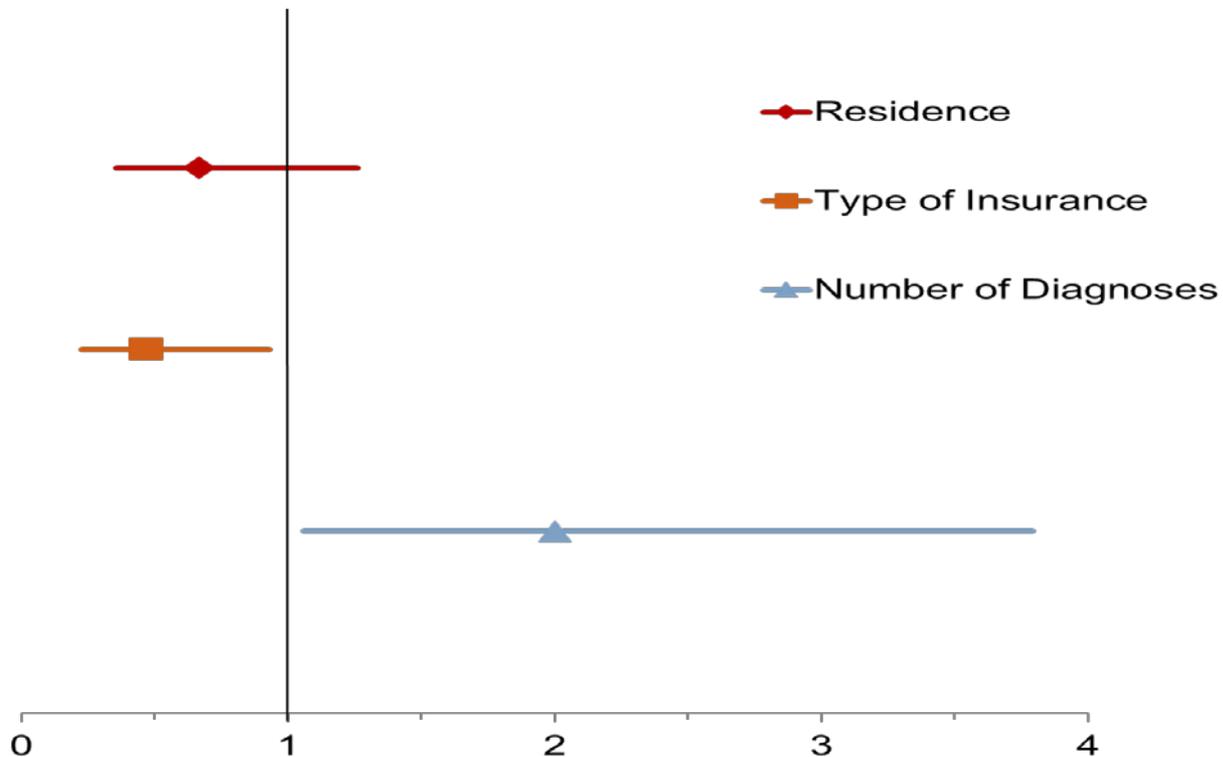
What Barriers Has Ohio Encountered?

- Use of data in the decision-making process

- Time dedicated to project

- Limitations of data not covering all Ohioans

- Accuracy of death certificate records

- Only available on annual basis and lagged by 18 months

Example: How Mapping Suicide Prevalence Rates Affected Programmatic Decisions?

Suicides per 100,000 persons
- 9.1 - 10.8
- 10.9 - 12.2
- 12.3 - 13.9
- 14.0 - 16.3
- 16.4 - 20.3
- County Boundaries

The smoothed cumulative incidence of suicide at the county level.
The distribution of spatial empirical Bayesian (SEB) smoothed suicide incidence rates (per 100,000) at the county level for Ohio between 2004 and 2013.

How Results Are Applied to Decision Making?

Zero Suicide Academies

- Ohio is offering six Zero Suicide Academies.

- Based on the map of communities with a high prevalence of suicide, the first two academies are being held in in southwestern Ohio (Cincinnati) and in rural eastern Ohio (Appalachia) with the highest suicide prevalence rates.

Dialectical Behavior Therapy

- Ohio is sponsoring Dialectical Behavioral Therapy trainings.

- Based on the map, the trainings are being held in communities with the highest suicide prevalence rates.

What Are Ohio's Next Steps?

- Accessing the National Violence Data Reporting System

- Disseminating information to local communities

- Completing an analysis of Medicaid utilization patterns of behavioral health and non-behavioral Medicaid-covered decedents

- Studying the impact of Medicaid expansion

- Completing a state-wide needs assessment

What Tips Does Ohio Have for Other States?

- Need stakeholder commitment

- Keep results in layman terms so that key results can be applied to policy decisions

- Build relationships with data partners

- Publish results in peer-reviewed journals to build credibility

- Don't be afraid to make mistakes