October 2019

Georgia State Epidemiological Outcomes Workgroup

Georgia's County-Level Social Indicator Study to Assess Substance Use and Related Consequences: 2019

Prepared for

Travis Fretwell, Director
Donna Dent, Assistant Director
Amy Benson, SPF Coordinator
Georgia Department of Behavioral Health & Developmental Disabilities (DBHDD)
Office of Behavioral Health Prevention
2 Peachtree Street, NW
24th Floor
Atlanta, GA 30303

Prepared by

Darigg C. Brown, PhD, MPH
Phillip W. Graham, DrPH, MPH
Jenna Gabrio, MPH
Alex Buben, BA
Elvira Elek, PhD
RTI International
3040 E. Cornwallis Road
Research Triangle Park, NC 27709

RTI Project Number 0215947.100

D·B·H·D·D

RTI INTERNATIONAL

[This page intentionally left blank].

RTI Project Number
0215947.100

Acknowledgments

This report was prepared for the Georgia Department of Behavioral Health and Developmental Disabilities (DBHDD), Office of Behavioral Health Prevention (OBHP) by RTI International under DBHDD contract number 44100-906-0000106833.

Both DBHDD and RTI thank the members of the State Epidemiological Outcomes Workgroup (SEOW) for their participation in providing data and feedback critical to the development of this report. Special thanks to the members of the Social Indicator Study (SIS) Workgroup[†] for their help in determining the archival data indicators used in this report.

Member Name	Affiliation	Member Name	Affiliation
Ms. Chikaodili Adibe	Georgia Department of Behavioral Health and Developmental Disabilities	Dr. Karen Howell[†]	Emory University School of Medicine
Ms. Bianca Anderson	Georgia Department of Public Health	Mr. Lee Hundley	Georgia Department of Public Health
Ms. Rana Bayakly	Georgia Department of Public Health	Mr. Chaddrick Hunter	Georgia Department of Public Health
Ms. Cheryl Benefield	Georgia Department of Education	Ms. Shanya Jefferson-Williams	Georgia Department of Public Health
Ms. Amy Benson	Georgia Department of Behavioral Health and Developmental Disabilities	Ms. Alison Jones	Georgia Poison Center
Mr. Marcus Bouligny[†]	Prospectus Group, Inc.	Dr. Dorian Lamis	Emory University School of Medicine
Dr. Darigg Brown[†]	RTI International	Mr. Brian Le	Georgia Department of Behavioral Health and Developmental Disabilities
Dr. Michael Bryan	Georgia Department of Public Health	Ms. Stefanie Lopez-Howard[†]	Criminal Justice Coordinating Council
Ms. Tiffany Chen[†]	Georgia Department of Behavioral Health and Developmental Disabilities	Mr. Christopher Luncheon	Georgia Department of Revenue
Ms. Kathleen Curtis	Georgia Department of Public Health	Dr. Jacqueline Martin	Georgia Bureau of Investigation
Ms. Donna Dent	Georgia Department of Behavioral Health and Developmental Disabilities	Mr. David Melton	Georgia Department of Public Health
Ms. Amanda Dinwiddie	Georgia Department of Public Health	Ms. Erin McKeever	Emory University School of Medicine
Mr. Michael Earnest	Georgia Department of Revenue	Dr. Nova Morrisette	Emory University School of Medicine
Dr. Laura Edison[†]	Georgia Department of Public Health	Ms. Tameka Pettis	Georgia Department of Revenue

RTI International is a registered trademark and a trade name of Research Triangle Institute.

Member Name	Affiliation	Member Name	Affiliation
Mr. Travis Fretwell	Georgia Department of Behavioral Health and Developmental Disabilities	Mr. Ronald Pounds†	Georgia Department of Behavioral Health and Developmental Disabilities
Ms. Ami Gandhi	Georgia Department of Public Health	Ms. Melinda Scribner	Georgia Department of Behavioral Health and Developmental Disabilities
Ms. Stephanie Gitukui	Georgia Department of Public Health	Ms. Megan Smith	Smith Consulting Group Services
Ms. Malinda Gowin	Georgia Department of Behavioral Health and Developmental Disabilities	Ms. Fiana Thacker	Prospectus Group, Inc.
Dr. Phillip Graham	RTI International	Mr. Walker Tisdale, III	Georgia Department of Behavioral Health and Developmental Disabilities
Dr. Gwendell "JR" Gravitt	Georgia Department of Behavioral Health and Developmental Disabilities	Dr. Jessica Tuttle	Georgia Department of Public Health
Ms. Nykia Greene-Young	Georgia Department of Behavioral Health and Developmental Disabilities	Ms. Irene Walker	Georgia Department of Public Health
Mr. Samuel Gonzales†	Criminal Justice Coordinating Council	Dr. Noah Webb	Georgia Department of Behavioral Health and Developmental Disabilities
Mr. Nicholas Heaghney	Georgia Department of Public Health	Ms. Cathy Wendholt-McDade†	Georgia Department of Behavioral Health and Developmental Disabilities

October 2019

Georgia Social Indicator Study

Volume I. Georgia's 2019 County-Level Study to Assess Substance Use and Related Consequences

[This page intentionally left blank].

Contents

Figures

Tables

[This page intentionally left blank].

1. Introduction

1.1 Georgia Substance Abuse Infrastructure, Prevention History Goals, and Current Work

Georgia's Department of Behavioral Health and Developmental Disabilities (DBHDD) includes the Division of Behavioral Health, which houses mental health, substance abuse, and deaf services; and the Division of Developmental Disabilities, which houses intellectual and developmental disability services.

The Division of Behavioral Health manages programs and services delivered by DBHDD's community-based behavioral health providers. The division's goal is to build a recovery-oriented, community-based system of care, with the capacity to provide timely access to high-quality behavioral health treatment and support services. The division also supports policy development, service planning, program development, budget development, workforce development (training), and external collaboration with stakeholders across the system of care.

The **Office of Behavioral Health Prevention (OBHP)** sits within the Division of Behavioral Health. It is the state agency charged with providing prevention leadership, strategic planning, and services to improve the mental/emotional well-being of communities, families, and individuals in Georgia. OBHP develops and contracts for prevention services across the state, specifically designed to reduce the risks and increase protective factors linked to substance abuse-related problem behaviors, suicide, and mental health promotion. The DBHDD/OBHP team consists of OBHP state office employees, contracted community agencies, a community advisory council, a state epidemiological workgroup, and numerous community partners.

1.1.1 OBHP Brief History

In 2006, the predecessor of OBHP called the Office of Prevention Service Programs (OPSP) adopted the Strategic Prevention Framework (SPF), which was introduced through a State Incentive Planning Grant (SIPG) from the U.S. Substance Abuse and Mental Health Services Administration (SAMHSA). With that grant, the OPSP evolved and expanded its use of SPF and of evidence-based programs, moved toward a population-based public health approach, and incorporated evaluation across most substance abuse block grant activities. The OPSP also enhanced its infrastructure by formally establishing a community advisory council and a state epidemiological outcomes workgroup to provide input to the state's prevention direction and activities. It began reporting on National Outcomes Measures (NOMs) in addition to process and service delivery data. The first intensive statewide needs assessment with county profiles was conducted and published as the March 2006 Social

Indicator Study (SIS). The SIS data were used to assist with selecting, prioritizing, and planning prevention efforts.

In 2015, the OBHP took shape from a reorganization within DBHDD. Treatment and prevention were split into separate offices. The OPSP became the OBHP, and its responsibilities were expanded to include oversight and delivery of state suicide prevention and mental health promotion efforts, in addition to substance abuse prevention.
The OBHP has continued to incorporate the SPF approach and to use theory and evidence-based strategies across its expanded scopes of work. Additionally, the OBHP has evolved its tracking and evaluation of service delivery process data to include outcome data to assist and inform state prevention decision-making processes.

1.1.2 Substance Abuse Prevention Efforts

As of fiscal year 2019 , current substance abuse related projects/initiatives within OBHP included the following:

- The Alcohol and Substance Abuse Prevention Project (ASAPP) is a data-driven statewide initiative aimed at preventing alcohol and other identified substances of abuse and promoting healthy lifestyles and choices among Georgians. The project funds community organizations to use the SPF, build community support, and implement prevention strategies. ASAPP funds 38 prevention providers across the six regions of the state.

- The Project for Success 2015 (PFS15) GEN Rx (Prescription Drug Misuse/Abuse Prevention) Project works to reduce prescription drug misuse and abuse among persons 12 to 25 years old in three high-need counties. GEN Rx aims to decrease availability and access to prescription drugs, increase peer and family norms that discourage prescription drug misuse/abuse, and increase perceptions of prescription drug risk/harm.

- The Prevention Clubhouses provide prevention services to high-risk youth ages 12–17 to address socio-economic ills and risk factors they face at home and in their communities. Three communities house Prevention Clubhouses and use peer mentors, evidence-based curricula, and interactive engaging youth activities to build coping, decision making, and life skills.

- The SPF-Rx project aims to prevent and reduce prescription drug misuse and abuse in Georgia. SPF-Rx objectives are to (1) Increase community awareness on the risks associated with prescription drug misuse/abuse including dangers of sharing medications; (2) Increase medical and pharmaceutical communities' awareness on the risk of overprescribing prescription drugs to young adults; and (3) Improve and enhance access and usability of opioid overdose and Prescription Drug Monitoring Program (PDMP) data into state prevention assessments and planning. SPF-Rx funds five high-need communities to implement the SPF and funds the Medical Association of Georgia and Georgia Pharmacy Association to increase prescribers' and dispensers' awareness of overprescribing and the PDMP.

- Georgia's College Prevention Project (GCPP) focuses on preventing and reducing prescription drug misuse and abuse on college campuses in Georgia. The GCPP goal is to correct misperceptions, attitudes, and behaviors of college students toward

prescription drug abuse, enhance access to prescription abuse prevention resources, and promote drug-free lifestyles.

- The Georgia State Opioid Response (SOR) Project includes eight initiatives to combat the Opioid crisis: a statewide Positive Social Norms Media Campaign, a first responder naloxone education and training for all 159 Georgia counties, an addition of three prevention clubhouses, a statewide training and implementation of Sources of Strength in 60 schools across Georgia, a series of opioid prevention showcase events to raise awareness and build support for reducing opioid abuse and misuse, a college adopt-a-high school peer mentoring prevention skill building project, a law enforcement education and training partnership to build police skills around user identification and behavior management (de-escalation), and collaborative efforts with the City of Atlanta to address community opioid issues.

- State Targeted Response (STR) to Opioids Project includes naloxone education and training, a peer-assisted school transition program, and an increase in the number of opioid-focused prescription drug prevention programs in high need communities.

- The Georgia Strategic Prevention System (GASPS) Data Warehouse is an online repository containing a wealth of information on substance abuse, its consequences, and related social indicators. The GASPS Data Warehouse is created using interactive and innovative data visualization software to allow users to interact and customize their data experience with a focus on availability of county-level data.

- ECCO & ECCO-MDS is an online training and technical assistance platform and data reporting system designed specifically for OBHP prevention providers.

- Georgia Teen Institute is a youth leadership program for Youth Action Teams throughout Georgia to engage in the SPF planning process, while developing leadership skills and implementing service projects in their community.

- The Drugs Don't Work in Georgia Program is coordinated in cooperation with the Georgia Chamber of Commerce to assist employers in becoming certified drug-free workplaces by establishing employee assistance programs and drug-free workplace policies.

- The Georgia Prescription Drug Abuse Prevention Initiative focuses on four priority areas to prevent and reduce prescription drug abuse in Georgia: education, advocacy, proper medication storage and disposal, and monitoring/enforcement.

- The Governor's Red Ribbon Campaign promotes a drug-free lifestyle to the general population, and more specifically to youth in Georgia. Each year, schools and communities are encouraged to develop messages and activities to demonstrate their commitment to living drug-free lifestyles in competition for awards.

- The Maternal Substance Abuse (MSA) and Child Development Project partners with Emory University to reduce maternal substance use and/or abuse and child development issues in Georgia through education and awareness.

- The SYNAR Tobacco Compliance project is in response to the SYNAR Amendment requiring states to have laws in place prohibiting sale and distribution of tobacco products to persons under the age of 18 and to enforce those law effectively. OBHP contracts with the Georgia Department of Revenue to conduct retailer tobacco compliance checks across the state.

- Voices for Prevention (V4P) works to build a unified statewide voice for substance abuse prevention by collaborating with a diverse group of prevention specialists, service providers, community coalition members, and individuals with an interest in, and a commitment to, prevention across the state to advocate and educate on substance abuse prevention and other related prevention issues.
- Let's Be Clear Georgia, a collaborative to prevent marijuana abuse, provides education around marijuana use in Georgia, targeting communities and schools.
- The Children's Commission on Mental Health (CCMH) Substance Abuse Prevention Projects consists of three different initiatives: (1) An opioid curriculum development project for young adults 17–25 years of age with a maternal substance abuse prevention component; (2) A technical colleges SPF pilot that pairs existing trained SPF providers with five technical colleges to address opioid and prescription drug abuse/misuse prevention in high-need areas to reach adults ages 18–25; and (3) Expansion of the GEN Rx Project, that will add three additional high-need sites in Georgia to implement the SPF to address prescription drug misuse/abuse among youth ages 12–25.

1.2 Rationale and Relevance of Conducting a Social Indicator Study

Application of the risk and protective factor framework to prevention planning and outcome monitoring relies on gathering data that represent the levels of risk and protection in the areas or populations to be served by the OBHP. Social indicators provide a significant source of data that can be used for this purpose. SIS are particularly valuable because they bypass the high cost and time commitments, as well as many of the methodological weaknesses and impracticalities, associated with primary data collection. As an alternative or complementary approach, social indicators can help characterize prevention needs for geographic areas by using epidemiological and other data regularly collected for other purposes by government agencies and other organizations. As new archival data become available, these characterizations can be updated without incurring the costs of new primary data collection efforts and thus can form an important component of an ongoing, data-driven approach to assessing prevention needs and monitoring progress at the state, regional, and local levels.

Social indicator data gathered from archival sources have been used for decades to study and help characterize local areas—such as states, cities or metropolitan areas, and even neighborhoods—with respect to health and social issues and related attributes. Many of the early applications of the social indicator approach to needs assessment were in the mental health area (see Cagle & Banks, 1986; Ciarlo, Tweed, Shern, Kirkpatrick, & Sachs-Ericsson, 1992; Warheit, Bell, & Schwab, 1977) and subsequently were applied to substance use treatment needs assessment (McAuliffe, Dembling, Wilson, LaBrie, Geller, & Mulvaney, 1993; Simeone, Frank, & Aryan, 1993). The underlying rationale of these efforts was to use existing data to indirectly gauge treatment needs in the absence of direct estimates (e.g., as might be obtained from surveys of the resident population). The primary objective of these studies has been to combine social indicators into an overall estimate of the treatment

needs for specific geographic units. Several approaches have been employed in these efforts, although they generally have shared common features such as the use of data-reduction techniques (e.g., factor analysis). Most also have used some external criterion, such as simply ordering the indicators by importance or believed effect and differentially weighting and combining the indicators into a single-point estimate of substance abuse prevalence or substance abuse treatment needs.

For assessing prevention needs, the specific information about each risk or protective factor is viewed as being even more important (and difficult) than the overall estimate of prevention need. From the perspective of the risk and protective factor framework, the specific constellation of substance use behaviors and risk and protective factors is valuable information in determining the nature of substance use problems. Once the nature of a problem has been determined, the risk and protective factors that need to be addressed to reduce and prevent the problem can be identified. This focus on each risk and protective factor does not mean, however, that the overall risk of the specified geographic area (e.g., county, region) is of no use. A single overall risk estimate can serve other purposes, such as enhancing community awareness and mobilization efforts and informing decisions about resource allocation.

Using a social indicator approach to substance use prevention provides useful information for community planners, including a compendium of archival data and summaries of risk at the county level, which can inform and provide a data-driven approach to implementing substance abuse prevention programs, policies, and practices.

1.3 Georgia's Social Indicator Studies to Assess Prevention and Harm Reduction Needs

Georgia has joined other states in applying a social indicator approach to substance use prevention planning (e.g., Peterson, 2004; Minnesota Department of Public Health, 1994; New York State Office of Alcoholism and Substance Abuse Services, 1996; Spencer, Kuo, & Flewelling, 2001; Sanchez & Weimer, 2002; Calkins, Banks, & Weimer, 2002; Stein-Seroussi, 1998; Zechmann, Flewelling, & Van Eenwyk, 1995). The first Georgia county-level SIS to assess prevention needs was completed in 2006 and has been widely distributed for use by prevention planners and program implementers (see Weimer & Graham, 2006). A copy of Georgia's first SIS is available at https://dbhdd.georgia.gov/sites/dbhdd.georgia.gov/files/imported/DBHDD/Files/SocialIndicatorsReport2007.pdf. A second SIS report was issued in 2008 and is available at https://www.gaspsdata.net/data/substance/epi-profiles/georgias-county-level-social-indicator-study-assess-substance-use, and a shorter third study was conducted and submitted in 2017.

This current phase of the OBHP's ongoing assessment of need focuses on incorporating new data sources (e.g., Georgia Student Health Survey), emerging substance use issues (e.g., opioid misuse and overdoses), and new analytic techniques (trend analysis and predictive

analysis). The integration of multiple data sources allows for better triangulation of substance use patterns to identify changes in substance use and to potentially identify emerging patterns of substance misuse. Georgia's State Epidemiological Outcomes Workgroup (SEOW) was instrumental in identifying potential data sources, and later, selecting indicators to include for analysis. The mission of the 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 their co-occurring disorders for use in guiding and promoting positive behavioral health.

This report presents findings from the update of the Georgia county-level SIS. To provide the most valuable planning resources, planning tools need to be updated as new data become available. This updated county-level SIS will serve as a timely resource for characterizing substance use and prevention needs at the county level. The additional data sources and analytic tools also provide a comprehensive perspective on the substance use landscape for prevention planning, including harm reduction strategies.

1.4 Overview of Report Contents

The focus of this report is a prevention needs assessment and planning profile for each of Georgia's 159 counties, including the display of 8 risk domains composed of 66 social indicators derived from 11 archival sources. The data collection procedures and analysis methodologies used for producing the planning profiles are summarized in **Section 2**. Findings from the conduct of trend analysis on selected indicators of substance use disorder are provided in **Section 3**. The planning profiles, as presented in **Section 4**, reflect various dimensions of substance use and substance use–related problems and outcomes that may exist in communities, as well as sociodemographic characteristics and vital statistics believed to be associated with substance use and the risk for and protection from substance use. The profiles were designed to provide local planners and service providers with a concise, visual summary of each county's pattern of substance use–related indicators. We have also integrated the trend analysis findings into the profiles to show significant changes (favorable and unfavorable) in key social indicators. Statewide trends or patterns with regard to the risk construct scores and ranks are presented in **Section 5**.

In addition to the county profiles, **Section 6** presents preliminary findings for the conduct of predictive analysis on selected risk and protective factors and consequences of substance use. The findings examine which selected risk and protective factors are more predictive of outcomes targeted by the OBHP. **Section 7** is devoted to issues regarding the application of social indicator data to prevention planning and includes recommendations for data dissemination to facilitate effective use, as well as strategies for incorporating a social indicator approach into the state's prevention planning system.

The appendices provide detailed information on the sources of the indicator data, tables that contain indicator values at the county level, and other supporting information.

2. Data Collection and Analysis

2.1 Selection of Social Indicators

The archival indicators selected for this study were based on data and constructs used in previous SIS in both North Carolina (completed in 1999 and 2011) and Georgia (completed in 2006) as well as on general data availability. As previously mentioned, the SEOW was instrumental in the indicator selection process. We had several discussions with the SIS Workgroup—a subset of SEOW members—which was charged with making recommendations that were used to determine the indicators and the domains under which they were grouped. These indicators were selected based on their successful use in SIS conducted in other states, their conceptual appeal, and their availability at the county level. A total of 66 indicators were collected and organized into eight domains and the general concepts that they appeared to reflect. The domains, the specific indicators within each category, the indicator definitions, the years for which archival data were collected, the indicator data sources, and associated notes for each indicator are displayed in **Table 1**.

Table 1. Archival Indicator Categories, Variables, and Data Years

Archival Indicators	Definition	Data Years	Data Source	Notes
A. Past-30-Day Substance Use				
A1. Past-30-Day Alcohol Use (MS & HS)	Percentage of students reporting alcohol use in past 30 days	SY2015–2016 through SY2017–2018	GSHS	County assignment based on school location
A2. Past-30-Day Binge Alcohol Use (MS & HS)	Percentage of students reporting binge alcohol use in past 30 days			County assignment based on school location
A3. Past-30-Day Marijuana Use (MS & HS)	Percentage of students reporting marijuana use in past 30 days			County assignment based on school location
A4. Past-30-Day Prescription Drug Use (MS & HS)	Percentage of students reporting prescription painkiller, tranquilizer or sedative, stimulant, or other prescription drug use for nonmedical reasons in past 30 days			County assignment based on school location

(continued)

Table 1. Archival Indicator Categories, Variables, and Data Years (continued)

Archival Indicators	Definition	Data Years	Data Source	Notes
A5. Past-30-Day Electronic Vapor Product Use (MS & HS)	Percentage of students reporting electronic vapor product use in past 30 days			County assignment based on school location
A6. Past-30-Day Tobacco Use (MS & HS)	Percentage of students reporting cigarette or other tobacco use in past 30 days			County assignment based on school location
A7. Past-30-Day Methamphetamines Use (MS & HS)	Percentage of students reporting methamphetamine use in past 30 days			County assignment based on school location
A8. Past-30-Day Heroin Use (MS & HS)	Percentage of students reporting heroin use in past 30 days			▪ No middle or high school students reported any heroin use in the past 30 days in SY2015–16 or SY2016–17 ▪ County assignment based on school location
A9. Lifetime Alcohol Use (MS & HS)	Percentage of students reporting ever using alcohol	SY2015–2016 through SY2017–2018 (same as above)	GSHS (same as above)	County assignment based on school location
A10. Lifetime Marijuana Use (MS & HS)	Percentage of students reporting ever using marijuana			County assignment based on school location
A11. Lifetime Nonmedical Use of Prescription Drugs (MS & HS)	Percentage of students reporting ever using prescription drugs for nonmedical reasons			County assignment based on school location
A12. Lifetime Tobacco Use (MS & HS)	Percentage of students reporting ever using cigarettes or other tobacco			County assignment based on school location
A13. Lifetime Methamphetamines Use (MS & HS)	Percentage of students reporting ever using methamphetamines			County assignment based on school location

(continued)

Table 1. Archival Indicator Categories, Variables, and Data Years (continued)

Archival Indicators	Definition	Data Years	Data Source	Notes
B. Availability of Alcohol, Tobacco, and Drugs				
B1. Drug Seizures	Number of drug seizure reports per 10,000 persons	2013–2017	National Forensic Laboratory Information System (NFLIS)	Includes cocaine, heroin, methamphetamines, marijuana/cannabis, fentanyl, and opioids
B2. Cocaine Seizures	Number of cocaine item seizure reports per 10,000 persons			
B3. Heroin Seizures	Number of heroin item seizure reports per 10,000 persons			
B4. Marijuana Seizures	Number of marijuana item seizure reports per 10,000 persons			
(B5. Methamphetamine Seizures	Number of methamphetamines item seizure reports per 10,000 persons	2013–2017 (same as above)	National Forensic Laboratory Information System (NFLIS; same as above)	
B6. Alcohol Retail Outlets	Number of licensed alcohol retail outlets per 10,000 persons	FY2019 (February 2019)	Georgia Department of Revenue	County assignment based on retailer location
B7. Tobacco Retail Outlets	Number of licensed tobacco retail outlets per 10,000 persons			County assignment based on retailer location
B8. Alcohol Sales Underage Noncompliance Percentage	Percentage equal to number of licensed alcohol retailers who sold alcohol to underage persons divided by total number of alcohol retailer compliance checks conducted in county	FY2016–FY2018	Georgia Department of Revenue	Compliance checks were not necessarily conducted in every county every year. Thus, we present an annual average of compliance rates during 2016 through 2018.

(continued)

Table 1. Archival Indicator Categories, Variables, and Data Years (continued)

Archival Indicators	Definition	Data Years	Data Source	Notes
B9. Tobacco Sales Underage Noncompliance Percentage	Percentage equal to number of licensed tobacco retailers who sold tobacco to underage persons divided by total number of tobacco retailer compliance checks conducted in county			
C. Consequences of Alcohol and Other Drug Use				
C1. Alcohol-Related Hospitalizations and Emergency Room Visits, Age 0 to 19	Number of alcohol-related hospitalizations or emergency room visits per 10,000 persons age 0 to 19	2012, 2013, 2014, 2016, 2017	Georgia Department of Public Health	▪ County assignment based on patient/subject residence ▪ In October 2015, hospital systems and emergency departments transitioned from the International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) to the ICD-10-CM. Because of the differences between the two systems in coding injuries, data from after 2015 are not comparable to data from before 2015. Compounding the issue, data from 2015 contain both ICD-9-CM and ICD-10-CM injury codes and cannot be compared with data from other years. Tests of trend should not be conducted until at least 3 data years with ICD-10-CM codes are available.
C2. Alcohol-Related Hospitalizations and Emergency Room Visits, Age 20 to 24	Number of alcohol-related hospitalizations or emergency room visits per 10,000 persons age 20 to 24			
C3. Alcohol-Related Hospitalizations and Emergency Room Visits, Age 25 or Older	Number of alcohol-related hospitalizations or emergency room visits per 10,000 persons age 25 or older			
C4. Drug-Related Hospitalizations and Emergency Room Visits, Age 0 to 24	Number of drug-related hospitalizations or emergency room visits per 10,000 persons age 0 to 24			
C5. Drug-Related Hospitalizations and Emergency Room Visits, Age 25 or Older	Number of drug-related hospitalizations or emergency room visits per 10,000 persons age 25 or older			

(continued)

Table 1. Archival Indicator Categories, Variables, and Data Years (continued)

Archival Indicators	Definition	Data Years	Data Source	Notes
C6. Hospitalizations Due to Self-Inflicted Injuries, Age 0 to 24	Number of hospitalizations due to self-inflicted injuries per 10,000 persons age 0 to 24	2013–2017	Georgia Department of Public Health, Online Analytical Statistical Information System (OASIS)	County assignment based on patient/subject residence
C7. Hospitalizations Due to Self-Inflicted Injuries, Age 25 or Older	Number of hospitalizations due to self-inflicted injuries per 10,000 persons age 25 or older	2013–2017 (same as above)	Georgia Department of Public Health, Online Analytical Statistical Information System (OASIS; same as above)	County assignment based on patient/subject residence
C8. Any Opioid-Related Deaths	Number of deaths due to any opioid-related cause per 10,000 persons			County assignment based on patient/subject residence
C9. Heroin-Related Deaths	Number of deaths due to any heroin-related cause per 10,000 persons			County assignment based on patient/subject residence
C10. Unintentional Poisoning Deaths	Number of deaths due to unintentional poisonings per 10,000 persons			County assignment based on patient/subject residence
C11. Suicide Deaths	Number of suicide deaths per 10,000 persons			County assignment based on patient/subject residence
C12. Alcohol-Related Crash Fatalities	Percentage of total fatal motor vehicle crashes that are alcohol related	2013–2017	National Highway Traffic Safety Administration, Fatality Analysis Reporting System (FARS)	County assignment based on crash location
C13. Alcohol-Related Crash Fatalities Involving Underage Persons (Persons Under Age 21)	Percentage of total fatal, alcohol-related motor vehicle crashes that involved an underage person (persons under age 21)			▪ 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. ▪ County assignment based on crash location.

(continued)

Table 1. Archival Indicator Categories, Variables, and Data Years (continued)

Archival Indicators	Definition	Data Years	Data Source	Notes
C14. Investigated Child Maltreatment Cases Involving Alcohol or Drugs	Percentage of investigated child maltreatment cases that involved alcohol or drugs	2016–2018	Georgia Division of Family & Children Services	There was no single indicator in the statewide automated child welfare information system (SACWIS) to confirm that drugs were involved in an investigation. Alcohol or drug involvement was inferred from scattered indicators and comments that case managers entered justifying substantiation or describing allegations. References to drug categories were counted from a text search of the evidence summary and justification fields in the investigation documentation. There were specific allegation codes for birth exposure and methamphetamine exposure. An ancillary code was used to indicate that an adult in a case has a substance abuse characteristic. Any investigation with at least one of these indicators of substance abuse was counted as a case involving alcohol or drugs. Both substantiated and unsubstantiated investigations are included. An indicator of substance abuse here means only that substance abuse was alleged or suspected, not that it was specifically confirmed.
C15. School-Based Reportable Offenses Related to Substance Abuse	Percentage of total school-based reportable offenses that involve alcohol, drugs, or tobacco	SY2015–SY2018	Georgia Department of Education	County assignment based on school location

(continued)

Table 1. Archival Indicator Categories, Variables, and Data Years (continued)

Archival Indicators	Definition	Data Years	Data Source	Notes
D. Community Disorganization and Transition				
D1. Housing Units That Are Vacant	Percentage of total housing units that are vacant	2009–2013 through 2013–2017	ACS	
E. Family Conflict and Management Problems				
E1. Perceived Parent Disapproval of Substance Use (MS & HS)	Percentage of students perceiving that their parents would feel that using alcohol, marijuana, prescription drugs misuse, or tobacco would be not at all wrong or a little bit wrong	SY2015–2016 through SY2017–2018	GSHS	County assignment based on school location
E2. Children Living in Foster Care	Number of all unique children under age 18 in foster care per 1,000 persons under age 18	2016–2018	Georgia Division of Family & Children Services (DFCS)	DFCS provided rates for all years based on 2017 population census estimates, so population denominator may be slightly different than population denominator used for other indicators
F. Individual Risk Factors				
F1. Perceived No or Slight Risk from Substance Use (MS & HS)	Percentage of students perceiving no or slight risk of harm from alcohol, binge alcohol, marijuana, or nonmedical use of prescription drugs	SY2015–2016 through SY2017–2018	GSHS	County assignment based on school location
F2. Perceived Peer Disapproval of Substance Use (MS & HS)	Percentage of students perceiving that their peers would feel that using alcohol, marijuana, or tobacco, or misusing prescription drugs, would be not at all wrong or a little bit wrong			County assignment based on school location

(continued)

Table 1. Archival Indicator Categories, Variables, and Data Years (continued)

Archival Indicators	Definition	Data Years	Data Source	Notes
G. Lack of Commitment to School				
G1. High School Students Who Did Not Graduate	Percentage of high school students in 4-year cohort who did not graduate	2018	Georgia Department of Education	County assignment based on school location
G2. GSHS Lack of Commitment to School Construct (MS & HS)	Average composite score of 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 (Scale: 1 = Strongly Agree; 4 = Strongly Disagree)	SY2015–2016 through SY2017–2018	GSHS	County assignment based on school location
H. Poverty/Increased Risk for Socioeconomic Deprivation				
H1. Children Living Below Poverty Level	Percentage of related children under age 18 living below poverty level	2009–2013 through 2013–2017	ACS	
H2. Total Population Living Below Poverty Level	Percentage of total population (for whom poverty status is determined) living below poverty level			
H3. Adults in the Labor Force who are Unemployed	Percentage of adults in the labor force who are unemployed	2013–2017	Bureau of Labor Statistics, Local Area Unemployment Statistics (LAUS)	

ACS = American Community Survey; GSHS = Georgia Student Health Survey; HS = high school; MS = middle school; SY = school year.

2.2 Data Sources and Collection Procedures

Indicators similar to those used in previous SIS were used for this Georgia study. Updated data were collected by RTI International from a variety of state and federal agencies.

State data sources included the following:

- Georgia Department of Education (DOE)
- Georgia Student Health Survey (GSHS)
- Georgia Department of Revenue (DOR)
- Georgia Department of Public Health (including the Online Analytical Statistical Information System [OASIS])
- Georgia Division of Family and Children Services (DFCS)

Federal data sources included the following:

- National Forensic Laboratory Information System (NFLIS)
- National Highway Traffic Safety Administration, Fatality Analysis Reporting System (FARS)
- American Community Survey (ACS)
- Bureau of Labor Statistics, Local Area Unemployment Statistics (LAUS)

Most indicators included in this study (Table 1) were obtained from standard administrative and reporting databases generated by the source agencies. A few of the indicators were obtained via special request through the state agencies. As a result, we expect that the data collection procedures used to collect these indicators are valid and reliable. The frequency distribution of each indicator was examined, and indicators with unusual distributions or extreme values were noted and adjusted or dropped, as necessary.

Data provided from the Georgia DOE and the GSHS did not contain county assignments and instead were organized by school system and individual school. Thus, we assigned a county name to each system name based on the school address for school systems that were separated by smaller geographic areas or regions (such as a city). County assignment for the GSHS and Georgia DOE indicators were based on school location, rather than the place of residence for each individual/respondent. GSHS respondents who could not be assigned to a particular county based on their school and system name were excluded from the analyses, including from the state estimates for Georgia presented in **Section 3**. This includes such students as those enrolled online or virtually or through the Department of Juvenile Justice or the Department of Corrections.

In 2018, three counties did not provide any high-school-level GSHS data (Clay, Randolph, and Taliaferro) and one county did not provide any middle-school-level GSHS data (Taliaferro County).

2.3 Analytic Procedures

2.3.1 Epidemiological Profiles

The following section outlines the analytic steps for creating the county ranks, indicator risk scores, and overall risk scores presented in **Section 5 and Volume II**.

Step 1: Calculating Rates or Percentages

To make the data comparable across counties with different population sizes, a rate (e.g., the number of reported deaths per 10,000 persons) or percentage (e.g., the percentage of students reporting alcohol use in the past 30 days) was calculated. Each rate or percentage was based on a numerator that reflected the number of events or population of interest for a given year and a denominator that reflected the base on which the rate or percentage was calculated.

Step 2: Computing Risk Scores

A main feature of the risk profiles is that they provide, for each county, a graphic display of its risk factor levels and problems related to substance misuse, relative to the average across the 159 counties (or state average). A statistical procedure termed "standardization" was performed to create these relative measures, termed risk scores. Standardized values for each of the 66 indicators were calculated for each county by subtracting the state mean value from the county value and dividing by the standard deviation. This procedure produced new values of the indicators that have a mean of zero and a standard deviation of 1.0, regardless of the original units of measurement. The indicators were defined such that higher values reflected greater levels of substance use, substance use–related problems, and risk for substance use.

Each risk score measure represents the number of standard deviation units a county's value lies away from the mean value across all counties, which is zero. By defining the risk score values in this manner, each risk score implicitly provides a comparison between the county and the mean value across all counties, or the state average. In addition, because all of the indicators were converted to the same scale, comparison across the indicators to identify those that are unusually high or low is facilitated.

In addition to computing the 66 individual risk scores by county, we created an overall risk index for each county. Because the measures for the 66 risk scores are in standardized form, they could be combined directly without concern for differences in their original units of measurement. The overall risk score, therefore, was defined as the mean value of the 66 risk subconstructs that were indicative of risk. It provides a measure of the overall level of substance abuse problems and risks in each county relative to other counties in the state. One limitation of the index, however, is that each risk score contributes equally to the

calculation of the overall risk score value (i.e., each indicator implicitly receives a weight of 1).

Step 3: Ranking Individual Risk Scores and Overall Risk Index

To allow for further comparisons by the individual risk scores and overall risk score, we ordered each risk score and the overall risk score from lowest to highest and ranked from 1 to 159. Counties with high rankings by risk score were at highest risk for that particular indicator, whereas counties with low rankings were at lower risk. Similarly, counties with high rankings on the overall risk score are viewed as having higher overall levels of substance use problems and risk factors for substance use than counties with lower rankings. The process of ranking was automated for the current report. Ranking occurred through program coding in such a way that if several counties had the same or minimal values on the risk index, they were assigned the same rank.

2.3.2 Trend Analysis

In addition to allowing for comparisons of risk between counties, the profiles highlight changes that may signal areas of increasing or decreasing risk within each county. These findings are critical in the context of a relative risk framework, because even counties that have lower risk than other counties in the state may have increased in risk relative to their own previous rankings.

We used polynomial regression models for each county to determine whether the change in each social indicator over time was statistically significant. We then classified each significant trend on the basis of whether it had changed in a direction that was favorable (decreasing risk) or unfavorable (increasing risk).

Although these trend analyses use the most recent years of available data for all indicators, they do not necessarily examine the same time period across all indicators. For example, the most recent data years for one indicator may run from 2014 through 2018, whereas another indicator may have complete data only for years 2015 through 2017. The analyzed trend periods for each indicator are noted in each county profile.

We did not conduct trend analyses for the following indicators because of data inconsistency and incompleteness:

- Poisoning-related hospitalizations and emergency department visits: In October 2015, hospital systems and emergency departments transitioned from the *International Classification of Diseases, Ninth Revision, Clinical Modification* (ICD-9-CM) to the ICD-10-CM. Because of the differences between the two systems in coding injuries, data from after 2015 are not comparable to data from before 2015. Compounding the issue, data from 2015 contain both ICD-9-CM and ICD-10-CM injury codes and cannot be compared with data from other years. Tests of trend should not be conducted until at least 3 data years with ICD-10-CM codes are available.

- Underage alcohol and tobacco sales compliance: Annual compliance checks were not consistently conducted in all 159 counties. To ensure that all counties had complete data, we averaged county-level compliance rates over the 3 most recent data years. This approach precluded any trend analysis on these indicators.

2.3.3 Predictive Analysis

Examining the relationship between an outcome and one social indicator at a time can be beneficial for preliminary investigation. However, relying solely upon this method may yield misleading conclusions about which indicators most accurately predict substance use, mental health, and their related consequences.

Consider a case in which an analyst uses a two-variable correlation analysis to examine the relationship between rates of opioid prescribing and rates of prescription drug misuse among high school students. The analyst may find a correlation coefficient of 0.4, suggesting that increases in opioid prescribing rates are associated with moderate increases in youth prescription drug misuse.

This approach, however, falls short on two fronts. First, correlational analyses do not distinguish between predictors and outcomes. In the previous example, the analyst could have interpreted the same correlation coefficient to mean that opioid prescribing rates increase as youth prescription drug misuse increases. This finding, while counterintuitive, highlights the difference between *correlation* and *prediction*. Second, correlational analyses ignore the role of other factors that may contribute to risky behavior among youth. If the analyst were to simultaneously account for the influence of social indicators like family structure and peer relationships, he or she may find that opioid prescribing rates are weak or outright unreliable predictors of youth prescription drug misuse in the larger context of a county's risk and protective factors.

Multivariate predictive models, such as linear and logistic regression, allow us to analyze how multiple risk and protective factors are systematically associated with differences in behavioral health outcomes across counties. These techniques integrate multiple data sources to determine the association between a given social indicator and an outcome after controlling for the effects of all other indicators included in the model. This approach enables us to highlight conditions that most strongly predict changes in substance use and other outcomes, ultimately informing providers on where prevention efforts can achieve the greatest impact.

To leverage the wealth of individual-level data available through the GSHS, we first used multilevel logistic regression to analyze patterns of substance use across all Georgia counties. These models incorporate both individual- and county-level variables to predict how differences in these social indicators translate into differences in a person's likelihood of substance use. For example, these models can predict the average difference in the likelihood of substance use between Georgia high school students whose peers disapprove

of substance use and those whose peers do not disapprove, or the average likelihood difference between high school students in rural counties and those in urban counties. We then analyzed single-level logistic regression models for all 159 counties to examine how these predictions vary by county. With these methods, we examined the following individual-level outcomes:

- Past 30-day alcohol use among high school students (GSHS);
- Past 30-day marijuana use among high school students (GSHS); and
- Lifetime prescription drug misuse among high school students (GSHS).

We also analyzed two single-level linear regression models to predict county-level outcomes. This design required that we aggregate all binary predictors (e.g., whether a person believed that substance use is risky or that there is little to no risk) to create percentages for each county (e.g., the percentage of people who believed substance use is risky). The results provide the average predicted change in an outcome given a corresponding change in a county-level risk or protective factor. We examined the following county-level outcomes:

- Rate of hospitalizations and emergency department visits related to poisonings by drugs of abuse among persons age 25 or younger (Georgia Department of Public Health)
- Fatal, alcohol-related vehicle crashes that involved an underage (age 20 or younger) person (FARS)

We selected predictors for all models on the basis of recommendations from prevention literature and on the availability of complete data for all counties. In addition to demographic control variables, such as race and grade level, the following social indicators were included as predictors in the models:

- Belief that there is a moderate or great risk associated with using alcohol, marijuana, or prescription drugs (GSHS)
- Belief that peers would think it was wrong or very wrong to use alcohol, marijuana, or prescription drugs (GSHS)
- Belief that parents would think it was wrong or very wrong to use alcohol, marijuana, or prescription drugs (GSHS)
- Receiving school-based education about alcohol, tobacco, and other drugs in the past year (GSHS)
- Feeling sad or withdrawn for 3 or more days in the past month (GSHS)
- Being sold, offered, or given drugs at school on three or more occasions in the past year (GSHS)
- Number of licensed alcohol retail outlets per 10,000 population (Georgia Department of Revenue)

- Percentage of households headed by a single parent (ACS)
- Percentage of high school students who graduate (Georgia DOE)
- Majority of population living in a rural area (ACS)

2.4 Limitations

As with any study, the archival data used in this report had several limitations, which are noted below.

- There was a wealth of data available at the county level in the state of Georgia; however, space limitations on creating a brief profile meant that many datasets had to be excluded from this analysis in order to provide a brief overview of the risk profile of each county.
- There were several limitations with data from the GSHS:
  - The questions on the GSHS changed between 2015 and 2016. Therefore, years before 2016 could not be included in these analyses because the survey questions were not consistently available for all years. Additionally, the survey questions changed again for 2019, which will also limit the comparability of data for future years of analysis.
  - The GSHS contained questions on perceived risk from substance use, perceived peer disapproval of substance use, and perceived parent disapproval of substance use for each individual substance (e.g., alcohol, marijuana, prescription drugs, etc.). However, because of space limitations on the brief two-page risk profile, we created a combined indicator to represent perceptions of risk or harm from ANY substance, rather than presenting them for each individual substance. Similarly, we created a construct variable for the survey questions regarding school commitment in order to consolidate the GSHS indicators and present data indicators from other sources on the brief two-page risk profile.
  - In 2018, several counties in Georgia did not have any high school (Clay, Randolph, and Taliaferro) or middle school respondents (Taliaferro County). Taliaferro did not have any middle school respondents in any of the survey years presented (2016–2018); therefore, it is difficult to make any inferences about the level of risk on these indicators in Taliaferro County.
  - Several counties (Baker, Quitman, Randolph, Stewart, Talbot, Warren, and Webster) had a very small number of respondents for the GSHS survey because of having a small number of schools in the county (e.g., there were fewer than 100 respondents). Therefore, the change in percentage and risk score, as well as the overall risk score, may be slightly misleading.
- Underage sales compliance checks are not carried out in every county every year; thus, we used the average noncompliance percentage over 3 years of available data to minimize the amount of missing data on this indicator. The tobacco underage sales compliance checks were determined by a random sampling design process as part of the Synar program; thus, the very nature of the compliance work conducted in each county is dictated by the random sample rather than by systematically conducted compliance checks each year. Additionally, the list of licensed alcohol and tobacco retailers was available for only the current fiscal year for this report.
- The Division of Family and Children Services did not have a single indicator in the statewide automated child welfare information system (SACWIS) to confirm that

drugs were involved in an investigation. Alcohol or drug involvement was inferred from scattered indicators and comments that case managers entered justifying substantiation or describing allegations. References to drug categories were counted from a text search of the evidence summary and justification fields in the investigation documentation. There were specific allegation codes for birth exposure and methamphetamine exposure. An ancillary code was used to indicate that an adult in a case has a substance abuse characteristic. Any investigation with at least one of these indicators of substance abuse was counted as a case involving alcohol or drugs. Both substantiated and unsubstantiated investigations are included. Thus, an indicator of substance abuse here means only that substance abuse was alleged or suspected, not that it was specifically confirmed.

- The alcohol- and drug-related emergency room visits and hospitalization data were not available in 2015 because of the change in classification codes from ICD-9 to ICD-10. The number of codes used to classify poisonings as substance related increased substantially from ICD-9 to ICD-10. Therefore, substances that may not have been assigned an ICD code under ICD-9 may have been assigned one under ICD-10. Thus, trend analysis was not conducted for these indicators, as there was a definition change in the middle of the time period and any increases or changes were likely due to the definition change rather than to an actual change in the event prevalence.
- When predictive models for a single county are analyzed, a decrease in sample size leads to a decrease in statistical power: achieving a statistically significant result in a less populous county requires a much larger change in the odds of substance use than it would in a more populous county. Therefore, statistical significance should not be used as the sole benchmark for highlighting the importance of county-specific estimates in counties with relatively small population sizes.

[This page intentionally left blank].

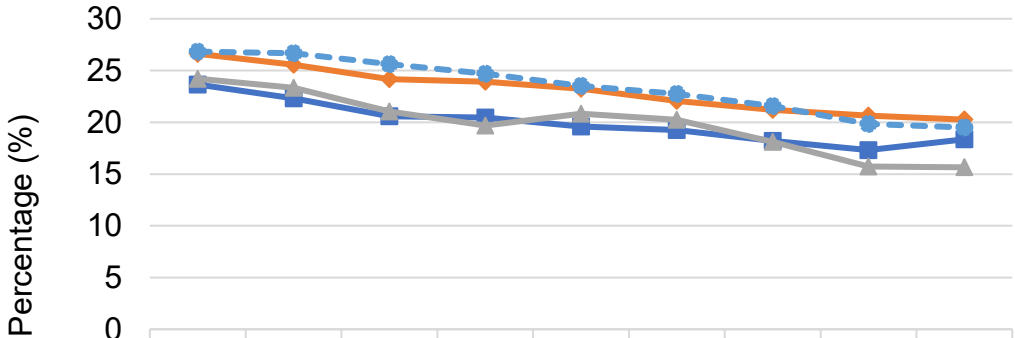
3. Georgia Substance Use and Related Consequences Trends Over Time

3.1 Comparison of Georgia Past 30 Consumption Indicators with Neighboring States and the United States

This section presents trends in past 30-day substance use for the state of Georgia compared with the United States and with the neighboring states of Alabama and Florida. Data are presented for the following substances: alcohol, binge alcohol, cigarettes, marijuana, and prescription drug misuse. These graphs present data from the National Survey on Drug Use and Health (NSDUH) State Report from 2008–2009 through 2016–2017.

The "Descriptive Highlights in 2016–2017" in text summarizes descriptive differences between Georgia and the United States and the neighboring states of Alabama and Florida. No statistical testing was conducted to compare the geographic regions.

Figure 1. Percentage Reporting Past 30-Day Alcohol Use Among Youth Age 12 to 20 in the United States, Alabama, Florida, and Georgia, 2008–2009 through 2016–2017



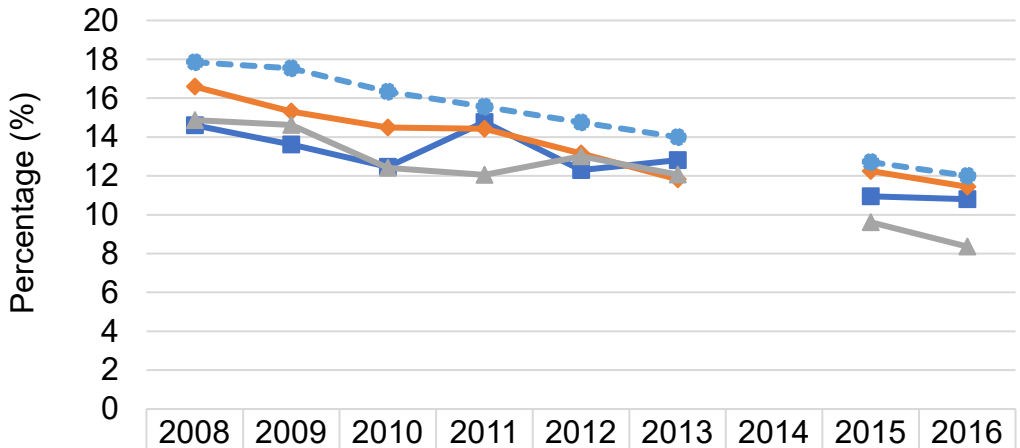
	2008 – 2009	2009 – 2010	2010 – 2011	2011 – 2012	2012 – 2013	2013 – 2014	2014 – 2015	2015 – 2016	2016 – 2017
Alabama	23.65	22.30	20.59	20.45	19.58	19.25	18.19	17.32	18.36
Florida	26.62	25.55	24.17	23.93	23.25	22.08	21.20	20.64	20.26
Georgia	24.21	23.33	21.04	19.69	20.84	20.25	18.12	15.73	15.65
United States	26.83	26.67	25.61	24.70	23.52	22.76	21.57	19.83	19.50

SOURCE: National Survey on Drug Use and Health (NSDUH).

Descriptive Highlights in 2016–2017:

In 2016–2017, the percentage of youth age 12 to 20 reporting past-month alcohol use was slightly lower in Georgia (15.65%), compared with neighboring states (Alabama and Florida) and the United States overall.

Figure 2. Percentage Reporting Past 30-Day Binge Alcohol Use Among Youth Age 12 to 20 in the United States, Alabama, Florida, and Georgia, 2008–2009 through 2016–2017



	2008–2009	2009–2010	2010–2011	2011–2012	2012–2013	2013–2014	2014–2015	2015–2016	2016–2017
Alabama	14.61	13.62	12.46	14.77	12.30	12.81		10.94	10.80
Florida	16.59	15.32	14.49	14.42	13.15	11.81		12.26	11.44
Georgia	14.87	14.62	12.41	12.05	13.00	12.06		9.61	8.36
United States	17.85	17.54	16.34	15.55	14.75	14.00		12.71	12.00

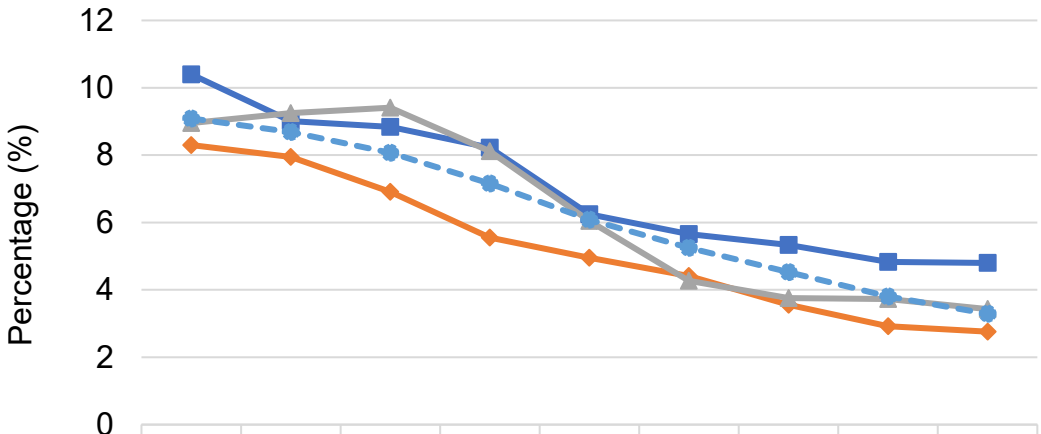
NOTE: Data not available in 2014-2015 due to NSDUH redesign.

SOURCE: National Survey on Drug Use and Health (NSDUH).

Descriptive Highlights in 2016–2017:

In 2016–2017, the percentage of youth age 12 to 20 reporting past-month binge alcohol use was slightly lower in Georgia (8.36%), compared with neighboring states (Alabama and Florida) and the United States overall.

Figure 3. Percentage Reporting Past 30-Day Cigarette Use Among Youth Age 12 to 17 in the United States, Alabama, Florida, and Georgia, 2008–2009 through 2016–2017



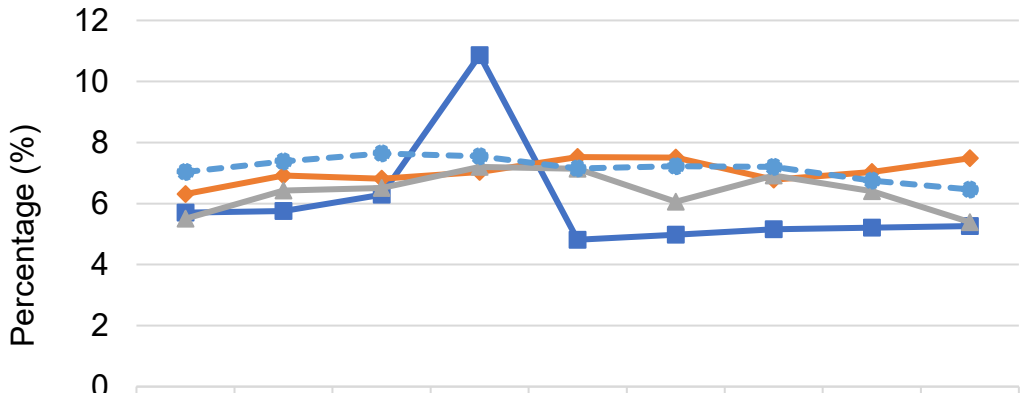
	2008–2009	2009–2010	2010–2011	2011–2012	2012–2013	2013–2014	2014–2015	2015–2016	2016–2017
Alabama	10.40	9.01	8.84	8.22	6.25	5.66	5.34	4.83	4.80
Florida	8.30	7.95	6.91	5.55	4.95	4.42	3.56	2.93	2.76
Georgia	8.95	9.25	9.41	8.12	6.05	4.27	3.76	3.73	3.43
United States	9.09	8.69	8.07	7.16	6.08	5.24	4.53	3.80	3.29

SOURCE: National Survey on Drug Use and Health (NSDUH).

Descriptive Highlights in 2016–2017:

In 2016–2017, the percentage of youth age 12 to 17 reporting past-month cigarette use was slightly higher in Georgia (3.43%), compared with Florida and the United States overall, but slightly lower than the percentage in Alabama.

Figure 4. Percentage Reporting Past 30-Day Marijuana Use Among Youth Age 12 to 17 in the United States, Alabama, Florida, and Georgia, 2008–2009 through 2016–2017



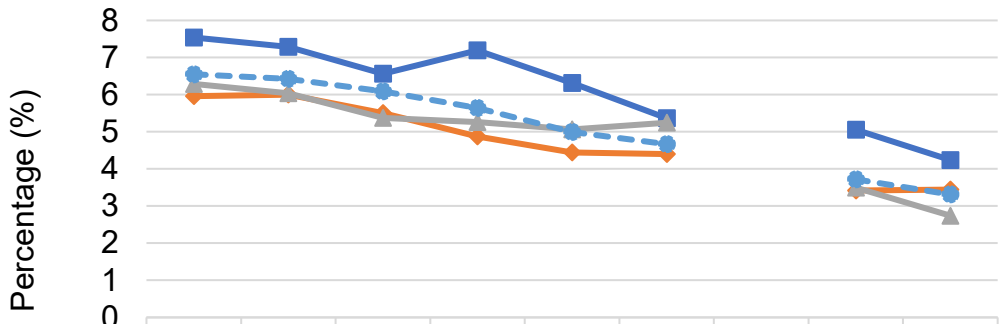
	2008–2009	2009–2010	2010–2011	2011–2012	2012–2013	2013–2014	2014–2015	2015–2016	2016–2017
Alabama	5.70	5.75	6.29	10.86	4.81	4.98	5.16	5.20	5.26
Florida	6.31	6.92	6.81	7.03	7.52	7.51	6.78	7.03	7.48
Georgia	5.50	6.42	6.51	7.20	7.14	6.06	6.92	6.40	5.39
United States	7.03	7.38	7.64	7.55	7.15	7.22	7.20	6.75	6.46

SOURCE: National Survey on Drug Use and Health (NSDUH).

Descriptive Highlights in 2016–2017:

In 2016–2017, the percentage of youth age 12 to 17 reporting past-month marijuana use was slightly lower in Georgia (5.39%), compared with Florida and the United States overall. The percentage in Georgia was relatively similar to the percentage in Alabama.

Figure 5. Percentage Reporting Past 30-Day Prescription Drug Misuse Among Youth Age 12 to 17 in the United States, Alabama, Florida, and Georgia, 2008–2009 through 2016–2017



	2008–2009	2009–2010	2010–2011	2011–2012	2012–2013	2013–2014	2014–2015	2015–2016	2016–2017
Alabama	7.54	7.29	6.56	7.19	6.32	5.37		5.05	4.24
Florida	5.96	6.00	5.50	4.87	4.44	4.40		3.42	3.44
Georgia	6.29	6.04	5.37	5.26	5.07	5.24		3.49	2.74
United States	6.55	6.43	6.09	5.64	5.00	4.67		3.72	3.31

NOTE: Data not available in 2014-2015 due to NSDUH Survey redesign.

SOURCE: National Survey on Drug Use and Health (NSDUH).

Descriptive Highlights in 2016–2017:

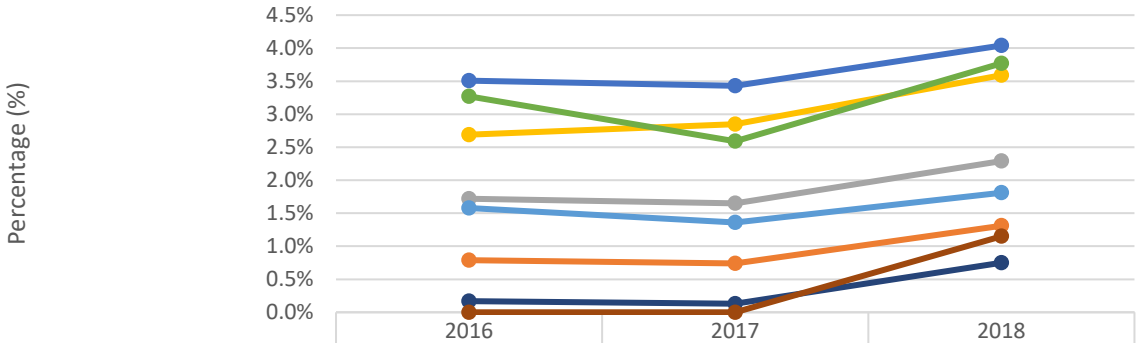
In 2016–2017, the percentage of youth age 12 to 17 reporting past-month prescription drug misuse was slightly lower in Georgia (2.74%), compared with neighboring states (Alabama and Florida) and the United States overall.

3.2 Georgia Social Indicator Study Indicators Over Time

This section presents trends for the state of Georgia overall for each of the 66 indicators. The graphs reflect up to 5 of the most recent years for which data are available on each indicator. These graphs reflect the same trend years described in the profiles. The graphics can be used as a baseline to which the trends in the counties can be compared.

The "Significant Findings" text that follows several of the figures summarizes only statistically significant trends for each set of indicators. Where no trend analysis was possible, "Descriptive Findings" of the data are noted and provided.

Figure 6. Percentage Reporting Past 30-Day Substance Use Among Middle School Students in Georgia, by Substance, SY2016–SY2018



	2016	2017	2018
Alcohol	3.51%	3.43%	4.04%
Binge Alcohol	0.79%	0.74%	1.31%
Marijuana	1.72%	1.65%	2.29%
Prescription Drugs	2.69%	2.85%	3.59%
Tobacco	1.58%	1.36%	1.81%
Electronic Vapor Products	3.27%	2.59%	3.77%
Methamphetamines	0.17%	0.13%	0.75%
Heroin	0.00%	0.00%	1.15%

NOTES: Prescription drug use includes prescription drug painkillers, tranquilizers or sedatives, stimulants, or other drugs. Tobacco use includes cigarettes or other tobacco. County assignment based on school location.

SY = school year.

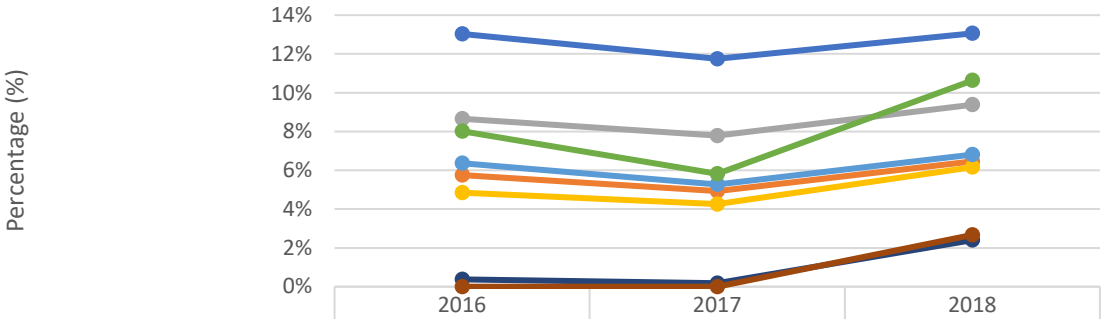
SOURCE: Georgia Student Health Survey (GSHS).

Significant Findings:

- The percentage of middle school students reporting past 30-day substance use slightly decreased from 2016 to 2017 but then increased from 2017 to 2018 for the following substances:
  - Alcohol (decreased from 3.51% in 2016 to 3.43% in 2017, then increased to 4.04% in 2018)
  - Binge alcohol (decreased from 0.79% in 2016 to 0.74% in 2017, then increased to 1.31% in 2018)
  - Marijuana (decreased from 1.72% in 2015 to 1.65% in 2017, then increased to 2.29% in 2018)
  - Tobacco (decreased from 1.58% in 2016 to 1.36% in 2017, then increased to 1.81% in 2018)
  - Electronic vapor products (decreased from 3.27% in 2016 to 2.59% in 2017, then increased to 3.77% in 2018)
  - Methamphetamines (decreased from 0.17% in 2016 to 0.13% in 2017, then increased to 0.75% in 2018)

- The percentage of middle school students reporting past 30-day substance use slightly increased from 2016 to 2018 for the following substances:
  - Prescription drugs (increased from 2.69% in 2016 to 2.85% in 2017 and 3.59% in 2018)
  - Heroin (increased from 0.00% in 2016 and 2017 to 1.15% in 2018)

Figure 7. Percentage Reporting Past 30-Day Substance Use Among High School Students in Georgia, by Substance, SY2016–SY2018



	2016	2017	2018
Alcohol	13.03%	11.75%	13.06%
Binge Alcohol	5.76%	4.93%	6.46%
Marijuana	8.65%	7.79%	9.38%
Prescription Drugs	4.84%	4.26%	6.16%
Tobacco	6.37%	5.27%	6.81%
Electronic Vapor Products	8.02%	5.82%	10.63%
Methamphetamines	0.38%	0.18%	2.40%
Heroin	0.00%	0.00%	2.67%

NOTES: Prescription drug use includes prescription drug painkillers, tranquilizers or sedatives, stimulants, or other drugs. Tobacco use includes cigarettes or other tobacco. County assignment based on school location.

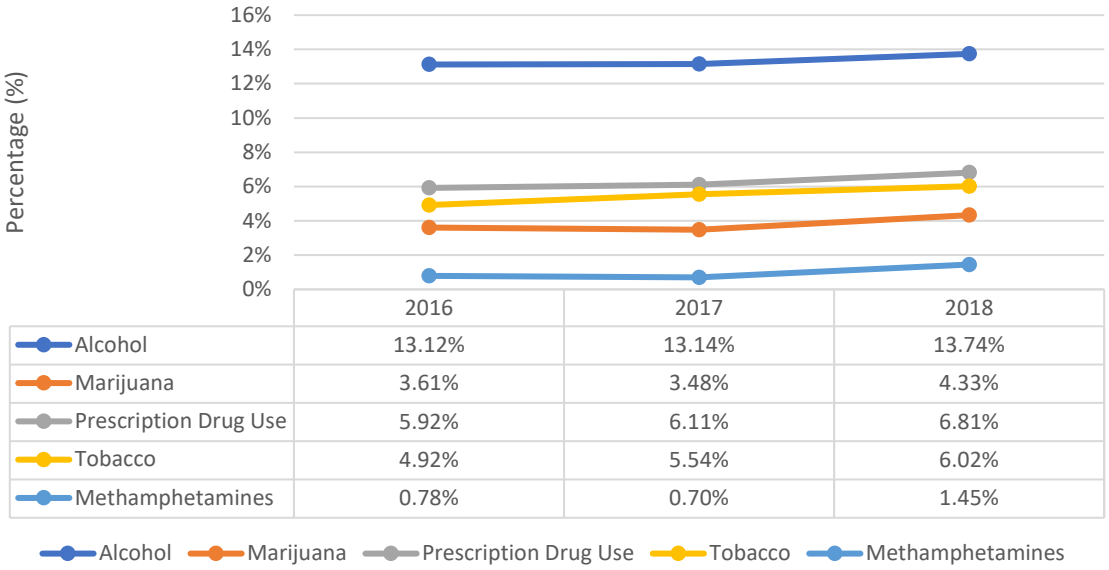
SY = school year.

SOURCE: Georgia Student Health Survey (GSHS).

Significant Findings:

- The percentage of high school students reporting past 30-day substance use slightly decreased from 2016 to 2017 but then increased from 2017 to 2018 for the following substances:
  - Binge alcohol (decreased from 5.76% in 2016 to 4.93% in 2017, then increased to 6.46% in 2018)
  - Marijuana (decreased from 8.65% in 2015 to 7.79% in 2017, then increased to 9.38% in 2018)
  - Prescription drugs (decreased from 4.84% in 2015 to 4.26% in 2017, then increased to 6.16% in 2018)
  - Electronic vapor products (decreased from 8.02% in 2016 to 5.82% in 2017, then increased to 10.63% in 2018)
  - Methamphetamines (decreased from 0.38% in 2016 to 0.18% in 2017, then increased to 2.40% in 2018)
- The percentage of high school students reporting past 30-day substance use slightly increased from 2016 to 2018 for the following substances:
  - Heroin (increased from 0.00% in 2016 and 2017 to 2.67% in 2018)

Figure 8. Percentage Reporting Lifetime Substance Use Among Middle School Students in Georgia, by Substance, SY2016–SY2018



	2016	2017	2018
Alcohol	13.12%	13.14%	13.74%
Marijuana	3.61%	3.48%	4.33%
Prescription Drug Use	5.92%	6.11%	6.81%
Tobacco	4.92%	5.54%	6.02%
Methamphetamines	0.78%	0.70%	1.45%

NOTE: Tobacco use includes cigarettes or other tobacco. County assignment based on school location.

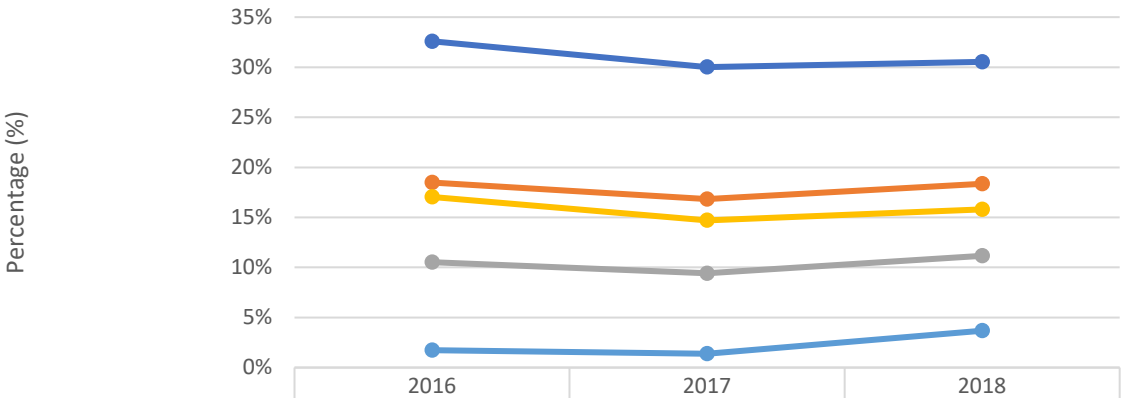
SY = school year.

SOURCE: Georgia Student Health Survey (GSHS).

Significant Findings:

- The percentage of middle school students reporting that they had ever used the substance remained relatively constant between 2016 and 2017 and then slightly increased from 2017 to 2018 for the following substances:
  - Methamphetamines (remained at 0.78% in 2016 and 0.70% in 2017, and then increased to 1.45% in 2018).
- The percentage of middle school students reporting that they had ever used the substance decreased between 2016 and 2017 and then slightly increased from 2017 to 2018 for the following substances:
  - Marijuana (decreased from 3.61% in 2016 to 3.48% in 2017, and then increased to 4.33% in 2018).
- The percentage of middle school students reporting that they had ever used the substance increased between 2016 and 2018 for the following substances:
  - Prescription drugs (increased from 5.92% in 2016 to 6.11% in 2017 and to 6.81% in 2018).

Figure 9. Percentage Reporting Lifetime Substance Use Among High School Students in Georgia, by Substance, SY2016–SY2018



	2016	2017	2018
Alcohol	32.59%	30.01%	30.52%
Marijuana	18.48%	16.83%	18.37%
Prescription Drug Use	10.51%	9.42%	11.16%
Tobacco	17.04%	14.70%	15.79%
Methamphetamines	1.72%	1.38%	3.68%

NOTE: Tobacco use includes cigarettes or other tobacco. County assignment based on school location.

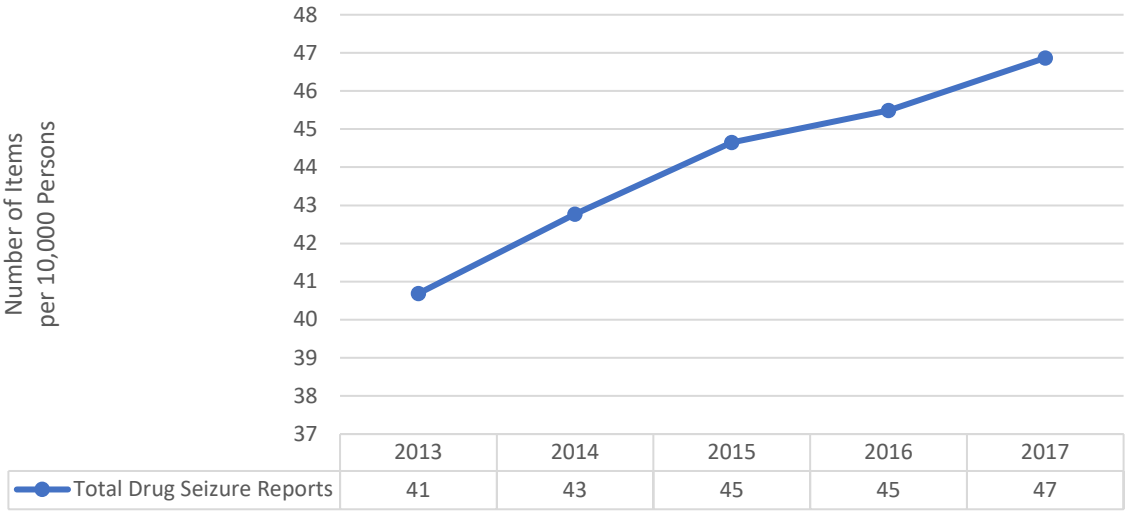
SY = school year.

SOURCE: Georgia Student Health Survey (GSHS).

Significant Findings:

- The percentage of high school students reporting that they had ever used the substance decreased between 2016 and 2017 and then slightly increased from 2017 to 2018 for the following substances:
  - Alcohol (decreased from 32.59% in 2016 to 30.01% in 2017, and then increased to 30.52% in 2018)
  - Prescription drugs (decreased from 10.51% in 2016 to 9.42% in 2017, and then increased to 11.16% in 2018)
  - Tobacco (decreased from 17.04% in 2016 to 14.70% in 2017, and then increased to 15.79% in 2018)
  - Methamphetamines (decreased from 1.72% in 2016 to 1.38% in 2017, and then increased to 3.68% in 2018)

Figure 10. Total Drug Seizures per 10,000 Persons in Georgia, 2013–2017



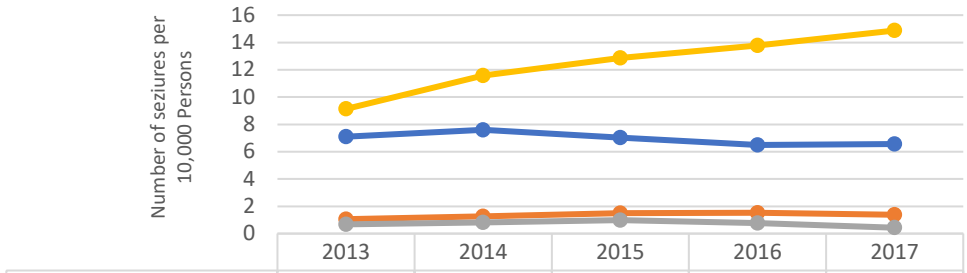
NOTE: Includes cocaine, heroin, methamphetamines, marijuana/cannabis, fentanyl, and opioids.

SOURCE: National Forensic Laboratory Information System (NFLIS).

Significant Finding:

- The rate of drug seizures per 10,000 persons in Georgia steadily increased from 41 per 10,000 persons in 2013 to 47 per 10,000 persons in 2017.

Figure 11. Drug Seizures per 10,000 Persons in Georgia, by Substance, 2013–2017



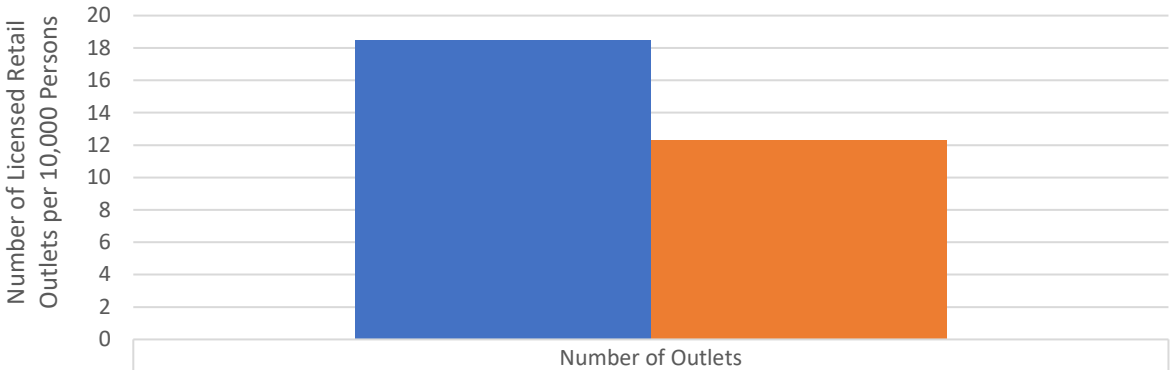
	2013	2014	2015	2016	2017
Cocaine	7	8	7	6	7
Heroin	1	1	2	2	1
Marijuana	1	1	1	1	0
Methamphetamines	9	12	13	14	15

SOURCE: National Forensic Laboratory Information System (NFLIS).

Significant Findings:

- Methamphetamine was the substance with the highest rate of drug seizures in all years from 2013 to 2017. The methamphetamine seizure rate increased from 9 per 10,000 persons in 2013 to 15 per 10,000 persons in 2017.
- The drug seizure rate per 10,000 persons was relatively low for heroin but increased from 1.06 per 10,000 persons in 2013 to 1.37 per 10,000 persons in 2017.

Figure 12. Georgia Total Number of Licensed Retailer Outlets, by Substance, FY2019



	Number of Outlets
Alcohol	18
Tobacco	12

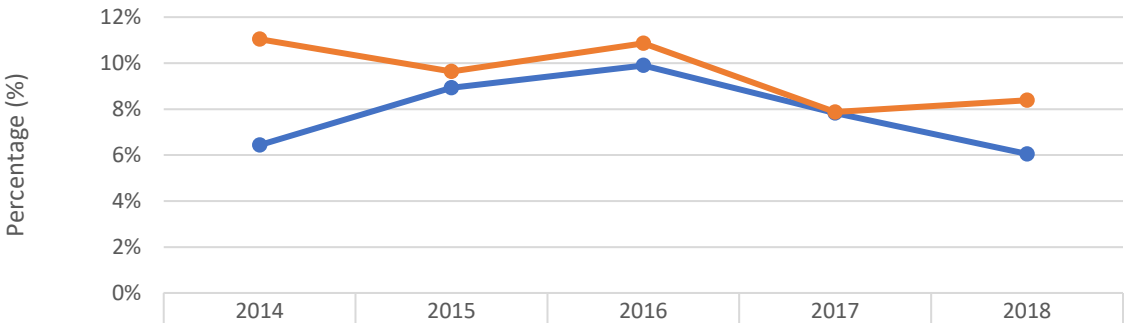
NOTE: County assignment based on retailer location.

SOURCE: Georgia Department of Revenue.

Descriptive Finding:

- In FY2019, the number of licensed alcohol retail outlets per 10,000 persons (18) was higher than the number of licensed tobacco retail outlets per 10,000 persons (12).

Figure 13. Georgia Underage Sales Noncompliance Percentage, by Substance, FY2014–FY2019



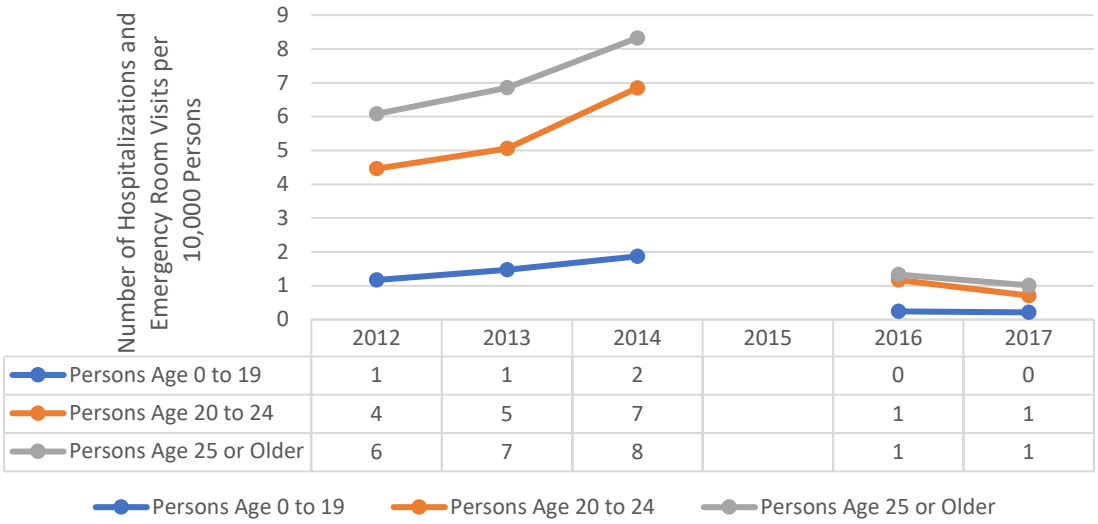
	2014	2015	2016	2017	2018
Alcohol	6.43%	8.93%	9.90%	7.83%	6.05%
Tobacco	11.04%	9.64%	10.86%	7.87%	8.39%

SOURCE: Georgia Department of Revenue.

Descriptive Findings:

- A higher percentage of licensed tobacco retailers than licensed alcohol retailers sold to underage persons in all years between 2014 and 2018.
- The percentage of licensed alcohol retailers that sold to underage persons increased from 6.43% in 2014 to 9.90% in 2016, then decreased to 6.05% in 2018.
- The percentage of licensed tobacco retailers that sold to underage persons decreased from 11.04% in 2014 to 9.64% in 2015, increased to 10.86% in 2016, and then decreased to 8.39% in 2018.

Figure 14. Georgia Alcohol-Related Hospitalizations and Emergency Room Visits per 10,000 Persons, by Age Group, 2012–2017



	2012	2013	2014	2015	2016	2017
Persons Age 0 to 19	1	1	2		0	0
Persons Age 20 to 24	4	5	7		1	1
Persons Age 25 or Older	6	7	8		1	1

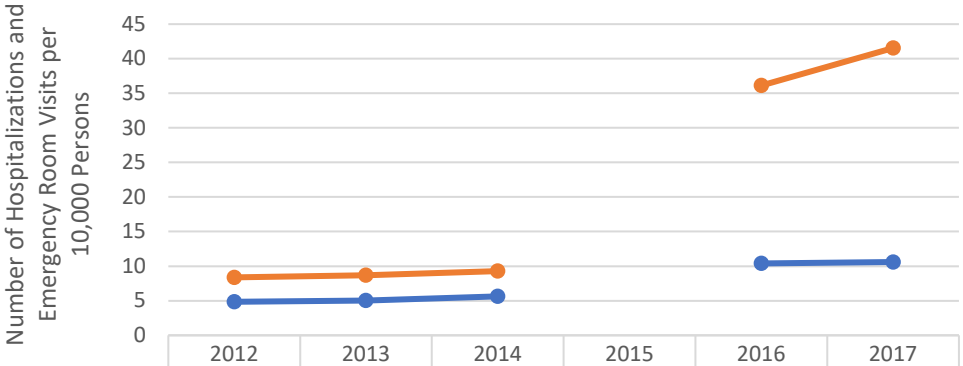
NOTE: Data were not available for 2015. In October 2015, hospital systems and emergency departments transitioned from the *International Classification of Diseases, Ninth Revision, Clinical Modification* (ICD-9-CM) to the ICD-10-CM. Because of the differences between the two systems in coding injuries, data from after 2015 are not comparable to data from before 2015. Compounding the issue, data from 2015 contain both ICD-9-CM and ICD-10-CM injury codes and cannot be compared with data from other years. Tests of trend should not be conducted until at least 3 data years with ICD-10-CM codes are available. County assignment based on patient/subject residence.

SOURCE: Georgia Department of Public Health.

Descriptive Findings for 2016–2017:

- Data from 2012–2014 are presented here but should not be compared with data from the most recent years, because of the differences in ICD coding described in the figure note.
- The rate of alcohol-related hospitalizations and emergency room visits per 10,000 persons decreased between 2016 and 2017 for all age groups (age 0 to 19; age 20 to 24; and age 25 or older).
- In both 2016 and 2017, the rate of alcohol-related hospitalizations and emergency room visits was highest for persons age 25 or older (1.3 in 2016 and 1.0 in 2017), next highest for persons age 20 to 24 (1.2 in 2016 and 0.7 in 2017) , and lowest for persons age 0 to 19 (0.2 in 2016 and 0.2 in 2017).

Figure 15. Georgia Drug-Related Hospitalizations and Emergency Room Visits per 10,000 Persons, by Age Group, 2012–2017



	2012	2013	2014	2015	2016	2017
Persons Age 0 to 24	5	5	6		10	11
Persons Age 25 or Older	8	9	9		36	42

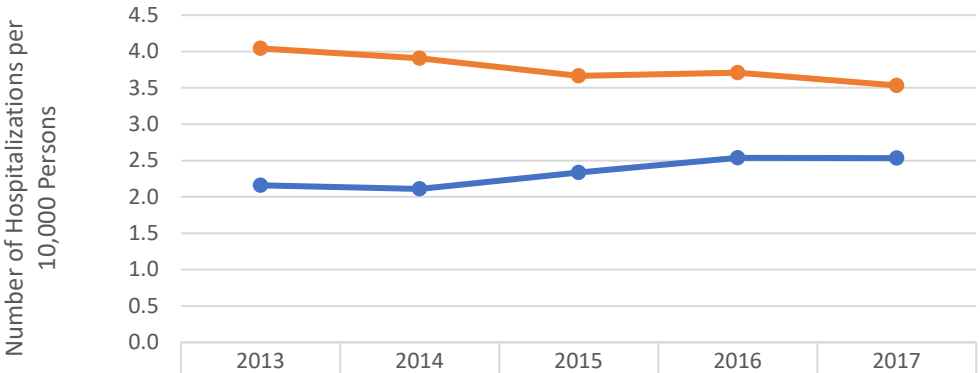
NOTE: Data were not available for 2015. In October 2015, hospital systems and emergency departments transitioned from the *International Classification of Diseases, Ninth Revision, Clinical Modification* (ICD-9-CM) to the ICD-10-CM. Because of the differences between the two systems in coding injuries, data from after 2015 are not comparable to data from before 2015. Compounding the issue, data from 2015 contain both ICD-9-CM and ICD-10-CM injury codes and cannot be compared with data from other years. Tests of trend should not be conducted until at least 3 data years with ICD-10-CM codes are available. County assignment based on patient/subject residence.

SOURCE: Georgia Department of Public Health.

Descriptive Findings for 2016–2017:

- Data from 2012–2014 are presented here but should not be compared with data from the most recent years because of the differences in ICD coding described in the figure note.
- The rate of drug-related hospitalizations and emergency room visits per 10,000 persons increased between 2016 and 2017 for both age groups (age 20 to 24; age 25 or older).
- In both 2016 and 2017, the rate of alcohol-related hospitalizations and emergency room visits was highest for persons age 25 or older (36.1 in 2016 and 41.5 in 2017) and substantially lower for persons age 0 to 19 (10.4 in 2016 and 10.6 in 2017).

Figure 16. Georgia Hospitalizations Due to Self-Inflicted Injuries per 10,000 Persons, by Substance, 2013–2017



	2013	2014	2015	2016	2017
Persons Age 0 to 24	2.2	2.1	2.3	2.5	2.5
Persons Age 25 or Older	4.0	3.9	3.7	3.7	3.5

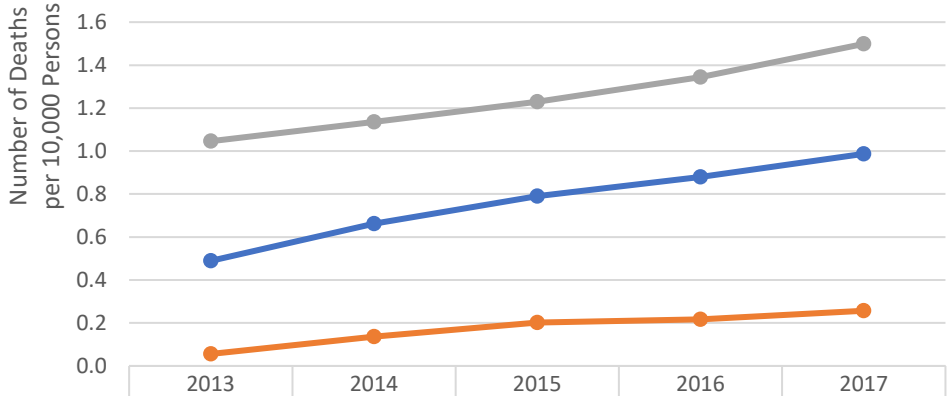
NOTE: County assignment based on patient/subject residence.

SOURCE: Georgia Department of Public Health, Online Analytical Statistical Information System (OASIS).

Significant Findings:

- Among persons age 0 to 24, the rate of hospitalizations due to self-inflicted injuries slightly increased over time, from 2.2 per 10,000 persons in 2013 to 2.5 per 10,000 persons in 2017.
- Among persons age 25 or older, the rate of hospitalizations due to self-inflicted injuries slightly decreased over time, from 4.0 per 10,000 persons in 2013 to 3.5 per 10,000 persons in 2017.

Figure 17. Georgia Drug-Related Deaths per 10,000 Persons, by Substance, 2013–2017



	2013	2014	2015	2016	2017
Any Opioid	0.5	0.7	0.8	0.9	1.0
Heroin	0.1	0.1	0.2	0.2	0.3
Unintentional Poisoning	1.0	1.1	1.2	1.3	1.5

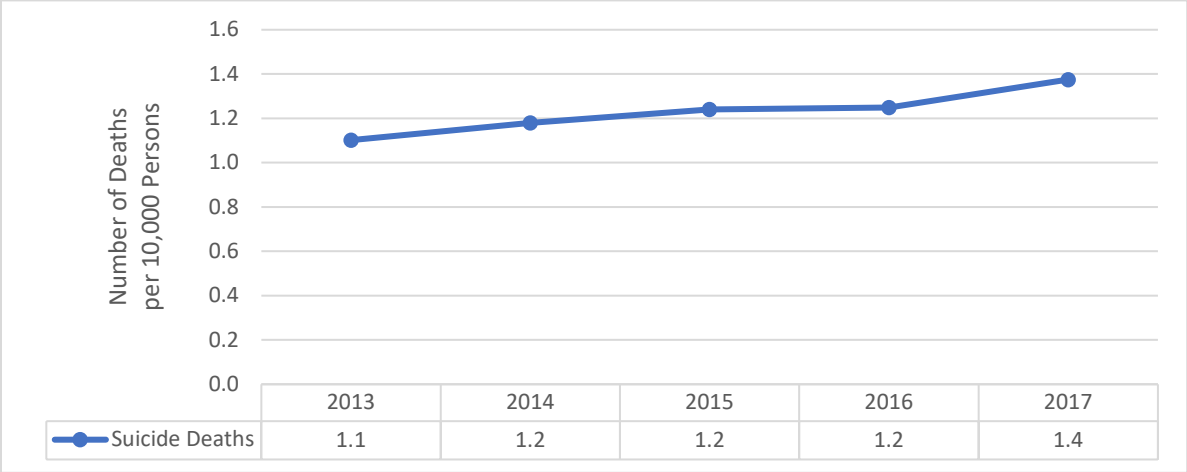
NOTE: County assignment based on patient/subject residence.

SOURCE: Georgia Department of Public Health, Online Analytical Statistical Information System (OASIS).

Significant Findings:

- The rate of any unintentional poisoning deaths increased from 1.1 per 10,000 persons in 2013 to 1.5 per 10,000 persons in 2017.
- The rate of any opioid-related death increased from 0.5 per 10,000 persons in 2013 to 1.0 per 10,000 persons in 2017.
- The rate of heroin-related deaths increased from 0.1 per 10,000 persons in 2013 to 0.3 per 10,000 persons in 2017.

Figure 18. Georgia Suicide Deaths per 10,000 Persons, 2013–2017



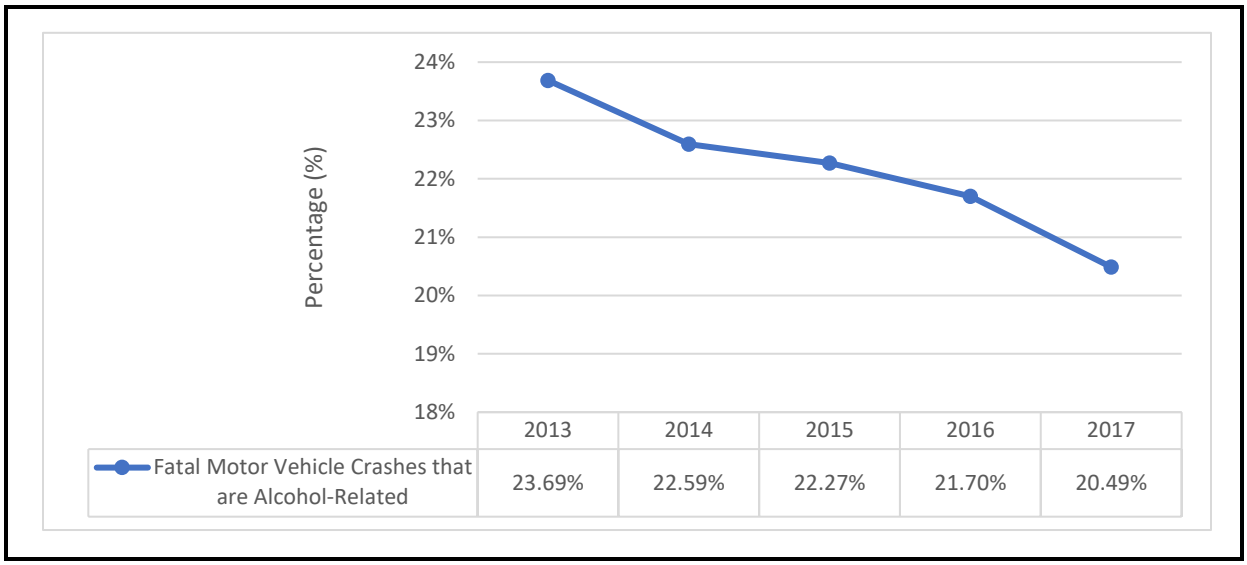
NOTE: County assignment based on patient/subject residence.

SOURCE: Georgia Department of Public Health, Online Analytical Statistical Information System (OASIS).

Significant Finding:

- The rate of suicide deaths in Georgia slightly increased over time, from 1.1 per 10,000 in 2013 to 1.4 per 10,000 in 2017.

Figure 19. Georgia Percentage of Fatal Motor Vehicle Crashes That Were Alcohol Related, 2013–2017



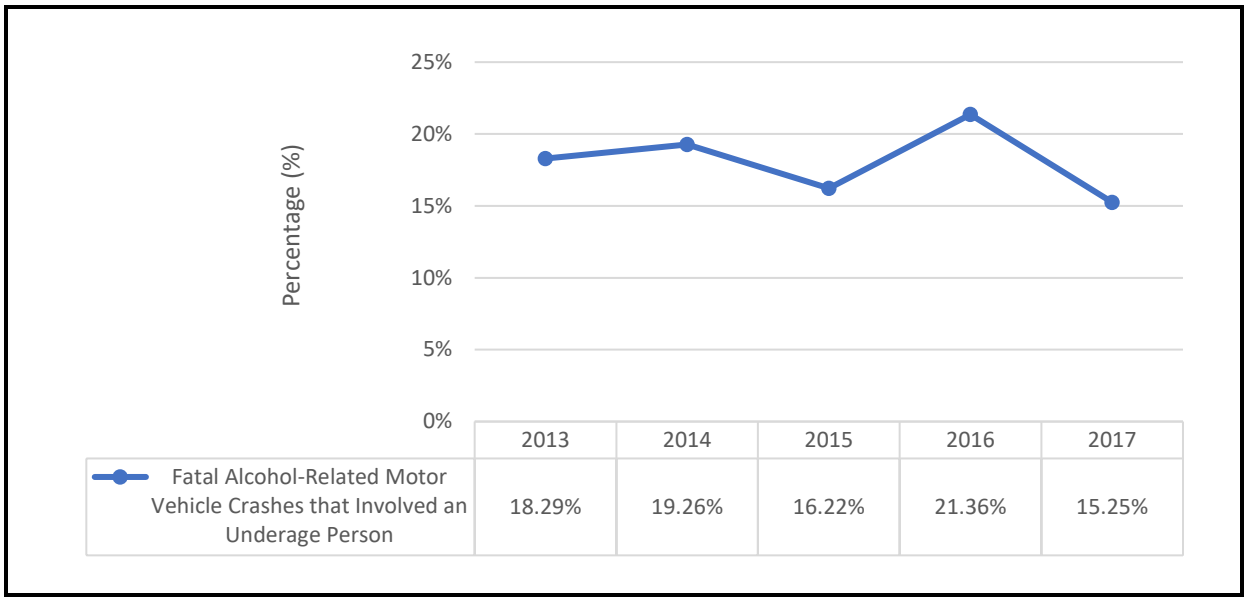
NOTE: County assignment based on crash location.

SOURCE: National Highway Traffic Safety Administration, Fatality Analysis Reporting System (FARS).

Descriptive Findings:

- The percentage of fatal motor vehicle crashes in Georgia that were alcohol related decreased from 23.69% in 2013 to 20.49% in 2017. These changes were not statistically significant.

Figure 20. Georgia Percentage of Fatal Alcohol-Related Motor Vehicle Crashes That Involved an Underage Person (Under Age 21), 2013–2017



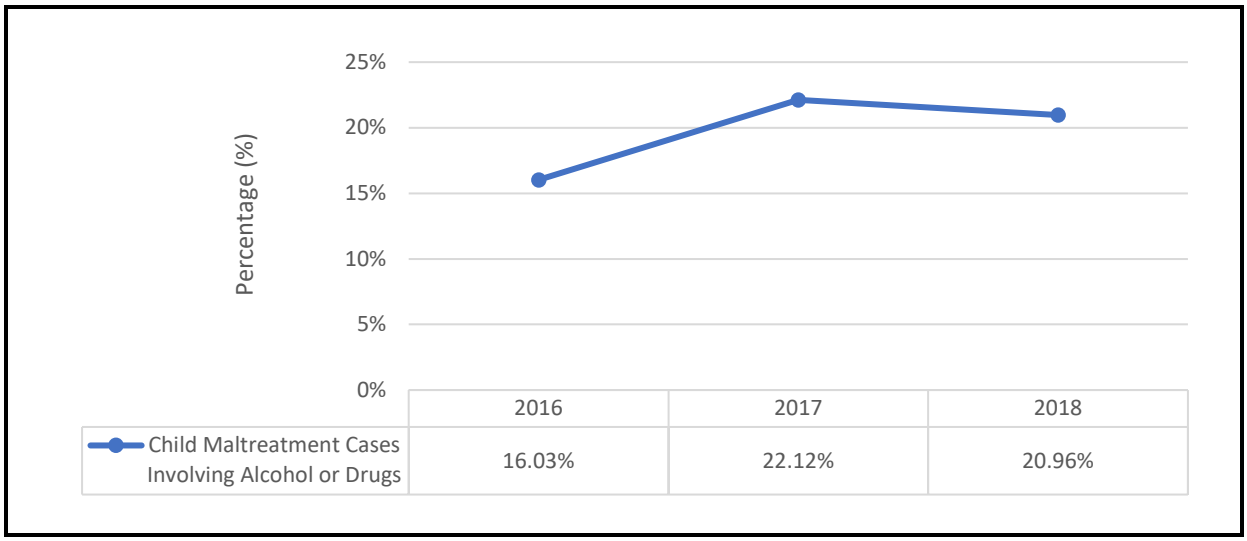
NOTE: Includes fatal, alcohol-related crashes in which an underage person was in one of the vehicles involved in the accident. The underage person was not necessarily killed or driving. County assignment based on crash location.

SOURCE: National Highway Traffic Safety Administration, Fatality Analysis Reporting System (FARS).

Descriptive Finding:

- The percentage of fatal alcohol-related motor vehicle crashes in Georgia that involved an underage person fluctuated over time between 2013 (18.29%) and 2017 (15.25%). These changes were not statistically significant.

Figure 21. Georgia Percentage of Child Maltreatment Cases Involving Alcohol or Drugs, 2016–2018

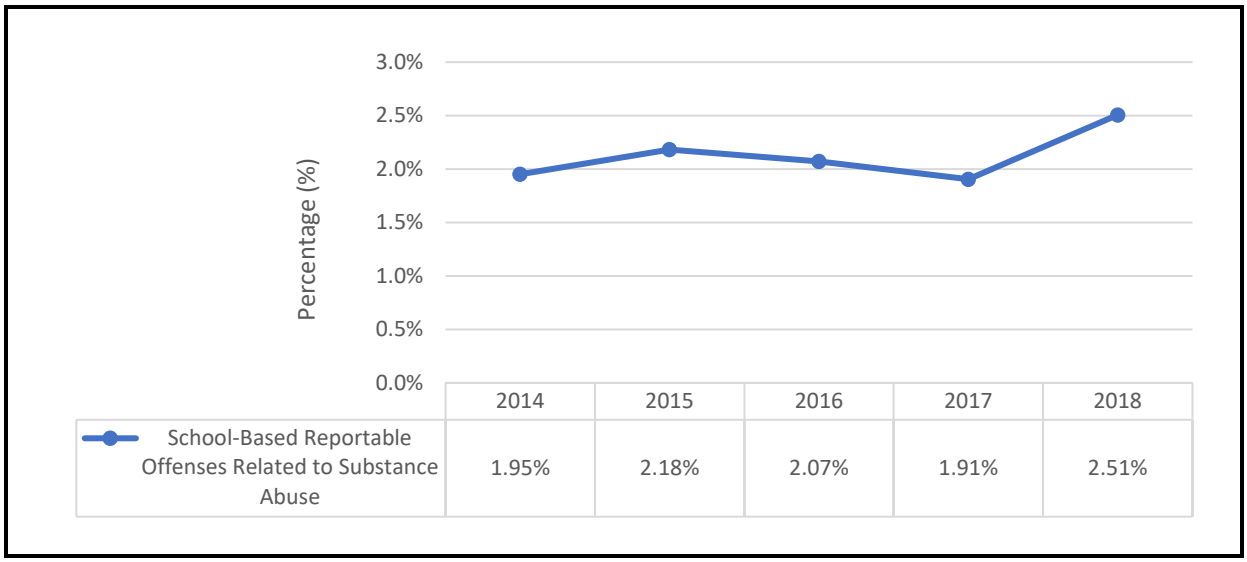


SOURCE: Georgia Division of Family & Children Services.

Significant Finding:

- The percentage of child maltreatment cases suspected to involve alcohol or drugs increased from 16.03% in 2016 to 22.12% in 2017, then decreased to 20.96% in 2018.

Figure 22. Georgia Percentage of School-Based Reportable Offenses Related to Substance Abuse, SY2014–SY2018



NOTE: Includes alcohol-, drug-, and tobacco-related offenses. County assignment based on school location.

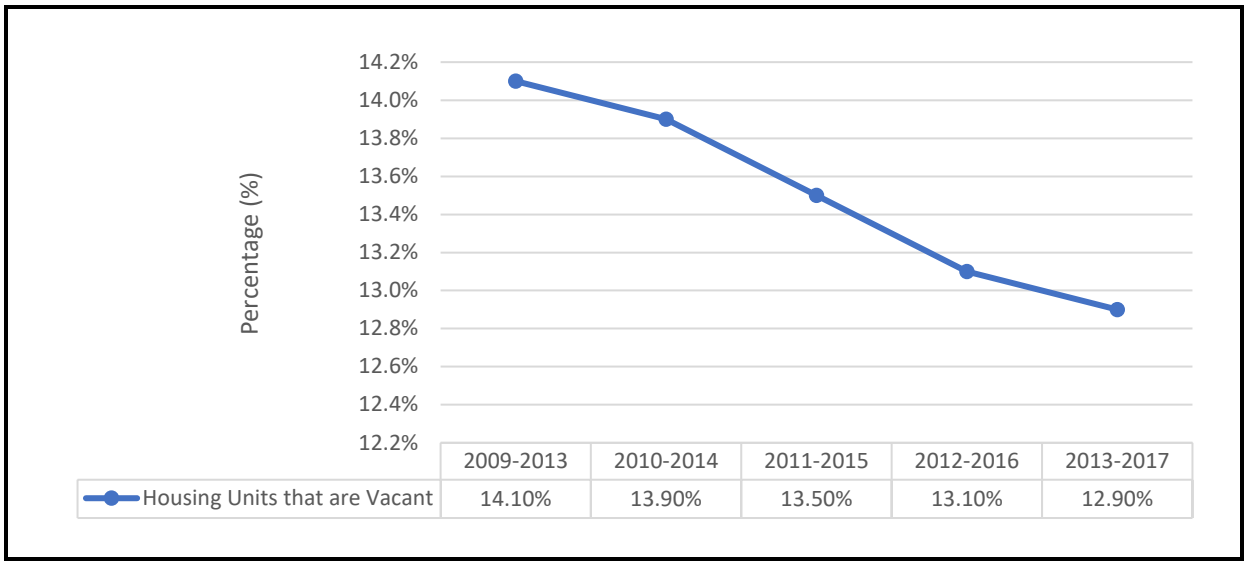
SY = school year.

SOURCE: Georgia Department of Education (DOE).

Descriptive Finding:

- The percentage of school-based reportable offenses that were related to substance use fluctuated between SY2014 (1.95%) and 2017 (1.91%) but then increased to 2.51% in 2018. These changes were not statistically significant.

Figure 23. Georgia Percentage of Housing Units That Are Vacant, 2009–2013 Through 2013–2017

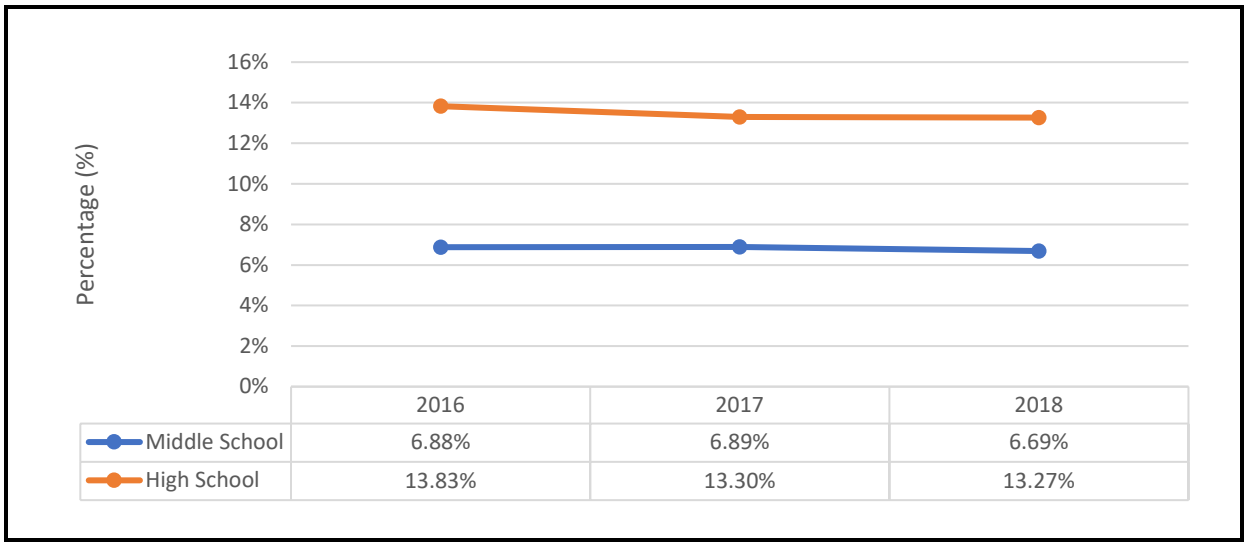


SOURCE: American Community Survey (ACS).

Descriptive Finding:

- The percentage of housing units in Georgia that are vacant decreased from 14.10% in 2009–2013 to 12.90% in 2013–2017. These changes were not statistically significant.

Figure 24. Georgia Percentage Perceiving Parent Disapproval of Substance Use, by Grade Level, SY2016–SY2018



	2016	2017	2018
Middle School	6.88%	6.89%	6.69%
High School	13.83%	13.30%	13.27%

NOTE: Percent reporting "not at all wrong" or "a little bit wrong." County assignment based on school location.

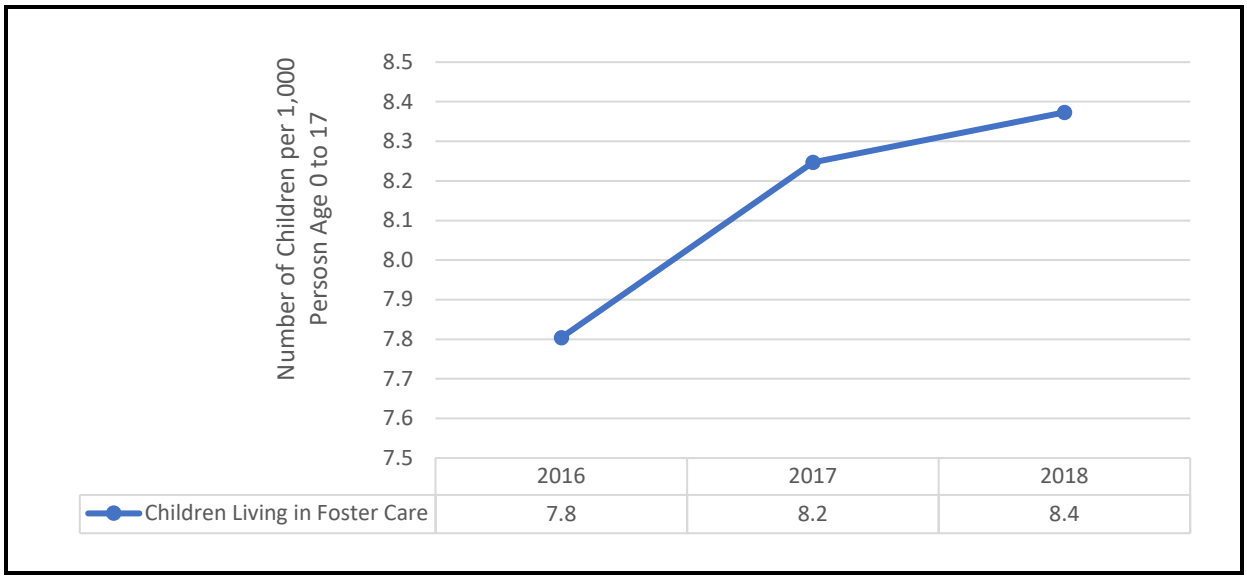
SY = school year.

SOURCE: Georgia Student Health Survey (GSHS).

Significant Finding:

- There were no statistically significant changes in the percentages perceiving parent disapproval of substance use for either age group.

Figure 25. Georgia Children Living in Foster Care per 1,000 Persons Age 0 to 17, 2016–2018

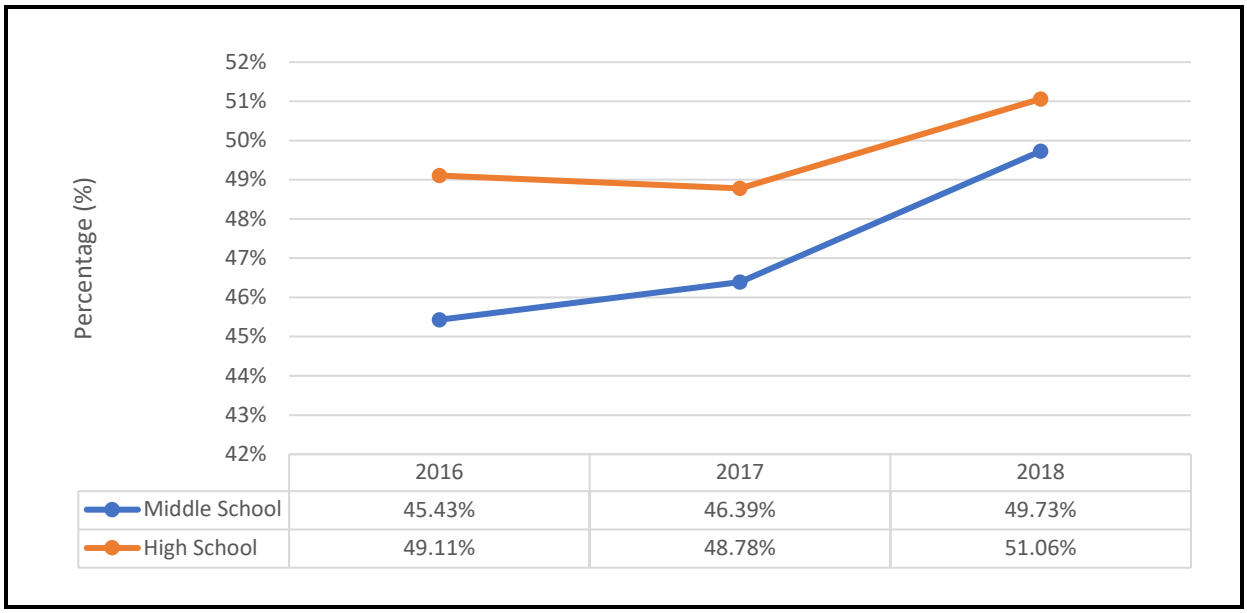


SOURCE: Georgia Division of Family & Children Services (DFCS).

Significant Finding:

- The rate of children living in foster care per 1,000 persons age 0 to 17 increased from 7.8 per 1,000 in 2016 to 8.4 per 1,000 in 2018.

Figure 26. Georgia Percentage Perceiving No or Slight Risk of Harm from Substance Use, by Grade Level, SY2016–SY2018



NOTE: Includes alcohol, binge alcohol, marijuana, and nonmedical use of prescription drugs. County assignment based on school location.

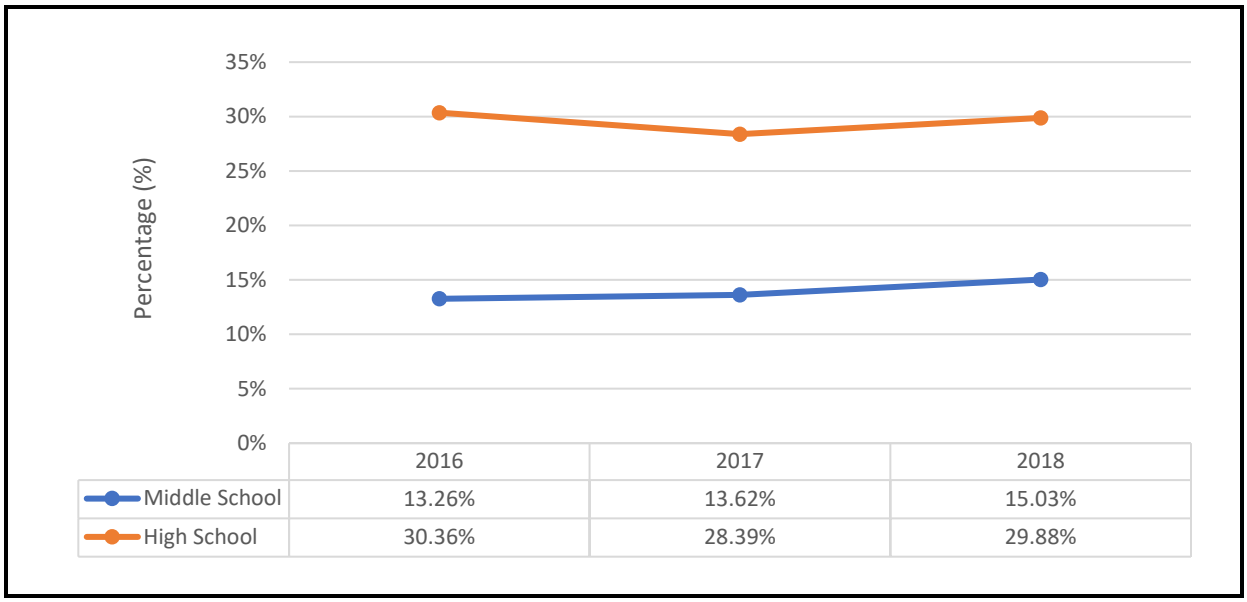
SY = school year.

SOURCE: Georgia Student Health Survey (GSHS).

Significant Findings:

- The percentage of middle school students in Georgia perceiving no or slight risk of harm from substance use increased from 45.43% in 2016 to 49.73% in 2018.
- The percentage of high school students in Georgia perceiving no or slight risk of harm from substance use increased from 49.11% in 2016 to 51.06% in 2018.

Figure 27. Georgia Percentage Perceiving Peer Disapproval of Substance Use, by Grade Level, SY2016–SY2018



NOTES: Includes alcohol, marijuana, prescription drugs misuse, and tobacco. Percentage reporting "not at all wrong" or "a little bit wrong." County assignment based on school location.

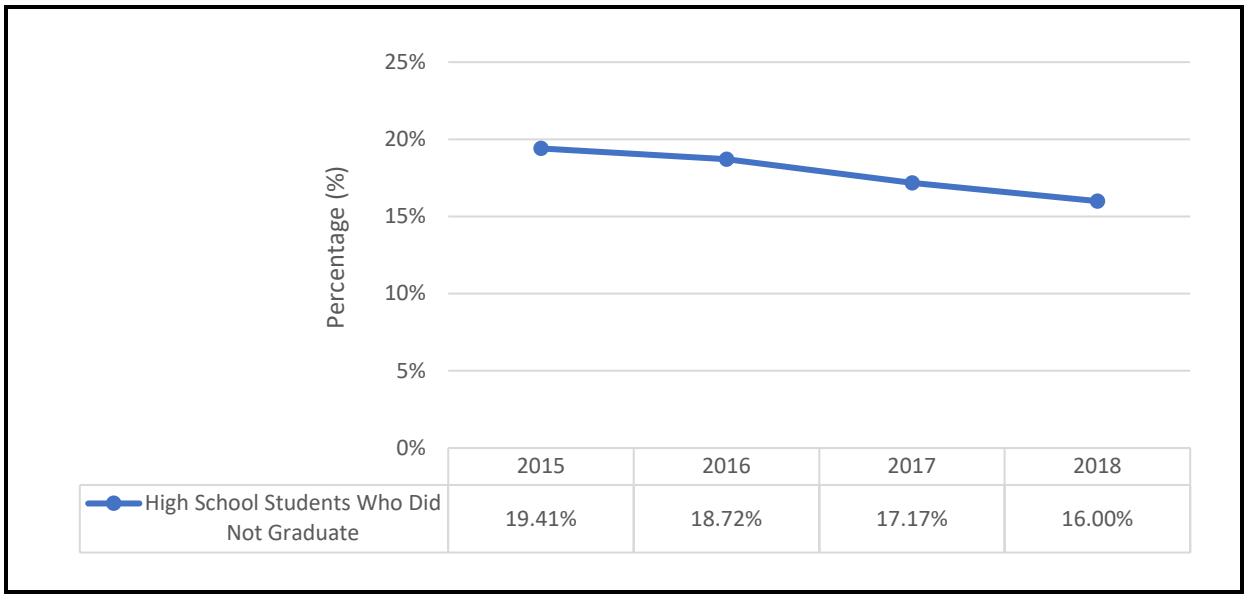
SY = school year.

SOURCE: Georgia Student Health Survey (GSHS).

Significant Findings:

- The percentage of middle school students in Georgia perceiving that their peers would feel substance use was not at all wrong or a little bit wrong slightly increased between 2016 (13.26%) and 2018 (15.03%).
- There were no significant changes in the percentage of high school students in Georgia perceiving peer disapproval of substance use.

Figure 28. Georgia Percentage of High School Students Who Did Not Graduate, SY2015–SY2018



NOTE: County assignment based on school location.

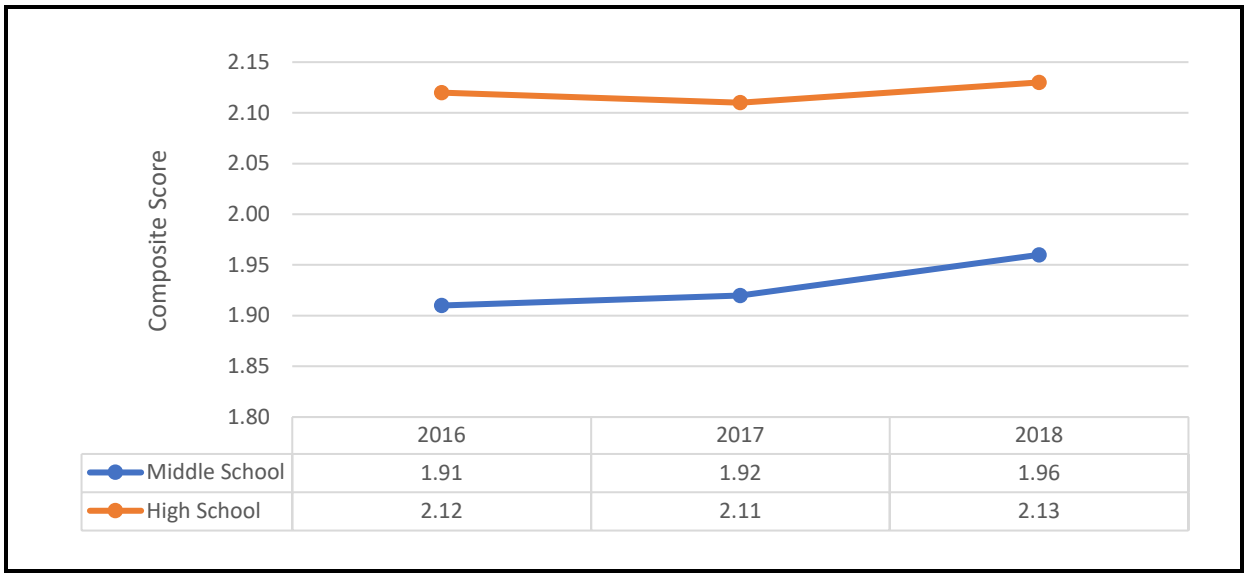
SY = school year.

SOURCE: Georgia Department of Education (DOE).

Significant Finding:

- The percentage of Georgia high school students who did not graduate decreased from 19.41% in 2015 to 16.00% in 2018.

Figure 29. Georgia Composite Indicator of Lack of Commitment to School, by Grade Level, SY2016–SY2018



NOTES: 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 (Scale: 1 = Strongly Agree; 4 = Strongly Disagree). County assignment based on school location.

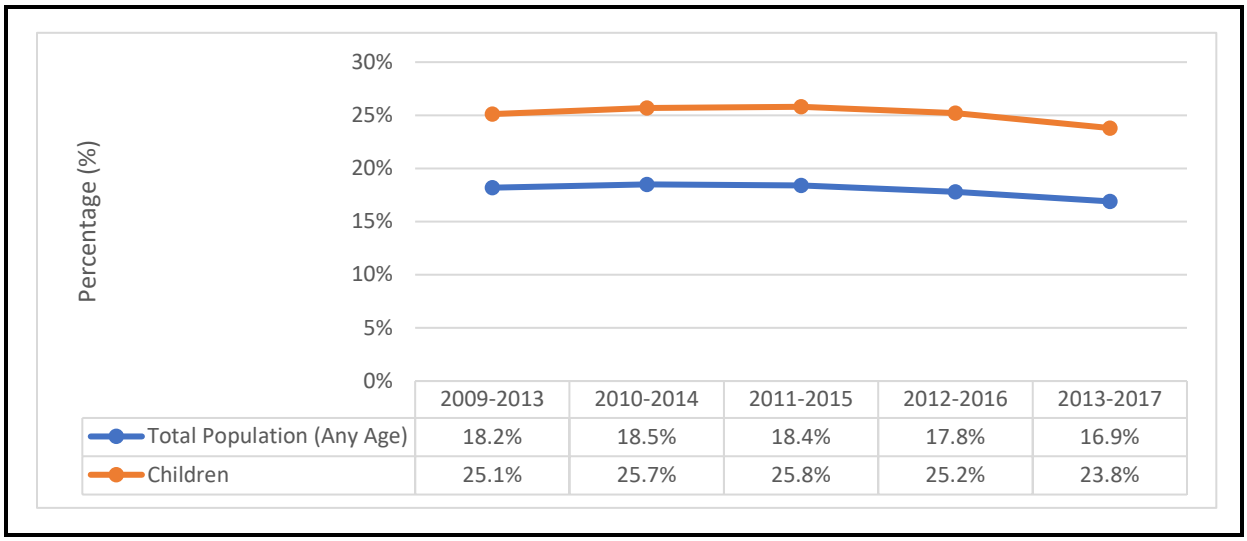
SY = school year.

SOURCE: Georgia Student Health Survey (GSHS).

Significant Findings:

- Among Georgia middle school students, the average lack of commitment to school construct remained relatively constant between 2016 (1.96) and 2018 (1.96).
- Among Georgia high school students, the lack of commitment to school construct also remained relatively constant between 2016 (2.12) and 2018 (2.13).

Figure 30. Georgia Percentage of Persons Living Below Poverty Level, by Age Group, 2007–2012 through 2012–2016

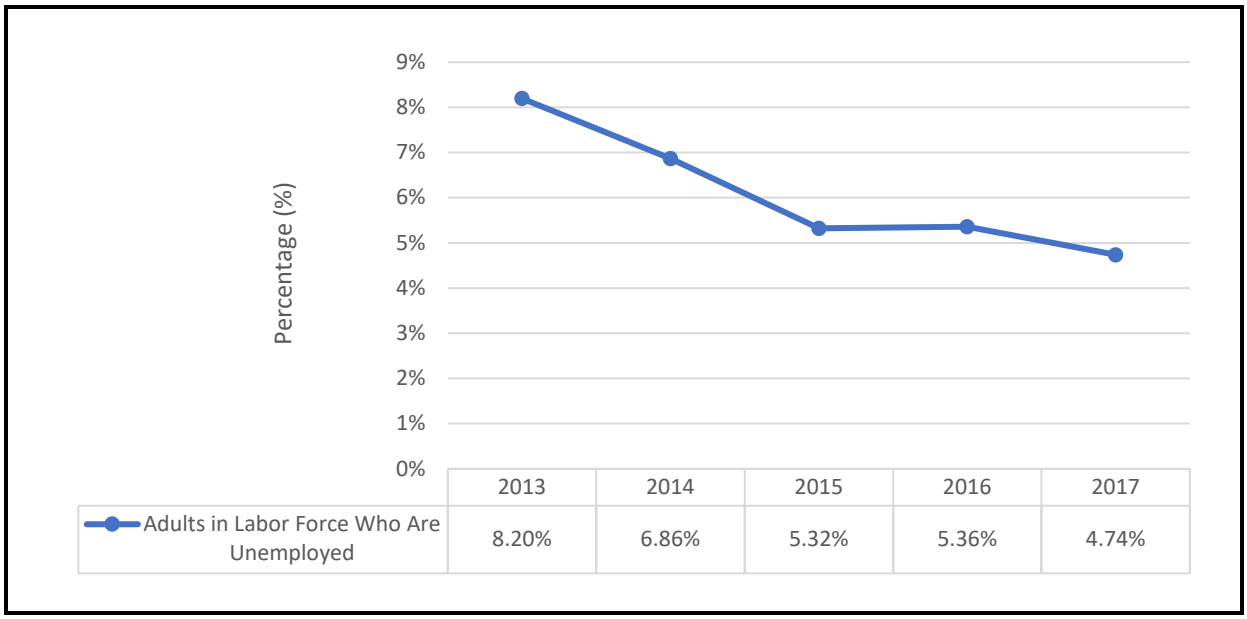


SOURCE: American Community Survey (ACS).

Significant Findings:

- The percentage of the total population (any age) living below the poverty level in Georgia decreased slightly between 2009–2013 (18.2%) and 2013–2017 (16.9%).
- The percentage of children living below the poverty level in Georgia also decreased slightly between 2009–2013 (25.1%) and 2013–2017 (23.8%).

Figure 31. Georgia Percentage of Adults in the Labor Force Who Are Unemployed, 2013–2017



SOURCE: Bureau of Labor Statistics, Local Area Unemployment Statistics (LAUS).

Significant Finding:

- The percentage of adults in the labor force in Georgia who are unemployed decreased from 8.20% in 2013 to 4.74% in 2017.

[This page intentionally left blank].

4. Interpreting County Prevention Needs Assessment Profiles

This section provides guidelines for interpreting the county-level prevention needs assessment profiles. A standardized value is plotted for each indicator risk score to facilitate comparison across the indicators and comparison between the county and the average observed for all counties. A risk rank for each indicator and the county's overall risk rank are also presented—the higher the rank, the higher the risk (a rank of 1 indicates *lowest risk*).

Guidelines for Interpreting the Profiles

The profiles may be used to characterize counties in Georgia with respect to their levels of alcohol- and drug-related problems and various suspected risk and protective factors for these problems. The profiles can also stimulate discussion and focus community attention on local substance use issues and the reasons for the patterns observed in the profiles. In addition, the information contained in the profiles can assist prevention planners in determining appropriate prevention strategies and target groups. In reviewing the data for a particular county, one should consider the following:

- *Actual values of all indicators for the county should be examined first.* It also may be useful to examine the values for adjacent counties to determine whether regional patterns exist.
- *Indicators for which a county has extremely high or low values relative to the average across all counties should be examined.* The risk scores were converted to standardized values, such that for any indicator risk score, zero represents the mean value of all counties in the state. The scores represent the number of standard deviation units a county's value lies away from the mean for the indicator. As a general rule, most (about 68%) of the standardized scores for any given indicator are positioned between –1.0 and 1.0, and these scores, therefore, are considered typical. Scores between –1.0 and –2.0, or between 1.0 and 2.0, constitute about 27% of all scores and, thus, are somewhat uncommon. Scores lower than –2.0 or higher than 2.0 make up the final 5% and, therefore, are rare. Although the actual percentages vary somewhat depending on the shape of the distribution for each indicator, this general distribution suggests that indicators with a score less than –2.0 or greater than 2.0 may merit particular attention. These are commonly referred to as outliers.

  The indicators are presented such that the higher standardized values (i.e., values to the right of the center line) reflect greater substance use, substance use–related problems, and risk for substance use, relative to other counties. For example, a positive standardized score less than 1.0 for the any poisonings rate would indicate that a county had a *slightly* higher-than-average rate of any poisonings, relative to all counties in the state. A standardized score between –1.0 and –2.0 for the same indicator would show that a county had a *noticeably* lower-than-average rate of any poisonings. A standardized score between 2.0 and 3.0 would indicate that a county had an *unusually* higher-than-average rate.

  Also, it may be useful to examine the standardized values observed for adjacent counties to determine whether regional patterns exist. Although standardized scores

are useful, it is important to keep in mind that they are relative measures and provide only partial information about the potential prevention needs of a county. An indicator that is not highly problematic relative to the overall county average should not necessarily be discounted when one is considering the prevention needs of a given county. For example, even though the rate of any poisonings in a certain county is no higher than the average, it may still warrant interventions designed to reduce it further.

- *Indicators for which a favorable or unfavorable trend has been identified should be examined.* The profile presents significant trends for each indicator (i.e., whether the indicator value changed significantly between the first and last year specified in the data source note). Bars shaded with a polka dot pattern indicate a statistically significant trend in a favorable direction for that indicator. Bars shaded with a crosshatch pattern indicate a statistically significant trend in an unfavorable direction for that indicator. Bars without any pattern represent indicators that did not significantly change.

  It may be useful to examine the actual values for indicators observed to have a significant trend in order to determine the magnitude and direction of the trend. Bars shaded with a polka dot pattern, representing trend or changes in a favorable direction, should be examined to determine areas in which improvements are being made over time and to continue and maintain efforts in those areas. Bars shaded with a crosshatch pattern, representing trends or changes in an unfavorable direction, should be examined to identify areas where more attention and efforts may be needed to reduce risk.

- *Profile data should be used in conjunction with other sources of information to inform the identification of appropriate and effective prevention programs and strategies*. The profiles may provide some important clues about the types of approaches that are most needed and most appropriate in a given county. However, there is no proven or exact formula for identifying the most appropriate and effective prevention programs and strategies on the basis of an area's profile. In general, we recommend that problems, elevated risk factors, and suppressed protective factors be given extra attention in determining which types of prevention strategies are most needed for a given area.

  Decisions about which indicators are more important and in need of attention for any given area should include a consideration not only of whether the county's scores are high or low relative to those of other counties in the state, but also of how many individuals are affected by the factors and the changes observed in the factors across years. The strength of the risk and protective factors as predictors of substance use prevalence should also be considered (i.e., the correlation between the risk factors or constructs and substance use prevalence rates; see **Section 6, Predictive Analysis Results**). These types of information relate to describing the nature and extent of the substance use problem in a community, along with characteristics of the community's population and various risk and protective factors that may influence substance use levels in that community.

  However, even when the indicator data are helpful in suggesting appropriate approaches or foci for prevention efforts, the choice of which specific prevention programs and strategies to implement will likely require additional consideration based on other information. In particular, prevention planners will want to consider what prevention programs or strategies are known to be effective for the type of application or population they have in mind. Planners also may need to examine the

prevention resources and capabilities in the community or nearby communities in order to make equitable and effective use of the limited prevention resources that may be available. These additional considerations go beyond the specific focus of this initial study and report, but they are important components in an overall framework for prevention planning at the state and local levels.

[This page intentionally left blank.]

5. Overall Risk Score Rankings

The overall risk score by county is presented in **Tables 2** and **3**. As described in **Section 2**, the overall risk scores were calculated as the standardized mean of all 66 indicators that were indicative of risk, equally weighted. These scores were then ordered from lowest to highest and ranked from 1 (lowest risk) to 159 (highest risk). To examine possible trends across the state, we grouped the overall risk scores into five categories, or quintiles. The 32 counties with the lowest risk scores (ranked 1 to 32) were grouped into the first quintile, counties ranked 33 to 64 were grouped into the second quintile, counties ranked 65 to 96 were grouped into the third quintile, counties ranked 97 to 128 were grouped into the fourth quintile, and counties ranked 129 to 159 (highest risk scores) were grouped into the fifth quintile. This grouping depicts five levels, or gradations, of overall risk. Counties with high rankings are viewed as having higher overall levels of substance use problems and risk factors for substance use than counties with lower rankings. The detailed county risk profiles in ***Appendix D*** provide a risk score for each of the 66 individual indicators.

As stated previously, the county profiles and overall county risk scores provide a useful tool for planning at the local level. However, the profiles and overall risk scores alone do not depict the complete picture, and users of this information should consult additional data and resources to complement the profiles and risk scores when planning services or programs.

Table 2. Overall Risk Score for Quintiles 1 Through 3, by County

Quintile 1 (Lowest Risk)			Quintile 2			Quintile 3		
County	Overall Rank	Overall Risk Score	County	Overall Rank	Overall Risk Score	County	Overall Rank	Overall Risk Score
Forsyth	1	-0.942	Fulton	33	-0.232	Chatham	65	-0.049
Fayette	2	-0.840	Baldwin	34	-0.226	Tattnall	66	-0.047
Camden	3	-0.730	Cobb	35	-0.218	Terrell	67	-0.047
Chattahoochee	4	-0.602	Lowndes	36	-0.211	Bryan	68	-0.045
Warren	5	-0.590	Schley	37	-0.210	Newton	69	-0.043
Union	6	-0.523	Muscogee	38	-0.197	Echols	70	-0.040
Calhoun	7	-0.504	Lamar	39	-0.196	Fannin	71	-0.037
Bleckley	8	-0.467	Jeff Davis	40	-0.191	Tift	72	-0.036
Henry	9	-0.461	Grady	41	-0.191	Toombs	73	-0.034
Webster	10	-0.460	Douglas	42	-0.190	Taylor	74	-0.033
Gwinnett	11	-0.450	Dodge	43	-0.188	Rabun	75	-0.023
Lanier	12	-0.433	Twiggs	44	-0.176	Peach	76	-0.021
Wilcox	13	-0.424	Walton	45	-0.163	Carroll	77	-0.021

(continued)

Table 2. Overall Risk Score for Quintiles 1 Through 3, by County (continued)

Quintile 1 (Lowest Risk)			Quintile 2			Quintile 3		
County	Overall Rank	Overall Risk Score	County	Overall Rank	Overall Risk Score	County	Overall Rank	Overall Risk Score
Lee	14	-0.419	Pike	46	-0.161	Evans	78	-0.006
Catoosa	15	-0.408	Columbia	47	-0.159	Wilkes	79	0.015
Montgomery	16	-0.348	Oconee	48	-0.157	Harris	80	0.015
Whitfield	17	-0.343	Marion	49	-0.154	Miller	81	0.022
Pierce	18	-0.342	Murray	50	-0.140	Oglethorpe	82	0.029
Paulding	19	-0.335	DeKalb	51	-0.136	Cook	83	0.032
Jackson	20	-0.332	Bartow	52	-0.133	Dooly	84	0.035
Coweta	21	-0.331	Spalding	53	-0.132	Heard	85	0.037
Hall	22	-0.325	Baker	54	-0.125	Brooks	86	0.044
Gordon	23	-0.320	Worth	55	-0.121	Walker	87	0.047
Cherokee	24	-0.306	Laurens	56	-0.117	Mitchell	88	0.052
Sumter	25	-0.295	Wayne	57	-0.117	Glynn	89	0.053
Early	26	-0.267	Floyd	58	-0.110	Barrow	90	0.062
Morgan	27	-0.265	Quitman	59	-0.081	Polk	91	0.070
Washington	28	-0.249	Haralson	60	-0.075	Brantley	92	0.078
Thomas	29	-0.247	Rockdale	61	-0.063	Coffee	93	0.084
Dougherty	30	-0.244	Appling	62	-0.062	Jefferson	94	0.087
Atkinson	31	-0.237	Monroe	63	-0.060	Putnam	95	0.087
Long	32	-0.235	Glascock	64	-0.057	White	96	0.087

NOTE: Lower scores/ranks are indicative of lower risk; higher scores/ranks are indicative of higher risk.

Table 3. Overall Risk Score for Quintiles 4 and 5, by County

Quintile 4			Quintile 5 (Highest Risk)		
County	Overall Rank	Overall Risk Score	County	Overall Rank	Overall Risk Score
Towns	97	0.090	Butts	129	0.253
Crisp	98	0.101	Clayton	130	0.254
Liberty	99	0.103	Jones	131	0.257
Decatur	100	0.104	Troup	132	0.261
Greene	101	0.105	Banks	133	0.270
Bulloch	102	0.117	Candler	134	0.283
Clarke	103	0.119	Bibb	135	0.284
Pulaski	104	0.120	Stephens	136	0.285
Hart	105	0.120	Richmond	137	0.290
Talbot	106	0.122	Chattooga	138	0.299
Gilmer	107	0.133	Crawford	139	0.310
Emanuel	108	0.136	Johnson	140	0.310
Pickens	109	0.137	Screven	141	0.317
Clinch	110	0.151	Madison	142	0.318
Colquitt	111	0.153	Upson	143	0.359
Wilkinson	112	0.167	Bacon	144	0.367
Dawson	113	0.169	Franklin	145	0.367
Ben Hill	114	0.174	Stewart	146	0.376
Berrien	115	0.183	Burke	147	0.390
Lumpkin	116	0.186	Jenkins	148	0.411
Jasper	117	0.190	Turner	149	0.417
Effingham	118	0.194	Wheeler	150	0.422
Lincoln	119	0.197	McIntosh	151	0.432
Elbert	120	0.197	Telfair	152	0.435
McDuffie	121	0.205	Randolph	153	0.456
Dade	122	0.206	Habersham	154	0.530
Houston	123	0.208	Charlton	155	0.582
Irwin	124	0.221	Taliaferro	156	0.674
Meriwether	125	0.222	Clay	157	0.697
Macon	126	0.223	Seminole	158	0.807
Treutlen	127	0.226	Hancock	159	1.452
Ware	128	0.247			

NOTE: Lower scores/ranks are indicative of lower risk; higher scores/ranks are indicative of higher risk.

6. Predictive Analysis Results

The results from the three multilevel regression models predicting the likelihood of substance use among high school students are displayed in **Table 4**. These results show the estimated average change across all Georgia counties in a student's likelihood of using each type of substance given a change in the corresponding risk or protective factor. For example, an estimate of -0.0550 for "Receiving School-Based Alcohol, Tobacco, or Other Drug Education in the Past Year" would indicate that high school students who participated in these prevention services were, on average, 5.5% less likely to use a given substance than were students who did not participate. Likewise, an estimate of 0.009 for "Percentage of Households Headed by a Single Parent" would mean that, on average, a 1% increase in this county-level indicator corresponds to a 0.9% increase in the risk for substance use for a student living in that county.

Table 4. Changes in Risk of Substance Use Across All Counties, by Substance

County Name	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***

(continued)

Table 4. Changes in Risk of Substance Use Across All Counties, by Substance (continued)

County Name	Average Change in Probability of Substance Use		
	Past 30-Day Alcohol Use	Past 30-Day Marijuana Use	Lifetime Prescription Drug Misuse
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
Majority of Population Living in Rural Areas (More Than 50% of Population)	0.0072*	0.0048**	0.0065**

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

Key Takeaways

- The probability of substance use varied not only by race and ethnicity, but also by substance type. For example, white students were between 2% and 6.4% more likely than any other racial or ethnic group to have used alcohol in the past 30 days, whereas those who identified as Hispanic or Latino or as an unidentified race were at greater risk for prescription drug misuse than their white peers. Students who identified as Asian or Pacific Islander were generally at the lowest risk of use across all substance types.
- The average likelihood of substance use increased with each grade level among high schoolers.
- Measures of youth social networks are critically important in predicting substance use risk. High school students who believed that their peers would find substance use wrong or very wrong were approximately 10.8% less likely to have used alcohol in the past 30 days, 6.5% less likely to have used marijuana in the past 30 days, and 9.8% less likely to have ever used prescription drugs. Drug availability through peers was likewise a highly predictive risk factor for substance use. Students who had been sold, offered, or given drugs at school more than three times in the past year were 18.9% more likely to have used marijuana in the past 30 days and 20.9% more likely to have ever used prescription drugs than were students who had not been exposed to drugs at school.
- Differences in parental norms translate into differences in substance use risk. Students who reported that their parents would think substance use is wrong or very

wrong were 8.7% less likely to have used alcohol in the past 30 days, 6% less likely to have used marijuana in the past 30 days, and 8.6% less likely to have ever used prescription drugs than were students whose parents did not explicitly oppose these behaviors. Increases in the percentage of households headed by a single parent also corresponded to modest increases in the risk of past-30-day alcohol use (0.04% increase in risk per 1% increase in single parent prevalence) and past-30-day marijuana use (0.03% increase in risk per 1% increase in single parent prevalence) but no differences in the risk of lifetime prescription drug misuse.

- Even mild depressive symptoms increased students' likelihood of substance use. Students who reported feeling sad or withdrawn for 3 or more days in the past month were 12.3% more likely to have used alcohol in the past 30 days, 3.8% more likely to have used marijuana in the past 30 days, and 10.1% more likely to have ever misused prescription drugs.
- Students who associated moderate or great risks with substance use were 2.4% less likely to have used alcohol in the past 30 days, 1.9% less likely to have used marijuana in the past 30 days, and 2% less likely to have ever misused prescription drugs.
- Although past-year exposure to school-based alcohol, tobacco, or other drug prevention programs significantly predicted differences in substance use risk, these differences were small. Students who received this type of programming were 2.4% less likely to have used alcohol in the past 30 days, but they were only 0.42% less likely to have used marijuana in the past 30 days and 0.76% less likely to have ever misused prescription drugs. This finding could potentially highlight shortcomings in school-based prevention programming that fail to effectively address illicit drug use.

The models used to predict fatal, alcohol-related car crashes and poisoning-related emergency room visits and hospitalizations yielded no statistically significant findings. Even more concerning was that the predictors used in the models explained less than 5% of the total variation in each outcome. There are two potential explanations for these null results. First, the risk and protective factors that explain differences in substance *use* do not explain negative substance use–related *outcomes*. This discrepancy became more apparent when we ran subsequent models, which revealed that the prevalence of neither county-level alcohol use nor county-level prescription drug misuse was related to their respective consequences. Further research is necessary to determine the factors that put certain youth substance users at greater risk than their peers for overdose and alcohol-related car fatalities. Second, the models rely upon the prevalence of risk and protective factors reported among high school students, which may not predict negative outcomes that are more likely to occur later in young adulthood. Overdoses and fatal, alcohol-related car crashes involving an underage person are extremely rare in most Georgia counties, and most of these incidents involve persons over the age of 18. Although survey data are difficult to collect for young adults who are no longer in school, future research could examine whether levels of certain risk or protective factors in high school have a lagged effect that predicts negative consequences several years later.

7. Using Social Indicator Studies for Effective Prevention Planning

Guidelines for interpreting the social indicator profiles, and for making prevention planning decisions based on the profiles, were provided in **Section 4**. Those guidelines emphasized that there are no rigid rules or formulas for how profile data should be translated into program planning decisions. Rather, some general principles, along with some cautions, were presented with respect to how the data might best be used for this purpose. Different communities may focus on different aspects of the data and interpret them in ways that seem most useful and appropriate for those communities. All communities are encouraged to combine the profile data with local knowledge and other available information to form a more comprehensive assessment of their substance use consumption, consequences, and prevention needs.

7.1 Suggestions for Data Dissemination

The greatest potential impact of this report is likely to be achieved when it is in the hands of those involved in direct service to communities—for example, local prevention providers, planners, and policy makers. Although the data may serve several important functions at the state level, the planning and provision of prevention services in Georgia is largely orchestrated at the regional and local levels. Therefore, the primary objective of this report is to provide information that can support this process. Regional prevention staff, coalition coordinators, and directors and staff of community-based organizations all are potential users of these data. In addition to informing the prevention planning process, the data can be useful for focusing public attention on substance use and mental health issues, risk factors, and potential solutions. Simultaneously, they may stimulate a greater interest in and understanding of data-driven approaches to assessing prevention needs in communities. The data also can be helpful in new funding applications for prevention resources, for which statements of need are a required component. Because of the breadth of indicators assembled in this report and their relevance to many facets of social well-being, the potential audience may extend beyond the substance use prevention community and include other social service agencies and community-based organizations as well as public officials, businesses, and the general public.

In addition to OBHP staff, the Georgia State Epidemiological Outcomes Workgroup (SEOW) will serve as a vehicle for disseminating this report and can provide technical assistance around its use to others. The key stakeholders serving on the SEOW will be fully informed about this work and will share the report with new members as the SEOW grows and diversifies. Additionally, as the SEOW builds on this work by identifying new data sources, adding new data elements, and creating updated county profiles, it will disseminate the new findings and associated products at the state, regional, county, and municipal levels. These

data will serve as key indicators of prevention need (i.e., needs assessment) and can be leveraged when the OBHP applies for future funding from SAMHSA's Center for Substance Abuse Prevention. Additionally, this report contains substance use–related consequence and contextual indicators identified as state priority issues. Communities applying for relevant funding mechanisms can use these data to justify their needs.

7.2 Using and Sustaining Social Indicators as a Component of the State's Prevention Planning Infrastructure

The number of states that systematically compile and use social indicator data to inform prevention planning efforts has increased over the past several years and continues to grow as requirements increase for data-driven approaches to planning and evaluation. This updated version of the county-level SIS will serve as the foundation for data-driven prevention planning in Georgia over the next several years. Preliminary feedback from the SEOW, regional prevention staff, and local prevention providers on the abbreviated county-level SIS (i.e., "Epi Profile Lite") was very encouraging, especially with respect to the ability of local data to focus attention on prevention-related issues in the community. This more comprehensive report is the third iteration of Georgia's county-level social indicator analyses and signifies that the use of social indicators will continue to occupy an important niche in the state's efforts to support a data-driven approach to prevention needs assessment and planning efforts. Georgia's SEOW will continue to expand the state's data-driven approach to prevention planning, programs, and policies. The goal is that this report will be helpful in further establishing the credibility and utility of social indicator approaches to prevention needs assessment, thus supporting continued development and maintenance of a social indicator component in state planning systems.

Table 5 provides several recommendations for supporting and sustaining the use of social indicators for prevention planning.

Table 5. Use and Maintenance of the Social Indicator Study in Georgia

Recommendation	Comments
Review the report for its utility to the state.	We recommended the report be reviewed by Department of Behavioral Health and Developmental Disabilities decision makers and key prevention staff for its relevance to the state's prevention planning process and for possible adaptations for continued use. Representatives from other state agencies also may be interested in reviewing the report and providing comments.
Incorporate a social indicator approach in the work of the Georgia SEOW and build on this methodology for future prevalence and epidemiological work.	The Georgia SEOW should build on this study, which will subsequently improve its utility. The SEOW may also use this report as a baseline for identifying additional prevalence and epidemiological studies that will advance a data-driven approach to prevention planning. The SEOW should also identify strategies to integrate the social indicator study approach with the state's epidemiological profile, originally developed for the SEOW.

(continued)

Table 5. Use and Maintenance of the Social Indicator Study in Georgia (continued)

Recommendation	Comments
Disseminate the report to the local prevention providers and community coalition coordinators and gauge their interest in and use of the report.	These individuals are the ultimate users of the data contained in the report. Their buy-in is essential to the effective use of social indicator data for local planning purposes. These users can provide insights regarding ways to improve the data and the manner in which they are presented. Future possibilities may include online access to the report and automated annual updates.
Train potential data users on the interpretation and use of the epidemiological profiles.	It may be helpful to provide further guidance on the meaning and interpretation of the prevention needs assessment and planning profiles, as well as their design and use. Ideally, this training would also include the consideration of other data sources and how they can be integrated into the planning process.
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.	It is likely that additional useful indicators will be identified and that some current indicators will be determined to be of little relevance. Several other methodological features may merit consideration, including comparisons among subgroups of demographically similar counties and the inclusion of regional or national comparison data.
Define the role of social indicators in the state's planning process.	The manner in which social indicator data can be formally incorporated into the state planning process will need to be considered. This could vary from simply suggesting that local planners and providers use the data to requiring use of the data in justifying service plans and as a basis for making resource allocation decisions. Ultimately, the use of the social indicator data should be incorporated within the Strategic Prevention Framework as the required approach for supplying data for prevention-related needs assessments.
Commit to a permanent and sustainable infrastructure and support system.	To sustain the social indicator study as a core component of the state's prevention planning process, Georgia will need to establish an appropriate infrastructure and means of support. One possibility is to contribute to the development of a coordinated social indicator system that would meet the needs of multiple units in the state's health and social services agencies. The Georgia SEOW may provide such an infrastructure.

SOURCE: Georgia's County-Level Social Indicator Study to Assess Substance Use Prevention Needs: 2019.

[This page intentionally left blank]

References

Cagle, L. T., & Banks, S. M. (1986). The validity of assessing mental health needs with social indicators. *Evaluation and Program Planning, 99,* 127–152.

Calkins, R. F., Banks, C. E., & Weimer, B. J. (2002). *Assessing substance use prevention needs in Michigan counties: A study using social indicators*. *Final report*. Research Triangle Park, NC: RTI International.

Ciarlo, J. A., Tweed, D. L., Shern, D. L., Kirkpatrick, L. A., & Sachs-Ericsson, N. (1992). Validation of indirect methods to estimate need for mental health services: Concepts, strategy, and general conclusions. *Evaluation and Program Planning, 15,* 115–131.

McAuliffe, W. E., Dembling, B., Wilson, R., LaBrie, R., Geller, S., & Mulvaney, N. (1993). *Social indicator modeling for substance abuse treatment allocation*. Paper presented at the National Technical Center for Substance Abuse Needs Assessment Workshop Summary, Cambridge, MA.

Minnesota Department of Public Health, Chemical Dependency Division. (1994). *Substance abuse monitoring system: User's guide*. St. Paul, MN: Minnesota Department of Human Services.

New York State Office of Alcoholism and Substance Abuse Services. (1996). *Prevention risk indicator/services monitoring system: County risk profile for alcohol and substance abuse*. Albany, NY: Author.

Peterson, R. L. (2004). *Risk factors for adolescent drug and alcohol abuse in Arkansas 2003.* Little Rock, AR: Institute for Economic Advancement, College of Business, University of Arkansas at Little Rock.

Sanchez, R., & Weimer, B. J. (2002). *Assessing substance use prevention needs using social indicators*. *Final report.* Research Triangle Park, NC: RTI International.

Simeone, R. S., Frank, B., & Aryan, Z. (1993). Needs assessment in substance misuse: A comparison of approaches and case study. *International Journal of the Addictions, 28,* 767–792.

Spencer, D. L., Kuo, J., & Flewelling, R. L. (2001). *Assessing substance use prevention needs in Vermont supervisory unions: A study using social indicators*. *Final report.* Research Triangle Park, NC: RTI International.

Stein-Seroussi, A. (1998). *Monitoring Connecticut's future: Social indicators associated with substance use* (report submitted to the Connecticut Department of Mental Health and Addiction Services). Chapel Hill, NC: Pacific Institute for Research and Evaluation.

Warheit, G. J., Bell, R. A., & Schwab, J. J. (1977). *Needs assessment approaches: Concepts and methods*. Rockville, MD: National Institute of Mental Health.

Weimer, B. J., & Graham, P. W. (2006). *Governor's cooperative agreement state incentive planning and development grant: Social indicator study to assess substance use prevention needs at the state and county levels in Georgia*. *Final report*. Research Triangle Park, NC: RTI International.

Zechmann, A., Flewelling, R., & Van Eenwyk, J. (1995). *Youth risk assessment database: A comprehensive report*. Olympia, WA: Washington State Department of Mental Health.

Appendix A.
Example of Prevention Storytelling Using a County-Level Profile

Telling a Prevention Story Using the County-Level Profiles

The profile and other sections of the report provide you with the four pieces of information outlined in Table A-1. You can use this information to help you tell the prevention story for your county.

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?

Table A-1. Where to Find and How to Use Data Elements in County Profiles

Data Element	Where Is It?	How can I use it?
Standardized risk scores for each indicator	• Volume III, County Risk Profile	• Compare your county risk to the average for all Georgia counties (represented by the center line standardized to 0). • Compare risk across indicators for your county (indicators with larger bars to the right of the line represent higher risk).
County rank for each indicator	• Volume III, County Risk Profile	• Compare your county to all counties on each indicator—the higher the value, the higher the risk (e.g., a rank of 159 indicates the county with the highest risk).
Overall County rank across all indicators	• Volume III, County Risk Profile • Report Section 4.	• Compare your county to all counties overall—the higher the value, the higher the risk (e.g., a rank of 159 indicates the county with the highest risk).
Prevalence value for each indicator (e.g., percentages, rates, or composite scores)	• Volume II, Appendix B	• Determine the actual value for the indicator and compare the value to other county values. Sometimes larger differences in risk scores and ranks may actually represent relatively minimal differences in prevalence.

When reviewing the county-level profile and thinking about the story that the data are telling, keep in mind the four guiding questions/principles shown in the sidebar. The text below provides a sample interpretation of the FICTITIOUS PROFILE that is located on the following pages.

1. Where does your county show more risk??

- All bars to the right of the center line represent indicators that show higher than average risk for your county.
- Bars that are more than two standard deviations above the average represent especially high-risk indicators.
- Check the related prevalence values to confirm whether those high-risk indicators provide cause for concern. An indicator with relatively low prevalence could still show up as being of higher-than-average risk for your county relative to other counties with even lower risk.

Example Interpretation of FICTITIOUS PROFILE—high-risk indicators include:

- Percentage of total fatal, alcohol-related motor vehicle crashes that involved an underage person (persons under age 21)
- Rate of hospitalizations due to self-inflicted injuries per 10,000 persons age 25 or older
- Past 30-day marijuana use—among middle school (MS) students
- Lifetime alcohol use among MS students

2. Where does your county show more protection?

- All bars to the left of the center line represent indicators with lower-than-average risk and may show you protective factors for your county.
- Bars that are more than two standard deviations below the average represent indicators with especially low risk (or high protection).

Example Interpretation of FICTITIOUS PROFILE—low risk (or high protection) indicators include:

- Perceived peer disapproval of substance use among high school (HS) students
- Perceived peer disapproval of substance use among MS students
- Percentage of children living below poverty level
- Lifetime methamphetamines use among HS student

Charts and graphs are effective tools that can capture the attention of all types of audiences. The following free resources provide guidance on how to create figures for your own presentations and reporting purposes:

- Chart Chooser
- The Dataviz Design Process: 7 Steps for Beginners
- Chartable: What to Consider When Creating Tables

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

- Bars with polka dot pattern show that the indicator moved in a favorable (good) direction during the specified trend years.

- Bars with crosshatch pattern show that the indicator moved in an unfavorable (bad) direction during the specified trend years.

Example Interpretation of FICTITIOUS PROFILE—notable trends include:

SUCCESS

- The percentage of children living below the poverty level is already lower than the average percentage for all counties, and the percentage is moving in a favorable direction (i.e., the percentage is decreasing—fewer children are in poverty).
- The percentage of HS students reporting lifetime alcohol use is moving in a favorable direction (i.e., the percentage is decreasing—fewer HS students are using alcohol).
- The percentage of adults in the labor force who are unemployed is moving in a favorable direction (i.e., the percentage is decreasing—fewer adults are unemployed).

CONCERN

- The percentage of MS students reporting marijuana use in the past 30 days is already higher than the average percentage for all counties, and the percentage is moving in an unfavorable direction (i.e., the percentage is increasing—more MS students are using marijuana).
- The number of heroin seizures per 10,000 persons is moving in an unfavorable direction (i.e., the number of seizures is increasing—law enforcement is finding more heroin in your county).

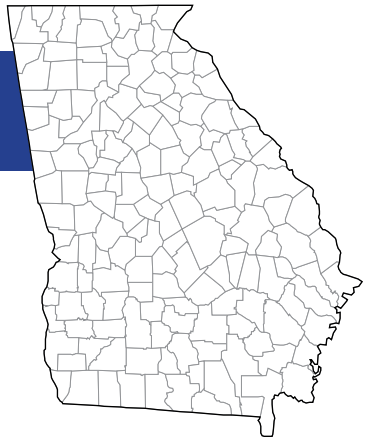
4. Who is your audience and what platforms will you use for presentation?

- Consider the individuals and audience with whom you are sharing this county-level risk and trends information. Consider partners you may engage and team up with to address specific issues identified by the county profile.
- What information will your audience need so that they can take action based on the information you share with them?
  a. Consequence indicators may capture the attention of all types of audiences and engage them in the discussion. Consumption indicators help provide an overview of the extent of the problem in the county.
  b. If you are having a town hall with a group of parents, you may want to focus on the family management and conflict indicators and show the percentages of perceived parental disapproval of substance use indicators for your county.
  c. If you are having a town hall with policy makers, then you may want to focus on indicators representing the availability of alcohol tobacco and drugs, as these indicators are more directly related to laws (e.g., licensed retailer density and noncompliance percentages). Policy makers may also be interested in individual risk factors, as these indicators may be more actionable.

Example Interpretation of FICTITIOUS PROFILE:

- In this county, the percentage of total fatal, alcohol-related motor vehicle crashes that involved an underage person (under age 21) was more than three standard deviations greater than the average percentage of all Georgia counties. This indicator demonstrates a very high risk in the county, and key stakeholders such as the Department of Transportation should be alerted.

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

Alcohol and Drug Abuse [1,a]	← Lower Risk Score / Higher Risk Score → (-3 -2 -1 0 1 2 3)	County Rank
Past-30-Day Alcohol Use—MS, %	-1.19	15
Past-30-Day Binge Alcohol Use—MS, %	0.38	121
Past-30-Day Marijuana Use—MS, %	1.01	140
Past-30-Day Prescription Drug Use [2]—MS, %	-0.35	53
Past-30-Day Tobacco Use [3]—MS, %	-0.78	28
Past-30-Day Electronic Vapor Product Use—MS, %	-0.89	25
Past-30-Day Methamphetamine Use—MS, %	-0.18	80
Past-30-Day Heroin Use—MS, %	-0.45	51
Lifetime Alcohol Use—MS, %	0.93	135
Lifetime Marijuana Use—MS, %	0.13	96
Lifetime Prescription Drug Use—MS, %	0.41	116
Lifetime Tobacco Use [3]—MS, %	-0.73	39
Lifetime Methamphetamine Use—MS, %	-0.79	16
Past-30-Day Alcohol Use—HS, %	-0.80	36
Past-30-Day Binge Alcohol Use—HS, %	0.53	115
Past-30-Day Marijuana Use—HS, %	0.71	128
Past-30-Day Prescription Drug Use [2]—HS, %	0.83	126
Past-30-Day Tobacco Use [3]—HS, %	0.85	125
Past-30-Day Electronic Vapor Product Use—HS, %	-1.36	9
Past-30-Day Methamphetamine Use—HS, %	-1.29	8
Past-30-Day Heroin Use—HS, %	0.22	104
Lifetime Alcohol Use—HS, %	-0.09†	74
Lifetime Marijuana Use—HS, %	-0.63	44
Lifetime Prescription Drug Use—HS, %	0.14	120
Lifetime Tobacco Use [3]—HS, %	-1.22	22
Lifetime Methamphetamine Use—HS, %	-1.58	8
Availability of Alcohol, Tobacco, and Drugs		
Overall Drug Seizures per 10,000 Persons [4; b]	0.24	116
Cocaine Seizures per 10,000 Persons [b]	-0.50	52
Heroin Seizures per 10,000 Persons [b]	0.83	131
Marijuana Seizures per 10,000 Persons [b]	-0.27	1
Methamphetamine Seizures per 10,000 Persons [b]	-0.81	35
Alcohol Retail Outlets per 10,000 Persons [5; c]	-0.12	84
Tobacco Retail Outlets per 10,000 Persons [5; c]	-1.41	12
Alcohol Sales Underage Non-Compliance Percentage [5,6; d]	0.30	101
Tobacco Sales Underage Non-Compliance Percentage [5,6; d]	-0.43	57

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

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)

Prevention Needs Assessment Profile for **Fictitious County**

Risk Indicators

Average Across Counties

Consequences of Alcohol and Other Drug Use	← Lower Risk Score / Higher Risk Score → (-3 -2 -1 0 1 2 3)	County Rank
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

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.

[This page intentionally left blank.]