2020 DELAWARE STATE EPIDEMIOLOGICAL PROFILE
SUBSTANCE USE AND RELATED ISSUES

Adverse Childhood Experiences (ACEs)

prepared for

Acting Director Alexis Teitelbaum and the
Delaware Division of Substance Abuse and Mental Health
&
The Delaware State Epidemiological Outcomes Workgroup

with funding from the
Strategic Prevention Framework - Partnerships for Success Program

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The Role of the Delaware State Epidemiological Outcomes Workgroup and the Purpose of the Epidemiological Profile

All states, including Delaware, have received support from the Substance Abuse and Mental Health Services Administration's (SAMHSA) Center for Substance Abuse Prevention (CSAP) to establish a Statewide Epidemiological Outcomes Workgroup (SEOW). The Division of Substance Abuse and Mental Health (DSAMH) in the Department of Health and Social Services supported the establishment of the Delaware SEOW through SAMHSA Strategic Prevention Framework grants awarded previously. The SEOW is a group of people and organizations that have and use analytical data concerning substance use and related behaviors and consequences; this information can be used to establish and monitor indicators related to substance use prevention. Formerly known as the Delaware Drug and Alcohol Tracking Alliance (DDATA), Delaware’s SEOW mission is to bring data on substance use and associated issues to the forefront of the prevention process by pursuing the following goals:

- To build monitoring and surveillance systems to identify, analyze, and profile data from state and local sources
- To provide current benchmarks, trends, and patterns of substance abuse consumption and consequences
- To create data-guided products that inform prevention planning and policies
- To train agencies and communities in understanding, using, and presenting data effectively

The annual Delaware State Epidemiological Profile was developed by the SEOW to disseminate data for strategic planning, decision-making, and evaluation. Using indicators that are available on an ongoing basis, the report describes patterns of consumption, context, consequences, and trends of substance use, as well as other risk and protective factors, especially among young people in Delaware. The report also highlights crosscutting issues that warrant attention as well as populations that may experience disproportionate risk for these concerns.

This chapter highlights adverse childhood experiences, referred to as ACEs, among Delaware youth. To review the complete Delaware Epidemiological Profile, other chapters, infographics, or SEOW data products, please visit the UD Center for Drug and Health Studies Delaware Epidemiological Reports page.
Thank you for your participation and commitment to data-driven prevention planning, practice, and evaluation! We are especially grateful to the team at the Delaware Division of Substance Abuse and Mental Health for their guidance and collaboration.

SEOW Collaborators

atTAcK Addiction
Bellevue Community Center
Christiana Care Health System
Colonial School District
Delaware Academy of Medicine/Delaware Public Health Association
Delaware Afterschool Network
Delaware Center for Justice
Delaware Coalition Against Domestic Violence
Delaware Council on Gambling Problems
Delaware Courts - Office of the Child Advocate
Delaware Criminal Justice Council
Delaware Criminal Justice Information System
Delaware Department of Education
Delaware Department of Services for Children, Youth and their Families
  Division of Prevention and Behavioral Health Services
Delaware Department of Health and Social Services
  Division of Medicaid and Medical Assistance
  Division of Public Health
  Division of Services for Aging and Adults with Physical Disabilities
  Division of Substance Abuse and Mental Health
Delaware Department of Safety and Homeland Security
  Delaware State Police
  Division of Alcohol and Tobacco Enforcement
  Division of Forensic Science
Delaware Department of State
  Delaware Office of Controlled Substances
  Division of Professional Regulation, Prescription Monitoring Program
Delaware Domestic Violence Coordinating Council
Delaware Information and Analysis Center  
Delaware Multicultural and Civic Organization  
Delaware Prevention Coalition  
Holcomb BHS/Open Door, Inc.  
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La Esperanza Community Center  
Latin American Community Center  
Mental Health Association in Delaware  
Milford School District  
Nemours Health and Prevention Services  
Planned Parenthood of Delaware  
Red Clay Consolidated School District  
Sussex County Health Coalition  
Transitions Delaware  
Trauma Matters Delaware  
United Way of Delaware  
Wesley College  
West End Neighborhood House  
University of Delaware  
  College of Health Sciences  
  College of Arts and Sciences  
  Student Health & Wellness Promotion  
Wilmington University

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Notes on Data Reporting and Interpretation

In order to protect the anonymity of respondents and to ensure that the data reported meet certain statistical standards, the Center for Drug and Health Studies (CDHS) at the University of Delaware recently updated its guidelines for reporting and interpreting data from surveys that it administers to students across the state of Delaware. As a result, in the 2020 Delaware State Epidemiological Profile, data in some tables and figures have been aggregated or otherwise reported differently than in years prior. The following notes summarize the guidelines for interpreting data presented in this report:

- **Reporting small numbers:** For any estimate where the raw number of responses is less than 30, no statistical estimates are reported. Statistics computed from such a small proportion of the total number of students may be unreliable, inflating the significance of existing relationships in the data, and among some special populations, may put individuals at risk of being identified. In some data products such as our heat maps, multiple years of data have been combined in order to increase the sample sizes to a reportable figure.

- **Rounding:** All figures from Delaware school survey data (DSS, YRBS, YTS) are rounded to the nearest whole percent. As such, in some cases the cells in a table may add up to slightly more or less than 100%.

- **Missing Observations:** In our analysis, any missing observations (responses) are not calculated into the total percentages. Because different questions have varying numbers of missing responses, the total sample size and percent missing may fluctuate slightly from question to question. This is due to a few factors:
  - Students may not answer all questions on a survey, particularly those towards the end if they run out of time or they tire of answering questions.
  - Students may also skip or decide not to respond to certain questions for various reasons (e.g., if they fear their responses will not be kept confidential; if they consider the question too personal or sensitive; if they do not understand the question; etc.)

- **Discrepancies in Reporting:** With respect to the Delaware YRBS survey, there may be slight discrepancies in how CDHS reports some data points compared to how the Centers for Disease Control and Prevention (CDC) and their national technical advisors (Westat, Inc.) report the data. This is largely due to differing practices when conducting analysis with missing observations in the data and does not substantially impact the overall prevalence estimates, trends, and relationships among these data points.

- **Statistical Significance:** Unless otherwise indicated, all reported correlations between variables are statistically significant at the p<.05 level. Null hypothesis testing, used to estimate statistical significance, provides an estimate of the likelihood that the relationship between two indicators is not due to random chance. If the p-value for a given crosstab is less than .05, this suggests that in 95% of cases, the correlation between the relevant variables is because there is a relationship between them.
• **Weighted Data:** Weighting data is a correction technique that compensates for nonresponses, helps correct for unequal probabilities of being selected within the sample, and helps ensure that the sample drawn is representative of the Delaware student population. If data is weighted there will be a notation indicating the data is weighted for the specific fact, figure, or table. Prevalence data from the Youth Risk Behavior Survey and Youth Tobacco Survey are usually weighted, however, data is not weighted when exploring small subpopulations to ensure an accurate analysis that is not influenced due to the small number of individuals in those subpopulations.
  
  - **2019 Weighted Data:** In previous years, advisors to the CDC have provided weights with the Youth Risk Behavior Survey data, and frequencies have been estimated using weighted data. In 2019, the YRBS sample population in Delaware did not meet threshold requirements for weighting data, so any prevalence estimates relying on YRBS data for this year are unweighted.

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<td><strong>Delaware YRBS</strong></td>
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<td>Middle School</td>
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<td>High School</td>
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1. Adverse Childhood Experiences

National Overview

Adverse childhood experiences (ACEs) are traumatic events or conditions, such as abuse, neglect, homelessness, etc., that have been associated with toxic stress, health risk behaviors, and lifelong impacts. The research indicates that youth who experience significant traumas are likely to experience poorer health outcomes throughout their lifespan and even premature death. The number of ACES that an individual experiences has an accumulated impact; a recent analysis indicates that individuals who experience six or more ACES have a shorter life expectancy by up to 20 years (Storrs, 2009). However, the presence of a supportive and caring adult has been associated with higher rates of resiliency among those who have experienced childhood trauma. In short, without intervention and support, children who experience traumatic events are likely to have increased health problems throughout their lives—lives that are likely to be shorter than the lives of others (Centers for Disease Control and Prevention [CDC], n.d.).

In the original ACEs study, conducted in the mid-90s (Felitti et al., 1998), more than 17,000 adults in an outpatient healthcare setting were asked to report on their childhood experiences regarding the following 10 indicators:

- emotional, physical, sexual abuse
- emotional and physical neglect
- parental divorce/separation
- living in a household with a person who has a mental illness
- living in a household with a person who abuses substances
- parental incarceration
- exposure to domestic violence

Nearly two out of three respondents reported experiencing one or more ACE, with one in eight participants experiencing four or more (CDC, n.d.). Since then, various researchers have examined additional indicators, such as bullying, discrimination, economic hardship, and violence within the community (as distinct from domestic violence). More recently, the Behavioral Risk Factor Surveillance System (BRFSS) data collected across 25 states from 2015 to 2017 indicates that nearly six in ten individuals in the U.S. experienced at least one ACE, and that one in six (15.6%) experienced four or more (Merrick et al., 2019). The more ACEs an individual experiences, the greater the likelihood he or she will experience poorer health status (Hussaini et al., 2016).
Delaware Overview

To address this public health challenge, in 2018 Governor John Carney issued Executive Order 24 to establish Delaware as a “trauma-informed state” to mitigate the impact of childhood adversities and foster resilience at the individual, family, and community levels. First Lady Tracey Quillen Carney initiated the Trauma-Informed Delaware coalition bringing together public, private, and non-profit organizations. Subsequently, the Family Services Cabinet Council’s Trauma-Informed Care Progress Report and Action Plan was released, and Delaware’s inaugural Trauma Awareness Month was observed in May 2019 with a statewide symposium, multiple advocacy events, and the Compassionate Champion Awards. A series of working groups have been established to advance the work of the initiative.

Available data suggest that Delaware residents experience rates of childhood adversity that are similar to national rates. In 2015, the Delaware Public Health Institute conducted the Delaware Household Health Survey, which asked adult respondents about their experiences with childhood trauma. When considering the original 10 ACE indicators, half of adults in Delaware reported experiencing one or more ACE, with 13.8% reporting four or more. The most commonly identified ACEs were parental divorce or separation (31.7%), followed by living in a household with someone who had abused substances (20.6%). When factoring in being bullied and/or experiencing discrimination (two indicators added to the Delaware survey), 59% of adults reported having at least one ACE, with 16% reporting four or more (Public Health Management Corporation, 2016; Fink, 2016).¹

In terms of youth data, since 2011 the National Survey of Children’s Health (NSCH) has included a number of indicators relating to trauma and resiliency within the household. However, the survey, administered to parents who report on the health of their children, does not include questions on abuse or neglect. NSCH 2016-2018 data includes an aggregate sample of 1,916 parent respondents. Preliminary analysis (Figures 182-189, Hussaini, 2020) indicate that approximately 43% of children in Delaware experience at least one ACE, most commonly having divorced/separated parents or economic hardship. The third most common ACE, which impacts 9% of children in Delaware, is parental incarceration. Eight percent of Delaware youth live with someone in the household who has a drug or alcohol problem, and the roughly the same number live with a household member who suffers from a mental illness. Parents report that more than 5% have been treated unfairly because of race. Approximately one in four children in Delaware experience one ACE, and almost one in five have two or more. As the NSCH graphs illustrate, there are certain groups who experience higher rates of ACEs, including youth who are African American, whose parents were born outside of the US, who are poor, or who have special healthcare needs.

¹ In an effort to capture more recent data on the prevalence of ACEs among Delaware adults, the Division of Public Health incorporated the ACEs module into the CDC’s 2019 Behavioral Risk Factor Surveillance System (BRFSS) questionnaire. Data was not available at the time of this publication, however, the SEOW will highlight the findings in future products.
The Delaware Youth Risk Behavior Survey (YRBS) includes a number of questions that address trauma, such as parental incarceration, being bullied, and exposure to various types of violence. Because the survey also includes questions regarding substance use and mental health, the data provides us with an opportunity to explore the association between trauma and a spectrum of risk behaviors and other experiences. The results of the 2019 Delaware YRBS again illustrate that youth who report experiencing trauma have higher rates of all substance use, as well as symptoms of depression, including self-harm and suicide attempts. Students who experience multiple ACEs have even greater rates of substance use or mental health concerns.²

By examining these associations, policy analysts and practitioners can begin to consider how early interventions and universally employed, trauma-informed approaches may improve lifelong health consequences and the associated costs for individuals, families, and society.

² It is important to note that while there is a statistical association between these factors, this does not necessarily mean that there is a causal relationship between these variables in every instance, and there may be additional unobserved indicators that also influence the outcome. This holds true for all of the associations discussed in this chapter.
2016-2018 National Survey of Children’s Health
Adverse Childhood Experiences (ACE) Among Children 0 to 17 by Specific ACE Indicator, Delaware and the US (in percentages)

Figure 1: Adverse childhood experiences, by specific indicator, Delaware and National comparisons, ages 0-17

Note: Adverse Childhood Experiences – ACE 1: Hard to Cover Basics Like Food or Housing; ACE 2: Child Experienced - Parent or Guardian Divorced; ACE 3: Child Experienced - Parent or Guardian Died; ACE 4: Child Experienced - Parent or Guardian Time in Jail; ACE 5: Child Experienced - Adults Slap, Hit, Kick, Punch Others; ACE 6: Child Experienced - Victim of Violence; ACE 7: Child Experienced - Lived with Mentally Ill; ACE 8: Child Experienced - Lived with Person with Alcohol/Drug Problem; ACE 9: Child Experienced - Treated Unfairly Because of Race.
2016-2018 National Survey of Children’s Health
Adverse Childhood Experiences (ACE) Among Children 0 to 17, Aggregated, Delaware and the U.S. (in percentages)

<table>
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<th>Year</th>
<th>Unexposed</th>
<th>One adverse childhood experience</th>
<th>Two or more adverse childhood experiences</th>
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<td>2016</td>
<td>53.7</td>
<td>24.6</td>
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<td>2017</td>
<td>56.2</td>
<td>24.5</td>
<td>19.3</td>
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<tr>
<td>2018</td>
<td>60.1</td>
<td>22.0</td>
<td>17.8</td>
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Figure 3: Adverse childhood experiences, aggregated, by sex, ages 0-17

Note: Adverse Childhood Experiences – ACE 1: Hard to Cover Basics Like Food or Housing; ACE 2: Child Experienced - Parent or Guardian Divorced; ACE 3: Child Experienced - Parent or Guardian Died; ACE 4: Child Experienced - Parent or Guardian Time in Jail; ACE 5: Child Experienced - Adults Slap, Hit, Kick, Punch Others; ACE 6: Child Experienced - Victim of Violence; ACE 7: Child Experienced - Lived with Mentally Ill; ACE 8: Child Experienced - Lived with Person with Alcohol/Drug Problem; ACE 9: Child Experienced - Treated Unfairly Because of Race.

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2016-2018 National Survey of Children’s Health
Adverse Childhood Experiences (ACE) Among Children 0 to 17 in Delaware, by Age (in percentages)

Figure 4: Adverse childhood experiences, aggregated, by age, ages 0-17

Note: Adverse Childhood Experiences – ACE 1: Hard to Cover Basics Like Food or Housing; ACE 2: Child Experienced - Parent or Guardian Divorced; ACE 3: Child Experienced - Parent or Guardian Died; ACE 4: Child Experienced - Parent or Guardian Time in Jail; ACE 5: Child Experienced - Adults Slap, Hit, Kick, Punch Others; ACE 6: Child Experienced - Victim of Violence; ACE 7: Child Experienced - Lived with Mentally Ill; ACE 8: Child Experienced - Lived with Person with Alcohol/Drug Problem; ACE 9: Child Experienced - Treated Unfairly Because of Race.

2016-2018 National Survey of Children’s Health
Adverse Childhood Experiences (ACE) Among Children 0 to 17 in Delaware, by Poverty (in percentages)

Figure 5: Adverse childhood experiences, aggregated, by poverty level, ages 0-17

Note: Adverse Childhood Experiences – ACE 1: Hard to Cover Basics Like Food or Housing; ACE 2: Child Experienced - Parent or Guardian Divorced; ACE 3: Child Experienced - Parent or Guardian Died; ACE 4: Child Experienced - Parent or Guardian Time in Jail; ACE 5: Child Experienced - Adults Slap, Hit, Kick, Punch Others; ACE 6: Child Experienced - Victim of Violence; ACE 7: Child Experienced - Lived with Mentally Ill; ACE 8: Child Experienced - Lived with Person with Alcohol/Drug Problem; ACE 9: Child Experienced - Treated Unfairly Because of Race.


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### 2016-2018 National Survey of Children’s Health

**Adverse Childhood Experiences (ACE) Among Children 0 to 17 in Delaware, by Race (in percentages)**

<table>
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<td>Non-Hispanic White</td>
<td>62.1</td>
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<tr>
<td>African American</td>
<td>41.0</td>
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<td>Hispanic/Latino(a)</td>
<td>55.3</td>
<td>24.6</td>
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<tr>
<td>Other races</td>
<td>54.6</td>
<td>26.7</td>
<td>18.6</td>
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Figure 6: Adverse childhood experiences, aggregated, by race, ages 0-17

Note: Adverse Childhood Experiences – ACE 1: Hard to Cover Basics Like Food or Housing; ACE 2: Child Experienced - Parent or Guardian Divorced; ACE 3: Child Experienced - Parent or Guardian Died; ACE 4: Child Experienced - Parent or Guardian Time in Jail; ACE 5: Child Experienced - Adults Slap, Hit, Kick, Punch Others; ACE 6: Child Experienced - Victim of Violence; ACE 7: Child Experienced - Lived with Mentally Ill; ACE 8: Child Experienced - Lived with Person with Alcohol/Drug Problem; ACE 9: Child Experienced - Treated Unfairly Because of Race.


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2016-2018 National Survey of Children’s Health
Adverse Childhood Experiences (ACE) Among Children 0 to 17 in Delaware,
by Parent Place of Birth
(in percentages)

![Bar chart showing adverse childhood experiences by parent place of birth]

Unexposed
- All parents born in the US (3rd or higher generation HH)
- Any parent born outside of the US (1st and 2nd generation HH)
- Other (child born in United States, parents are not listed)

One adverse childhood experience
Two or more adverse childhood experiences

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<th>Unexposed</th>
<th>One adverse childhood experience</th>
<th>Two or more adverse childhood experiences</th>
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<tbody>
<tr>
<td>56.3</td>
<td>61.4</td>
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<td>22.7</td>
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<tr>
<td>21</td>
<td>10.7</td>
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Figure 7: Adverse childhood experiences, aggregated, by parent place of birth, ages 0-17

Note: Adverse Childhood Experiences – ACE 1: Hard to Cover Basics Like Food or Housing; ACE 2: Child Experienced - Parent or Guardian Divorced; ACE 3: Child Experienced - Parent or Guardian Died; ACE 4: Child Experienced - Parent or Guardian Time in Jail; ACE 5: Child Experienced - Adults Slap, Hit, Kick, Punch Others; ACE 6: Child Experienced - Victim of Violence; ACE 7: Child Experienced - Lived with Mentally Ill; ACE 8: Child Experienced - Lived with Person with Alcohol/Drug Problem; ACE 9: Child Experienced - Treated Unfairly Because of Race.


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2016-2018 National Survey of Children’s Health
Adverse Childhood Experiences (ACE) Among Children 0 to 17 in Delaware,
by Special Healthcare Needs (SHCN) (in percentages)

![Bar chart showing the distribution of adverse childhood experiences among children in Delaware, categorized by special healthcare needs (SHCN) and non-SHCN.]

**Figure 8:** Adverse childhood experiences, aggregated, by special healthcare needs, ages 0-17

**Note:** Adverse Childhood Experiences – ACE 1: Hard to Cover Basics Like Food or Housing; ACE 2: Child Experienced - Parent or Guardian Divorced; ACE 3: Child Experienced - Parent or Guardian Died; ACE 4: Child Experienced - Parent or Guardian Time in Jail; ACE 5: Child Experienced - Adults Slap, Hit, Kick, Punch Others; ACE 6: Child Experienced - Victim of Violence; ACE 7: Child Experienced - Lived with Mentally Ill; ACE 8: Child Experienced - Lived with Person with Alcohol/Drug Problem; ACE 9: Child Experienced - Treated Unfairly Because of Race.


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2019 Delaware Youth Risk Behavior Survey
Adverse Childhood Experiences (ACEs)\(^a\)
Among High School Students
(in percentages)

Figure 9: Adverse childhood experiences, HS

Notes:
\(^a\)Students who confirmed experiencing any of the following events: homelessness, incarcerated parent, fighting, being threatened, being bullied, or teen dating violence or sexual violence, were placed in either “1 ACE” or “2 or More ACEs” category depending on the number of different experiences they reported.


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2019 Delaware Youth Risk Behavior Survey
Prevalence of Individual ACEs Indicators
Among High School Students
(in percentages)

Figure 10: Individual ACEs Indicators, HS


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2019 Delaware Youth Risk Behavior Survey
Adverse Childhood Experiences by Sex
Among High School Students
(in percentages)

Figure 11: Adverse Childhood Experiences by sex, HS

Adverse Childhood Experiences by Race and Ethnicity
Among High School Students
(in percentages)

Figure 12: Adverse Childhood Experiences by race, HS

Note:
*Estimates were not statistically significant at the p<.05 level.
Figure 13: Adverse Childhood Experiences by grade, HS


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2019 Delaware Youth Risk Behavior Survey
ACEs\textsuperscript{a} and Past Month Substance Use
Among High School Students
(in percentages)

Figure 14: Adverse childhood experiences and past month substance use, HS

Notes:
\textsuperscript{a}Students who confirmed experiencing any of the following events: homelessness, incarcerated parent, fighting, being threatened, being bullied, or teen dating violence or sexual violence, were placed in either “1 ACE” or “2 or More ACEs” category depending on the number of different experiences they reported.


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2019 Delaware Youth Risk Behavior Survey
ACEs\(^a\) and Past Year Self-Reported Mental Health
Among High School Students
(in percentages)

![Figure 15: Adverse childhood experiences and past year mental health indicators, HS](chart.png)

Notes:
\(^a\)Students who confirmed experiencing any of the following events: homelessness, incarcerated parent, fighting, being threatened, being bullied, or teen dating violence or sexual violence, were placed in either “1 ACE” or “2 or More ACEs” category depending on the number of different experiences they reported.

[Back to table of figures]
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Adverse Childhood Experiences

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https://governor.delaware.gov/executive-orders/eo24/
### Data Sources

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<tr>
<td>National Survey on Children’s Health (NSCH)</td>
<td>US Health Resources &amp; Services Administration</td>
<td>2018</td>
<td>2016 - 2018</td>
</tr>
<tr>
<td>National Survey on Drug Use and Health (NSDUH)</td>
<td>US Substance Abuse and Mental Health Services Administration</td>
<td>2016 - 2018</td>
<td>2002 - 2018</td>
</tr>
<tr>
<td>Substance-Exposed Infant Program</td>
<td>Office of the Child Advocate</td>
<td>2019</td>
<td>2017-2019</td>
</tr>
<tr>
<td>Treatment Admissions Data</td>
<td>US Substance Abuse and Mental Health Services Administration, collected by Delaware Division of Substance Abuse and Mental Health</td>
<td>2019</td>
<td>2002 - 2019</td>
</tr>
</tbody>
</table>

In addition to the data sources for the figures and tables in the 2020 report, the following data sources are also cited throughout the narrative:

- America’s Health Rankings
- Bureau of Labor Statistics
- Centers for Disease Control and Prevention
- Delaware Department of Education
- Delaware Department of Safety and Homeland Security, Division of Forensic Science
- Delaware Health Tracker
- Delaware Household Health Survey
- Drug Enforcement Administration
- Health Resources and Services Administration
- KIDS COUNT in Delaware
- National Center for Health Statistics
- National Conference of State Legislatures
- National Institute on Drug Abuse
- National Institute on Mental Health
- RTI International
- State of Delaware Economic Development Office
- The Trevor Project
- U.S. Census Bureau