Chapter 2
Young Adult Substance Use Prevalence and Trends

Executive Summary

The most prevalent substances used by young adults ages 19 to 30 in 2021 were:

<table>
<thead>
<tr>
<th>Substance</th>
<th>Past 12 months</th>
<th>Past 30 days</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alcohol</td>
<td>81.8%</td>
<td>66.3%</td>
</tr>
<tr>
<td>Marijuana (any mode)</td>
<td>42.6%</td>
<td>28.5%</td>
</tr>
<tr>
<td>Vaping Nicotine</td>
<td>21.8%</td>
<td>16.1%</td>
</tr>
<tr>
<td>Vaping Marijuana</td>
<td>18.7%</td>
<td>12.4%</td>
</tr>
<tr>
<td>Cigarettes</td>
<td>18.6%</td>
<td>9.0%</td>
</tr>
<tr>
<td>Other Drugs¹</td>
<td>18.3%</td>
<td>7.5%</td>
</tr>
</tbody>
</table>

In addition, binge drinking (having 5+ drinks in a row in the past 2 weeks) was reported by 32.0%, and daily marijuana use (20+ occasions in the past 30 days) was reported by 10.8% of young adults in 2021.

There were notable significant changes from 2020 to 2021 among young adults ages 19 to 30:

- Increases in vaping marijuana in the past 30 days from 2020 to 2021.

¹ An index of non-medical use of any drugs other than marijuana includes hallucinogens (including LSD), cocaine, amphetamines, sedatives (barbiturates), tranquilizers, and narcotics (including heroin).
• A decrease in daily drinking and an increase in binge drinking among young adults from 2020 to 2021, thereby returning to the pre-pandemic levels of 2019.
• Increases in vaping nicotine in the past 30 days among young adults from 2020 to 2021.
• Decreases in the non-medical use of narcotics other than heroin among young adults from 2020 to 2021.
• Decreases in the non-medical use of some stimulants from 2020 to 2021, including amphetamines, Adderall, cocaine, and methamphetamines.

In 2021, young adults had **historically high prevalence levels** of:

• Marijuana use: In 2021, marijuana use in the past 12 months and past 30 days among young adults has reached the highest levels ever recorded (since 1988).
• Nicotine vaping in the past 30 days: Since it was first measured in 2017, nicotine vaping in the past 30 days has nearly tripled among young adults to 16.1% in 2021. Nicotine vaping in the past 12 months was reported by 21.8%, just below the all-time high of 23.6% in 2019.
• High-intensity drinking: In 2021, 13.1% of young adults had 10+ drinks in a row in the past 2 weeks, which was the highest recorded since it was first measured in 2005.
• Hallucinogens other than LSD: In 2021, 6.3% of young adults reported use in the past 12 months, which was the highest recorded (since 1988).

In 2021, young adults had **historically low prevalence levels** of:

• Cigarette smoking: Smoking among young adults has been declining steadily since 2004, with large and significant decreases in past 12-month use, past 30 day use, daily use, and smoking a half pack per day or more over the past 5 years and 10 years. Cigarette smoking in the past 30 days decreased by more than half in the past decade, from 21.2% in 2011 to 9.0% in 2021.
• Alcohol use: Measures of drinking in the past 12 months, past 30 days, daily drinking, and binge drinking have been decreasing over the past 10 years.
• Narcotics (opioids): Narcotics other than heroin, Vicodin, and OxyContin were all at record low levels among young adults in 2021.

Introduction

Longitudinal panel studies that track the same individuals across several years are extremely valuable for examining developmental changes with age and long-term connections across the life course. At the same time, the multiple cohort sequential design of MTF provides a useful snapshot of each age group in a given year. In this chapter, we present the most recent prevalence of substance use among young adults (ages 19 to 30) and describe recent historical trends comparing these estimates to young adults in previous years. The data are presented in a series of figures and tables ordered by substance and timeframe of use (e.g., past 12 months, past 30 days). In the figures, estimates for ages 19 to 30 are combined, and the significance of trend estimates across 1, 5, and 10 years is provided. In the tables, estimates for young adults are provided in 2-year age groupings (e.g., modal ages 19 and 20) and, for comparison, with estimates from adolescents at age 18 (presented elsewhere) and adults ages 35 to 60 (discussed in the next chapter). Previous trends have been reported annually and are available elsewhere.

Most Common Substances: Prevalence

The prevalence estimates (this section) and trends (the following section) are first presented for the most commonly used substances including marijuana, alcohol, cigarettes, vaping, and any drug other than marijuana. Estimates for other specific substances are presented in the final section of the chapter.
Marijuana

The legal status of marijuana at the state level, as well as how it is talked about in the literature and society at large, is changing. The term “marijuana” is increasingly being replaced with the term “cannabis.” However, in our surveys and this publication we predominantly continue to use the term marijuana (as does NIDA2). We continue to update our surveys about modes of use; the estimates here include use of marijuana in any form.

12 month. Marijuana use in the past 12 months was reported by 42.6% of young adults in 2021 (Figure 1), with the highest prevalence at ages 21–22 (44.7%; Table 3).

30 day. Marijuana use in the past 30 days was reported by 28.5% of young adults in 2021 (Figure 2), with the highest levels for ages 21–26 at 29–31% (Table 4).

Daily. Current daily marijuana use (defined as using on 20 or more occasions in the past 30 days) was reported by 10.8% of young adults in 2021 (Figure 3), ranging from 9.1% at age 21–22, to 12.0% at ages 23–24 (Table 5).

Vaping marijuana. In particular, vaping marijuana in the past 12 months was reported by 18.7% of young adults in 2021 (Figure 4). Vaping marijuana in the past 30 days was reported by 12.4% of young adults in 2021 (Figure 5), with the highest prevalence at ages 19–20 at 13.6%.

Alcohol

12 month. Alcohol use in the past 12 months was reported by 81.8% of young adults in 2021 (Figure 6); it rose sharply with age, reaching 87.7% at age 25–28 (Table 7).

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2 National Institute on Drug Abuse. Cannabis (Marijuana).
**30 day.** Two-thirds (66.3%) of young adults reported drinking in the past 30 days in 2021 (Figure 7); peaking at 74.8% at ages 25–26 (Table 8).

**Daily.** Current daily drinking (defined as 20 or more occasions in the past 30 days) was reported by 4.1% of young adults in 2021 (Figure 8). It increased across the age strata, from 1.8% at ages 19–20 to 5.6% at ages 29–30 (Table 9).

**Binge drinking** (i.e., having 5+ drinks in a row) was reported by 32.0% of young adults in the past 2 weeks in 2021 (Figure 9). Prevalence was 23.4% at ages 19–20 and 32.4–35.4% at ages 21–30, reflecting a recent shift upward in the peak age.³

**High-intensity drinking**⁴ (i.e., having 10+ drinks in a row) was reported by 13.1% of young adults in the past 2 weeks (Figure 10); 3.7% reported having 15+ drinks in a row in the past 2 weeks (Figure 11).

**Cigarettes**

**12 month.** Cigarette use in the past 12 months was reported by 18.6% of young adults in 2021 (Figure 12).

**30 day.** Cigarette use in the past 30 days was reported by 9.0% of young adults in 2021 (Figure 13), with the highest levels of 10.8–12.6% at ages 27–30 (Table 12).

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Daily. Daily smoking was reported by 4.4% of young adults in 2021 (Figure 14), increasing from 2.5% at ages 19–20 to 6.8–7.8% at ages 27–30 (Table 13). Smoking a half pack or more per day was reported by 2.4% of young adults (Figure 15).

Vaping Nicotine

12 month. Vaping nicotine in the past 12 months was reported by 21.8% of young adults in 2021 (Figure 16).

30 day. Vaping nicotine in the past 30 days was reported by 16.1% of young adults in 2021 (Figure 17), and highest at ages 19–22 (22.0–22.8%; Table 15).

Any Drug Other Than Marijuana

An index of non-medical use of any drugs other than marijuana includes hallucinogens (including LSD), cocaine, amphetamines, sedatives (barbiturates), tranquilizers, and narcotics (including heroin).

Lifetime. Lifetime prevalence of using any drug other than marijuana ranged from 22% at age 19/20 to 46% at ages 27–30 (Figure 41).

12 month. Use of any drug other than marijuana was reported by 18.3% of young adults (Figure 18), increasing from 14.0% at ages 19–20 to 16.9–20.5% at ages 21–30 (Table 16).

Most Common Substances: Trends

We focus on recent trends in substance use among young adults ages 19 to 30 combined (shown in Figures 1 through 38). Data are given for each year in which they are available for that full age band. We present trends for one year (the percentage point change between 2020 and 2021), 5 years (the percentage point change between 2016 and 2021), and 10 years (the percentage point change between 2011 and 2021).
Marijuana

In 2021, marijuana use among young adults reached the highest levels ever recorded since the indices were first available in 1988 (Figures 1 to 3). Marijuana use in the past 12 months among young adults has increased over the past 10 years (from 29.4% in 2011) and past 5 years (from 33.8% in 2016) to 42.6% in 2021 (Figure 1). Similarly, marijuana use in the past 30 days over the past 5 years (from 20.6% in 2016) and the past 10 years (from 17.1% in 2011) to 28.5% in 2021 (Figure 2). Current daily marijuana use among young adults also reached a new peak of 10.8% in 2021 (Figure 3), reflecting significant change over the past 5 years (from 7.5% in 2016) and 10 years (from 5.7% in 2011). However, the 1 year change from 2020 to 2021 was not significant for use in the past 12 months (Figure 1), past 30 days (Figure 2), or daily marijuana use (Figure 3).

Vaping marijuana was reported by 18.7% of young adults in the past year (Figure 4). The prevalence of vaping marijuana in the past 30 days increased among young adults, from 10.8% in 2020 to 12.4% in 2021 (Figure 5). Questions about vaping marijuana were added to the young adult surveys in 2017, with 30 day prevalence more than doubling from 2017 to 2019 and then remaining fairly steady from 2019 through 2021.

Alcohol

Alcohol use in the past 12 months among young adults in 2021 stayed at 81.8%, unchanged from 2020(Figure 6). However, there were significant downward trends in use among young adults in the past 5 years (from 83.5% in 2016) and 10 years (from 83.8% in 2011). Alcohol use in the past 30 days showed a similar pattern, with no significant change over 1 year, but statistically significant decreases in the past 5 years (from 69.7% in 2016) and 10 years (from 68.9% in 2011; Figure 7). Among young adults, current daily drinking has decreased over the past 1 year (from 5.3% in 2020), 5 years (from 5.6% in 2016), and 10 years (from 5.2% in 2011), to 4.1% in 2021 (Figure 8).
**Binge drinking** (5+ drinks in a row in the past two weeks) among young adults showed a pattern of rebounding from a historic low during the COVID-19 pandemic in 2020 (when it reached 28.0%), back to 32.0% which was even with pre-pandemic levels (Figure 9). However, this was still a decrease over the past 10 years (down from 35.5% in 2011).

**High-intensity drinking** has not followed the same pattern: in fact, having 10+ drinks in a row in the past two weeks has increased over the past 5 (from 9.6% in 2016) and 10 (from 11.0% in 2011) years to 13.1% in 2021 (Figure 10).

**Cigarettes**

Cigarette smoking among young adults has been declining steadily since 2004 and reached new historic lows in 2021. The 1 year trends were not significant, although there were large and significant decreases in past 12-month use, past 30-day use, daily use, and smoking a half pack or more per day over the past 5 years and 10 years (Figures 12 to 15). For example, cigarette use in the past 30 days decreased by more than half in the past decade (Figure 13). This pattern of significant decline follows appreciable declines to historic lows among high school seniors and is consistent with a cohort effect working its way up the age spectrum (Tables 11 through 14).

**Vaping Nicotine**

Questions about vaping nicotine were added to the young adult surveys in 2017. The prevalence of vaping nicotine in the past 12 months was level from 2020 to 2021 (at 21.8%), but remained near the high of 23.6% in 2019. The prevalence of vaping nicotine in the past 30 days increased significantly from 2020 (13.7%) to 2021 (16.1%) among young adults (Figure 17). Since it was first measured 4 years ago, the prevalence of nicotine vaping has nearly tripled among young adults (from 6.2% past 30-day use in 2017; Figure 17).

**Any Drug Other Than Marijuana**

An index of non-medical use of any drugs other than marijuana includes hallucinogens (including LSD), cocaine, amphetamines, sedatives
(barbiturates), tranquilizers, and narcotics (including heroin). Past 12 month use of non-medical use of any drug other than marijuana remained steady among young adults (at 18.3%), with no significant change in the past 1, 5, or 10 years (Figure 18). As summarized below, this lack of significant change was due to a mix of significant increases, significant decreases, and no significant changes in the drugs that constitute this index.

**Other Substances: Prevalence and Trends**

MTF includes specific questions about many individual substances. Below are prevalence levels and trends for use in the past 12 months among young adults for non-medical use of hallucinogens, narcotics (opioids), sedatives/tranquilizers, stimulants, and tobacco in other forms. Additional data are also available.5

**Hallucinogens**

Hallucinogen use was reported by 8.1% of young adults in 2021 (Figure 20), ranging from 7.4–9.7% across ages 19 to 30 (Table 17). The 1 year change was not significant, although there were significant longer-term increases across the past 5 years (from 4.6% in 2016) and 10 years (from 3.4% in 2011; Figure 20).

**LSD use** was reported by 4.2% of young adults in 2021 which was level from 2020 to 2021 but has increased significantly over the past 5 and 10 years (from 1.6% in 2011 and 3.0% in 2016; Figure 21).

**Hallucinogens other than LSD** significantly increased from 2020 (5.2%) to 2021 (6.3%; Figure 22), and over the past 5 and 10 years (Figure 22).

**MDMA (ecstasy, Molly)** was the exception among hallucinogens, with prevalence at 2.6% of young adults in 2021 (Figure 23) reflecting significant

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5 Monitoring the Future: Restricted-Use Panel Data, United States, 1976-2019 (ICPSR 37072)
https://www.icpsr.umich.edu/web/NAHDAP/studies/37072
decreases over the past 1 year (from 4.5% in 2020) and 5 years (from 4.8% in 2016).

**Narcotics (Opioids)**

**Heroin** use was uncommon, at only 0.2% among young adults (Figure 24), and has significantly decreased over the past 10 years from 0.4% in 2011.

Use of **narcotics other than heroin** was reported by 1.7% of young adults (Figure 25), which was a significant decrease over the past 1 year (from 2.6% in 2020), 5 years (form 5.2% in 2016), and 10 years (from 7.7% in 2011). Its peak was 8.9% in 2006 (Figure 25). Correspondingly, past 12 month use of Vicodin showed a significant 5 year decline of 1.5 percentage points to 1.3% in 2021; its peak was 9.2% in 2009 (Figure 27). OxyContin appeared to have leveled at very low prevalence over the past 5 years (1.5% in 2021), which was a decrease over the past 10 years (from 2.7% in 2011; Figure 26).

**Sedatives & Tranquilizers**

**Sedative** (barbiturate) use was reported by 1.4% of young adults in 2021 (Figure 28), with significant decreasing trends over the past 1 year (from 2.2% in 2020), 5 years (from 2.6% in 2016), and 10 years (from 3.0% in 2011). In 2021 prevalence was at an all-time low for young adults.

**Tranquilizer** use was reported by 3.2% of young adults in 2021 (Figure 29), which is level with 2020 but part of a longer-term decline over the past 5 years (from 5.0% in 2016) and 10 years (from 5.8% in 2011).

**Stimulants**

**Amphetamine** use was reported by 5.6% of young adults in 2021 (Figure 30), ranging from 3.3% at ages 19–20 to 7.1% at ages 21–24 (Table 25). Use declined significantly among young adults over the past 1 year (from 6.6% in 2020), 5 years (from 6.9% in 2016), and 10 years (from 6.6% in 2011; Figure 30).
**Adderall**, an amphetamine stimulant also used in the treatment of ADHD, was reported by 0.2% of young adults in 2021 (Figure 31), after a decline from 2020 (0.8%) and across the past 5 years (from 0.6% in 2016).

**Ritalin**, a stimulant widely prescribed for the treatment of attention deficit hyperactivity disorder or ADHD, was reported by 1.3% of young adults in 2021 (Figure 32).

**Cocaine** use was reported by 5.5% of young adults in 2021 (Figure 33), peaking at 7.3% at ages 25–26 and then declining through age 30 (Table 26). The prevalence declined significantly from 2020 (6.8%) to 2021 (5.5%), reversing the longer-term trend of increasing over the past 10 years, during which the all-time low was 3.8% in 2013 (Figure 33).

**Methamphetamine** use has remained at 0.2–1.0% for young adults since 2008 (Figure 34), although there was a significant decrease from 2020 (0.8%) to 2021 (0.2%).

**Tobacco, Other Forms**

Various forms of nicotine and tobacco use (in addition to cigarettes and vaping nicotine, reported above) include:

**Small cigars**. Use of small cigars has been trending downward over the past 1, 5, and 10 years, reaching a new low of 10.2% of young adults in 2021 (Figure 35).

**Hookah**. Smoking tobacco with a hookah has decreased significantly over the past 1, 5, and 10 years, with prevalence of use in the past 12 months at 6.3% of young adults in 2021 (Figure 36).

**Snus**. Use of snus in the past 12 months was reported by 3.2% of young adults in 2021, which is a substantial decrease over the past 10 years (from 5.8% in 2011; Figure 38).
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