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Youth Substance-Use Prevention

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In partnership with:

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CLINTON SUBSTANCE *abuse* COUNCIL

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Executive Summary:

There is a growing concern across the United States about the rise of drug use among youth, who are particularly vulnerable to addiction. According to the National Institute on Drug Abuse (NIDA), nearly 31% of 10th graders have used alcohol in the past year (National Institute on Drug Abuse, 2022). According to the Centers for Disease Control and Prevention, e-cigarettes have become the most used nicotine product among youth (Surgeon General, 2019). Like many cities, Clinton, Iowa, is committed to reducing youth substance use. However, local data indicates that young people in Clinton are at higher risk of experimenting with substances, such as alcohol, vaping, and marijuana, which may lead to addiction and substance use disorders. To address this issue, we conducted a comparative analysis of state and local data, stakeholder interviews, a literature review, and case study research.

The findings identified four main focus areas to mitigate the negative effects of substance use among Clinton's youth. These are:
- GIS Map of Liquor and Vape Stores within a School's Buffer Zone
  - Potential legal ordinance to regulate future stores
- Strategies to Increase City Messaging.
  - Media Campaigns
  - Text Messaging Services
  - Student Advocacy
  - Update CSAC social media and website
- Strategies for Increased Parent Involvement
  - Incentives
  - Send out invitations for training trough the community
  - Personalizing Messaging
  - Incorporating families and advocates
  - Update CSAC Meeting/Trainings Page
- Best Practice Policies for Preventing Vaping in Schools
  - Implementing Botvin in Elementary schools
  - Suspension replacement

Introduction:

This report is presented by University of Iowa graduate students from the School of Public Planning and Affairs. The authors of the report are Madison Black, Camille Bonar, Payton Colbert, and Cesar Perez. This report is produced in collaboration with the Iowa Initiative for Sustainable Communities, the city of Clinton, and the Clinton Substance Abuse Council on youth substance abuse prevention.

Substance misuse is a nationwide issue, with providers seeing an 18% increase in overdoses since the beginning of the COVID-19 pandemic.[4] Preventing youth substance use within the city of Clinton, Iowa is a top concern among local officials, practitioners, and leaders within the community. Many initiatives and programming exist within Clinton to address substance use issues. The Gateway ImpACT coalition, a group of individuals within the community dedicated to preventing drug and substance abuse, has started many initiatives and programs. These include a medication disposal campaign, the implementation of a "hidden-in-plain-sight" trailer to educate parents on different ways their children may be hiding paraphernalia and illicit substances, and prevention strategies for alcohol and marijuana use (CSAC, 2023). The Clinton Substance Abuse Council (CSAC) helps further the goal of a substance-free community within Clinton and supports local organizations and coalitions like the Camache-Dewitt Coalition and the Gateway ImpACT coalition, which are also working to address youth substance use and prevention. (CSAC, 2023). Another resource within the community is the DART response team within the police department which responds to and treats opioid-related calls (CSAC, 2023). Finally, Clinton has also taken initiatives to provide resiliency and life-skills training within the schools, through Botvin Life skills, an evidence-based prevention program (CSAC, 2023).

Despite the efforts of community members and organizations across Clinton, environmental factors, such as socioeconomic and relational characteristics may impact a teen's potential to engage in substance abuse within Clinton County and the city of Clinton. Local youth in Clinton are at a higher risk than the state at large for experimenting with substances, specifically, alcohol, vaping, and marijuana, which may increase the risk for addiction and substance use disorders (CSAC, 2022). Currently, Clinton's substance abuse initiatives focus on rehabilitation programming for adults with less attention given to prevention messaging surrounding alcohol, nicotine, and marijuana use among individuals ages 12 through 17.

Upon visiting Clinton and speaking with practitioners, administrators, and those who work with youth there was a common sentiment that a family history of alcohol and substances – a key environmental factor—is one of the most significant risk factors for use of alcohol and substances by youth in the community. Additionally, many of the people interviewed stated that low parental and student involvement in prevention programming is a major obstacle to success for many current programs. Understanding the demographics and community dynamics of Clinton may further illuminate some of the most common barriers to program implementation and success within Clinton.

The purpose of this report is to investigate the relationship between substance use of Marijuana, nicotine, and alcohol among youth aged 12-17 in Clinton. This report aims to develop effective strategies and programs to prevent substance use among youth in the community.

The report is structured as follows: the first section provides a brief introduction to the community background and demographics. The second section outlines the project scope and goals, as well as a description of the methods used to analyze information, draw conclusions, and provide recommendations. The third section presents a literature review of substance use prevention programming, policies, and recommended solutions. The fourth section discusses the findings from interviews, research, and collaboration with community partners. The fifth section contains problem analysis and recommended solutions for each issue area outlined in the project scope. The report aims to provide a comprehensive understanding of substance use among youth in Clinton and provide actionable recommendations to prevent substance use and promote the well-being of young people in the community.

<u>Clinton Demographics and Characteristics:</u>

The city of Clinton is a small community located on the Mississippi River and bordering the state of Illinois. Located in Clinton County, Clinton has a population of 24,469 people, and is a predominately white community, with 89.1% of residents identifying as white, 5.1% identifying as Black, 4.6% identifying as Hispanic or Latino, and 4.4% of the population identifying as two or more races (U.S. Census Bureau, 2020). Clinton County leans red politically, with 54.2% of registered voters in Clinton voting for the Republican candidate Donald Trump in the 2020 election. Additionally, all of the representatives for Clinton are a part of the Republican party (Politico, 2021).

Clinton County has relatively high rates of poverty, unemployment, homelessness, and limited access to adequate healthcare and mental health services. The county has the state of Iowa's highest rankings for trauma and childhood abuse and lowest rankings for healthy behaviors (Clinton Substance Abuse Council, Inc., 2022). These characteristics are what the World Health Organization considers Social Determinants of Health (SDOH), "the conditions in which people are born, grow, live, work and age. These circumstances are shaped by the distribution of money, power, and resources at global, national, and local levels." In disadvantaged areas like Clinton, poor SDOH such as high unemployment rates, low average household incomes, and high rates of adverse childhood experiences (ACES), can influence the prevalence of substance abuse disorders and overdose rates. Understanding that environmental conditions influence substance use rates is important when considering potential solutions to the issue at hand (Grinspoon, 2021).

In Clinton County, 13.7% or residents live below the poverty line compared to 11.2% of all Iowans[4]. Nearly 40% of the City of Clinton's population is at risk of homelessness. These economic factors will increase the rate of substance abuse in Clinton and the risk for youth substance use.[4] Another contributing factor to substance use rates in Clinton is the high unemployment rate—6.4% in Clinton County compared to the state average in Iowa of 5.1%.

County Health Rankings model © 2014 UWPHI
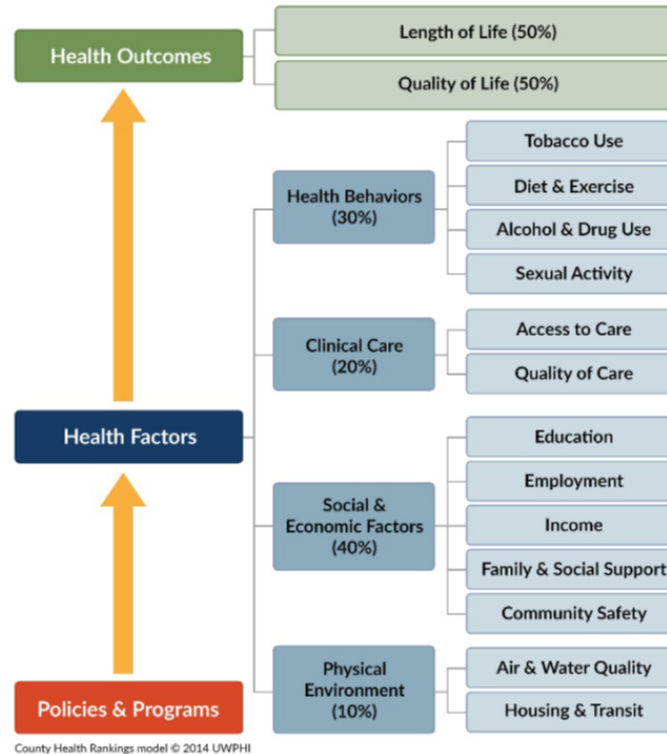
Clinton also ranks 84/99 counties in health outcomes and 13/99 in health factors, which indicates a low level of community health (CSAC, 2022). Clinton has some of the worst overall health indicators in the state, scoring worse than the Iowa average on all indicators except for three: (HIV prevalence, STIs, and motor vehicle crashes). Some of the health outcomes that are measured are: quality of life, low birthweight, and poor mental health days (CSAC, 2022).

Clinton faces alarmingly high rates of substance use rates among both youth and adults compared to state averages. In Clinton, alcohol, opioids, and methamphetamines are the main substances of concern based on hospitalization and overdose rates. Clinton has a 32.3% hospitalization visit and admission rate for opioids compared to the state of Iowa's average of 17%.[4] Clinton has a 14% higher drug overdose death rate for opioids and a 1500% higher rate of overdoses for psychostimulants compared to the state average[1]. Youth populations most at risk of drug misuse are individuals with mental health issues, youth who have prescriptions for stimulants, depressants, or opioids, and youth who have experienced trauma[4]. Addressing at-risk youth will require expanding social services and accessibility to mental health resources within the community.

Project Scope and Goals:

The goal of this project is to identify strategies to mitigate the negative effects of substance use among Clinton's youth. Based on existing literature and our teams' findings we have created a project scope that consists of five main focus areas:

1. Use GIS to identify the placement of liquor and nicotine outlets within the City of Clinton.
   a. Practitioners within Clinton Iowa have identified liquor store density and location within low-income neighborhoods as an area of concern. The goal of using a GIS map to look at the location of liquor and vape stores is to determine if they are predominately located in low-income (v. high-income) neighborhoods, near schools, near substance abuse facilities. Liquor stores and vape stores are also an area of concern as they are marketing toward youth groups and many of the liquor stores within Clinton Iowa have also been found to sell to minors according to our interviews.
2. Identify strategies to increase city messaging on youth substance abuse prevention both in terms of quantities and effectiveness.
   a. Focus groups held by the Clinton Substance Abuse Council show that youth feel the city has not made it clear that youth substance use is not encouraged behavior. Existing literature provides evidence that media and messaging campaigns are an effective way to communicate substance use prevention to youth.
3. Develop strategies to increase parent participation in prevention initiatives.
   a. Parental involvement is proven to be a successful strategy in preventing youth substance abuse, and it is also one of the most significant barriers to program success in Clinton. Across Clinton, program facilitators are struggling to get parents to participate in the numerous events, educational presentations, and programs that are offered. One of our goals is to identify strategies for getting a variety of parents involved in prevention programming and increase the number of parents participating in prevention initiatives.
4. Research best practice policies for preventing vaping in schools.
   a. The Clinton school district is implementing many initiatives to prevent vaping in schools including Botvin Life Skills training, vaping detectors in schools, removal of trashcans from bathrooms to prevent disposals of vapes in areas where there are no cameras, and electronic hall passes to prevent vaping in restrooms during class times. Our goal is to provide additional information and potential solutions regarding policies and initiatives to help prevent vaping among youth in Clinton Community Schools.

<u>Methodology</u>:

To better understand the community of Clinton and aid in our policy recommendations, our group utilized several methods of investigation and analysis.

<u>Project Scoping:</u>

Comparative analysis of state and local data:

At the origin of our project, our group was given several published reports, including the Iowa Youth Survey (which provides county-wide data), and a Clinton Community School District Annual Report, to assist with the scoping of Clinton's Youth Drug Prevention project. We compared the results of these Clinton-specific data points surrounding youth drug and alcohol use, as well as Adverse Childhood Experience (ACE) scores to state averages and used these comparisons to draw conclusions about the community needs of Clinton.

Stakeholder interviews:

Our group conducted informational interviews with community stakeholders, Kristin Huisenga the Executive Director at the Clinton Substance Abuse Council and Clinton City Manager, Matt Brooks. From these interviews we gathered information pertaining to the demographics and general makeup of Clinton, IA, as well as what the two leads were looking for pertaining to our project and the growth of their community. We asked questions about their specific hopes for this project (i.e., What would success look like in this project?) and about potential barriers we were to encounter.

With the help of our community partners, we interviewed Shane Haskell, Clinton Community Middle School Resource Officer (SRO), the Clinton Community Superintendent, Gary DeLacy, Police Captain John Davis and Deputy Mike Adney, and two drug prevention specialists from ASAC. These interviews provided information from community members that couldn't be conveyed through quantitative research and the reports we were previously given. Communicating with stakeholders who know the community and community behaviors surrounding youth drug and alcohol use and current initiatives is necessary to produce feasible recommendations for the future.

<u>Existing Conditions:</u>

Analysis of Online Resources:

We conducted a program evaluation of online resources offered through the CSAC website. This program evaluation consisted of acting as a concerned parent and finding online resources on how to talk to our child about drug and alcohol use.

Inventory of existing initiatives:

Another aspect of our project included building an inventory of current services for youth drug prevention. After speaking with stakeholders in our informational interviews, we were able to learn more about current services available to community members. While many of these services focused on rehabilitation practices, we were also able to inventory preventative services that may aid the community in youth drug prevention.\

Spatial Analysis of Liquor Stores:

We created a map of liquor store density in the City of Clinton in ArcGIS with the presence and proximity of Clinton Community Schools. This will allow stakeholders to view the saturation of liquor stores in their community which could potentially lead to heightened accessibility of drugs and alcohol for the youth population.

External Research:

Literature Review:

Following our informational interviews with community members, we redefined the scope of our project and began conducting the literature review. Our literature review contained a myriad of resources found by members of our group pertaining to social determinants of health, youth drug prevention practices, and Adverse Childhood Experiences.

Case study research:

Our group also used case study research to identify potential practices and mitigation measures surrounding youth drug prevention that could be helpful in Clinton? Through an analysis of the processes involved in each case study and an understanding of the conditions in which each case study was applied, we could then use the information provided by the case studies to devised feasible recommendations for Clinton.

Limitations of the study

The following limitations of the study should be considered:

Formal stakeholder interviews were unable to be conducted due to time constraints within the project. Conducting formal interviews allows a predetermined set of questions to be asked across all interviewees, these questions can then be quantitively analyzed for commonalities among responses. Formal interviews are more reliable, provide more holistic data, and allow more confident consensus to be drawn then informal informational interviews. Despite the limitations, informational interviews provide unique insight into the community, and can shape the lens through which information is deciphered.

The inability to survey youth and parents on attitudes and perceptions of youth substance use and prevention programming was another significant limitation for the project. Youth could not be surveyed during this project as the authors did not have the required certifications and qualifications to facilitate a survey among youth. Additionally, after speaking with the Executive director of CSAC, Kristin Huisenga, it became clear that survey fatigue was a large issue in this community. For this reason, we chose not to conduct a survey to parents of Clinton youth, but rather will be utilizing information already provided to us through the various reports from Kristin Huisenga.

With any literature review, there are limitations to the practices gathered as they are potential mitigation measures that may or may not work in real life. While these practices have worked in the communities in which they were implemented, there is always a chance that limitations will exist in the area of suggested implementation due to unforeseen circumstances and unique community attributes.

Findings:

After conducting an initial survey of the facilities and programs currently available in Clinton, Iowa, it has been concluded that the community offers many valuable resources and programs to support individuals struggling with addiction. These resources include programs to help parents identify signs of addiction and substance abuse, effective substance prevention programs, and a variety of addiction treatment options.

The table below provides an inventory of the current programs and tools available to address substance use in Clinton. However, it is important to note that this is not an exhaustive list and there may be additional resources not included.

Table 1: Clinton Substance Abuse Resource Inventory

Organization	Programs/ Initiatives	Organization Purpose	Link
Clinton Substance Abuse Council	Supports initiatives and programs of the two coalitions below.	An organization that supports the efforts of the Camanche-Dewitt and Gateway ImpACT coalitions. Goal is to create communities free of substance use.	https://csaciowa.org/
Camanche-Dewitt Coalition	Does not do extensive programming or initiatives in Clinton County.	Reduce unhealthy used of substances in the Camanche, Dewitt and surrounding areas.	https://camanche-dewittcoalition.org/parent-info%2Fresources

Organization	Programs/ Initiatives	Organization Purpose	Link
Gateway ImpACT Coalition	• Prevention of youth underage drinking initiative. • Prevention of youth Marijuana use. • Medication disposal campaign. • Hidden in plain sight. • Community committed campaign- how can each member in the community work together to curb or prevent substance misuse.	A group of individuals working to prevent drug and substance abuse within Clinton.	https://csaciowa.org/gateway-impact-coalition-1
Clinton Crush +	• DART- comprehensive response team at the police department to respond and treat opioid related calls.	Fight the opioid epidemic in Clinton.	https://csaciowa.org/clinton-crush-%2B
ASAC Hightower Place		Substance abuse treatment place.	No website, no easily accessible Facebook or information site.
King House		Alcohol Treatment center.	No website, no easily accessible Facebook or information site.
New Directions INC		Substance Abuse Treatment Center.	No website, no easily accessible Facebook or information site.

Organization	Programs/ Initiatives	Organization Purpose	Link
Mercy one Medication Treatment Center	• Community assessment completed on substance abuse within Clinton see results here - https://img1.wsimg.com/blobby/go/287e4327-ecd6-447d-912a-c6eacaa8b346/downloads/2020-2021%20Annual%20Report%20Final.pdf?ver=1673639745948	Substance Abuse Treatment Center.	https://www.mercyone.org/location/mercyone-clinton-medication-assisted-treatment
Botvin	• Drug prevention training courses for students being implemented in Clinton schools.	Prevent substance abuse among youth.	https://www.lifeskillstraining.com/?gclid=CjwKCAiAuOieBhAIEiwAgjCvch_DaORhqHsD3RePxqHKESghrp0EAE4GM5l2vawe0m2rhALUq2rrThoCSG0QAvD_BwE

Literature Review:

Across The United States, 1.19 million 12–17-year-olds have reported binge drinking in the last month (NCDAS). In Iowa, 7.66 percent of teens have used drugs, and 11.29 percent have consumed alcohol (NCDAS). Between 2011-2015 there has been a 900% increase in the use of e-cigarettes in the United States (Alcaraz, 2018). A 2016 National Youth Tobacco survey revealed that 1.7 million high schoolers and 500,000 middle schoolers had used an e-cigarette at least once (Alcaraz, 2018).

Youth may experiment or even abuse drugs and alcohol due to various environmental factors, including social, individual, and community factors. This literature review will be divided into two sections. The first section will address the different environmental factors that may contribute to youth substance abuse, while the second section will focus on potential solutions to prevent substance use in the first place.

Environmental Factors

Social Factors

Youth who live with parental figures experiencing substance use disorder, have a higher likelihood of using drugs and alcohol at a young age. According to Lipari and Horn (2017), one out of 10 children live with a parent who has abused alcohol. *Appendix A* shows the percentage of children from 2009-2014 who were living with at least one parent that has a substance use disorder. At least 13.9% of parents abusing substances had children living with them. Parents that abuse alcohol have more trouble with the law, may find it difficult to keep a job, and are more likely to neglect their children. Parental substance abuse can have a multitude of negative side-effects on children, such as depression or exposure to parental abuse. Children that have a parent with an alcohol use disorder are four times more likely to develop an alcohol abuse disorder themselves (Lipari & Horn, 2007). One in thirty-five children lives in a household where a parent abuses marijuana (Lipari & Horn, 2007). Children with parents who use illicit drugs also have a higher likelihood of experiencing mental health problems.

Anda et al., (2002) investigated the associations between having parents who are alcoholic and adverse childhood experiences that are associated with alcoholism in later life. Anda et. Al's., study surveyed around 9,346 adults, the survey asked questions about childhood experiences, including parental alcohol abuse. The study concluded that it is likely that if someone comes from an alcoholic household, the associated ACES makes it more likely for that child to develop an alcohol abuse disorder.

Peer influence is also another significant factor that leads to alcohol and drug abuse. A study by Ramirez and colleagues (2013) discussed the impact of peer influence on alcohol and drug use among youth. This survey included around 419 adolescents between 13 -18 years old. The study concluded the fewer friends one has that utilize alcohol or drugs, the smaller the likelihood that the adolescent would use those substances.

There is also peer influence when it involves vaping. Groom and colleagues (2021) surveyed teens ages 13-18 about vaping; and concluded that students tend to try vaping when they are around friends. According to Groom's study, 54 percent of respondents tried vaping while hanging out with friends. Group pressure and popularity are important for this specific age group, and "being included in a popular activity appears to be a strong driving force" (Groom et al., 2021).

Individual Factors

Child abuse is another factor in youth abusing alcohol and drugs. Anda and colleagues (2002) mentioned ACES as having a significant impact on the abuse of alcohol. ACES could include "experiencing childhood emotional, physical, and sexual abuse" (Anda et al., 2002). Other ACES include domestic violence and having a household member that is mentally ill or is a criminal. The study showed that the more ACES a child has, the higher their risk for developing a substance abuse disorder.

Another study examined ACES and the prediction of early drinking. Rothman and colleagues (2008) surveyed 3592 adults ages 18-39 who currently or formerly drank alcohol. Sixty-six percent of adults surveyed said they experienced at least one ACE, while nineteen percent said they experienced more than four. The study showed that ACES were a significant indicator of drinking alcohol at a young age. Some ACES were more prevalent than others. The 3.2 percent of adults that experienced sexual abuse said they tried alcohol before the age of 14 (Rothman et al, 2008). *Appendix B* shows the relationship between ACEs, age groups, and alcohol use.

Mental health is also another indicator that may lead to early alcohol and illicit drug use. Conway and colleagues (2016) investigated whether mental health disorders increase the risk for alcohol and illicit drug use by analyzing data from the National Comorbidity Survey–Adolescent Supplement (NCS-A) and conducting interviews using the Composite International Diagnostic Interview with 10,123 participants between the ages of 13 and 18. The study concluded that there was a relationship between substance use and mental disorders. According to the findings of the study by Conway and colleagues (2016), approximately 17.3% to 20% of youths with anxiety disorders reported having a history of alcohol or drug abuse. Similarly, 15.5% to 24% of youths with behavior disorders reported a history of alcohol or drug abuse.

Community Factors

The community is another important factor when it comes to substance abuse prevention. Nationwide there has been a shortage of beds for alcohol and drug treatment facilities. The national average is 32 providers for every 1,000 adults experiencing addiction (Vestal,2015). The lack of substance abuse providers may be due to various problems, including inadequate compensation for providers and inability for the field to keep up with demand. In the United States, 23 million people have substance abuse disorders, but, "only 11 percent receive treatment at a specialty facility" (Vestal,2015).

Mental health resources are important resources communities should have when attempting to prevent drug or alcohol use. A lack of mental health resources can lead to the use of alcohol and drugs as a coping mechanism (Conway et al., 2016). Iowa currently does not have adequate mental health treatment facilities. The state of Iowa has around 566 staffed beds and

should have around 1,205 beds given the population of Iowa (Carpenter, 2023). Specifically for children, Iowa should have 416 beds but has 215 staffed beds (Carpenter,2023). *Appendix C* shows the inpatient psychiatric bed program for specific counties in Iowa.

Vaping has become very popular in the United States, with many companies distributing and marketing vapes specifically to youth populations. Mantley and colleagues (2016) examined which specific forms of e-cigarette marketing had a significant impact on youth consumption, formats studied included: the internet, print, retail, tv, and movies. The population studied was middle school and high school-aged students. The findings showed that very similar to tobacco marketing, "exposure to e-cigarette marketing from all channels is significantly associated with increased likelihood of adolescents' e-cigarette use" (Mantley et al., 2016).

Finally, there is a relationship between poverty and substance abuse. In low-income rural areas there is more alcohol use among 12 to 20-year-olds than in larger urban areas; with a 29.8% rate of alcohol use in low-income rural areas compared to a 28.1% rate in larger urban areas (RHIhub, 2020). Worry and stress about affording basic needs may lead to using alcohol or drugs as a temporary escape (St. Joseph Institute, 2018). More poverty in an area can also decrease healthcare access within a community. Even in communities with adequate healthcare facilities, the associated costs can pose a barrier to treatment, particularly to uninsured people.

Prevention

Parental

There are many solutions to preventing drug and alcohol abuse among youth. Parent involvement has a lot to do with youth drug prevention. Montoya and colleagues (2001) discuss that "good parenting includes teaching children life-skills, monitoring their activities, understanding their concerns, and getting to know their friends" (Montoya et al., 2001). Pierre and colleagues (1997) looked at different three-year programs that involved drug prevention for high-risk early adolescents. One program includes parental involvement and another program had no parental involvement, and a control group with just no program. Pierre and colleagues study showed positive effects for the drug program with parental involvement (Pierre et al., 1997). Adolescents were more likely to refuse alcohol, marijuana, and cigarettes when parents participated in drug prevention programs, however, the supports that the program with no parental involvement yields more positive effects than no program at all.

The way parents communicate with children is critical in prevention. Parents are likely the first to talk to their children about drugs (Kelly et al., 2002). A study by Kelly and colleagues (2002) analyzed over 80,000 7th-12th graders' answers to a substance abuse survey. The analysis concluded that parents significantly influence drug involvement (Kelly et al., 2002). Children were more likely to do drugs when there was an absence of parental influence and dialogue on drug use. There were differences when it came to the parent and child discussions: 74 percent of

adolescents mentioned the danger of alcohol, 72 percent mentioned getting drunk, and 67 percent mentioned the danger of marijuana (Kelly et al., 2002). The analysis also showed that the more perceived parental sanctions, the less drug involvement the child would have.

As stated, parents have a significant influence on a child when it comes to drug and alcohol use. Good relationships are essential when it comes to this. Brook and colleagues (2001) mentioned the term parental child-rearing practices, a warm and positive bond between the parent and child. Parental child-rearing practices increase the likelihood of youth substance use. A history of family drug use and high drug availability are also additional factors that contribute to increased probability that a youth will at least try substances (Brook et al., 2001

Successful Program Characteristics

Drug prevention programs for young people have existed for a long time. Some programs work better than others. Substance prevention programs involve the community, schools, and parental involvement. There is no perfect program, and many programs still need more research to determine effectiveness (Midford, 2010). However, there are key characteristics that make a successful prevention program, which include, parental involvement, skills training and normative education, advocacy for changes in laws and policies, addressing peer influence, and creating media campaigns, (Montoya et al.,2003).

Parental involvement in programs is beneficial in reducing drug use among youth. Montoya and colleagues (2001) explained that "students whose parents attended evening prevention sessions had the lowest rates of tobacco use" (Montoya et al., 2001). Another characteristic is skills training and normative education. Giving children and adolescents the skills to resist drugs is essential. Resistance skills are "very beneficial that helps reduce drug use" (Montoya et al., 2001). Laws and policies also make prevention programs successful, such as, increasing the legal age for smoking and drinking, which decreases the ease in which youth can access illicit substances. The success of substance use prevention programs in schools and communities is greatly influenced by school policies. Since students spend most of their time in school, policies related to deterrence, remediation, and punishment regarding substance use play a vital role in the effectiveness of such programs. Montoya and colleagues (2001) suggest that although incorporating all these elements into substance prevention programs may not always be feasible, it is essential in creating drug-free environments.

Peer influence is another critical characteristic that makes a successful prevention program. Montoya and colleagues mentioned that teens "best friends' drinking behavior were the strongest predictors of alcohol use" (Montoya et al., 2001), and it is important to incorporate peer-driven drug prevention strategies into programs. Media is another characteristic of a successful program. Using media campaigns as a way to convey the risks of substance use or act as an intervening factor in use among youth is important to the success of any program. Lastly, a

successful program must be able to retain participants. Retaining participants is important for programs, and it helps reduce drug use among participants (Montoya et al., 2001).

Community

Communities have a significant responsibility when it comes to the prevention of drug and alcohol use in youth. Leaders and people living in the community play an essential role in prevention. The program Communities Mobilizing for Changes on Alcohol is a program that is used in communities to reinforce penalties for sellers of alcohol. Establishments are checking IDs more often because they are worried about getting fined. Minors also report that it is difficult to buy alcohol from these establishments when the reinforcement is in effect (Wagner et al., 2000).

A study done by Holder and colleagues (2000) looked at community intervention and alcohol consumption. When the community participated in more media campaigns, trained alcohol sellers, and more strictly enforces the rules, the community had less risky behavior, including a 49 percent reduction in drunk driving and a 43 percent reduction in first aid incidents due to drinking (Holder et al., 2000).

The more mental health facilities in a community, the less drug use. The United States is facing a shortage of mental health services that is not keeping pace with current trends. When waiting for mental health services, over 38 percent of Americans have waited for over a week to access mental health treatments (Majlessi, 2022). There are limited options when it comes to mental health in some parts of The United States, approximatley 46 percent of people have reported driving more than an hour to seek treatment (Majlessi, 2022).

Communities that offer activities for youth or after-school programs tend to do well when preventing risky behavior. An after-school program evaluation determined that children involved with the program were "30 percent less likely to participate in criminal activities than their peers who do not attend the program" (After-school Alliance). Youth who participated improved their social skills, self-confidence, and reported that they felt safer (After-school Alliance).

Despite the many approaches and solutions to substance use prevention presented in this literature review, the consensus among practitioners is that there is no one solution for the prevention of drug and alcohol use with youths. Therefore, a combination approach of, family, school programming, and community involvement is needed to be successful in youth drug prevention. According to Montoya and colleagues (2019), with the proper support and communication, this can be done.

GIS Analysis: a look at the locations of liquor and vape outlets

Several stakeholders expressed concerns about the location and density of liquor and vape outlets within the city. Using 2021 American Community Survey data from NHGIS, our team created a map showing the location of liquor and vape outlets in relation to schools and vulnerable neighborhoods, proxied by using the percentage of individuals within the neighborhood who receive SNAP benefits. The map includes the location of liquor and vape outlets, the percentage of people receiving SNAP benefits in each block group, and the location of schools with a 1000-foot buffer zone around each school.
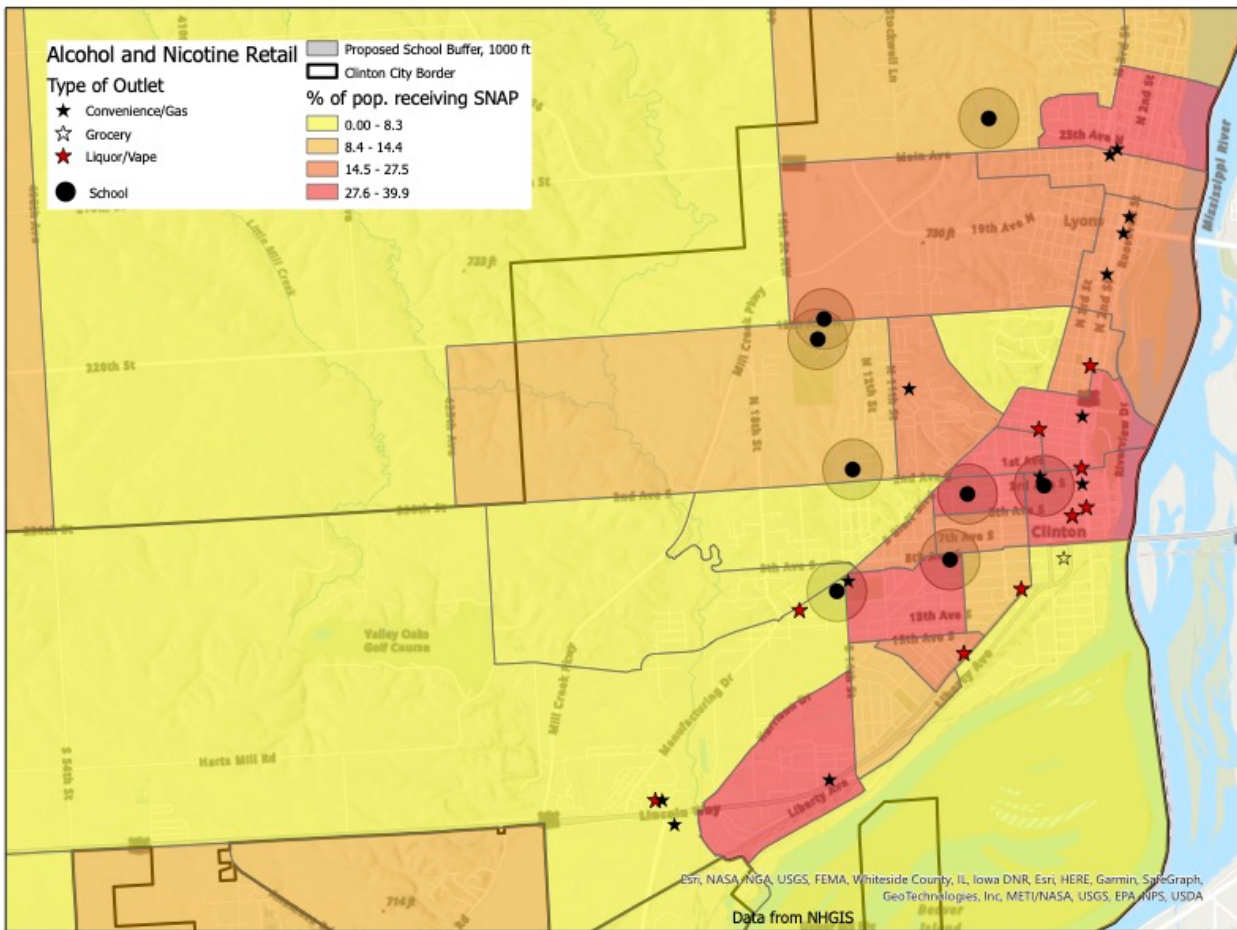
One concerning block group is located in the downtown Clinton area. This area has both the highest density of liquor and vape outlets and is in the highest quartile of the percentage of residents receiving SNAP benefits—between 24.2 and 39.4 percent of residents receive benefits. There is also a school located within this block group. While this level of density may simply be due to the downtown location, it is still worth watching the density and locations of liquor and nicotine outlets in this area.

Another concerning pattern is that most of the block groups with higher-than-average liquor and vape outlet densities also have higher-than-average rates of SNAP recipients. This is particularly apparent in the northeastern part of the city along the river.

Studies show that youth proximity to alcohol outlets and liquor stores are associated with heavy drinking. Alcohol outlets located within 0.1, 0.25, and 0.5 miles of schools and youth dwellings are associated with a higher risk of drinking and binge drinking (Shih et al. 2015). Buffer zones have been shown to effectively create a barrier between youth and substances such as alcohol and nicotine. These zones limit access to substances and are most effective when there is a separation of at least 1,000 feet between youth facilities, schools, and neighborhoods from liquor and nicotine outlets (Chen et al, 2010).

An action guide developed by the Community Anti-Drug Coalitions of America recommends limiting alcohol outlet density through the use of regulatory authority such as licensing and zoning (CADCA). The authors of this report agree—Clinton should prohibit new liquor and nicotine outlets from opening within 1000 feet of schools. Outlets currently within these buffer zones may be grandfathered in and allowed to remain in operation.

Additionally, several states place restrictions on tobacco and e-cigarette advertising within a certain distance of schools, churches, and other community areas (American Lung Association). Clinton should follow the lead of states like New York, California, Colorado, Kentucky, Texas, and Delaware by prohibiting nicotine products to be advertised on billboards or other exterior signs within 1000 feet of schools. While these examples are states, local government also has the power to prohibit outdoor advertising of nicotine products, granted by the 2009 Family Smoking Prevention & Tobacco Control Act (Restricting Tobacco Advertising).

Comparison of Recommendations

Recommendation	Effectiveness	Cost	Feasibility
Prohibit alcohol and nicotine outlets within 1000 feet of schools	Effective by creating a barrier between kids and alcohol or nicotine substances	Low cost because it is a restriction, not a new program	Less feasible due to concerns about personal freedom and the grocery lobby. Allowing current outlets to remain grandfathered in may increase feasibility.
Prohibit nicotine products from being advertised on billboards or exterior signs within 1000 feet of schools	May be effective in delaying first use of nicotine products	Low cost because it is a restriction, not a new program	May cause pushback from grocery lobby. Should not face pushback from state government.

Improving City Messaging:

Based on informal interviews, literature, and tours of Clinton, empirical evidence shows that Clinton is in need of more messaging regarding youth substance prevention. Community members and practitioners voiced statements such as; "I don't believe the city does anything" or "there is a major disconnect with the city."

Montoya and colleagues (2003) suggest media campaigns help make youth substance prevention programs successful. Currently in Clinton, Iowa there is an oversaturation of vape and alcohol advertisements, and not much of a focus on substance use prevention messaging in the community. Mantey and colleagues (2016) said that with exposure to any form of marketing, specifically with vaping, there is more likelihood for early use.

Peer influence significantly contributes to alcohol and drug use (Ramirez et al., 2013). Montoya and colleagues (2003) suggest that the use of peer influence be considered when creating effective media campaigns. Literature shows peer influence particularly impacts young people doing drugs, especially if they see each other do it (Struik, 2020). According to Kristin Huisenga of CSAC, many students in schools have mentioned seeing their peers do drugs before. It is important to intervene before that happens. Additionally, media campaigns that utilize peers in the community may be very influential, as students have a high level of suggestibility when it comes from peers and friends. We recommend four suggestions for Clinton (1). implementation of city media campaigns; (2). progression of a student advocacy board; (3) updating Camanche-

DeWitt Coalition's social media and website so that people can receive up to date information; (4). and evaluating all substance use prevent events and programs within Clinton, in order to evaluate effectiveness.

Media Campaigns

Collaboration across Clinton will allow the city to effectively get messaging on substance use to youth within the community. Examples of city messaging include advertising the coalition's initiatives to prevent youth from doing drugs. Advertisements can be placed in popular areas like the main public library, public schools, parks, or specific restaurants/establishments that allow them.

When thinking of a media campaign it is important to keep a few things in mind:

- Understand your target audience: Think about age-range.
- Develop a clear and compelling message: Show statistics and research to support your message.
- Choose a medium of communication: Television, Radio, Internet, social media, Paper.
- Choose a media platform: Schools, Hospitals, Churches, Bus stops Private or Public facilities, or both.
- Involve youth in the campaign: Staying current, focus groups, getting youth input.
- Measure how effectiveness: This could be done with surveys and could be helpful to see if anything needs to be changed. Should be measuring participation levels overtime, youth knowledge of substances pre and post campaign, and youth substance rates pre and post campaign.

In New York City there is a media campaign called "Know the Facts," in 2018 this campaign used many media platforms to provide information about healthy decision making and the risk of drug use (Know the Facts, n.d.). The campaign offers printouts for establishments or public entities to distribute and advertise. These media campaigns can be altered to specifically target children or adults. The images below are examples of advertisements that "Know the facts" campaign has used (Know the Facts, n.d.).

Partnerships among the city and different sectors within the community can help further messaging. A partnership between the city and local churches to advertise substance prevention messaging to youth may be successful. In a partnership a council member, Kristen Huisenga, CSAC president, or a member of the Camanche-DeWitt Coalition may visit a church once a month and speak about substance use within the community, advertise prevention programming in Clinton, and provide resources for those struggling. This model could be replicated in different establishments across the city that are willing to partner on substance prevention messaging.

The use of influencers to spread important messages within communities is a new trend, but also an important trend. Cities should identify who is influential in their community, who can appeal to the youth, and who has a credible reputation in the town. Influencers may be a student that is highly trusted and revered by their fellow peers, or it could look like pastors, popular establishment leaders in the community, and local public officials. It may be official to have the community recommend influencers through a survey that is widely distributed. Influencers will advertise what is happening in the community surrounding substance use and drug prevention and share resources that could benefit the community.

Another recommendation is that Clinton use texting to inform citizens about different resources. Cities like San Antonio, Tulsa, and Dayton have utilized these specific messaging formats to help spread different information (Cities, 2019). While the City of Clinton already has text messaging alerts to notify the public of garbage delays, City Hall closures, and/or weather events, the city could utilize texting as a way to spread substance use resources, media campaigns, and promote prevention initiatives. Anchorage, Alaska has utilized this messaging service to share specific resources and help residents register for SNAP (Cities, 2019). It is suggested that the City of Clinton to use this messaging service to share resources concerning youth substance prevention as much as possible. Cities and organizations that Clinton should model text messages after include the City of San Antonio and the Food Bank of Alaska. Clinton may also consider reaching out to these cities to see learn more about their resources (Cities, 2019) . The City of San Antonio also has different ways they utilize their texting services and there is much that Clinton can implement by seeing what they are doing: https://www.sanantonio.gov/SAPD/Press-Releases/ArtMID/7184/ArticleID/20968/San-Antonio-Police-Department-Launches-Community-Notifications-Text-Messaging-System
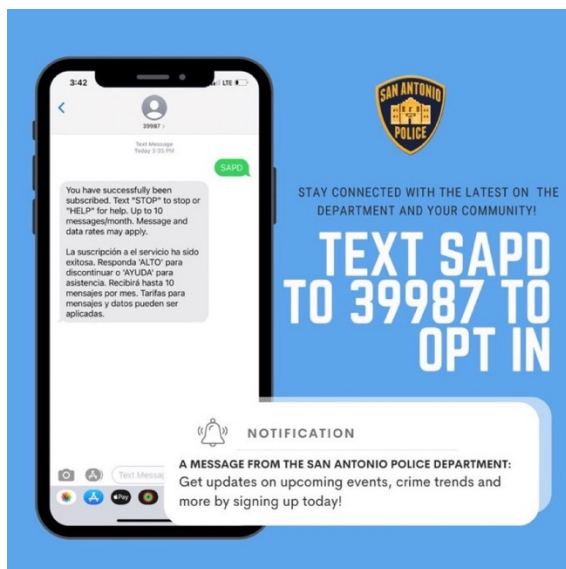
Student Advocacy

Including a student on the city council when discussing youth drug prevention is important, as they are the one of the most impacted stakeholders from prevention strategies. Adding student voices will help them become more civically engaged and gain the knowledge and skills to make a difference in the Clinton community. As part of their city code, the City of Edmonds in Washington mandates the appointment of a high school student to their city board or commission for a year. Although this position does not hold voting power, the student is given a voice on the board and is included in discussions. To increase interaction between the council and administrators in Clinton, it is suggested that a similar approach be implemented.

Clinton currently has a Mayor's Youth Commission, but it is encouraged that there is more of a focus on projects regarding drug prevention. Similarly, in Arlington, Washington, a youth council that includes high school students in grades 8th – 12th discuss issues relating to the youth. The Washington youth council presents to health districts about drug and vaping education for middle schoolers. Clinton youth may also be able to give presentations to important stakeholders on youth prevention initiatives in schools as well.

Update social media and Website

The Camanche-DeWitt Coalition must improve their social media presence and website. Improving their social media presence will allow Clinton community members to stay better informed about upcoming events and programming, and may increase overall participation rates. We recommend a full website update. (See Illinois Website as an example of a concise, consolidated, and purpose-driven website https://www.prevention.org/yprc/substance-misuse/). It is recommended that some of the links on the website be updated to ensure they direct users to the correct areas. In addition, the website should be made more accessible to the Clinton community, making it easier for users to find the right resources when seeking information. To achieve this, the city could consider seeking professional help with web design, for example, services such as those provided by SquareSpace .

Camanche-DeWitt Coalition's social media is another communication medium that needs to be updated. Different cities use social media very well, which could be used as an example. Downtown Carrollton in Texas has an excellent social media account with featured events utilizing every feature. While Twitter may not be as useful in this regard, considering a major update on Facebook and Instagram is recommended. Proper social media helps with reaching specific populations, specifically young people. If it's possible to hire an intern to oversee this that will be very beneficial.

Evaluating Events

Evaluation of programs and events with the purpose of reducing or preventing youth substance use should be evaluate for effectiveness. Events can be evaluated by the CSAC president Kristin Huisenga or members of her staff. Evaluation of events should help determine whether the event met the goals of the organization, if the event should be done again, and if any changes should be made in to the event in the future. Evaluation could be done by collecting feedback through surveys. Google survey forms are easy to use and accessible my many. Many cities like Green Bay and Wisconsin use an iPad or QR codes for people to scan on their phones after an event is done to see how it went. An example of an event feedback form can look like this:

- Overall, did you find this event beneficial when it comes to drug prevention?
    - (Not at all to very beneficial 1-4)
- Would you recommend a similar event to a friend?
    - Yes
    - Maybe
    - No
- Any suggestions for future event topics? (Written)
- How did you hear about this event? (Written)
- Any final comments?

Depending on the event, these questions could change. However, in order to evaluate the effectiveness of city messaging it is important to know how Clinton community members are hearing about events.

Recommendations for funding sources

The Opioid Affected Youth Initiative is recommended for Clinton, Iowa, to apply for funding. The Office of Juvenile Justice and Delinquency Prevention would be the one funding this specific grant. This funding aims to fund services and programs that have to do with opioid and other substance misuses that impacts youths and communities. To qualify for this specific funding, the applicant will have to propose a project or program that aligns with the mission of the Office of Juvenile Justice and Delinquency Prevention. For Clinton, Iowa, this might be helping enhance youth outcomes and strengthen neighborhoods. The applicant will also have to explain the youth and family partnerships within the agency level, system level, or individual level. In the Clinton, Iowa community this could look like with policy or practice, the Camanche-DeWitt Coalition. The link and more details of this grant could be found on: https://ojjdp.ojp.gov/funding/opportunities/o-ojjdp-2023-171693

Comparison of Recommendations

Goals	Impact	Text Messaging	Student Advocacy	Update social media websites
Effectiveness	Community Level	High: Using mass text messages is one of the most effective ways to reach a large diverse population of people.	Medium: students are the most knowledgeable stakeholders about what is going on with their peers, "peer-influence" also means they may have the most ability to convince their peers not to use substances.	Medium: Have up-to-date easy to use websites, can significantly increase community involvement and participation in events.
Equity	Community Level	Medium: People without phones and Wi-Fi may not have access to community texts. In order to be equitable texts should be translated to different languages, and information from texts should be available in other mediums.	High: students from all different backgrounds should be represented on the advocacy board. The more diversity students see on advocacy boards the more likely they are to feel represented and ask for help.	Medium: People of all demographics can access websites through computers at public libraries, schools, and in their personal homes, making this one of the most accessible forms of communication, as long as it is translated into different languages.
Cost	City	Low: Cost should be low as the city already has a city-wide messaging service; this recommendation just asks city	Medium: low, creating as student advocacy board should not cost any money. A minimal amount of money will	High: Updating the website will require time to update the computer, expertise and training to update the computer, and the creation of

		representatives to use it in more ways.	need to be budgeted for projects and presentations that the board completes.	position for someone to monitor the website and continually make updates for the website. An intern may be hired, but the time taken to train and supervise the interns will take productivity away from other paid employees.
Feasibility	Community Wide	High: City-wide text messaging is already used in Clinton, and many people have stated that they would like to see more effort from the community on city messaging.	High: Clinton already has a student advocacy board, we just recommend that more time be invested into allowing students to participate in media campaigns, city council meetings, and educational and normative training.	High: The need for updated websites is important, as many of these organizations only update their websites annually.

Increasing Parental Participation

One issue facing the Clinton Substance Abuse Council (CSAC) is low parental involvement in youth drug prevention initiatives. As the Camanche-DeWitt Coalition's website states, "Teens who consistently learn about the risks of drugs from their parents are up to 50% less likely to use drugs than those who don't." For this reason, parental involvement and conversation preparation regarding teen drug use/experimentation is integral to the healthy and positive development of youth in the Clinton community.

Program Evaluation Findings:

To gain a better understanding of current resources available to parents in the Clinton community, we conducted an online program evaluation acting as a parent attempting to talk with my child about drug and alcohol use. Between CSAC's Gateway ImpACT Coalition's website and the Camanche-DeWitt Coalition's website, there were quite a few handouts available for tips and tricks to communicate the dangers of experimentation and habitual drug use for a variety of age groups. Furthermore, there was trainings available for parents of youth to learn from professionals in the area about the latest resources, best practices for conversing with your child, and empowering youth to stay healthy and drug free.

Unfortunately, many of these resources were difficult to navigate. For example, the Gateway ImpACT Coalition exhibits many initiatives ranging from underage drinking and youth marijuana use to prescription medication misuse, though the actual website pages only contain the Gateway ImpACT Coalition's Position Statements which include "increas[ing] parental capacity to address underage drinking with their children" and "educat[ing] youth, parents, schools, and communities on the negative effects of youth marijuana use," though actual resources on how to have conversations with youth about these topics are only found under the "Hidden in Plain Sight" page. Additionally, the prescription medication misuse tab has information on pill disposal locations but may need to be updated with more pertinent parental-youth discussion information.

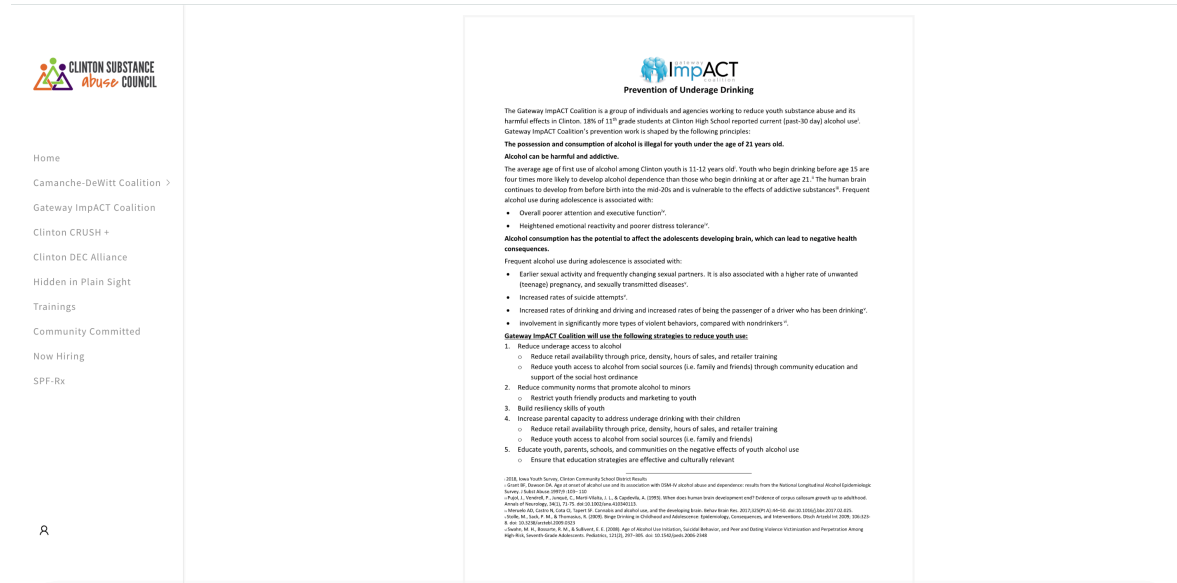Image 2: See CSAC ImpACT Coalition's position statement to the prevention of underage drinking in the Clinton Community.

Other resource pages include the "Hidden in Plain Sight" page which contains the bulk of the parental resources and information. Unfortunately, if parents are unfamiliar with the "Hidden in Plain Sight" program, they may overlook these valuable resources. Other barriers to the

"Hidden in Plain Sight" experience are that parents must access this resource in person or in small groups according to the website.
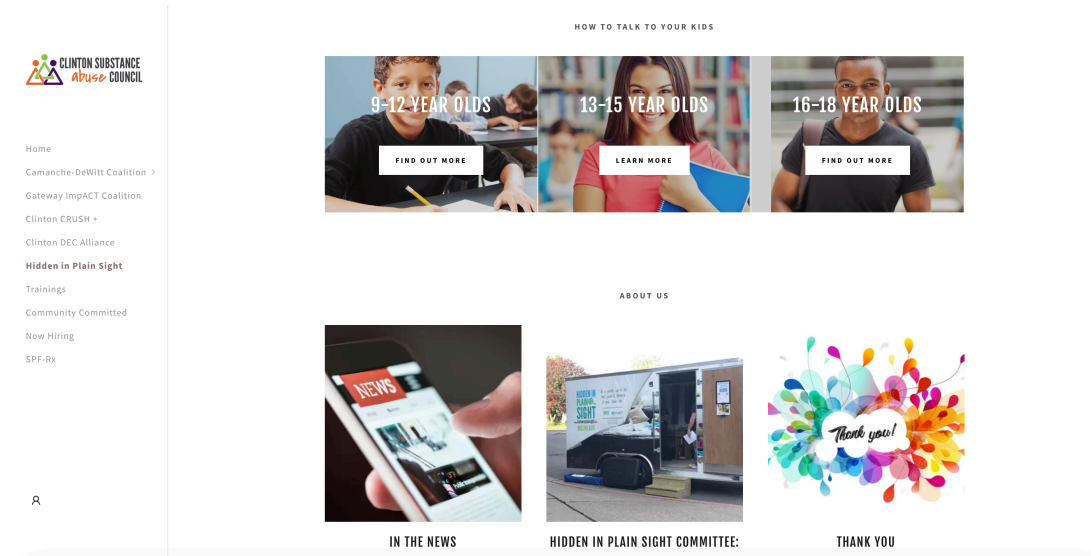
Image 3: See Hidden in Plain Sight tab and parent-youth conversation resources.

Additionally, the "Trainings/Meetings" tab on CSAC's website has not been updated since Summer 2022 nor have the options for parental guidance. While the Parent's Night Out training seems very educationally sound, recruitment will likely continue to be difficult until updates are made to the website. While historic meeting times have been flexible (weekdays at lunchtime and in the evening), they have frequently been held online which makes community bonding and development more difficult, also creating a challenge around offering in-person incentives.

Current recruitment strategies for parent trainings include the CSAC website, CSAC Facebook page, and the Clinton Community School District media page, though this has not been updated since 2018. According to, CSAC Executive Director, Kristin Huisenga, other forms of announcements include "normal school channels" which include calendar notices and school announcements, though this would not have been apparent from the CSAC or Clinton Community School District websites.

Recommendations:

Parental involvement in youth drug prevention initiatives is a prevalent issue among youth drug preventionists. The following resources and findings may help combat recruitment struggles within youth drug prevention and mental health topics (including substance use disorder).

According to a study conducted at 16 Boys and Girls Clubs across the nation, in "severely distressed neighborhoods," researchers found the following recommendations to be beneficial in recruiting parents to youth drug prevention activities (St. Pierre):

- "Identify the Right Person to Lead the Program"
  - Kristin Huisenga, at the helm of CSAC, is clearly the right person to lead prevention initiatives. With years of service in substance use prevention and similar identities to the demographics of Clinton, Kristin is a qualified leader for this initiative.
- "Clearly Convey the Purpose of the Program"
  - According to our program evaluation, the purpose of CSAC's training and programs are well defined on their website. Parents and community members know what to expect from each training course and what information they will attain.
- "Build Relationships of Mutual Trust, Respect, and Equality"
  - Currently CSAC builds relationships through their reputation. After speaking with Kristin, using science and facts is at the forefront of all relationship-building the organization does. Furthermore, having a friendly and transparent staff, distributing resources, and sparking interest in the topic through conversations with parents and students all help to build relationships of trust, respect, and equality.
- "Create Parent Ownership and Group Bonding"
  - Creating parent ownership and group bonding is an area of growth for CSAC. Executive director, Kristin Huisenga, says that because of the delicate subject matter of prevention topics, creating parent ownership can be difficult because rumors can begin if a parent is too invested, others may think their child is using.
- "Provide Easy Access, Incentives, and Reminders"
  - This is something that CSAC has done historically, by providing food and childcare as resources and incentives at parent trainings. It may be possible to incentivize community partners to donate restaurant gift cards to raffle off, showing both community investment in the topic, and giving parents incentives to attend.

The recommendations brought upon by this article include distributing a monthly calendar of events to parents, telephoning, or sending a personalized email to parents that attended or registered for the program and didn't attend and using food or refreshments as an incentive at trainings. Gaining corporate community sponsors may be a way to incentivize parents to attend training and school resource nights, by raffling off local restaurant gift cards or donating food to in-person events.

Additionally, the University of Wisconsin developed the following tips to aid in parental recruitment, particularly surrounding youth juvenile delinquency prevention. However, given the similarities among prevention difficulties for both programs, these tips also pertain to youth drug prevention. Tips include (Cooney et al.):

- "Link the program to a trusted and respected institution or individual already known to potential participants."

    o CSAC Executive Director, Kristin Huisenga, said that this has been a successful practice historically for the organization. At one point in time, a strategic parent outreach coordinator focused on community outreach through local channels and was successful though the position was dissolved. It may be beneficial for CSAC to look at hiring an intern or AmeriCorps member to develop strategic recruitment practices again.

- "Strategically choose the site where the program will be held."

    o According to our evaluation, most workshops are being held either at local schools or online which provide parents with multiple opportunities to attend in a centralized or accessible location.

- "Be flexible in scheduling."

    o From our evaluation, CSAC currently does a good job being flexible in scheduling practices. Historically training has taken place on days when school is not in session, during the lunch hour, and on evenings throughout the week.

- "Make frequent contact. Between face-to-face meetings, retention can be increased by staying in touch by mail, e-mail, or phone."

    o According to our conversation with CSAC Executive Director, Kristin Huisenga, this was another aspect of the parent outreach coordinator's position. It is our recommendation that CSAC look to reinstate this position or an internship program that fills this need.

- "Help potential participants to see the program as worthwhile by framing program participation as "health promotion" or "positive youth development" rather than focusing on reducing negative outcomes."

    o Current advertisement "works to develop solutions to community problems that are related to substance abuse issues," as stated in the organizations mission. It may be beneficial for CSAC to rebrand their efforts as "health promotion" or "positive youth development" instead of focusing so much on deterrence.

One area where CSAC stands to improve is in their website management. According to Forbes, the below practices are recommended when it comes to maintaining a positive web presence:

- "Address customers' most important needs."

    o Most "customers" are likely going to be Clinton parents seeking resources for their children. By putting parent resources at the forefront of the website or having "Parent Information" as its own tab, customers' needs are more quickly addressed when they can find the information they are looking for with ease.

- "Update it constantly."

    o Currently the CSAC website is updated annually. Having the website updated on a more frequent basis may help to keep community members more engaged.

- "Add video content."

    o The Camanche-DeWitt Coalition does an excellent job of incorporating video content into their parent resources. CSAC may think about developing video content for accessibility purposes and ease of use.

Image 4: Camanche-DeWitt Parent Info/Resources page utilizes videos on webpage.

Comparison of Recommendations:

Goals	Impact	Update CSAC Website	Offer Incentives at trainings meetings	Personalize invitations and "thank you".
Effectiveness	CSAC/ Community level	Medium: Updating the website will provide more current and up-to-date information. A more navigable website will also make it easier for parents to access resources.	Medium: Offering incentives may attract different groups of parents and family members, specifically groups that are not already attending events.	Low: Personalized invitations would be time intensive, and may only be affective in attracting parents who already attend meetings.
Equity	Community Level	High: Making the webpage more navigable and more up-to-date will eliminate information asymmetries, and make CSAC's information more accessible to the general population.	High: Incentives like free child care during meetings, food, and transportation may allow families and parents for whom these are barriers to access meetings.	Low: Personalized invitations and "thank you" will have little to no effect on equity.
Cost	CSAC	Medium: Frequently updating the web-page will be a time-costly task, and may require hiring a part-time person to be in charge of web-page development and social media. Hiring an un-paid intern or AmeriCorps person	Medium: Offering incentives will cost money, and may be time-intensive to plan and organize different events. Partnering with local companies and sponsors to provide incentives like gift cards, food, and even transportation may	Low: Sending out personal invitations and "thank you", may be cost-timely, but will be low cost. Having an unpaid volunteer send out personalized letters may help offset time and financial costs.

		may help offset some of the costs.	help offset some costs.	
Feasibility	CSAC/ Community Level	High: This is highly feasible, as the website is one of the first impression that CSAC leaves on community members and outside community members, therefore keeping it updated should be a top priority.	High: Many parents and family members would benefit from community and family events with incentives. These events could be more than just CSAC trainings, but an opportunity to build a stronger sense of community.	Medium: This may not be the most effective use of CSAC time or resources, but has no overarching negative implications for the community, and is likely to be well-received by those receiving cards.

Preventing E-Cigarette Use in Schools:

The use of e-cigarettes is on the rise in the United States and Iowa. In 2019, 32.7% of high school students in the United States and 20.1% of high school students in Iowa reported e-cigarette use at least once in the past 30 days (Truth Initiative, 2023). High rates of e-cigarette use are also prevalent in Clinton, Iowa. According to the 2021 Iowa youth survey, 22% of 11th graders in Clinton County, reported using e-cigarettes. The sample population of 11th graders to measure rates of e-cigarette use is used because 11th grade is where the highest rates of substance use are observed within Clinton, County (IDPH, 2021). Therefore, prevention programs and initiatives should be primarily focused on grades below 11th grade to prevent the use of e-cigarettes by 11th grade.

Current State of the Issue:

Clinton public schools are currently implementing policies and programs to deter and prevent e-cigarette use within schools. Botvin is an evidenced-based training program, being utilized in Clinton Public Schools, to teach students resilience and help parents guide their students in overcoming challenges instead of turning towards substances as a coping mechanism.

In addition to Botvin's life skills, upon visiting Clinton Middle Schools we were able to see other policies that were being implemented to prevent or deter students from e-cigarettes. First and second offenses of e-cigarette use are punishable by five and seven-day suspension,

students have the option to shorten the length of their suspension period by taking a Life Connections screening test free of charge, upon completion of the screening administrators will use the results to determine if recommendations for further substance-use treatment programming is necessary (Clinton Community Schools, 2022).

More policies being implemented by the middle school include the placement of trashcans outside of restrooms, the purpose is to identify students on camera who try to dispose of e-cigarettes in school, so they can be connected with the proper resources. Electronic hall passes are also implemented in the school to monitor the number of students and which students are using the bathroom on the way, this helps staff monitor the behavior patterns of students and limits the ability for students to meet up during class and vape. Already being implemented at the high school level, the middle school will also be installing vape detectors in bathrooms that will notify staff when a student is using electronic cigarettes.

The policies being implemented in Clinton public schools are meant to deter and prevent electronic cigarette use. With many of the policies being new, and the limited ability to monitor student behaviors off of school premises, this report aims to review the existing policies and make recommendations based on the findings.

Review of Current Policies

Botvin Life Skills:

According to the University of Colorado Boulder Center for the Study and Prevention of Violence study in 2020, when life skills training is implemented at the middle school level it led to an 87% reduction in Tobacco, 60% reduction in alcohol, and 75% reduction in marijuana use (Center for the study and Prevention of Violence, 2020). Botvin life-skills training is an evidence-based program that has been shown to address the behaviors, personality traits, and additionally, cognitive risk factors that contribute to the use of substance abuse among youth, and can be a critical tool in preventing first use (Center for the Study and Prevention of Violence, 2020). According to the Washington State Institute for Public Policy, it is estimated that for every dollar invested in life skills training at the middle school level, there is a 7.88 dollar return on that investment (Center for the Study and Prevention of Violence, 2020). Botvin is a widely used and recommended resource, and the earlier age it is implemented the more effective it is as a prevention tool.

Suspension & Life Connections:

The use of suspension to deter or prevent students from engaging in behaviors that may be harmful to them is often counterproductive. Studies show that students who receive one or more suspensions a year have an increased likelihood of using drugs and alcohol, experiencing mental health problems, and engaging in antisocial behaviors (Minnesota Department of Health, 2023). A study from UCLA' shows how suspension can affect student retention. In the United States, only 71% of Sophomores were suspended at least once during the 2001-2002 school two years later, compared to 94% of their counterparts who were never suspended (Kamenetz, 2016). The correlation between suspensions and substance abuse, mental health issues, and increased risk of dropping out indicates that this tool may exacerbate many of the issues that suspensions were intended to address in the first place.

Instead of suspension, replacing suspension with non-exclusionary consequences like life connections is proven to be more positive and effective. A study of schools in North Carolina on the effects of using Positive Behavior Intervention and Support (PBIS) as an alternative to suspension yielded positive results. Schools using the PBIS model have lower out-of-school suspension rates, higher academic performance, and a decrease in office referrals compared to schools that did not use the PBIS model. PBIS utilizes strategies based on behavioral psychology and requires the involvement of all staff throughout the school. Through PBIS students are specifically taught how to meet clearly outlined behavior expectations, and students who need extra support to meet these expectations are given intensive strategies. Strategies are discussed by a team of qualified and trained educators, family members, and community members in order to develop a plan for implementation within the school (Owen et. al., 2015).

Trash Cans & Vape Detectors

While many schools have implemented placing trashcans outside of bathrooms to deter student vaping and vape detectors in bathrooms, there is limited literature on the effectiveness of these tools in decreasing and preventing youth e-cigarette rates. While vape detectors may be beneficial in curbing youth vaping rates, there are many ways that the technology can fail by detecting false vapor, students may be able to find different places other than bathrooms in the school to vape, and students can find ways to dissipate the smoke before it reaches the sensor. Additionally controlling student behavior at school is not the same as changing student behaviors according to Bonnie Halpern-Felsher, a psychologist a Stanford (Harrison, 2019). Students may still engage in vaping and smoking outside of school even if they are not doing it in school. Therefore, we caution the Clinton Community School district not to take a decreased number of vapes in a trash can or the lack of vape detectors being triggered as an indicator that the problem has disappeared, instead administrators and staff should be vigilant in understanding the tools and strategies youth will devise and engage in to work around new policies and prevention tools.

Recommendations:

Botvin Life Skills:

In order to maximize the effectiveness of Botvin Life Skills as a prevention mechanism, we recommend implementing Botvin in elementary school, before first use begins. According to the Iowa Youth Survey e-cigarette use ever in 6th grade is minimal at 1% and that number increases by tenfold at 10% in 8th grade and then reaches 22% by 11th grade (IDPH). These numbers indicate that 5th and 6th grade is the target age to reach students with Botvin life-skills training and prevent them from using e-cigarettes by the time they reach high school.

Biotvin life skills is already implemented at the middle-school and high-school levels, and staff and employees currently trained in Botvin can help train staff and teachers at the elementary level. The current implementation of Botvin at the middle school level will make it easy to implement at the 5th-grade level as it is already accepted by parents and teachers that students will be exposed to this program at some point in their educational career in Clinton Community Schools. The cost per teacher to implement Botvin at the elementary level is 235 dollars which leads to a 1,851 dollar return on investment for the community, in every classroom that it is implemented in. Based on the effectiveness of Botvin we recommend that Clinton Community Schools keep implementing it as it currently is being used, and extend the program to the fourth and fifth-grade levels.

Suspension & Life Connections:

Based on the evidence that suspension does not yield positive outcomes in increasing educational outcomes, mental health outcomes, or substance use outcomes, we recommend completely replacing suspension for first and second e-cigarette offenses with alternative programs like life connections. The estimated social and economic costs of suspension cost the United States 35 billion dollars annually, which trickle down to significant amounts for communities with high suspension rates. Investing in substance abuse counseling services, PBIS strategies, and programs like Life Connections can lead to positive outcomes which will have long-term positive social and economic approaches for the community,programs like PBIS and Life Connections also require little economic investment, as they require more of a time investment from staff, community members, and parents to recognize strategies that will fit their community and then gain the tools necessary to adequate guide and train students in meeting the expectations set out through PBIS.

Trash Cans & Vape Detectors:

Placing trashcans outside of bathrooms has a little economic cost, but there is little evidence to support whether they are effective or not. While we do not recommend the removal of trashcans outside of restrooms, we urge administrators and staff to be vigilant that a decrease in the number of vapes found in trashcans may not correlate to a decrease in the use of e-cigarettes, but instead may be associated with alternative disposal methods by students.

Vape detectors can cause a significant investment for schools, and their ability to malfunction combined with students' ability to avoid them, may not make them the best use of money. We recommend that in conjunction with vape detectors, the Clinton Community school district continue to invest in resources and strategies that change student behaviors and prevent vaping like PBIS, instead of overly investing in deterrence methods like vape detectors and electronic hall passes which are most effective in deterring behaviors within schools but not preventing or changing those behaviors outside the confines of the school or even just the areas where the deterrence tools are implemented.

Comparison of Recommendations

Goals	**Impact**	**Botvin**	**Suspension**	**PBIS**
Effectiveness	Community Level	High: Botvin is an evidenced base program that has been shown to reduce tobacco use by 87%.	Low: studies show suspension increases anti-social behaviors, drug and alcohol use, and the likelihood of dropping out of school.	High: PBIS has been proven to decrease suspensions, increase academic performance, and lower office referrals.
Equity	Students	High: Biotin can be personalized to meet different student needs.	Low: students of color, low-income students, and students with risk factors for substance use are more likely to be suspended, and more likely drop out of school or face other negative effects of suspension.	High: PBIS provides extra support for students who need it, and addresses the behavioral psychology behind student actions instead of punishing them.

Cost	School-wide	Medium: The cost of Botvin training is 235 dollars per instructor, but the return on investment is 7.88 dollars per dollar spent.	High: suspension costs the community thousands of dollars in, lost economic revenue, crime, addiction etc.…	Medium: PBIS requires a high time and administrative cost spent in training staff and developing concrete action plans, but the benefits of decreased suspensions, higher academic achievement, and lower substance use outweigh these costs.
Feasibility	School-Wide	High: Botvin is already implemented at the high school and middle school levels, it is a well-received program that could easily be implemented at the 5th grade level.	Medium: suspension is a current policy, but many families cannot afford for their students to be out of school. Low-income families and working families rely on schools for supervision, structure, and meals.	High: The need for increased psychological support resources at the school level have been voiced by both community and school members. PBIS helps address some of the behavioral and psychological concerns and needs of students.

Discussion:

Based on the comparison of recommendations in each section the final recommendations are as follows:

Part I: GIS Map to identify communities oversaturated with liquor and vape stores

Several stakeholders expressed concerns about the location and density of liquor and vape outlets within the city. Using 2021 American Community Survey data from NHGIS, our team created a map showing the location of liquor and vape outlets with a 1000-foot buffer zone around each school and in vulnerable neighborhoods, proxied by using their share of households receiving SNAP benefits. Studies show that youth proximity to alcohol outlets and liquor stores is associated with heavy drinking (Shih et al. 2015). Buffer zones of at least 1,000 feet have been

shown to effectively create a barrier between youth and substances such as alcohol and nicotine (Chen et al, 2010). Additionally, the Community Anti-Drug Coalitions of America recommends limiting alcohol outlet density through the use of regulatory authority such as licensing and zoning (CADCA). We recommend that the city consider prohibiting future liquor and nicotine outlets within 1000 feet of schools.

Part II: Strategies to increase city messaging on youth substance abuse prevention

We found from our research that the City is in need for an increase in messaging and making it more effective. The strategies we recommend the City to implement include 1/ effective media campaigns that involve youth and citywide collaborations with local churches, community leaders, and influential people; 2/ using text messaging services to share available resources for youth substance prevention; 3/ increase student advocacy, e.g., through the Mayor's Youth Commission; and 4/ increase the Camanche-DeWitt Coalition's social media presence and website.

Part III: Strategies to increase parent participation in prevention initiatives

A lack of parental involvement is a common problem for the City's youth prevention initiatives. Recommendations include 1/ offering food, refreshments or raffling prizes at trainings and parent nights; 2/ sending out invitations for trainings through churches, community centers, youth organizations, schools; 3/ personalizing messaging including invitations for, and "thank yous" following, trainings; 4/ incorporating families and advocates into planning and training initiatives; and 5/ updating the CSAC's website page monthly with training dates and restructuring the homepage to include a parent resource section.

Part IV: Best practice policies for preventing vaping in schools

Studies show that e-cigarette use increases with age and the use of suspension increased likelihood of using drugs and alcohol, experiencing mental health problems, and engaging in antisocial behaviors. We therefore recommend 1/ implementing Botvin life skills in elementary school before first use begins to maximize the effectiveness of Botvin life skills as a prevention mechanism; and 2/ replacing suspension with Life Skills Connection training or Positive Behavior Intervention and Support (PBIS) as these programs will more directly contribute towards changing student relationships and behaviors surrounding vaping than suspension.

Appendix

Appendix. A
Figure 1. Number and percentage of children aged 17 or younger living with at least one parent with a past year substance use disorder, by age group and household composition: annual average, 2009 to 2014

Number of children (millions)	Age group	Percent
8.7 million	Total	12.3
1.5 million	Aged 0 to 2	12.8
1.4 million	Aged 3 to 5	12.1
2.8 million	Aged 6 to 11	11.8
3.0 million	Aged 12 to 17	12.5
	Parents in household	
7.0 million	2 parents	13.9
1.7 million	1 parent	8.4
1.4 million	1 parent (mother)	7.8
344,000	1 parent (father)	11.8
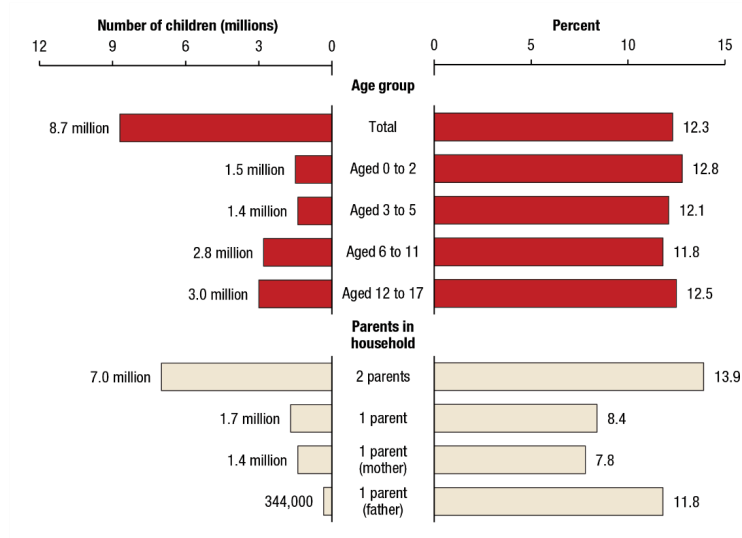
Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Surveys on Drug Use and Health (NSDUHs), 2009 to 2014.

Appendix. B

TABLE 2 Prevalence and aORs for the Relationship Between ACEs and the Age of Initiation of Alcohol Use (*N* = 3592)

Category of ACEs	% (*n*)	Age of Initiation of Alcohol Use, aOR (95% CI), y[a]			
		≤14	15–17	18–20	≥21
Emotional abuse	14.8 (500)	1.6 (1.0–2.6)	1.0 (0.7–1.5)	1.0 (0.7–1.5)	1.0 (referent)
Did a parent or other adult in the household…					
Often or very often swear at you, insult you, or put you down?					
Sometimes, often, or very often act in a way that made you afraid that you might be physically hurt?					
Physical abuse	13.7 (448)	2.0 (1.2–3.2)	1.2 (0.8–1.7)	0.9 (0.6–1.3)	1.0 (referent)
Did a parent or other adult in the household…					
Sometimes, often, or very often push, grab, slap, or throw something at you?					
Ever hit you so hard that you had marks or were injured?					
Sexual abuse	19.1 (689)	3.2 (2.1–4.9)	1.7 (1.2–2.4)	1.1 (0.8–1.5)	1.0 (referent)
Did a parent or other adult in the household…					
Touch or fondle you in a sexual way?					
Have you touch their body in a sexual way?					
Attempt oral, anal, or vaginal intercourse with you?					
Actually have oral, anal, or vaginal intercourse with you?					
Emotional neglect	3.7 (123)	2.3 (1.0–5.4)	1.1 (0.5–2.2)	0.5 (0.3–1.1)	1.0 (referent)
There was someone in my family who helped me feel important or special					
I felt loved					
People in my family looked out for each other					
People in my family felt close to each other					
My family was a source of strength and support					
Physical neglect	7.7 (241)	1.1 (0.6–2.1)	0.8 (0.5–1.2)	0.6 (0.4–1.0)	1.0 (referent)
I didn't have enough to eat					
I knew there was someone there to take care of me					
My parents were too drunk or high to take care of me					
I had to wear dirty clothes					
There was someone to take me to the doctor if I needed it					
Battered mother	17.9 (583)	1.4 (0.9–2.2)	1.3 (0.9–1.8)	0.8 (0.5–1.1)	1.0 (referent)
Was your mother (or stepmother)…					
Sometimes, often, or very often pushed, grabbed, slapped, or had something thrown at her?					
Sometimes, often, or very often kicked, bitten, hit with a fist, or hit with something hard?					
Ever repeatedly hit over at least a few minutes?					
Ever threatened with or hurt by a knife or gun?					
Parental discord/divorce	41.3 (1376)	1.7 (1.2–2.5)	1.3 (1.0–1.8)	0.9 (0.7–1.2)	1.0 (referent)
Were your parents ever separated or divorced?					
Mentally ill household member	24.8 (906)	2.0 (1.3–3.0)	1.4 (1.0–1.8)	1.0 (0.7–1.4)	1.0 (referent)
Was a household member depressed or mentally ill?					
Did a household member attempt suicide?					
Substance abuse in home	28.7 (992)	2.0 (1.4–3.1)	1.6 (1.2–2.2)	1.0 (0.8–1.4)	1.0 (referent)
Did you live with anyone who was a problem drinker or alcoholic?					
Did you live with anyone who used street drugs?					
Incarcerated household member	8.7 (244)	1.7 (0.9–3.3)	1.6 (0.9–2.7)	0.8 (0.4–1.4)	1.0 (referent)
Did a household member go to prison?					

[a] ORs were adjusted for age, gender, race, educational attainment, family feelings about alcohol, and number of friends drinking first year of high school.

Appendix. C

Inpatient Psychiatric Bed Program - November 2022

Name	County	Licensed Beds	Staffed Adult Beds	Staffed Older Adult Beds	Staffed Child Beds	Total Staffed Beds
Allen Hospital	Black Hawk	24	21	0	0	21
Broadlawns Medical Center	Polk	44	44	0	0	44
Buena Vista Regional Medical Center	Buena Vista	10	0	10	0	10
CHI Health Mercy Hospital*	Pottawattamie	38	21	0	16	37
Clive Behavioral Health	Polk	100	20	0	14	34
EagleView	Scott	72	36	0	0	36
Finley Hospital	Dubuque	9	0	9	0	9
Genesis Medical Center - Davenport	Scott	39	28	0	8	36
Great River Medical Center*	Des Moines	8	8	0	0	8
Iowa Lutheran Hospital	Polk	68	24	12	12	48
Jennie Edmundson Hospital Behavioral Health	Pottawattamie	29	24	0	0	24
Mary Greeley Medical Center	Story	19	18	0	0	18
Mercy Medical Center - Cedar Rapids	Linn	20	10	0	0	10
MercyOne Medical Center - Cedar Falls	Black Hawk	15	0	15	0	15
MercyOne Medical Center - Clinton	Clinton	14	7	0	0	7
MercyOne Medical Center - Dubuque	Dubuque	20	16	0	4	20
MercyOne Medical Center - North Iowa	Cerro Gordo	45	24	0	10	34
MercyOne Medical Center - Sioux City	Woodbury	20	7	3	0	10
MercyOne Medical Center - Waterloo	Black Hawk	20	16	0	4	20
Ottumwa Regional Health Center	Wapello	14	0	14	0	14
Spencer Municipal Hospital	Clay	15	10	0	0	10
St. Anthony Regional Hospital and Nursing Home	Carroll	11	11	0	0	11
St. Luke's Methodist Hospital	Linn	72	13	9	14	36
St. Luke's Regional Medical Center	Woodbury	14	14	0	0	14
University of Iowa Hospitals and Clinics	Johnson	88	58	0	15	73
Community Hospital Total		828	430	72	97	599
Cherokee Mental Health Institute	Cherokee	36	24	0	12	36
Independence Mental Health Institute	Buchanan	56	40	0	16	56
Mental Health Institute Total		92	64	0	28	92
* Last updated 6.28.21	**GRAND TOTAL**	920	494	72	125	691

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