# Washington's Young Adult Health Survey: Lessons Learned from a Decade of Data

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## Before we get started…

- Special thank you to:
  - Sandy Salivaras
  - Sarah Mariani
  - Kristen Haley
  - Dustin Dickson

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## Washington Young Adult Health Survey (YAHS)

- Funded by Division of Behavioral Health & Recovery (DBHR):
  - Sarah Mariani
  - Sandy Salivaras
- Young Adult Health Survey Team:
  - Jason Kilmer
  - Mary Larimer
  - Rose Lyles-Riebli
  - George Song
  - Isaac Rhew

Washington State Health Care Authority (Division of Behavioral Health and Recovery) (PI: Kilmer).

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## Young Adult Health Survey Recruitment… A Reminder of the Main Steps

- Participants recruited using a combination of direct mail advertising to a random sample from DOL, as well as online advertising (Facebook, Craigslist, Instagram, study web site, etc.)
- Assessed demographics on ongoing basis and modified strategies to recruit under-represented groups
- Convenience sample, not a random sample

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## Post-stratification weighting and analyses

- To improve generalizability, used post-stratification weights based on sex, race, and geographic region
- Weighted results are consistently very similar to non-weighted

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## Young Adult Health Survey

- Each year we collect data from a new cohort of 18-25 year olds

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## Sample sizes over time

- Cohort 1 (2014): 2,101
- Cohort 2 (2015): 1,675
- Cohort 3 (2016): 2,493
- Cohort 4 (2017): 2,342
- Cohort 5 (2018): 2,412
- Cohort 6 (2019): 1,942
- Cohort 7 (2020) 1,643
- Cohort 8 (2021): 1,756
- Cohort 9 (2022): 1,110
- Cohort 10 (2023): 1,237
- **TOTAL: 18,711**

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## Young Adult Health Survey

- Each year we have followed up with previous cohorts (participants in Cohort 1, 18-25 in 2014, are largely 28-35 now)
- In Year 10, we paused on cohorts 2, 3, 4, and 5 (but got follow-up data from cohorts 1, 6, 7, 8, and 9)

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What do we see with ten years of data?

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## Any past year "recreational"/non-medical/personal use: Cohorts 4-8 higher than Cohort 1

| | Cohort 1 (2014) | Cohort 2 (2015) | Cohort 3 (2016) | Cohort 4 (2017) | Cohort 5 (2018) | Cohort 6 (2019) | Cohort 7 (2020) | Cohort 8 (2021) | Cohort 9 (2022) | Cohort 10 (2023) | Total across 10 years |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 18-20 | 43.27% | 44.82% | 40.94% | 43.41% | 44.42% | 43.68% | 40.39% | 44.89% | 39.11% | 36.57% | 42.52% |
| 21-25 | 43.67% | 47.09% | 46.55% | 49.75% | 50.87% | 49.61% | 52.29% | 55.21% | 53.60% | 51.90% | 49.57% |
| TOTAL | 43.51% | 46.29% | 44.76% | 47.43% | 48.49% | 47.24% | 47.94% | 51.19% | 47.26% | 46.24% | 46.95% |

**Cohort 1 vs. Cohorts 2-10:**

Compared to Cohort 1, significantly higher prevalence for

- Cohort 4 (t=2.29, p<.05; odds ratio = 1.171; Cohort 4 has 17% higher odds of non-medical cannabis use than Cohort 1)
- Cohort 5 (t=2.96, p<.01; odds ratio = 1.222; Cohort 5 has 22% higher odds of non-medical cannabis use than Cohort 1)
- Cohort 6 (t=2.11, p<.05; odds ratio = 1.163; Cohort 6 has 16% higher odds of non-medical cannabis use than Cohort 1)
- Cohort 7 (t=2.41, p<.05; odds ratio = 1.196; Cohort 7 has 20% higher odds of non-medical cannabis use than Cohort 1)
- Cohort 8 (t=4.19, p<.001; odds ratio = 1.362; Cohort 8 has 36% higher odds of non-medical cannabis use than Cohort 1)

Source: Young Adult Health Survey, Preliminary Data Report to DBHR, February 2024, Kilmer (PI)

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## Any past year "recreational"/non-medical/personal use: Significant increasing linear trend for 18-25 year olds

| | Cohort 1 (2014) | Cohort 2 (2015) | Cohort 3 (2016) | Cohort 4 (2017) | Cohort 5 (2018) | Cohort 6 (2019) | Cohort 7 (2020) | Cohort 8 (2021) | Cohort 9 (2022) | Cohort 10 (2023) | Total across 10 years |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 18-20 | 43.27% | 44.82% | 40.94% | 43.41% | 44.42% | 43.68% | 40.39% | 44.89% | 39.11% | 36.57% | 42.52% |
| 21-25 | 43.67% | 47.09% | 46.55% | 49.75% | 50.87% | 49.61% | 52.29% | 55.21% | 53.60% | 51.90% | 49.57% |
| TOTAL | 43.51% | 46.29% | 44.76% | 47.43% | 48.49% | 47.24% | 47.94% | 51.19% | 47.26% | 46.24% | 46.95% |

**Linear trend from Cohort 1 to Cohort 10:**

Significant (t=3.14, p<.01

odds ratio = 1.0198; odds of non-medical cannabis use are 2.0% higher with each successive year/cohort)

**Age by cohort interaction:**

- Significant (t=4.51, p<.001)

Source: Young Adult Health Survey, Preliminary Data Report to DBHR, February 2024, Kilmer (PI)

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## Any past year "recreational"/non-medical/personal use: Significant increasing trend for 21-25 year olds

| | Cohort 1 (2014) | Cohort 2 (2015) | Cohort 3 (2016) | Cohort 4 (2017) | Cohort 5 (2018) | Cohort 6 (2019) | Cohort 7 (2020) | Cohort 8 (2021) | Cohort 9 (2022) | Cohort 10 (2023) | Total across 10 years |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 18-20 | 43.27% | 44.82% | 40.94% | 43.41% | 44.42% | 43.68% | 40.39% | 44.89% | 39.11% | 36.57% | 42.52% |
| 21-25 | 43.67% | 47.09% | 46.55% | 49.75% | 50.87% | 49.61% | 52.29% | 55.21% | 53.60% | 51.90% | 49.57% |
| TOTAL | 43.51% | 46.29% | 44.76% | 47.43% | 48.49% | 47.24% | 47.94% | 51.19% | 47.26% | 46.24% | 46.95% |

**Model split by over/under 21**

**18-20:**

- No significant linear trend

**21-25:**

- Significant increasing trend over time (t=5.56, p<.001, odds ratio = 1.0452
- Odds of non-medical cannabis use are 4.5% higher with each successive year/cohort

Source: Young Adult Health Survey, Preliminary Data Report to DBHR, February 2024, Kilmer (PI)

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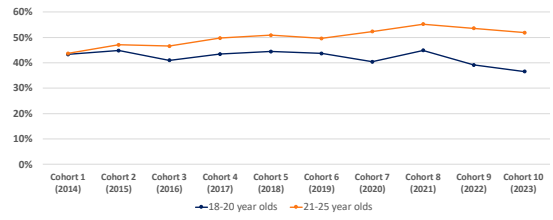
Source: Young Adult Health Survey, Preliminary Data Report to DBHR, February 2024, Kilmer (PI)

## Non-medical (or "recreational") use in the past year by age group

Past year prevalence of non-medical use

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## At least monthly "recreational"/non-medical/personal use: Cohorts 5-9 higher than cohort 1

| | Cohort 1 (2014) | Cohort 2 (2015) | Cohort 3 (2016) | Cohort 4 (2017) | Cohort 5 (2018) | Cohort 6 (2019) | Cohort 7 (2020) | Cohort 8 (2021) | Cohort 9 (2022) | Cohort 10 (2023) | Total across 10 years |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 18-20 | 24.08% | 24.88% | 21.19% | 23.56% | 27.06% | 23.24% | 23.17% | 24.16% | 26.21% | 20.15% | 23.85% |
| 21-25 | 23.63% | 23.56% | 25.12% | 28.07% | 27.88% | 29.55% | 33.81% | 33.86% | 31.65% | 30.87% | 28.27% |
| TOTAL | 23.81% | 24.03% | 23.84% | 26.46% | 27.62% | 27.09% | 29.90% | 30.11% | 29.19% | 26.87% | 26.64% |

**Regression models:**

**Cohort 1 vs. Cohorts 2-10:**

Compared to Cohort 1, significantly higher prevalence for

- Cohort 5 (t=2.56, p<.01; odds ratio = 1.221, Cohort 5 has 22% higher odds of non-medical cannabis use than Cohort 1)
- Cohort 6 (t=2.08, p<.05; odds ratio = 1.189, Cohort 6 has 19% higher odds of non-medical cannabis use than Cohort 1)
- Cohort 7 (t=3.73, p<.001; odds ratio = 1.365, Cohort 7 has 37% higher odds of non-medical cannabis use than Cohort 1)
- Cohort 8 (t=3.88, p<.001; odds ratio = 1.379, Cohort 8 has 38% higher odds of non-medical cannabis use than Cohort 1)
- Cohort 9 (t=2.99, p<.01; odds ratio = 1.320, Cohort 9 has 32% higher odds of non-medical cannabis use than Cohort 1)

Source: Young Adult Health Survey, Preliminary Data Report to DBHR, February 2024, Kilmer (PI)

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## At least monthly "recreational"/non-medical/personal use: Significant increasing trend for 18-25 year olds

| | Cohort 1 (2014) | Cohort 2 (2015) | Cohort 3 (2016) | Cohort 4 (2017) | Cohort 5 (2018) | Cohort 6 (2019) | Cohort 7 (2020) | Cohort 8 (2021) | Cohort 9 (2022) | Cohort 10 (2023) | Total across 10 years |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 18-20 | 24.08% | 24.88% | 21.19% | 23.56% | 27.06% | 23.24% | 23.17% | 24.16% | 26.21% | 20.15% | 23.85% |
| 21-25 | 23.63% | 23.56% | 25.12% | 28.07% | 27.88% | 29.55% | 33.81% | 33.86% | 31.65% | 30.87% | 28.27% |
| TOTAL | 23.81% | 24.03% | 23.84% | 26.46% | 27.62% | 27.09% | 29.90% | 30.11% | 29.19% | 26.87% | 26.64% |

**Linear trend from Cohort 1 to Cohort 10:**

Significant increasing trend over time (t=5.10, p<.001; Odds ratio = 1.036)

**Age by cohort interaction:**

Significant (p<.001)

Source: Young Adult Health Survey, Preliminary Data Report to DBHR, February 2024, Kilmer (PI)

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## At least monthly "recreational"/non-medical/personal use: Significant increasing trend for 21-25 year olds

| | Cohort 1 (2014) | Cohort 2 (2015) | Cohort 3 (2016) | Cohort 4 (2017) | Cohort 5 (2018) | Cohort 6 (2019) | Cohort 7 (2020) | Cohort 8 (2021) | Cohort 9 (2022) | Cohort 10 (2023) | Total across 10 years |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 18-20 | 24.08% | 24.88% | 21.19% | 23.56% | 27.06% | 23.24% | 23.17% | 24.16% | 26.21% | 20.15% | 23.85% |
| 21-25 | 23.63% | 23.56% | 25.12% | 28.07% | 27.88% | 29.55% | 33.81% | 33.86% | 31.65% | 30.87% | 28.27% |
| TOTAL | 23.81% | 24.03% | 23.84% | 26.46% | 27.62% | 27.09% | 29.90% | 30.11% | 29.19% | 26.87% | 26.64% |

**Model split by over/under 21**

**18-20:**

- No significant linear trend

**21-25**:

- Significant increasing trend over time (t=6.74, p<.001)
- Odds ratio = 1.061 (odds of non-medical cannabis use are 6.1% higher with each successive year/cohort)

Source: Young Adult Health Survey, Preliminary Data Report to DBHR, February 2024, Kilmer (PI)

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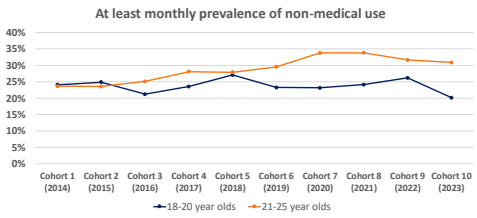
Source: Young Adult Health Survey, Preliminary Data Report to DBHR, February 2024, Kilmer (PI)

## At least monthly non-medical (or "recreational") use by age group

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## At least weekly "recreational"/non-medical/personal use: Cohorts 7, 8, and 10 higher than Cohort 1

| | Cohort 1 (2014) | Cohort 2 (2015) | Cohort 3 (2016) | Cohort 4 (2017) | Cohort 5 (2018) | Cohort 6 (2019) | Cohort 7 (2020) | Cohort 8 (2021) | Cohort 9 (2022) | Cohort 10 (2023) | Total across 10 years |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 18-20 | 16.51% | 13.43% | 13.30% | 15.40% | 18.56% | 14.41% | 15.21% | 16.86% | 16.40% | 14.42% | 15.55% |
| 21-25 | 16.86% | 16.21% | 18.55% | 18.42% | 19.22% | 21.39% | 24.07% | 24.59% | 21.93% | 24.89% | 20.13% |
| TOTAL | 16.72% | 15.23% | 16.85% | 17.37% | 19.03% | 18.59% | 20.84% | 21.62% | 19.47% | 20.84% | 18.43% |

**Regression models:**

**Cohort 1 vs. Cohorts 2-10:**

Cohort 7 is significantly higher than Cohort 1 (t=2.86, p<.01, Odds ratio = 1.311)
Cohort 8 is significantly higher than Cohort 1 (t=3.37, p<.001, Odds ratio = 1.374)
Cohort 10 is significantly higher than Cohort 1 ((t=2.61, p<.01, Odds ratio = 1.311)

Source: Young Adult Health Survey, Preliminary Data Report to DBHR, February 2024, Kilmer (PI)

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## At least weekly "recreational"/non-medical/personal use: Significant increasing trend for 18-25 year olds

| | Cohort 1 (2014) | Cohort 2 (2015) | Cohort 3 (2016) | Cohort 4 (2017) | Cohort 5 (2018) | Cohort 6 (2019) | Cohort 7 (2020) | Cohort 8 (2021) | Cohort 9 (2022) | Cohort 10 (2023) | Total across 10 years |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 18-20 | 16.51% | 13.43% | 13.30% | 15.40% | 18.56% | 14.41% | 15.21% | 16.86% | 16.40% | 14.42% | 15.55% |
| 21-25 | 16.86% | 16.21% | 18.55% | 18.42% | 19.22% | 21.39% | 24.07% | 24.59% | 21.93% | 24.89% | 20.13% |
| TOTAL | 16.72% | 15.23% | 16.85% | 17.37% | 19.03% | 18.59% | 20.84% | 21.62% | 19.47% | 20.84% | 18.43% |

**Linear trend**
Significant (t=5.19, p<.001); Odds ratio = 1.043

**Age by cohort interaction:**
Significant (t=2.93, p<.01)

Source: Young Adult Health Survey, Preliminary Data Report to DBHR, February 2024, Kilmer (PI)

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## At least weekly "recreational"/non-medical/personal use: Significant increasing trend for 21-25 year olds

| | Cohort 1 (2014) | Cohort 2 (2015) | Cohort 3 (2016) | Cohort 4 (2017) | Cohort 5 (2018) | Cohort 6 (2019) | Cohort 7 (2020) | Cohort 8 (2021) | Cohort 9 (2022) | Cohort 10 (2023) | Total across 10 years |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 18-20 | 16.51% | 13.43% | 13.30% | 15.40% | 18.56% | 14.41% | 15.21% | 16.86% | 16.40% | 14.42% | 15.55% |
| 21-25 | 16.86% | 16.21% | 18.55% | 18.42% | 19.22% | 21.39% | 24.07% | 24.59% | 21.93% | 24.89% | 20.13% |
| TOTAL | 16.72% | 15.23% | 16.85% | 17.37% | 19.03% | 18.59% | 20.84% | 21.62% | 19.47% | 20.84% | 18.43% |

**Model split by over/under 21**

**18-20:**
- No significant linear trend

**21-25:**
- Significant increasing trend over time (t=6.27, p<.001; odds ratio = 1.065, odds of non-medical cannabis use are 6.5% higher with each successive year/cohort)

Source: Young Adult Health Survey, Preliminary Data Report to DBHR, February 2024, Kilmer (PI)

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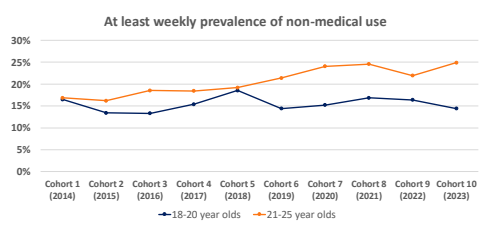
Source: Young Adult Health Survey, Preliminary Data Report to DBHR, February 2024, Kilmer (PI)

## At least weekly non-medical (or "recreational") use by age group

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**Non-medical use, categories of frequency, whole sample**

| | Cohort 1 2014 | Cohort 2 2015 | Cohort 3 2016 | Cohort 4 2017 | Cohort 5 2018 | Cohort 6 2019 | Cohort 7 2020 | Cohort 8 2021 | Cohort 9 2022 | Cohort 10 2023 |
|---|---|---|---|---|---|---|---|---|---|---|
| Never | 56.49% | 53.71% | 55.24% | 52.57% | 51.51% | 52.76% | 52.06% | 48.81% | 52.74% | 53.76% |
| Once a year | 7.53% | 8.28% | 8.00% | 6.36% | 6.67% | 6.41% | 5.86% | 7.13% | 5.70% | 5.75% |
| 2-3x/year | 8.58% | 9.60% | 9.72% | 10.21% | 10.52% | 9.77% | 8.76% | 9.79% | 9.23% | 9.38% |
| Every other month | 3.59% | 4.38% | 3.20% | 4.40% | 3.68% | 3.97% | 3.42% | 4.15% | 3.13% | 4.25% |
| Once a month | 3.15% | 3.55% | 3.06% | 3.58% | 3.24% | 3.72% | 4.29% | 3.67% | 2.87% | 2.33% |
| 2-3x/month | 3.94% | 5.24% | 3.94% | 5.51% | 5.35% | 4.77% | 4.77% | 4.82% | 6.86% | 3.70% |
| 1x/week | 2.49% | 2.75% | 2.90% | 2.38% | 2.61% | 2.92% | 3.36% | 3.23% | 3.12% | 3.43% |
| More than 1x/wk | 5.26% | 4.39% | 4.63% | 4.29% | 4.81% | 4.63% | 5.25% | 6.36% | 5.16% | 4.37% |
| Every other day | 2.63% | 3.44% | 2.35% | 3.55% | 3.60% | 2.85% | 3.93% | 4.29% | 3.06% | 2.64% |
| Every day | 6.34% | 4.65% | 6.97% | 7.14% | 8.01% | 8.19% | 8.30% | 7.74% | 8.14% | 10.39% |

**Cohort 4-10 all significantly higher odds of more frequent cannabis use than Cohort 1.**

**Note: ** Daily use is higher in Cohort 10 than at any time ****

**Linear trend from Cohort 1 to Cohort 10:**
Significant increasing trend over time (t=4.70, p<.001, Odds ratio = 1.028)

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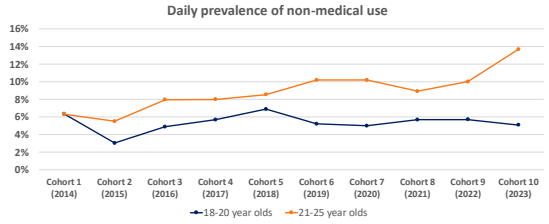
Source: Young Adult Health Survey, Preliminary Data Report to DBHR, February 2024, Kilmer (PI)

## Daily non-medical (or "recreational") use by age group

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## Perceived norms of non-medical cannabis use

**PERCEPTIONS OF NON-MEDICAL CANNABIS**

| | Cohort 1 2014 | Cohort 2 2015 | Cohort 3 2016 | Cohort 4 2017 | Cohort 5 2018 | Cohort 6 2019 | Cohort 7 2020 | Cohort 8 2021 | Cohort 9 2022 | Cohort 10 2023 |
|---|---|---|---|---|---|---|---|---|---|---|
| Never | 2.41% | 2.42% | 1.61% | 2.31% | 2.06% | 1.50% | 2.38% | 1.92% | 3.05% | 2.44% |
| Once a year | 1.82% | 2.10% | 1.74% | 1.92% | 1.27% | 0.75% | 1.32% | 1.15% | 1.37% | 1.01% |
| 2 to 3 times a year | 8.22% | 10.12% | 6.73% | 6.40% | 3.89% | 3.31% | 2.23% | 3.87% | 3.95% | 4.53% |
| Every other month | 6.98% | 7.29% | 5.32% | 4.59% | 3.14% | 3.90% | 4.42% | 3.48% | 2.93% | 3.37% |
| Once a month | 9.74% | 11.15% | 10.41% | 9.07% | 6.88% | 5.51% | 6.39% | 7.07% | 6.63% | 6.66% |
| 2-3x/month | 17.98% | 19.68% | 19.83% | 18.91% | 13.47% | 13.93% | 14.32% | 14.04% | 14.38% | 12.69% |
| Once per week | 12.65% | 12.72% | 15.43% | 13.89% | 14.28% | 12.91% | 12.64% | 14.11% | 13.24% | 11.51% |
| More than 1x/wk | 22.08% | 20.70% | 21.42% | 23.94% | 27.12% | 25.90% | 28.57% | 29.17% | 25.76% | 26.73% |
| Every other day | 9.27% | 6.87% | 8.56% | 8.65% | 11.10% | 12.25% | 13.10% | 10.45% | 13.14% | 12.03% |
| Every day | 8.84% | 6.95% | 8.96% | 10.31% | 16.79% | 20.03% | 14.62% | 14.75% | 15.57% | 19.02% |

*** In ordinal logistic models, Cohort 4 (t=2.57, p<.01), Cohort 5 (t=10.67, p<.001), Cohort 6 (t=12.36, p<.001), Cohort 7 (t=9.72, p<.001), Cohort 8 (t=9.02, p<.001), Cohort 9 (t=8.10, p<.001), and Cohort 10 (t=9.55, p<.001) have higher perceived non-medical cannabis norms compared to cohort 1; but cohort 2 has lower norms compared to cohort 1 (t= -3.35 p<.001) ****
*** Overall, a significant increasing linear trend over time (t=18.72, p<.001) ****

**In Cohort 10, 20.84% use at least weekly (meaning most don't), yet 69.29% think the typical person their age uses weekly**

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Decreasing trend significant
Increasing trend significant

**WHERE DO PEOPLE GET CANNABIS, 18-20 year olds**

| | Cohort 1 2014 | Cohort 2 2015 | Cohort 3 2016 | Cohort 4 2017 | Cohort 5 2018 | Cohort 6 2019 | Cohort 7 2020 | Cohort 8 2021 | Cohort 9 2022 | Cohort 10 2023 |
|---|---|---|---|---|---|---|---|---|---|---|
| From friends | 72.86% | 76.24% | 69.68% | 77.40% | 63.75% | 60.74% | 66.87% | 65.62% | 59.68% | 58.06% |
| Gave money to someone | 23.29% | 26.47% | 34.72% | 41.45% | 39.29% | 43.17% | 40.55% | 39.80% | 37.62% | 33.36% |
| Got it from someone w/ medical card | 17.60% | 14.12% | 4.30% | 5.24% | 2.79% | 2.82% | 4.27% | 4.58% | 4.10% | 1.62% |
| Got it from a medical dispensary | 13.65% | 18.99% | 5.58% | 4.72% | 6.50% | 8.28% | 8.41% | 12.03% | 3.40% | 7.53% |
| Got it at a party | 22.99% | 22.14% | 23.08% | 24.92% | 20.12% | 22.91% | 8.82% | 24.67% | 16.43% | 10.98% |
| Got it from family | 5.65% | 5.18% | 11.75% | 9.75% | 11.24% | 10.92% | 13.49% | 7.09% | 11.36% | 9.67% |
| Got it some other way | 11.64% | 4.12% | 6.12% | 9.02% | 7.30% | 6.21% | 5.04% | 6.24% | 3.62% | 4.28% |
| Bought from retail store | 0.99% | 4.58% | 1.73% | 1.92% | 2.03% | 3.55% | 1.58% | 1.03% | 3.08% | 1.53% |
| Got it from parents w/ permission | 5.75% | 6.02% | 12.33% | 10.44% | 11.69% | 12.91% | 13.08% | 13.91% | 12.38% | 15.77% |
| Grew it themselves | 1.91% | 1.15% | 1.65% | 0.23% | 1.47% | 2.78% | 1.64% | 0.42% | 0.59% | 0.56% |
| Stole it from store/dispensary | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 4.16% | 2.40% | 0.00% | 0.57% |

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Decreasing trend significant
Increasing trend significant

**WHERE DO PEOPLE GET CANNABIS, 21-25 year olds**

| | Cohort 1 2014 | Cohort 2 2015 | Cohort 3 2016 | Cohort 4 2017 | Cohort 5 2018 | Cohort 6 2019 | Cohort 7 2020 | Cohort 8 2021 | Cohort 9 2022 | Cohort 10 2023 |
|---|---|---|---|---|---|---|---|---|---|---|
| From friends | 67.50% | 54.89% | 42.78% | 36.51% | 33.80% | 25.72% | 20.26% | 26.44% | 26.04% | 21.17% |
| Gave money to someone | 19.87% | 10.72% | 8.10% | 5.64% | 4.97% | 3.63% | 5.08% | 4.61% | 7.75% | 4.46% |
| Got it from someone w/ medical card | 18.85% | 9.41% | 2.53% | 2.02% | 0.17% | 0.65% | 0.27% | 0.62% | 1.16% | 1.03% |
| Got it from a med. dispensary | 20.65% | 13.03% | 12.60% | 9.96% | 10.15% | 14.23% | 14.71% | 15.62% | 16.02% | 16.90% |
| Got it at a party | 11.81% | 10.76% | 10.93% | 8.06% | 6.54% | 5.76% | 1.57% | 7.12% | 10.93% | 3.87% |
| Got it from family | 11.48% | 8.26% | 4.08% | 7.04% | 5.76% | 4.37% | 4.02% | 5.52% | 4.56% | 4.04% |
| Got it some other way | 5.13% | 6.68% | 3.29% | 3.41% | 3.71% | 3.71% | 1.24% | 2.13% | 1.85% | 1.97% |
| Bought from retail store | 8.80% | 51.86% | 72.60% | 76.31% | 80.06% | 78.03% | 77.27% | 74.42% | 70.93% | 72.28% |
| Got it from parents w/ permission | 4.56% | 3.50% | 2.02% | 4.28% | 4.47% | 3.15% | 2.75% | 4.75% | 4.41% | 5.79% |
| Grew it themselves | 1.51% | 3.01% | 1.49% | 1.82% | 1.81% | 0.71% | 1.11% | 1.74% | 0.79% | 1.16% |
| Stole it from store/ dispensary | 2.84% | 0.17% | 0.60% | 0.29% | 0.17% | 0.11% | 0.97% | 0.43% | 0.69% | 0.78% |

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**DRIVING AFTER CANNABIS USE**

**Driving after cannabis use**

**"During the past 30 days, how many times did you drive a car or other vehicle within three hours after using cannabis (e.g., marijuana, hashish, edibles)?"**

| | Cohort 1 2014 | Cohort 2 2015 | Cohort 3 2016 | Cohort 4 2017 | Cohort 5 2018 | Cohort 6 2019 | Cohort 7 2020 | Cohort 8 2021 | Cohort 9 2022 | Cohort 10 2023 |
|---|---|---|---|---|---|---|---|---|---|---|
| Never | 50.59% | 55.29% | 58.19% | 58.56% | 58.73% | 61.80% | 65.00% | 66.38% | 64.64% | 68.69% |
| 1 time | 14.13% | 13.13% | 12.50% | 12.85% | 12.11% | 8.32% | 9.56% | 10.25% | 10.27% | 7.70% |
| 2-3 times | 13.28% | 12.34% | 11.97% | 11.98% | 10.59% | 11.66% | 11.24% | 10.51% | 11.50% | 9.83% |
| 4-5 times | 6.43% | 4.35% | 3.48% | 4.48% | 6.04% | 4.00% | 4.51% | 4.39% | 2.53% | 3.40% |
| 6 or more times | 15.57% | 14.88% | 13.85% | 12.12% | 12.52% | 14.21% | 9.69% | 8.47% | 11.05% | 10.38% |

***There are declines in driving after cannabis use between cohorts 3-10 and cohort 1 (cohort 3, p<.05; cohort 4, p<.01; cohort 5, p<.05; cohort 6, p<.01; cohort 7, p<.001; cohort 8, p<.001; cohort 9, p<.001; cohort 10, p<.001), as well as a significant linear trend (p<.001).***

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## Medical cannabis

- Cohort 9 past year medical cannabis use (11.96%) is significantly lower than Cohort 1 (14.74%)
  - Same difference on overall frequency such that Cohort 9 is different than Cohort 1
- Perceptions of medical use increasing significantly (both a linear trend, and past 7 cohorts higher than cohort 1)

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## Other substances

- Significant decreasing trend in:
  - Alcohol, at least once in past year
  - Alcohol, at least monthly
  - Cigarettes, at least once in the past year
  - Pain relievers to get high, at least once in the past year
  - Heroin use, at least once in the past year

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## Perceived risk

- **Cannabis**
  - Physical risk of occasional cannabis use
  - Psychological/emotional risk of occasional cannabis use
  - Physical risk of regular cannabis use
  - Psychological/emotional risk of regular cannabis use
- **Alcohol**
  - Physical risk of 2 drinks every day
  - Psychological risk of 2 drinks every day
  - Physical risk of 5+ drinks every weekend
  - Psychological risk of 5+ drinks every weekend

Source: Young Adult Health Survey, Preliminary Data Report to DBHR, Kilmer (PI)

** significant decreasing linear trend **
** significant increasing linear trend **

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Some frequency data of note from Cohort 10 (2023)

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At least yearly use of various substances

| Substance | 18-20 | 21-25 |
|---|---|---|
| Alcohol | 57.39% | 86.81% |
| E-cigarettes/nicotine vaping | 24.61% | 27.67% |
| Cigarettes | 10.65% | 17.23% |
| Cannabis for medical purposes | 9.11% | 14.21% |
| Cannabis for non-medical purposes | 36.57% | 51.90% |
| "Synthetic marijuana" (K2, spice, etc.) | 2.32% | 2.99% |
| Heroin | 0% | 0.50% |
| Pain relievers to get high | 2.09% | 2.73% |
| Methamphetamines | 2.24% | 1.49% |

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At least yearly use of various substances

| Substance | 18-20 | 21-25 |
|---|---|---|
| Cocaine | 2.05% | 5.88% |
| Kratom | 1.65% | 2.31% |
| Hallucinogens (LSD, psilocybin, mushrooms, DMT, etc.) at full dose | 7.44% | 11.67% |
| Hallucinogens (LSD, psilocybin, mushrooms, DMT, etc.) as microdose | 7.15% | 11.31% |
| Fentanyl | 0.89% | 0.73% |

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44) During the **past 30 days**, what type of alcohol did you **usually** drink?

| | 18-20 (n=167) | 21-25 (n=530) |
|---|---|---|
| □ I did not have a usual type | 7.60% | 4.97% |
| □ Beer | 18.93% | 24.35% |
| □ Flavored malt beverages, such as Smirnoff Ice, Bacardi Silver, or Hard Lemonade | 6.46% | 7.68% |
| □ Wine coolers, such as Bartles & Jaymes or Seagrams | 0.28% | 1.27% |
| □ Wine | 6.13% | 14.27% |
| □ Liquor, such as vodka, rum, scotch, bourbon, or whiskey | 39.77% | 25.36% |
| □ Some other type (please specify) _____ | 2.88% | 4.70% |
| □ Hard cider | 6.76% | 9.66% |
| □ Hard seltzer | 11.19% | 7.74% |

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## Typical potency (among those with past 30 day use)

| Typical potency in preferred method of use | 18-20 | 21-25 |
|---|---|---|
| 1-10% THC | 5.05% | 8.97% |
| 11-20% THC | 6.82% | 5.12% |
| 21-30% THC | 7.49% | 19.35% |
| 31-40% THC | 5.67% | 5.40% |
| 41-50% THC | 2.13% | 2.59% |
| 51-60% THC | 0.86% | 0.45% |
| 61-70% THC | 1.49% | 3.17% |
| 71-80% THC | 13.36% | 6.43% |
| 81-90%+ THC | 16.33% | 14.02% |
| Don't know | 40.80% | 34.51% |

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## At least yearly use of various substances

| Substance | 18-20 | 21-25 |
|---|---|---|
| CBD applied topically | 15.15% | 19.20% |
| CBD used any other way | 13.50% | 23.08% |
| Delta 8 THC | 11.31% | 9.12% |
| Delta 10 THC | 8.40% | 6.19% |

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**Stepping out of our dataset for a bit…National Center for Health Statistics (NCHS) and Centers for Disease Control (CDC) Household Pulse Survey**

https://www.cdc.gov/nchs/covid19/pulse/mental-health.htm

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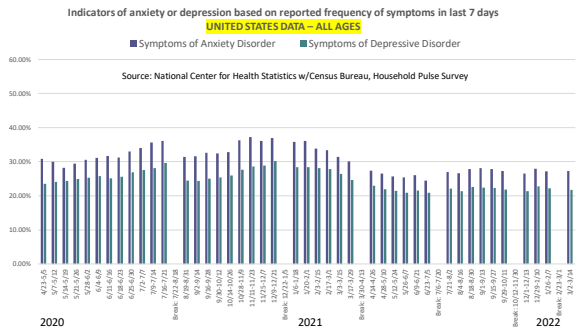


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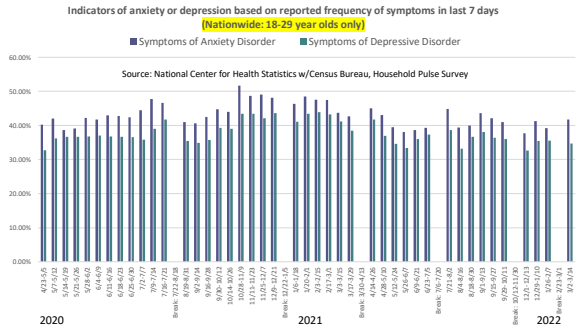


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## Over the last two weeks, how often have you been bothered by any of the following problems

1. Feeling nervous, anxious or on edge

| | 18–20-year-olds (n = 469) | 21–25-year-olds (n = 764) |
|---|---|---|
| □ Not at all: | 28.10% | 21.67% |
| □ Several days: | 41.09% | 40.04% |
| □ More than half the days: | 18.15% | 21.71% |
| □ Nearly every day: | 12.66% | 16.58% |

2. Not being able to stop or control worrying

| | 18–20-year-olds (n = 469) | 21–25-year-olds (n = 764) |
|---|---|---|
| □ Not at all: | 45.35% | 35.69% |
| □ Several days: | 29.41% | 37.37% |
| □ More than half the days: | 16.50% | 14.15% |
| □ Nearly every day: | 8.74% | 12.78% |

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## Over the last two weeks, how often have you been bothered by any of the following problems

3. Little interest or pleasure in doing things

| | 18–20-year-olds (n = 469) | 21–25-year-olds (n = 764) |
|---|---|---|
| □ Not at all: | 40.26% | 38.47% |
| □ Several days: | 37.75% | 36.48% |
| □ More than half the days: | 14.87% | 15.64% |
| □ Nearly every day: | 7.12% | 9.41% |

4. Feeling down, depressed, or hopeless

| | 18–20-year-olds (n = 468) | 21–25-year-olds (n = 764) |
|---|---|---|
| □ Not at all: | 46.27% | 41.17% |
| □ Several days: | 34.32% | 37.40% |
| □ More than half the days: | 13.06% | 12.40% |
| □ Nearly every day: | 6.35% | 9.03% |

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## Young Adult Health Survey

- 2024 will see our 11th year of data collection
- We had paused on longitudinal follow-up of Cohorts 2-5, and, with a partnership between DOH and DBHR, will collect data from all previous 10 cohorts and a new cohort 11

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## Young Adult Health Survey

- Dr. Katarina Guttmannova applied for and obtained a secondary data analysis grant (NIDA grant R01DA047996, PI: Guttmannova) that has led to several publications using YAHS (beyond what we pass on as part of the contract).

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## Young Adult Health Survey

- Dr. Guttmannova also received a second secondary data analysis grant (NIDA R01DA057705) focusing on changes before and during the COVID-19 pandemic among young adults
  - Findings from this project will inform tailoring and development of prevention and intervention efforts aimed at reducing health risk behaviors and improving public health

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Drug and Alcohol Dependence

Associations of cannabis retail outlet availability and neighborhood disadvantage with cannabis use and related risk factors among young adults in Washington State

Rhew IC, Guttmannova K, Kilmer JR, Fleming CB, Hultgren BA, Hurvitz PM, Dilley JA, Larimer ME. Associations of cannabis retail outlet availability and neighborhood disadvantage with cannabis use and related risk factors among young adults in Washington State. Drug Alcohol Depend. 2022 Mar 1;232:109332. doi: 10.1016/j.drugalcdep.2022.109332. Epub 2022 Jan 29. PMID: 35123361; PMCID: PMC8890768.


Cannabis Use Among Young Adults in Washington State After Legalization of Nonmedical Cannabis

Kilmer JR, Rhew IC, Guttmannova K, Fleming CB, Hultgren BA, Gilson MS, Cooper RL, Dilley J, Larimer ME. Cannabis Use Among Young Adults in Washington State After Legalization of Nonmedical Cannabis. Am J Public Health. 2022 Apr;112(4):638-645. doi: 10.2105/AJPH.2021.306641. PMID: 35319936; PMCID: PMC8961820.

45

Trends in Alcohol, Cigarette, E-Cigarette, and Nonprescribed Pain Reliever Use Among Young Adults in Washington State After Legalization of Nonmedical Cannabis

Substance-Specific Risk Factors for Cannabis and Alcohol Use Among Young Adults Following Implementation of Nonmedical Cannabis Legalization

Fleming CB, Ramirez JJ, Rhew IC, Hultgren BA, Hanson KG, Larimer ME, Dilley JA, Kilmer JR, Guttmannova K. Trends in Alcohol, Cigarette, E-Cigarette, and Nonprescribed Pain Reliever Use Among Young Adults in Washington State After Legalization of Nonmedical Cannabis. J Adolesc Health. 2022 Jul;71(1):47-54. doi: 10.1016/j.jadohealth.2022.03.006. Epub 2022 May 9. PMID: 35550333; PMCID: PMC9232986.

Gilson MS, Kilmer JR, Fleming CB, Rhew IC, Calhoun BH, Guttmannova K. Substance-Specific Risk Factors for Cannabis and Alcohol Use Among Young Adults Following Implementation of Nonmedical Cannabis Legalization. Prev Sci. 2023 Aug;24(6):1047-1057. doi: 10.1007/s11121-022-01435-8. Epub 2022 Sep 17. PMID: 36114976; PMCID: PMC10020123.

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The association between cannabis use and risk of non-medical pain reliever misuse onset among young adults in a legal cannabis context

Changes in Cannabis Use From 2014 to 2019 Among Young Adults in Washington State

Rhew IC, Le VT, Ramirez JJ, Fleming CB, Kilmer JR, Delawalla MLM, Hultgren BA, Lee CM, Larimer ME, Guttmannova K. The association between cannabis use and risk of non-medical pain reliever misuse onset among young adults in a legal cannabis context. Addict Behav. 2023 Aug;143:107711. doi: 10.1016/j.addbeh.2023.107711. Epub 2023 Mar 30. PMID: 37011567; PMCID: PMC10168644.

Guttmannova K, Fleming CB, Rhew IC, Delawalla MLM, Fairlie AM, Larimer ME, Kilmer JR. Changes in Cannabis Use From 2014 to 2019 Among Young Adults in Washington State. Am J Prev Med. 2024 Feb;66(2):252-259. doi: 10.1016/j.amepre.2023.09.027. Epub 2023 Oct 2. PMID: 37793557; PMCID: PMC10842380.

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Cross-Substance Associations With Transitions in Cannabis and Nicotine Use in a Statewide Sample of Young Adults in Washington State

Young Adult Alcohol and Cannabis Impaired Driving After the Opening of Cannabis Retail Stores in Washington State

Fleming CB, Delawalla MLM, Rhew IC, Kilmer JR, Larimer M, Guttmannova K. Cross-Substance Associations With Transitions in Cannabis and Nicotine Use in a Statewide Sample of Young Adults in Washington State. J Stud Alcohol Drugs. 2024 Mar;85(2):272-282. doi: 10.15288/jsad.23-00055. Epub 2023 Oct 30. PMID: 37917015; PMCID: PMC10941821.

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