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# Town of Brookline, MA

## 2023 Marijuana Landscape Assessment



**Health Resources in Action**  
*Advancing Public Health and Medical Research*

Submitted to:

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## Executive Summary

This 2023 assessment of the landscape of marijuana in the Town of Brookline gathered and synthesized quantitative and qualitative data to understand the influence and impacts of marijuana, with a focus on youth. The goals of this assessment were to:

1. Understand and define the relative impacts of marijuana and other substances on the Town of Brookline, with a particular focus on youth.
2. Identify priority areas, address health disparities, and establish intervention strategies as it relates to marijuana and other substance use.

The main findings of the assessment are summarized here:

- Overall, about **one in four (23%)** of Brookline High School (BHS) student respondents to the 2023 Massachusetts Youth Risk Behavior Survey (MYRBS) reported **ever having used marijuana**. Prevalence of use increased steadily by grade, with 7% of 9<sup>th</sup> graders reporting use, and **over half (53%) of 12<sup>th</sup> graders reporting lifetime use**.
- Overall, 13% of BHS student respondents to the MYRBS reported having used marijuana in the **past 30 days**. Prevalence of use was 5% among 9th graders and **30% (almost one in three) among 12th graders**.
- In 2013, 34% of BHS students reported **ever using marijuana in their lives**, compared to 27% in 2015, 26% in 2017, 18% in 2021 during the COVID-19 pandemic, and 23% in 2023.
- In 2013, 21% of BHS students reported using marijuana in the **past 30 days**, compared to 16% in 2015, 17% in 2017, 10% in 2021 during the COVID-19 pandemic, and 13% in 2023.
- **The prevalence of lifetime and past-month marijuana use among BHS students appears to be substantially lower than among Massachusetts high school students overall.**
- BHS students had the **perception** that many more of their peers were using marijuana than what was reflected in the MYRBS data.
- There were statistically significant differences in the prevalence of lifetime and past-month use by various **demographic and education-related characteristics**. These characteristics should be considered with a perspective towards stress, stigma, and discrimination, especially during the important stage of identity formation occurring in the teen years.
- **Parental mental health and substance use disorders appear to be associated with a higher prevalence of youth marijuana use.**
- The **bidirectional links between mental health, stress, and marijuana use** were widely discussed. Prevention and treatment efforts should target these links holistically.
- **Parental attitudes and behaviors** could be an important area for education and intervention.
- **Direct sales to youth from legal marijuana dispensaries in Brookline do not seem to be a source of access for Brookline youth.** Dispensaries in Boston and social media connections to sellers in the informal market are of greater concern.
- Some Brookline residents expressed that issues of **racial equity around marijuana** should receive equal attention to concerns over youth marijuana use.
- Opinions and attitudes about marijuana use are very mixed among Brookline residents, but with a consistent sentiment that efforts should be made to limit/prevent/discourage youth use.

Using a Social Drivers of Health (SDoH) framework and public health approach to substance use, Recommendations are organized around the following categories:

**1. Prevention: Social Environment**

Example: Support activities and community locations that provide alternatives to substance use for both youth and adults.

**2. Prevention: Stress & Mental Health**

Example: Encourage youth to participate in physical and social activities that reduce stress and promote mental health, and can establish life-long healthy strategies for coping with stress.

**3. Youth Education and Resources**

Example: Meet youth where they are by adopting innovative educational approaches using peer-to-peer learning, social media, smartphone apps, etc.

**4. Adult Education and Resources**

Example: Educate parents about youth access to drugs through social media.

**5. Treatment & Recovery**

Example: Bolster mental health services and combined treatment for mental health and substance use.

**6. Collaboration**

Example: Encourage cross-sector and cross-organizational collaboration on mental health services and other youth services.

**7. Data & Transparency**

Example: Continue supporting the regular collection of MYRBS data in PSB and enlist efforts to increase the response rates, especially among older BHS students.

**8. Racial Equity**

Example: Develop and promote public education about the racist history of the U.S. War on Drugs and implications for Brookline and the present day.

**9. Policy & Enforcement**

Example: Maintain current enforcement policies at Brookline dispensaries, which currently seem to be preventing youth from direct purchases.

Results of this assessment can be used by town leaders to prioritize and plan public health activities to prevent youth marijuana use and support intervention and treatment for those in need. We recommend that planning efforts for how to utilize these findings should include the perspectives and inputs of both Brookline youth and communities of color who have been disproportionately impacted by drug laws and enforcement.

## Introduction

The landscape of marijuana availability and use has changed dramatically in the United States in the past decade. Simultaneously with the changing legal status of marijuana in the State, norms and perceptions around marijuana use have also been changing. Nationally, research has started to explore how the increase in legally available marijuana and changing attitudes towards marijuana use may be affecting patterns of use among both adults and youth.<sup>1,2</sup>

Medicinal use of marijuana was legalized in Massachusetts in 2012, with dispensaries eventually opening in 2015. Recreational use of marijuana for adults over age 21 was legalized in Massachusetts in 2016. In 2018, the residents of Brookline voted to codify regulations for recreational marijuana dispensaries in the town. The first recreational marijuana storefront in the Greater Boston Area was opened on Washington Street in Brookline Village in 2019.

According to Section 8.37 of the General By-Law, the Town of Brookline established a cap of retail marijuana licenses equal to 20% of package store [liquor store] licenses, which is equal to four retail marijuana licenses.<sup>3</sup> All four retail licenses have been issued as of June 2021.<sup>4</sup> As of October 2023, the State was considering updated regulations to require host communities with saturated licensing caps to reserve at least one opportunity for an equity business *if* they expand licensing opportunities in the future.<sup>5</sup> As of October 2023, there were three operational recreational marijuana dispensaries in Brookline and one recreational dispensary that also offers medical marijuana sales.<sup>6</sup> At this time, Brookline was also considering licensing social consumption sites in Brookline, where customers would be able to purchase and consume marijuana on site.

Massachusetts state law imposes a 10.75% state excise tax and a 6.25% standard sales tax on all sales of adult-use marijuana.<sup>7</sup> The Town of Brookline imposes a 3% sales tax on retail operations which created a revenue of \$1.8 million in Fiscal Year (FY) 2020, when Brookline had one of the only open retail stores in the Boston area, and a revenue of about \$617,000 in FY2023. Revenues from local sales tax go into a unrestricted general fund for the town. During the retail dispensary start-up period, Brookline also negotiated Host Community Agreements (HCA) with licensed dispensaries, which are community impact fees for mitigation costs associated with the dispensaries. Until 2023, this fee was set at 3% of gross sales, and revenue went towards expenses such as parking enforcement, public consumption enforcement, and sanitation; in addition to funds for public health services associated with dispensaries, such as substance use counseling and community health specialists.

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<sup>1</sup> Sarvet, A. L., Wall, M. M., Fink, D. S., Greene, E., Le, A., Boustead, A. E., ... & Hasin, D. S. (2018). Medical marijuana laws and adolescent marijuana use in the United States: A systematic review and meta-analysis. *Addiction*, 113(6), 1003-1016.

<sup>2</sup> Cerdá, M., Mauro, C., Hamilton, A., Levy, N. S., Santaella-Tenorio, J., Hasin, D., ... & Martins, S. S. (2020). Association between recreational marijuana legalization in the United States and changes in marijuana use and cannabis use disorder from 2008 to 2016. *JAMA psychiatry*, 77(2), 165-171.

<sup>3</sup> Town of Brookline. (2023). Retrieved from Marijuana Licensing Regulations: <https://www.brooklinema.gov/1909/Marijuana-Licensing-Regulations>

<sup>4</sup> Town of Brookline. (2023). Retrieved from Marijuana Licensing: <https://www.brooklinema.gov/1908/Marijuana-Licensing>

<sup>5</sup> Massachusetts Cannabis Control Commission. Cannabis Control Commission Approves Historic Regulatory Changes to Implement Commonwealth's Equity Reform Law. <https://masscannabiscontrol.com/2023/09/cannabis-control-commission-approves-historic-regulatory-changes-to-implement-commonwealths-equity-reform-law/>

<sup>6</sup> Town of Brookline. (2023). Retrieved from Special Permits: <https://www.brooklinema.gov/1855/Special-Permits>

<sup>7</sup> Massachusetts Cannabis Control Commission. (2023). Retrieved from Adult Use Licenses: Taxes and Fees: <https://masscannabiscontrol.com/taxes-and-fees/>

In November 2021, petitioners put forth Warrant Article (WA) 9 to the Brookline Town Meeting to establish a study committee to look at a variety of topics pertaining to marijuana and its impact on the town. The Town Meeting opted not to pass the Article, but instead opted to make the following referral to the Advisory Council on Public Health (ACPH):

*VOTED: That the subject matter of Warrant Article 9 be referred to the Advisory Council on Public Health; with a recommendation that the ACPH collaborate with the Brookline Department of Public Health on a community-based study or studies of marijuana's public health impacts, with particular attention to, but not limited to, mental health impacts on underage populations...*

In 2022, the Town of Brookline Department of Public Health and Human Services (BDPHHS) partnered with Health Resources in Action (HRIA), a non-profit public health organization, to conduct this assessment.

### *Assessment Purpose and Goals*

The goals of this assessment were to:

1. Understand and define the relative impacts of marijuana and other substances on the Town of Brookline, with a particular focus on youth.
2. Identify priority areas, address health disparities, and establish intervention strategies as it relates to marijuana and other substance use.

Specific research questions sought to:

- Identify priority areas, address health disparities, and establish intervention strategies around marijuana use in the Town of Brookline
- Describe the impact of marijuana availability on use
- Describe access to and acquisition of marijuana by Brookline youth
- Describe the relationship between marijuana use and mental health
- Explore the impact of marijuana use on aspects of youths' lives in Brookline
- Describe the influence of advertising on marijuana use
- Explore the influence of parents on youth marijuana use
- Explore the influence of norms and peer behaviors on youth marijuana use
- Explore equity issues in the marijuana landscape in Brookline

The results in this assessment will be used by BDPHHS and their partners across Brookline Town Government to develop strategies and initiatives around marijuana and other substance use, particularly among youth. Community leaders, local businesses and organizations, elected officials, parents, and youth will be engaged to use these report findings and recommendations to improve public health and social services available to Brookline community members to prevent youth marijuana use and support those needing services.

## Health and Racial Equity Approach

This assessment uses a broad definition of health that recognizes and emphasizes numerous factors beyond individual behaviors that impact individual, community, and regional health. It is important to recognize that these multiple factors, referred to as the social drivers of health (SDoH), have a downstream impact on health outcomes and that there is a dynamic relationship between real people and their lived environments. In addition to recognizing and emphasizing these SDoH, this assessment

was also undertaken with an understanding that health equity (or inequity) precedes these social drivers.

As with other substance use, marijuana use must be considered from a SDoH perspective, given that an individuals' substance use behaviors are inherently nested in the context of their family, community, culture, and society. The Substance Abuse and Mental Health Services Administration (SAMHSA) has developed a SDoH-informed model that highlights societal, community, family, and individual-level factors that combine to shape community and individual risk and protective factors for addiction-related behaviors (**Figure 1**). In extending this model to marijuana use, at the societal level, laws and policies affect access to marijuana, and law enforcement and economic contexts may influence population-level use patterns. Community resources, such as employment opportunities and social institutions that affirm residents' identities and promote health may lessen risk for problematic marijuana use, while the influence of peers and social norms may also affect initiation, abstinence from, and frequency of use. At the family level, factors such as parental attitudes and behaviors and financial resources may influence the behavior of youth as well as their access to behavioral health services. At the individual level, factors such as mental health, stressful life conditions, and how individuals respond to stress may also influence risk for problematic marijuana use. SAMHSA's holistic and SDoH-informed model is used to examine multiple levels of influence on individual and community risk for substance use disorders and recovery (**Figure 1**). This includes consideration of biological and psychological aspects of risk for substance use disorders; the promotion, acceptance, or stigma around marijuana use in social contexts; and the effects of problem marijuana use on families, employment, and criminal justice involvement.

**Figure 1. The Multiple Contexts of Addiction-Related Risk and Protective Factors**



DATA SOURCE: Substance Abuse and Mental Health Services Administration (SAMHSA), Prevention Training and Technical Assistance.

While some individuals may be at higher risk of developing a marijuana use disorder, problem marijuana use nonetheless affects individuals, families, and communities across age, race/ethnicity, income, gender identity, sexual orientation, place, and other social factors. Given the relatively recent



legalization of recreational marijuana sales in Massachusetts, it is important to understand the current prevalence of both marijuana use and problem use in different groups – especially youth – in order to address current and emerging concerns through prevention and treatment.

All stages of this assessment were conducted to consider health and racial/ethnic equity, as they relate to issues around marijuana use in Brookline. Specifically, HRiA’s Health Equity Framework was used throughout the process to:

1. **Challenge assumptions and narratives about what promotes and hinders health:** We consider how social, economic, and environmental drivers of health may shape the conditions in which people live, and the historical and contemporary injustices and systemic oppression that create and perpetuate these conditions.
2. **Create and sustain authentic and diverse stakeholder engagement:** To advance health equity and ensure solutions are appropriate and collectively owned, we consider ways to create and sustain authentic engagement of diverse stakeholders, including communities, sectors, leaders, and other individuals; also, we continuously consider which voices are not included at the table, and modify approaches wherever possible.
3. **Strengthen capacity to correct power imbalances and address inequities:** Our data collection strategies seek to give voice to those who do not traditionally have influence or control over decision-making. We engage in research not to “harvest” data from vulnerable communities, but as a way to build collaborations and lift up the voices of under-represented groups.

## Methods

This assessment was conducted using a mixed methods approach to gain a robust understanding of the landscape of marijuana use in the Town of Brookline. This approach included the collection and analysis of secondary quantitative data; review of documents, programs, and government records; and collection of qualitative data through key informant interviews and focus groups with community members. In all aspects of the assessment, we sought to engage town employees, local organizations, and community residents. The assessment process was guided by a Steering Committee (SC).

### Steering Committee Engagement

The SC provided input and support throughout the assessment process. SC members represented town government and administration, education, law enforcement, cannabis retailers, parents, and youth; and included two current Brookline High School students. Please see **Appendix A** for a full list of SC members.

The SC was engaged throughout the assessment process. This engagement included meeting three times: first in December 2022 to provide input on the assessment methods and timeline; second in March 2023 to hear updates on the assessment process, to discuss preliminary findings from data collection to guide further data gathering, and to help with the interpretation of the results; and finally in October 2023 to discuss findings and recommendations for action. SC members also provided input by email and in conversations, reviewed data collection instruments, suggested community members for key informant interviews and focus groups, helped identify local data sources, and provided connections to community organizations to support data collection and outreach efforts.

## Survey Data

### *Secondary Data*

Secondary data are data that have already been collected by another entity for a purpose not related to this assessment. Examining secondary data helps to understand trends, provides a baseline, and identifies differences by sub-groups. It also helps in guiding where primary data collection can dive deeper or fill in gaps.

**Figure 2** shows the topics covered by secondary data in this assessment, some example data points, and the source of the data.

**Figure 2. Example Secondary Data Topics and Sources**

Examples		Sources
<b>Demographics and Disparities</b>	<ul style="list-style-type: none"><li>• Race/Ethnic composition by State, County, and Town</li></ul>	<ul style="list-style-type: none"><li>• US Census Data</li></ul>
<b>Usage and Access or Sourcing</b>	<ul style="list-style-type: none"><li>• Percentage of MA high school students who report using Marijuana</li><li>• Source of Cannabis Access by Age</li><li>• Reasons for Avoiding Legal Cannabis Purchase by Age</li></ul>	<ul style="list-style-type: none"><li>• Health and Use Risk Factors of MA Youth Survey - MDPH</li><li>• Youth Risk Behavior Survey - BDPHHS</li><li>• Brookline Marijuana Survey - BDPHHS</li><li>• Cannabis Use Trends in Massachusetts – MA CCC</li></ul>
<b>Social Norms, Attitudes, and Knowledge</b>	<ul style="list-style-type: none"><li>• Average Number of Friends that Use Marijuana out of Their Top Five Closest Friends</li><li>• Percentage of Massachusetts High School Students who Reported Parental/Family Disapproval of Marijuana Use</li></ul>	<ul style="list-style-type: none"><li>• Health and Use Risk Factors of MA Youth Survey - MDPH</li><li>• Youth Risk Behavior Survey - BDPHHS</li><li>• Brookline Marijuana Survey - BDPHHS</li><li>• Cannabis Use Trends in Massachusetts – MA CCC</li></ul>
<b>Harms, Benefits, and Impacts</b>	<ul style="list-style-type: none"><li>• Percentage of Residents Who Feel the Marijuana Dispensaries Benefit the Town of Brookline Financially</li><li>• Percentage of Residents Who Feel Unsafe in Their Neighborhood Because of the Marijuana Dispensaries</li></ul>	<ul style="list-style-type: none"><li>• Brookline Marijuana Survey - BDPHHS</li><li>• Cannabis Use Trends in Massachusetts – MA CCC</li></ul>

Additional data were received from local sources describing the substance use education and programming provided in the PSB.

Secondary data were analyzed by the agencies that collected or received the data, except where noted below. Data are typically presented as frequencies (%) and any comparisons between groups should be interpreted as lay comparisons and *not* statistically significant differences, except where noted below.

### *Massachusetts Youth Risk Behavior Survey*

The Youth Risk Behavior Survey was developed by the U.S. Centers for Disease Control and Prevention (CDC) and is administered in towns and cities across the U.S. every other year. In Massachusetts, the Massachusetts Youth Risk Behavior Survey (MYRBS) is conducted, in collaboration with the Massachusetts Department of Elementary and Secondary Education. The Town of Brookline, along with many other school districts and municipalities, administer their own MYRBS survey in order to understand and monitor behaviors, health, and wellness among public middle and high school students.

### *2023 MYRBS*

In Brookline, the MYRBS was administered to students in grades 6 to 12 in May 2023, during an academic block (6<sup>th</sup> graders), during an advisory period (6<sup>th</sup>, 9<sup>th</sup>-12<sup>th</sup> graders), or during Health Class (7<sup>th</sup>-8<sup>th</sup> graders). Families were notified prior to administration and given the opportunity to opt out, and students were also given the opportunity to opt out at the point of administration.

Students completed the MYRBS in Google Forms, with multiple language options available. Students were informed that their responses were anonymous and could not be linked back to them. **In total, 2,271 PSB students in grades 6 to 12 participated in the MYRBS**, comprising 1,367 students in grades 6-8 (92.9% participation rate), and 904 students in grades 9-12 (44% participation rate). The sociodemographic distribution of survey respondents were similar to those of the PSB student population, suggesting that survey results should be representative of the general student population. However, there appeared to be slight over-representation in survey respondents who were White, female, and in 8<sup>th</sup> and 9<sup>th</sup> grades; and slight under-representation in survey respondents who were Black/African-American, male, and in 6<sup>th</sup> and 12<sup>th</sup> grades. Where possible, results are presented stratified by grade, gender, and race/ethnicity. More details on the methodology behind the administration of the MYRBS in Brookline can be found in the PSB report.<sup>8</sup>

Anonymous survey responses were shared by PSB with BDPHHS and analysts at Health Resources in Action. Analyses in this report were conducted in SAS version 9.4. Frequencies were calculated for each survey question. Not all respondents answered every question; therefore, denominators in analyses reflect the number of total responses for each question and vary by question. For the sake of maintaining confidentiality, results are not presented for response options with fewer than 10 respondents. Select results were tested for statistically significant differences using *chi-squared* tests with p-values set at p<0.05.

Stratified analyses were conducted for select questions by specific sub-groups that had large enough response rates. Select variables were re-coded to combine groups to have sufficient numbers of respondents for analyses. For the purposes of this assessment, gender identity was coded as male (if respondents *only* selected male), female (if respondents *only* selected female), or additional gender category; sexual orientation was coded as heterosexual (if respondents *only* selected heterosexual) or lesbian/gay/bisexual (LGB)+; and race/ethnicity was coded as Hispanic/Latinx, non-Hispanic Asian, non-Hispanic Black/African-American, non-Hispanic White, or non-Hispanic Additional race/ethnicity.

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<sup>8</sup> Public Schools of Brookline MA Youth Risk Behavior Survey. Data Summary and Trends Report. 2020.  
<https://www.brookline.k12.ma.us/Page/2831>

### *2013-2021 MYRBS*

The MYRBS is generally administered every other year in Massachusetts schools. In this report, we present results previously published elsewhere, showing trends in marijuana and other substance use from 2013 – 2017, and from 2015 – 2019.<sup>9</sup> The MYRBS was also administered in Brookline during the COVID-19 pandemic in Spring 2021, but technical issues may limit the validity of these results, aside from the external impact of the pandemic and various stages of lockdown affecting social behavior and access to illicit substances.

### *Brookline Marijuana Survey, 2021*

The Brookline Department of Public Health conducted a survey in order to gain information from adult residents regarding marijuana use, attitudes, and beliefs. The survey was open to all Brookline residents over the age of 18. The survey was available online and was open for three weeks in February and March 2021. Respondents were recruited through local news outlets, community organizations, and social media.

A total of 1,094 Brookline residents responded to the survey. Three-quarters (73.8%) were White, 15.7% were Asian, 6.4% were Hispanic/Latinx, and 2.5% were Black/African-American. One quarter (25.6%) had completed a Bachelor's degree, and 66.5% had completed a Master's or Doctoral degree. About a third of respondents were aged 35-44, 40% were 45-54, and 11% were 55-64 years old. About 10% of respondents did not have children, and two-thirds had children under age 18.

### *International Cannabis Policy Study and Survey*

The International Cannabis Policy Study (ICPS) started in 2018 with annual population-based surveys of Canadian and U.S. residents. Since 2019, the Massachusetts Cannabis Control Commission (MCCC) has contracted with the University of Waterloo to administer this survey to MA residents.<sup>10</sup> More details on the methodology behind the administration of the ICPS can be found in that report.

Briefly, the ICPS recruited a random sample of 4,683 Massachusetts residents aged 16-65 in 2019 and 2020. Of note, the ICPS presents a somewhat unusual categorization of race and ethnicity, treating Hispanic or Latino as a separate ethnicity variable and categorizing race as 1) Asian, 2) American Indian, Alaskan Native, Native Hawaiian or Pacific Islander, 3) Black, 4) White, and 6) Other/2+ Races.

Therefore, respondents of Hispanic ethnicity may be included in any of these racial categories, as they are not coded to be mutually exclusive.

## **Qualitative Data: Key Informant Interviews and Focus Groups**

Qualitative data collection aimed to gather a range of perspectives from those in the community related to marijuana use. As the goals of this assessment were particularly to learn more about youth marijuana use, the inclusion of youth, young adults, and parents was prioritized. We also sought out

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<sup>9</sup> <https://www.brooklinema.gov/Archive>

<sup>10</sup> Massachusetts Cannabis Control Commission, Cannabis Use Trends in Massachusetts, Findings from the International Cannabis Policy Study, 2019 and 2020. <https://masscannabiscontrol.com/wp-content/uploads/2022/09/International-Cannabis-Policy-Study-2019-2020.pdf>

voices representing groups who have historically and currently been harmed by the *War on Drugs* and continued unjust laws and practices.

The **nine community stakeholders** interviewed for this assessment included behavioral health service providers, staff from the Public Schools of Brookline (PSB), industry representatives, and local elected officials. **Six focus groups were also conducted with a total of 35 participants, including 23 Brookline teens and recent graduates of Brookline High School.** Focus groups represented youth, parents, and communities of color who are currently and historically the most impacted by racist drug laws and enforcement. For more information on the sectors engaged, see **Appendix B**.

Interviews were conducted over Zoom, using a semi-structured interview guide, and lasted approximately 60 minutes. Focus groups were conducted both in-person and over Zoom, also used a semi-structured guide, and lasted approximately 60-90 minutes. See **Appendix C** for the interview and focus group topics. Focus group participants were compensated for their time with a virtual gift card and local organizations who helped with focus group recruitment were offered an honorarium.

HRiA staff coded and thematically analyzed notetaker transcripts using NVivo 13 (QSR International Pty Ltd.). Key themes were identified based on the frequency and intensity with which they appeared in the transcripts. Selected quotes—without personal identifying information—are presented in the narrative of this report to further illustrate points within topic areas.

## Limitations

2023 MYRBS data from PSB are limited by the 44% participation rate among BHS students, with a response pattern that is not totally representative of the sociodemographics of the BHS student population. Results could be somewhat inaccurate due to the possibility of sampling bias. We could not access raw data for previous years' administrations of the MYRBS in Brookline, and therefore statistical testing of time trends was not possible. Any apparent patterns should therefore be interpreted with caution. Results from the 2021 Brookline MYRBS should be interpreted with caution, as noted above. With the MYRBS and other secondary data, some sub-group analyses were not possible due to confidentiality risks associated with low response rates.

For secondary data, we are limited to the use of racial/ethnic categories defined by survey administrators, usually Asian, Black, Hispanic, White, and Other. We acknowledge the limitations of categorizing people according to these heterogeneous racial/ethnic categories, as well as of using racial identity as a proxy for experiences of racism and discrimination. However, we believe it is vitally important to measure health and economic inequities by race and ethnicity, in order to address injustice and systemic racism.

Data based on self-report should be interpreted with caution. In some instances, respondents may over- or under-report behaviors and illnesses based on fear of social stigma or misunderstanding the question being asked. Despite these limitations, most of the self-report surveys analyzed in this report benefit from large sample sizes and repeated administrations, enabling comparison over time.

Finally, this assessment was conducted in 2023, three years after the start of the COVID-19 pandemic. Anecdotal reports are being bolstered by emerging scientific research documenting the deleterious effects that the pandemic and pandemic response have had on mental health and emotional well-being,

particularly among youth. Social distancing and school closure policies during the pandemic upended everyone's life, including limiting youth access to marijuana and other substances. We cannot know how the trends we observed in 2023 may change over time, as our entire society continues to re-adjust following the initial years-long disruptions from the pandemic. Changes in attitudes, behaviors, and health status described in this report will need to be monitored to put these findings in context.

## Terminology

In this report, we generally use the word marijuana, to refer to the drug used in its various forms. The word cannabis is also used when referencing specific entities (e.g. the Massachusetts Cannabis Control Commission). The words marijuana and cannabis are interchangeable in this report.

Please also note we use the word "dealer" throughout this report to be consistent with the language in the data that is cited and that participants used. It is used in reference to people who are engaging in the sale of marijuana outside of the legal market. However, we acknowledge that the word "dealer" may have racist connotations rooted in the racialized history of anti-drug messaging.<sup>11</sup>

Throughout this report, we use the term *interviewees* or *participants* to refer to Brookline community members who participated in interviews or focus groups for this study. We use the term *respondents* to refer to survey respondents, and indicate which survey is being referenced.

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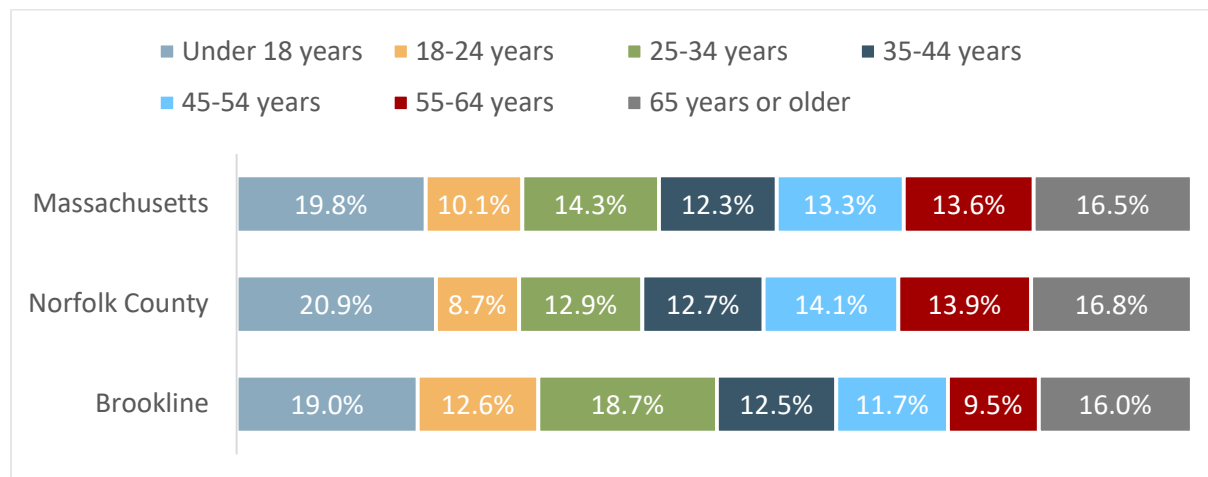
<sup>11</sup> For more information, please see:  
[https://drugpolicy.org/wpcontent/uploads/2023/05/Rethinking\\_the\\_Drug\\_Dealer\\_Report.pdf](https://drugpolicy.org/wpcontent/uploads/2023/05/Rethinking_the_Drug_Dealer_Report.pdf)

## Findings: Knowledge and Attitudes

### Brookline Demographics and Environmental Context

Between 2016 and 2020, the Town of Brookline had a total population of 59,223. The age distribution of Brookline residents was relatively similar to the State of Massachusetts and Norfolk County, though with more residents aged 25-34 years old and fewer residents aged 55-64 years old, proportionally (**Figure 3**).

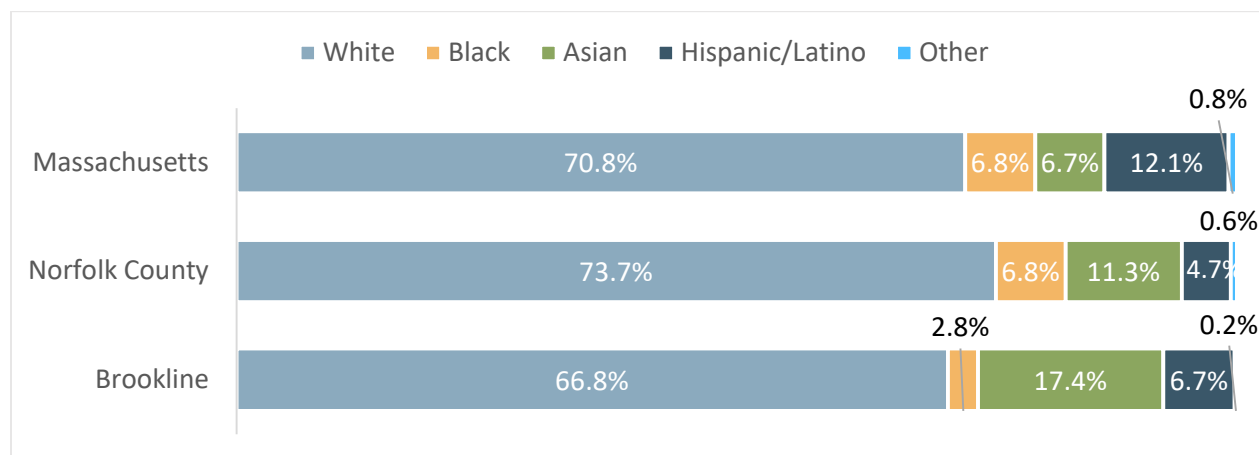
**Figure 3. Age Distribution by State, County, and Town, 2016-2020**



DATA SOURCE: US Department of Commerce, Bureau of the Census, 5-Year Estimates, American Community Survey, 2016-2020

By race and ethnicity, Brookline had 66.8% non-Hispanic White residents, compared to 73.7% in Norfolk County and 70.8% in Massachusetts overall (**Figure 4**). Brookline had a smaller proportion of Black/African American and Hispanic/Latino residents than the state, and more Asian-American residents. In 2020, 29.2% of Brookline residents were born outside of the U.S.

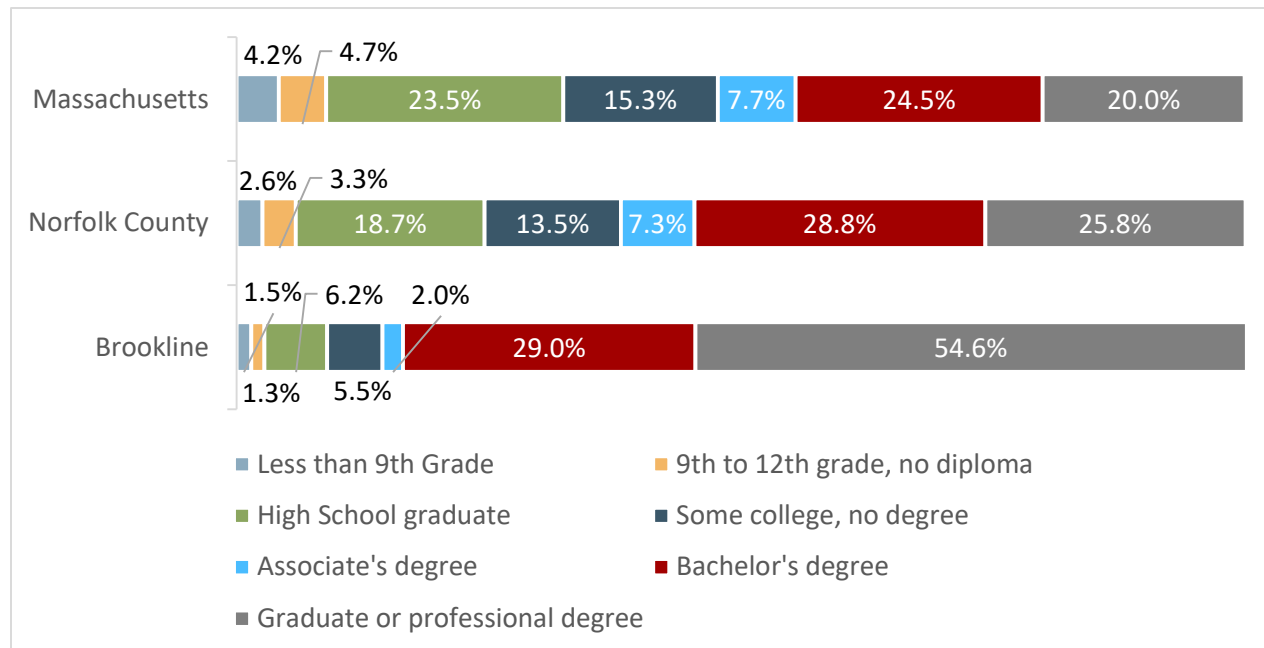
**Figure 4. Racial/Ethnic Composition by State, County, and Town, 2016-2020**



DATA SOURCE: US Department of Commerce, Bureau of the Census, 5-Year Estimates, American Community Survey, 2016-2020

In 2016-2020, the proportion of Brookline residents with a graduate or professional degree (54.6%) was notably higher than in Massachusetts overall (20.0%) (**Figure 5**). In turn, Brookline had relatively fewer residents with less than a bachelor's degree, compared to the state.

**Figure 5. Educational Attainment of Adults (25+) by State, County, and Town, 2016-2020**



DATA SOURCE: US Department of Commerce, Bureau of the Census, 5-Year Estimates, American Community Survey, 2016-2020

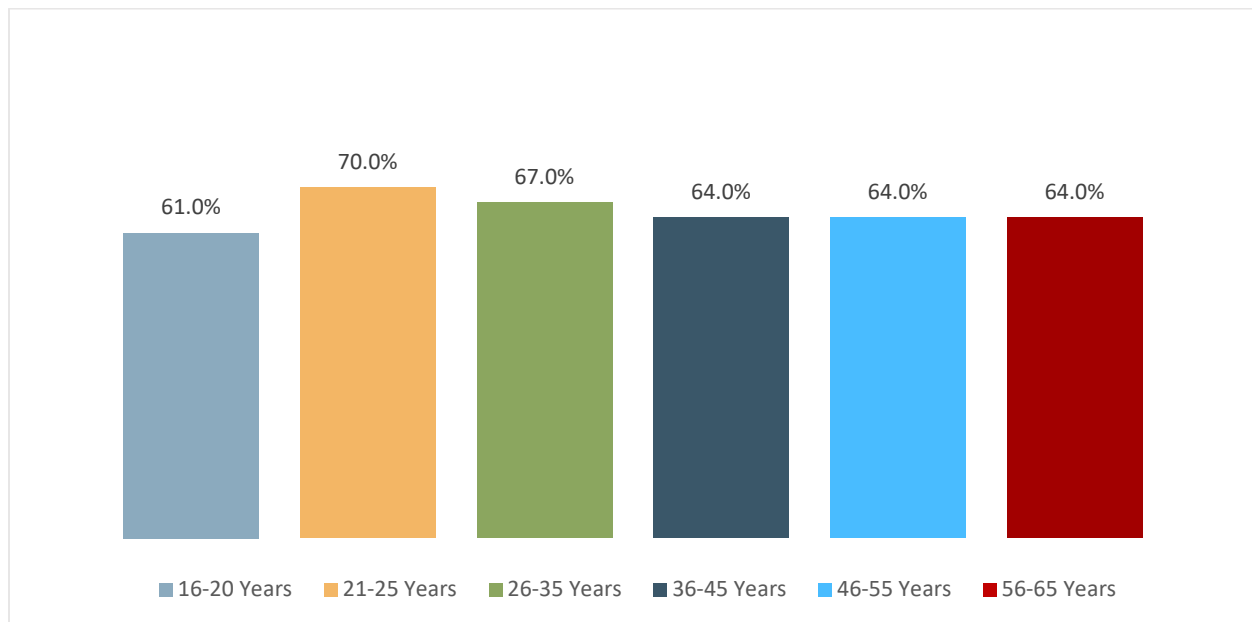
## Marijuana Awareness, Knowledge, and Perceptions

### *Legalization and Normalization*

According to a survey conducted for the International Cannabis Policy Study, in 2019-2020 the majority of Massachusetts residents thought that recreational cannabis should be legal, ranging from 61.0% among 16–20-year-olds to 70.0% among 21–25-year-olds (**Figure 6**).



**Figure 6. Percent of Residents who Feel that Recreational Cannabis Should be Legal by Age in the State of Massachusetts, 2019-2020**



Data Source: Massachusetts Cannabis Control Commission, Cannabis Use Trends in Massachusetts, Findings from the International Cannabis Policy Study, 2019 and 2020

In Brookline, the legalization of marijuana, particularly for recreational use, was widely viewed amongst assessment participants as contributing to the normalization of marijuana use within the Brookline community. When interviewees and focus group participants were asked about their general thoughts on recreational marijuana use, many had mixed sentiments about marijuana use itself, but they agreed that legalization was a major driver in its normalization.

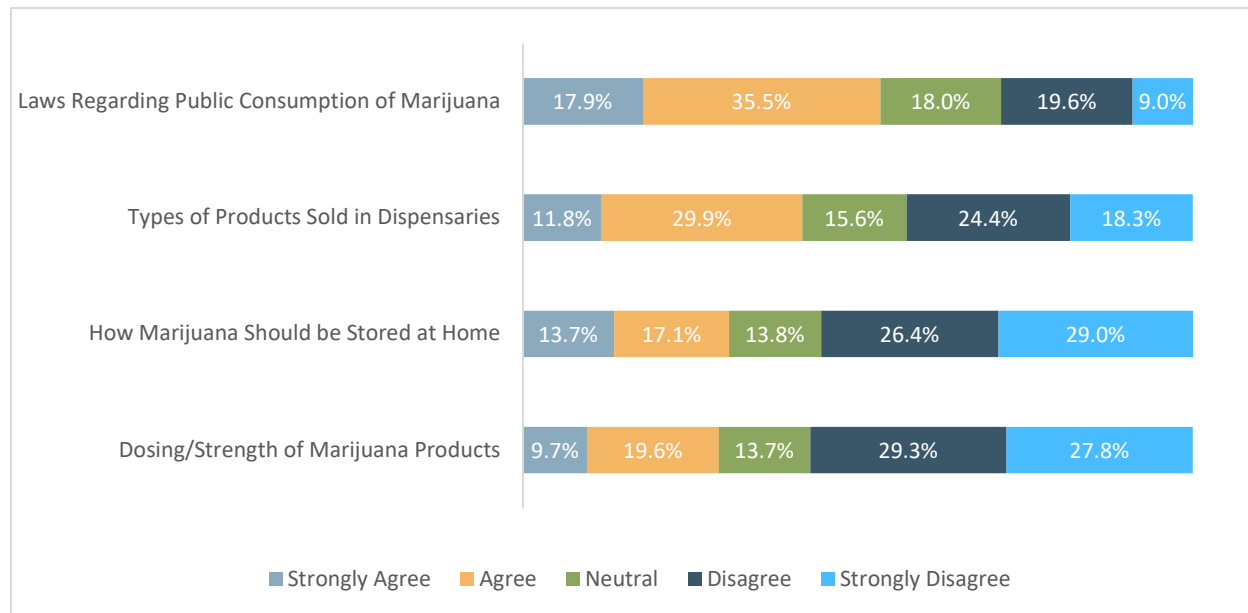
Interview and focus group participants noted the shift in culture around marijuana use with one participant who stated, *“there’s a normalization in the entire culture as the stores are opening up.”* Many respondents echoed this notion of seeing marijuana out in the open more and said, *“because it’s everywhere, it seems like it is normalized.”* Some participants viewed normalization as a positive when they said, *“ideally that cultural stigma [of marijuana use] would go away.”* But other participants stated that it was an issue, with one person who said, *“I do think it’s an issue and probably more common now that it’s legal and attitudes are changing around it.”*

#### *Knowledge around Marijuana*

Gauging level of knowledge about marijuana is an important factor in understanding and developing strategies to address substance use. Respondents to the 2021 Brookline Marijuana Survey varied in their level of knowledge related to various facets of marijuana and marijuana use. **Figure 7** shows that more than half of respondents (53.4%) felt that they were knowledgeable about the laws regarding public consumption of marijuana, with 18.0% being neutral, and 28.6% not feeling knowledgeable. Concerning knowledge of the different types of products sold in dispensaries, the results were more evenly split with 41.7% of respondents agreeing that they were knowledgeable about product types and 42.7% disagreeing. In terms of knowledge around how marijuana should be stored at home, only 30.8% of respondents agreed that they knew how marijuana should be stored at home compared to 55.4% of

respondents who said they did not know how marijuana should be stored at home. Even fewer respondents said they were knowledgeable about the dosing/strength of marijuana products (29.3%) compared to 57.1% of respondents who said they did not know about dosing/strength.

**Figure 7. Brookline Marijuana Survey Respondents’ Self-Reported Knowledge About Marijuana, 2021**

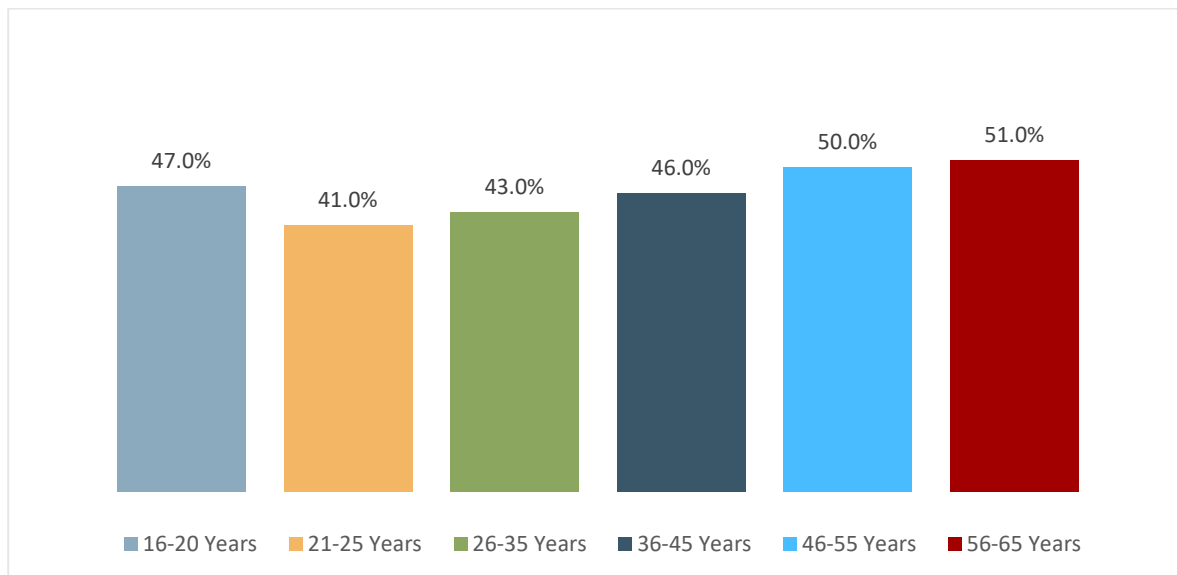


Data Source: Brookline Marijuana Survey, 2021

One focus group participant noted the difference in strength of marijuana, “*the marijuana from back then [~10 years ago] is very different than the marijuana now that’s putting kids into the hospital*” and that “*the potency is significantly higher now, we’re looking at a different drug now*”

Overall, in the state of Massachusetts, about half of residents were able to answer questions correctly related to the side effects of marijuana use. When broken down by age, those aged 56-65 were the most knowledgeable about the side effects (51.0%) compared to those aged 21-25 who were the least knowledgeable (41.0%) (**Figure 8**).

**Figure 8. Percent of Residents who Answered Questions About the Side Effects of Cannabis Correctly by Age in the State of Massachusetts, 2019-2020**

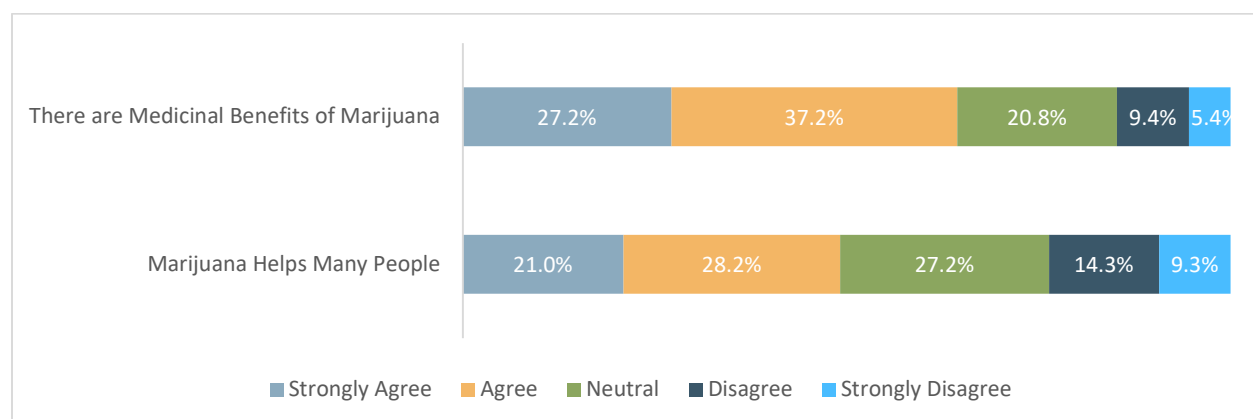


Data Source: Massachusetts Cannabis Control Commission, Cannabis Use Trends in Massachusetts, Findings from the International Cannabis Policy Study, 2019 and 2020

### *Perceptions about Marijuana*

Most respondents to the 2021 Brookline Marijuana Survey said they agreed that there are medicinal benefits of marijuana (64.4%) compared to those who disagreed (14.8%) (**Figure 9**). Respondents had mixed feelings on whether marijuana helps people. Nearly half of respondents agreed or strongly agreed that “marijuana helps many people,” while 27.2% were neutral, and 23.6% disagreed or strongly disagreed.

**Figure 9. Brookline Marijuana Survey Respondent’ Sentiments on the Benefits of Marijuana, 2021**



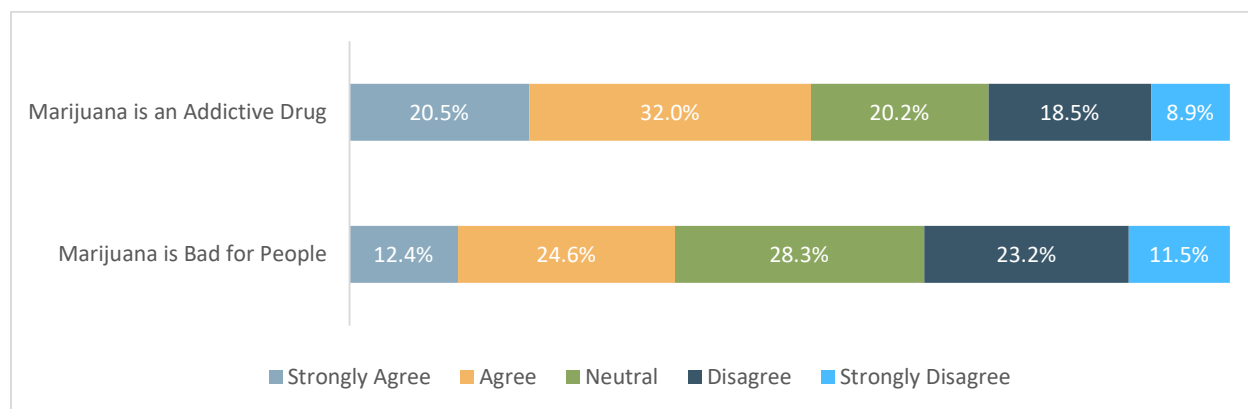
Data Source: Brookline Marijuana Survey, 2021

Interview and focus group participants especially noted the benefits of marijuana when it comes to medical issues and how marijuana can help with various conditions. One interviewee noted, “I will say I

am a supporter of medical marijuana. I've seen patients and family members really benefit from it. My grandmother had MS [multiple sclerosis] and she used it and it really helped her. I've seen the benefits of it. I didn't feel that having one store that was medically oriented was a problem." Others echoed the sentiments on the medicinal benefits of marijuana as one participant said, "bottom line, is if you're being responsible about it, it's not as big of an issue as getting blackout drunk...at the end of the day, it's a type of medicine." Another interviewee expressed that it can be an "alternative to opioids, [to] help for pain."

Despite most respondents to the 2021 Brookline Marijuana Survey agreeing that there are medicinal benefits to marijuana, respondents were split when it came to their sentiments on the harms of marijuana. When asked whether they felt that marijuana is an addictive drug, more respondents agreed that marijuana is an addictive drug (52.5%) compared to those that disagreed that is an addictive drug (27.4%). Additionally, 37.0% of respondents agreed that marijuana is bad for people compared to 34.7% who disagreed (**Figure 10**). Notably, in all of the questions in the 2021 Brookline Marijuana Survey asking about attitudes towards marijuana, there were a substantial number of respondents who said they were "neutral," indicating that more education may be needed about the harms and benefits of marijuana use.

**Figure 10. Brookline Marijuana Survey Respondent's Sentiments on the Harms of Marijuana, 2021**



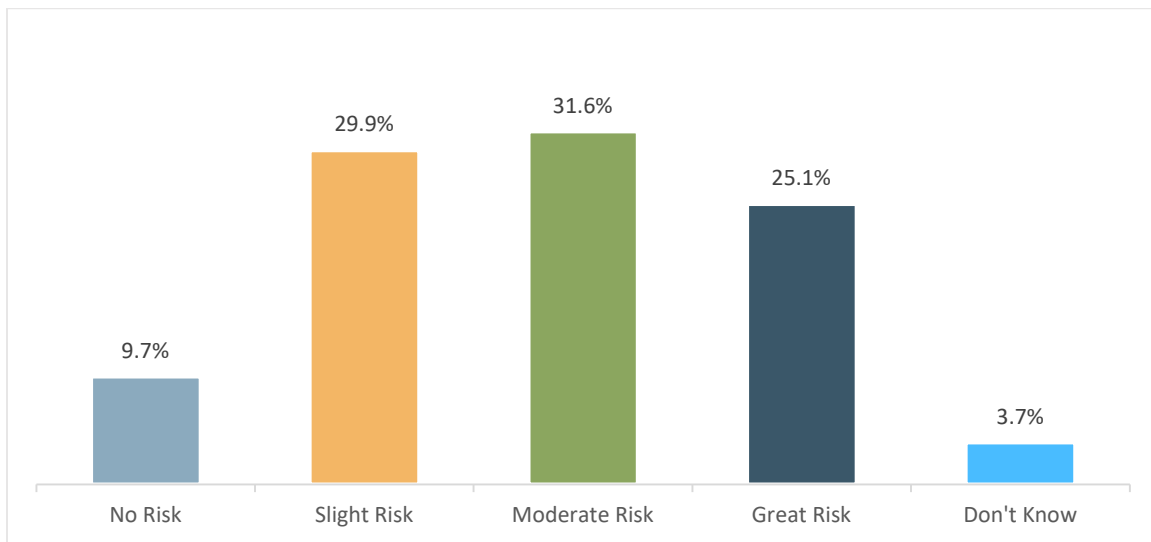
Data Source: Brookline Marijuana Survey, 2021

When interviewees and focus group participants were asked about the addictive properties of marijuana, there were more mixed responses. One interviewee noted, "from an addiction treatment standpoint, marijuana is not a significant concern. There's not the same level of physical addiction, like when you're talking about heroin or those things." While a different participant said, "people think about marijuana not being addicting, but it's been added to the DSM now and it actually can be addicting." Another participant blamed the proliferation of dispensaries, saying "the town wanted to make it a small business grassroots thing. But it's turned into a predatory industry that preys on people's physiology. We know that younger users are much more susceptible to addiction. Our youth are going to see similar health impacts of marijuana compared to tobacco as the older generation." Another claimed "we have students who come into high school already addicted."

Focus group participants also related the normalization of marijuana as contributing to a perception of harmlessness, which is leading to people not taking marijuana use as seriously. As one participant mentioned, "it's scary, when we talk about alcohol and tobacco and fentanyl, it's bad. But then when we talk about marijuana, it's not seen as serious. It's normalized."

In terms of perceptions around marijuana usage and people’s risk of harming themselves, most respondents felt there was at least a slight risk of harm. More specifically, 29.9% felt there was slight risk, 31.6% felt there was moderate risk, 25.1% of respondents felt there was great risk, and 9.7% felt there was no risk (Figure 11).

**Figure 11. Brookline Marijuana Survey Respondent’s Perceptions of Marijuana Use and Risk in Harming Themselves (Physically or Other), 2021**



Data Source: Brookline Marijuana Survey, 2021

Youth becoming sick from marijuana use came up in some focus groups, with participants describing vomiting and hyper-emesis in some heavy users. One youth participant described the phenomenon of “greening out”: *“Greening out, it is like blacking out with alcohol. It’s just if you smoke too much, you can throw up, pass out, get the spins. Like having a bad trip. Using so much you get sick.”*

Interviewees extensively discussed the theme of how the perception of harmlessness of marijuana has proliferated and how that allows for youth to partake without critically examining its harms. One interviewee noted, *“I think that the challenge is that by legalizing you create the perception that it is harmless, you could make the same argument for alcohol because we know that it’s not great for you but it’s legal. But the research shows that there are some harms from cannabis use on the developing brain.”* Other interviewees similarly mentioned, *“there’s this perception that marijuana is harmless and allows them to get into it without questioning it”* and *“when a student hears there’s benefit to marijuana depending on what they’re using it for, they will be more willing to try.”*

Overall, there were disparate opinions among study participants about how large a concern marijuana use – and particularly youth marijuana use – was in Brookline. One participant said *“Yes, I think it’s an issue. I have family members that do weed. It takes a lot of time and it’s addictive. Folks are spending most of their day using weed, so it’s an issue.”* Another said *“[marijuana] is a huge issue in Brookline, like massive.”* Other participants disagreed, saying *“I don’t think [marijuana] is really a problem in Brookline. I don’t think it’s causing any issues with people physically or mentally.”* A youth participant said *“in regards to school, it could be worse. Like versus alcohol -- Would you rather be blackout drunk in the middle of the day or calm? It’s only an issue if you don’t know how to control it.”*

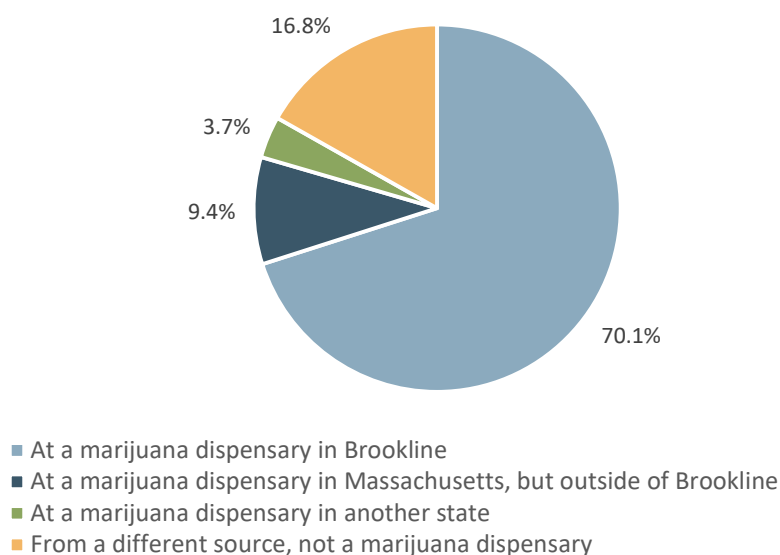
## Marijuana Access/Availability

### Dispensaries

The first recreational marijuana storefront in the Greater Boston Area was opened on Washington Street in Brookline Village in 2019, causing lines of people and extensive traffic problems for many months, until additional dispensaries were opened in Boston and surrounding areas.

Among Brookline Marijuana Survey adult respondents who were current users (n=244), the majority (70.1%) usually purchased marijuana from a dispensary in Brookline, though 16.8% still usually purchased marijuana from a source other than a dispensary (**Figure 12**).

**Figure 12. Usual Source of Purchasing Marijuana Among Brookline Adults Who Currently Use, 2021**



Data Source: Brookline Marijuana Survey, 2021

Interview and focus group participants noted a number of different ways that adults and youth access marijuana, both legally from dispensaries and illegally – from dispensaries (among underage youth) and in the informal market.

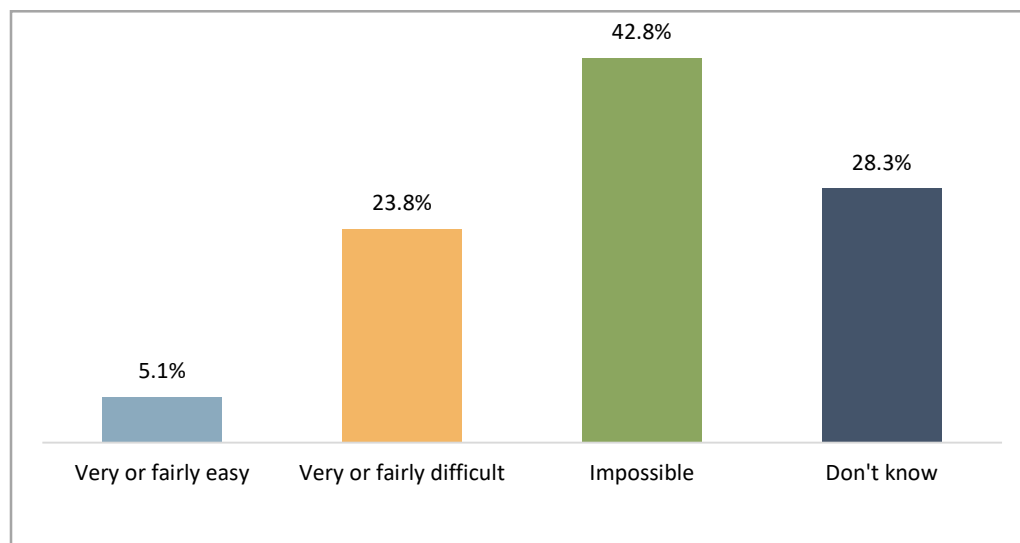
Illegal access among underage youth was clearly a greater concern among participants. Some participants reported that they believed that youth are obtaining marijuana from dispensaries, either directly themselves or indirectly through other people. For example, participants mentioned certain dispensaries, particularly in Boston, aren't as strict with checking photo identification (IDs). One participant noted, *"I know a lot of places where you can get it...there's stores that don't give a [s\*\*t] about ID'ing people"* and another participant who echoed, *"a lot of people go outside of Brookline. Even though it's legal in Brookline, there are places you can go downtown that are more loose with IDs and things like that...dispensaries in downtown Boston don't care, they don't even card."*

Other participants talked about how youth are getting marijuana from other people who get it from the dispensaries. One interviewee noted that, *"kids are buying it off adults who get it at shops who are selling to them."* Another participant said similarly, *"a lot of people get it from outside sources, like from*

older siblings who they're close with. A lot of that is from the dispo'." Some participants were insistent that youth are *not* getting marijuana from dispensaries, with one participant mentioning, "kids are getting it from friends, local drug dealers. I'm sure not from dispo'."

The 2023 MYRBS survey asked middle school students how easy or difficult it would be for them to obtain marijuana. The most common response was *Impossible* with 42.8%, followed by *Don't Know* with 28.3% (**Figure 13**). This question was not included in the MYRBS questionnaire for high school students.

**Figure 13. Ease of Obtaining Marijuana, by Brookline Middle School Students, 2023**



Data Source: Brookline Middle Schools MYRBS, 2023, (n=1,341)

### *Informal Market*

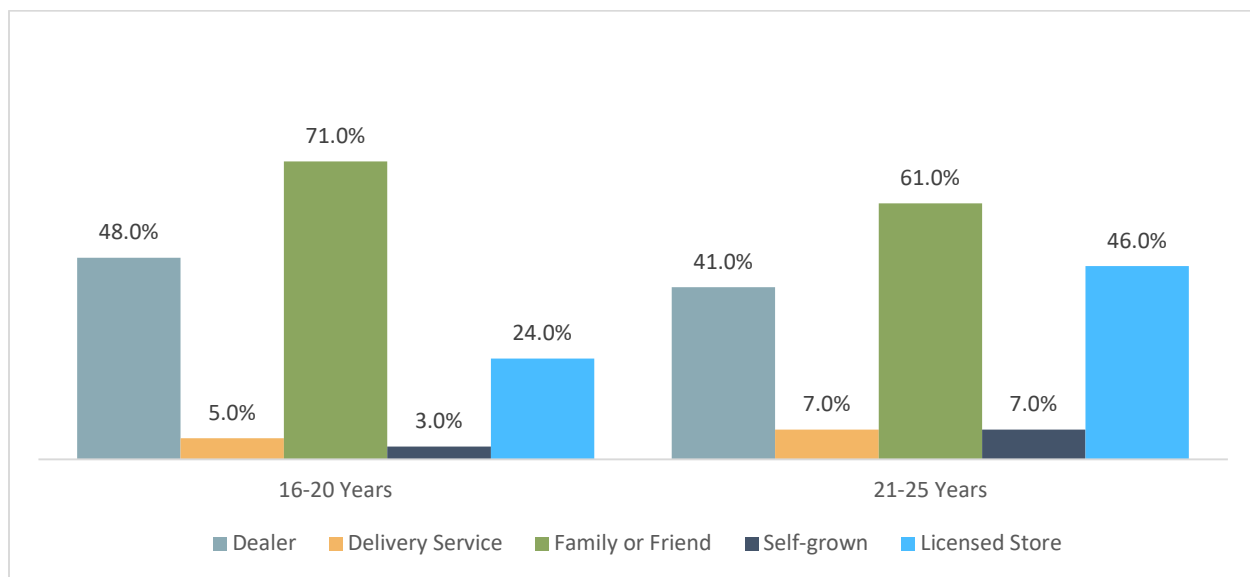
For the purposes of this report, the "informal market" refers to any market that does not include the legal sale of marijuana through a dispensary. This includes dealers<sup>12</sup>, friends, family, other social networks, and online/social media. As noted previously, there are mixed reports and speculations when it comes to how youth are accessing marijuana. While some people thought that youth were getting it from the dispensaries, both directly and indirectly, others noted that youth might be getting it from other sources.

According to a survey from the International Cannabis Policy Study, among those aged 16-20 years old in Massachusetts, 71.0% reported getting marijuana from a family or friend, 48.0% from a dealer, and 24.0% from a dispensary (**Figure 14**). The legal age to purchase marijuana at a dispensary in Massachusetts is 21 years old.

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<sup>12</sup> See terminology section

**Figure 14. Source of Cannabis Access by Age in the State of Massachusetts, 2019-2020**



Data Source: Massachusetts Cannabis Control Commission, Cannabis Use Trends in Massachusetts, Findings from the International Cannabis Policy Study, 2019 and 2020

Note: Respondents were asked: “In the past 12 months, have you gotten any type of marijuana from the following sources? (Select all that apply),” percentages may not add up to 100%. Respondents aged 16-20, N = 130; Respondents aged 21-25, N=138.

Interviewees and participants confirmed what the survey data indicated about sources of marijuana amongst youth. They noted that family or friends are likely the most common way that youth are obtaining marijuana as one adult interviewee noted, *“usually they got it from a friend who got it from someone they know.”* Other adult interviewees also said similarly, *“if an older sibling is using, then sometimes the younger sibling could. I think people are still getting their stuff from someone they know or someone who has it. Whether that’s an older sibling or they’re at someone else’s house.”* One adult participant suggested that parents could also be getting marijuana for their kids, *“siblings, friends, parents. You’d be surprised how many parents are involved in that.”* Published research has shown that most youth users of marijuana obtain it from their friends or peers.<sup>13</sup>

The other most common way of accessing marijuana was through “dealers”, or “plugs.” Dealers can include social networks as well as friends or acquaintances. A few youth participants noted that people are obtaining it more from sellers in the Boston area, not Brookline, with one person saying *“a lot of kids are getting it off plugs in Boston. They have cars and they just never get caught. It’s a little bit too easy. They’re not really getting it from Brookline... more towards Boston/Dorchester area. It’s easier to get over there.”* This sentiment of marijuana being easier to get in Boston, rather than Brookline, was also discussed when it came to dispensaries in Boston being less strict with IDs, as mentioned previously.

Notably, youth participants also discussed how many people are accessing marijuana through social media. One participant noted that they get it from, *“people from outside of Brookline that you add on Snapchat.”* Another participant said similarly, *“you can get it from dealers on social media.”*

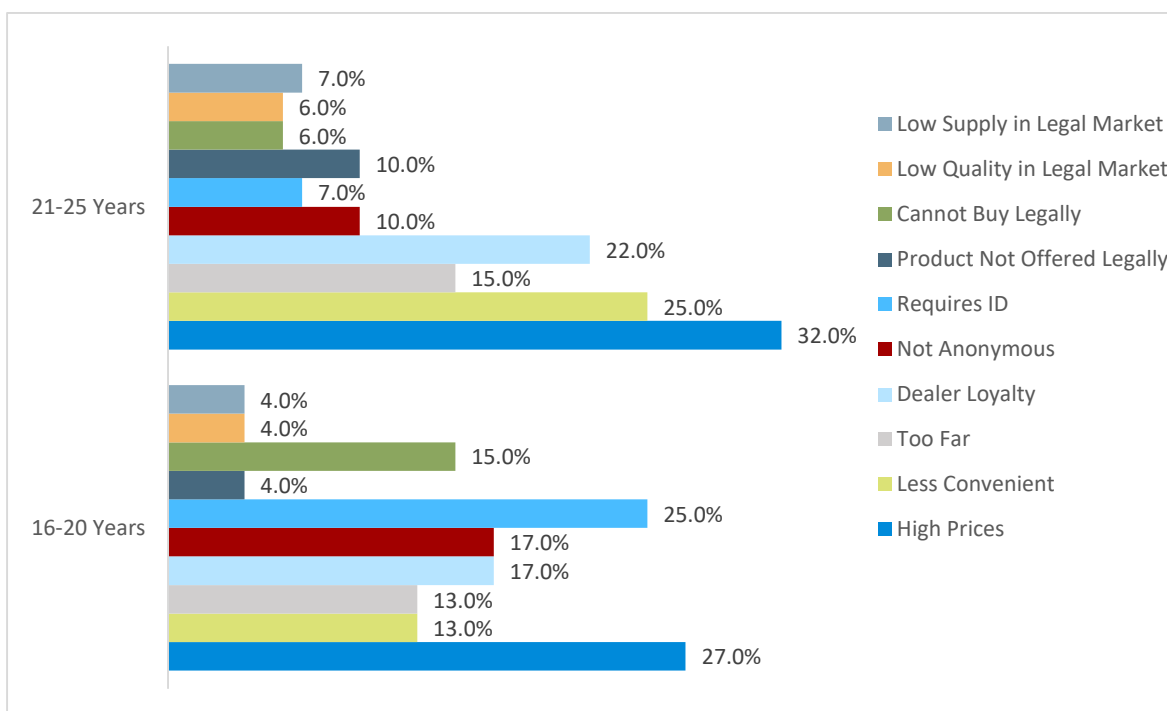
<sup>13</sup> Wagner, A. C., Parks, M. J. & Patrick, M. E. How do high school seniors get marijuana? Prevalence and sociodemographic differences. *Addict. Behav.* 114, 106730 (2021).



One other way that youth are getting marijuana was online or through delivery services. This is less common, but there was one youth participant who mentioned, “you can also order online, like carts and stuff.”

According to the International Cannabis Policy Study, there were numerous reasons why youth were avoiding legal cannabis purchase, but the most common reasons amongst youth aged 16-20 years old in Massachusetts were that the prices were too high (27.0%), stores require ID (25.0%), the product they want is not offered legally (17.0%), and purchasing is not anonymous (17.0%) (**Figure 15**). Notably, only 15.0% of youth respondents aged 16-20 selected “cannot buy legally” as a reason for avoiding legal cannabis purchase, suggesting that age restrictions are not a large barrier.

**Figure 15. Reasons for Avoiding Legal Cannabis Purchase by Age in the State of Massachusetts, 2019-2020**



Data Source: Massachusetts Cannabis Control Commission, Cannabis Use Trends in Massachusetts, Findings from the International Cannabis Policy Study, 2019 and 2020

Note: Respondents were asked “What were the main reasons you bought from illegal/unauthorized sources instead of legal/authorized sources? (Please select all that apply),” percentages may not add up to 100%. Respondents aged 16-20, N = 111; Respondents aged 21-25, N=107.

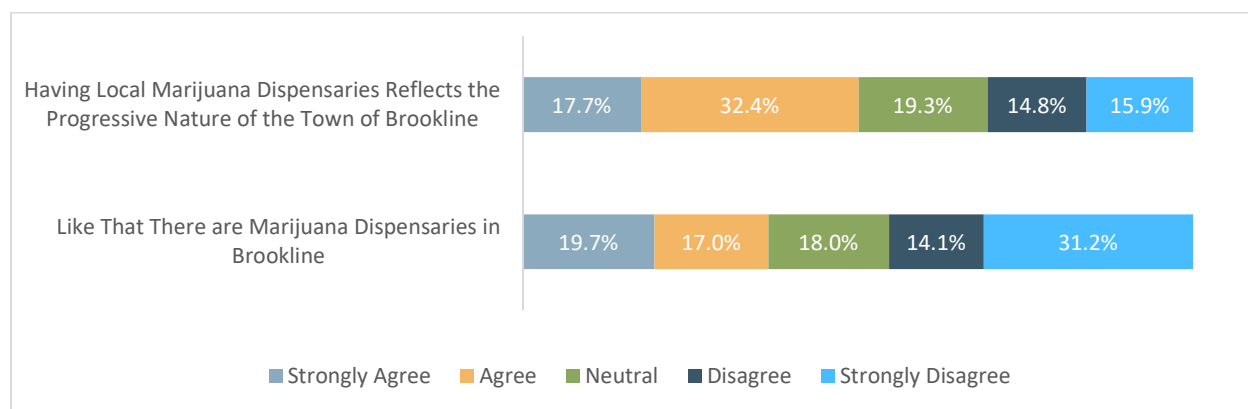
Interviewees echoed the expensive nature of dispensary products as a reason for avoiding legal cannabis purchase as one participant noted that her son, “never bought it from NETA because it was too expensive.” Additionally, other participants confirmed that due to ID requirements and the lack of anonymity, youth would likely be deterred from dispensaries and would prefer other sources. One participant said, “I’m 99% sure that they’re not getting it from dispensaries. As someone with a medical card, there is a limit to how much you’re allowed to purchase within the year of receiving your license. The state keeps track of that. They track everything you’re purchasing. It’s an intricate process to document everything you’re getting from the medical dispensary.”

## Perceived Dispensary Harms and Benefits

### *Perceptions of Benefits of the Dispensaries*

Respondents to the 2021 Brookline Marijuana Survey cited a number of benefits and harms associated with marijuana dispensaries ranging from increased tax revenues as a benefit to perceived increases in crime as a harm. There was no overall consensus across all measures on whether marijuana dispensaries are more of a benefit or more of a harm; rather, there were mixed opinions on certain aspects of benefit or harm. For example, when it came to respondent's feelings on if the local marijuana dispensaries reflected the progressive nature of the town, half of respondents agreed (50.1%) while about third disagreed (30.7%) (**Figure 16**). However, when respondents were asked whether they liked that there are marijuana dispensaries in Brookline generally, responses were more mixed. Over a third (36.7%) of respondents agreed that they liked that there are dispensaries in Brookline compared to 45.3% of respondents who disagreed. This illustrates that while many people may agree that having the dispensaries reflects the town's progressive values, they may not necessarily like that there are local dispensaries in Brookline.

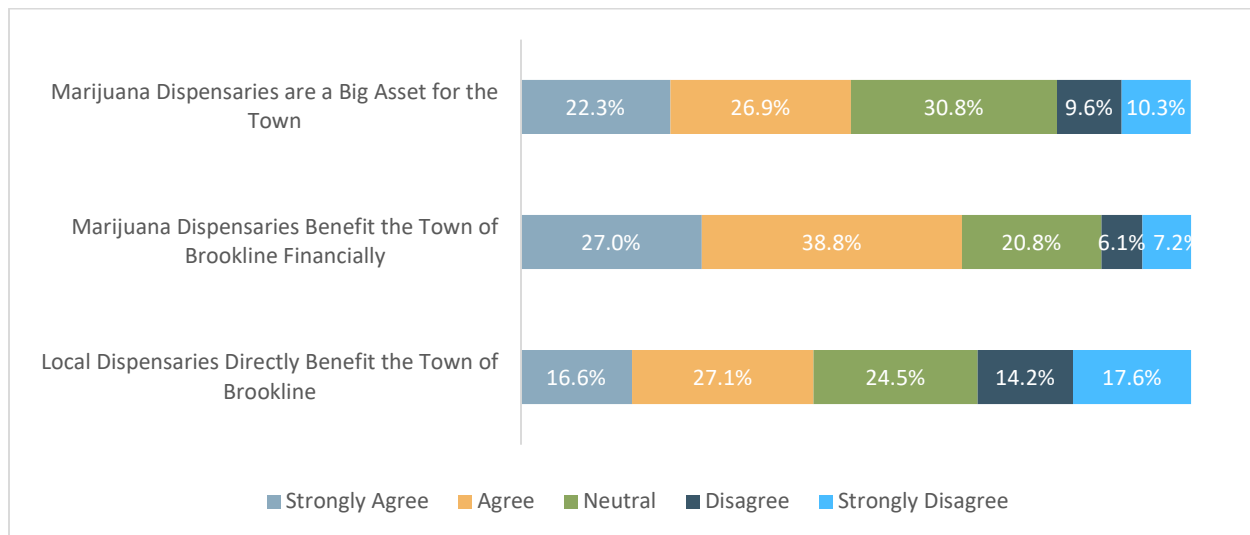
**Figure 16. Brookline Marijuana Survey Respondent's General Perceptions of Marijuana Dispensaries, 2021**



Data Source: Brookline Marijuana Survey, 2021

While there were mixed opinions on the existence of the dispensaries themselves, there was more of a consensus that the tax revenue from marijuana dispensaries is a big asset for the town. Nearly half of respondents (49.2%) agreed that the tax revenues were an asset whereas 19.9% disagreed (**Figure 17**). Similarly, a large majority of respondents agreed that marijuana dispensaries generally benefit the town of Brookline financially (65.8%), compared to those who disagreed (13.3%). However, when asked whether they agreed that local dispensaries benefit the Town of Brookline more generally, responses were more mixed, with 43.7% of respondents agreeing that the dispensaries directly benefit the Town of Brookline, while 31.8% of residents disagreed.

**Figure 17. Brookline Marijuana Survey Respondent's Perceptions on the Benefits of Marijuana Dispensaries, 2021**



Data Source: Brookline Marijuana Survey, 2021

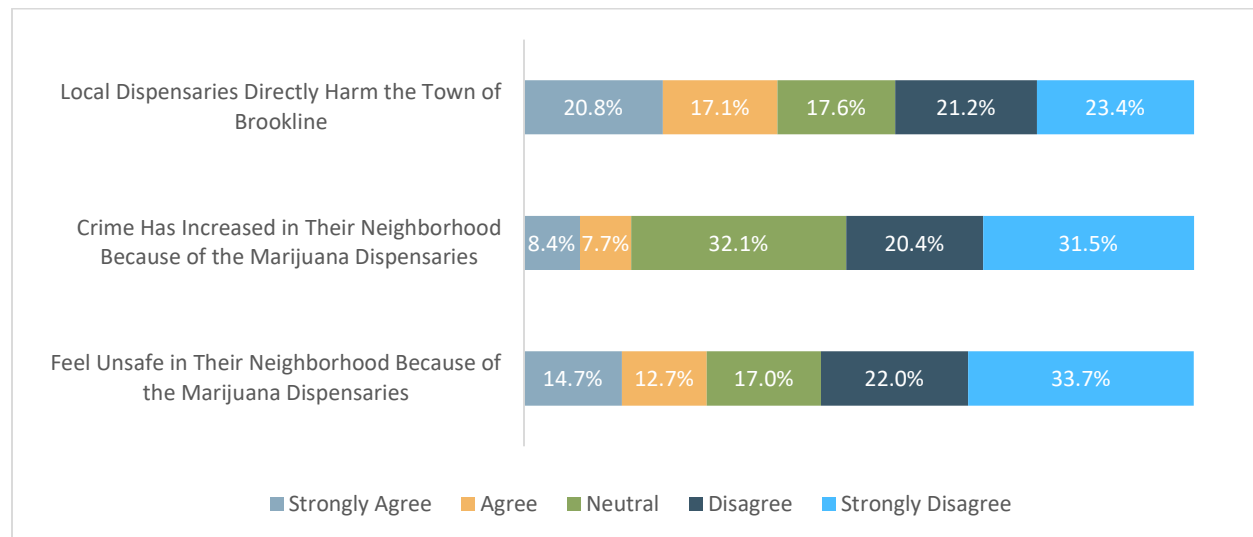
The benefit of the tax revenue was brought up in interviews as well, with one interviewee mentioning, *“I will say the 20% tax is quite lovely. I don’t think the community will be upset about more money.”* An interviewee echoed this sentiment of the financial benefits for the Town of Brookline specifically as they noted, *“the beauty of having more Brookline dispensaries is that residents don’t have to go all the way to Boston to get products. It keeps the revenue within Brookline here, keeps it in the town.”*

Another direct benefit of dispensaries that was continually mentioned was the availability of safer marijuana products. Many participants expressed thoughts such as *“it’s creating an environment for people to go to dispensaries instead of the street, which is better because it’s safer”* and that *“I feel really comfortable that they can go someplace that’s safe to get what they want.”* Interviewees repeated these sentiments about the products being safer at marijuana dispensaries due to regulations and protections. One interviewee said, *“what I like about the dispensaries is that they have to test their marijuana. There’s a lot of protections at dispensaries.”* Another interviewee noted similarly, *“I actually think it’s better now because it’s a regulated market, so you know what you’re getting...so you have a better controlled product because there are market controls on the product.”*

#### *Perceptions of Harms of the Dispensaries*

Regarding the perceived direct harms of dispensaries, 37.9% of respondents to the 2021 Brookline Marijuana Survey agreed that dispensaries directly harm the Town of Brookline while 44.6% of respondents disagreed that dispensaries cause direct harm (**Figure 18**). When asked about specific harms such as feeling that crime has increased in their neighborhood because of dispensaries, only 16.1% agreed that crime has increased compared to 51.9% of respondents who disagreed that crime has increased in their neighborhoods. In addition to perceptions around crime, Brookline respondents were also asked about whether they felt unsafe in their neighborhoods because of the marijuana dispensaries. A little over a quarter of respondents (27.4%) agreed that they felt unsafe while over half of respondents (55.7%) disagreed that they felt unsafe in their neighborhoods because of marijuana dispensaries.

**Figure 18. Brookline Marijuana Survey Respondent's Perceptions on the Harms of Marijuana Dispensaries, 2021**



Data Source: Brookline Marijuana Survey, 2021

One of the harms that interviewees considered was the impact of advertising on creating an environment that makes youth want to try marijuana. One interviewee mentioned, *“there is lots of evidence to suggest that marketing has a very real impact on kids. For example, advertising of flavored tobacco products impacts kids. It’s hard to see that this advertising would NOT influence kids. I would imagine that it would have some impact on kids.”* Another interviewee mentioned that advertising might also be normalizing use among youth, stating, *“but all the billboards and storefronts break down the barrier of stigma and normalize use among youth.”* Other participants said similarly, *“the research says the more advertising the more kids normalize it.”* The sentiments shared by interviewees and participants were reflected in the research, which has shown that exposure to retail marijuana advertising is associated with increased intention to use among youth.<sup>14,15,16</sup>

While advertising for dispensaries is permitted in Massachusetts, it should be noted that there are restrictions on how dispensaries can advertise at their locations. One interviewee noted, *“there are some restrictions on how dispensaries can advertise. They can’t have anything on their facades that shows that they are selling marijuana. It’s pretty strict, I think we should keep that.”* A marijuana retailer described *“It is very restrictive, they are very specific with the wording and what you can and can’t do. Stuff even like colors that might be appealing to children....They are also very strict with what can be posted outside of our dispensary. Besides some basic things around directions, we cannot post much without reaching out to the town and fit in regulations.”*

<sup>14</sup> Firth, C. L., Carlini, B., Dilley, J., Guttmannova, K. & Hajat, A. Retail cannabis environment and adolescent use: The role of advertising and retailers near home and school. *Health Place* 75, 102795 (2022)

<sup>15</sup> Hust, S. J. T., Willoughby, J. F., Li, J. & Couto, L. Youth’s Proximity to Marijuana Retailers and Advertisements: Factors Associated with Washington State Adolescents’ Intentions to Use Marijuana. *J. Health Commun.* 25, 594–603 (2020)

<sup>16</sup> D’Amico, E. J., Rodriguez, A., Tucker, J. S., Pedersen, E. R. & Shih, R. A. Planting the seed for marijuana use: Changes in exposure to medical marijuana advertising and subsequent adolescent marijuana use, cognitions, and consequences over seven years. *Drug Alcohol Depend.* 188, 385–391 (2018)

Another harm that was discussed amongst focus group participants was the increased availability of marijuana attributed to dispensaries. While some viewed it as a benefit, as mentioned previously, others reported that the increased availability is leading to more access for youth as well, not just adults. One participant expressed concern saying, *“I’ve noticed a marijuana store across the street from where we live...there’s a security guard at the store to check the IDs but I think it’s too close to the school. It’s probably easy for kids to get drugs. My concern is they could get marijuana if they have money from adults.”* Another participant noted similarly, *“it seems like it’s easier for people underage to get it now, when they shouldn’t have access. If there are more dispensaries, it seems easier for underage people to get it.”* As discussed previously, there are mixed results on where youth are accessing their marijuana from, with dispensaries being one of the potential sources.

One participant also mentioned that while they appreciate that marijuana is more readily available, they indicated that having dispensaries was leading to people coming from outside of Brookline who don’t have as much respect for the area, stating, *“People don’t respect the surroundings: they dump garbage, and they’ve been urinating in people’s backyards. So, I don’t want another one [marijuana dispensary].”*

## Racial Equity and Marijuana

### *Racial Bias, Stigma, and Historical Disadvantage*

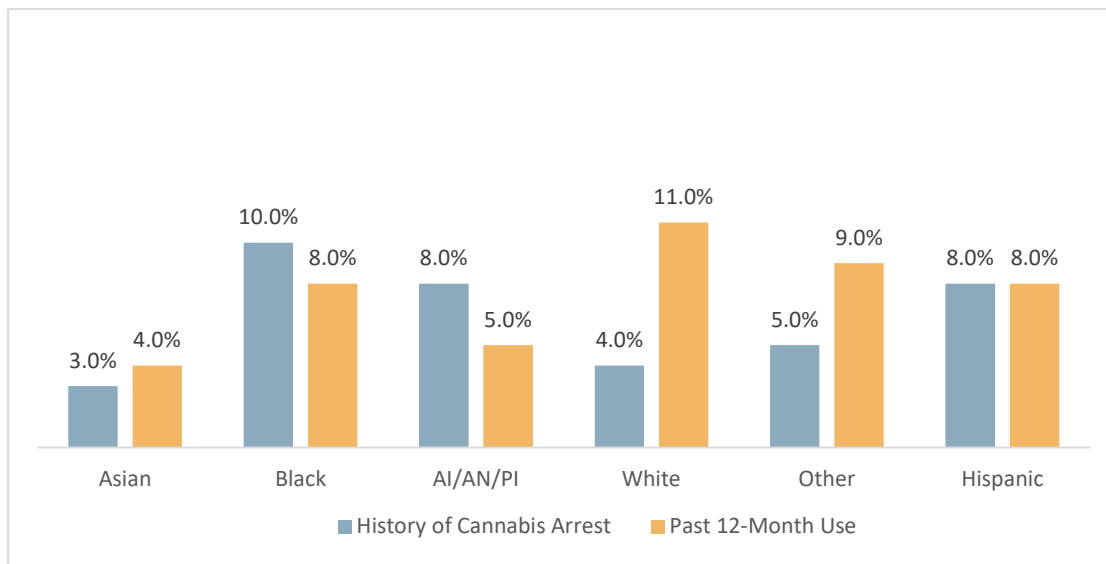
A theme that came up repeatedly across interviews and focus groups was how issues of racial bias, stigma, and historical marijuana policies affect the current landscape of the legal marijuana market. Some interviewees perceived that anti-marijuana movements were rooted in structural racism, stating, *“a lot of the vitriol from the anti-cannabis side is race-based, even if they don’t see it that way. The anti-cannabis movement is a movement to maintain structural racism.”* Another interviewee talked about the biases that people held about who visits dispensaries and said, *“people who visit stores were marginalized just by visiting. It felt racially charged, when they say the “others” were coming in – what they meant was people of color.”* This sentiment around the racial undertones in the reasonings that people were providing against adding dispensaries was echoed by another interviewee who explained, *“It’s the same dog whistle they use for affordable housing. They don’t want “those” people here, whether that’s poor people or Black people. That’s at the heart of this. Their biggest fear is undesirable people coming to buy and use in their neighborhood. They view the best way to keep “those” people out is to restrict the industries they feel attract those people.”*

In addition to discussing the racial bias around issues related to marijuana, interviewees also discussed how despite marijuana being decriminalized, there is still stigma that is preventing the legal marijuana market from being accessible to more people, especially populations of color. For example, one interviewee said, *“it’s not criminalized anymore but the stigma still remains. And to see people making money off of it and also to see people weaponize that stigma to try and introduce Warrant Articles, it bothers me...the real issue is who is allowed to make the profits off of cannabis and who is not allowed.”*

Many study participants also communicated the complex history between marijuana policies that disproportionately affected communities of color and the need for new policies to address those harms. For example, in Massachusetts, Black residents had the highest percentage of having a history of cannabis arrest (10.0%) compared to White residents (4.0%) (**Figure 19**). However, within Massachusetts, White residents made up 70.8% of the total population compared to 6.8% of Black residents. (**Figure 4**). Additionally, 11.0% of White respondents used cannabis in the last 12 months

compared to 8.0% of Black respondents, highlighting the disproportionate impact of arrests for cannabis on Black residents in Massachusetts.

**Figure 19. Percent of Residents who Had a History of Cannabis Arrests and Past 12-Month Use by Race in the State of Massachusetts, 2019-2020**



Data Source: Massachusetts Cannabis Control Commission, Cannabis Use Trends in Massachusetts, Findings from the International Cannabis Policy Study, 2019 and 2020

Note: The ICPS aggregated the “American Indian or Alaska Native” and “Native Hawaiian or Pacific Islander” into one variable that we are referring to as AI/AN/PI

Note: The ICPS classification of “Hispanic” ethnicity is not mutually exclusive from the racial categories.

Note: Participants were asked whether they had been arrested for: 1) cannabis possession; and 2) cannabis tracking, cultivation, or importation. These two variables were aggregated into one variable to indicate whether the individual reported any previous arrest (i.e., arrest for possession, distribution, or both)

Participants reiterated this inequity in who gets punished for marijuana use and the need for redress, with one participant saying, *“Black and Brown people need to be getting loans, grants, even getting into the industry. Criminalization of marijuana has had such long-lasting effects on Black communities, breaking up families, creating economic disadvantages. If you were caught with marijuana, then you have a criminal record. This limits the jobs you can get, if you go back to school it limits your options for student loans. It creates economic disadvantage. All of those things need to be rectified after the War on Drugs.”* Similarly, another participant mentioned the need for equity licenses specifically, *“I think it [the equity licenses] is absolutely critical because Black and Brown people are most affected by mass incarceration...they need to gain access to the industry that has affected intergenerational trauma.”*

#### *Benefits, Equity Licenses, and Marijuana-Specific Opportunities*

One of the direct benefits of dispensaries that a focus group participant mentioned was the increased access to the health benefits of marijuana, especially amongst populations who had previously been marginalized by restrictive and punitive marijuana laws, as one participant noted, *“I feel really good about the opening of dispensaries...when you think about the disproportionate arrests during the crack epidemic, mass incarceration...I think it’s extremely important that people who have been marginalized by laws have equal access to marijuana markets. ...So, to have an alternative, where a Black or Brown person who is in pain and can access medical marijuana, that is extremely important to me.”*

Study participants repeated the need for more equitable benefits of dispensaries and specifically noted the need for equity licenses in Brookline. Participants related this need back to living the values of equity in the Town of Brookline as one interviewee mentioned *“It would be nice to have at least one equity store so we can actually live our values.”* Another interviewee similarly said, *“I feel shame with Brookline because we were the first to have stores but last to have equity policies... I don’t think it’s the right thing to do to close the door.”* Other participants noted that racial equity was *“an afterthought in this whole process.”*

In addition to equity licenses, interviewees also mentioned the need for grants to help those who apply for equity licenses, because the costs of starting a store can be so prohibitive. As one interviewee discussed, *“We were thinking about how we give back to those who were the most hurt by marijuana policy. We thought of grants. [The Warrant Article was passed by Town Meeting] and the language changed a little bit. The state went a step further and said they’ll give equity grants to people to start up a store...but Brookline hasn’t really given minorities the chance to take up these equity grants and start their stores.”*

#### *Other Minority-Owned Businesses Opportunities*

While some participants reported that marijuana-specific equity policies were needed to address racial inequities, others proposed expanding restorative policies to all types of businesses, not just marijuana-related businesses. One interviewee said, *“why aren’t we giving minority-owned business that run other businesses benefits? If we want diversity of business ownership in Brookline we can’t just use marijuana storefronts to get it... Why aren’t we using similar incentives to encourage more minority-owned businesses in Brookline?”* When asked about types of policies that could address these issues, another participant said similarly, *“if individuals have been hurt by incarceration from drugs, then of course: it doesn’t have to be about marijuana, it should be about giving them back the chance to support themselves and their families. Not just about marijuana.”*

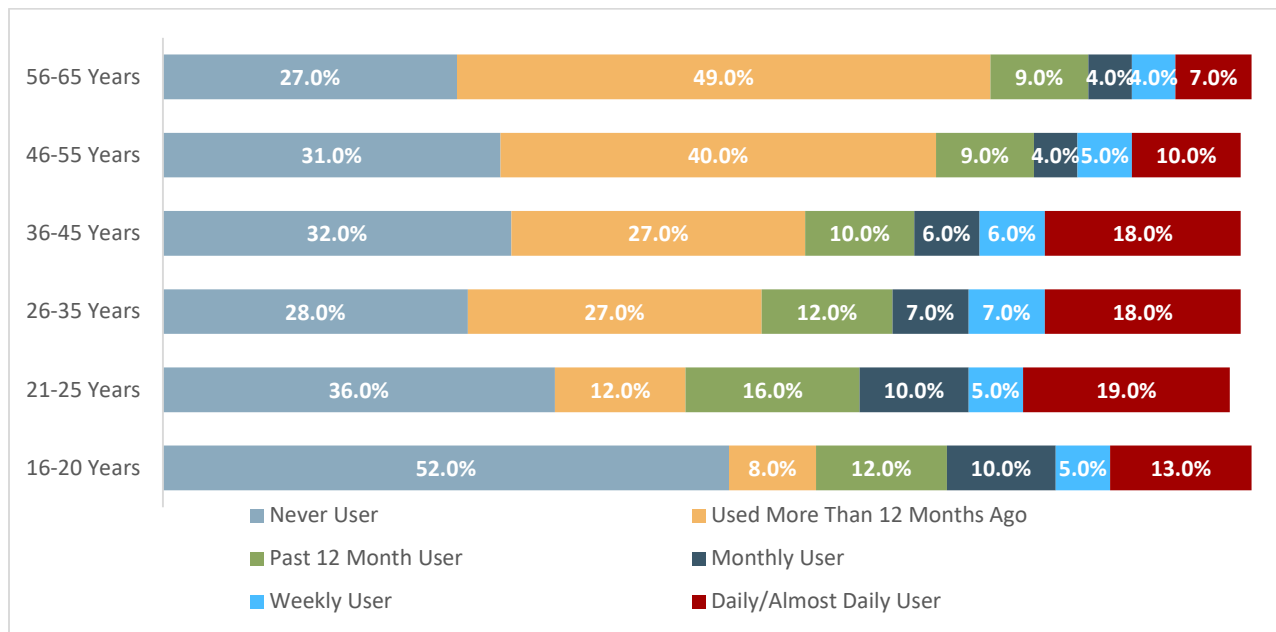
## Findings: Adult and Youth Marijuana Use

### Adult Marijuana Use

#### *Prevalence and Characteristics of Adult Use*

Among a representative sample of adults over the age of 20 in Massachusetts, only about one-third had never used marijuana (**Figure 20**). Between 18-19% of 21 to 45 years-olds reported using marijuana daily or almost daily.

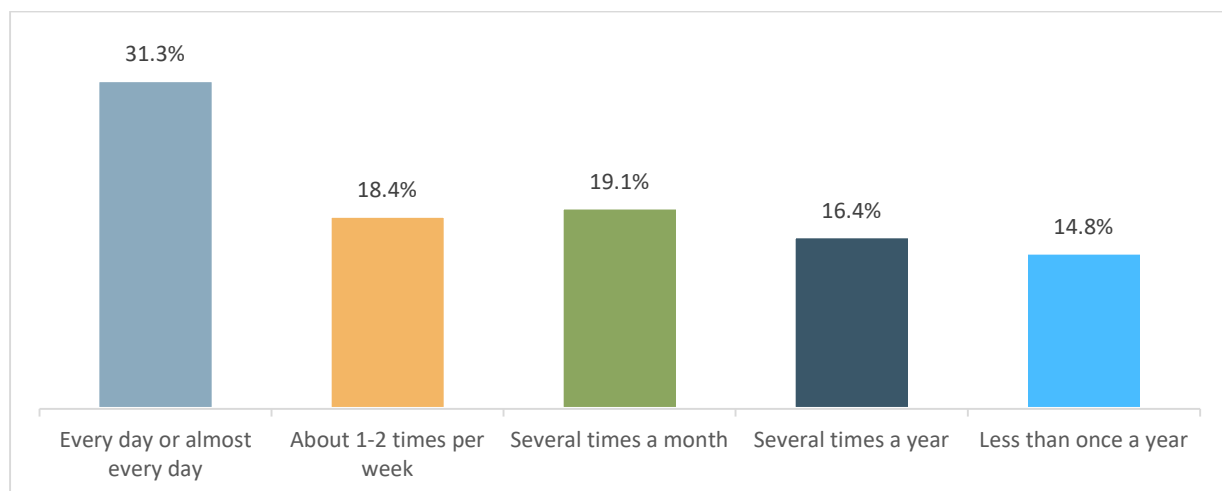
**Figure 20. Cannabis Use Frequency by Age in the State of Massachusetts, 2019-2020**



Data Source: Massachusetts Cannabis Control Commission, Cannabis Use Trends in Massachusetts, Findings from the International Cannabis Policy Study, 2019 and 2020

The 2021 Brookline Marijuana Survey also asked respondents about their marijuana use and its frequency. Over half (57.9%) of respondents reported ever using marijuana in their lives, and over one-third (36.7%) had used marijuana in the past 30 days. Among respondents who had ever used marijuana, 77.9% said they used for recreational purposes only, 2.9% for medical use only, 12.7% for both purposes, and 6.6% for another reason (data not shown). Among respondents who had ever used marijuana, almost one-third (31.3%) reported using every day or almost every day, at the time of the survey (**Figure 21**).

**Figure 21. Frequency of Marijuana Use Among Brookline Adults Who Had Ever Used Marijuana, 2021**



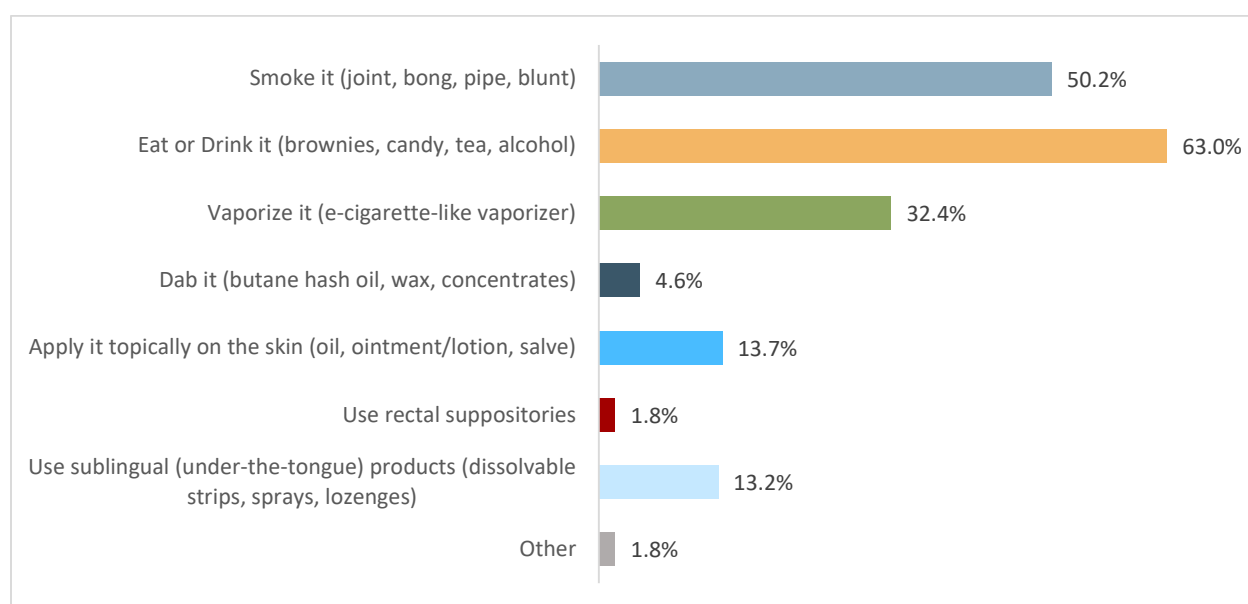
Data Source: Brookline Marijuana Survey, 2021



Multiple interview and focus group participants discussed the diversity of people seen shopping at marijuana dispensaries and waiting in lines outside. One participant said *“I’ve seen all walks of life in those lines – old, young, not too young. You just never know who might be in line.”* Another said of dispensary customers, *“At any moment in time you can see someone who is older, next to a doctor, next to someone who is 20.”* A dispensary worker noted *“People have been so surprised to see the variety of people in the shop. It’s such a melting pot of age and demographics. Our average age demographic is 45.”*

In the Brookline Marijuana Survey, current marijuana users were asked about the different ways they had used marijuana in the past 30 days. Half (50.1%) had smoked it, 63.0% had eaten or drank it, and 32.4% had vaporized it (**Figure 22**).

**Figure 22. Mode of Marijuana Use in the Past 30 Days among Brookline Adults, 2021**



Data Source: Brookline Marijuana Survey, 2021

## Youth Marijuana Use

### *Lifetime Use of Marijuana among Brookline High School Students*

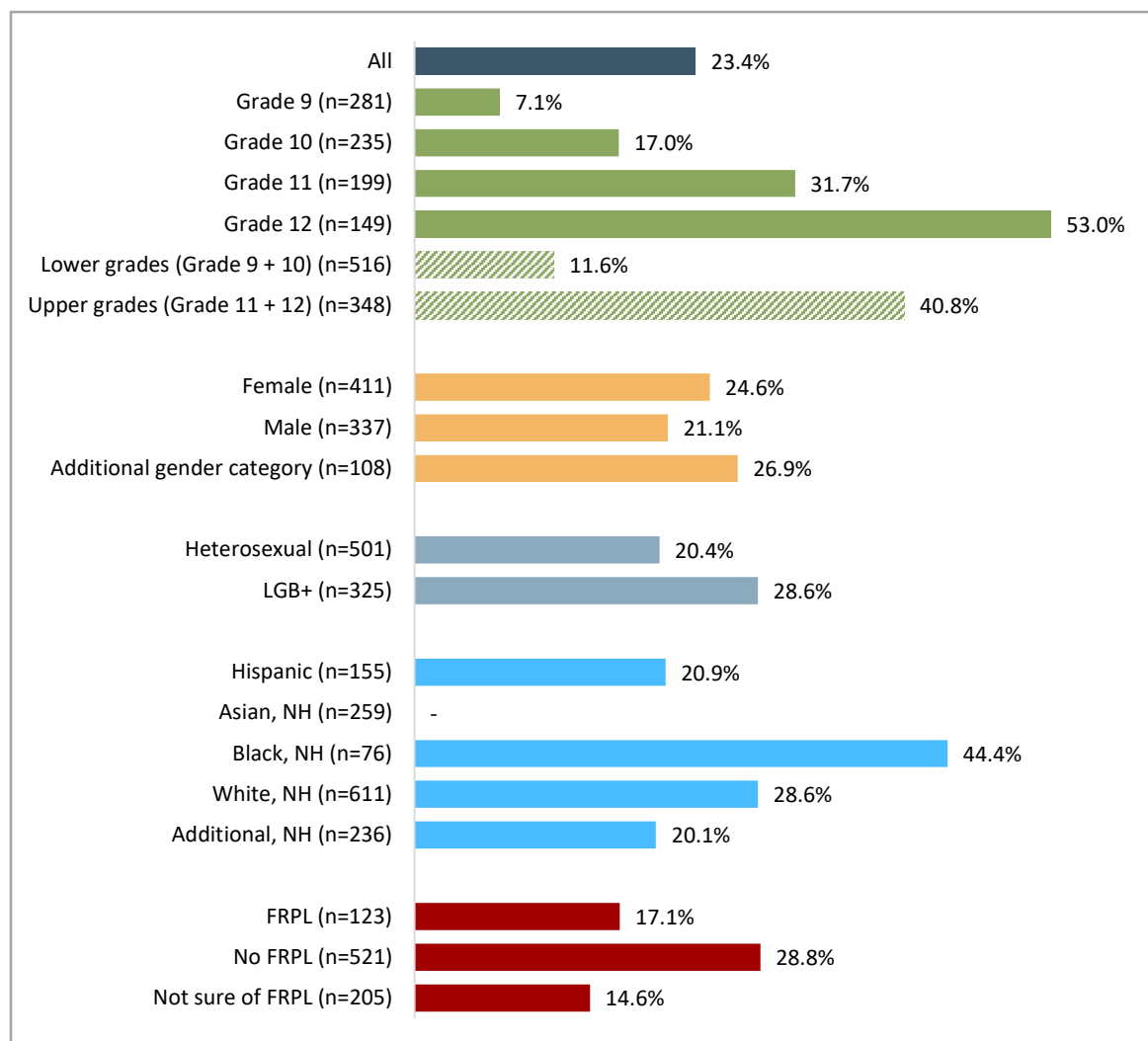
Overall, **23.4% of Brookline High School (BHS) student respondents to the Massachusetts Youth Risk Behavior Survey (MYRBS) reported ever having used marijuana.** Prevalence of use increased steadily by grade, with **over half (53.0%) of BHS seniors reporting lifetime use (Figure 23).**

Respondents identifying as LGB+ were significantly more likely to have ever used marijuana (28.6%) than respondents identifying as heterosexual (20.4%). There were significant differences in lifetime use by race/ethnicity, with prevalences of 20.9% among Hispanic students, 44.4% among Black students, 28.6% among White students, and 20.1% among students identifying as another race/ethnicity. Prevalence

among Asian students was too low to report, for the purpose of confidentiality. One study participant with expertise in behavioral health noted that they had “seen some data that LGBTQ student’s rates of use may go up as they are going through identity formation, but this is also true of any identity as well (including racial identity), they may have higher rates of use as a maladaptive coping mechanism.”

In the MYRBS, students also reported whether they qualified for Free or Reduced-Price Lunch (FRPL), which we use here as a marker for socioeconomic status (SES). Please note that a substantial number of students did not know if they qualified for FRPL, so that group is also included in results. Students with higher SES (no FRPL) were significantly more likely to have ever used marijuana (28.8%) compared to those with lower SES (FRPL) (17.1%) and those who did not know (14.6%) (**Figure 23**).

**Figure 23. Lifetime Use of Marijuana among Brookline High School Students by Demographics, 2023**



Data Source: Brookline High School MYRBS, 2023

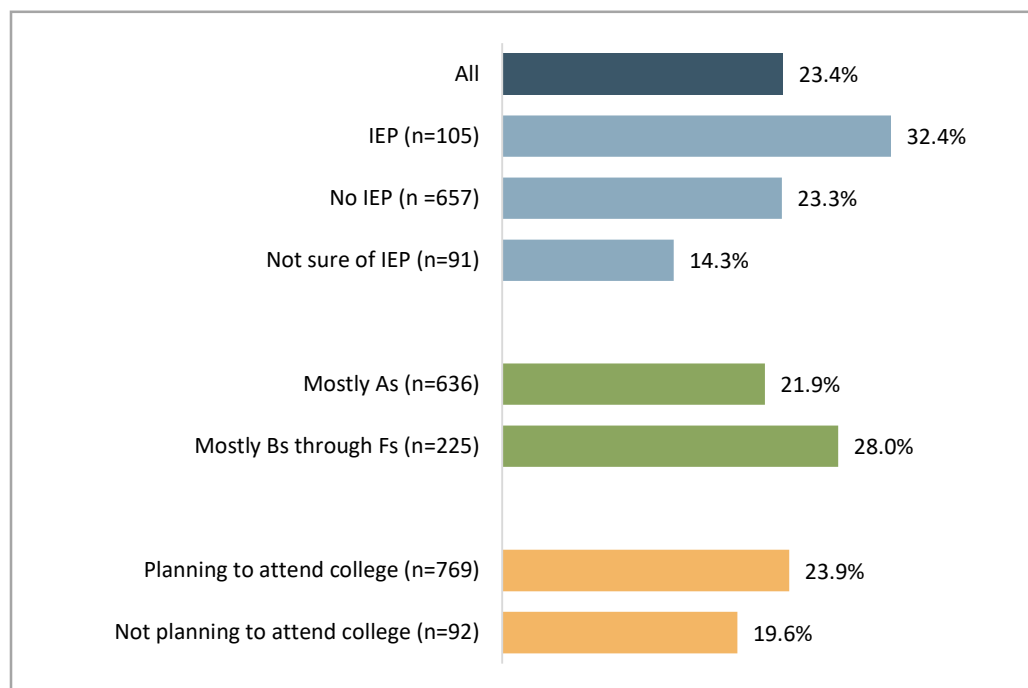
NOTE: Dash (-) denotes data is suppressed due to confidentiality risks associated with low response.

NOTE:  $\chi^2$  difference of  $p < 0.05$  for grade, race/ethnicity, sexual orientation, and FRPL.

Lifetime marijuana use was also assessed by education-related factors, including whether a student had an Individualized Education Plan (IEP), whether they reported receiving mostly A’s in their classes or

mostly B's through F's, and whether they planned to attend a 4-year college after graduating. Please note that a substantial proportion of respondents did not know if they had an IEP, so that group is also included in results. Students with an IEP were more likely (32.4%) to have ever used marijuana compared to those with no IEP (23.3%) or those who did not know (14.3%) (**Figure 24**). Please note that it is not possible to determine the nature of this relationship – that is, whether marijuana use may lead to having an IEP, whether some characteristic of students with IEPs may lead to marijuana use, or whether a third factor may cause a student to have an IEP *and* use marijuana. There were no significant differences in use by grades in school or college intentions.

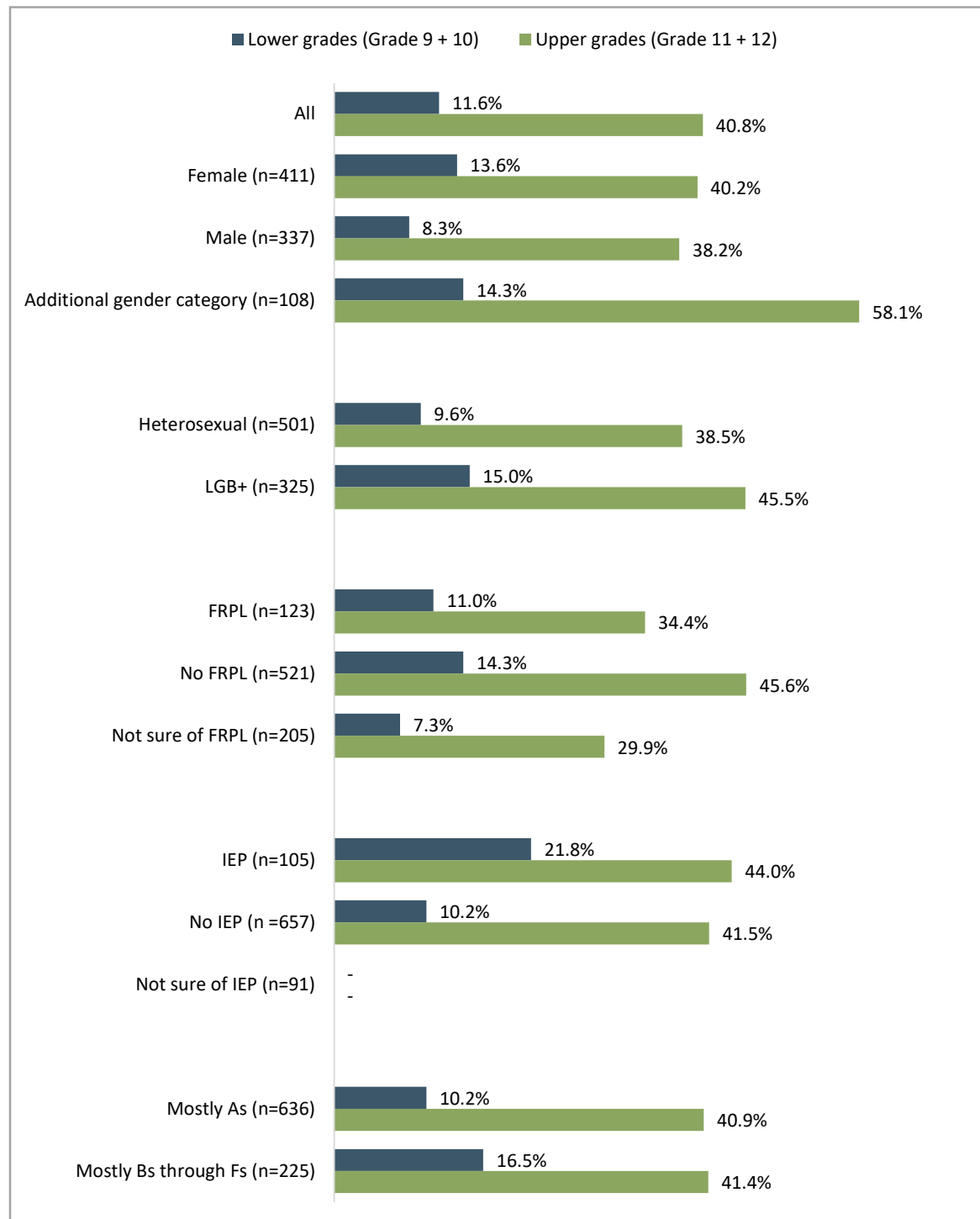
**Figure 24. Lifetime Use of Marijuana among Brookline High School Students by Education Factors, 2023**



Data Source: Brookline High School MYRBS, 2023  
 NOTE:  $\chi^2$  difference of  $p < 0.05$  for IEP status.

Because of the large increase in marijuana use by grade level, we also wanted to examine demographic and educational trends in use comparing students in lower grades (9<sup>th</sup> and 10<sup>th</sup>) and upper grades (11<sup>th</sup> and 12<sup>th</sup>). **Figure 25** shows that patterns are largely similar to those with all students combined, but some trends are accentuated. For example, 58.1% of upper grade students who identified as an additional gender category had ever used marijuana, compared to 40.2% of females and 38.2% of males. Lifetime marijuana use appears to be largely unrelated to grades received in school among upper grade students.

**Figure 25. Lifetime Use of Marijuana Among Brookline High School Students by Demographics and Education, Lower Grades Compared to Upper Grades, 2023**



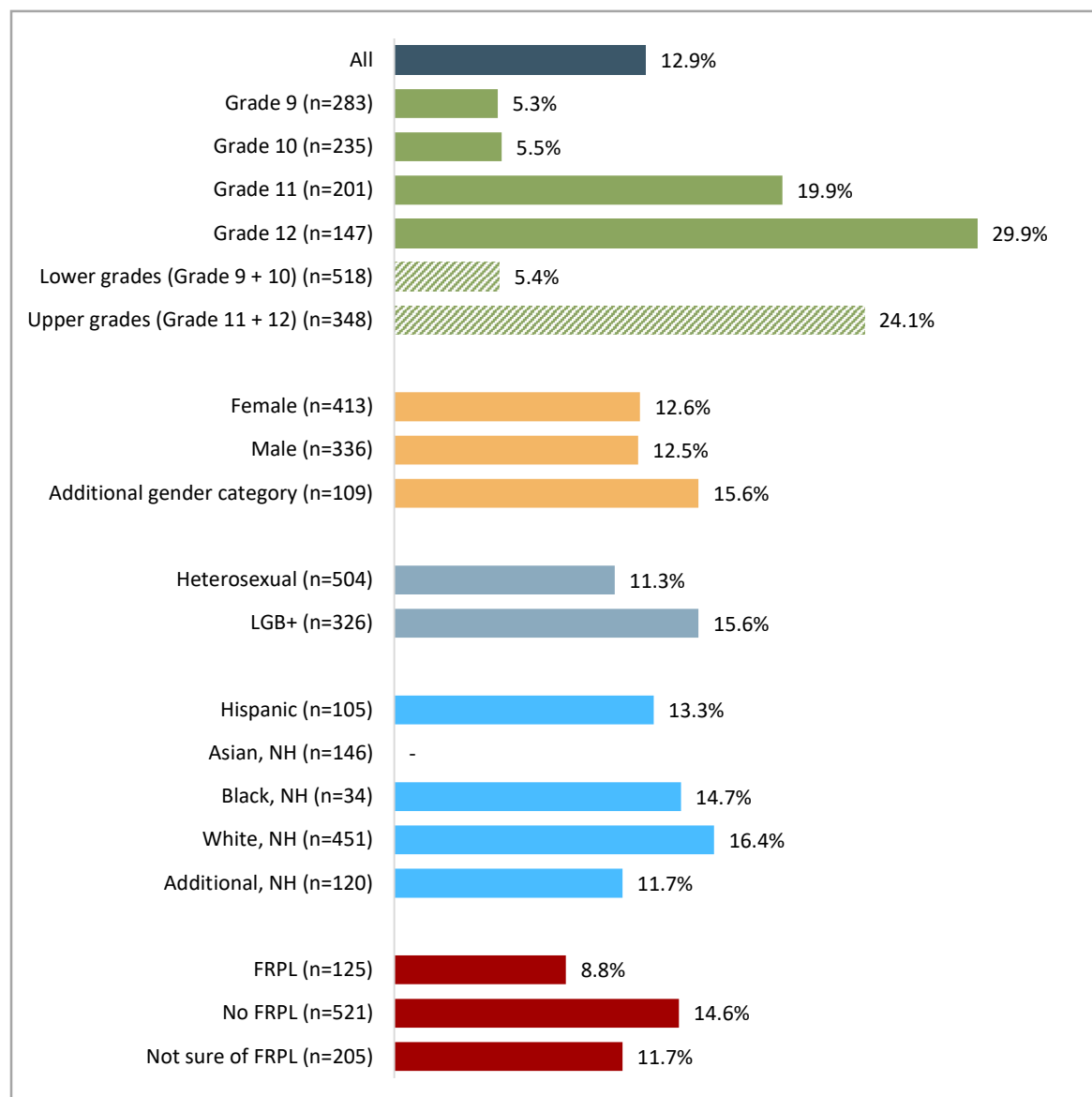
Data Source: Brookline High School MYRBS, 2023

NOTE: Marijuana use by race/ethnicity and 4-year college plans are suppressed due to confidentiality risks associated with low response in some categories. Dash (-) denotes data is suppressed due to confidentiality risks associated with low response.

### Past Month Use of Marijuana among Brookline High School Students

Overall, **12.9% of BHS student respondents to the MYRBS reported having used marijuana in the past 30 days (Figure 26)**. Prevalence of use was **5.3% among 9<sup>th</sup> graders and 29.9% among 12<sup>th</sup> graders**. There were also differences by race/ethnicity, but these were notably smaller than the differences in prevalence of lifetime use (refer to **Figure 23**). Notably, for lifetime use, prevalence was highest among Black/African American students, but for past-month use, prevalence was highest among White students. There were no significant differences by gender, sexual identity, or FRPL status.

**Figure 26. Use of Marijuana in the Past 30 Days among Brookline High School Students by Demographics, 2023**



Data Source: Brookline High School MYRBS, 2023

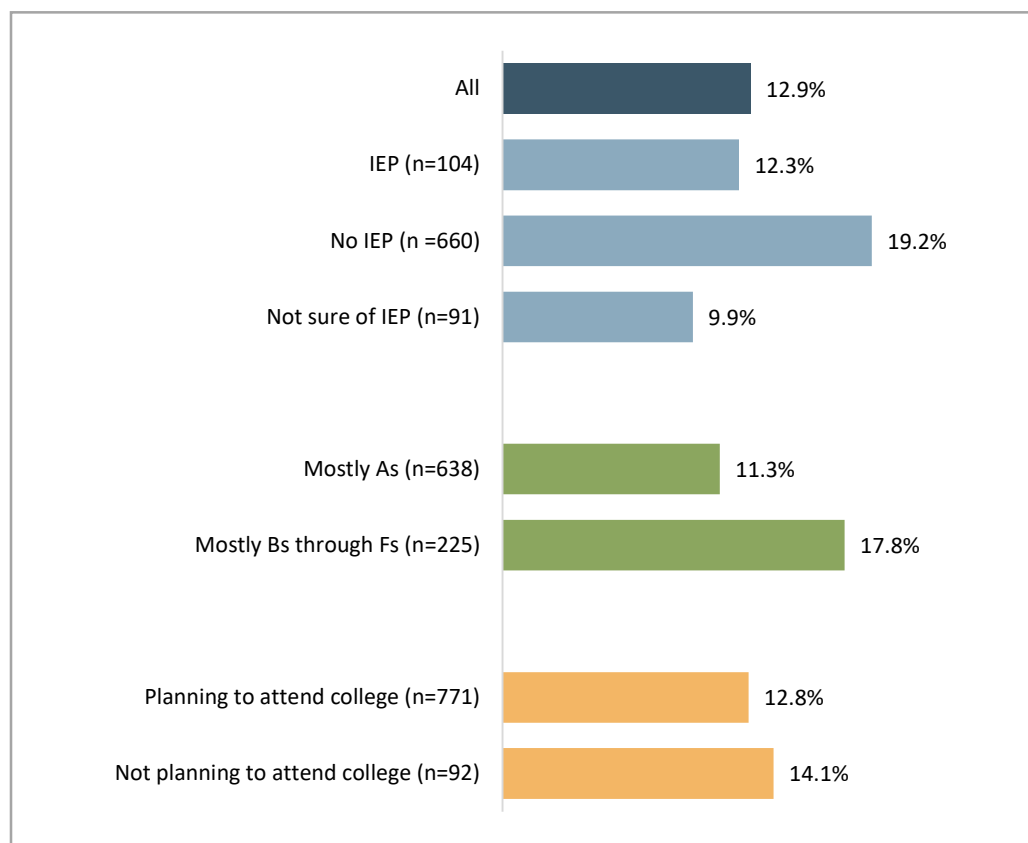
NOTE: Dash (-) denotes data is suppressed due to confidentiality risks associated with low response.

NOTE:  $\chi^2$  difference of  $p < 0.05$  for grade and race/ethnicity.

Perceptions of the prevalence of regular marijuana use from focus group participants were *not* in line with findings from the 2023 MYRBS. In focus groups for this assessment, one student estimated that “*not everybody, but most people are using it, probably like 90% of the school.*” This perception of higher usage amongst their peers may influence student’s own behavior as it relates to pressure to “fit in.”

Past month marijuana use was also assessed by educational-related factors. The only significant difference was by grade letters, with 17.8% students receiving mostly B’s through F’s reporting use in the past month compared to 11.3% of those receiving mostly A’s (**Figure 27**). Please note that it is not possible to determine the nature of this relationship – that is, whether marijuana use may lead to worse grades, whether worse grades may lead to marijuana use, or whether a third factor may cause both worse grades *and* youth marijuana use.

**Figure 27. Use of Marijuana in the Past 30 Days among Brookline High School Students by Education-Related Factors, 2023**



Data Source: Brookline High School MYRBS, 2023  
 NOTE:  $\chi^2$  difference of  $p < 0.05$  for letter grade

Both middle school and high school students were asked whether they had ever used marijuana. In this combined sample of 2,223 students, 89.7% reported never trying marijuana and 10.3% reported that they had. In the full sample, 5.8% had used marijuana 1-2 times in the past month and 8.6% had used it three or more times (data not shown).

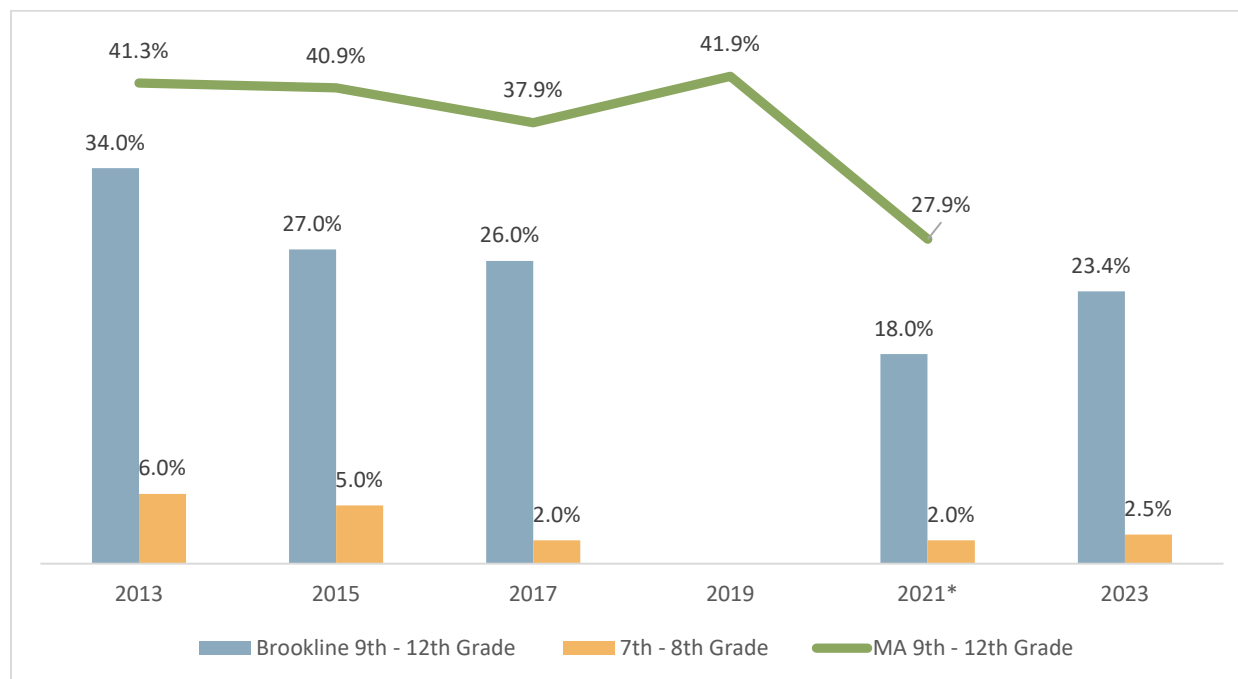
### Marijuana Use Trends over Time

**Figure 28** shows trends in the prevalence of marijuana use among Brookline public school students taking the MYRBS survey between 2013 and 2023. Please note that there was no YRBS conducted in Brookline in 2019, and that there were some logistical issues administering the survey in 2021 during the COVID-19 pandemic, so those results should be interpreted with caution. In addition, raw data for prior years' surveys were not available, so statistical testing for differences was not possible.

In 2013, 34% of BHS students reported ever using marijuana in their lives, compared to 27% in 2015, 26% in 2017, 18% in 2021 during the COVID-19 pandemic, and 23.4% in 2023 (**Figure 28**). Of note, the proportion of students in different grades who took the MYRBS over time varied, with relatively fewer 12<sup>th</sup> graders taking the survey in 2021 and 2023 compared to 9<sup>th</sup> graders, thereby making direct comparisons across years difficult. Among 7<sup>th</sup> and 8<sup>th</sup> graders, 6% reported ever using marijuana in 2013, compared to 5% in 2015, 2% in 2017, 2% in 2021, and 2.5% in 2023.

For comparison, the data line in **Figure 28** shows the prevalence of lifetime marijuana use among all Massachusetts high school students from 2013 to 2021 (the most recent year for which data are available). In all years, the prevalence of lifetime marijuana use appears to be higher for Massachusetts overall than among BHS students, with a peak of 41.9% in 2019. The prevalence of lifetime use statewide in Massachusetts in 2019 was 9.6% among 7<sup>th</sup> and 8<sup>th</sup> graders (data not shown).

**Figure 28. Lifetime Use of Marijuana Among Brookline and Massachusetts Middle and High School Students, 2013-2023**



Data Source: Brookline High School MYRBS, 2018, 2021, 2023; Health and Use Risk Factors of Massachusetts Youth Survey, 2019, 2021

For comparison, **Figure 29** shows the prevalence of lifetime marijuana use from both a national sample of 12<sup>th</sup> graders and from the Massachusetts statewide YRBS data. Lifetime prevalence of marijuana use in Massachusetts 12<sup>th</sup> graders is notably higher than the national prevalence in all years between 2015

and 2021. **The 53.0% prevalence of lifetime use among Brookline 12<sup>th</sup> graders in 2023** appears roughly similar to pre-pandemic prevalences in Massachusetts, and therefore higher than the national estimates. Unfortunately, data stratified by grade were not available for Brookline for years prior to 2023.

**Figure 29. Lifetime Use of Marijuana among U.S. and Massachusetts 12<sup>th</sup> Graders, 2015-2021**

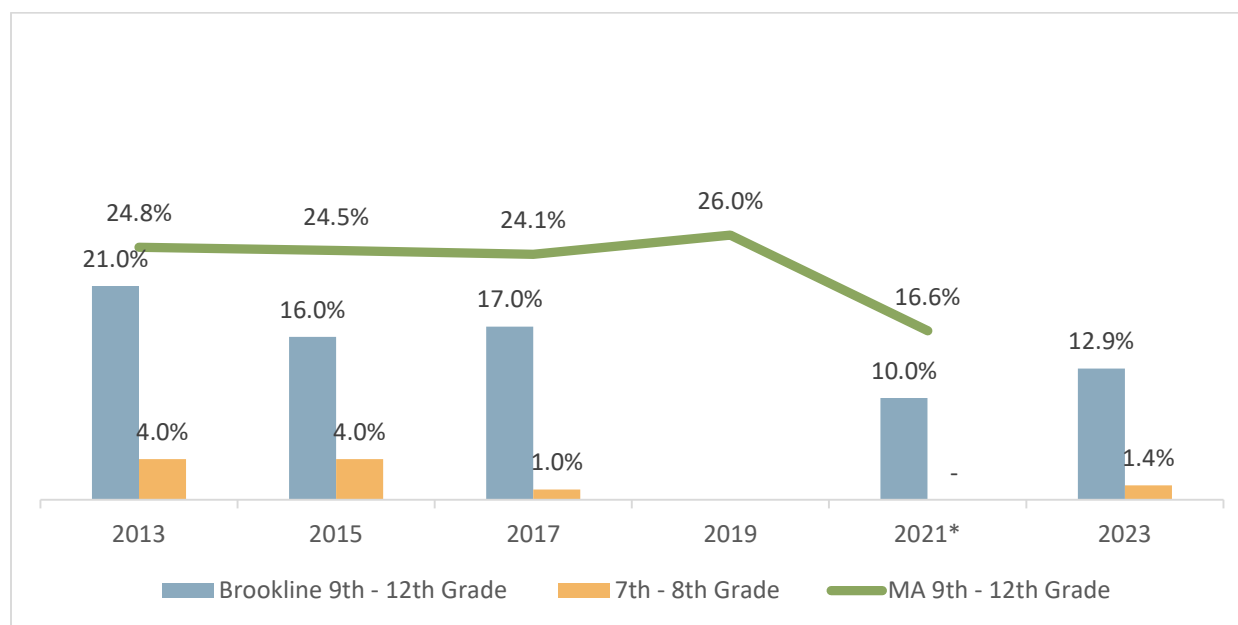
	2015	2017	2019	2021*
U.S. 12th graders <sup>17</sup>	44.7%	45.0%	43.7%	38.6%
MA 12th graders <sup>18</sup>	54.9%	54.1%	64.8%	44.8%

Data Source: Monitoring the Future, 2022; Health and Use Risk Factors of Massachusetts Youth Survey, 2019, 2021

\* Data collected during the COVID-19 pandemic

Trends similar to lifetime use can be observed for the prevalence of past-month marijuana use. In 2013, 21% of BHS students reported using marijuana in the past 30 days, compared to 16% in 2015, 17% in 2017, 10% in 2021 during the COVID-19 pandemic, and 12.9% in 2023 (**Figure 30**). Among 7th and 8th graders, 4% reported using marijuana in the past 30 days in 2013, compared to 4% in 2015, 1% in 2017, and 1.4% in 2023. The prevalence of past-month marijuana use in Massachusetts overall (shown by the data line) appeared higher than in Brookline for high school students in all years between 2013-2023.

**Figure 30. Use of Marijuana in the Past 30 Days Among Brookline and Massachusetts Middle and High School Students, 2013-2023**



Data Source: Brookline High School MYRBS, 2018, 2021, 2023; Health and Use Risk Factors of Massachusetts Youth Survey, 2019, 2021

NOTE: Dash (-) denotes data is suppressed due to confidentiality risks associated with low response.

<sup>17</sup> Miech, R. A., Johnston, L. D., Patrick, M. E., O'Malley, P. M., Bachman, J. G., & Schulenberg, J. E. (2023). Monitoring the Future National Survey Results on Drug Use, 1975-2022: Secondary School Students. Institute for Social Research.

<sup>18</sup> <https://nccd.cdc.gov/youthonline/app/>



Perceptions of whether youth marijuana use was increasing or decreasing over time differed among study participants. Among adult participants, one parent said, *“There wasn’t as much marijuana in the high school when my daughter was in high school, but now it’s well-known what floor are where people smoke.”* Another interviewee said, *“I know that at one school a principal said she had 17 vape pens, and her catching different students has increased since she’s been there.”* Again, it should be noted that nicotine vapes and marijuana vapes were often conflated in discussions, partially because the contents of vape cartridges were unknown.

Other adult participants did not perceive marijuana use to be increasing among youth. One noted *“It’s been like that forever. It’s always been around. Marijuana is still easier to get in high school than alcohol is... It wasn’t as open 20 years ago, now it’s just out in the open.”* And similarly, *“I don’t have any evidence that it’s any worse now than when I was in high school. Kids were smoking in the bathroom then.”* A clinician noted that *“I was working with kids with more significant mental health needs. From that, I did not notice any increase in use or perceived increase in use in that population, relative to [recreational marijuana] stores opening.”*

#### *Modes of Marijuana Consumption*

Study participants generally agreed that vaping was the most common mode of marijuana consumption among Brookline youth. Some youth cited the ease of using vapes in the schools, saying *“You can also hit a cart in the bathroom that’s flavored and doesn’t smell like weed.”* Participants also noted that edible forms of marijuana were also common, but more so outside of school. One youth said, *“Among people I know well, edibles are more common because it is less obvious.”* Some participants also mentioned youth smoking marijuana, but said that youth are *“using all forms. You can find anything. I know guys that got ‘edgies,’ vapes, whatever.”*

#### *Marijuana Use among Middle School Students*

In the 2023 MYRBS, 2% of middle school students (n=24) reported ever using marijuana. Of these, 42% reported having used marijuana in the past month, while overall, <1% of students had used in the past month.<sup>19</sup> Because of these low numbers, we do not report any additional information here about characteristics of marijuana use among Brookline middle school students.

## **Risk Factors for Youth Marijuana Use**

### *Peer and Social Pressure*

Both youth and adult study participants cited the influence of friends and peers on initiating and continuing marijuana use among Brookline youth, highlighted by these quotes:

- *“I think smoking with friends adds to the whole problem. I know some people who don’t smoke by themselves but when they’re around their friends, they’ll do it in that environment.”*
- *“Some smoke just for the fun of it or to fit in, so they probably don’t do it outside of school. People just want to fit in and stuff.”*
- *“I do know some people who only smoke socially so they can fit in.”*

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<sup>19</sup> Public Schools of Brookline MA Youth Risk Behavior Survey. Data Summary and Trends Report. 2020. <https://www.brookline.k12.ma.us/Page/2831>

- *“I think a lot of youngsters, I don’t know, a lot of it is like the pressure of being cool in school, like freshman starting out in high school it’s such a big jump.”*

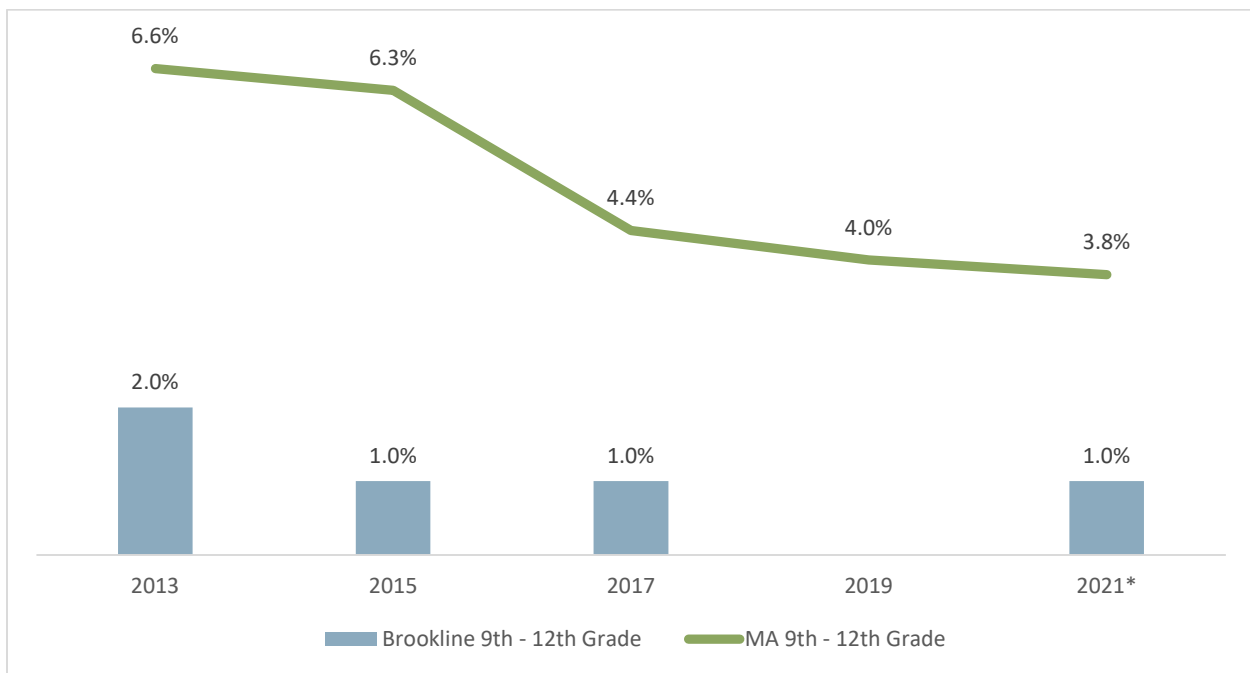
### Coping with Stress

Many participants cited coping with stress as a major factor contributing to youth marijuana use in Brookline. Mostly, this was viewed as a negative form of coping, for example: *“It’s usually like when they’re having a problem and they want to avoid it, using [marijuana] as like a coping mechanism, and I’ve seen it a bit too often.”* However, one youth participant noted *“Most people have an important reason to do it, if they’re going through something mentally or physically. If people are using, they’re using it for a reason.”*

### Age at First Marijuana Use

Early age of initiation of substances, including marijuana, is a known risk factor for substance use disorder in later life, in addition to other social, economic, and health consequences.<sup>20, 21, 22</sup> In Brookline, the prevalence of first using marijuana before age 13 was low, ranging between 0-2% from 2013 to 2023, compared to a range of 3.8-6.6% for Massachusetts statewide between 2013 and 2021 (**Figure 31**).

**Figure 31. First Use of Marijuana Before Age 13 Among Brookline and Massachusetts High School Students, 2013-2023**



Data Source: Brookline High School MYRBS, 2018, 2021, 2023

NOTE: Dash (-) denotes data is suppressed due to confidentiality risks associated with low response

<sup>20</sup> Ellickson, P.L., Tucker, J.S., Klein, D.J., Saner, H. Antecedents and outcomes of marijuana use initiation during adolescence. Preventive Medicine, 39, 976-984, (2004).

<sup>21</sup> Scheier LM, Griffin KW. Youth marijuana use: a review of causes and consequences. Current Opinion in Psychology. 2021 Apr 1;38:11-8.

<sup>22</sup> Hosseini S, Oremus M. The Effect of Age of Initiation of Cannabis Use on Psychosis, Depression, and Anxiety among Youth under 25 Years. The Canadian Journal of Psychiatry. 2019;64(5):304-312.

Youth study participants were asked at what age they thought it was appropriate to start using marijuana and gave a variety of responses. One said, *“I think 16 is fine. Middle school is way too young, they don’t have the same sense of responsibility yet.”* Another agreed, saying *“like coffee [marijuana] has negative effects, I’ve read studies. Around 16 or 17 is a fine age. But as far as nicotine, I don’t know any positives to that, so they should be way older.”* In response to the question of what age should people be allowed to use marijuana, another youth said *“I want to say 18, but I know if it was 18, things would get out of hand, so I’ll say 21.”* Many youth participants seemed to be aware of the research showing negative consequences of early marijuana use related to ongoing brain development into the mid-20’s,<sup>23, 24</sup> and they proposed the early 20s or up to 25 as the earliest age when people should try marijuana. One clinician said *“It’s probably better if they just don’t [ever use marijuana]. I think that out of college would be best and I know that’s so unrealistic. But if you’re looking at what’s best for a human, we know that your brain doesn’t develop until you’re 25. Certainly, until you’re over 18, and probably 21.”*

#### *Perceived Parental Attitudes*

BHS students who responded to the MYRBS survey were asked how they thought their parents or other adults in their family would feel if they smoked marijuana. Answer options included *Approve*, *Disapprove*, *Would Not Care*, and *Not Sure*. Responses of *Approve* and *Not Sure* were too low so they are not presented here.

**Figure 32** shows how students perceived their parents’ attitudes by demographic factors. Overall, 11.7% of student respondents thought their parents would not care if they used marijuana. The proportion of students who thought their parents would not care if they used marijuana rose steadily with grade level, from 5.0% among 9<sup>th</sup> graders, to 22.6% among 12<sup>th</sup> graders. Significantly more students who identified at LGB+ thought their parents would not care (15.6%) relative to heterosexual students (9.5%). There was a range of responses by race/ethnicity, ranging from 2.1% of Asian respondents saying their parents would not care to 19.0% of students identifying as another race/ethnicity.<sup>25</sup>

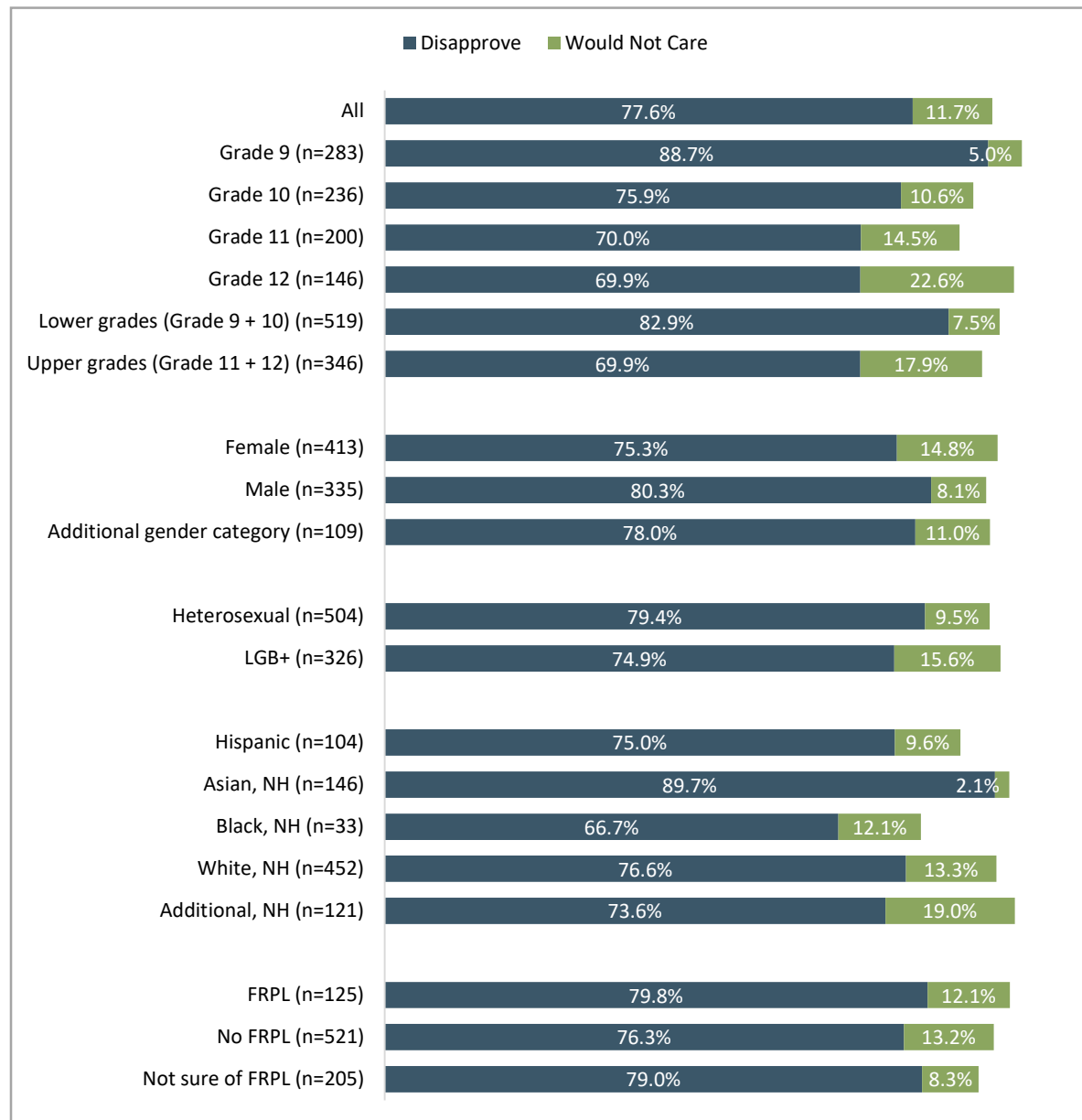
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<sup>23</sup> Lees B, Debenham J, Squeglia LM. Alcohol and Cannabis Use and the Developing Brain. *Alcohol Res.* 2021 Sep 9;41(1):11.

<sup>24</sup> Scheier LM, Griffin KW. Youth marijuana use: a review of causes and consequences. *Current Opinion in Psychology.* 2021 Apr 1;38:11-8.

<sup>25</sup> Public Schools of Brookline MA Youth Risk Behavior Survey. Data Summary and Trends Report. 2020. <https://www.brookline.k12.ma.us/Page/2831>

**Figure 32. Perceived Parent Attitudes by Demographics: “How would your parents or other adults in your family feel if you smoked marijuana?” 2023**



Data Source: Brookline High School MYRBS, 2023

Note: Bars do not add to 100% because responses of “Approve” and “Not Sure” were suppressed due to low response.

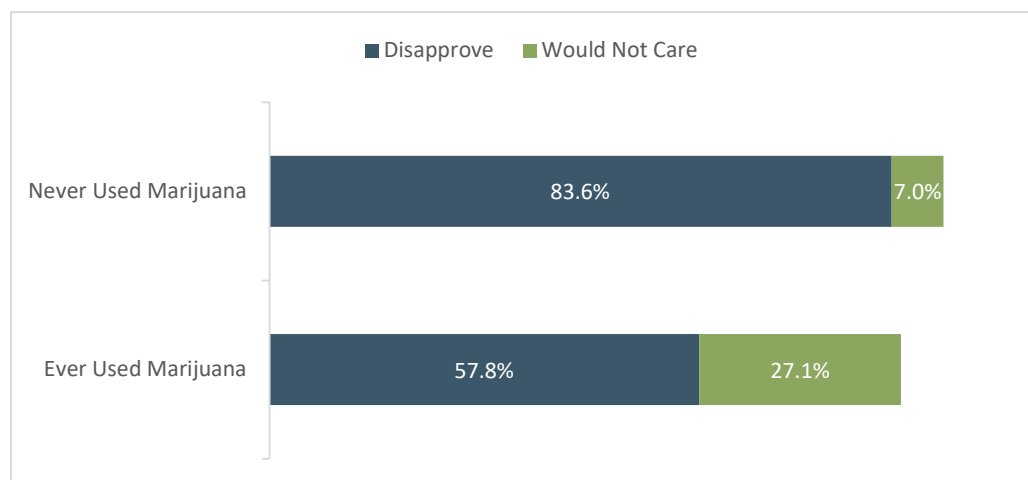
NOTE:  $\chi^2$  difference of  $p < 0.05$  for grade, sexual identity, and race/ethnicity.

Perceived parental attitudes were also assessed by whether a student had ever used marijuana in their life. Among BHS students who had never used marijuana, only 7.0% thought their parents would not care if they used, compared to 27.1% of students who *had* used marijuana before (**Figure 33**).<sup>26</sup> It is not

<sup>26</sup> Public Schools of Brookline MA Youth Risk Behavior Survey. Data Summary and Trends Report. 2020.  
<https://www.brookline.k12.ma.us/Page/2831>

possible to determine whether students used marijuana and knew their parents did not care, or whether thinking their parents would not care encouraged students to try marijuana.

**Figure 33. Perceived Parent Attitudes by Lifetime Marijuana Use: “How would your parents or other adults in your family feel if you smoked marijuana?”, 2023**



Data Source: Brookline High School MYRBS, 2023

Note: Bars do not add to 100% because responses of “Approve” and “Not Sure” were suppressed due to low response.

NOTE:  $\chi^2$  difference of  $p < 0.05$

## Marijuana and Mental Health

### *Relationship between Marijuana Use and Mental Health*

Research has shown co-occurrence of marijuana use and mental health or other behavioral issues, but they also note that the relationship may be bidirectional, rather than causal.<sup>27,28, 29, 30</sup> As discussed previously, one of the reasons that youth participants highlighted for why people use marijuana, was as a coping mechanism for mental health issues. However, other interviewees noted that using marijuana can make mental health issues worse, as one clinician pointed out, *“Using marijuana consistently is a very good way to stay depressed. And to not meet your treatment goals around anxiety. This is especially bad for kids with mental health concerns... If you have mental health symptoms, marijuana use can make them worse. And also, if you’re not currently depressed, but you’re using frequently, this can create mental health challenges down the road.”* Another interviewee, a clinician, said similarly, *“It seems to me that a lot of kids have the perception that it will help ease anxiety but over the long term it will overall increase their overall anxiety.”*

<sup>27</sup> Langlois, C., Potvin, S., Khullar, A. & Tourjman, S. V. Down and High: Reflections Regarding Depression and Cannabis. *Front. Psychiatry* 12, 625158 (2021)

<sup>28</sup> Gobbi G, Atkin T, Zytynski T, et al. Association of Cannabis Use in Adolescence and Risk of Depression, Anxiety, and Suicidality in Young Adulthood: A Systematic Review and Meta-analysis. *JAMA Psychiatry*. 2019;76(4):426–434.

<sup>29</sup> Onaemo VN, Fawehinmi TO, D'Arcy C. Comorbid Cannabis Use Disorder with Major Depression and Generalized Anxiety Disorder: A Systematic Review with Meta-analysis of Nationally Representative Epidemiological Surveys. *J Affect Disord*. 2021 Feb 15;281:467-475.

<sup>30</sup> Dierker L, Selya A, Lanza S, Li R, Rose J. Depression and marijuana use disorder symptoms among current marijuana users. *Addict Behav*. (2018) 76:161–8.

Interviewees also mentioned how marijuana use can also decrease people's ability to focus, as one interviewee said, *"for kids with ADHD or others that struggle with focus they might be more likely to want to smoke marijuana because of the dopamine release in the brain, but in the long terms it hurts your focus overall."* Another interviewee repeated the same sentiment, *"anyone who is regularly using it overall that's a teenager will struggle with focus."*

Although some interviewees felt that marijuana use makes mental health issues worse, one clinician mentioned that it's difficult to discern whether marijuana use or mental health issues came first, *"I had a few kids who were really depressed who were using a lot of marijuana but it's hard to know which came first. If they're trying to self-medicate their depression or if the marijuana use came first."*

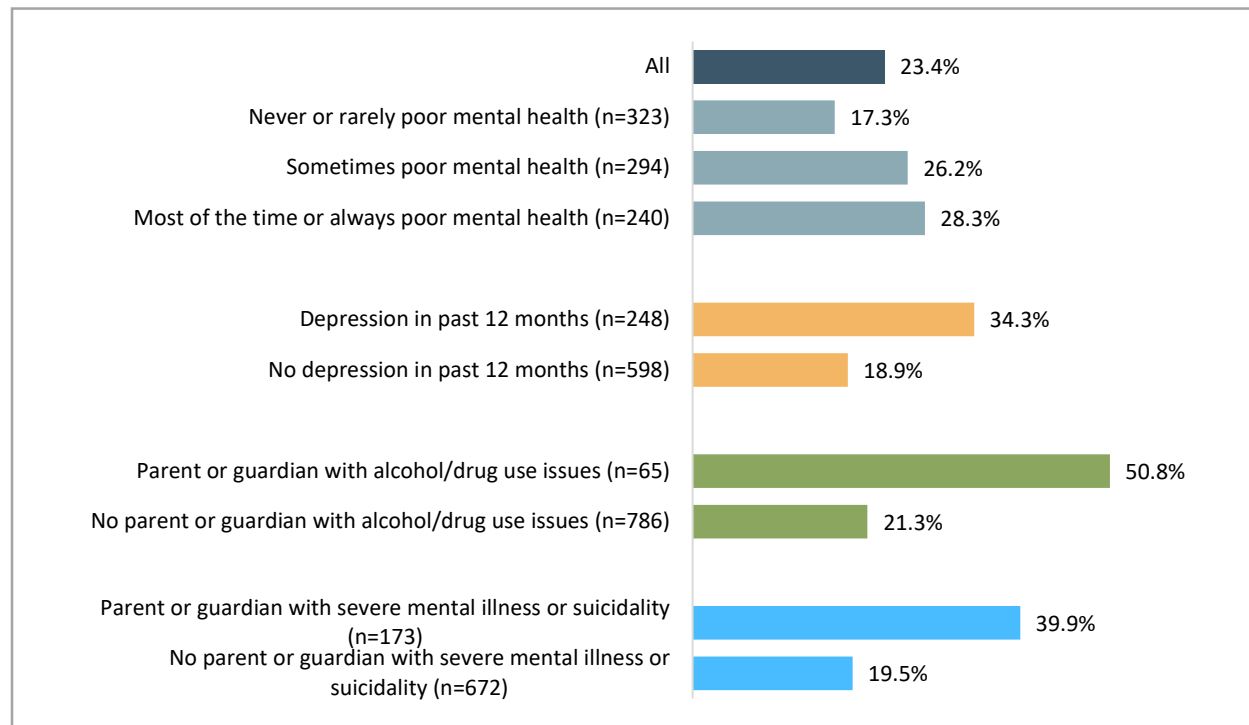
To assess the relationship between marijuana use and mental health among BHS students, we analyzed lifetime use of marijuana by mental health factors in the 2023 MYRBS data. We included students self-reported ratings of their own mental health in the past 30 days and whether they had had a depressive episode in the past year. We also included factors related to the behavioral health of their parents or guardians, including if they were aware of a parent having alcohol or drug issues, and whether they were aware of a parent having severe mental illness or suicidality. Students who reported never or rarely having poor mental health in the past 30 days were significantly less likely to have ever used marijuana (17.3%) than those reporting sometimes (26.2%) or mostly/always (28.3%) having poor mental health (**Figure 34**). A similar significant difference in lifetime marijuana use was seen for students with depression (34.3%) compared to those without (18.9%). Please note that it is not possible to determine the nature of this relationship – that is, whether poor mental health may cause a youth to use marijuana, whether marijuana use may cause poor mental health, or whether a third factor may cause both poor mental health *and* youth marijuana use.

Large and significant differences in lifetime marijuana use were also observed related to parent behavioral health factors, with 50.8% of students who knew a parent had an issue with alcohol or drug use reporting using marijuana, compared to 21.3% of their counterparts (**Figure 34**).<sup>31</sup> Similarly, 39.9% of those who knew their parent had a mental health issue had ever used marijuana, compared to 19.5% of their counterparts.

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<sup>31</sup> Public Schools of Brookline MA Youth Risk Behavior Survey. Data Summary and Trends Report. 2020. <https://www.brookline.k12.ma.us/Page/2831>

**Figure 34. Lifetime Use of Marijuana among Brookline High School Students by Behavioral Health Factors, 2023**



Data Source: Brookline High School MYRBS, 2023

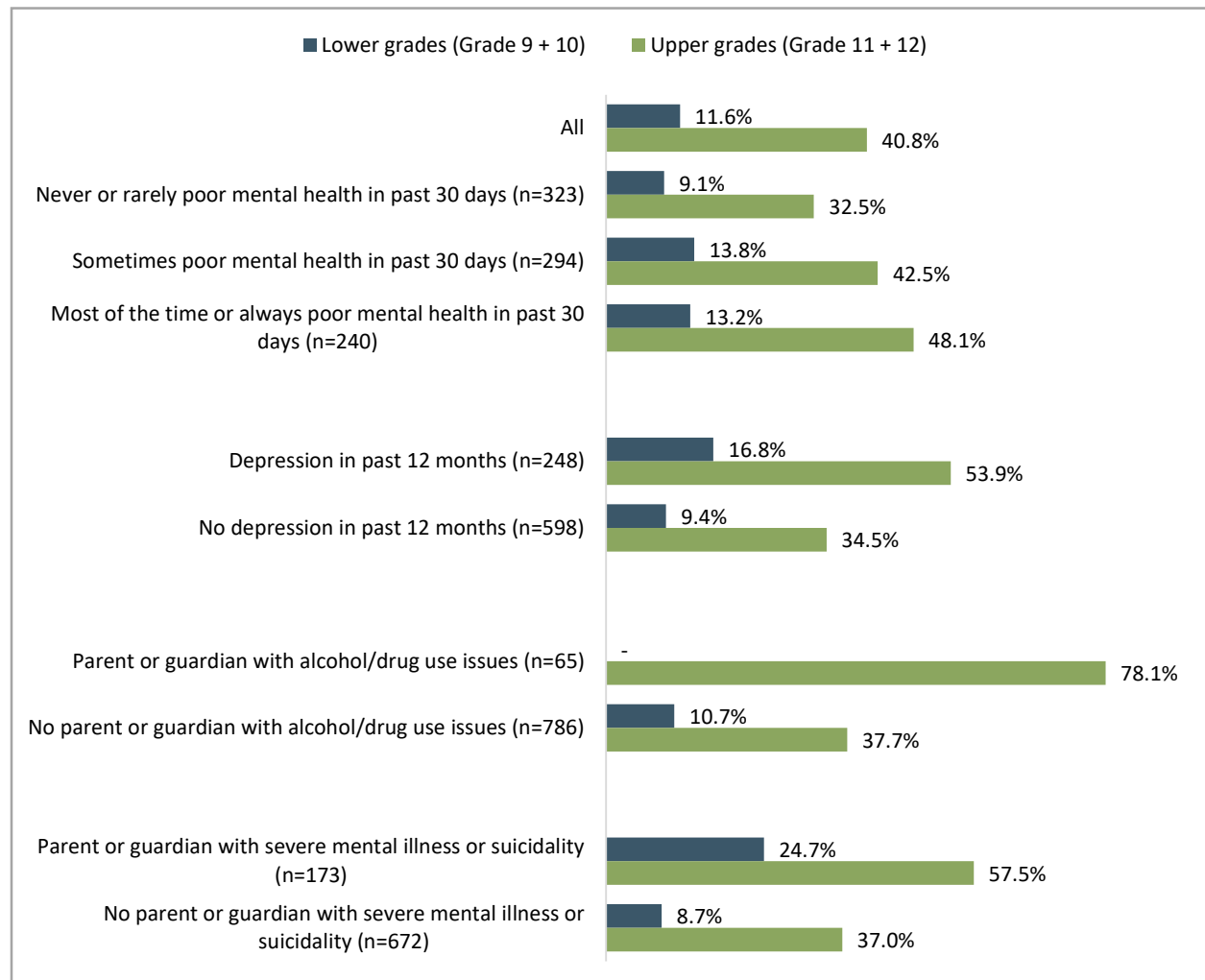
NOTE: Depression refers to students that indicated feeling so sad or hopeless almost every day for two weeks or more in a row that they stopped doing some usual activities.

NOTE:  $\chi^2$  difference of  $p < 0.05$  for all category measures.

Because marijuana use increases so steadily by grade level, we also wanted to assess these patterns separately for lower grade students (9<sup>th</sup> and 10<sup>th</sup> grades) versus upper grade students (11<sup>th</sup> and 12<sup>th</sup> grades). Comparing the green bars in **Figure 35** shows a steady increase in lifetime use of marijuana by mental health status among upper grade students, and a notable difference in use between those with depression (53.9%) and without (34.5%). Also notable is that 78.1% of upper grade students who are aware of a parent with alcohol/drug issues had ever used marijuana, compared to 37.7% of their counterparts (**Figure 35**).<sup>32</sup> These analyses also suggest that differences in marijuana use related to behavioral health factors start early in high school, and become accentuated in later years.

<sup>32</sup> Public Schools of Brookline MA Youth Risk Behavior Survey. Data Summary and Trends Report. 2020. <https://www.brookline.k12.ma.us/Page/2831>

**Figure 35. Lifetime Use of Marijuana Among Brookline High School Students by Behavioral Health, Lower Grades Compared to Upper Grades, 2023**



Data Source: Brookline High School MYRBS, 2023

NOTE: Depression refers to students that indicated feeling so sad or hopeless almost every day for two weeks or more in a row that they stopped doing some usual activities.

NOTE: Dash (-) denotes data is suppressed due to confidentiality risks associated with low response

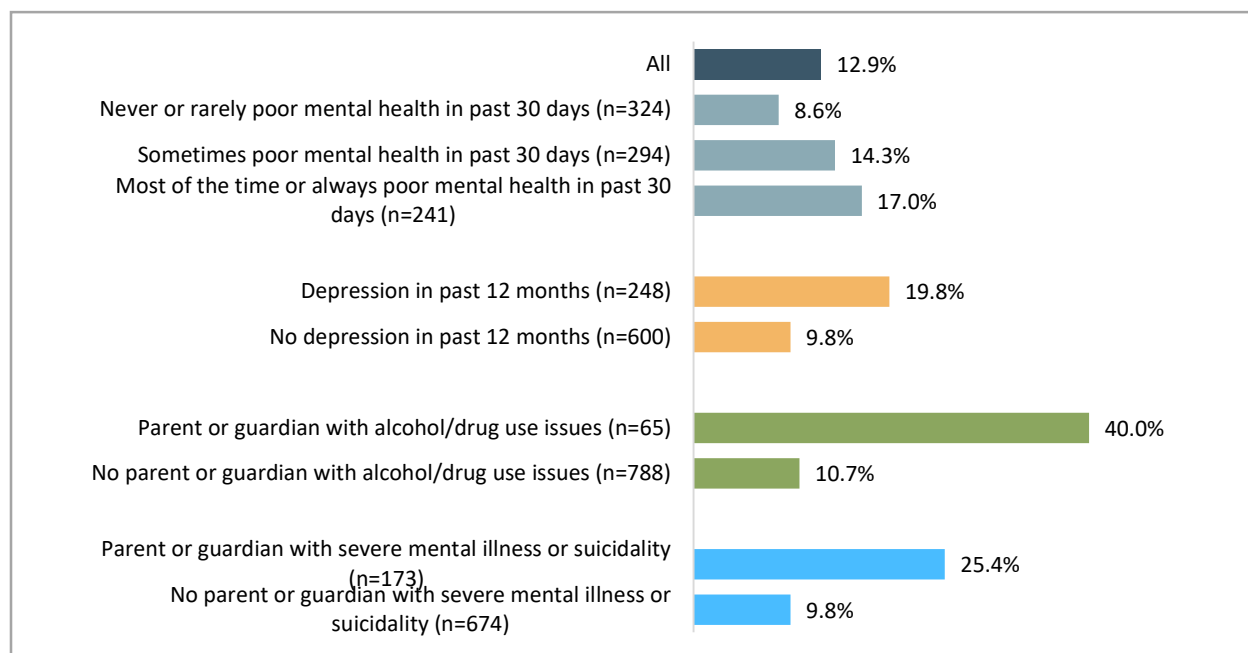
A clinician who participated in this assessment estimated that “for general outpatient, whether dealing with kids or adults, I would say over half of them [use marijuana]. They don’t see it as a drug or substance. I would say probably a little less than half admit it to me, maybe about 40-50% admit they’ve tried [marijuana]... I think the number is probably higher, I think kids don’t always tell their doctor... At least 50% have probably at least used it more than once.”

Finally, we assessed recent marijuana use in the past month by behavioral health factors. Again, we observe a steady increase in past-month marijuana use by self-reported mental health status (**Figure 36**). Twice as many students who experienced depression in the past year reported using marijuana in the past month compared to their counterparts. Similar to trends for lifetime use, 40.0% of students who were aware of a parent with an alcohol/drug issue had used marijuana in the past month compared to only 10.7% of their counterparts. Consistently between 8.5 – 11% of students with no behavioral



health-related factors reported using marijuana in the past month. Increased use beyond this level may be attributable to students' own or parental behavioral health issues.

**Figure 36. Use of Marijuana in the Past 30 Days Among Brookline High School Students by Behavioral Health Factors, 2023**



Data Source: Brookline High School MYRBS, 2023

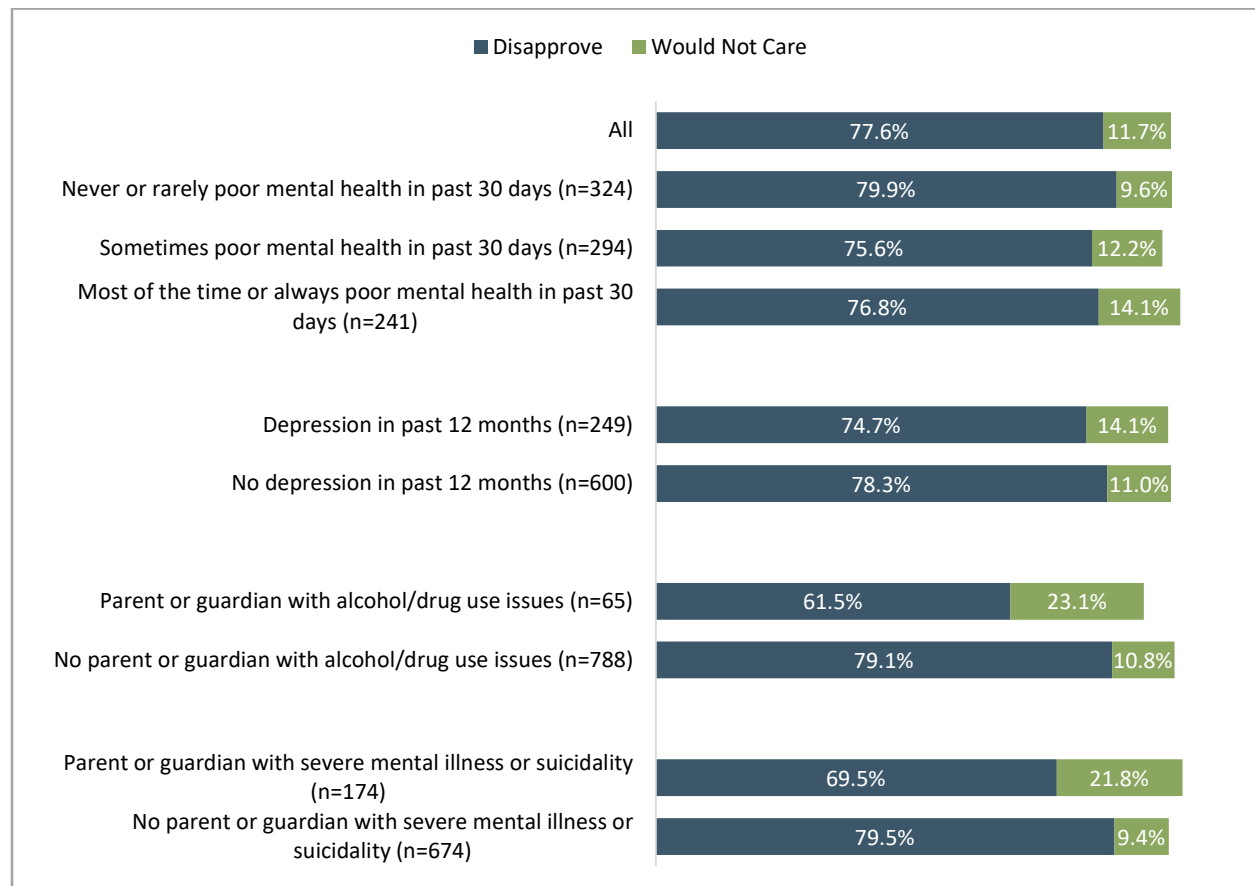
NOTE: Depression refers to students that indicated feeling so sad or hopeless almost every day for two weeks or more in a row that they stopped doing some usual activities.

NOTE:  $\chi^2$  difference of  $p < 0.05$  for all category measures.

As noted above, BHS students were asked in the MYRBS how they thought their parents or other adults in their family would feel if they smoked marijuana. We assessed perceived parental attitudes towards youth marijuana use by behavioral health-related factors of both youth themselves and their parents. Interestingly, there were no significant differences in the proportion of respondents who thought their parents would not care if they used marijuana by their own mental health status (**Figure 37**). However, the proportion of students who thought their parents would not care was significantly higher among students who are aware of their parent having an alcohol/drug issue (23.1%) or a mental health issue (21.8%), compared to their counterparts.<sup>33</sup> This perception and whether it reflects the reality of parental attitudes could be a potential point of intervention in a family therapy setting.

<sup>33</sup> Public Schools of Brookline MA Youth Risk Behavior Survey. Data Summary and Trends Report. 2020. <https://www.brookline.k12.ma.us/Page/2831>

**Figure 37. Perceived Parent Attitudes by Behavioral Health: “How would your parents or other adults in your family feel if you smoked marijuana?” 2023**



Data Source: Brookline High School MYRBS, 2023

Note: Bars do not add to 100% because responses of “Approve” and “Not Sure” were suppressed due to low response.

NOTE: Depression refers to students that indicated feeling so sad or hopeless almost every day for two weeks or more in a row that they stopped doing some usual activities.

NOTE:  $\chi^2$  difference of  $p < 0.05$  for parent substance use and parent mental illness.

## Protective Factors or Deterrents

Understanding the protective factors and deterrents against marijuana use allows for the development of more comprehensive and effective approaches and tools to addressing marijuana use. As with other substance use, marijuana use should be considered using a social-ecological approach that incorporates the context of individuals, families, community, and society. The Substance Abuse and Mental Health Services Administration (SAMHSA) model includes societal, community, family, and individual-level factors that shape marijuana-use behaviors (**Figure 1**). Brookline residents cited a number of these factors in the interviews and discussions.

At the societal level, the economic burden and cost of marijuana was mentioned as a deterrent to youth engaging in marijuana use. One interviewee noted that *“the cost is prohibitive”* and another youth participant mentioned, *“it’s expensive and it’s not legal, so you have to buy it off other people, which makes it more expensive.”*

At the community level, interviewees discussed youth involvement in sports and other extracurricular activities as a protective factor, in part because of the strict chemical substance use rules that students have to adhere to in order to participate in their respective activities. The rules put forth by the Massachusetts Interscholastic Athletic Association (MIAA) and that are listed in the Brookline High School Student Handbook outline specific disciplinary steps, including disallowing students from the sport or activity, if students either use substances or are in the presence of the consumption of substances.<sup>34,35</sup> Students don't want to risk it as one interviewee said, *"It's ingrained into athletes that if they get caught, they'll ruin their sports careers."* Another interviewee echoed that the regulations are a good motivator because *"if you get kicked off a team, it will affect your ability to graduate because of your health/wellness credits...kids do NOT want to get kicked off teams."* Additionally, an interviewee noted the benefits of extracurriculars on youth mental health and wellness as another protective factor, stating, *"My son does track and cross country. Sport is his mental health. That's one of best coping methods you can teach a child."*

Another community-level deterrent is if youth perceive that using marijuana is uncool or undesirable. One participant discussed how, upon further reflection, they found that vaping was uncool, which made them want to quit. They said, *"but when you see someone else doing it, like I see a freshman doing it, like this is what we've come to. These little kids thinking they're cool with their vapes, it makes me never want to smoke again, it feels cool in the moment, but then you look from an outside perspective and you're like, that kid's a loser."* Another participant mentioned similarly that *"doing it isn't really all that cool."* If they viewed marijuana use as uncool, they felt less motivated to use it.

In terms of family-level protective factors and deterrents, parental disapproval of marijuana use was cited by interviewees and participants as an influential factor. Brookline middle school students were asked in the 2023 MYRBS survey if their parents had communicated with them about the negative consequences of using marijuana. Overall, 28.9% said no; 22.9% said yes, once; 28.2% said yes, a number of times; and 20.0% said they did not remember (**Figure 38**).<sup>36</sup> It appears that parent communications become more common in 8<sup>th</sup> grade. Between 34-40% of students not identifying as male or female, Asian students, and Black students reported that their parents had not communicated with them about the potential negative consequences of using marijuana in the past year.

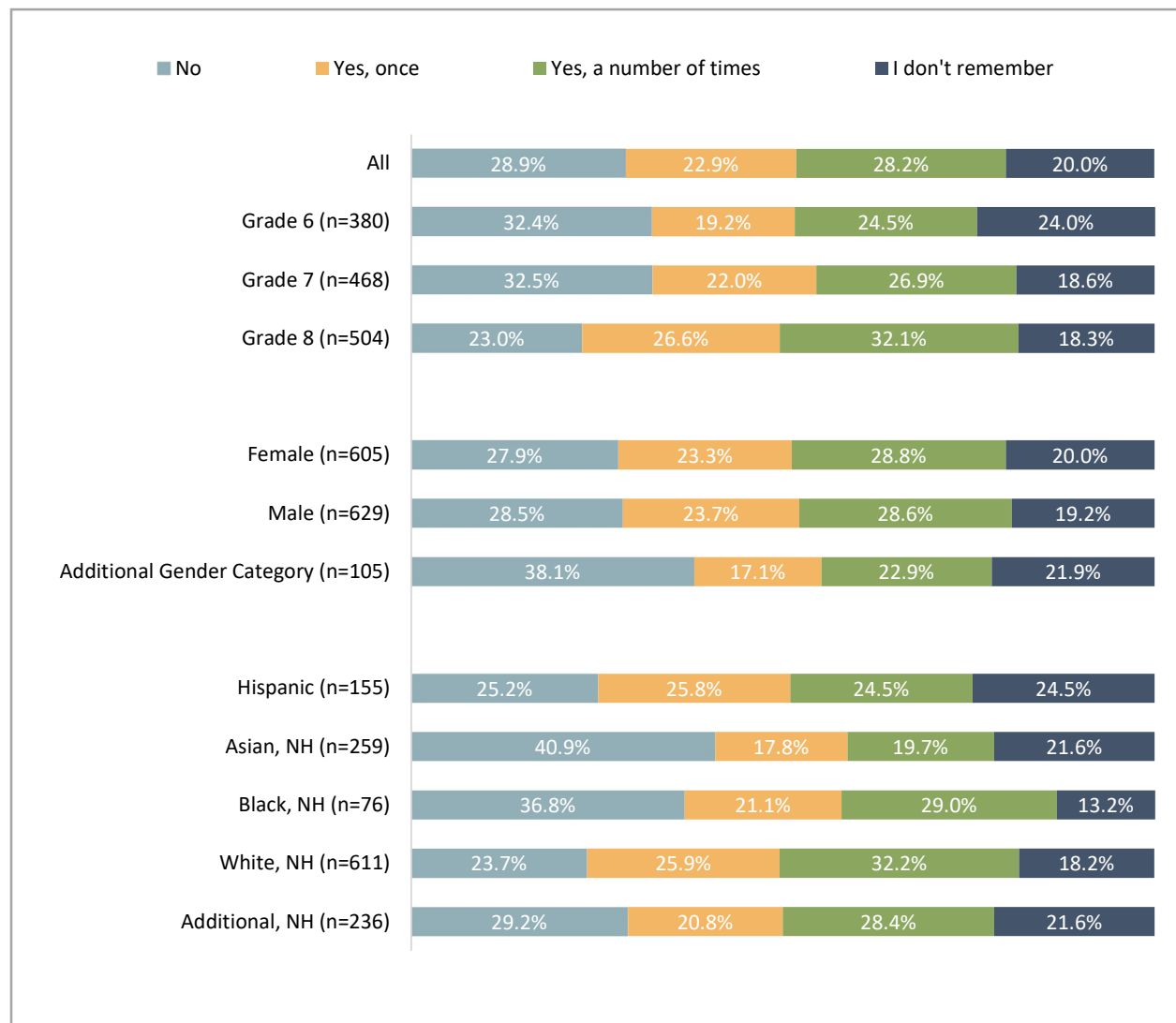
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<sup>34</sup> Massachusetts Interscholastic Athletic Association. MIAA-Handbook-21-23. 2021. <https://miaa.net/wp-content/uploads/2022/04/MIAA-Handbook-21-23revised.pdf>

<sup>35</sup> Brookline High School. Brookline High School Handbook 2022-2023. 2022. [https://bhs.brookline.k12.ma.us/uploads/8/0/1/5/801512/bhs\\_handbook22\\_23.pdf](https://bhs.brookline.k12.ma.us/uploads/8/0/1/5/801512/bhs_handbook22_23.pdf)

<sup>36</sup> Public Schools of Brookline MA Youth Risk Behavior Survey. Data Summary and Trends Report. 2020. <https://www.brookline.k12.ma.us/Page/2831>

**Figure 38. Parent Communications about Marijuana by Demographics: “During the past year, have your parent(s) or guardian(s) talked to you about the potential negative consequences of using marijuana?” 2023**



Data Source: Brookline Middle Schools MYRBS, 2023

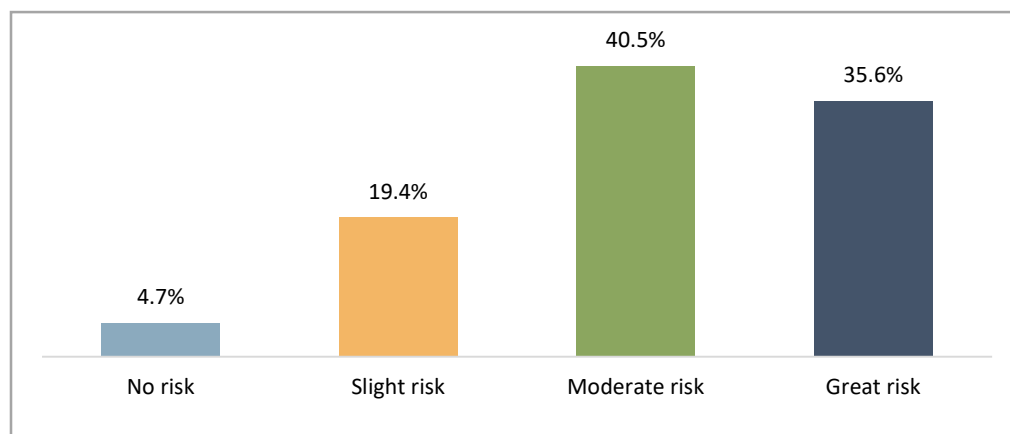
When asked about the reasons that youth do not use marijuana, one participant said, “*Parents are telling them, don’t smoke, don’t drink, don’t do drugs,*” suggesting that youth were taking their parents’ disapproval into consideration when thinking about marijuana use. Another interviewee noted that their teenager is deterred from using marijuana use because he is afraid someone will see him and report back, because people know each other in Brookline. The sentiments shared by participants and interviewees are consistent with research that has shown that parental beliefs and attitudes around marijuana use influence youth behavior.<sup>10</sup> A strong parental support system was also cited as a protective factor against marijuana use. One participant mentioned the role that parents play in creating a supportive environment for their kids, stating, “*If they’re supported, they won’t want to do drugs as much. If a parent feels they can’t be there because of their work, then they should assign someone they*

*trust to spend that time with their child. [It's] important for a child to feel they have someone to talk to."* Similarly, research has shown that positive family factors such as identifying with one's caregiver, affection displayed towards a child, and perceived parental trust have been shown to be protective against marijuana use.<sup>37</sup>

At the individual level, participants and interviewees extensively discussed the importance of mental health and stress on marijuana use. They noted that providing mental health support and being flexible to the unique needs of youth is critical, as youth are turning to substance use to cope. One interviewee discussed school programs for her daughter, who suffers from anxiety and depression, that are *"meeting her where she is and letting go of the common expectations of a student,"* The interviewee also mentioned programs that are grounded in providing *"social and emotional support"* to students with additional or unique needs.

Another individual-level factor is youth's perceived risk from using marijuana. Middle schoolers were asked in the 2023 MYRBS survey "How much do you think people risk harming themselves if they occasionally use marijuana?" The most common response was *Moderate Risk* with 40.5%, followed by *Great Risk* with 35.6% (**Figure 39**).<sup>38</sup>

**Figure 39. Perceived Risk of Occasional Marijuana Use, by Brookline Middle School Students (n=1,313), 2023**



Data Source: Brookline Middle Schools MYRBS, 2023

## Other Substance Use among Youth

To understand the wider scope of substance use, participants and interviewees were also asked about other types of substance use. When asked about the most commonly used substances, participants mentioned that alcohol was one of the most used, as one Brookline youth said, *"if we did top 3, it would be weed, alcohol, and then nicotine,"* An adult participant also discussed how they perceived that alcohol was more harmful because it's more readily available and more addictive, *"I think alcohol is worse in some ways only because it's more readily available in the house... Kids get into it. I feel like*

<sup>37</sup> Substance Abuse and Mental Health Services Administration. Preventing Marijuana Use Among Youth. 2021. <https://store.samhsa.gov/sites/default/files/pep21-06-01-001.pdf>

<sup>38</sup> Public Schools of Brookline MA Youth Risk Behavior Survey. Data Summary and Trends Report. 2020. <https://www.brookline.k12.ma.us/Page/2831>

*alcohol is very easily addictive.” Youth participants echoed that, “alcohol is also a big thing” and “that may even be more problematic, because that’s harder to stop than anything else.” Participant and interviewee sentiments were echoed in the results of the 2023 Brookline MYRBS in which 22.0% of BHS students reported using alcohol at least once in the last 30 days compared to 12.9% of BHS students who reported using marijuana in the last 30 days (Figure 26).<sup>39</sup>*

Another type of substance use that was continually brought up was vaping, particularly vaping of nicotine. Interviewees and participants noted that is the most commonly used substance amongst youth and that it was “rampant.” Participants noted that nicotine and other tobacco products were used more than marijuana, as one youth participant said, *“in terms of what’s consumed the most, it’s not marijuana, it’s nicotine, which is a problem in its own self”* and another adult interviewee who mentioned, *“out of all of those things, vaping is the most concerning. Vaping tobacco is ubiquitous. Tobacco is cheaper than pot.”* Participants talked about how the most commonly used substance in school is nicotine because of its accessibility and acceptability as one youth participant said, *“this is the easiest to get access to and use in school”* and another interviewee who said, *“vape products are socially acceptable to use by multiple groups.”* Youth participants also noted the addictiveness of nicotine as driver of use as well, as one participant said, *“nicotine is top in terms of most used because you can get easily addicted”* and that *“vaping nicotine is way more addictive than weed.”* According to the 2023 Brookline MYRBS, 9.0% of BHS students reporting using an electronic vape in the last 30 days, compared to 12.9% of BHS students who reported using marijuana in the same time period.<sup>40</sup>

In terms of other substances such as off-label use of prescription drugs or other illicit substances, interviewees and participants mentioned that while this exists, it was less common. One prescription drug that youth are using in Brookline is Adderall or other ADHD medications because, as one interviewee noted, *“there’s a lot of pressure being at Brookline, so you want to stay up all night and study.”* Another substance that is used are painkillers or opioids, but this is less common as one participant said they only knew *“one person that was prescribed painkillers and had some issues with it.”* In terms of illicit substances, one interviewee noted generally that they had seen *“ketamine use, hallucinogens, LSD, and benzos”* but did not note how common it was. This was echoed in the MYRBS survey in which less than 1% of BHS students reported having used illicit substances in their lifetime.<sup>41</sup>

When examining the wider trends in Massachusetts adults around using marijuana in combination with other substances, younger populations had a higher percentage of use of marijuana concurrently with use of e-cigarettes. For example, amongst those aged 16-20 years old and 21-25 years old who use marijuana, 25.0% and 23.0% used marijuana and e-cigarettes simultaneously, respectively (Figure 40). This is consistent with the findings mentioned previously around the prevalence of e-cigarette or vape usage amongst youth.

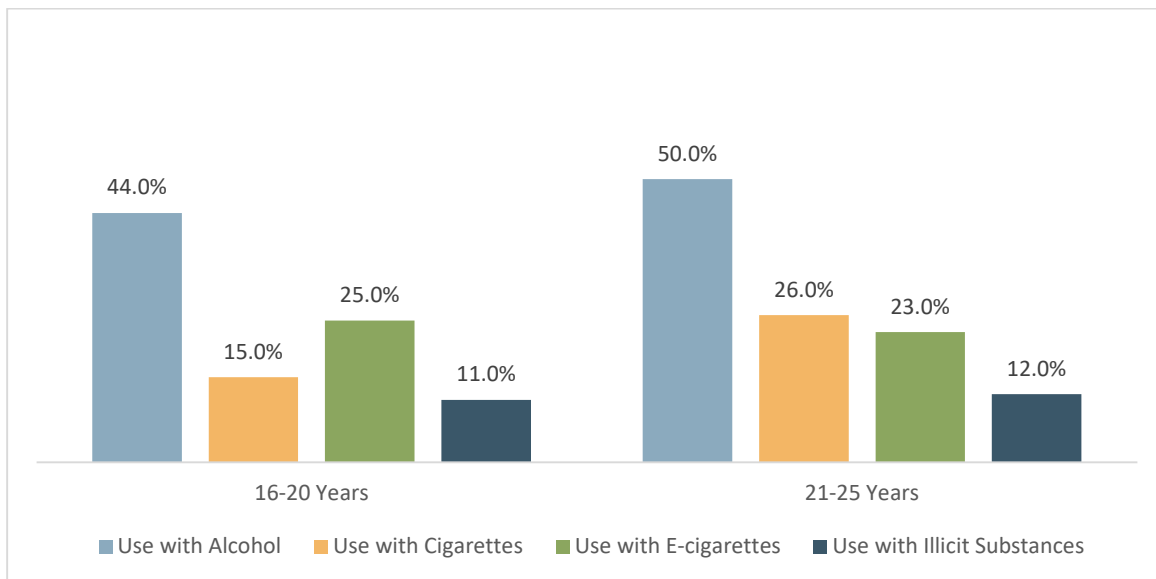
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<sup>39</sup> Public Schools of Brookline MA Youth Risk Behavior Survey. Data Summary and Trends Report. 2020. <https://www.brookline.k12.ma.us/Page/2831>

<sup>40</sup> *Ibid*

<sup>41</sup> *Ibid*

**Figure 40. Use of Other Substances Simultaneously with Marijuana by Age in the State of Massachusetts, 2019-2020**



Data Source: Massachusetts Cannabis Control Commission, Cannabis Use Trends in Massachusetts, Findings from the International Cannabis Policy Study, 2019 and 2020

## Findings: Substance Use Services

### Available Resources and Services

#### *School-Based Services*

Interviewees and participants discussed the health and wellness education curriculum provided through the public schools in Brookline as a resource for students and youth. One young adult participant discussed how substance education was taught in a balanced way and how it was *“brought up that [marijuana] wasn’t like other Schedule 1 substances”* but that *“it was still dangerous.”* They also noted that they *“felt the education was decent.”* A BHS staff member elaborated on how the schools provide health and wellness education, stating that *“we do a skills-based approach to education, we teach skills like analyzing influences, decision making, and self-management and then we add in the context. For example, in teaching decision-making, we’re integrating a scenario or lesson on a substance.”* They also discussed how the shift to teaching about substances using a skills-based perspective, rather than the issue of substance use itself, was difficult for parents to understand.

A recommendation that came up repeatedly through the assessment was for increased substance use education, particularly education that centers harm-reduction principles. Many interviewees and participants noted that historical education efforts that emphasized abstinence were not effective or had opposite effects and there was a need for a new approach. One interviewee said, *“I used to do education for substance abuse for kids and juveniles. Drug education usually has the opposite impact, like the DARE program created more users. We try to do more mechanisms that relate to a harm*

*reduction method, we're building the social fabric that they need to not be triggered to use. We're moving towards how to have a healthier and safer environment, and how do we put protective factors into those environments to prevent dangerous use." Another interviewee said similarly, "The abstinence model doesn't work at all for teenagers. Telling a kid just to say no doesn't work. I'd like to see more harm reduction strategies. If you're going to use, how do you use safely, we have more education around this for alcohol because it's more accepted...I think sometimes the harm reduction logic can seem like it's we're enabling but we want to give them healthy choices if they choose to use."*

In addition to harm-reduction focused education, interviewees also recommended education that is more grounded, relatable, and relevant to youth. They mentioned education that focuses on the potential consequences of substance that youth actually care about, such as sports participation or risks to jobs. It's important to note that interviewees talked about not necessarily using fear-tactics, but rather relating consequences back to what is important to youth. For example, one interviewee discussed how *"they're [youth] tired of hearing their brains aren't fully developed"* and instead, *"I would talk about some of the goals they have in life and how drug use might deter them from that."* They reiterated, *"Kid's don't care about the developing brain, you need to individualize the approach."* Another interviewee talked about what they tell their youth patients, *"I try to emphasize the risks...I tell them that they might get kicked off their sports teams...I try to talk to them about the realities."*

Along the lines of education, participants and interviewees also discussed the effectiveness of learning from their peers, as many of them discussed how peer pressure and social pressure can be risk factors for youth engaging in substance use. Interviewees reported on the peer leadership program at the high school, saying, *"peer leaders at the high school are great."* Other interviewees echoed that *"real time education"* should come *"from other kids."* Another participant also discussed how they started an affinity group with other youth to talk about things going on in their lives, including drug use and how they don't *"necessarily encourage or tell them what to do"* but rather, they *"hear their thoughts on what they're doing and why and if they do want to quit, how they can support them, and if they don't how to make sure it doesn't affect all other parts of their lives."*

In addition to the health and wellness education provided at the schools, interviewees and participants mentioned the substance use and counseling services that are available to students if they need it. Participants discussed the availability of mental health support in schools, stating, *"there's great people that kids can go talk to deal with what they're dealing with."* In cases where students are caught with substances, such as marijuana, the schools partner with the town health department to provide substance use counselors, promoting a public health model for substance use, rather than a criminal justice model.

#### *Mental Health Services and Substance Use Services*

Interviewees and participants also mentioned the services and resources that are available outside of the school system. One key resource mentioned was the Brookline Center for Community Mental Health. As noted previously, mental health and substance use are linked, highlighting the need for more mental health services. Interviewees discussed how the Brookline Center for Community Health runs innovative youth-focused programs that include *"programs that help students re-engage in their school so they can manage their emotional health"* and *"complex service coordination to individuals with high mental health and medical needs."*



When asked about substance use services that are currently available for youth specifically, participants discussed a number of programs and resources in the Boston area. One participant noted that there is a program at Boston Medical Center (BMC) that worked to destigmatize substance use so that *“people are going to rehab instead of jail”* and how *“we could all benefit from more of that.”* Another participant echoed similarly, *“from what I know personally, what is successful at the BMC program is that they take away the stigma of an addict...then you can provide them with clear steps for recovery, this is so important for someone trying to make it through recovery.”* Another participant shared that their child had gone through a program at Boston Children’s Hospital which has a program for a variety of substance use, including marijuana use.

## Barriers and Gaps in Services

### *Affordable, Quality Treatment*

Participants and interviewees noted a number of missing resources and gaps in the services that are currently available. For example, despite the availability of substance use programs, as discussed previously, participants noted that these programs still could be better. One participant reported how she felt that program staff could have been more proactive in their outreach to her as a parent of someone enrolled in their services, *“they didn’t check in enough. When my [child] was underage, I as a mother, needed to check in...[they] were the patient, but I wish they had checked in with me more, as the parent. I felt like I was the one running the program at times because I called them so much to check in and get updates.”*

Another issue that participants discussed was the affordability of treatment services and programs. Participants talked about how their child needed treatment for marijuana addiction and how they *“were really lucky to have the money to get [them] into treatment, but it was really expensive, insurance didn’t cover it.”*

### *Mental Health Capacity and Availability*

While some interviewees mentioned that there are some mental health services available, most participants and interviewees noted that there was a lack of mental health services or limited capacity. One participant talked about how *“there’s a lack of availability of clinicians in community mental health”* and that *“there’s not enough providers to provide the care that people need.”* Another participant echoed similarly, *“there aren’t enough people in the field right now because they left because of COVID or whatever...we have a system with no availability.”* Participants also talked about how there are not enough mental health services in schools either and how students were turning to substance use to cope with any mental health issues, stating, *“our school doesn’t have enough social workers, so there’s not enough for students to go to. So, if there’s something going on in their life that’s contributing to their stress and anxiety and they’re turning to drugs to cope with it, they should be able to send them to someone in or outside the school for support.”*

### *Enforcement of School Policies*

Another issue that participants and interviewees described as contributing to marijuana use was the lack of enforcement of school policies around marijuana use among students. They discussed how *“if you get caught with it, it’s no longer such a big deal, you get a little suspension.”* One participant also said, *“I feel like the administration just lets it happen...I feel like the teachers enable it, which is fine, it’s not their job*

*to be security.” Another participant noted that they do not necessarily want students to get in trouble, but rather, they wanted some consequences for sellers and that “the policing has moved so far back it has made it so no one gets punished.”*

Youth and young adult study participants also noted the prevalence of vaping nicotine and marijuana in the bathrooms at BHS: *“I have a younger brother who just finished high school, so I think there is a very different culture around it now because there were students smoking in the bathrooms. So I think it is more of a thing now.”* Another noted *“I’m not in the high school this year but I’ve gone back and there’s like 50 kids in one bathroom and the entire air is filled with smoke.”* It is likely that most of the “smoke” is from vaped nicotine, however one parent noted *“Every time we go to school, we pass by NETA. We then talk about it, like, do you see your classmates using it? And he says sometimes in the bathrooms/toilets, there’s a smell [of marijuana].”*

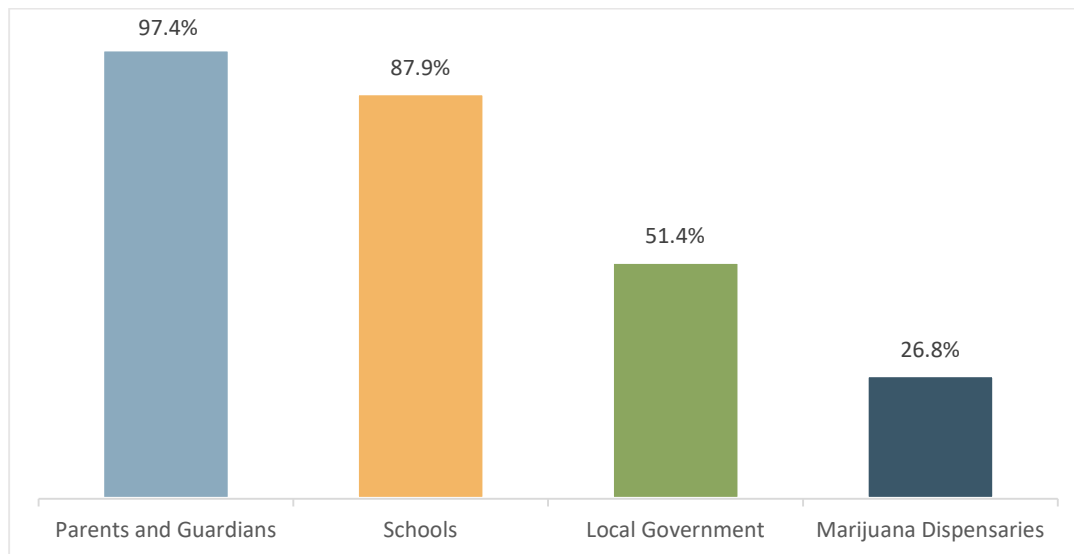
### *Substance Use Education*

While most participants and interviewees discussed the benefits of the current health and wellness education at the high school, interviewees also mentioned the lack of education available for younger age groups, such as those in middle school or younger. They mentioned that *“there’s a desperate need to get health education before middle school especially around substance use.”* They discussed how programming and education for 6<sup>th</sup> graders is very limited compared to previous years and how they *“used to have a few sessions in 6<sup>th</sup> grade but now have nothing”* other than *“peer leaders [coming] in and [doing] one session.”* The interviewee noted, *“this is probably the biggest gap, I don’t see any dedicated education for 6<sup>th</sup> grade students.”*

In addition to the lack of required education for younger grades, interviewees and participants also talked about how the ability to substitute the wellness credit with enrollment into a school sport at the high school was a barrier to continuing with substance use education, which had been previously discussed as a key in preventing substance use. Interviewees noted that even though the state requires a health and wellness class every year, *“most kids are not enrolled in a health class because they do sports,”* leading to them missing out on substance use education. Interviewees also discussed how creating a new required health class was also not an option because *“[parents] are prioritizing the academic space over health space...people don’t want to give up the extra AP [Advanced Placement] class.”*

When respondents to the 2021 Brookline Marijuana Survey were asked about where they thought youth should be receiving education about marijuana from, most respondents said they should be receiving education from their parents (97.4%) and from schools (87.9%) (**Figure 41**).

**Figure 41. Percentage of Residents on Where Children Should Receive Education About Marijuana From, 2021**



Data Source: Brookline Marijuana Survey, 2021

Note: Participants were asked to “select all that apply”, percentages may not add up to 100%

Participants and interviewees confirmed what the quantitative data said, with one interviewee noting that *“we can be doing more with parent education and supports”* and *“[having] parents talk to their kids about substance use.”* Another participant talked about how they make the time to talk to their children about everything, including substance use and how, *“young people today need people to talk to them.”* However, interviewees also mentioned how parents themselves also need education and support in order to be well-equipped to teach their kids accurate information about substance use. One interviewee said they needed *“parent education about how to talk to their kids about it.”* Another interviewee elaborated on the specific education for parents that is needed, *“they need to take some steps to educate parents and kids about it and how to be careful and smart about it, don’t lie and say never use but talk about risk mitigation.”* Participants and interviewees also recommended a wider education effort such as designing and implementing a town-wide media campaign, stating *“I think educating the town could work better in our community than other communities because we’re so education oriented.”*

Finally, interviewees who work with youth who use substances said they wish they *“could have something to refer them [youth] to, like an app, a group, a website, something, that could provide them information and education, something that felt authentic to them.”*

#### *Data Availability and Gaps*

Numerous participants and interviewees brought up the lack of comprehensive, up to date, and granular data in multiple focus groups and interviews. They noted that the lack of data makes it more difficult to fully understand the scale and facets of marijuana use and thus, where prevention and treatment efforts should be focused. Participants reported the need for more comprehensive data that covers a variety of topics including *“how many students are using, how many are going to treatment for it, [and] data*

*before legalization and then looking at it after.” They also discussed getting “data from the Boston metro area too” in order to make comparisons with Brookline. While the YRBS collects some of this data, participants noted that there is still more in-depth data that they would like to see collected and reported on. Additionally, interviewees expressed the need for improvements to the administration of the YRBS survey, noting “the way the survey was done was also not good” and that there was a need for more updated data because “the data we have now is outdated and not representative.” Another interviewee also talked about a need for more granular and specific data, especially around “emergency or crisis level” cases because “there’s not a lot of clear data that tells you what the needs are of Brookline, you don’t know the scale or location where those things show up the most.”*

#### *Knowledge of Available Services*

Another gap that a clinician communicated was a lack of a repository of resources that clinicians or providers can refer their patients to if they have any issues with substance use. They discussed how they were “not aware” and “never learned about” any youth-specific prevention or treatment services, programs, or resources and therefore, they felt like they could not help their patients in the way they needed. They noted they do have resources for other types of drug and alcohol dependence, but not for those who use marijuana, stating, “I don’t have a specific resource that I can go to, except for maybe saying that maybe they need therapy, I haven’t been made aware of any resources.”

## Recommendations

Recommendations were developed considering the Social Drivers of Health (SDoH), as they relate to substance use (see **Figure 1**), as well as the levels of prevention and intervention possible using a public health approach. With a town- or community-based assessment, planning efforts must acknowledge that not all public health trends can be effectively impacted by town policies and initiatives alone. Changes in attitudes about marijuana use and its legality are happening at a national – if not global – level, and these broader social changes have an influence on the attitudes and behaviors of Brookline residents. In addition, because Brookline is so geographically and culturally integrated with Boston and its surrounding communities, local policies and restrictions may be limited in their effectiveness. Local policy and program planning should consider this larger context when utilizing the findings from this assessment study, in order to have the most impact within Brookline’s area of influence.



DATA SOURCE: Substance Abuse and Mental Health Services Administration (SAMHSA), Prevention Training and Technical Assistance.

Using the SDoH framework (**Figure 1**) and public health approach to substance use, Recommendations are organized around the following categories, and presented based on the level of action -- Individual, Family, Community, or Society level:

1. **Prevention: Social Environment**
2. **Prevention: Stress & Mental Health**
3. **Youth Education and Resources**
4. **Adult Education and Resources**
5. **Treatment & Recovery**
6. **Collaboration**
7. **Data & Transparency**
8. **Racial Equity**
9. **Policy & Enforcement**

Most of the recommendations from this assessment fall within the ring of Community level interventions. However, we also note opportunities for action at the Family and Societal levels.

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## ***Prevention: Social Environment***

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The Town of Brookline has a wealth of resources, both physically and socially, that should continue to be utilized and bolstered to serve youth, with one consequence being drug use prevention. In interviews and focus groups, the Brookline Teen Center, BHS extracurricular sports and BHS extracurricular arts programs were all cited as positive forces in the community providing alternatives to drug use.

Within the larger societal context, social media use has become overwhelmingly prevalent among both adults and youth. Along with possible negative effects on youth mental health and promotion of social norms around drug use, social media use is also a growing concern as an emerging point of access for purchasing marijuana and other drugs through illegal and unregulated channels. In our interviews and focus groups, this access to marijuana through social media networks seemed to be something youth were aware of and adults largely were not.

**To prevent youth marijuana use in Brookline, it is recommended that social environment prevention efforts focus on:**

- **Family Level:**
  - **Monitor youth's use of social media in potentially accessing marijuana and other drugs.**
- **Community Level:**
  - **Continue to support activities and community locations that provide alternatives to substance use for both youth and adults, including school and community sports, school and community arts, and the Brookline Teen Center.**
  - **Develop messaging for youth about how many of their peers are *not* using marijuana and other drugs. Address misperceptions that *most* Brookline youth are using marijuana, to encourage confidence in rejecting the social pressure to use marijuana.**

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## ***Prevention: Stress and Mental Health***

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One of the most prominent themes that arose in nearly every focus group and interview was the link between mental health and substance use. Psychologically distress was not perceived to influence occasional social use of marijuana among youth, however it was perceived to be associated with frequent and harmful use, often as a coping strategy for stress. Participants repeatedly recommended more adequate services and resources to address youth mental health. As one participant said, *"kids need more mental health supports, more ways to deal with stress."* They also noted this was important because poor mental health was a driver of substance use, stating, *"there weren't enough supports for people...and so they were looking for that support and found it in substance use."* Interviewees also emphasized the effect that the COVID pandemic had on youth mental health and said, *"we're seeing*

*more substance use because of mental health because of the pandemic” and that “[we need to] provide more support to students regarding mental health challenges.” Another interviewee echoed similar sentiments that highlighted addressing mental health as an effective prevention strategy for substance use, “prevention and promotion are most important, so making sure kids have access to what promotes health development: sports, mental health supports at school and in the community.”*

**To prevent youth marijuana use in Brookline, it is recommended that stress and mental health prevention efforts focus on:**

- **Family Level:**
  - **Encourage youth to participate in physical and social activities that reduce stress and promote mental health, and can establish life-long healthy strategies for coping with stress.**
  - **Be aware of behavioral and psychological changes that may indicate or lead to marijuana use as a coping strategy. Seek services early to prevent worse outcomes.**
- **Community Level:**
  - **Reduce youth stressors and promote healthy coping strategies for stress.**
  - **Promote youth mental health and encourage access to mental health treatment for those in need.**
  - **Continue to provide safe spaces for youth to talk about mental health challenges and problematic substance use, where they can find support, rather than fear punishment or repercussions. Promote and expand these services that already exist from BHS social workers, nurses, and other staff.**

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## ***Youth Education and Resources***

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Another recommendation that came up repeatedly through the assessment was for increased substance use education, particularly education that centers harm-reduction principles. As discussed previously, interviewees reported that there is a lack of dedicated education on substance use in younger grades, such as those in 6<sup>th</sup> grade or younger. Interviewees said this was “*probably the biggest gap*” and that their recommendation is to “*add to the 6<sup>th</sup> and 5<sup>th</sup> grade curriculum.*” Peer-to-peer education about substance use and other issues, such as that provided through the Peer Leadership and SHARP programs at BHS, were also emphasized as an effective approach.

**To prevent youth marijuana use, it is recommended that the Town of Brookline promote youth education and resources such as:**

- **Community Level:**
  - **Continue and expand education based on principles of harm-reduction.**
  - **Consider adding substance use curriculum in 5th and 6th grades.**
  - **Meet youth where they are by adopting innovative educational approaches using peer-to-peer learning, social media, smartphone apps, etc.**

- **Continue to promote services at Brookline schools that support youth in identifying and addressing the underlying causes of substance use problems.**
- **As above, educate youth that most of their peers are *not* using marijuana, to counter the effects of peer pressure.**

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## ***Adult Education and Resources***

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Education and provision of resources for *adults* is another avenue that could help prevent harms associated with marijuana use among adults and prevent marijuana use among youth. Specifically, education may be needed about storage and dosing of marijuana products, since more than half of Brookline Marijuana Survey respondents said they did not know how marijuana should be stored and that they were not knowledgeable about dosing/strength of products. Adult and youth education could help prevent illness related to heavy marijuana use that was noted by assessment participants.

The need for adult education was also apparent in responses to attitude and perception questions about marijuana in the Brookline Marijuana Survey. In all of those questions, a substantial number of respondents said they were “neutral,” for example about the harms and benefits of marijuana, indicating that more education and resources about the scientific and medical evidence may be helpful to the Brookline community.

Opinions about the benefits and harms of marijuana use varied greatly among assessment participants. This is unlikely to change, given that there are both scientifically documented benefits and harms associated with marijuana use, and different people will value and weigh these differently. Changing attitudes of town residents is therefore likely to be less fruitful than simply educating people about the scientific evidence about marijuana use so that they may inform their own opinions and decisions.

**To prevent youth marijuana use and marijuana mis-use among adults, it is recommended that the Town of Brookline promote parent and adult education and resources such as:**

- **Community Level:**
  - **Provide parents/guardians with education and resources to talk with their children about the harms of marijuana and other substance use.**
  - **Provide adults with education and resources about marijuana dosing, safe storage, risks, etc.**
  - **Educate parents about the potential links between their own mental health and substance use issues, to those of their children.**
  - **Educate parents about youth access to drugs through social media.**

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## ***Treatment and Recovery***

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As noted above, the link between mental health issues, stress, and marijuana use was one of the major themes to emerge from this assessment. Within the constraints of the U.S. and Massachusetts



healthcare system, treatment access is likely one of the most important areas of focus for the Town of Brookline in preventing youth marijuana use. Providing behavioral health treatment for parents/guardians could also have a secondary effect in preventing or decreasing youth marijuana use.

**To enhance behavioral health treatment and recovery services, it is recommended that efforts support:**

- **Community Level:**
  - **Bolster mental health services and combined treatment for mental health and substance use.**
  - **Promote mental health and substance use treatment for parents, as an indirect form of prevention of youth marijuana use.**
  - **Focus efforts on early intervention and treatment for youth.**
- **Societal Level:**
  - **Support efforts to grow the mental health and substance use provider workforce.**
  - **Support efforts to overhaul reimbursement policies and insurance coverage among behavioral health providers.**

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## *Collaboration*

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In addition to more mental health supports, interviewees said they would also like to have more collaboration with other sectors or organizations that work with youth, as one service provider said, *“I wish we could do better with being better connected to other services that are tangential to mental health.”* They talked about how the reason there is a supply issue with mental health services is that there is a lack of collaboration between industries. Another interviewee similarly reported how they would like to see how these potential partnerships link together, in order to get a better understanding of the full range of services available and *“who else is connected to that and how these things link and tie together to provide care for the person more holistically.”*

Amongst youth participants, they highlighted the need for collaboration *with youth themselves* on any issues that are affecting them. They discussed how *“teens should also have a say in what’s going on,”* especially since their perspective is critical in ensuring that any programs will actually be effective. They said that *“adults and kids working together to combat this issue”* would be the most ideal and something *“[they] would get behind.”*

**Collaboration is recommended as a method to prevent youth marijuana use in Brookline. Specifically:**

- **Community Level:**
  - **Encourage cross-sector and cross-organizational collaboration on mental health services and other youth services.**
  - **Develop systems for making referrals using a “no wrong door” approach, so that youth seeking treatment for mental health can also access substance use services, and receive support for familial, financial, housing, or other needs which may be underlying their distress. Provide resources to support warm hand-offs between agencies and providers.**

- **Include Brookline youth in planning and decision-making on policies and programs that will affect them such as school policies and programming. Include youth in community-wide coalitions addressing substance use.**

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## ***Data and Transparency***

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Another topic that arose repeatedly among assessment participants was the need for reliable data to monitor trends in marijuana use and its associated harms, and the ability to access these data by town residents.

**In order to accurately monitor trends and needs around youth marijuana use, it is recommended that the Town of Brookline:**

- **Family Level:**
  - **Encourage youth participation in the semi-annual MYRBS.**
- **Community Level:**
  - **Continue supporting the regular collection of MYRBS data in PSB and enlist efforts to increase the response rates, especially among older BHS students.**
  - **Expand MYRBS high school survey questions to include more detailed data about youth marijuana use.**
  - **Establish secure data systems for storing MYRBS and other relevant data, and share access between relevant town agencies. Invest resources into monitoring longitudinal trends and community needs.**
  - **Invest resources into making detailed data reports with contextual interpretations publicly available on an ongoing basis.**

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## ***Racial Equity***

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The expansion in access to marijuana in Brookline through licensing of legal dispensaries has yet to address the racist history of the U.S. War on Drugs on communities of color, and especially African American communities, and to acknowledge the ongoing devastation resulting from this history.

At the time of this report, the Massachusetts Cannabis Control Commission was updating its regulations around social equity licenses for marijuana dispensaries. We encourage the Town of Brookline to follow the State's guidance and to support equity applicants for any new licenses that may become available. In addition, given the resources of Brookline residents, we encourage the town to adopt additional measures to provide some sort of remediation or mitigation for the ongoing harms caused to communities of color related to the War on Drugs.<sup>42, 43</sup> Examples from other municipalities could be

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<sup>42</sup> Bender, S. W. (2023). Racial Justice and Marijuana. California Western Law Review, 59(2), 2.

<sup>43</sup> Simone, B. (2021). Municipal reparations: Considerations and constitutionality. Mich. L. Rev., 120, 345.

useful in devising a specific program to address racial inequities related to substance use, for example, using tax revenues to build wealth in communities of color.<sup>44</sup>

**It is recommended that the Town of Brookline incorporate a racial equity approach to addressing marijuana use and sales, including:**

- **Community Level:**
  - **Develop and promote public education about the racist history of the U.S. War on Drugs and implications for Brookline and the present day.**
  - **Address racial disparities in marijuana use by Brookline youth, using a lens of racial justice to address possible structural discrimination and acknowledge the role that stress from discrimination and racism may have on people of color.**
  - **Consider local policies to promote racial equity, advised by Brookline residents of color and informed by efforts being implemented in other municipalities across the U.S.**

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## ***Policy and Enforcement***

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Given Brookline's close proximity to Boston and neighboring communities that also have legal access to marijuana, local policy and enforcement efforts should be designed for maximum efficacy in preventing youth marijuana use.

**Recommendations for policy and enforcement efforts include:**

- **Community Level:**
  - **Maintain current enforcement policies at Brookline dispensaries, which currently seem to be preventing youth from direct purchases.**
  - **Continue to enforce current school policies on chemical substance use and extracurriculars (mandatory enrollment in substance use counseling/education).**
  - **As above, maintain a harm reduction approach in schools by implementing a "safe haven" type of policy that allows students to ask school staff for help if they are experiencing substance use issues without fear of punishment.**
- **Societal Level:**
  - **Work with neighboring communities (especially the City of Boston) to encourage increased enforcement of age restrictions at dispensaries.**
  - **Work at the state level to continue limiting external marijuana advertising at dispensaries.**
  - **Work at the state and national level to expand access to mental health and substance use treatment and services.**

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<sup>44</sup> For examples, see: <https://www.nlc.org/resource/repository-of-city-racial-equity-policies-and-decisions/>  
<https://www.brookings.edu/articles/state-cannabis-reform-is-putting-social-justice-front-and-center/>  
<https://www.racialequityalliance.org/>

## Conclusions and Future Actions

This 2023 assessment of the landscape of marijuana in the Town of Brookline gathered and synthesized quantitative and qualitative data to understand influence and impacts of marijuana, with a focus on youth. Results of this assessment should be used by town leaders to prioritize and plan public health activities to prevent youth marijuana use and support intervention and treatment for those in need.

To this end, the main findings of this report are summarized here.

- Overall, about **one in four (23%)** of Brookline High School (BHS) student respondents to the 2023 Massachusetts Youth Risk Behavior Survey (MYRBS) reported **ever having used marijuana**. Prevalence of use increased steadily by grade, with 7% of 9<sup>th</sup> graders reporting use, and **over half (53%) of 12<sup>th</sup> graders reporting lifetime use**.
- Overall, 13% of BHS student respondents to the MYRBS reported having used marijuana in the **past 30 days**. Prevalence of use was 5% among 9th graders and **30% (almost one in three) among 12th graders**.
- In 2013, 34% of BHS students reported **ever using marijuana in their lives**, compared to 27% in 2015, 26% in 2017, 18% in 2021 during the COVID-19 pandemic, and 23% in 2023.
- In 2013, 21% of BHS students reported using marijuana in the **past 30 days**, compared to 16% in 2015, 17% in 2017, 10% in 2021 during the COVID-19 pandemic, and 13% in 2023.
- **The prevalence of lifetime and past-month marijuana use among BHS students appears to be substantially lower than among Massachusetts high school students overall.**
- BHS students had the **perception** that many more of their peers were using marijuana than what was reflected in the MYRBS data.
- There were statistically significant differences in the prevalence of lifetime and past-month use by various **demographic and education-related characteristics**. These characteristics should be considered with a perspective towards stress, stigma, and discrimination, especially during the important stage of identity formation occurring in the teen years.
- **Parental mental health and substance use disorders appear to be associated with a higher prevalence of youth marijuana use.**
- The **bidirectional links between mental health, stress, and marijuana use** were widely discussed. Prevention and treatment efforts should target these links holistically.
- **Parental attitudes and behaviors** could be an important area for education and intervention.
- **Direct sales to youth from legal marijuana dispensaries in Brookline do not seem to be a source of access for Brookline youth.** Dispensaries in Boston and social media connections to sellers in the informal market are of greater concern.
- Some Brookline residents expressed that issues of **racial equity around marijuana** should receive equal attention to concerns over youth marijuana use.
- Opinions and attitudes about marijuana use are very mixed among Brookline residents, but with a consistent sentiment that efforts should be made to limit/prevent/discourage youth use.

We recommend that planning efforts for how to utilize these findings should include the perspectives and inputs of both Brookline youth and communities of color who have been disproportionately impacted by drug laws and enforcement.

## Appendices

### Appendix A. Brookline Marijuana Assessment Steering Committee Members

Name	Affiliation/Organization
Rosemarie Roque Gordon	Advisory Council on Public Health (ACPH)
Andy Epstein	Advisory Council on Public Health (ACPH)
Summer Williams	Public Schools of Brookline
Maria Letasz / Matthew DuBois	Public Schools of Brookline
Paul Epstein	Brookline Teen Center
Brian Sutherland	Law Enforcement/Juvenile Rehabilitation
Susan Park	Parents
Luka Marinkovic	Brookline High School Peer Leader
Charlotte O'Neil	Brookline High School Peer Leader
Caitlin Starr	Office of Diversity, Inclusion, and Community Relations
Nicole Heisler	Cannabis Retailer

### Appendix B. Primary Data Collection Sector Representation

Key Informant Interviews	Focus Groups
K-12 Education	High School Students
Industry/Retailers	Young Adults/BHS Graduates (Aged 18-25)
Town Government	Community Members of Color
Healthcare Providers	Parents
Behavioral Health Providers	
Parents	

## Appendix C. Qualitative Research Topics

### **Brookline Department of Health Marijuana Study Research Interview Topics**

- General perceptions of the community
  - Strengths/assets of the community
  - Concerns/challenges of the community
- General perceptions of marijuana
  - Pressing issues related to marijuana use
  - Perceptions of marijuana retail stores
  - Perceptions of equity licenses for marijuana retail stores
  - Impacts of marijuana advertising
- Perceptions of marijuana use
  - Extent of marijuana use
  - Issues related to marijuana use
  - Beneficial or negative impacts of marijuana use
  - Demographics of marijuana use
  - How and where people are buying marijuana
  - How people are using marijuana
  - Reasons for using marijuana
  - Social norms around marijuana use
- Service availability
  - Existing programs, services, and policies around prevention or treatment
  - Accessibility or availability of prevention or treatment
  - Gaps in services available
  - Extent and contents of educational curriculum

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