Nine Years of Findings from Washington's Young Adult Health Survey Jason R. Kilmer, Ph.D. University of Washington, Psychiatry & Behavioral Sciences December 6, 2023 \sqrt{N}

Before we get started...

- •Special thank you to:
- Blair Brooke-Weiss
- Kevin Haggerty
- Sandy Salivaras
- Sarah Mariani

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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).

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

Post-stratification weighting and analyses

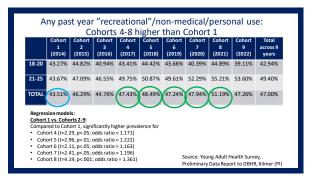
- To improve generalizability, used post-stratification weights based on sex, race, and geographic region
- Weighted results are consistently very similar to nonweighted

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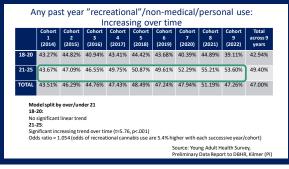
Young Adult Health Survey

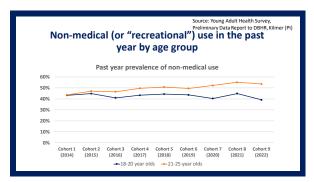
• Each year we collect data from a new cohort of 18-25 year olds

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
• <u>Cohort 9 (2022):</u> 1,110
• TOTAL: 17,474
Young Adult Health Survey
Each year we follow up with previous cohorts (Participants in Cohort
1, 18-25 in 2014, are largely 27-34 now)
What do we see with nine years of data?



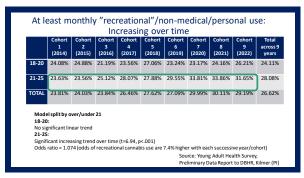
Increasing over time										
	Cohort 1 (2014)	Cohort 2 (2015)	Cohort 3 (2016)	Cohort 4 (2017)	Cohort 5 (2018)	Cohort 6 (2019)	7 (2020)	Cohort 8 (2021)	Cohort 9 (2022)	Total across 9 years
18-20	43.27%	44.82%	40.94%	43.41%	44.42%	43.68%	40.39%	44.89%	39.11%	42.94%
21-25	43.67%	47.09%	46.55%	49.75%	50.87%	49.61%	52.29%	55.21%	53.60%	49.40%
TOTAL	43.51%	46.29%	44.76%	47.43%	48.49%	47.24%	47.94%	51.19%	47.26%	47.00%
Sign Odd Age	nificant (t=: ds ratio = 1 by cohort	rom Cohor 3.88, p<.00	of non-me		abis use a	re 2.8% hig	gher with e	ach succe	ssive year/	cohort)
						C.	ource: Vou	na Adult H	ealth Surve	w

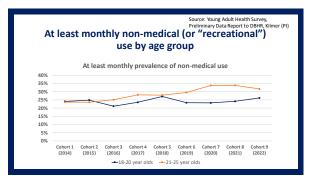


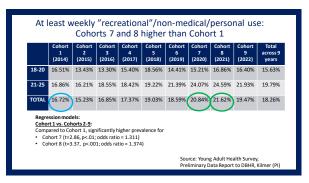


At l	least n		,		nal"/r s high				onal ι	ise:
	Cohort 1 (2014)	Cohort 2 (2015)	Cohort 3 (2016)	Cohort 4 (2017)	Cohort 5 (2018)	Cohort 6 (2019)	Cohort 7 (2020)	Cohort 8 (2021)	Cohort 9 (2022)	Total across 9 years
18-20	24.08%	24.88%	21.19%	23.56%	27.06%	23.24%	23.17%	24.16%	26.21%	24.11%
21-25	23.63%	23.56%	25.12%	28.07%	27.88%	29.55%	33.81%	33.86%	31.65%	28.08%
TOTAL	23.81%	24.03%	23.84%	26.46%	27.629	27.09%	29.99%	30.11%	29.19%	26.62%
Regr	ession mod	dels:								
Com	ort 1 vs. Co pared to Co	ohort 1, sig								
	ohort 5 (t= ohort 6 (t=									
	ohort 7 (t=									
	ohort 8 (t= ohort 9 (t=				9)				ealth Surve	y, , Kilmer (PI)

	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)	Total across s years
18-20	24.08%	24.88%	21.19%	23.56%	27.06%	23.24%	23.17%	24.16%	26.21%	24.11%
21-25	23.63%	23.56%	25.12%	28.07%	27.88%	29.55%	33.81%	33.86%	31.65%	28.08%
TOTAL	23.81%	24.03%	23.84%	26.46%	27.62%	27.09%	29.99%	30.11%	29.19%	26.62%

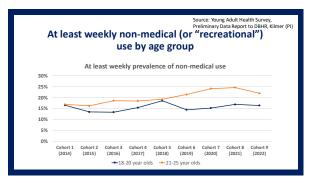






At I	: least weekly "recreational"/non-medical/personal use: Increasing over time									
	Cohort 1 (2014)	Cohort 2 (2015)	Cohort 3 (2016)	Cohort 4 (2017)	Cohort 5 (2018)	Cohort 6 (2019)	Cohort 7 (2020)	Cohort 8 (2021)	Cohort 9 (2022)	Total across 9 years
18-20	16.51%	13.43%	13.30%	15.40%	18.56%	14.41%	15.21%	16.86%	16.40%	15.63%
21-25	16.86%	16.21%	18.55%	18.42%	19.22%	21.39%	24.07%	24.59%	21.93%	19.79%
TOTAL	16.72%	15.23%	16.85%	17.37%	19.03%	18.59%	20.84%	21.62%	19.47%	18.26%
Regression models: Linear trend from Cohort 1 to Cohort 9: Significant (ted 88, p. 001) Odds ratio = 1.047 (odds of recreational cannabis use are 4.7% higher with each successive year/cohort) Age by cohort interaction:										
Ü	nificant (t=2.07, p<.05) Source: Young Adult Health Survey, Preliminary Data Report to DBHR. Kilmer (PI)									

	1 (2014)	2 (2015)	Cohort 3 (2016)	Cohort 4 (2017)	Cohort 5 (2018)	Cohort 6 (2019)	Cohort 7 (2020)	Cohort 8 (2021)	Cohort 9 (2022)	Total across S years
18-20	16.51%	13.43%	13.30%	15.40%	18.56%	14.41%	15.21%	16.86%	16.40%	15.63%
21-25	16.86%	16.21%	18.55%	18.42%	19.22%	21.39%	24.07%	24.59%	21.93%	19.79%
TOTAL	16.72%	15.23%	16.85%	17.37%	19.03%	18.59%	20.84%	21.62%	19.47%	18.26%
18-20 No sig 21-25 Signif	gnificant lin i: icant increa	near trend	over time			-			sive year/c alth Survey	



'erce	ived n	orms	of nor	n-med	ical ca	annab	is use	:
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
2.41%	2.42%	1.61%	2.31%	2.06%	1.50%	2.38%	1.92%	3.05%
1.82%	2.10%	1.74%	1.92%	1.27%	0.75%	1.32%	1.15%	1.37%
8.22%	10.12%	6.73%	6.40%	3.89%	3.31%	2.23%	3.87%	3.95%
6.98%	7.29%	5.32%	4.59%	3.14%	3.90%	4.42%	3.48%	2.93%
9.74%	11.15%	10.41%	9.07%	6.88%	5.51%	6.39%	7.07%	6.63%
17.98%	19.68%	19.83%	18.91%	13.47%	13.93%	14.32%	14.04%	14.38%
12.65%	12.72%	15.43%	13.89%	14.28%	12.91%	12.64%	14.11%	13.24%
22.08%	20.70%	21.42%	23.94%	27.12%	25.90%	28.57%	29.17%	25.76%
9.27%	6.87%	8.56%	8.65%	11.10%	12.25%	13.10%	10.45%	13.14%
8.84%	6.95%	8.96%	10.31%	16.79%	20.03%	14.62%	14.75%	15.57%
	2014 2.41% 1.82% 8.22% 6.98% 9.74% 17.98% 12.65% 22.08% 9.27% 8.84%	2014 2015 2.41% 2.42% 1.82% 2.10% 8.22% 10.12% 6.98% 7.29% 9.74% 11.15% 17.98% 19.68% 12.65% 12.72% 22.08% 20.70% 9.27% 6.87%	2014 2015 2016 2.41% 2.42% 1.61% 1.82% 2.10% 1.74% 8.22% 10.12% 6.73% 6.98% 7.29% 5.32% 1.75% 1.15% 10.41% 17.98% 19.68% 19.33% 12.65% 12.72% 15.43% 22.08% 20.70% 8.56% 8.84% 6.95% 8.96% 8.96%	2014 2015 2016 2017 2.41% 2.42% 1.61% 2.31% 1.82% 2.10% 1.73% 1.92% 8.22% 10.12% 6.73% 6.40% 6.98% 7.29% 5.22% 4.59% 9.74% 11.15% 10.41% 9.07% 17.98% 19.68% 19.83% 18.91% 12.65% 12.72% 13.43% 13.89% 22.08% 20.07% 21.42% 23.94% 9.27% 6.85% 8.56% 8.65%	2014 2015 2016 2017 2018 241% 2.42% 1.61% 2.31% 2.08% 1.82% 2.10% 1.74% 1.02% 1.27% 8.22% 1.02% 6.73% 6.04% 3.89% 6.08% 7.29% 5.22% 4.59% 3.14% 9.74% 1.115% 10.41% 9.07% 6.88% 17.98% 19.68% 19.83% 18.91% 13.47% 22.08% 2.2 18.43% 13.89% 14.28% 22.08% 2.0 70% 21.42% 23.94% 27.12% 2.77% 6.88% 8.56% 8.65% 8.65% 8.65% 8.65% 8.65%	2014 2015 2016 2017 2018 2019 2418 2.428 1.618 2.318 2.068 1.59% 1.828 2.109 1.748 1.228 1.229 0.75% 8.226 1.028 6.73% 6.06 3.89% 3.148 3.90% 9.748 1.126 1.0418 9.07% 6.88% 5.30% 9.748 1.106 10.418 9.07% 6.88% 5.31 17.989 19.68% 19.33% 18.91% 14.27% 13.91% 12.56% 2.72 5.543% 1.889% 2.12% 2.59% 2.07% 2.142 2.394% 2.712% 2.59% 2.77% 6.87 5.85% 8.68% 1.10% 1.228%	2014 2015 2016 2017 2018 2019 2020 2418 2.48 1.618 2.318 2.068 1.059 2.388 1.478 1.618 2.318 2.068 1.059 2.288 1.482 2.109 1.784 1.928 1.278 0.789 1.328 8.228 1.024 6.736 6.04 3.899 3.314 2.339 6.688 7.298 5.228 4.599 3.144 3.909 4.428 9.746 1.158 10.418 9.07 6.888 5.154 6.198 17.986 19.688 18.915 13.474 13.938 14.329 17.986 15.438 13.891 14.289 12.915 12.648 22.086 20.708 21.424 23.948 17.129 25.908 28.578 22.786 6.886 8.656 8.650 8.656 8.656 8.656 8.656 8.656 8.656 8.656 8.656 8.656<	2014 2015 2016 2017 2018 2019 2020 2021

			20 YEAR OL						
	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
From friends	72.86%	76.24%	69.68%	77.40%	63.75%	60.74%	66.87%	65.62%	59.68%
Gave money to someone	23.29%	26.47%	34.72%	41.45%	39.29%	43.17%	40.55%	39.80%	37.62%
Got it from someone w/ medical mj. card	17.60%	14.12%	4.30%	5.24%	2.79%	2.82%	4.27%	4.58%	4.10%
Got it from a medical dispensary	13.65%	18.99%	5.58%	4.72%	6.50%	8.28%	8.41%	12.03%	3.40%
Got it at a party	22.99%	22.14%	23.08%	24.92%	20.12%	22.91%	8.82%	24.67%	16.43%
Got it from family	5.65%	5.18%	11.75%	9.75%	11.24%	10.92%	13.49%	7.09%	11.36%
Got it some other way	11.64%	4.12%	6.12%	9.02%	7.30%	6.21%	5.04%	6.24%	3.62%
Bought from retail store	0.99%	4.58%	1.73%	1.92%	2.03%	3.55%	1.58%	1.03%	3.08%
Got it from parents w/	5.75%	6.02%	12.33%	10.44%	11.69%	12.91%	13.08%	13.91%	12.38%
permission									
Grew it themselves	1.91%	1.15%	1.65%	0.23%	1.47%	2.78%	1.64%	0.42%	0.59%
Stole it from store/	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	4.16%	2.40%	0.00%

	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
From friends	67.50%	54.89%	42.78%	36.51%	33.80%	25.72%	20.26%	26.44%	26.04%
Gave money to someone	19.87%	10.72%	8.10%	5.64%	4.97%	3.63%	5.08%	4.61%	7.75%
Got it from someone w/ medical mj. card	18.85%	9.41%	2.53%	2.02%	0.17%	0.65%	0.27%	0.62%	1.16%
Got it from a med. dispensary	20.65%	13.03%	12.60%	9.96%	10.15%	14.23%	14.71%	15.62%	16.02%
Got it at a party	11.81%	10.76%	10.93%	8.06%	6.54%	5.76%	1.57%	7.12%	10.93%
Got it from family	11.48%	8.26%	4.08%	7.04%	5.76%	4.37%	4.02%	5.52%	4.56%
Got it some other way	5.13%	6.68%	3.29%	3.41%	3.71%	3.71%	1.24%	2.13%	1.85%
Bought from retail store	8.80%	51.86%	72.60%	76.31%	80.06%	78.03%	77.27%	74.42%	70.93%
Got it from parents w/ permission	4.56%	3.50%	2.02%	4.28%	4.47%	3.15%	2.75%	4.75%	4.41%
Grew it themselves	1.51%	3.01%	1.49%	1.82%	1.81%	0.71%	1.11%	1.74%	0.79%
Stole it from store/ dispensary	2.84%	0.17%	0.60%	0.29%	0.17%	0.11%	0.97%	0.43%	0.69%

DRIVING AFTEI "During the past marijuana, hashi	30 days, ho	w many tin	nes did you	drive a car	or other ve	hicle withi	n three ho	urs after us	ing cannab
	Cohort 1	Cohort 2	Cohort 3	ohort 4	Cohort 5	Cohort 6	Cohort 7	Cohort 8	ohort 9
	2014	2015	2016	2017	2018	2019	2020	2021	2022
Never	50.59%	55.29%	58.19%	58.56%	58.73%	61.80%	65.00%	66.38%	64.64%
1 time	14.13%	13.13%	12.50%	12.85%	12.11%	8.32%	9.56%	10.25%	10.27%
2-3 times	13.28%	12.34%	11.97%	11.98%	10.59%	11.66%	11.24%	10.51%	11.50%
4-5 times	6.43%	4.35%	3.48%	4.48%	6.04%	4.00%	4.51%	4.39%	2.53%
6 or more times	15.57%	14.88%	13.85%	12.12%	12.52%	14.21%	9.69%	8.47%	11.05%
**There are decli p<.05; cohort 6, p									

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
- Perceptions of medical use increasing significantly (both a linear trend, and past 6 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

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 **

Young Adult Health Survey

- \bullet We are collecting data in our $10^{th}\,\text{year}$ of data at this moment
- Pausing on longitudinal follow-up of Cohorts 2-5 (and will reintroduce them in subsequent years).
- Sought input on survey items and have included new items this year emphasizing mental health (though also including fentanyl)

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jkilmer@uw.edu @cshrb_uw Thank you! DBHR: Sarah Mariani Sandy Salivaras This research was supported contracts with the Washington State Health Care Authority (Division of Behavioral Health and Recovery) (Pi: Kilmer)