Impact of COVID-19 pandemic on behavioral health and substance use in Indiana:

Overall population

June 2022

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Introduction

The COVID-19 pandemic has left a long-lasting impact on various aspects of the overall population. The pandemic affected the country's economy and social interactions, and its effects could be seen down to the familial units. The pandemic had an influential impact on the labor force and public health. It affected individuals in heterogeneous ways through employment, physical health, and behavioral and mental health. As of May 26th, 2022, about 83.5 million cases and 1 million deaths had occurred due to COVID-19 in the US ("Provisional COVID-19 Deaths by Sex and Age," 2022).

Several industries such as airlines, real estate, tourism, oil, retail, and more experienced downturns (Thorbecke, 2020). The U.S. had seen a decline in the nation's GDP and the steepest drop in economic output ever during the pandemic. Indiana State also followed the national trends in terms of economic downturn and pandemic patterns.

This report compiles behavioral and mental health data from various Federal and State sources to identify the impact of the COVID-19 pandemic on the Hoosier population and also presents updated literature related to the impact of the pandemic on behavioral health.

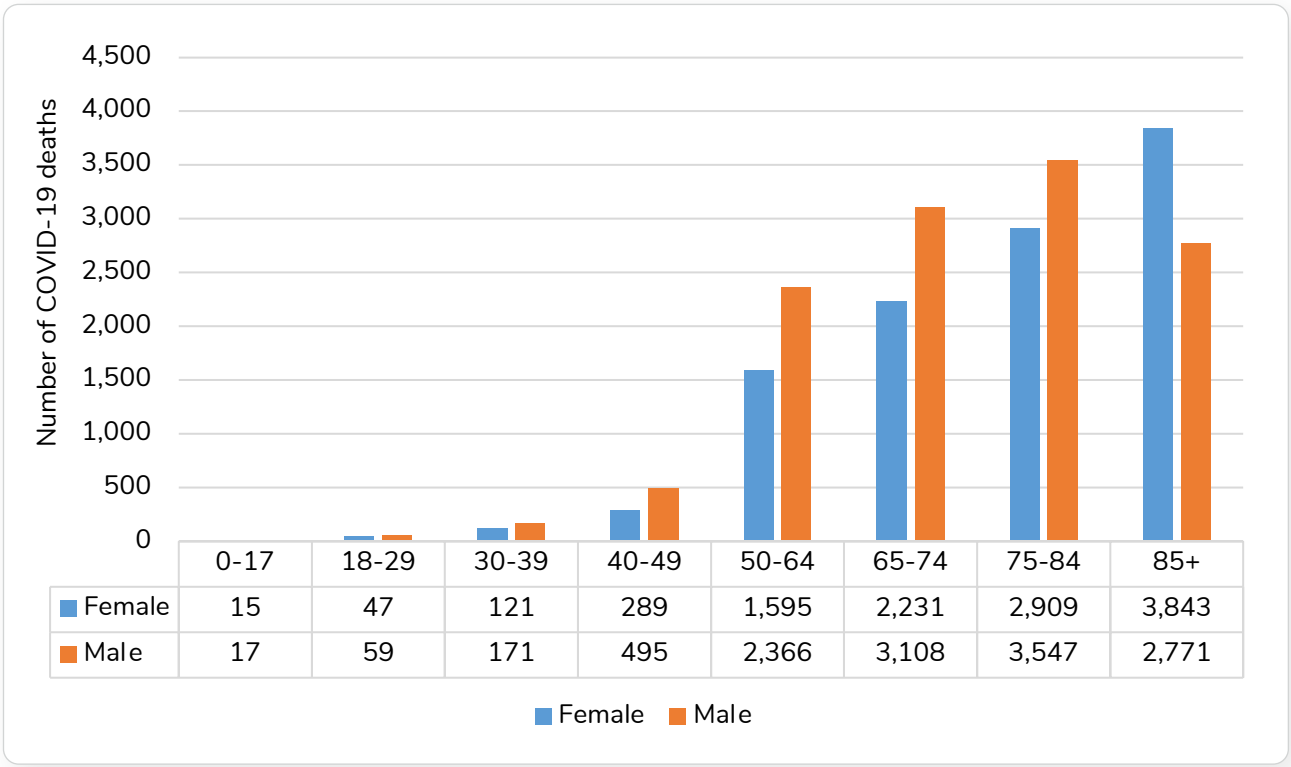
COVID-19 Statistics and Impact

COVID-19 DEATHS

As of mid-April 2022, there were 23,584 deaths attributed to COVID-19 in Indiana ("Provisional COVID-19 Deaths by Sex and Age," 2022). More men (12,534) have died from COVID-19 than women (11,050) in Indiana. The number of deaths increases as the age of the demographic increases.

While the younger age groups had relatively fewer deaths, the older age demographics experienced higher COVID-19 deaths. Further, more men have died of COVID-19 in every age group except the 85+ age group. See Figure 1 for the COVID-19 death statistics for Indiana by age and gender.

Figure 1: COVID-19 Deaths by Gender and Age Group as of Mid-April 2022 in Indiana

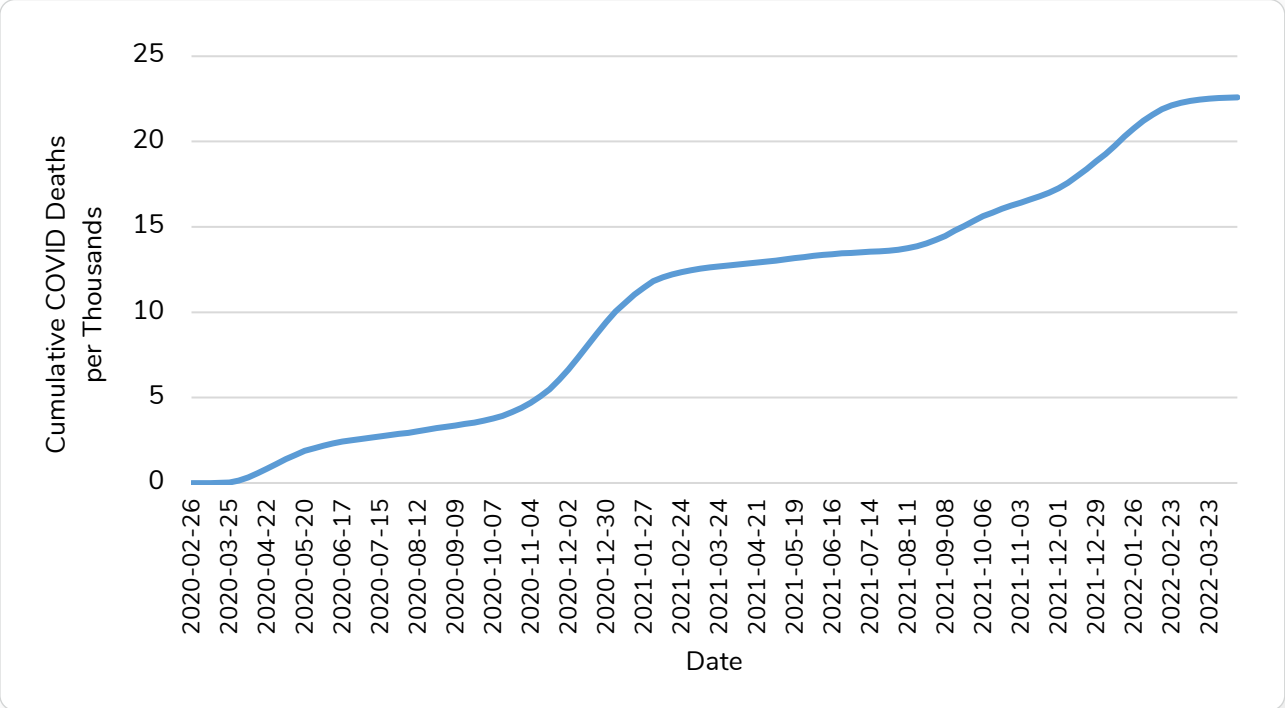


	0-17	18-29	30-39	40-49	50-64	65-74	75-84	85+
Female	15	47	121	289	1,595	2,231	2,909	3,843
Male	17	59	171	495	2,366	3,108	3,547	2,771

Source: "Provisional COVID-19 Deaths by Sex and Age," 2022

According to the data from the Indiana Department of Health and Management Performance Hub, after the initial wave of the pandemic, the cumulative case plot had been constantly rising after a brief saturation with larger increases between December 2020 and January 2021, and further from August 2021 to January 2022 ("COVID-19 Statewide Test, Case, and Death Trends," 2022). See Figure 2 for cumulative trends of COVID-19 deaths in Indiana.

Figure 2: Cumulative COVID-19 Deaths in Indiana



Source: "COVID-19 Statewide Test, Case, and Death Trends," 2022

IMPACT ON ECONOMY AND JOBS

The US economy took a great toll during COVID-19. There was a massive shutdown of businesses and estimates from a Current Population Survey show that the number of active business owners dropped by 22% within the first two months of the pandemic (Fairlie & Fossen, 2021). In April 2020, unemployment rose up to 14.7%, the highest since 1948 (Thorbecke, 2020; Congressional Research Service, 2021). The unemployment rate in the US increased at a faster rate than it did during the 2007 recession (Miller, 2020). As the country went under lockdown, many companies could not retain employees and were forced to let many go to save on costs. A large majority of the workforce found themselves working remotely, but many blue-collar jobs could not afford the same transition, due to the nature of those jobs. Unemployment remained high for most of the pandemic, and the U.S government was forced to respond. The fallout from a shortage in labor and labor force caused an economic fallout that forced the U.S government to implement various measures, such as stimulus payments to every American.

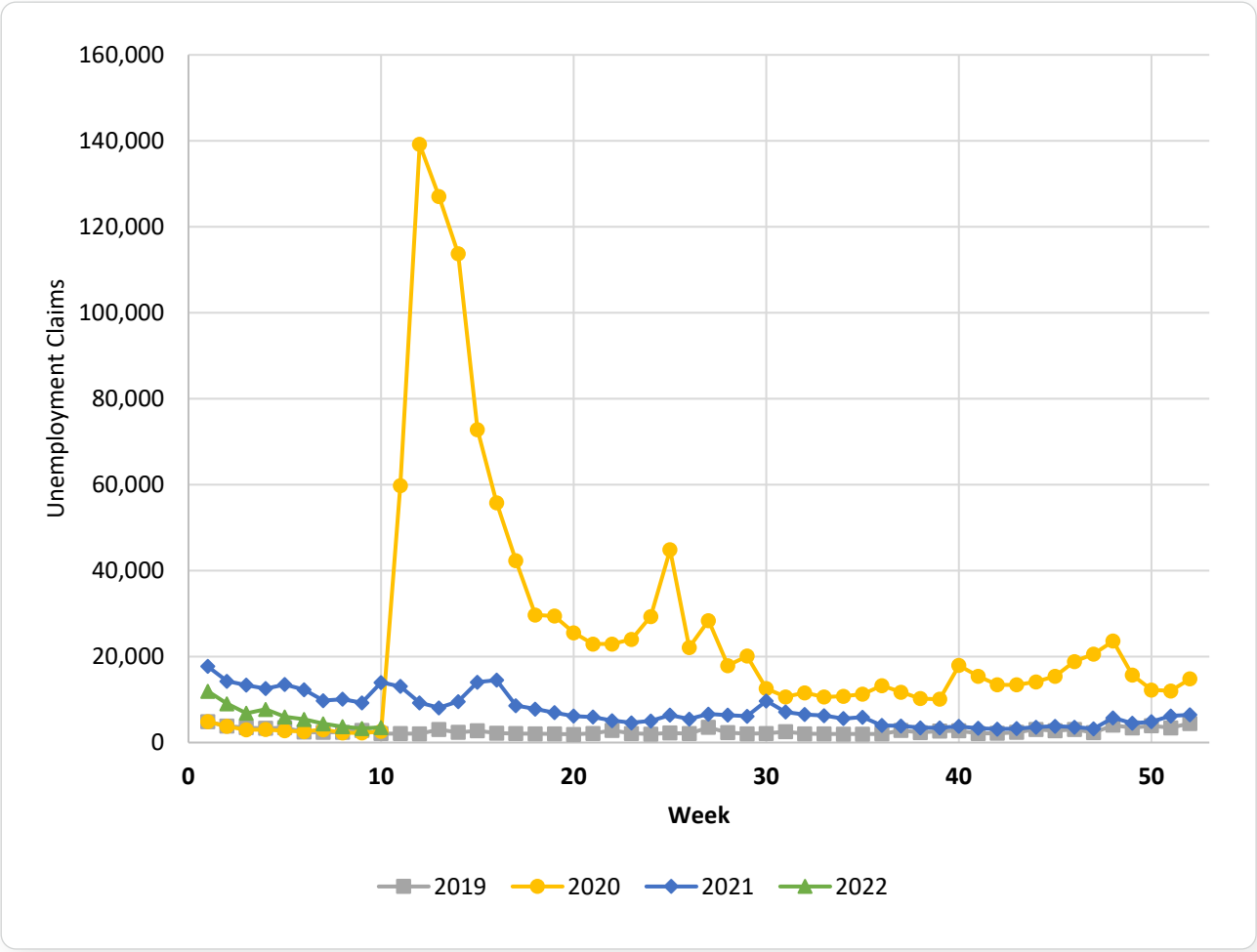
According to the U.S Bureau of Labor Statistics, nonfarm-related payroll employment dropped by nearly 9.4 million in 2020 (BLS, 2021). The biggest impact was in the leisure and hospitality areas of work, an area that required in-person services, many of which could not be converted virtually. These trends fell in line with industries that suffered the most during the pandemic; restaurants and hotels saw big losses in earnings and were forced to let go of employees.

During the first two months of the pandemic, small business revenue and consumption decreased by 40% (Kim, Parker, & Schoar, 2020). From January 2020 to August 2020 in the US, average daily revenue went down 47.5% in the hospitality sector, 16.4% in the education sector, 14.1% in transportation, and 19.1% overall for

all small businesses (Bauer & Schlacher, 2020). Non-essential businesses where remote work was not possible faced bigger impacts. The number of working business owners plummeted by approximately 4 million within two months (Belitski, Guenther, Kritikos, & Thurik, 2021). It is imperative that business revenue is stabilized because it will help prevent future closures and employee layoffs (Bauer & Schlacher, 2020).

From the United States Department of Labor data on unemployment claims, initial claims in Indiana were relatively stable in 2019 and until the beginning of 2020. Then, with the onset of COVID-19, initial unemployment claims increased drastically from March to April of 2020, followed by a relatively stable decline throughout the rest of 2020. The initial claims in 2021 were lower than the prior-year and came back to pre-pandemic levels towards the end of 2021. See Figure 3 to see the weekly trends of initial unemployment claims in Indiana from 2019 to the beginning of March 2022.

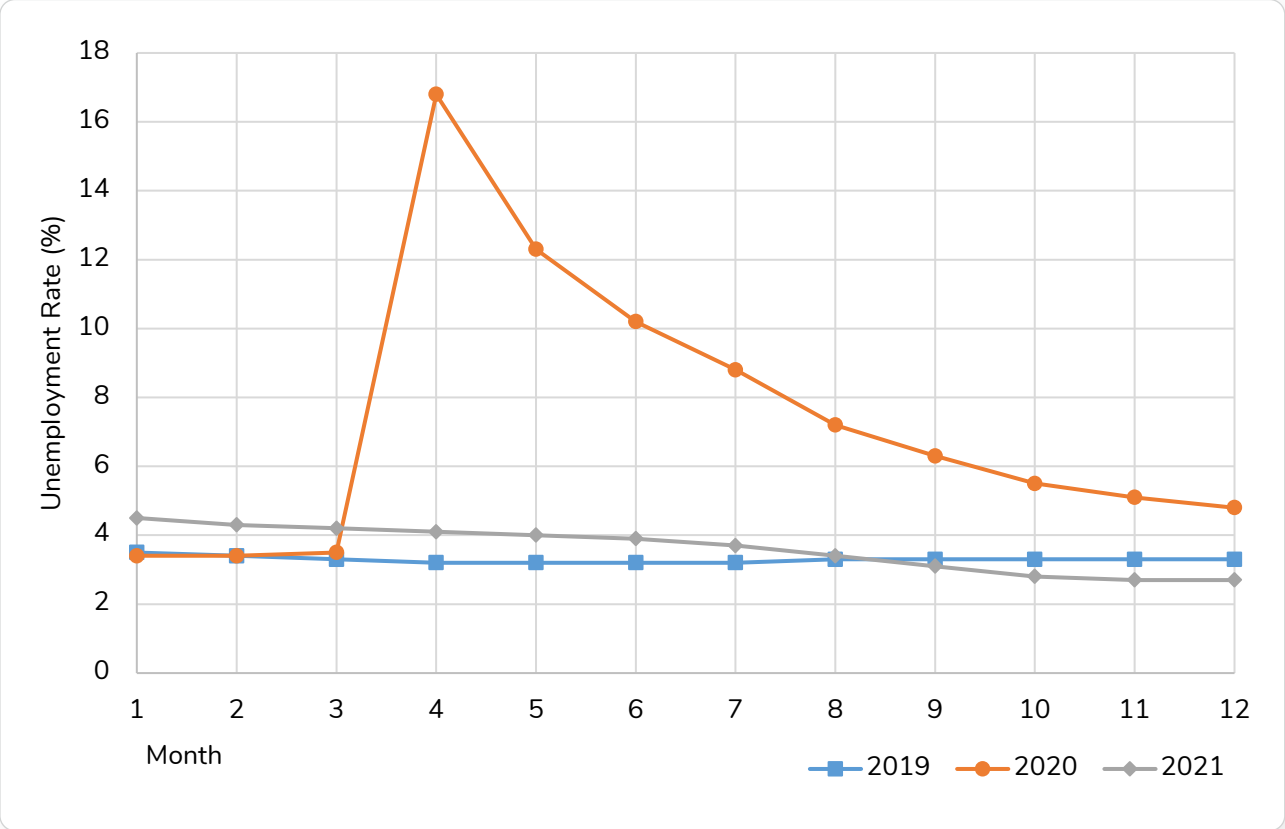
Figure 3: Weekly Initial Unemployment Claims in Indiana from 2019 to March 5, 2022



Source: "Unemployment Insurance Weekly Claims Data, Employment & Training Administration," 2022

In Indiana, the unemployment rate went from 3.5% in March 2020 to 16.8% in April 2020 (unemployment levels were 540,403 in April 2020 vs. 114,267 in March 2020) and stayed above 5% until November 2020. The unemployment rates came back to the pre-pandemic levels only in August 2021 at 3.4%. See Figure 4 for the trends in the monthly unemployment rate in Indiana ("Unemployment Claims (County Level, Weekly)," 2022).

Figure 4: Monthly Unemployment Rate in Indiana – Indiana Department of Workforce Development



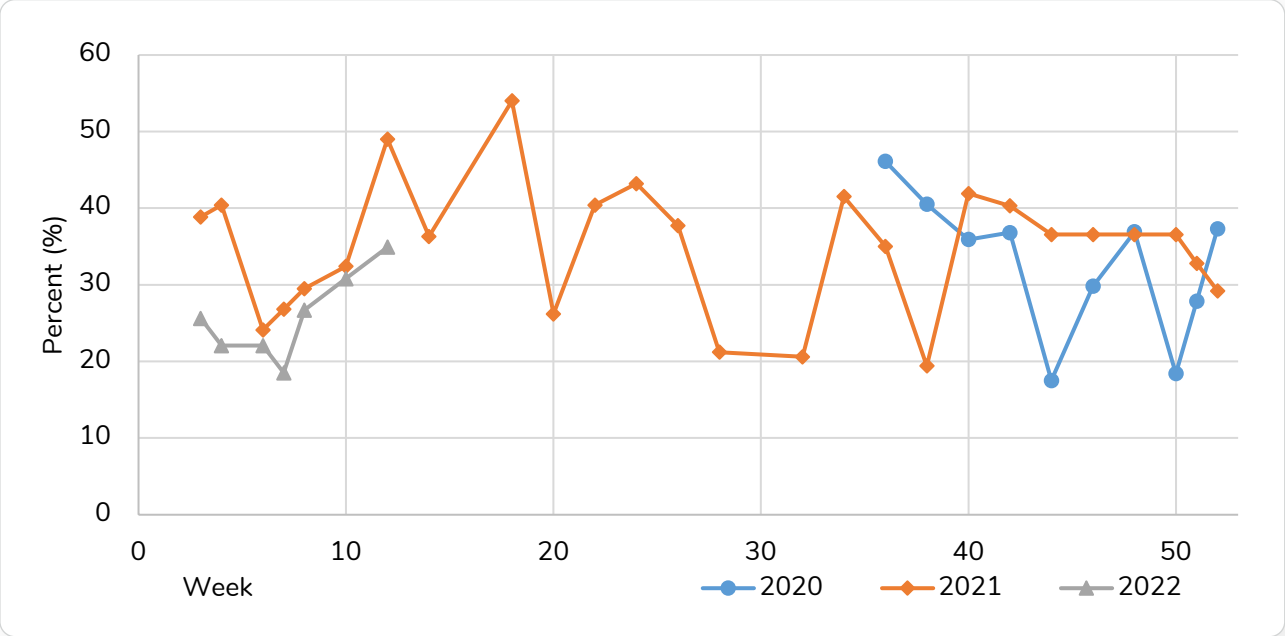
Source: "Unemployment Claims (County Level, Weekly)," 2022

IMPACT ON FAMILIES

From the U.S. Census Bureau's household pulse survey for Indiana (from August 2020 to March 2022), we analyze the trends for the reported likelihood of foreclosure or eviction among Indiana's survey respondents. This survey measures the COVID-19 pandemic impact on households and monitored the social determinant factors over time through a random sample of surveys among Indiana residents. Figure 5 shows the share of adults in Hoosier households who are very or somewhat likely to be evicted/foreclosed in the next two months. The households reporting likelihood of enclosure or eviction had spiked during the first quarter of 2021. The reported share varied between 20% and 40% during the rest of 2021.

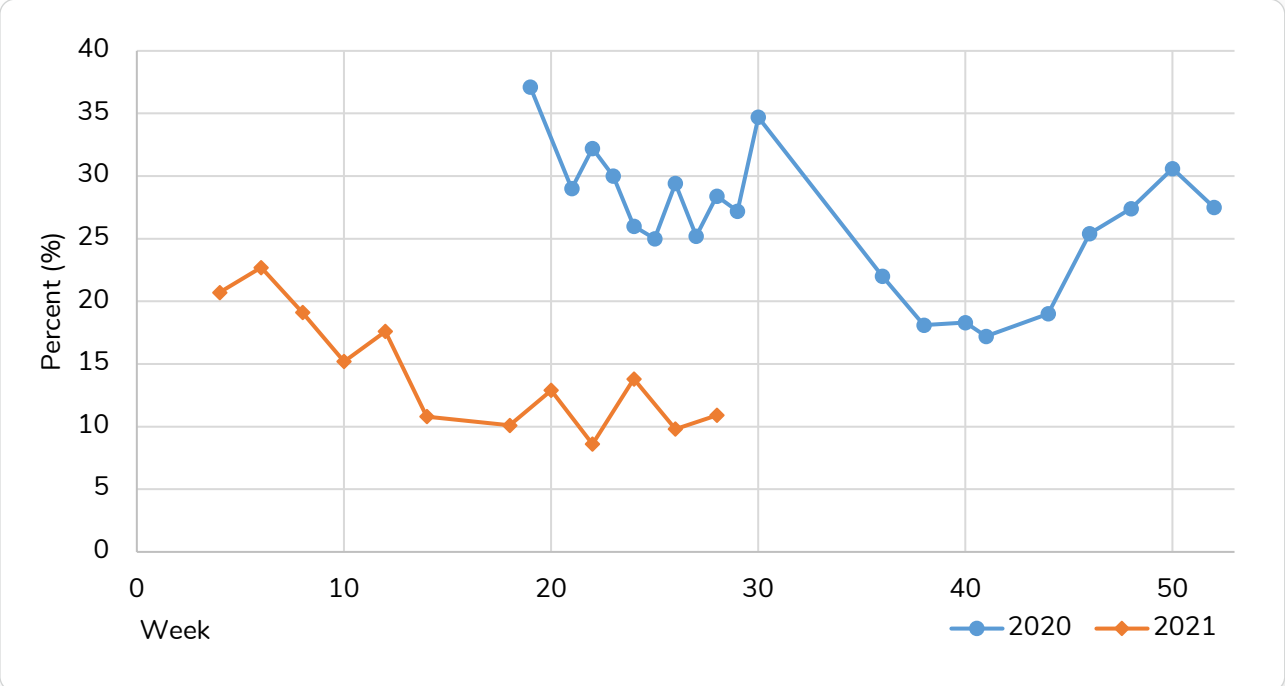
From the Household pulse survey, we also analyze the trends in the share of adults in Hoosier households who had expected someone in their household to lose employment and income in the next four weeks. In 2020, households began reporting, at a relatively higher rate, an expectation of a loss of income within the next four weeks. In 2021, the expectations reduced several weeks relative to the prior year and continued to decrease till July 2021. See Figure 6 for the trends in the loss of income concerns.

Figure 5: Percentage of Adults Reporting the Likelihood of Foreclosure or Eviction in Indiana [Aug. 19, 2020 – Mar. 14, 2022])



Source: "Household Pulse Survey: Likelihood of Eviction or Foreclosure," 2022

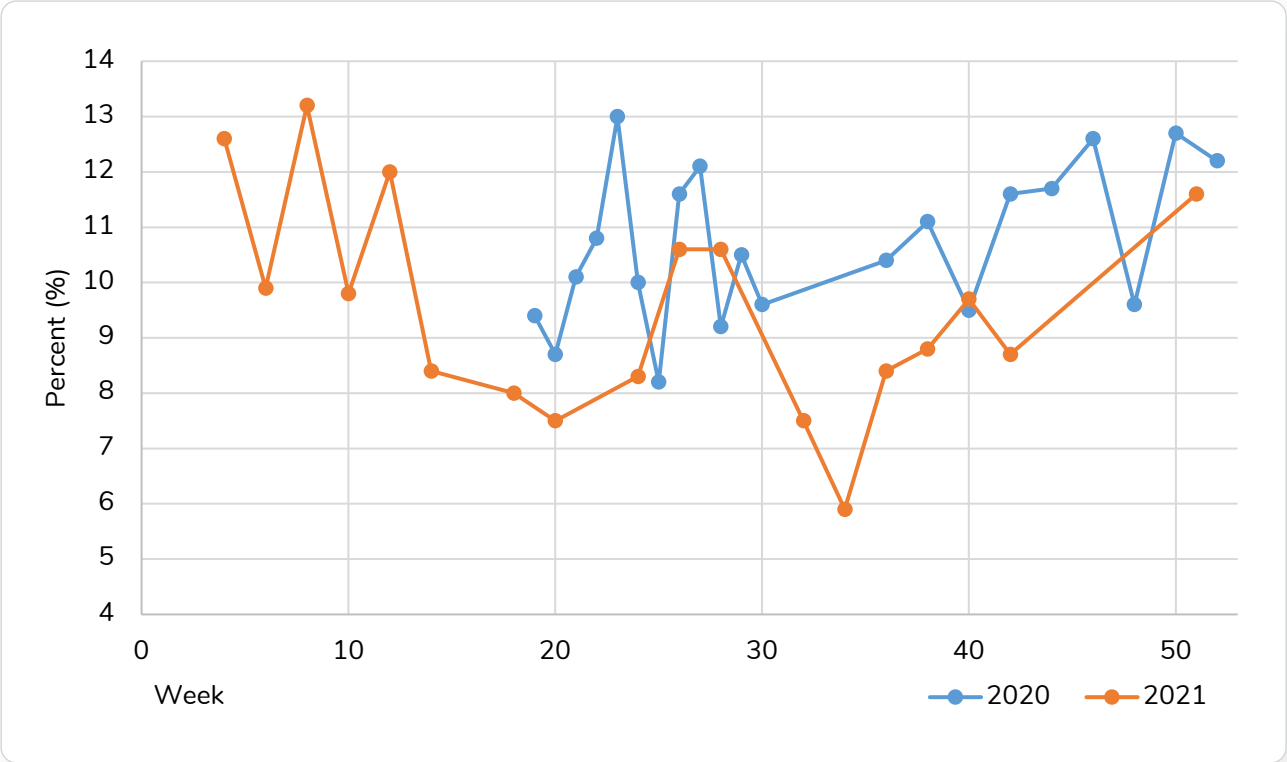
Figure 6: Percent of Adults Reporting the Loss of Income Concerns During Covid-19 in Indiana [Apr. 23, 2020 to July 5, 2021]



Source: "Household Pulse Survey: Expected Loss in Employment Income," 2022

Food insecurity increased amid the onset of the pandemic and continued to increase in the beginning and during the latter half of 2021. See Figure 7 for the trends in food scarcity.

Figure 7: Percent of Adults Reporting Food Insecurity During Covid-19 in Indiana [Apr. 23, 2020 to Jan. 10, 2022]



Source: "Household Pulse Survey: Food Scarcity," 2022

Behavioral Health Prevalence

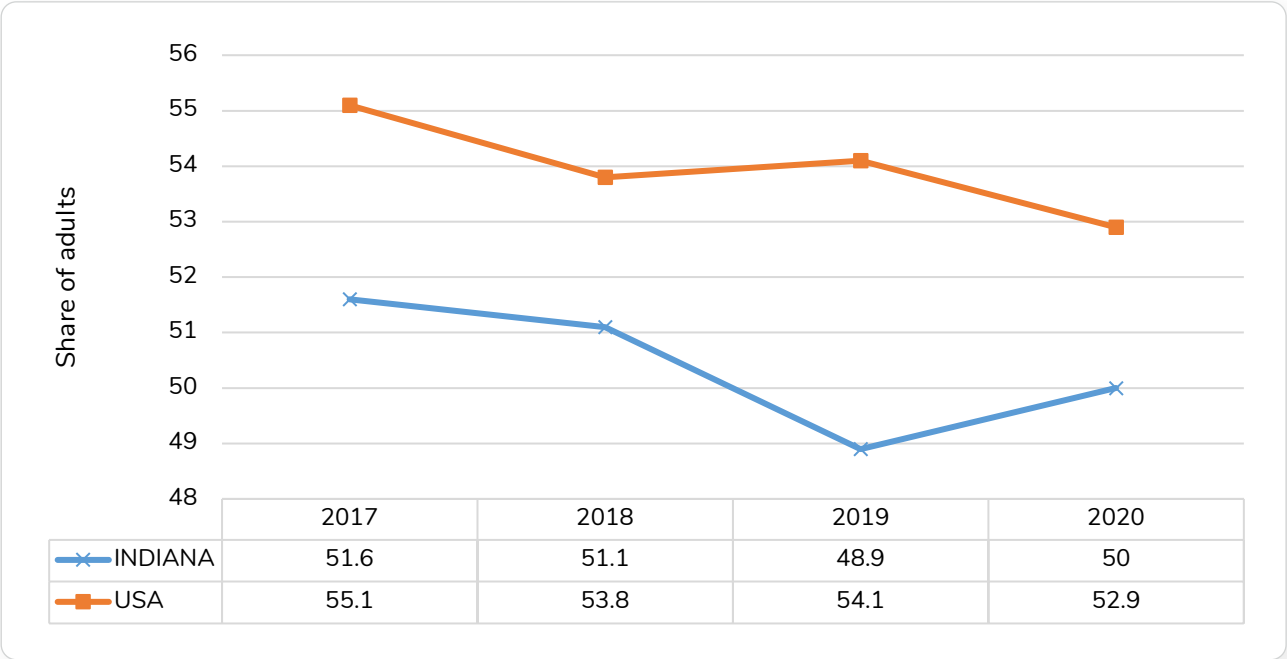
SUBSTANCE USE

The rates of substance use have also been impacted during the COVID-19 pandemic for adult populations. It is likely to see rises in substance use in stressful times of crisis (Goodyear et al., 2021). In the US, there has been an increase in alcohol consumption (Pollard et al., 2020). Many of the changes in the number of people who engaged in substance use did so as a coping method to deal with the mental stress of the pandemic. It was found that COVID-19-related stress has been associated with excessive alcohol use and binge drinking (Grossman et al., 2020). A similar study conducted in the UK confirmed these results in which one in six adults showed an increase in alcohol consumption with poorer overall mental health. Page et al. (2022) found that there were more frequent opioid-related visits to the emergency department. This could indicate an excessive overuse of opioids. Interestingly, Yang & Ma (2021) found that there was a decrease in tobacco smoking over the pandemic. However, this could be attributed to the increased respiratory-related health risks associated with COVID-19.

ALCOHOL USE

From the Center for Disease Control (CDC) Behavioral Risk Factor Surveillance System (BRFSS), we compare the current alcohol use [defined as the share of adults who had at least one drink in the past 30 days] in Indiana and the U.S. since 2017 to 2020 [the latest available year]. Indiana saw a slight increase from 2019 (48.9%; 95% CI: 47.6% - 50.3%) to 2020 (50.0%; 95% CI: 48.7% - 51.4%), while the United States saw a decrease from 2019 (54.1%) to 2020 (52.9%). See Figure 7 for the trends in current alcohol use. Further, during 2020 there were higher increases in alcohol use among women (44.2%, a 3.3 percentage point increase from the previous year) than men (56.1%, a 0.3 percentage point drop from the previous year) in Indiana ("BRFSS Prevalence & Trends Data: Home," 2017).

Figure 8: Share of Adults who had at Least one Drink of Alcohol Within the Past 30 days in Indiana



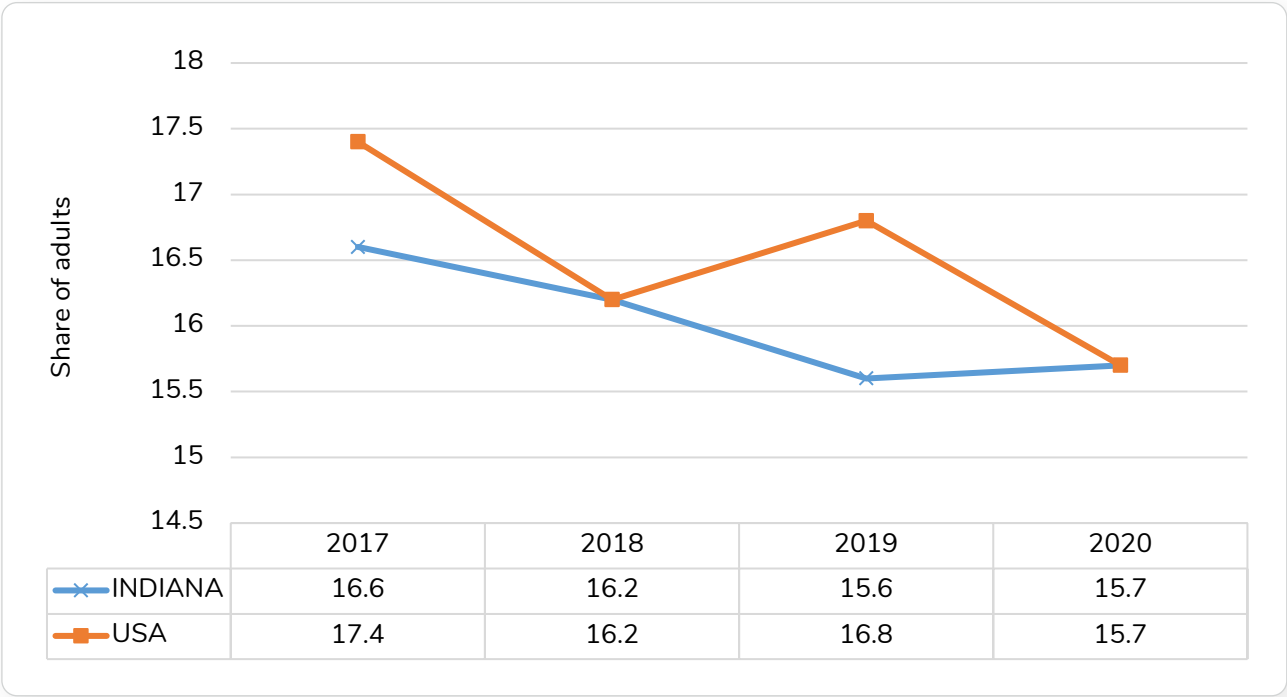
	2017	2018	2019	2020
INDIANA	51.6	51.1	48.9	50
USA	55.1	53.8	54.1	52.9

Source: "BRFSS Prevalence & Trends Data: Home," 2017-2020

BINGE DRINKING

From "BRFSS Prevalence & Trends Data: Home," 2017, the percentage of Indiana adults who reported binge drinking [defined as having five or more drinks on one occasion for men and four or more drinks on one occasion for women] in the past 30 days stayed similar from 2019 to 2020 (15.7%; 95% CI: 14.6% - 16.7%), while there is a decline in the national rate from 16.8% to 15.7% during the same period. See Figure 9 for the trends in binge drinking.

Figure 9: Share of Adults Binge Drinking in the Past 30 Days in Indiana



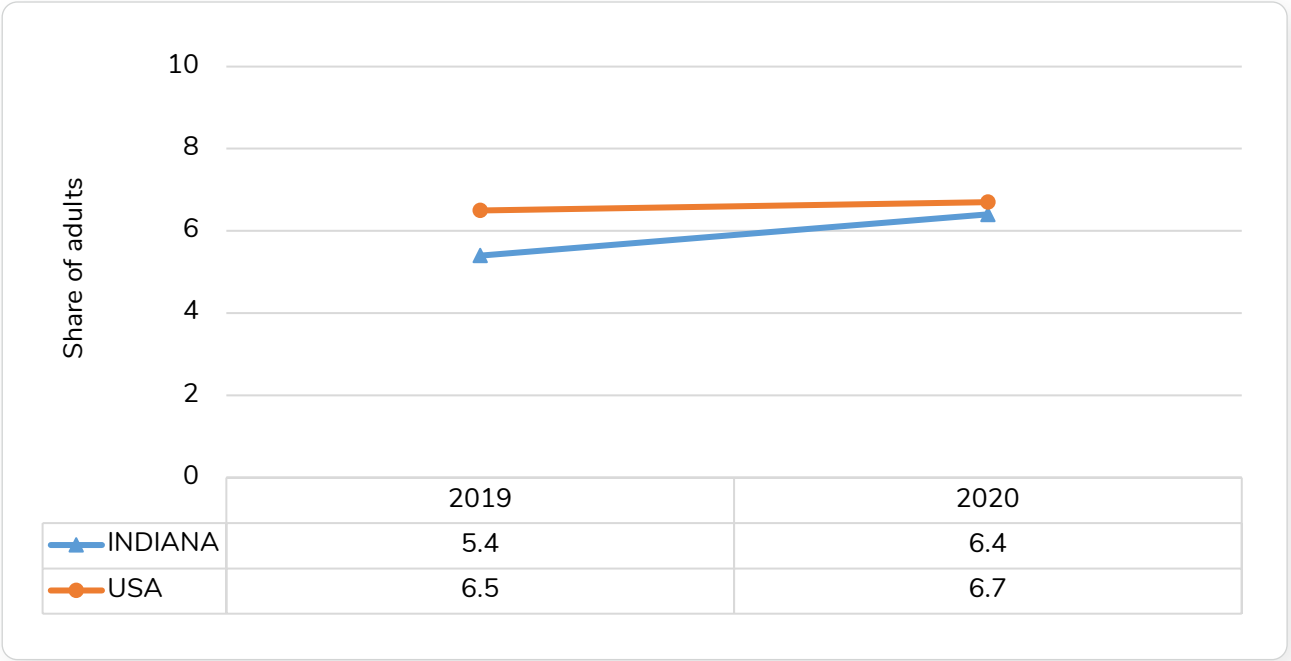
	2017	2018	2019	2020
INDIANA	16.6	16.2	15.6	15.7
USA	17.4	16.2	16.8	15.7

Source: "BRFSS Prevalence & Trends Data: Home," 2017-2020

HEAVY DRINKING

We also analyze the trends of heavy drinking among adults [defined as the share of men having more than 14 drinks per week or women having more than 7 drinks per week] from "BRFSS Prevalence & Trends Data: Home," 2017 data. We find that the percentage of Indiana adults who reported heavy drinking increased from 5.4% (95% CI: 4.8%-6.1%) in 2019 to 6.4% (95% CI: 5.7% - 7.2%) in 2020. The percentage of adults in the United States who reported heavy drinking increased only marginally from 6.5% in 2019 to 6.7% in 2020. Figure 10 shows the trends for 2019 and 2020.

Figure 10: Heavy Drinking Rates in Indiana



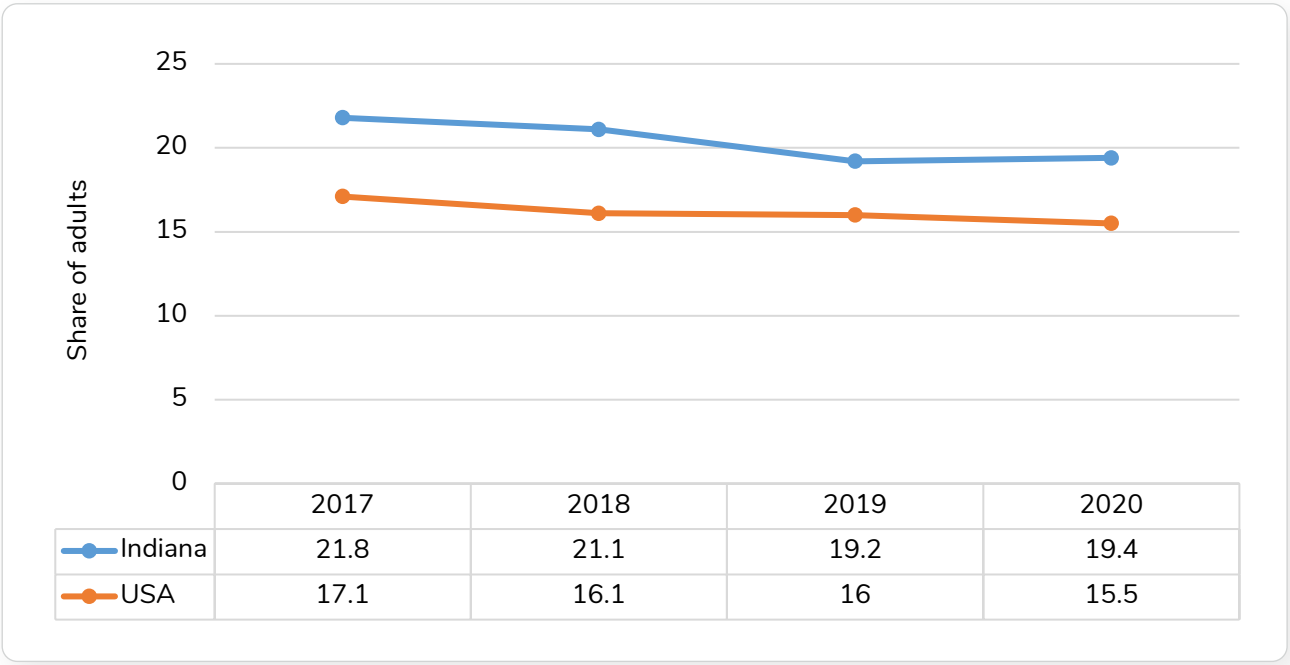
	2019	2020
INDIANA	5.4	6.4
USA	6.5	6.7

Source: "BRFSS Prevalence & Trends Data: Home," 2019-2020

SMOKING

From "BRFSS Prevalence & Trends Data: Home," 2017 data, the percentage of Indiana adults who are current smokers stayed similar between 2019 (19.2%; 95% CI: 18% - 20.3%) and 2020 (19.4%; 95% CI: 18.3% - 20.5%). The percentage of adults in the United States who are current smokers decreased slightly from 16% in 2019 to 15.5% in 2020. Figure 11 shows the smoking trends among adults from 2017 to 2020.

Figure 11: Share of Adults who are Current Smokers

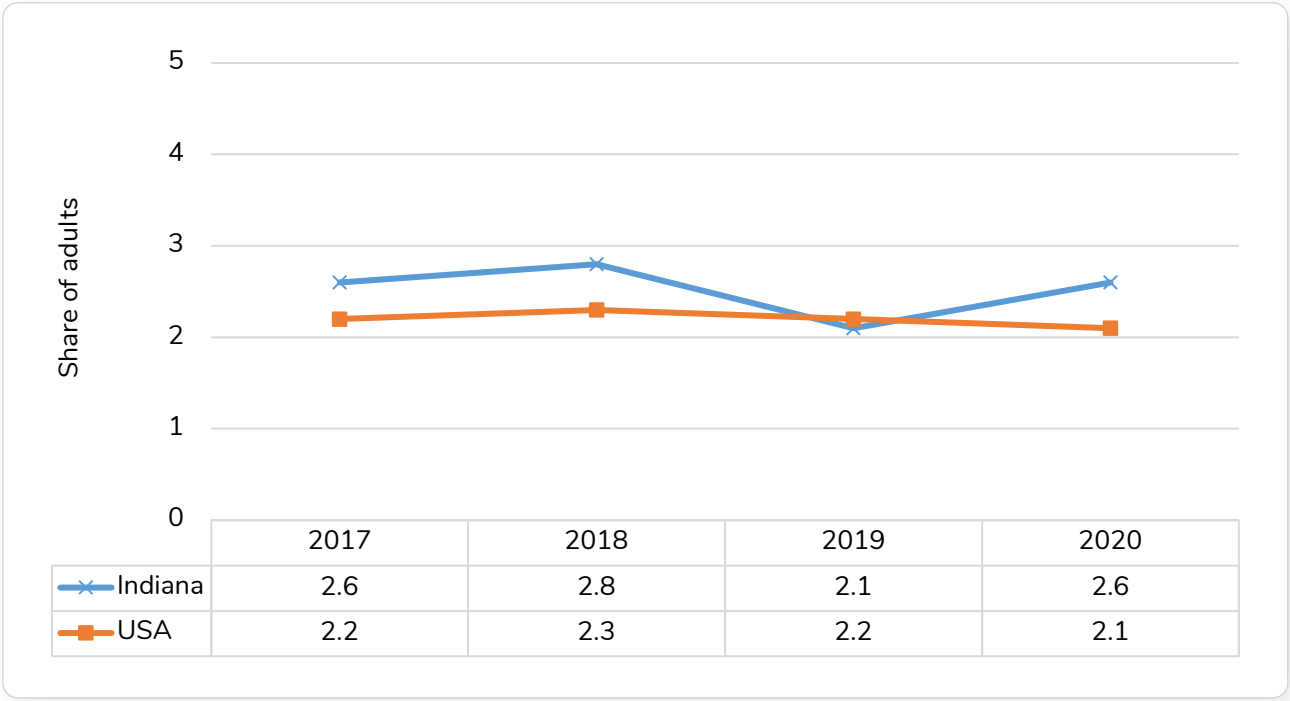


	2017	2018	2019	2020
Indiana	21.8	21.1	19.2	19.4
USA	17.1	16.1	16	15.5

Source: "BRFSS Prevalence & Trends Data: Home," 2017-2020

Indiana adults reporting use of chewing tobacco, snuff, or snus every day increased slightly from 2019 (2.1%) to 2020 (2.6%; 95% CI: 2.2% - 3.0%). Adults in the United States reporting daily use of chewing tobacco, snuff, or snus stayed at 2.1% in 2020. Figure 12 shows the trends from 2017 to 2020.

Figure 12: Share of Adults who Currently use Chewing Tobacco, Snuff, or Snus



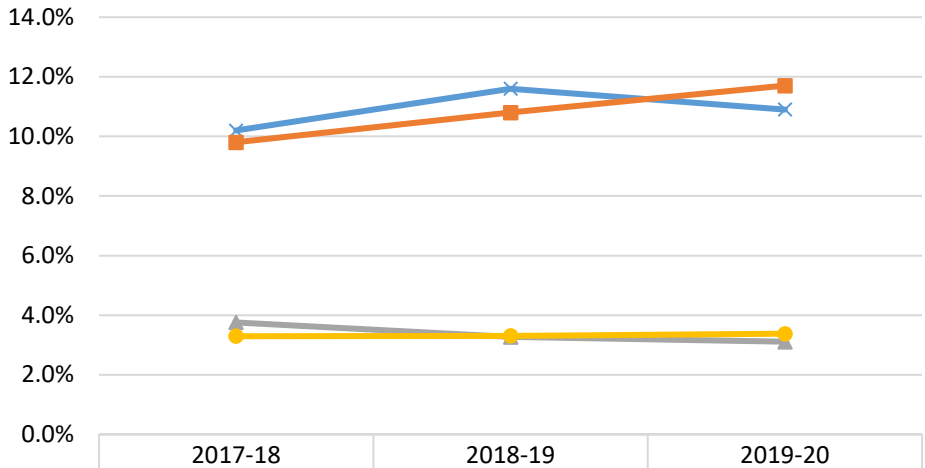
	2017	2018	2019	2020
Indiana	2.6	2.8	2.1	2.6
USA	2.2	2.3	2.2	2.1

Source: "BRFSS Prevalence & Trends Data: Home," 2017-2020

MARIJUANA AND OTHER ILLICIT DRUGS

Analysis of the trends of past-month marijuana use and other illicit drug use (such as misuse of prescription psychotherapeutics, cocaine, heroin, hallucinogens, inhalants, or methamphetamine use) among 12 years and over was done using NSDUH survey data. The current marijuana use in Indiana during 2020 was 10.93% (95% CI: 9.15%-13.01%), while the national average was 11.66% (95% CI: 11.32%-12.02%). Marijuana use among young adults aged 18 to 25 was 26.7% in 2020 (95% CI: 2.01% - 31.91%), an increase of 1.1 percentage points (SAMHSA, 2021). Other illicit drug use was at 3.11% (95% CI: 2.47% - 3.91%) for Indiana and 3.38% (95% CI: 3.18%-3.58%) for the nation. See Figure 13 for the trends of marijuana and other drug use.

Figure 13: Share of Indiana and U.S. Population (Ages 12 and Older) Reporting Current Marijuana Use and other drug use



	2017-18	2018-19	2019-20
Indiana Marijuana use	10.2%	11.6%	10.9%
US Marijuana use	9.8%	10.8%	11.7%
Indiana illicit drug use except Marijuana	3.76%	3.27%	3.11%
US illicit drug use except Marijuana	3.30%	3.31%	3.38%

Source: SAMHSA, 2017-2021

Mental Health

The pandemic left a noticeable impact on the mental health of Americans. The effects of the isolation and the pandemic itself may have increased the reported anxiety and depression symptoms in individuals. In 2020, a study found that reported cases of anxiety were up 406% over the previous month prior to lockdown, and reported cases of depression were up 457% ("Mental Health Effects of COVID-19," 2020). By late June of the pandemic in 2020, 40% of U.S adults had reported they struggled with mental health or substance abuse. 11% of those respondents also reported seriously considering suicide (Jia et al., 2021). As rates of Americans contemplating suicide increased, the rate of actual suicides committed during the pandemic dropped, by almost 3% less than in 2019 (CDC WONDER, 2017–2020). Males who typically committed suicide at a higher percentage than women reported a 2% drop in suicides compared to 2019.

Around the same time, the Centers for Disease Control and Prevention found that 13% of

Americans reported starting or increasing substance use to cope with COVID-19 (Czeisler et al., 2020). Overdoses from substance abuse also increased during the pandemic, a finding by the reporting system, ODMPA, shows an 18% increase in overdoses since the pandemic began ("Overdose Detection Mapping Application Program -," 2018). A large part of the uptick in substance abuse can be traced to coping mechanisms used by individuals in response to the pandemic. The American Psychology Association (APA) study theorizes that as stress from the pandemic increases, many people find fewer and fewer ways to cope, so they resort to substance abuse (Abramson, 2021).

Many family units in the U.S were affected by the pandemic, economically and mentally. Almost all schools across the nation shut down and kids were spending more time at home with parents who were forced to work from home as well; approximately 24% of parents reported a loss of childcare (Patrick et al., 2020). The strain on the typical American household caused a reported 27% increase in worsening mental health among parents since 2020 (Patrick et al., 2020).

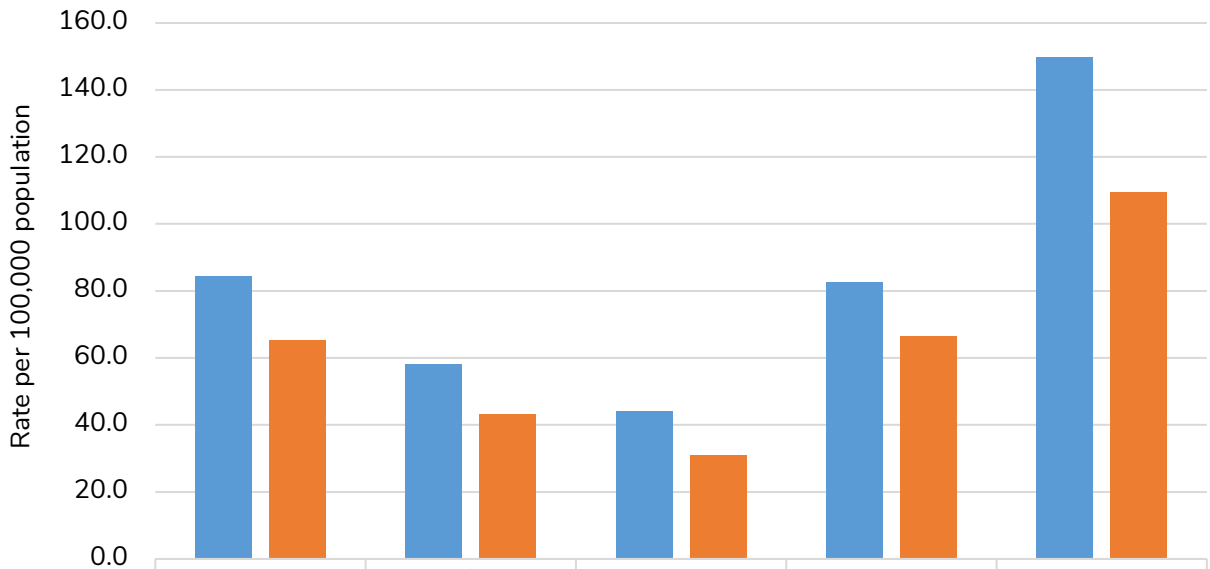
ANXIETY AND DEPRESSION

Studies have found that depression was a common psychological symptom during the COVID-19 pandemic (Martinelli, 2021). Patients who had a confirmed COVID-19 infection were reported to have frequent depressive symptoms and these were usually associated with post-traumatic stress. Additionally, participants who were known to have pre-existing psychological conditions experienced greater, enhanced symptoms (Vindegaard & Benros, 2020). These findings were confirmed by another study from the Brain, Behavior, and Immunity journal (Zhang et al., 2020).

The isolated nature of quarantine has also taken a toll on many people. Quarantine incited post-traumatic stress and feelings of fear and anxiety. An MMWR report from the CDC indicated that the average anxiety severity scores increased by 13% in the last 4 months of 2020. However, these scores decreased in the first half of 2021 (Jia et al., 2021). Similar results were found with depression severity scores. This could be due to the rise and fall of COVID-19 cases surrounding the administration of the COVID-19 vaccine. Moreover, the range of negative psychological symptoms caused by quarantine suggests that these could become long-lasting effects (Brooks et al., 2020). It has been found that to deal with this unfavorable psychological state, task-oriented coping strategies have been associated with a decrease in mental stress (Delvecchio et al., 2022). Although anxiety and depressive symptoms appear to be currently declining, they are still higher than pre-pandemic levels (Jia et al., 2021).

Mental Health America (MHA) released a dashboard in February 2022 showing results of online mental health screenings from about 2.6 million individuals in the United States ("County and State Data Map: Defining Mental Health across Communities," 2022). The data covered 2020 and 2021 and the results were expressed as a rate – i.e., the number of people per 100,000 residents that test positive for five conditions such as – Depression, Psychosis, PTSD, Suicide, and Trauma. The Depression condition was defined as individuals who were scored with severe depression on the PHQ-9. Psychosis was defined as individuals who scored at risk for psychotic-like experiences on the PQ-B. The PTSD condition was defined as individuals who scored positive for PTSD on the PC-PTSD screen. Suicide was defined as individuals who reported frequent suicidal ideation on the PHQ-9. Finally, trauma condition was defined as individuals who self-identified as trauma survivors. Figure 14 shows the rate per 100,000 population for all five conditions for Indiana respondents relative to the nation. We find that Indiana has relatively higher levels than the United States for all five conditions.

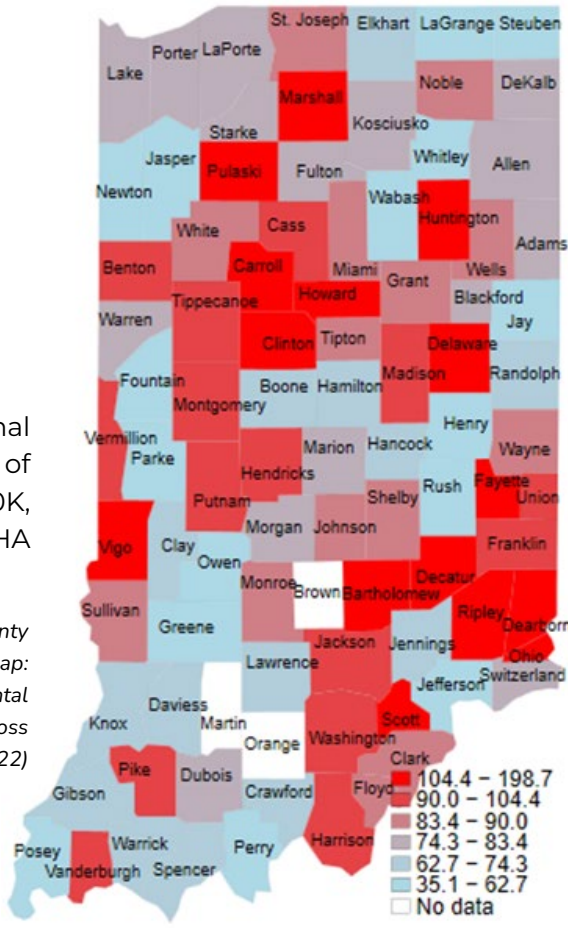
Figure 14: Mental Health Measures and Rates During the COVID-19 Pandemic from Mental Health America (2020 to 2021)



	Depression	Psychosis	PTSD	Suicide	Trauma
INDIANA	84.2	58.0	44.0	82.6	149.8
USA	65.1	43	31	66.5	109.3

Source: ("County and State Data Map: Defining Mental Health across Communities," 2022)

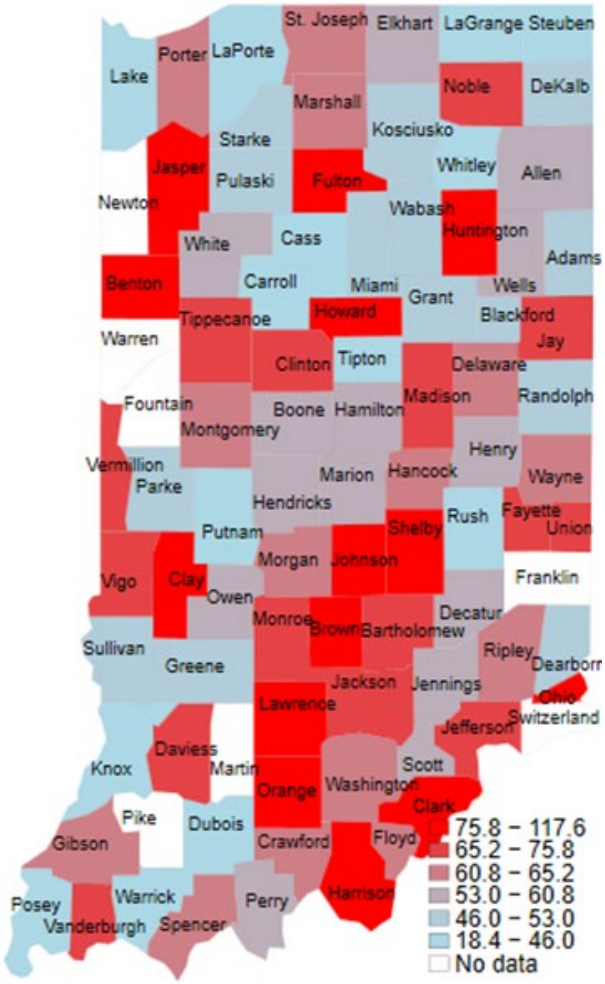
Map 1 shows the distribution of depression rates across Indiana counties using the MHA data. The western and southeastern region of Indiana has relatively more depression rates than the rest of the state.



Map 1: Regional Distribution of Depression Per 100K, 2020-21, MHA

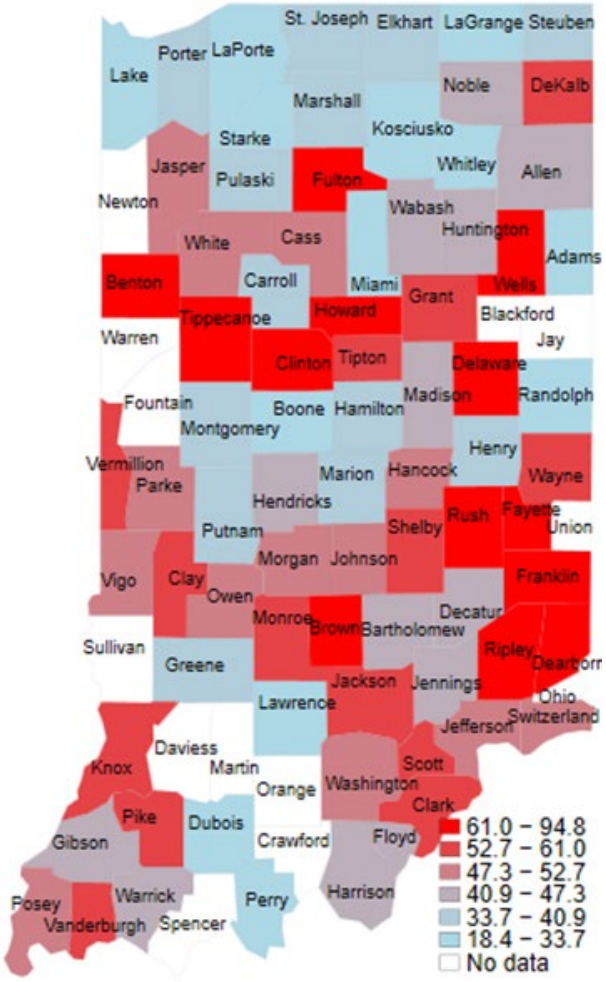
Source: ("County and State Data Map: Defining Mental Health across Communities," 2022)

Map 2 shows the regional distribution of psychosis prevalence rates per 100,000 residents. Psychosis rates are relatively more prevalent in the south-central and western parts of the state.



Map 2: Regional Distribution of Psychosis Per 100K, 2020-21, MHA

Source: ("County and State Data Map: Defining Mental Health across Communities," 2022)

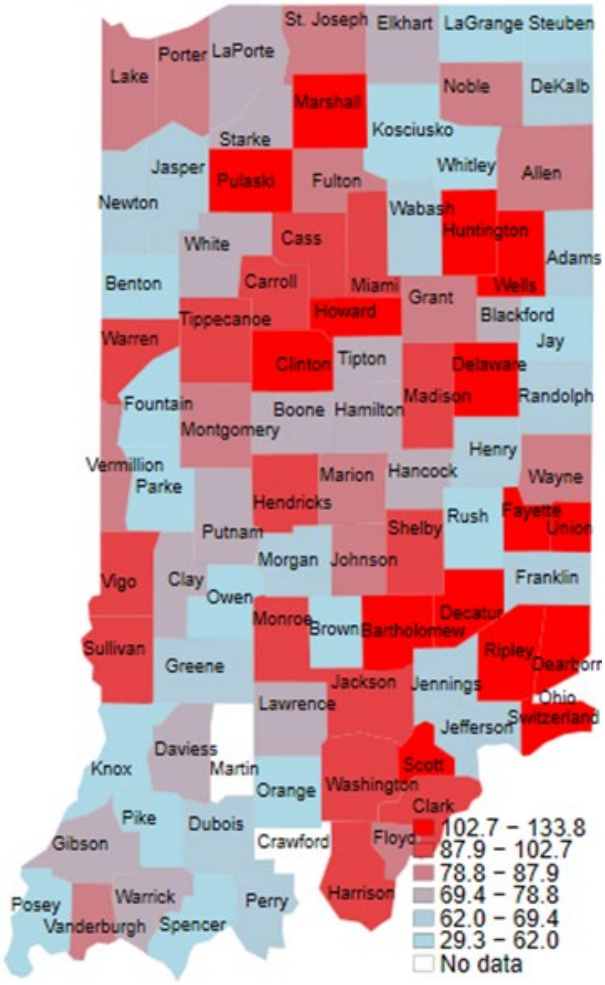


Map 3 shows the distribution of prevalence of Post-Traumatic Stress Disorder (PTSD) per 100,000 residents across Indiana counties from January 2020 to December 2021. It appears that eastern and some central counties have higher PTSD rates.

Map 3: Regional Distribution of PTSD Per 100K, 2020-21, MHA

Source: ("County and State Data Map: Defining Mental Health across Communities," 2022)

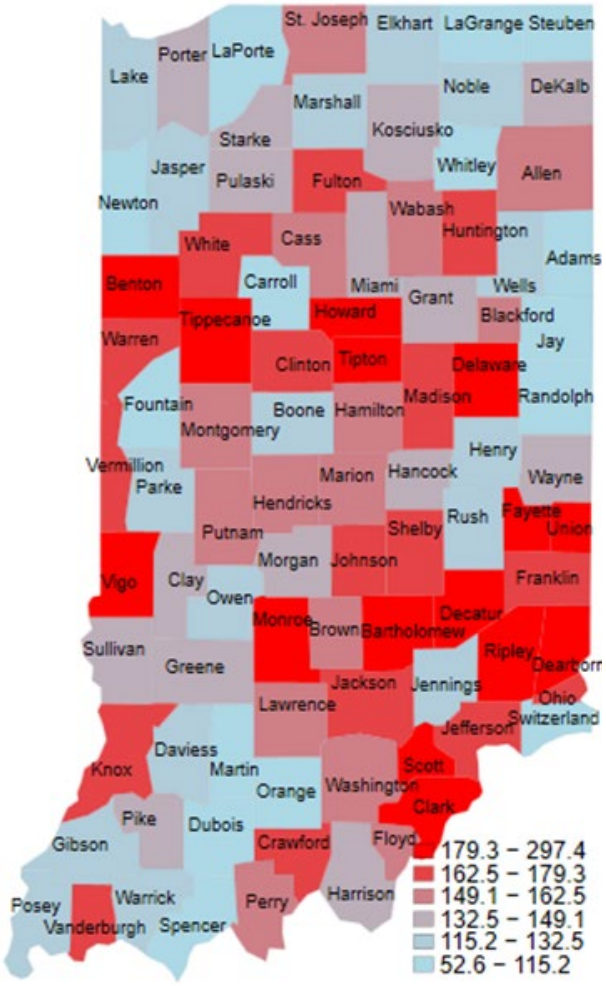
Map 4 provides regional distribution of suicidal ideation from January 2020 to December 2021. The areas that have relatively more suicidal ideation are concentrated in the central part of the state, as well as the southeastern part.



Map 4: Regional Distribution of Suicide Per 100K, 2020-21, MHA

Source: ("County and State Data Map: Defining Mental Health across Communities," 2022)

Map 5 shows the regional distribution of the prevalence of trauma survivors per 100,000 residents from January 2020 to December 2021. According to the data, the southeastern part of the state has on a proportional basis, relatively more trauma survivors. Additionally, the western and central part of the state has relatively more trauma survivors per capita than the rest of the state.



Map 5: Regional Distribution of Trauma Survivors Per 100K, 2020-21, MHA

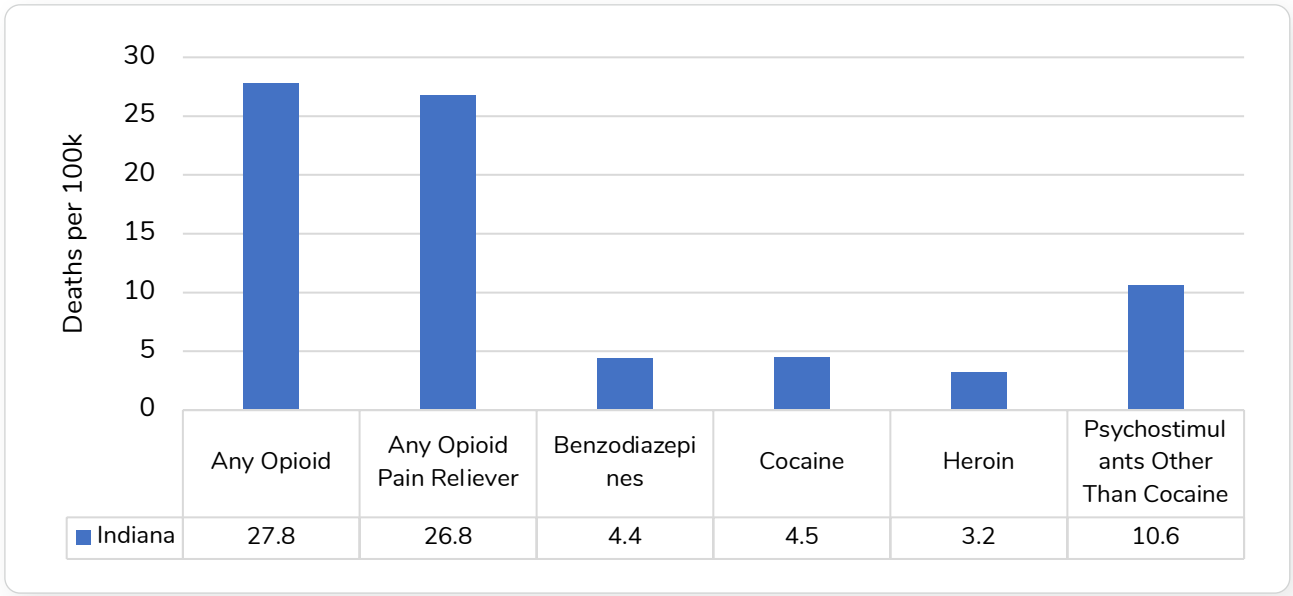
Source: ("County and State Data Map: Defining Mental Health across Communities," 2022)

Behavioral Health Consequences

DRUG OVERDOSE DEATHS

According to the Indiana Department of Health, Indiana had 27.8 deaths per 100,000 population due to drug poisoning involving any opioids in 2020 (the 2019 rate was 18.5 per 100,000 population). Opioid pain relievers that include pain relievers such as hydrocodone, oxycodone, morphine, and fentanyl that are prescribed or illicitly made had the highest death rate in 2020 (26.8 deaths per 100,000, the 2019 rate was 16.9 deaths per 100,000 population). The death rate of psychostimulants other than cocaine was 10.6 per 100,000 in 2020. Figure 15 shows the drug overdose rate for different substances in 2020. The emergency department visits due to an opioid overdose in Indiana also increased from 5,064 visits in 2019 to 7,191 visits.

Figure 15: Drug Deaths per 100k from Drug Poisoning in 2020



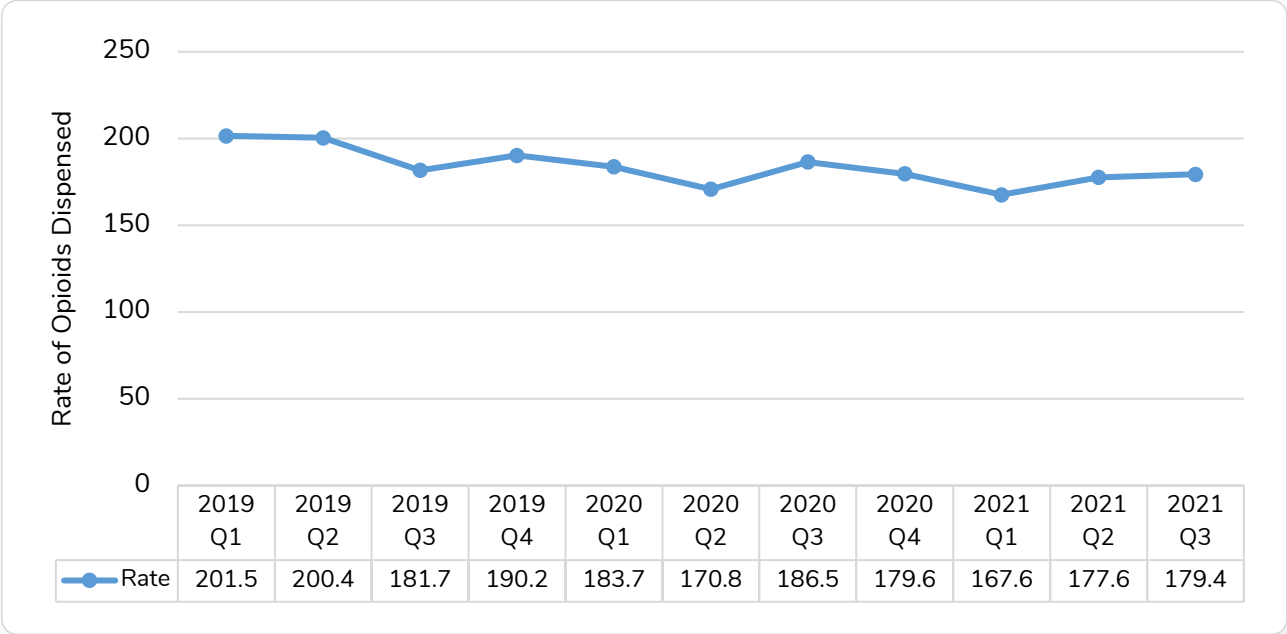
	Any Opioid	Any Opioid Pain Reliever	Benzodiazepines	Cocaine	Heroin	Psychostimulants Other Than Cocaine
Indiana	27.8	26.8	4.4	4.5	3.2	10.6

Source: "IDOH ODA Stats Explorer," 2022

OPIOID DISPENSATION RATE

We also analyze the opioid dispensation rates per 1000 population, including prescriptions in three categories – opioid analgesics, opioid anti-diarrheal/antitussives, and opioid antagonists and treatment addiction medications. We find that the rates were slightly higher at the beginning of 2019 and decreased slightly until the beginning of 2021. See Figure 16 for the trends in the opioid dispensation.

Figure 16: Rate (per 1,000 Population) of Opioids Dispensed in Indiana per Quarter



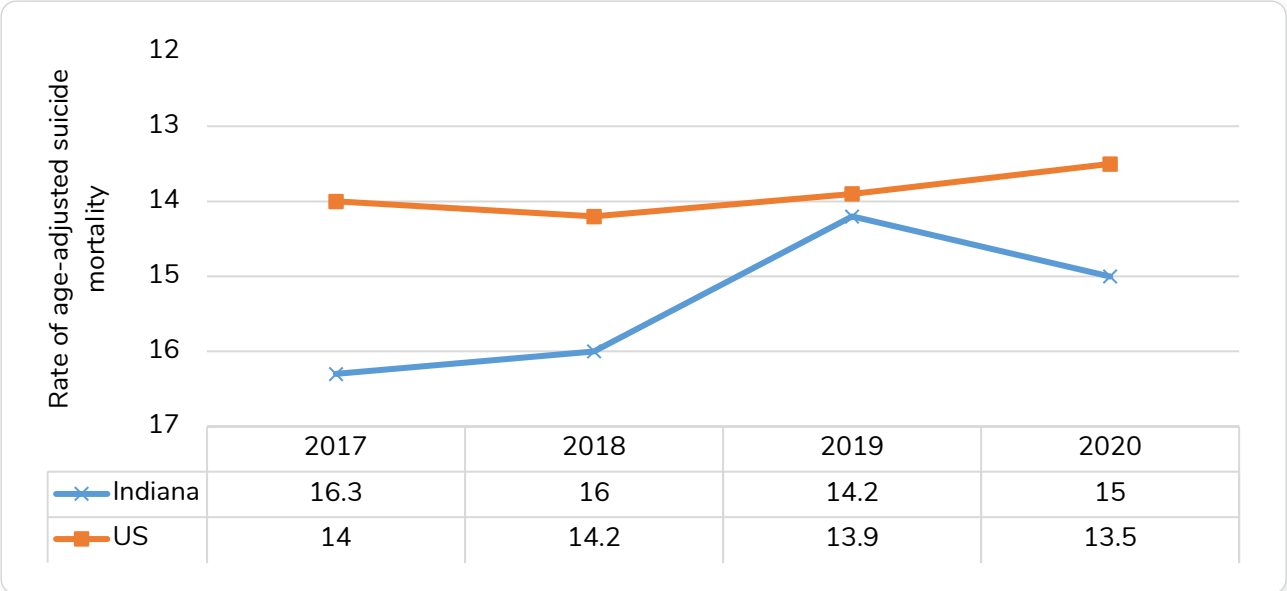
	2019 Q1	2019 Q2	2019 Q3	2019 Q4	2020 Q1	2020 Q2	2020 Q3	2020 Q4	2021 Q1	2021 Q2	2021 Q3
Rate	201.5	200.4	181.7	190.2	183.7	170.8	186.5	179.6	167.6	177.6	179.4

Source: "INSPECT Prescription Drug Monitoring," 2021

SUICIDE

One of the other main mental impacts due to COVID-19 has been the increase in suicidal thoughts. Suicidal thoughts have been associated with symptoms of anxiety, fear, insomnia, and more. Additionally, COVID-19 survivors have been found to have increased suicide risk (Sher, 2020). Throughout the pandemic, suicidal thinking has been associated more with adults, not adolescents (Fortgang et al., 2021). We analyze the trends in age-adjusted suicide mortality rates per 100,000 population in Indiana and the nation (See Figure 16). We find that the rates were 15 deaths by suicide per 100,000 population (95% CI: 14.1 to 16.0) in 2020, which was slightly higher than the national rate of 13.5 per 100,000 population (95% CI: 13.5 to 13.6). See Figure 17 for the trends in suicide mortality rate.

Figure 17: Age-Adjusted Suicide Mortality Rate per 100,000 Population in Indiana and the United States



	2017	2018	2019	2020
Indiana	16.3	16	14.2	15
US	14	14.2	13.9	13.5

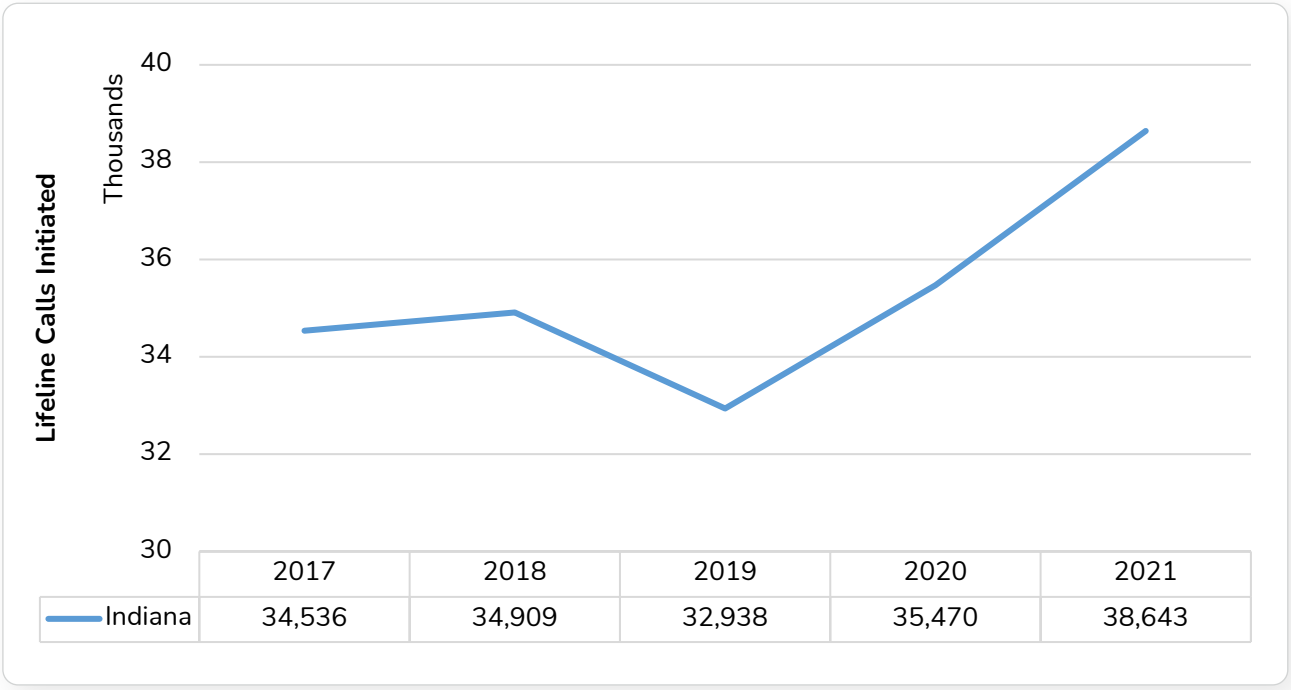
Source: (CDC WONDER, 2017–2020)

LIFELINE CALLS

During the beginning of the pandemic, there was an increase in helpline call volumes. Many of these calls surrounded issues such as fear and loneliness during the beginning of the pandemic, and then physical health later in the pandemic (Brhar t, Klotzbher , Lalive, & Reich, 2021). These helpline calls are seen to be manifestations of mental distress and concern due to the resources provided at each call. Telephone helplines have previously been established as mental health and suicide-prevention-related resources and have helped to reduce suicide rates (Brhar t, Klotzbher , Lalive, & Reich, 2021). This could be useful in the application of the COVID-19 pandemic because it could give an indication of the spread of the virus and the fears and concerns of the population.

According to the National Suicide Prevention Hotline and Vibrant Emotional Health, the total lifeline calls initiated in Indiana increased slightly from 2017 to 2018, before dropping heavily in 2019. Then, lifeline calls increased heavily during the pandemic in 2020 and 2021. See Figure 18 for trends in lifeline calls initiated in Indiana.

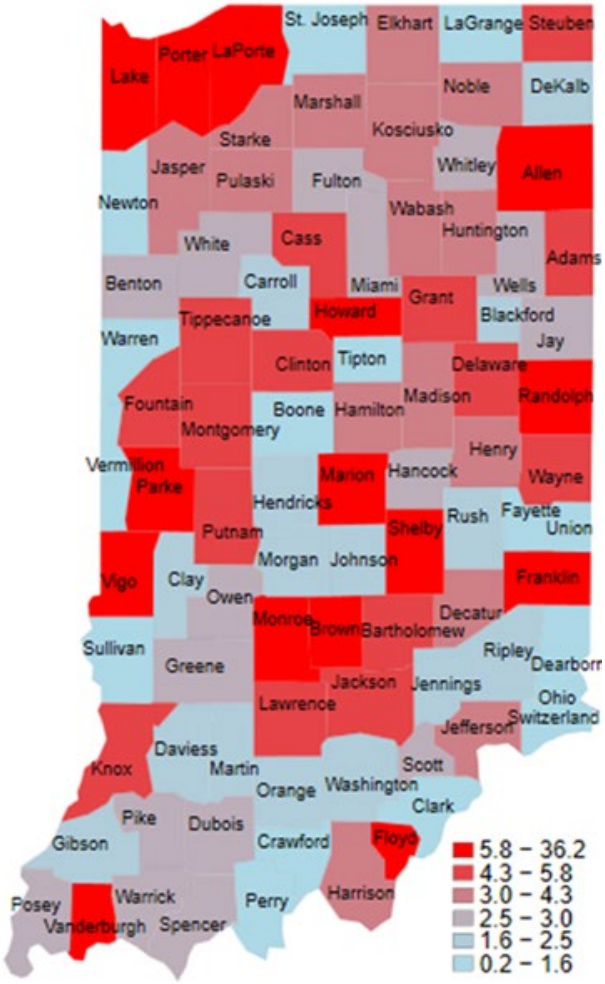
Figure 18: Lifeline Calls Initiated in Indiana [2015 to 2021]



	2017	2018	2019	2020	2021
Indiana	34,536	34,909	32,938	35,470	38,643

Source: National Suicide Prevention Hotline, Vibrant Emotional Health, 2022

Map 6 shows the 2021 national suicide prevention hotline data on the counts of lifeline calls per 1,000 residents. The data appears to show that the central, western, northwestern, north-central, northeastern, and eastern parts of the state have relatively higher calls per capita relative to the southeastern and southwestern parts of the state.



Map 6: Regional Distribution of Lifeline Calls Per 1,000 population, 2021, National Suicide Prevention Hotline, Vibrant Emotional Health

Source: National Suicide Prevention Hotline, Vibrant Emotional Health, 2022`

Other Impacts in General

IMPACT ON ACCESS TO HEALTHCARE

The pandemic caused many clinics to shut down and switch to virtual healthcare, and many hospitals were overwhelmed with COVID-19 cases, where individuals seeking routine care and elective surgeries were delayed. In 2020, over 43% of Americans ages 18-44 were unable to get care for any reason ("Reduced Access to Care," 2021). Many individuals avoided going to required checkups to avoid getting COVID-19. A higher share of women (38%) reported skipping preventative care serves over 26% of men. For many Americans, the rising cost of healthcare added to their stress, as more than half of adults reported they were "very worried" or "somewhat worried" about affording healthcare if they contracted COVID-19 ("SHADAC COVID-19 Survey Results," 2020). A third of patients in a study reported they skipped healthcare access due to worries about contracting COVID-19 or limited availability of clinicians. Those with a greater need for care, such as those with physical or mental comorbidities, were more likely to delay their access to care compared to those without comorbidities (Patient Condition).

IMPACT ON HEALTHCARE WORKERS

The pandemic also had a lasting effect on the healthcare industry, while hospital systems saw an influx of patients being seen due to the pandemic, more and more healthcare workers reported feeling burnout from work. In a study, 49% of healthcare workers reported suffering from burnout due to long shifts, lack of resources and help, and high demand and stress from fighting the Covid-19 pandemic (Berg, 2021). During the pandemic, it was reported that almost 20% of healthcare workers had quit their jobs, adding more strain to an already pinched healthcare industry (Levine, 2021). Prior to the pandemic, estimates show that burnout in the healthcare industry cost the system about $4.6 billion; this figure is likely to be exacerbated by the pandemic.

One of the biggest populations affected by the pandemic is nurses. Due to the frequent staffing shortages in hospitals and healthcare organizations, nurses have experienced greater levels of stress, exhaustion, and burnout (Pulse of the Nation's, 2021). A survey found that 34% of nurses state that they are not emotionally healthy and 42% of nurses have experienced trauma since the start of the pandemic. With 50% of nurses considering leaving their position, there must be more mental health support available to these health professionals as they are the backbone of the pandemic response (Pulse of the Nation's, 2021).

IMPACT ON MOTHERS

As many institutions such as businesses and schools shut down at the start of the lockdown, many parents had to adjust to living and working at home while simultaneously caring for their children throughout the day. There were many social and economic challenges associated with this undertaking leading to depression and anxiety for many mothers. A Canadian survey found that maternal depression and anxiety increased throughout the progression of the pandemic and suggests that financial support and child supervision could help prevent future maternal distress (Racine et al., 2021). A study that examined stress and anxiety in either pregnant or post-partum women found that they were associated with elevated levels of posttraumatic stress, anxiety, stress, and depression. This is due to stress about pregnancy and delivery in addition to COVID-19-related worry (Basu et al., 2021).

IMPACT ON COLLEGE STUDENTS

Students who shifted from school environments to living with parents saw the greatest decrease in drinking days (White et al., 2020). Ryerson et al. (2021) find that a reason for the decrease in alcohol consumption is due to the loss of access to drinking establishments. Firkey et al. (2020) found that during COVID-19, alcohol and cannabis consumption increased by 26.9% and 15.1%, respectively. They believe that the increased substance use can be attributed to negative coping strategies and methods of escapism. Prior to the COVID-19 pandemic, mental health among college students was becoming an increasingly important and pressing issue. Between 2007 and 2017, the rate of mental health treatment in universities increased by approximately 15% (Fruehwirth, Biswas, & Perreira, 2021). Anxiety and depression are the most frequent concerns among this population. Fruehwirth, Biswas, & Perreira (2021) found that students who experienced distance-related learning difficulties during the pandemic indicated higher rates of anxiety and depression. Social isolation and loss of work also increased these rates. Students who had pre-existing mental distress had worsening severe symptoms during the pandemic (Fruehwirth, Biswas, & Perreira, 2021).

IMPACT ON LOW INCOME AND SPECIAL POPULATIONS

The spread of the virus has formed a geographical trend where it started in densely-populated cities and then spread to rural areas. There have also been impacts on various demographics, specifically racial and ethnic groups. Rudenstinè et al. (2020) found that COVID-19-related stress was related to greater depressive and anxiety symptoms among lower socioeconomic groups. It was also found that the degree of these symptoms was related to the amount of exposure there was to these stressors. Families with low income also frequently experienced delayed mental health care due to a lack of access (Lee & Singh, 2021).

Certain groups are affected by social determinants of health such as income, education, and occupation, are placed at a disadvantage compared to others, and have a higher risk of contracting COVID-19 (Bauer & Schlacher, 2020). For example, indigenous populations have a mortality rate from coronavirus that is 3.1 times higher than the rate of white Americans (Wendt et al., 2021). Fitzpatrick, Drawve, & Harris (2020) found that Native Americans experienced fewer emotions of fear, worry, and stress surrounding the pandemic compared to other ethnic groups.

LGBTQ+ populations have been greatly affected by the COVID-19 pandemic. Goodyear et al. (2021) found that approximately one in fivè LGBTQ+ adults surveyed increased substance use consumption during COVID-19, specificallỳ alcohol and cannabis. They attribute this rise in substance use to the frequency of poor mental health during this time, specificallỳ suicidal thoughts. Studies have found large gaps in the data surrounding COVID-19 and the LGBTQ+ community (Bowleg & Landers, 2021). This population is at a higher risk of contracting COVID-19, almost twice as likely compared to their heterosexual counterparts (Bowleg & Landers, 2021). Akré et al. (2021) find barriers to health care access with high ratès of food insecurity, low wages, and low rates of employment among the LGBTQ+ community. Further research is necessary to identify the impact on this specific population. During thè pandemic, the LGBTQ+ community has faced a higher rate of severe mental health issues than others (McGough, Young, & 2021).

Homeless individuals are also at a higher risk of contracting the virus because some of them live in very confined areas while others do not havè permanent shelters. These unstable environments do not allow them to practice social distancing or hand hygiene. Additionally, there is a greater prevalence of non-communicable diseases such as HIV and cancer among this population that would aggravate symptoms of COVID-19 if infected (Chatterjee, Biswas, & Guria, 2020). Apart from their physical susceptibility, many of them do not have financial resources due to à lack of family support leading to more financiaỉ and mental stress. Socioeconomic constraints in combination with COVID-19 lockdown procedures create unfavorable conditions, aggravating psychological tolls (Chatterjee, Biswas, & Guria, 2020).

Conclusion

Like other states, COVID-19 impacted Indiana in terms of economy and public health. Indiana saw its unemployment rate at 16.9% in April of 2020 but it was leveled out at 6.3% by September. Alcohol use among Hoosier women increased by 3.3 percentage points in 2020 relative to the prior year. Between 2019 and 2020, the drug overdose deaths in Indiana had increased by 36.6% to 2,316 deaths. The emergency department visits due to opioid overdoses in Indiana also increased during the same time period. Most of these deaths were from drug poisoning due to opioids. Marijuana use among young adults increased to 26.7% in 2020 from 25.6% in 2019.

The COVID-19 pandemic had significant impactș on mental health in the United States. Four in ten adults reported experiencing psychological distress or mental health symptoms during the pandemic (Panchal, Kamal, Cox, & Garfield, 2021). Many adults report that these negative impacts on their mental health affect their sleeping and eating patterns and even lead to alcohol consumption and substance abuse in some cases. From Mental Health America online screening data, survey respondents from Indiana had experienced relatively higher levels of depression, psychosis, ptsd, suicide, and trauma. (County and State Data Map: Defining Mentaỉ Health Across Communities", 2022).

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