Advancing Substance Use Prevention with Data Integration

2021 Virtual COSSAP National Forum
November 16, 2021

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Presentation Overview

- Background on the State Epidemiological Outcomes Workgroup (SEOW) and origin of the Social Indicator Study
- Description of substance use indicators
- Analytic procedures for the Social Indicator Study
- Telling a prevention story using a county-level epidemiological profile
- Using social indicators for prevention planning

Georgia State Epidemiological Outcomes Workgroup

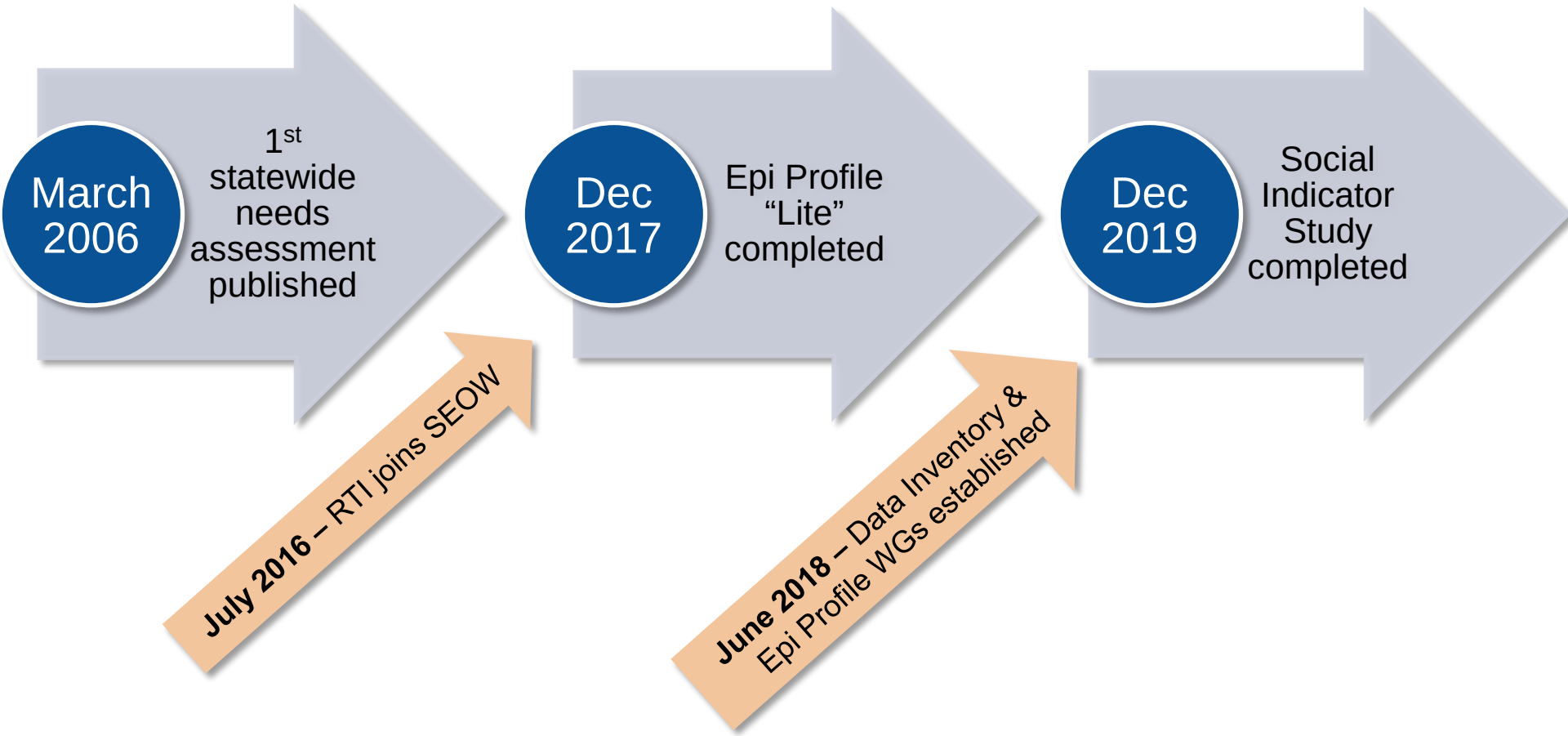
The **mission** of the Georgia State Epidemiological Outcomes Workgroup (SEOW) is to increase the overall capacity of the State of Georgia to identify, gather, analyze, and operationalize data on substance abuse, suicide, and mental health and co-occurring disorders for use in guiding and promoting positive behavioral health.

- **Goal 1:** Identify, gather, analyze, organize, and share data from national, state, and local sources regarding substance abuse, suicide, and mental health.
- **Goal 2:** Develop and disseminate data-guided products designed to inform and facilitate prevention planning at the state and local levels, including by key decision makers and policy makers.
- **Goal 3:** Develop and enhance capacities for SEOW sustainability.
- **Goal 4:** Evaluate SEOW activities.

Georgia State Epidemiological Outcomes Workgroup cont'd

SEOW Member Organizations
Criminal Justice Coordinating Council
Emory University School of Medicine
Georgia Bureau of Investigation
Georgia Department of Behavioral Health and Developmental Disabilities
Georgia Department of Education
Georgia Department of Public Health
Georgia Department of Revenue
Georgia Poison Center
Prospectus Group, Inc.
RTI International
Smith Consulting Group Services

Timeline of Social Indicator Study Activities



Rationale for and Relevance of Social Indicator Studies

- Social indicators represent risk and protection in communities and populations.
- Social indicator studies bypass high cost and time commitments and alleviate methodological weaknesses.

- Social indicator data have been used to study and help characterize local areas with respect to health and social issues.
- Risk and protective factor data are helpful in determining the nature of substance use problems.

Archival Indicators

Indicator Category	Indicator Variable	Data Source
Past-30-Day Substance Use (both middle school & high school) († lifetime use)	† Alcohol use Binge alcohol use † Marijuana use † Prescription drug use Electronic vapor products use † Tobacco use † Methamphetamines use Heroin use	GSHS
Availability of Alcohol, Tobacco, and Drugs	Drug seizures Cocaine seizures Heroin seizures Marijuana seizures Methamphetamine seizures	NFLIS
	Alcohol retail outlets Tobacco retail outlets Alcohol sales underage Noncompliance % Tobacco sales underage Noncompliance %	DOR

Archival Indicators cont'd

Indicator Category	Indicator Variable	Data Source
Consequences of Alcohol and Other Drugs	Alcohol hospitalizations and ER visits Drug hospitalizations and ER visits	DPH
	Hospitalizations due to self-inflicted injuries Any opioid-related deaths Heroin-related deaths Unintentional poisoning deaths Suicide deaths	DPH/OASIS
	Alcohol-related crash fatalities Alcohol-related crash fatalities involving underage persons (persons under age 21)	NHTSA/FARS
	Investigated child maltreatment cases involving alcohol or drugs	DFCS
	School-based reportable offenses related to substance abuse	DOE

Archival Indicators cont'd

Indicator Category	Indicator Variable	Data Source
Community Disorganization and Transition	Housing units that are vacant	ACS
Family Conflict and Management Problems	Perceived parent disapproval of substance use (middle school & high school)	GSHS
	Children living in foster care	DFCS
Individual Risk Factors (for both middle school & high school)	Perceived no or slight risk from substance use Perceived peer disapproval of substance use	GSHS

Archival Indicators cont'd

Indicator Category	Indicator Variable	Data Source
Lack of Commitment to School	High school students who did not graduate	DOE
	GSHS lack of commitment to school construct (middle school & high school)	GSHS
Poverty/Increased Risk for Socioeconomic Deprivation	Children living below poverty level Total population living below poverty level	ACS
	Investigated child maltreatment cases involving alcohol or drugs	DFCS
	Adults in the labor force who are unemployed	BLS/LAUS

GSHS = Georgia Student Health Survey; **NFLIS** = National Forensic Laboratory Information System; **DOR** = Ga. Dept. of Revenue; **DPH** = Ga. Dept. of Public Health; **OASIS** = Online Analytical Statistical Information System; **NHTSA** = National Highway Traffic Safety Administration; **FARS** = Fatality Analysis Reporting System; **DFCS** = Ga. Division of Family & Children Services; **DO**E = Ga. Dept. of Education; **ACS** = American Community Survey; **BLS/LAUS** = Bureau of Labor Statistics, Local Area Unemployment Statistics program

Analytic Procedures and Telling a Prevention Story Using County-Level Data

Analytic Procedures – Epidemiological Profiles

Step 1: Calculating rates or percentages

Step 2: Computing risk scores

Step 3: Ranking individual risk scores and overall risk index

Overall Risk Score Rankings

Example of Overall Risk Score Ranking, by County

County	Overall Rank	Overall Risk Score
Forsyth	1	-0.942
Fayette	2	-0.840
Camden	3	-0.730
Chattahoochee	4	-0.602
Warren	5	-0.590
Union	6	-0.523
Calhoun	7	-0.504
Bleckley	8	-0.467
Henry	9	-0.461
Webster	10	-0.460
Gwinnett	11	-0.450
Lanier	12	-0.433
Wilcox	13	-0.424

Telling a Prevention Story Using a County-Level Profile

GUIDING QUESTIONS

Where does your county show more risk?

Where does your county show more protection?

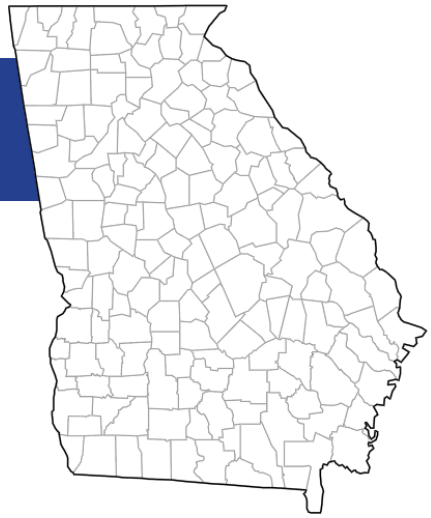
Where do you see trends for success and any trends of concern?

Who is your audience and what platforms will you use for presentation? Does that change the story?

Profile Header, Map, and Notes

Profile Header and Map

Prevention Needs Assessment Profile for
Fictitious County



This profile presents standardized risk scores for each indicator so you can compare your county risk to the average for all Georgia counties (represented by the center line standardized to 0) and compare risk across indicators for your county (indicators with larger bars to the right of the line represent higher risk). • The county rank compares your county to all counties on each indicator—the higher the value, the higher the risk (i.e., a rank of 159 indicates the county with the *highest risk*). • The *2019 Georgia Social Indicators Study* report includes actual values for each indicator for your county for each year and more detailed guidance on how to interpret this profile.

Risk Indicators	Average Across Counties ← *Lower Risk Score* *Higher Risk Score* →							
	-3	-2	-1	0	1	2	3	County Rank
Alcohol and Drug Abuse [1,a]								

Notes

Notes

GSHS, Georgia Student Health Survey; HS, high school; MS, middle school.

1. County assignment based on school location.
2. Includes prescription drug painkillers, tranquilizers or sedatives, stimulants, and other prescription drugs.
3. Includes cigarettes and other tobacco.
4. Includes cocaine, heroin, methamphetamines, marijuana/cannabis, fentanyl, and opioids.
5. County assignment based on retailer location.
6. Average of annual rates 2016–2018 when available.
7. County assignment based on patient/subject residence.
8. County assignment based on crash location.
9. Includes fatal, alcohol-related crashes in which an underage person was in one of the vehicles involved in the accident. The underage person was not necessarily killed or driving.
10. Includes alcohol-, drug-, and tobacco-related offenses.
11. Includes alcohol, marijuana, prescription drugs misuse, and tobacco.
12. Percentage reporting "not at all wrong" or "a little bit wrong."
13. Includes alcohol, binge alcohol, marijuana, and nonmedical use of prescription drugs.
14. Includes composite of the following questions from the GSHS survey: I like school; Most days I look forward to going to school; I feel like I fit in at my school; I feel successful at school; I feel connected to others at school.

County Demographic Information and Data Sources

County Demographic Information

County Population Characteristics [j]

2017	**Total Population:**		18,471
	Population Rank:		93 out of 159
2017	**Population Age 17 and Younger:**		4,635
2017	**Racial/Ethnic Composition:**		
	White	76.1%	
	Black	17.9%	
	Asian	0.8%	
	Other*	3.8%	
	Two or more races		1.4%
	Hispanic/Latino		9.7%

*Includes American Indian and Alaska Native, Native Hawaiian and Other Pacific Islander, and Other race.

Overall County Rank: 69 out of 159

White bars represent level of risk. The patterns indicated below show significant trends or whether the indicator value changed significantly between the first and last year specified in the data source.

(OR †) = Favorable trend

(OR §) = Unfavorable trend

(The † or § symbol is used to denote a favorable/unfavorable trend when the bar is too short to display a pattern.)

Data Sources

Data Sources

a. Georgia Student Health Survey (GSHS), 2018 (Trend Years 2016–2018)

b. National Forensic Laboratory Information System (NFLIS), 2017 (Trend Years 2013–2017)

c. Georgia Department of Revenue, 2019 (No Trend Analyses)

d. Georgia Department of Revenue, 2016–2018 (No Trend Analyses)

e. Georgia Department of Public Health, 2017 (No Trend Analyses)

f. Georgia Department of Public Health, Online Analytical Statistical Information System (OASIS), 2017 (Trend Years 2013-2017)

g. National Highway Traffic Safety Administration, Fatality Analysis Reporting System (FARS), 2017 (Trend Years 2013–2017)

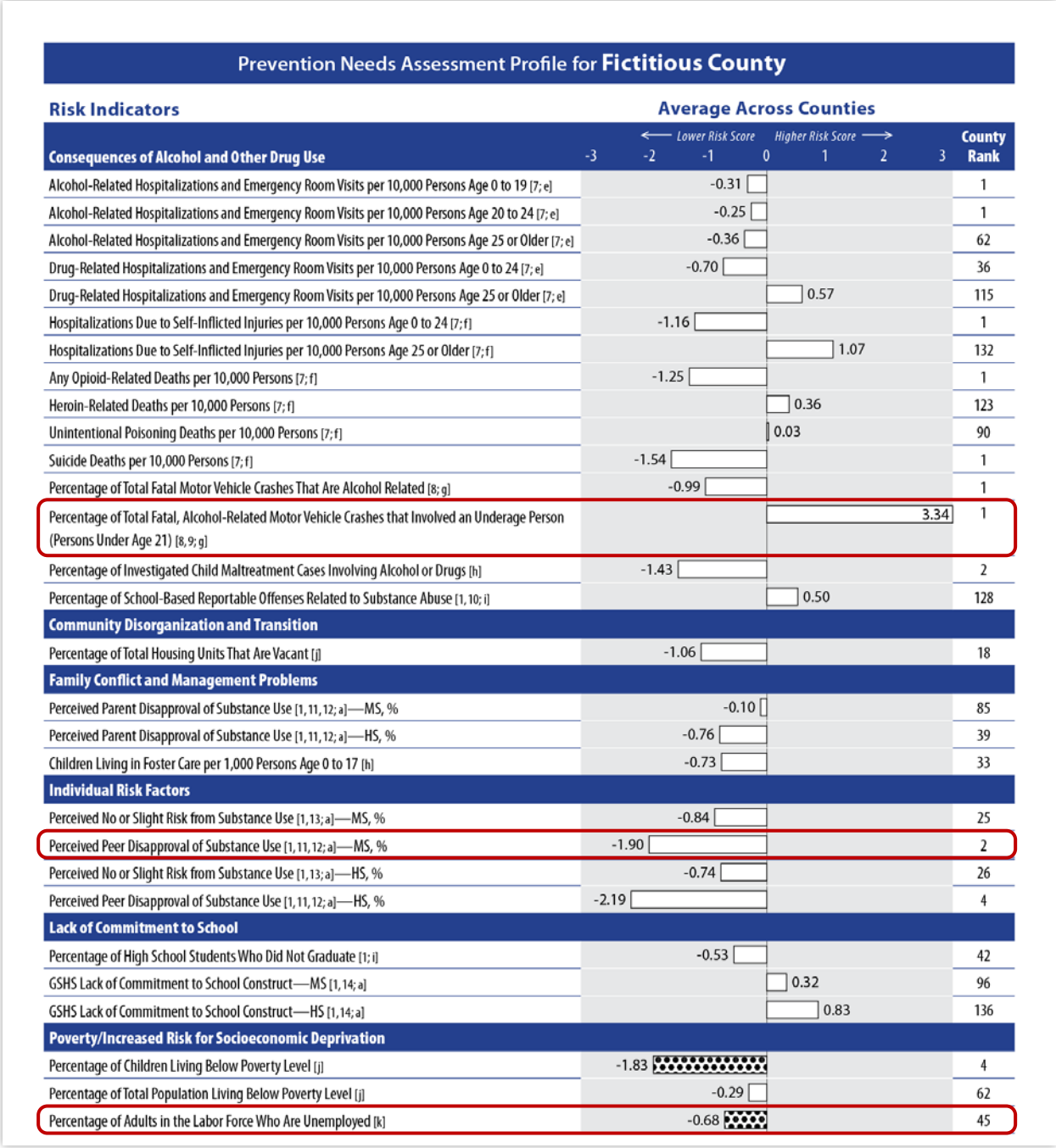
h. Georgia Division of Family & Children Services, 2018 (Trend Years 2016–2018)

i. Georgia Department of Education, 2018 (Trend Years 2015-2018)

j. American Community Survey (ACS), 2012–2017 (Trend Years 2009-2013–2013-2017)

k. Bureau of Labor Statistics, Local Area Unemployment Statistics (LAUS), 2017 (Trend Years 2013-2017)

An Example County-Level Profile



Prevention Needs Assessment Profile for Fictitious County

Risk Indicators	Average Across Counties (← Lower Risk Score … Higher Risk Score →)	County Rank
Consequences of Alcohol and Other Drug Use		
Alcohol-Related Hospitalizations and Emergency Room Visits per 10,000 Persons Age 0 to 19 [7; e]	-0.31	1
Alcohol-Related Hospitalizations and Emergency Room Visits per 10,000 Persons Age 20 to 24 [7; e]	-0.25	1
Alcohol-Related Hospitalizations and Emergency Room Visits per 10,000 Persons Age 25 or Older [7; e]	-0.36	62
Drug-Related Hospitalizations and Emergency Room Visits per 10,000 Persons Age 0 to 24 [7; e]	-0.70	36
Drug-Related Hospitalizations and Emergency Room Visits per 10,000 Persons Age 25 or Older [7; e]	0.57	115
Hospitalizations Due to Self-Inflicted Injuries per 10,000 Persons Age 0 to 24 [7; f]	-1.16	1
Hospitalizations Due to Self-Inflicted Injuries per 10,000 Persons Age 25 or Older [7; f]	1.07	132
Any Opioid-Related Deaths per 10,000 Persons [7; f]	-1.25	1
Heroin-Related Deaths per 10,000 Persons [7; f]	0.36	123
Unintentional Poisoning Deaths per 10,000 Persons [7; f]	0.03	90
Suicide Deaths per 10,000 Persons [7; f]	-1.54	1
Percentage of Total Fatal Motor Vehicle Crashes That Are Alcohol Related [8; g]	-0.99	1
Percentage of Total Fatal, Alcohol-Related Motor Vehicle Crashes that Involved an Underage Person (Persons Under Age 21) [8, 9; g]	3.34	1
Percentage of Investigated Child Maltreatment Cases Involving Alcohol or Drugs [h]	-1.43	2
Percentage of School-Based Reportable Offenses Related to Substance Abuse [1, 10; i]	0.50	128
Community Disorganization and Transition		
Percentage of Total Housing Units That Are Vacant [j]	-1.06	18
Family Conflict and Management Problems		
Perceived Parent Disapproval of Substance Use [1, 11, 12; a]—MS, %	-0.10	85
Perceived Parent Disapproval of Substance Use [1, 11, 12; a]—HS, %	-0.76	39
Children Living in Foster Care per 1,000 Persons Age 0 to 17 [h]	-0.73	33
Individual Risk Factors		
Perceived No or Slight Risk from Substance Use [1, 13; a]—MS, %	-0.84	25
Perceived Peer Disapproval of Substance Use [1, 11, 12; a]—MS, %	-1.90	2
Perceived No or Slight Risk from Substance Use [1, 13; a]—HS, %	-0.74	26
Perceived Peer Disapproval of Substance Use [1, 11, 12; a]—HS, %	-2.19	4
Lack of Commitment to School		
Percentage of High School Students Who Did Not Graduate [1; i]	-0.53	42
GSHS Lack of Commitment to School Construct—MS [1, 14; a]	0.32	96
GSHS Lack of Commitment to School Construct—HS [1, 14; a]	0.83	136
Poverty/Increased Risk for Socioeconomic Deprivation		
Percentage of Children Living Below Poverty Level [j]	-1.83	4
Percentage of Total Population Living Below Poverty Level [j]	-0.29	62
Percentage of Adults in the Labor Force Who Are Unemployed [k]	-0.68	45

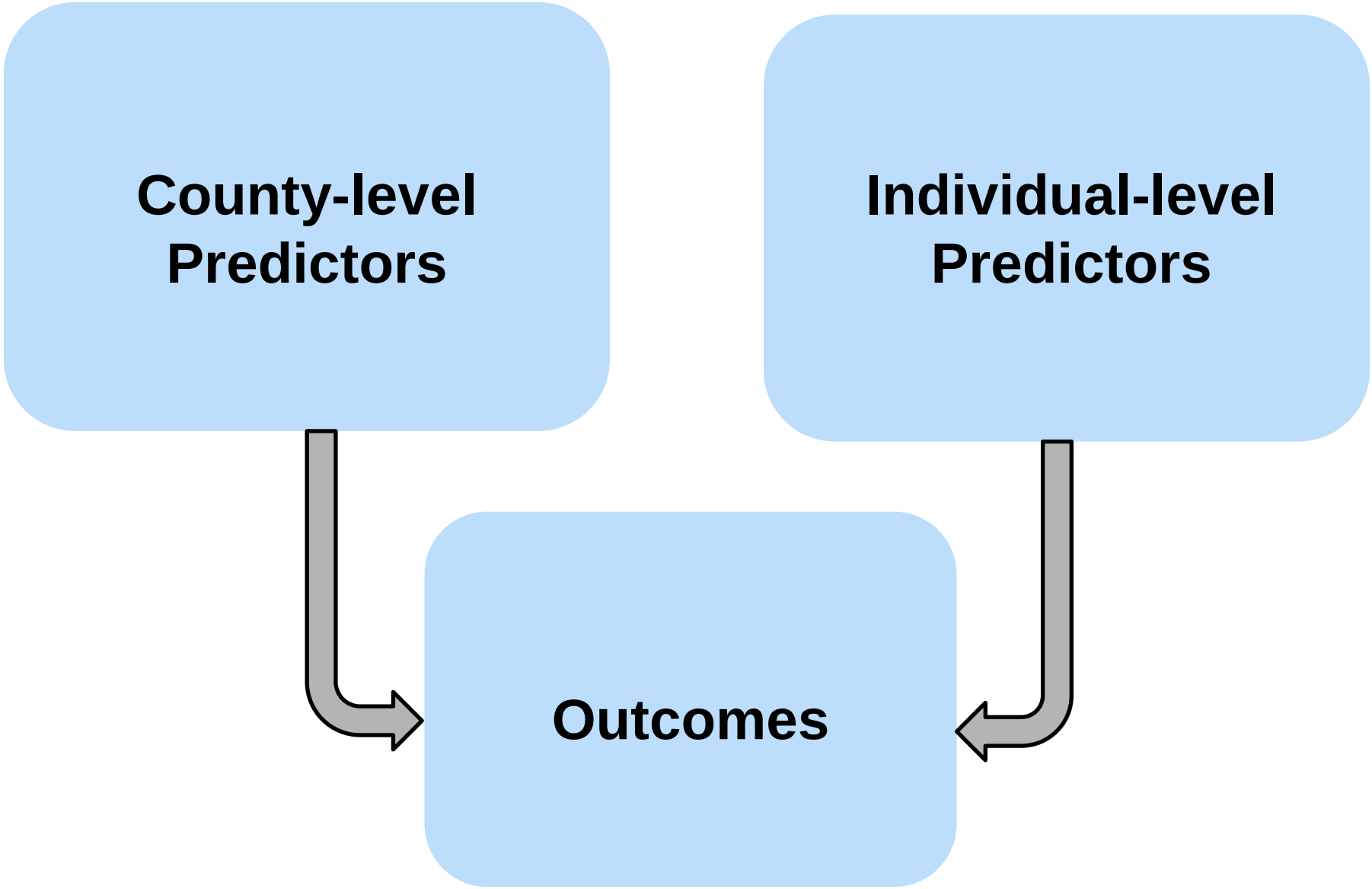
Why Use Predictive Analysis?

Predictive models can

- explain how multiple variables **work together** to influence substance use and mental health outcomes;
- highlight which variables have the **strongest** influence on these outcomes after factoring in the effects of all variables; and
- demonstrate how effects of certain risk and protective factors at the individual level may vary based on county-level characteristics.

The result: **more targeted and efficient use of prevention resources.**

Components of Predictive Models



Predictive Analysis Results for Georgia

	Average Change in Probability of Substance Use		
	Past-30-Day Alcohol Use	Past-30-Day Marijuana Use	Lifetime Prescription Drug Misuse
Race (Compared to Non-Hispanic White)			
Hispanic or Latino	-0.0197***	0.0017	0.0034**
Black or African American	-0.0640***	0.0014	-0.0029**
Asian or Pacific Islander	-0.0543***	-0.0113***	-0.0098***
Other Race	-0.0225***	0.0104***	0.0105***
Grade Level (Compared to Grade 9)			
Grade 10	0.0152***	0.0061***	0.0020*
Grade 11	0.0307***	0.0157***	0.0053***
Grade 12	0.0502***	0.0251***	0.0083***
Belief That Substance Use Carries Moderate or Great Risk	-0.0240***	-0.0194***	-0.0195***
Belief That Peers Would Think It Was Wrong or Very Wrong to Use Substances	-0.1083***	-0.0647***	-0.0976***
Belief That Parents Would Think It Was Wrong or Very Wrong to Use Substances	-0.0871***	-0.0597***	-0.0859***
Receiving School-Based Alcohol, Tobacco, or Other Drug Education in the Past Year	-0.0240***	-0.0042***	-0.0076***
Feeling Sad or Withdrawn for Three or More Days in the Past Month	0.1232***	0.0375***	0.1005***
(Being Sold, Offered, or Given Drugs at School on Three or More Occasions in the Past Year	—	0.1877***	0.2085***
Number of Licensed Alcohol Retail Outlets Per 10,000 Persons (Increase of One Outlet Per 10,000 Persons)	-0.0003	—	—
Percentage of Households Headed by a Single Parent (1% Increase)	0.0004**	0.0003***	0.0001
Percentage of High School Students Who Graduate (1% Increase)	0.0002	-0.0001	0.0001

NOTE: * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

Using Social Indicators for Prevention Planning

Using Social Indicators for Prevention Planning

Suggestions for Dissemination

Local prevention providers, planners, and policy makers

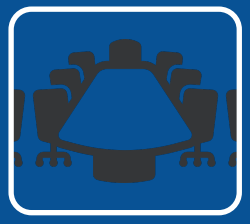
- Support the planning and provision of prevention services

Regional prevention staff, coalition coordinators, and directors and staff of community-based organizations

- Focus public attention on substance use and mental health
- Stimulate interest in data-driven approaches

Audiences beyond the substance use prevention community

- Highlight other facets of social well-being
- Foster other opportunities for collaboration



Georgia SEOW

- Share the report with new members
- Disseminate new findings and associated products
- Leverage key indicators when OBHPFG applies for future funding

Using Social Indicators for Prevention Planning cont'd

Use and Maintenance of the Social Indicator Study in Georgia

Recommendations
1. Review the report regularly for its utility to the state.
2. Incorporate a social indicator approach in the work of the Georgia SEOW and build on this methodology for future prevalence and epidemiological work.
3. Disseminate the report to the local prevention providers and community coalition coordinators and gauge their interest in and use of the report.
4. Train potential data users on the interpretation and use of the epidemiological profiles
5. Consider modifications to the list of indicators and the manner in which indicators are defined and displayed, on the basis of both user input and further research regarding the indicators' validity.
6. Define the role of social indicators in the state's planning process.
7. Commit to a permanent and sustainable infrastructure and support system.

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