

Marijuana Use Surveys: Different Methodologies May Produce Different Estimates

In light of policy and legal changes around marijuana in Washington, the question “How many people in this state use marijuana?” is often asked, especially in regard to youth marijuana use. Surveys are one tool to gather this information – but their results often don’t match. Why is that? Data from numerous national, regional, and state surveys are available for Washington and for comparing Washington to other states. This document lists the major surveys that provide state-level estimates, and describes the methods, population, and other characteristics of each survey. (Several of these sources can also be used to find estimates for smaller areas, such as school districts or counties.) The wording of survey questions is essential to interpretation and comparison, and often differs across surveys and sometimes changes within a single survey over time. Other important factors include the age ranges included in an estimate, differential rates of non-response, and the time of year for school-based surveys. This document aims to explain why surveys that ask “How many people use marijuana?” may not come to the same result, and should be read with an understanding of the complexity in asking what might seem like a simple question.

Source	Sampling		Survey Methods			Marijuana question wording producing estimates	
	Population sampled	Weighting	Mode	When/Language	Data quality	Lifetime use	30-day use
Monitoring the Future (MTF) ; MJ data available since 1976 (national sample)	8th, 10th, and 12th graders in Lower 48, public or private schools with 25+ in grade (20+ for 8th), plus continuous follow-up of subsample (n=2400) of seniors from each year.	Accounts for complex sample; also produce 12th grade estimates adjusted for absentees and dropouts	Self-administered machine-readable survey conducted usually in class period by Michigan Survey Research Center employee. Parents given advance notice and options for refusal.	Spring of each school year	Check for logical inconsistencies in each drug-specific triplet of Qs. Those above a minimum number of inconsistent triplets are dropped. Also check for improbably high reported use of multiple drugs.	On how many occasions (if any) have you used marijuana (grass, pot) or hashish (hash, hash oil)... in your lifetime?	On how many occasions (if any) have you used marijuana (weed, pot) or hashish (hash, hash oil)... during the last 30 days?
Healthy Youth Survey (HYS) ; since 2002 (but note wording changes) (state, county, school districts)	Washington 6th, 8th, 10th, and 12th graders in public schools with at least 15 students per grade.	State-wide sample accounts for clustering of respondents within schools; no nonresponse correction	Self-administered machine-readable survey conducted in class period by teacher. Parents given advance notice and options for refusal.	Fall of even numbered school years English and Spanish	Screens for dishonest or inconsistent answers; tends to increase with grade. Screening incorporates Q about fictitious drug and Q about honesty of responding, plus logical inconsistencies	[2 pages after 30-day Q, grades 8-12 through 2012] How old were you the first time you... Smoked marijuana? [6th grade] Have you ever, even once in your lifetime...Smoked marijuana? [In 2014, “Smoked” changed to “Used” in all Qaires]	During the past 30 days, on how many days did you...Use marijuana or hashish (grass, hash, pot)? [In 2014, “grass” changed to “weed”]
Youth Risk Behavior Surveillance System (YRBSS) ; since 1991 (national sample)	National sample: 9th–12th graders in public or private schools in 50 states + DC; oversamples black & Hispanic students Participating state samples: 9th–12th graders in public schools; few states inc. private schools. Washington does not participate, but Seattle Public Schools has for 2009-2013.	Accounts for complex sample and non-response	Self-administered machine-readable survey conducted usually in class period by (usually) contractor. Parents given advance notice and options for refusal.	Usually spring of odd numbered school years	Screens for illogical & implausible responses & patterns.	During your life, how many times have you used marijuana?	During the past 30 days, how many times did you use marijuana?

<p>Behavioral Risk Factor Surveillance System (BRFSS), state-added questions on Form A; MJ data available since 2009 in WA and a few other states</p>	<p>Adult (18+), non-institutional, civilian, telephone-owning US population, inc. territories: WA started adding cell phones in 2008*, a dual-frame sample (land line and cell phone) was used nationwide in 2011; should not compare before/after 2011. Eligibility expanded to residents of college housing in 2012. * 2008 was a pilot year only for cell sampling; there is no weighted dualframe dataset for 2008.</p>	<p>Accounts for complex sampling; combination of design weights and raking plus trimming</p>	<p>CATI ~25-30 minutes</p>	<p>Year-round data collection; new sample fielded monthly. Interviewing 7 days a week, day and evening. English and Spanish</p>	<p>Routine call monitoring. Data collection contractor, CDC, and state all perform various data processing and quality controls.</p>	<p>[2009 and prior] How old were you the first time you smoked marijuana? [2012] How old were you the first time you smoked marijuana, if ever? [Since 2013] How old were you the first time you used marijuana in any form, if ever? [In 2013, both the “smoked” and “used” version of the Q was asked. In 2014 and 2015, only “used” version asked.]</p>	<p>[immediately after lifetime Q, asked if ever smoked/used] During the past 30 days, on how many days did you use marijuana or hashish (grass, hash, or pot)?</p>
<p>National Health and Nutrition Examination Survey (NHANES); MJ Qs added in 2005-2006 cycle (national sample)</p>	<p>Resident, civilian, non-institutionalized population in 50 states + DC (inc. noninstitutional group quarters). Regular public use files only have MJ data for 18+ or 20+ (varies by cycle); data for 12+ available through NCHS RDC; through age 59 for 2005-2006, 69 for 2007-2008 on. HHD screening scheduling exams at mobile site; maximum of 15 sites in a given year (at least since 1999). Continuous cycles oversample low income, black, and older residents.</p>	<p>Weights adjust for sampling, nonresponse, and coverage.</p>	<p>Drug use Qs in CASI (with audio) portion of physical exam, at exam center in private room with headphones</p>	<p>Throughout 2-year cycle English and Spanish</p>	<p>CASI system has numerous consistency checks with immediate feedback to Rs, including flagging unlikely responses which require confirmation.</p>	<p>The first questions are about marijuana and hashish. Marijuana is also called pot or grass. Marijuana is usually smoked, either in cigarettes, called joints, or in a pipe. It is sometimes cooked in food. Hashish is a form of marijuana that is also called 'hash.' It is usually smoked in a pipe. Another form of hashish is hash oil. Have you ever, even once, used marijuana or hashish?</p>	<p>[immediately after lifetime Q] During the past 30 days, on how many days did you use marijuana or hashish?</p>
<p>National Survey on Drug Use and Health (NSDUH); since 1971 (but note sampling and method changes) (national and state sample)</p>	<p>Civilian, non-institutionalized pop 12+ residing in 50 states + DC. Before 1991, did not inc. AK and HI, non-institutional group quarters, and civilians on military bases. Increased sample size in 1999, equally allocated across 12-17, 18-25, and 26+ (thus, younger groups relatively oversampled). In 2002 added pair sampling strategy for HHDs with older residents. Sampling redesigned for 2005.</p>	<p>Complex weighting accounts for design and non-response at multiple levels, plus trimming; were plans to redesign sample for 2014.</p>	<p>In-person CAI since 1999—most Qs, inc. drugs, answered directly on laptop by R (CASI). ~1 hour. Incentive added 2002</p>	<p>Yearly, throughout year English and Spanish</p>	<p>Qaire includes refusal conversion attempts for drug Qs. CAI has extensive internal consistency checks, often forcing R to re-do Q or otherwise address conflict. 2006 reliability study found generally good reliability for drug Qs, with variation in error by demographics.</p>	<p>The next questions are about marijuana and hashish. Marijuana is also called pot or grass. Marijuana is usually smoked, either in cigarettes, called joints, or in a pipe. It is sometimes cooked in food. Hashish is a form of marijuana that is also called “hash.” It is usually smoked in a pipe. Another form of hashish is hash oil. Have you ever, even once, used marijuana or hashish?</p>	<p>[2 Q after lifetime Q] How long has it been since you last used marijuana or hashish?</p>
<p>Glossary: MJ = Marijuana, R = Respondent, Q = Question, Qaire = Questionnaire, HHD = Household, CAI = Computer-Aided Interview, CASI = Computer-Aided Self-Interview, CATI = Computer-Aided Telephone Interview</p>							