Appendix E. Full Evidence Tables

Table E1a. Risk of Bias for Included Studies

Study ID	Aim or clear objective	Population specified and defined	Participation rate > 50%	Same populations and criteria	Sample justification	Exposure prior to outcome	Timeframe	Different levels of exposure	Exposure clear and consistent
Agrawal 2017[1]	Yes	No	Not clear	Not clear	No	Yes	Yes	No	Yes
Boyd 2020[2]	Yes	Yes	N/A	Yes	No	No	No	No	Yes
Browne 2022[3]	Yes	Yes	N/A	Yes	No	No	No	No	Yes
Callaghan 2020[4]	Yes	Yes	N/A	Yes	No	No	No	Yes	Yes
Campbell 2020[5]	Yes	Yes	N/A	Yes	No	No	No	No	Yes
Choi 2016[6]	Yes	Yes	N/A	Yes	No	No	No	No	Yes
Choi 2017[7]	Yes	Yes	N/A	Yes	No	No	No	No	Yes
Choi 2017[8]	Yes	Yes	N/A	Yes	No	No	No	Yes	Yes
Choi 2018[9]	Yes	Yes	N/A	Yes	No	No	No	Yes	Yes
Choi 2021[10]	Yes	Yes	N/A	Yes	No	No	No	Yes	Yes
Compton 2016[11]	Yes	Yes	N/A	Yes	No	No	No	No	Yes
Copeland 2017[12]	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes
Enkema 2021[13]	Yes	Yes	N/A	Yes	No	No	No	Yes	Yes
Feingold 2020[14]	Yes	Yes	N/A	Yes	No	No	No	No	Yes
Foster 2021[15]	Yes	Yes	Not clear	Not clear	Not clear	Yes	Yes	No	Yes
Freitag 2021[16]	Yes	Yes	N/A	Yes	No	No	No	No	Yes
Gillespie 2012[17]	Yes	Yes	Yes	Yes	No	Yes	Yes	No	Yes
Han 2018[18]	Yes	Yes	N/A	Yes	No	No	No	Yes	Yes
Han 2019[19]	Yes	Yes	N/A	Yes	No	No	No	Yes	Yes
Hartzler 2017[20]	Yes	Yes	N/A	Yes	No	No	No	No	Yes
Hasin 2015[21]	Yes	Yes	N/A	Yes	No	No	No	No	Yes

Study ID	Aim or clear objective	Population specified and defined	Participation rate > 50%	Same populations and criteria	Sample justification	Exposure prior to outcome	Timeframe	Different levels of exposure	Exposure clear and consistent
Hasin 2016[22]	Yes	Yes	N/A	Yes	No	No	No	No	Yes
Hasin 2020[23]	Yes	Yes	N/A	Yes	No	No	No	Yes	Yes
Hayley 2017[24]	Yes	Yes	N/A	Yes	No	No	No	No	Yes
Hill 2021[25]	Yes	Yes	N/A	Yes	No	No	No	No	Yes
Hill 2021[26]	Yes	Yes	N/A	Yes	No	No	No	No	Yes
Hoggatt 2021[27]	Yes	Yes	Yes	Yes	No	No	No	Yes	Yes
Hughto 2021[28]	Yes	Yes	N/A	Yes	No	No	No	No	Yes
Kelly 2021[29]	Yes	Yes	N/A	Yes	No	No	No	No	Yes
Kerridge 2018[30]	Yes	Yes	N/A	Yes	No	No	No	No	Yes
Kirisci 2013[31]	Yes	Yes	Not clear	Yes	No	Yes	Yes	No	Yes
Kreuger 2020[32]	Yes	Yes	N/A	Yes	No	No	No	No	Yes
Lekoubou 2020[33]	Yes	Yes	N/A	Yes	No	No	No	No	Yes
McBain 2020[34]	Yes	Yes	N/A	Yes	No	No	No	Yes	Yes
McCabe 2018[35]	Yes	Yes	N/A	Yes	No	No	No	Yes	Yes
McCabe 2021[36]	Yes	Yes	N/A	Yes	No	No	No	No	Yes
Metrik 2016[37] and Metrik 2022[38]	Yes	Yes	Yes	Yes	No	No	No	Yes	Yes
Meyers 2018[39]	Yes	Yes	N/A	Yes	No	No	No	No	Yes
Montgomery 2016[40]	Yes	Yes	N/A	Yes	No	No	No	Yes	Yes
Moore 2021[41]	Yes	Yes	N/A	Yes	No	No	No	Yes	Yes
Pacek 2012[42]	Yes	Yes	N/A	Yes	No	No	No	No	Yes
Palmer 2009[43]	Yes	Yes	Not clear	Not clear	Not clear	No	No	Yes	Yes

Study ID	Aim or clear objective	Population specified and defined	Participation rate > 50%	Same populations and criteria	Sample justification	Exposure prior to outcome	Timeframe	Different levels of exposure	Exposure clear and consistent
Park 2017[44]	Yes	Yes	N/A	Yes	No	No	No	No	Yes
Park 2021[45]	Yes	Yes	N/A	Yes	No	No	No	No	Yes
Richter 2017[46]	Yes	Yes	N/A	Yes	No	No	No	Yes	Yes
Salas-Wright 2019[47]	Yes	Yes	N/A	Yes	No	No	No	No	Yes
Schuermeyer 2014[48]	Yes	Yes	N/A	Yes	No	No	No	Yes	Yes
Schulenberg 2015[49] and Patrick 2011[50]	Yes	Yes	Yes	Yes	No	No	No	Yes	Yes
Shi 2014[51]	Yes	Yes	N/A	Yes	No	No	No	Yes	Yes
Sonon 2016[52]	Yes	Yes	Yes	Yes	No	Yes	Yes	No	Yes
Vasilenko 2017[53]	Yes	Yes	N/A	Yes	No	No	No	No	Yes
Verplaetse 2018[54]	Yes	Yes	N/A	Yes	No	No	No	No	Yes
Vijapur 2021[55]	Yes	Yes	N/A	Yes	No	No	No	Yes	Yes
Waddell 2021[56]	Yes	Yes	N/A	Yes	No	No	No	Yes	Yes
Wall 2019[57]	Yes	Yes	N/A	Yes	No	No	No	No	Yes
Wu 2014[58]	Yes	Yes	N/A	Yes	No	No	No	Yes	Yes
Wu 2016[59]	Yes	Yes	N/A	Yes	No	No	No	Yes	Yes

Abbreviation. N/A: not applicable.

Table E1b. Risk of Bias for Included Studies

Study ID	Exposure assessed over time	Outcome clear and consistent	Blinded assessors	Minimal loss to follow-up	Adjusted for confounders	CoI	Funding	Overall risk of bias
Agrawal 2017[1]	Yes	Yes	Not clear	No	Yes	Not reported	No concern	High
Boyd 2020[2]	No	Yes	N/A	N/A	Yes	Not reported	No concern	Moderate
Browne 2022[3]	No	Yes	N/A	N/A	Yes	No CoIs of concern	No concern	Moderate
Callaghan 2020[4]	No	Yes	N/A	N/A	Yes	No CoIs	No concern	Moderate
Campbell 2020[5]	No	Yes	N/A	N/A	Yes	No CoIs	No concern	Moderate
Choi 2016[6]	No	Yes	N/A	N/A	Yes	No CoIs	No concern	Moderate
Choi 2017[7]	No	Yes	N/A	N/A	Yes	No CoIs	No concern	Moderate
Choi 2017[8]	No	Yes	N/A	N/A	Yes	Not reported	No concern	Moderate
Choi 2018[9]	No	Yes	N/A	N/A	Yes	No CoIs	Not reported	Moderate
Choi 2021[10]	No	Yes	N/A	N/A	Yes	No COIs	Not reported	Moderate
Compton 2016[11]	No	Yes	N/A	N/A	Yes	No CoIs of concern	No concern	Moderate
Copeland 2017[12]	No	Yes	N/A	Yes	No	Not reported	No concern	Moderate
Enkema 2021[13]	No	Yes	N/A	N/A	Yes	No CoIs of concern	No concern	Moderate
Feingold 2020[14]	No	Yes	N/A	N/A	Yes	No CoIs	Not reported	Moderate
Foster 2021[15]	No	Yes	Not clear	Not clear	Yes	No CoIs	No concern	Moderate
Freitag 2021[16]	No	Yes	N/A	N/A	Yes	No CoIs	No concern	Moderate
Gillespie 2012[17]	No	Yes	No	Yes	Yes	Not reported	No concern	High
Han 2018[18]	No	Yes	N/A	N/A	Yes	No CoIs of concern	No concern	Moderate
Han 2019[19]	No	Yes	N/A	N/A	Yes	No CoIs	Not reported	Moderate
Hartzler 2017[20]	No	Yes	Yes	N/A	Yes	No CoIs	No concern	Moderate
Hasin 2015[21]	No	Yes	N/A	N/A	No	No CoIs	No concern	Moderate

Study ID	Exposure assessed over time	Outcome clear and consistent	Blinded assessors	Minimal loss to follow-up	Adjusted for confounders	CoI	Funding	Overall risk of bias
Hasin 2016[22]	No	Yes	N/A	N/A	Yes	No CoIs of concern	No concern	Moderate
Hasin 2020[23]	No	Yes	N/A	N/A	Yes	No CoIs of concern	No concern	Moderate
Hayley 2017[24]	No	Yes	N/A	N/A	Yes	No CoIs	No concern	Moderate
Hill 2021[25]	No	Yes	N/A	N/A	Yes	No CoIs of concern	No concern	Moderate
Hill 2021[26]	No	Yes	N/A	N/A	Yes	No CoIs of concern	Not reported	Moderate
Hoggatt 2021[27]	No	Yes	Yes	N/A	Yes	No CoIs	No concern	Moderate
Hughto 2021[28]	No	Yes	N/A	N/A	No	No CoIs of concern	No concern	Moderate
Kelly 2021[29]	No	Yes	N/A	N/A	Yes	No CoIs	No concern	Moderate
Kerridge 2018[30]	No	Yes	N/A	N/A	Yes	No CoIs	No concern	Moderate
Kirisci 2013[31]	N/A	Yes	No	N/A	No	No CoIs	No concern	Moderate
Kreuger 2020[32]	No	Yes	N/A	N/A	No	No CoIs	No concern	Moderate
Lekoubou 2020[33]	No	Yes	N/A	N/A	Yes	No CoIs	No concern	Moderate
McBain 2020[34]	No	Yes	N/A	N/A	Yes	No CoIs	No concern	Moderate
McCabe 2018[35]	No	Yes	N/A	N/A	Yes	No CoIs	No concern	Moderate
McCabe 2021[36]	No	Yes	N/A	N/A	Yes	No CoIs	No concern	Moderate
Metrik 2016[37]	No	Yes	Not clear	N/A	Yes	No CoIs	No concern	Moderate
Meyers 2018[39]	No	Yes	N/A	N/A	Yes	Not reported	No concern	Moderate
Montgomery 2016[40]	No	Yes	N/A	N/A	Yes	Not reported	No concern	Moderate

Study ID	Exposure assessed over time	Outcome clear and consistent	Blinded assessors	Minimal loss to follow-up	Adjusted for confounders	CoI	Funding	Overall risk of bias
Moore 2021[41]	No	Yes	N/A	N/A	Yes	No CoIs	No concern	Moderate
Pacek 2012[42]	No	Yes	N/A	N/A	Yes	No CoIs	No concern	Moderate
Palmer 2009[43]	No	Yes	No	Not clear	Yes	No CoIs	No concern	Moderate
Park 2017[44]	No	Yes	N/A	N/A	Yes	No CoIs of concern	No concern	Moderate
Park 2021[45]	No	Yes	N/A	N/A	Yes	No CoIs	No concern	Moderate
Richter 2017[46]	No	Yes	N/A	N/A	Yes	No CoIs	No concern	Moderate
Salas-Wright 2019[47]	No	Yes	N/A	N/A	No	No CoIs	No concern	Moderate
Schuermeyer 2014[48]	No	Yes	N/A	N/A	Yes	No CoIs of concern	No concern	Moderate
Schulenberg 2015[49] and Patrick 2011[50]	No	Yes	No	Yes	Not clear	No CoIs	No concern	Moderate
Shi 2014[51]	No	Yes	N/A	N/A	Yes	No CoIs	No concern	Moderate
Sonon 2016[52]	No	Yes	N/A	N/A	Yes	Not reported	No concern	Moderate
Vasilenko 2017[53]	No	Yes	N/A	N/A	No	No CoIs	No concern	Moderate
Verplaetse 2018[54]	No	Yes	N/A	N/A	Yes	No CoIs of concern	No concern	Moderate
Vijapur 2021[55]	No	Yes	N/A	N/A	Yes	No CoIs	No concern	Moderate
Waddell 2021[56]	No	Yes	N/A	N/A	Yes	No CoIs	No concern	Moderate
Wall 2019[57]	No	Yes	N/A	N/A	No	No CoIs	No concern	Moderate
Wu 2014[58]	No	Yes	N/A	N/A	Yes	No CoIs of concern	No concern	Moderate
Wu 2016[59]	No	Yes	N/A	N/A	Yes	No CoIs	No concern	Moderate

Abbreviations. CoI: conflict of interest. N/A: not applicable.

Table E2a. Summary Characteristics of Included Studies

Study ID	Data Source Data Year Location	Study Design Follow-up	Cannabis Use Level of CUD	Diagnostic Criteria Tool	Notes
Agrawal 2017[1] and Johnson 2019[60]	COGA 2005 to 2016 US	Longitudinal - prospective Up to 10 years follow-up	Ever used Dependence	DSM-IV Not reported	
Boyd 2020[2]	NESARC-III 2012 to 2013 US	Cross-sectional N/A	See Notes CUD	DSM-5 AUDADIS-5	
Browne 2022[3]	NESARC III 2012 to 2013 US	Cross-sectional N/A	Past year use Ever used See Notes CUD See Notes	DSM-5 AUDADIS-5	Any nonmedical cannabis use was defined as at least 1 use within the past 12 months. Daily or near daily nonmedical use was defined as using cannabis 5 to 7 times per week on average over past 12 months. Consistent with AUDADIS procedures, only those endorsing nonmedical cannabis use were assessed for 12-month and lifetime cannabis use disorder, which required at least 2 of 11 criteria within the past 12 months.
Callaghan 2020[4]	NESARC-III 2012 to 2013 US	Cross-sectional N/A	Past year use See Notes CUD	DSM-5 AUDADIS-5	Cannabis users were defined as individuals who reported cannabis use in the past 12 months and who did not report using medical marijuana in the past 12 months. Frequency was also assessed. Response categories included: every day; nearly every day; 3–4 times a week; 1–2 times a week; 2–3 times a month; once a month; 7–11 times in the last year; 3–6 times in the last year; 2 times in the last year; and once in the last year. Quantity of consumption on cannabis smoking days is "number of joints usually smoked per day in last 12 months."
Campbell 2020[5]	OCHIN 2012 to 2016 Oregon, California, and Washington	Cross-sectional N/A	Ever used CUD	See Notes Not reported	CUD was an ICD-9 or -10 code in the patient's electronic health record.
Choi 2016[6]	NESARC III 2012 to 2013	Cross-sectional N/A	Past year use CUD	DSM-5 AUDADIS-5	

Study ID	Data Source Data Year Location	Study Design Follow-up	Cannabis Use Level of CUD	Diagnostic Criteria Tool	Notes
	US		See Notes		
Choi 2017[7]	NESARC III 2012 to 2013 US	Cross-sectional N/A	Past year use Ever used See Notes CUD	DSM-5 AUDADIS-5	Past-year users reported they used marijuana during the previous 12 months. Ex-users had used prior to the past year only.
Choi 2017[8]	NESARC-III 2012 to 2013 US	Cross-sectional N/A	Past year use CUD	DSM-5 AUDADIS-5	
Choi 2018[9]	NSDUH 2013 to 2015 US	Cross-sectional N/A	Past year use CUD Dependence	DSM-IV Not reported	
Choi 2021[10]	NSDUH 2015 to 2017 US	Cross-sectional N/A	Past year use Ever used See Notes CUD	DSM-IV Not reported	
Compton 2016[11]	NSDUH 2002 to 2014 US	Cross-sectional N/A	Past year use CUD	DSM-IV Not reported	
Copeland 2017[12]	Great Smoky Mountains Study 1993 to 2015 North Carolina	Longitudinal - prospective Up to 30 years of age	Daily use Weekly use Ever used CUD	See Notes See Notes	Used both DSM IV and V. Tools used were Child and Adolescent Psychiatric Assessment (CAPA) until 16 years of age and its upward extension, the Young Adult Psychiatric Assessment (YAPA), thereafter.
Enkema 2021[13]	NESARC-III	Cross-sectional	See Notes	DSM-5	Nonmedical use defined as use of cannabis without a prescription or other than how prescribed, e.g., to get high. Frequent nonmedical use was defined as ≥ 3

Study ID	Data Source Data Year Location	Study Design Follow-up	Cannabis Use Level of CUD	Diagnostic Criteria Tool	Notes
	2012 to 2013 US	N/A	CUD See Notes	AUDADIS-5	occurrences of nonmedical use per week. CUD defined as endorsing at least 2 of 11 DSM-5 CUD criteria within a 12-month period.
Feingold 2020[14]	NESARC-III 2012 to 2013 US	Cross-sectional N/A	Ever used CUD	DSM-5 AUDADIS-5	CUD included those with a lifetime CUD diagnosis.
Foster 2021[15]	Michigan Longitudinal Study (MLS) Not clear Michigan	Longitudinal - prospective Up to age 26	Past year use See Notes See Notes	DSM-IV Not reported	Regular use, defined as self-report of more than 100 occasions of use in past year. CUD not defined specifically.
Freitag 2021[16]	NESARC-III 2012 to 2013 US	Cross-sectional N/A	Past month use See Notes CUD	DSM-5 AUDADIS-5	
Gillespie 2012[17]	Minnesota Twins Family Study Not clear Minnesota	Longitudinal - prospective At age 20	See Notes CUD	DSM-III-R See Notes	Used the expanded Substance Abuse Module.
Han 2018[18]	NSDUH 2013 to 2015 US	Cross-sectional N/A	Past year use CUD	DSM-IV Not reported	
Han 2019[19]	NSDUH 2015 to 2017 US	Cross-sectional N/A	Past year use Ever used CUD	DSM-IV Not reported	

Study ID	Data Source Data Year Location	Study Design Follow-up	Cannabis Use Level of CUD	Diagnostic Criteria Tool	Notes
Hartzler 2017[20]	Center for AIDS Research Network of Integrated Clinical Systems 2007 to 2014 7 CNICS-affiliate sites in the US	Cross-sectional N/A	Ever used CUD	See Notes Not reported	
Hasin 2015[21]	NESARC-III 2012 to 2013 US	Cross-sectional N/A	Past year use CUD	DSM-IV AUDADIS-5	
Hasin 2016[22]	NESARC-III 2012 to 2013 US	Cross-sectional N/A	See Notes CUD	DSM-5 AUDADIS-5	
Hasin 2020[23]	NESARC-III 2012 to 2013 US	Cross-sectional N/A	Past year use See Notes CUD	DSM-IV AUDADIS-5	Limited to nonmedical use. Frequent use defined as at least 3 times a week.
Hayley 2017[24]	NESARC-III 2012 to 2013 US	Cross-sectional N/A	Past year use CUD	DSM-5 AUDADIS-5	
Hill 2021[25]	National Health and Resilience in Veterans Study 2019 to 2020 US	Cross-sectional N/A	See Notes CUD	See Notes CUDIT-SF	Past 6 month use CUD defined as a score of 2 or more on the CUDIT-SF.
Hill 2021[26]	NHRVS	Cross-sectional	Ever used	See Notes	MINI assesses for cannabis abuse and dependence according to DSM-IV diagnostic criteria. Lifetime cannabis abuse and dependence were combined into a single CUD

Study ID	Data Source Data Year Location	Study Design Follow-up	Cannabis Use Level of CUD	Diagnostic Criteria Tool	Notes
	2011 US	N/A	CUD	MINI	variable, given evidence that these criteria measure one underlying disorder and show concordance with DSM-5 CUD diagnoses.
Hoggatt 2021[27]	N/A 2018 to 2019 US - 30 VA health care systems	Cross-sectional N/A	Daily use Past year use Ever used See Notes CUD	DSM-5 MINI See Notes	Past year misuse, defined as using it to get high, to get a buzz, to feel elated, or to change a mood. Daily use measured in past 3 months. MINI 7.0 classified patients as having DUD if they had a score of 2 or more on the relevant section of the MINI.
Hughto 2021[28]	OptumLabs Data Warehouse 2017 US	Cross-sectional N/A	See Notes CUD	See Notes Not reported	
Kelly 2021[29]	NSDUH 2015 to 2019 US	Cross-sectional N/A	Past year use See Notes CUD	DSM-IV Not reported	Persons reporting using cannabis, hashish, or blunts in past year answered questions related to CUD symptoms. Not a prevalence study in people who used; included as a national survey with associations with CUD.
Kerridge 2018[30]	NESARC III 2012 to 2013 US	Cross-sectional N/A	See Notes CUD	DSM-5 AUDADIS-5 See Notes	DSM-5 CUD diagnoses required ≥2 of 11 criteria within a 12-month period and were classified as mild (2–3 criteria), moderate (4–5 criteria) or severe (≥6 criteria).
Kirisci 2013[31], Cornelius 2010, Ridenour 2006, Ridenour 2009, Tarter 2011, Tarter 2012, Tarter 2006	CEDAR Not clear Not clear	Longitudinal - prospective Maximum of 12 years	See Notes CUD	See Notes Not reported	Cannabis use, CUD, diagnostic criteria and assessment tool not reported or defined.

Study ID	Data Source Data Year Location	Study Design Follow-up	Cannabis Use Level of CUD	Diagnostic Criteria Tool	Notes
Kreuger 2020[32]	NESARC-III 2012 to 2013 US	Cross-sectional N/A	See Notes CUD	DSM-5 Not reported	
Lekoubou 2020[33]	National Inpatient Sample (NIS) 2006 to 2014 US	Cross-sectional N/A	See Notes CUD	DSM-5 Not reported	
McBain 2020[34]	NSDUH 2013 to 2017 US	Cross-sectional N/A	Daily use Past month use Past year use CUD	DSM-IV Not reported	
McCabe 2018[35]	NESARC-III 2012to 2013 US	Cross-sectional N/A	See Notes CUD	DSM-5 AUDADIS-5	Risk of continuing or new recurrence of CUD.
McCabe 2021[36]	NSDUH 2002 to 2018 US	Cross-sectional N/A	Past year use CUD	DSM-IV Not reported	
Metrik 2016[37], Metrik 2022[38]	Returning Vets Study 2013 to 2016 3 states (RI, MA, CT)	Cross-sectional N/A	Ever used CUD	DSM-5 Structured Clinical Interview for DSM non-patient ed (SCID-NP)	

Study ID	Data Source Data Year Location	Study Design Follow-up	Cannabis Use Level of CUD	Diagnostic Criteria Tool	Notes
Meyers 2018[39]	NESARC-III	Cross-sectional N/A	See Notes CUD	DSM-5 AUDADIS-5	
Montgomery 2016[40]	NSDUH 2013 US	Cross-sectional N/A	Past month use Abuse Dependence	DSM-IV Not reported	Participants who endorsed "within past 30 days" were categorized as past-month "blunt users" in current study. Participants who endorsed blunt use "more than 30 days ago but within the past 12 months," "more than 12 months ago," or "never used blunts" were categorized as past-month "other marijuana users."
Moore 2021[41]	NSDUH 2015 to 2019 US	Cross-sectional N/A	Past year use See Notes CUD	DSM-IV Not reported	Past-year cannabis use was defined as using cannabis at least once in past 12 months.
Pacek 2012[42]	NSDUH 2005 to 2007 US	Cross-sectional N/A	See Notes CUD	DSM-IV Not reported	
Palmer 2009[43]	Colorado Twins Study 2008 Colorado	Longitudinal - prospective Followed from birth to a mean of 19.8 years old	Ever used See Notes Abuse CUD Dependence	DSM-IV Not reported	Repeated use is 6 or more times in lifetime.
Park 2017[44]	NSDUH 2013 to 2014 US	Cross-sectional N/A	Past year use CUD	DSM-IV Not reported	
Park 2021[45]	NSDUH 2015 to 2019 US	Cross-sectional N/A	See Notes CUD	DSM-IV Not reported	

Study ID	Data Source Data Year Location	Study Design Follow-up	Cannabis Use Level of CUD	Diagnostic Criteria Tool	Notes
Richter 2017[46]	NSDUH 2014 US	Cross-sectional N/A	Past month use Past year use Ever used Abuse CUD Dependence	DSM-IV Not reported	
Salas-Wright 2019[47]	NESARC III and SAMHSA RDAS (see note) 2012 to 2013 US	Cross-sectional N/A	Past year use CUD	See Notes AUDADIS-5	
Schuermeyer 2014[48]	NSDUH 2003 to 2011 US	Cross-sectional N/A	Past year use CUD	DSM-IV Not reported	
Schulenberg 2015[49] and Patrick 2011[50]	Monitoring the Future 1994 to 2014 US	Cross-sectional Up to age 35	See Notes CUD	DSM-IV See Notes	Looked at past 5-year use. Based on responses to a set of questions, consistent with other large-scale surveys.
Shi 2014[51]	NSDUH 2011 US	Cross-sectional N/A	Past year use Ever used See Notes CUD	See Notes Not reported	Frequent use was defined as reporting at least weekly marijuana use on average in reference period. Specifically, past year frequent defined as engaging in marijuana use for 52 days or more in the past 12 months. Criteria not reported.
Sonon 2016[52]	Maternal Health Practices and Child	Longitudinal - prospective Up to age 22	Ever used CUD	DSM-IV See Notes	Used the Diagnostic Interview Schedule-IV (DIS-IV).

Study ID	Data Source Data Year Location	Study Design Follow-up	Cannabis Use Level of CUD	Diagnostic Criteria Tool	Notes
	Development Study (MHPCDS) 2004 to 2007 (assumed) Pittsburgh		See Notes		
Vasilenko 2017[53]	NESARC-III 2012 to 2013 US	Cross-sectional N/A	See Notes CUD	DSM-5 AUDADIS-5	
Verplaetse 2018[54]	NESARC III 2012 to 2013 US	Cross-sectional N/A	See Notes CUD See Notes	DSM-5 AUDADIS-5	Cannabis use definitions were not reported. CUD was reported as: Absent: No diagnosis in past year and no diagnosis prior to past year New: Diagnosis in past year but no diagnosis prior to past year Remit: No diagnosis in past year but diagnosis prior to past year Ongoing: Diagnosis in past year and diagnosis prior to past year
Vijapur 2021[55]	NSDUH 2015 to 2018 US	Cross-sectional N/A	Daily use Past month use Past year use Abuse CUD Dependence	See Notes Not reported	Also DSM-IV
Waddell 2021[56]	NSDUH 2002 to 2019 US	Cross-sectional N/A	Weekly use Past month use Past year use	DSM-IV Not reported	Categorized into 7 groups: 1: 1 to 2 times (over the past year) 2: 3 to 5 times 3: 5+ times but less than monthly

Study ID	Data Source Data Year Location	Study Design Follow-up	Cannabis Use Level of CUD	Diagnostic Criteria Tool	Notes
			See Notes CUD		4: 1 to 2 times a month 5: 1 to 2 times a week 6: 3 to 5 times a week 7: Nearly daily
Wall 2019[57]	NESARC III 2012 to 2013 US	Cross-sectional N/A	Past year use See Notes CUD	DSM-5 AUDADIS-5	Users with past-year marijuana use were categorized into nonmedical use only, medical use only, or combined use.
Wu 2014[58]	NSDUH 2005 to 2011 US	Cross-sectional N/A	Past year use See Notes Abuse Dependence	DSM-IV Not reported	Past-year frequency of use was categorized into 3 mutually exclusive groups: 1 to 11 days, 12 to 51 days, and more than 52 days (weekly or more).
Wu 2016[59]	NSDUH 2005 to 2013 US	Cross-sectional N/A	Past year use Abuse Dependence	DSM-IV Not reported	

Abbreviations. AUDADIS: Alcohol Use Disorder And Associated Disabilities Interview Schedule; CNICS: Center for AIDS Research Network of Integrated Clinical Systems; COGA: Collaborative Studies on Genetics of Alcoholism; CUD; CUDIT-SF: cannabis use disorder identification test short form; DSM: Diagnostic and Statistical Manual of Mental Disorders; ICD: International Classification of Disease; MINI: Mini International Neuropsychiatric Interview; N/A: not applicable; NDSUH: National Survey on Drug Use and Health; NESARC: National Epidemiologic Survey on Alcohol and Related Conditions; SAMHSA RDAS: Substance Abuse and Mental Health Services Administration Restricted-use Data Analysis System; US: United Stated; VA: Veterans Affairs.

Table E2b. Summary Characteristics of Included Studies

Study ID Description Sample Size	Age Female Race/Ethnicity Rural/urban	Other Substance Use or Substance Use Disorders Age at First Use Comorbidities	Selection	Inclusion	Exclusion
Agrawal 2017[1] and Johnson 2019[60] Young adults with lifetime use of cannabis 2,061*	Not reported by cannabis use status Overall Mean age at last assessment (SD): 21.7 (5.0) 50.7%* Not reported by cannabis use status Overall African American: 29.9% Hispanic: 6.7% Not reported	Not reported by cannabis use status Overall Lifetime Alcohol use: 80.3% Early alcohol use: 22.2% Alcohol dependence: 13.3% Nicotine use: 46.6% Early nicotine use: 14.7% Nicotine dependence: 20.0% Not reported by cannabis use status Overall Early cannabis use, before age 15: 17.3% Not reported by cannabis use status Overall Lifetime Suicidal ideation: 30.2% Suicide attempt: 5.8% MDD: 22.9%	High risk families were identified through probands who were in inpatient or outpatient clinics for alcohol problems; families with 2 additional relatives with alcoholism were further prioritized. Control families were ascertained from a variety of sources (e.g., driver's license records) and alcoholism was not an exclusion criterion.	Not reported	Not reported
Boyd 2020[2] Adults aged 18 and older Not reported	Not reported Not reported Not reported Not reported	Lifetime cannabis use: 32.1% Past year cannabis use: 9.5% Lifetime medical cannabis use: 1.6% Not reported Not reported	National survey	Not reported	Not reported
Browne 2022[3] US veterans not on active duty	Age ranges, weighted % (SE) of whole sample Past-12-month nonmedical use 18 to 29: 18.0% (3.5) 30 to 44: 12.0% (1.5)	Past 12-month nonmedical use, weighted % (SE) of whole sample AUD: 22.8% (2.4) OUD (nonmedical use): 30.6% (10.3) Drug use disorder (excluding CUD and	National survey with in-person interviews	Adults who reported that they had ever served on active duty in the U.S. Armed Forces,	Not reported

Study ID Description Sample Size	Age Female Race/Ethnicity Rural/urban	Other Substance Use or Substance Use Disorders Age at First Use Comorbidities	Selection	Inclusion	Exclusion
Past 12-month use: 272 Any lifetime use: 1,102	45 to 64: 9.2% (0.9) 65 or older: 2.2% (0.5) Any lifetime nonmedical use 18 to 29: 50.8% (4.3) 30 to 34: 46.4% (2.9) 45 to 64: 44.6% (1.8) 65 or older: 15.1% (1.2) Weighted % (SE) of whole sample Past 12-month nonmedical use:5.3% (1.2) Any lifetime nonmedical use: 32.1% (2.9) Past 12-month nonmedical use, weighted % (SE) of whole sample Black: 12.6% (2.2) Hispanic: 8.9% (1.8) Other: 11.3% (2.6) White: 5.9% (0.5) Any lifetime nonmedical use, weighted % (SE) of whole sample Black: 43.5% (2.9) Hispanic: 39.9% (4.0) Other: 44.8% (5.0) White: 29.9% (1.2) Past 12-month nonmedical use, weighted % (SE) of whole sample Urban: 6.7% (0.5) Rural: 7.9% (1.2) Any lifetime nonmedical use, weighted % (SE) of whole sample Urban: 33.1% (1.3) Rural: 30.7% (2.0)	OUD): 57.2% (10.5) Tobacco use disorder: 15.1% (1.4) Any lifetime nonmedical use AUD: 50.2% (2.2) OUD (nonmedical use): 70.7% (8.3) Drug use disorder (excluding CUD and OUD): 84.0% (4.4) Tobacco use disorder: 49.1% (1.9) Not reported Past 12-month nonmedical use, weighted % (SE) of whole sample Any mood disorder: 21.1% (3.0) Any anxiety disorder: 15.6% (2.4) PTSD: 16.7% (3.9) Any lifetime nonmedical use Any mood disorder: 48.8% (2.5) Any anxiety disorder: 44.1% (2.7) Any personality disorder: 50.9% (2.9) PTSD: 46.6% (4.10)		Military Reserves, or National Guard (excluding training only, including activation) and were no longer on active duty at the time of data collection.	
Callaghan 2020[4] Adults with past year recreational cannabis use	Mean (range): 33.8 (33.1 to 34.5) years Age 18 to 24: 1,152 of 3,339 (34.5%)* Age 25 to 34: 902 of 3,339 (27.0%)* Age 35 to 44: 511 of 3,339 (15.3%)* Age 45 to 54: 427 of 3,339 (12.8%)*	Not reported Not reported Not reported	National survey	Adults aged 18 and older	Not reported

Study ID Description Sample Size	Age Female Race/Ethnicity Rural/urban	Other Substance Use or Substance Use Disorders Age at First Use Comorbidities	Selection	Inclusion	Exclusion
3,339	Age 55 to 64: 270 of 3,339 (8.1%)* Age 65 and older: 73 of 3,339 (2.2%)* 1,265 of 3,339 (37.9%)* Not reported Not reported				
Campbell 2020[5] Adults with documented cannabis use 101,405	Not reported 46,931 of 101,405 (45.7%) Hispanic: 12,402 of 101,405 (12.2%) Non-Hispanic White: 70,016 of 101,405 (69.0%) Non-Hispanic Black: 6,635 of 101,405 (6.5%) Non-Hispanic Other: 4,502 of 101,405 (4.4%) Unknown: 7,850 of 101,405 (7.7%) Not reported	OUD: 5,328 of 101,405 (5.3%) AUD: 6,473 of 101,405 (6.4%) Other SUD (contains use of sedatives, cocaine, hallucinogens, inhalants, other stimulants, use of more than one substance, and substances other than those listed): 13,355 of 101,405 (13.2%) Smoker: 49,917 of 101,405 (49.2%) Age 18 to 24: 16,903 of 101,405 (16.7%) Age 25 to 34: 28,073 of 101,405 (27.7%) Age 35 to 44: 18,327 of 101,405 (18.1%) Age 45 to 54: 17,942 of 101,405 (17.7%) Age 55 to 64: 14,844 of 101,405 (14.6%) Age 65 and older: 5,326 of 101,405 (5.3%) Depression: 39,112 of 101,405 (38.6%) Anxiety: 34,097 of 101,405 (33.6%) Bipolar: 10,360 of 101,405 (10.2%) Schizophrenia: 5,452 of 101,405 (5.4%) PTSD: 8,232 of 101,405 (8.1%)	Data from the EHR across a network of western OCHIN clinics	Aged 18 years of age and older At least 1 ambulatory visit at an OCHIN clinic Documented CUD as indicated by an ICD-9/10 code on the problem list or encounter list, or a record of cannabis use in the social history section of the EHR	Fewer than 5 patients per clinic
Choi 2016[6] Adults aged 50 years and older 695	Past-year users without CUD: 57.7 (SE, 0.33) Past-year users with CUD: 57.2 (SE, 0.75) Past-year users without CUD: 301 of 573 (52.5%)* Past-year users with CUD: 29 of 122 (23.9%)*	Other drug (excluding marijuana) use disorder (i.e., sedatives/tranquilizers, painkillers, cocaine/crack, stimulants, club drugs, hallucinogens/psychedelics, inhalants/solvents, heroin, and other drugs/medicines, including antidepressants, antipsychotic drugs, steroids, and any other medicines or drugs) Past-year users without CUD: 40 of 573	National survey with in-person interview	Noninstitutionalized adults Aged 18+ years	Not reported

Study ID Description Sample Size	Age Female Race/Ethnicity Rural/urban	Other Substance Use or Substance Use Disorders Age at First Use Comorbidities	Selection	Inclusion	Exclusion
	Non-Hispanic White Past-year users without CUD: 426 of 573 (74.4%)* Past-year users with CUD: 83 of 122 (67.8%)* Non-Hispanic Black Past-year users without CUD: 81 of 573 (14.1%)* Past-year users with CUD: 28 of 122 (22.71%)* Hispanic Past-year users without CUD: 39 of 573 (6.8%)* Past-year users with CUD: 5 of 122 (4.0%)* Non-Hispanic Asian Past-year users without CUD: 5 of 573 (1.0%)* Past-year users with CUD: 0 of 122 (0%) American Indian Past-year users without CUD: 21 of 573 (3.8%)* Past-year users with CUD: 7 of 122 (5.4%)* Not reported	(6.9%)* Past-year users with CUD: 19 of 122 (15.3%)* AUD Past-year users without CUD: 142 of 573 (24.8%)* Past-year users with CUD: 61 of 122 (50.0%)* *P* < .001 Nicotine use disorder Past-year users without CUD: 257 of 573 (44.9%)* Past-year users with CUD: 73 of 122 (59.8%)* *P* < .01 Overall cohort: 19.0 (SE, 0.39) Past-year users without CUD: 19.0 (SE, 0.37) Past-year users with CUD: 18.9 (SE, 1.25) MDD Past-year users without CUD: 89 of 573 (15.5%)* Past-year users with CUD: 32 of 122 (26.0%)* Anxiety disorder (e.g., specific phobia, social phobia, panic disorder, agoraphobia, and GAD) Past-year users without CUD: 116 of 573 (20.2%)* Past-year users with CUD: 44 of 122 (36.1%)* *P* < .01 PTSD Past-year users without CUD: 40 of 573 (7.0%)* Past-year users with CUD: 25 of 122			

Study ID Description Sample Size	Age Female Race/Ethnicity Rural/urban	Other Substance Use or Substance Use Disorders Age at First Use Comorbidities	Selection	Inclusion	Exclusion
		(20.8%)* *P* < .001 Bipolar disorder 1 and/or manic or hypomanic episode Past-year users without CUD: 16 of 573 (2.9%)* Past-year users with CUD: 10 of 122 (8.3%)* *P* < .05			
Choi 2017[7] Adults with past year use 3,784	Age 18 to 29: 1,660 of 3,784 (47.7%) Age 30 to 49: 1,396 of 3,784 (33.9%) Age 50 to 64: 1,660 of 3,784 (15.8%) Age 65 and older: 2.5% 38.8% Non-Hispanic White: 65.4% Non-Hispanic Black: 15.7% Hispanic: 13.1% Non-Hispanic Asian: 3.0% American Indian: 2.8% Not reported	Frequency of past year use 1 to 11 times: 32.7% 4 times a week to once a month: 37.9% Daily or nearly daily: 29.4% Other drug (than cannabis) use disorder: 9.4% nonmedical users; 10.0% medical users AUD: 47.9% nonmedical users; 37.8% medical users Nicotine use disorder: 49.4% nonmedical users; 49.7% medical users Mean (SE) In the 18 to 29 age group: 16.04 (0.09) years In the 30 to 49 age group: 16.42 (0.13) years In the 50 and older age group: 18.90 (0.40) years Pain interference Not at all: 56.5% A little/moderate: 30.8% Severe: 12.6% MDD: 1.8% nonmedical users; 18.6% medical users Anxiety disorder: 19.9% nonmedical users; 28.5% medical users	National survey	Aged 18 and older	Not reported

Study ID Description Sample Size	Age Female Race/Ethnicity Rural/urban	Other Substance Use or Substance Use Disorders Age at First Use Comorbidities	Selection	Inclusion	Exclusion
		PTSD: 10.0% nonmedical users; 14.7% medical users Personality disorder: 36.1% nonmedical users; 48.0% medical users			
Choi 2017[8] Adults aged 50 and older with past year nonmedical use 695	Age 50 to 64: 86.2% Age 65 and older13.7% 32.4%* Non-Hispanic White: 73.2% Non-Hispanic Black: 15.6% Hispanic: 6.3% Non-Hispanic Asian: 0.8% American Indian: 4.1% Not reported	Past year nonmedical pain reliever use: 14.4% Past year OUD: 4.4% Mean age (SE): 19.5 (0.15) years Mean no. of chronic medical conditions (SE): 1.21 (0.06) Injury in the past year: 28.8% Mean no. of injuries if injured (SE): 1.297 (0.25) Pain interference Not at all: 35.3% A little/moderate: 36.3% Severe: 28.5%	National survey	Aged 50 and older	Not reported
Choi 2018[9] Adults aged 50 and older with past year use 1,455	Aged 50 to 64: 85.2% Aged 65 and older: 14.8% 37.5% Non-Hispanic White: 78.6% Non-Hispanic Black: 11.6% Hispanic: 5.5% Asian or Pacific Islander: 1.1% Native American or Alaska Native: 0.5% Multiple race: 2.7% Not reported	Past year AUD: 13.9% Nicotine dependence: 28.2% Age at first use 14 and younger: 23.3% 15 to 17: 36.5% 18 and older: 40.2% Self-rated health Excellent/very good: 43.7% Good: 31.1% Fair/poor: 24.9% Past year MDE: 8.4% Lifetime MDE: 18.0%	National survey	Aged 12 and older	
Choi 2021[10] Older people (age 50+) who have used	Aged 50 to 64: 80.04% initiators/reinitiators 79.32% continued users Aged 65 and older:	Past year nicotine dependence: 22.96% initiators/reinitiators 27.36% continued users Past year AUD:	National survey	Aged 50 and older	Not reported

Study ID Description Sample Size	Age Female Race/Ethnicity Rural/urban	Other Substance Use or Substance Use Disorders Age at First Use Comorbidities	Selection	Inclusion	Exclusion
cannabis (continued use and intiators/reinitiators) 1,870	18.96% initiators/reinitiators 20.68% continued users 46.86% initiators/reinitiators 37.04% continued users Non-Hispanic White: 67.60% initiators/reinitiators 78.15% continued users Non-Hispanic Black: 18.27% initiators/reinitiators 12.25% continued users Hispanic: 11.0% initiators/reinitiators 5.04% continued users Other: 3.13% initiators/reinitiators 4.56% continued users Not reported	14.19% initiators/reinitiators 11.88% continued users Past year illicit drugs use (other than cannabis): 19.22% initiators/reinitiators 20.03% continued users Past year SUD (other than cannabis): 4.90% initiators/reinitiators 4.32% continued users Lifetime alcohol or SUD treatment: 18.78% initiators/reinitiators 22.18% continued users Past year alcohol or SUD treatment: 6.02% initiators/reinitiators 2.48% continued users First use under 19 years: 51.49% initiators/reinitiators 60.97% continued users First use under 21 years: 71.02% initiators/reinitiators 82.68% continued users Mean no. of medical conditions (SE): 0.91 (0.06) initiators/reinitiators 0.92 (0.03) continued users Past year MDD: 6.34% initiators/reinitiators 10.99% continued users Lifetime MDD: 17.67% initiators/reinitiators 20.27% continued users Past year mental health treatment: 28.31% initiators/reinitiators 25.93% continued users			
Compton 2016[11]	Not reported	Not reported	National survey	Adults aged 18 and older	Not reported

Study ID Description Sample Size	Age Female Race/Ethnicity Rural/urban	Other Substance Use or Substance Use Disorders Age at First Use Comorbidities	Selection	Inclusion	Exclusion
Adults with past year use (continued use or initiated plus continued use) Not reported	Not reported Not reported Not reported	Not reported Not reported			
Copeland 2017[12] Not reported by cannabis status Overall 1,420	Not reported Not reported by cannabis status Overall 51.1% Not reported by cannabis status Overall Non-Hispanic African American: 6.9% American Indian: 3.7% Not reported	Not reported Not reported Not reported	A multistep probability sampling procedure was used to randomly select children from the public school database. American Indian children were oversampled by including all American Indian children who attended school	Not reported	Not reported
Enkema 2021[13] Veterans and non-Veterans with and without pain Not reported Veterans: 3,117 Non-Veterans: 33,172	Aged 18 to 29 (SE): 3.91% (0.33) Veterans; 23.58% (0.39) non-Veterans Aged 30 to 44 (SE): 14.94% (0.80) Veterans; 26.88% (0.34) non-Veterans Aged 45 to 64 (SE): 38.26% (1.10) Veterans; 34.69% (0.36) non-Veterans Aged 65 and older (SE): 42.89% (1.24) Veterans; 14.85% (0.33) non-Veterans Veterans: 306 of 3,117 (9.8%)* Non-Veterans: 18,709 of 33,172 (56.4%)* White (SE): 79.52% (1.04) Veterans; 64.77% (0.79) non-Veterans Black (SE): 10.42% (0.78) Veterans; 11.94% (0.68) non-Veterans Hispanic (SE): 6.50% (0.63) Veterans;	Not reported Not reported Pain: 876 of 3,117 (28.11%; SE, 1.14%) Veterans; 6,356 of 33,172 (19.26%; SE, 0.44%) non-Veterans ---adjusted for sex, age, race/ethnicity, and education--- Pain: 770 of 3,117 (24.69%; SE, 1.25%) Veterans; 5,769 of 33,172 (17.39%; SE, 0.38%) non-Veterans	National survey	Any recent pain data	Pain data missing

Study ID Description Sample Size	Age Female Race/Ethnicity Rural/urban	Other Substance Use or Substance Use Disorders Age at First Use Comorbidities	Selection	Inclusion	Exclusion
	15.61% (0.72) non-Veterans Other (SE): 3.56% (0.45) Veterans; 7.68% (0.50) non-Veterans Not reported				
Feingold 2020[14] Adults with ever/lifetime use of cannabis 11,272	Age 18 to 29 years: 3,091 of 11,272 (26.7%) Age 30 to 44 years: 3,389 of 11,272 (28.6%) Age 45 to 64 years: 4,191 of 11,272 (39.0%) Aged 65 and older: 601 of 11,272 (5.6%) 5,251 of 11,272 (43.1%) White: 6,836 of 11,272 (73.5%) Black: 2,334 of 11,272 (11.3%) American Indian or Alaska Native: 231 of 11,272 (2.2%) Asian or Native Hawaiian or Pacific Islander: 260 of 11,272 (2.5%) Hispanic: 1,611 of 11,272 (10.5%) Urban: 9,572 of 11,272 (80.5%) Rural: 1,700 of 11,272 (19.5%)	AUD: 5,326 of 11,272 (53.4%) TUD: 4,803 of 11,272 (47.5%) Other DUD: 1,490 of 11,272 (14.3%) Mean (SE): 17.6 years (0.06) Any mood disorder: 3,353 of 11,272 (32.2%) Any anxiety disorder: 2,360 of 11,272 (23.2%) Any personality disorder: 2,500 of 11,272 (23.3%)	National survey, selected through multistage probability sampling, and data were adjusted for nonresponse and weighted to represent the US population based on the 2012 American Community Survey	Civilians aged 18 years and older Living in households and selected group quarters	Not reported
Foster 2021[15] Young adults aged 26 177	All aged 26 110 of 402 (27.4%)* Non-Hispanic White: 384 of 402 (95.5%)* Not reported	Not reported Not reported Not reported	Participants were family members in the Michigan Longitudinal Study (MLS) cohort, an ongoing, multi-wave, prospective study investigating substance use disorder risk. Men with a recent drunk driving arrest	Adults aged 26 and older Reported either no lifetime cannabis use or were identified by a regular cannabis use pattern	Not reported

Study ID Description Sample Size	Age Female Race/Ethnicity Rural/urban	Other Substance Use or Substance Use Disorders Age at First Use Comorbidities	Selection	Inclusion	Exclusion
			who were fathers to a 3- to 5-year-old male child and resided with the child and biological mother were initially identified and recruited by a search of court records (one third of the final sample) and community canvassing (one third of the final sample). Families with no parental SUD were also recruited via community canvass from the same neighborhoods as those high-risk families.		
Freitag 2021[16] Adults in the NESARC-III survey Current cannabis users who are also self-identified sexual minorities 2,681	Not reported by use status Overall weighted proportion Age 18 to 29: 21.7% Age 30 to 44: 25.8% Age 45 to 64: 35.0% Age 65 and older: 17.5% Not reported by use status Overall weighted proportion Female: 51.9% Not reported by use status Overall weighted proportion Non-Hispanic White: 66.3%	Not reported Not reported Not reported	National survey	Not reported	Not reported

Study ID Description Sample Size	Age Female Race/Ethnicity Rural/urban	Other Substance Use or Substance Use Disorders Age at First Use Comorbidities	Selection	Inclusion	Exclusion
	Non-Hispanic Black: 11.8% Non-Hispanic Other: 7.2% Hispanic: 14.7% Not reported by use status Overall weighted proportion Urban: 78.7% Rural: 21.3%				
Gillespie 2012[17] Young adults with past 4 year use 872	Mean: 21.7 506 of 872 (58.0%)* Caucasian: 98% Not reported	Not reported Mean: 16.2 Not reported	Birth records and public databases were used to identify twins who were born in Minnesota between 1975 and 1984 and 1988 to 1994.	Twins	Not reported
Han 2018[18] Adults with past year medical use 1,200 medical past year users 28,400 past year users	Not reported Not reported Not reported Not reported	Not reported Not reported Not reported	National survey	Adults aged 18 and older	Not reported
Han 2019[19] Young adults aged 18 to 25 26,500 (lifetime use) 16,854 past-12-month use	Aged 18 to 21 years: 11,845 of 26,500 (44.7%)* Aged 22 to 25 years: 14,655 of 26,500 (55.3%)* 12,693 of 26,500 (47.9%)* Non-Hispanic White: 15,529 of 26,500 (58.6%)* Non-Hispanic Black: 3,631 of 26,500 (13.7%)*	Alcohol use during lifetime: 25,731 of 26,500 (97.1%)* Tobacco use during lifetime: 22,101 of 26,500 (83.4%)* AUD in past year: 4,585 of 26,500 (17.3%)* Tobacco dependence in past year: 4,240 of 26,500 (16.0%)* Cocaine use disorder in past year: 2,862 of 26,500 (10.8%)* Hallucinogen use or disorder in past year:	National survey of a representative sample	Aged 12 and older Civilian	Institutionalized

Study ID Description Sample Size	Age Female Race/Ethnicity Rural/urban	Other Substance Use or Substance Use Disorders Age at First Use Comorbidities	Selection	Inclusion	Exclusion
	Hispanic: 5,353 of 26,500 (20.2%)* Non-Hispanic Other: 2,014 of 26,500 (7.6%)* Not reported	3,445 of 26,500 (13.0%)* Inhalant use or disorder in past year: 636 of 26,550 (2.4%)* Prescription tranquilizer or sedative use disorder in past year: 345 of 26,500 (1.3%)* Prescription stimulant use disorder in past year: 3,471 of 26,500 (13.1%)* OUD in past year: 609 of 26,500 (2.3%)* Not reported Major depressive episode in past year: 3,816 of 26,500 (14.4%)*			
Hartzler 2017[20] Adults who were HIV-positive with prior use 6,587	Age 18 to 29: 810 of 6,587 (12.3%)* Age 30 to 39: 1,465 of 6,587 (22.2%)* Age 40 to 49: 2,448 of 6,587 (37.2%)* Age 50 and older: 1,864 of 6,587 (28.3%)* 772 of 6,587 (11.7%)* Non-Hispanic White: 3,844 of 6,587 (58.3%)* Non-Hispanic Black: 1,788 of 6,587 (27.1%)* Hispanic: 686 of 6,587 (10.4%)* Other: 269 of 6,587 (4.1%)* Not reported	Not reported Not reported All were HIV-positive	Selected from 7 HIV clinics in the US	Aged 18 and older Attending a clinic for HIV-related care	Deemed medically unstable Appearing intoxicated Evidencing significant cognitive impairment Unable to speak English or Spanish
Hasin 2015[21] Adults with past year use Not reported	Not reported Not reported Not reported Not reported	Not reported Not reported Not reported	National survey	Adults aged 18 years and older Residing in households and selected group quarters	Not reported
Hasin 2016[22]	Not reported by cannabis use status Overall in people with 12-month CUD, as a	Not reported	National survey	Aged 18 and older	Not reported

Study ID Description Sample Size	Age Female Race/Ethnicity Rural/urban	Other Substance Use or Substance Use Disorders Age at First Use Comorbidities	Selection	Inclusion	Exclusion
Adults Not reported	% of the whole sample Age 18 to 29: 6.9% Age 30 to 44: 2.5% Age 45 and older: 0.8% Overall in people with lifetime CUD, as a % of the whole sample Age 18 to 29: 11.0% Age 30 to 44: 7.4% Age 45 and older: 3.7% Not reported by cannabis use status Overall in people with 12-month CUD, as a % of the whole sample Female: 1.7% Overall in people with lifetime CUD, as a % of the whole sample Female: 4.3% Not reported by cannabis use status Overall in people with 12-month CUD, as a % of the whole sample White: 2.2% Black: 4.5% Native American: 5.3% Asian or Pacific Islander: 1.3% Hispanic: 2.6% Overall in people with lifetime CUD, as a % of the whole sample White: 6.7% Black: 7.2% Native American: 11.5% Asian or Pacific Islander: 3.1% Hispanic: 4.5% Not reported by cannabis use status Overall in people with 12-month CUD, as a % of the whole sample Urban: 2.7% Rural: 1.8%	Not reported Not reported			

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	Overall in people with lifetime CUD, as a % of the whole sample Urban: 6.5% Rural: 5.5%				
Hasin 2020[23] Adults with and without pain Overall, nonmedical use: 3,449* Nonmedical use by adults with pain: 902* Nonmedical use by adults without pain: 2,620	Not reported Not reported Not reported Not reported	Not reported Not reported Not reported	National survey	Not reported	Not reported
Hayley 2017[24] Not reported by cannabis use status Overall 36,309	Not reported by cannabis use status Overall Age 18 to 24: 13.1% Age 25 to 34: 17.2% Age 35 to 44: 17.1% Age 45 to 54: 18.6%) Age 55 to 64: 16.4% Age 65 and older: 17.6% Not reported by cannabis use status Overall Female: 51.9% Not reported by cannabis use status Overall Non-Hispanic White: 66.2% Non-Hispanic Black: 11.8% American Indian or Alaska Native: 1.6% Asian, Native Hawaiian, or Other Pacific	Not reported by cannabis use status Overall Current smoker: 27.2% Former smoker: 18.7% Never smoked: 54.2% Sedative or tranquilizer use disorder: 0.4% Cocaine use disorder: 0.3% Stimulant use disorder: 0.3% Club drug use disorder: 0.1% Hallucinogen use disorder: 0.0% Inhalant or solvent use disorder: 0.0% Heroin use disorder: 0.1% OUD: 0.9% Other medication or drug use disorder: 0.0% AUD: 13.9% Mean (SE): 24.6 (0.30) years	National survey	Aged 18 and older	Not reported

Study ID Description Sample Size	Age Female Race/Ethnicity Rural/urban	Other Substance Use or Substance Use Disorders Age at First Use Comorbidities	Selection	Inclusion	Exclusion
	Islander: 5.7% Hispanic: 14.8% Not reported by cannabis use status Overall Rural: 32.1% Urban: 1.3%	Not reported by cannabis use status Overall MDE: 10.4% PTSD: 4.7% Panic disorder: 3.1% Bipolar I disorder: 1.5%			
Hill 2021[25] Veterans with past 6-month use 414	Age 18 to 44: 77 of 414 (18.6%)* Age 45 to 64: 222 of 414 (53.6%)* Age 65 and older: 186 of 414 (44.9%)* 80 of 483 (19.3%)* Non-Hispanic White: 346 of 485 (83.6%)* Non-Hispanic Black: 61 of 485 (14.7%)* Hispanic: 55 of 485 (13.3%)* Other: 23 of 485 (5.6%)* Not reported	Not reported Not reported Current MDD: 108 of 485 (26.1%)* Current PTSD: 65 of 485 (15.7%)* Current GAD: 69 of 485 (16.7%)* Current AUD: 127 of 485 (30.7%)* Current suicidal ideation: 83 of 485 (20.0%)*	National survey, based on a sample was drawn from a probability-based, online, non-volunteer access survey panel of a nationally representative sample of U.S. veterans that covers approximately 98% of US households, with panel members recruited through national random samples	Veterans	Not reported
Hill 2021[26] Veterans with lifetime use 914* with any lifetime cannabis use 691 with lifetime non-CUD use 223 with lifetime CUD	Mean (SD): 52.6 (13.6) years lifetime non-CUD use 52.4 (10.2) years lifetime CUD 137 of 691 (9.7%) lifetime non-CUD use* 21 of 223 (5.9%) lifetime CUD* Caucasian: 501 of 691 (68.2%) lifetime non-CUD use 186 of 223 (80.7%) lifetime CUD Not reported	Current AUD: 133 of 691 (22.9%) lifetime non-CUD use 57 of 223 (27.5%) lifetime CUD Lifetime nicotine dependence: 165 of 691 (26.8%) lifetime non-CUD use 79 of 223 (41.3%) lifetime CUD Lifetime alcohol dependence: 156 of 691 (28.4%) lifetime non-CUD use 84 of 223 (37.7%) lifetime CUD Not reported	National survey	Not reported	Not reported

Study ID Description Sample Size	Age Female Race/Ethnicity Rural/urban	Other Substance Use or Substance Use Disorders Age at First Use Comorbidities	Selection	Inclusion	Exclusion
		Mean (SD) number of traumas: 4.0 (3.0) lifetime non-CUD use 5.0 (3.3) lifetime CUD Current PTSD: 34 of 691 (7.2%) lifetime non-CUD use 19 of 223 (12.6%) lifetime CUD Current MDD: 66 of 691 (12.2%) lifetime non-CUD use 31 of 223 (15.7%) lifetime CUD Current GAD: 62 of 691 (11.9%) lifetime non-CUD use 27 of 223 (16.2%) lifetime CUD Lifetime PTSD: 66 of 691 (12.2%) lifetime non-CUD use 42 of 223 (19.7%) lifetime CUD Lifetime MDD: 161 of 691 (28.9%) lifetime non-CUD use 80 of 223 (38.1%) lifetime CUD Lifetime SAD: 83 of 691 (15.8%) lifetime non-CUD use 45 of 223 (22.0%) lifetime CUD Current suicidal ideation: 76 of 691 (13.9%) lifetime non-CUD use 33 of 223 (17.9%) lifetime CUD Lifetime suicide attempt: 64 of 691 (12.9%) lifetime non-CUD use 28 of 223 (16.1%) lifetime CUD Current mental health treatment: 88 of 691 (17.2%) lifetime non-CUD use 39 of 223 (17.1%) lifetime CUD Lifetime mental health treatment: 214 of 691 (36.7%) lifetime non-CUD use 89 of 223 (38.3%) lifetime CUD			
Hoggatt 2021[27] Veterans aged 18+	Not reported by use status Overall weighted proportion Age 18 to 34: 6.7% Age 35 to 49: 13.8%	Not reported by use status Overall weighted proportion Lifetime alcohol use: 91.1% Lifetime cannabis use: 41.9%	Participants recruited from 30 VA health care systems selected	Had an outpatient encounter in the prior year	Not reported

Study ID Description Sample Size	Age Female Race/Ethnicity Rural/urban	Other Substance Use or Substance Use Disorders Age at First Use Comorbidities	Selection	Inclusion	Exclusion
with past year outpatient encounter 2,526 (of 6,000 in total sample)	Age 50 to 64: 24.7% Age 65 to 74: 34.4% Age 75 and older: 20.4% Not reported by use status Overall weighted proportion Female: 8.8% Transgender: 0.001% Not reported by use status Overall weighted proportion Hispanic/Latino: 6.9% American Indian/Alaska Native: 0.6% Native Hawaiian/Other Pacific Islander: 0.4% Asian: 1.7% Black 17.1% White: 68.2% Not otherwise specified: 0.4% Multiracial: 4.0% Not reported	Lifetime cocaine use: 16.4% Lifetime hallucinogens use: 12.7% Lifetime stimulants use: 11.6% Lifetime opiates use: 8.3% Lifetime sedatives use: 7.3% Lifetime miscellaneous drugs use: 5.7% Lifetime inhalants use: 3.3% Lifetime dissociative drugs use: 3.1% Not reported Not reported	from among ~140 health care systems nationwide as part of a larger project to improve quality measures for SUD care. The 30 health care systems were drawn from a stratified sample, representative both geographically and in terms of expected SUD prevalence	Aged 18 years or older Had a valid address and telephone number on file with VA Able to complete the survey in English	
Hughto 2021[28] Transgender and cisgender adults Not reported	Not reported by use status (reported by transgender status overall) Not reported by use status (reported by transgender status overall) Not reported by use status (reported by transgender status overall) Not reported by use status (reported by transgender status overall)	Not reported by use status (reported by transgender status overall) Not reported Not reported by use status (reported by transgender status overall)	Analysis of large claims dataset (commercial claims and Medicare Advantage enrollees)	Aged 18 and older Enrolled for all of 2017 Had at least 5 medical claims in 20117 Transgender or cisgender	Not reported
Kelly 2021[29] Adults aged 18 and older Not reported	Not reported Not reported Not reported	Not reported Not reported Not reported	National survey	Aged 18 and older	Not reported

Study ID Description Sample Size	Age Female Race/Ethnicity Rural/urban	Other Substance Use or Substance Use Disorders Age at First Use Comorbidities	Selection	Inclusion	Exclusion
	Not reported				
Kerridge 2018[30] Adults aged 18+ Not reported	Not reported Not reported Not reported Not reported	Not reported Not reported Not reported	National survey with in-person interviews	Noninstitutionalized civilian adults Aged ≥ 18 years Residing in households and selected group quarters	Not reported
Kirisci 2013[31], Cornelius 2010, Ridenour 2006, Ridenour 2009, Tarter 2011, Tarter 2012, Tarter 2006 Young adults using cannabis 242	Not reported by use status Overall at age 22 Mean (SD): 11.43 (0.92) years Only male participants were included Not reported by use status Overall at age 22 African American: 23.8% European-American: 76.2% Not reported	Not reported Not reported Not reported	Not reported	In good health determined by history and physical examination No lifetime psychosis IQ of at least 80 Speak English as their primary language	Not reported
Kreuger 2020[32] Adults Not reported	Not reported Overall, 19,399 of 36,309 (56.1%)* Not reported Not reported	Not reported Not reported Not reported	National survey	Aged 18 and older	Not reported
Lekoubou 2020[33] Adults hospitalized with a diagnosis of epilepsy	Not reported by cannabis use status Overall Age 18 to 44: 36.6% Age 45 to 64: 35.8%	Not reported Not reported Not reported by cannabis use status Overall	National patient database	Adults aged 18 and older Discharged with a primary diagnosis of epilepsy	Not reported

Study ID Description Sample Size	Age Female Race/Ethnicity Rural/urban	Other Substance Use or Substance Use Disorders Age at First Use Comorbidities	Selection	Inclusion	Exclusion
Not reported by cannabis use status Overall 1,980,707	Age 65 to 84: 22.1% Age 85 and older: 5.4% Not reported by cannabis use status Overall 51.3% Not reported by cannabis use status Overall White: 62.6% Black: 22.0% Hispanic: 9.9% Other: 5.4% Not reported	Mean CCI: 0.5 in people with CUD and 1,0 in people without CUD			
McBain 2020[34] Adults with past year use 16,734* Overall sample States with MML: 57,152 States without MML: 64,072	Not reported by use status Overall Age 18 to 25: 14.2% states with MML; 14.1% states without MML Age 26 to 34: 16.0% states with MML; 15.7% states without MML Age 35 to 49: 24.9% states with MML; 25.1% states without MML Age 50 to 64: 25.5% states with MML; 25.6% states without MML Age 65 and older: 19.3% states with MML; 19.2% states without MML Not reported by use status Overall Female: 51.6% states with MML; 51.9% states without MML Not reported by use status Overall Hispanic, Spanish speaking: 5.9% states with MML; 3.8% states without MML Hispanic, English speaking: 13.1% states with MML; 8.7% states without MML	Not reported Not reported Not reported by use status Overall No or mild psychological distress: 76.6% states with MML; 76.5% states without MML Moderate psychological distress: 12.6% states with MML; 12.6% states without MML Severe psychological distress: 10.7% states with MML; 10.8% states without	National survey	Adults aged 18 and older	Not reported

Study ID Description Sample Size	Age Female Race/Ethnicity Rural/urban	Other Substance Use or Substance Use Disorders Age at First Use Comorbidities	Selection	Inclusion	Exclusion
	Non-Hispanic Black: 8.9% states with MML; 14.4% states without MML Non-Hispanic White: 61.1% states with MML; 68.1% states without MML Non-Hispanic Asian: 8.0% states with MML; 3.1% states without MML Non-Hispanic Other: 3.0% states with MML; 2.0% states without MML Not reported				
McCabe 2018[35] Adults with prior diagnosis of CUD 1,563 with prior CUD	Not reported for people with prior CUD Overall prior SUD Age 18 to 24: 12.7% Age 25 to 44: 42.6% Age 45 to 64: 36.1% Age 65 and older: 8.6% Not reported for people with prior CUD Overall prior SUD Female: 41.2% Not reported for people with prior CUD Overall prior SUD White: 76.3% Black: 8.3% Hispanic: 10.5% Other: 4.9% Not reported	Not reported for people with prior CUD Overall prior SUD AUD alone: 68.0% AUD and other SUD: 22.9% Nonalcohol SUD alone: 9.1% Prior or past year tobacco use disorder: 38.2% Not reported Not reported for people with prior CUD Overall prior SUD Prior or past year PTSD: 9.8% Prior or past year anxiety: 21.9% Prior or past year mood disorders: 22.0%	National survey	Adults with a prior SUD	Not reported
McCabe 2021[36] Young adults, aged 18 to 22 Not reported	Not reported Not reported Not reported Not reported	Not reported Not reported Not reported	National survey	Aged 18 to 22	Respondents who were in high school, graduated college, or had an unknown current college enrollment status were considered another cohort and

Study ID Description Sample Size	Age Female Race/Ethnicity Rural/urban	Other Substance Use or Substance Use Disorders Age at First Use Comorbidities	Selection	Inclusion	Exclusion
					excluded from most analyses
Metrik 2016[37], Metrik 2022[38] 301 veterans with lifetime use, 361 veterans with lifetime use 301 361	Mean (SD) age: 33.4 (9.5) years Mean (SD) age: 33.6 (9.4) years 16 of 301 (5.3%)* 24 of 361 (6.7%)* White: 244 of 301 (81.1%) Black or African American: 11 of 301 (3.7%) Asian: 5 of 301 (1.7%) Native Hawaiian or Pacific Islander: 2 of 301 (0.7%) Multiracial or other: 38 of 301 (12.6%) Hispanic or Latino(a): 38 of 301 (12.6%) White: 289 of 361 (80%) Black or African American: 16 of 361 (4%) Asian: 6 of 361 (2%) Native Hawaiian or Pacific Islander: 2 of 361 (1%) American Indian or Alaska Native: 2 of 361 (1%) Multiracial: 17 of 361 (4%) Other: 29 of 361 (8%) Hispanic or Latino(a): 43 of 361 (12%) Not reported	Not reported Not reported Current MDD: 46 of 301 (15.3%) Lifetime MDD: 150 of 301 (49.8%) Current PTSD: 41 of 301 (13.5%) Lifetime PTSD: 78 of 301 (25.9%) Current PTSD: 47 of 361 (13%) Lifetime PTSD: 104 of 361 (29%)	Recruited from a VA facility and mailed potential participants registered on the Roster (a database of combat veterans recently returned from military service in Iraq and Afghanistan and enrolled in the VA health care system)	At least 18 years old An Operation Enduring Freedom, Operation Iraqi Freedom, or Operation New Dawn veteran as confirmed by the Providence VHA Computerized Patient Record System Used cannabis at least once in his or her lifetime	Suicidal risk in the past 2 weeks Psychotic symptoms in the past month Score 23 or less on the Mini-Mental Status Exam Active duty at the time of the baseline assessment (due to increased likelihood of study dropout due to deployment)
Meyers 2018[39] Adults aged 18 to 65 Not reported	Not reported Not reported Not reported Not reported	Not reported Not reported Not reported	National survey	Aged 18 to 65	Not reported
Montgomery 2016[40] African American or Black people, aged 12	Age 12 to 17: 7.8% blunt users; 12.7% other users (weighted) Age 18 to 25: 7.8% blunt users; 12.7%	Past year medical use: 4.8% blunt users; 5.0% other users (weighted)	National survey	Aged 12 and older Past month use	Not reported

Study ID Description Sample Size	Age Female Race/Ethnicity Rural/urban	Other Substance Use or Substance Use Disorders Age at First Use Comorbidities	Selection	Inclusion	Exclusion
and older, with past 30-day cannabis use 935	other users (weighted) Age 26 to 34: 36.4% blunt users; 11.5% other users (weighted) Age 35 to 49: 15.6% blunt users; 18.8% other users (weighted) Age 50 and older: 5.7% blunt users; 26.1% other users (weighted) 392 of 935 (41.9%)* All African American or Black Not reported	Not reported Not reported			
Moore 2021[41] Adults with past year use (medical or recreational) 36,179	Aged 18 to 25: 10,889 of 36,179 (30.1%)* Aged 26 to 34: 8,626 of 36,179 (23.8%)* Aged 35 to 49: 7,970 of 36,179 (22.0%)* Aged 50 and older: 8,694 of 36,179 (24.0%)* 17,118 of 36,179 (47.3%)* Non-Hispanic White: 24,224 of 36,179 (67.0%)* Non-Hispanic Black: 5,049 of 36,179 (13.9%)* Hispanic: 4,571 of 36,179 (12.6%)* Other: 2,334 of 36,179 (6.4%)* Not reported	AUD: 6,249 of 36,179 (17.3%)* Nicotine dependence: 8,006 of 36,179 (22.1%)* Non-cannabis illicit drug use: 11,888 of 36,179 (32.8%)* Not reported Mean no. of chronic health conditions (SD): 0.52 (1.42)* No mental illness: 23,187 of 36,179 (64.1%)* Mild mental illness: 5,200 of 36,179 (14.4%)* Moderate mental illness: 3,708 of 36,179 (10.2%)* Serious mental illness: 4,084 of 36,179 (11.3%)*	National survey	Aged 18 and older Past year cannabis use Used health care services in the past year	Not reported
Pacek 2012[42] Adults with SUD Not reported by cannabis use status	Not reported by cannabis use status Overall (weighted) Aged 18 to 25: 34.90% Age 26 to 34: 22.14% Age 35 and older: 42.95%	Past year treatment for drugs or alcohol: 8.35% AUD: 86.99% Alcohol abuse: 50.23% Alcohol dependence: 36.76% CUD: 12.18% Cannabis abuse: 3.96%	National survey	Adults with SUD	Not reported

Study ID Description Sample Size	Age Female Race/Ethnicity Rural/urban	Other Substance Use or Substance Use Disorders Age at First Use Comorbidities	Selection	Inclusion	Exclusion
Overall 13,872	Not reported by cannabis use status Overall (weighted) 68.26% Not reported by cannabis use status Overall (weighted) White: 74.57% African American: 11.46% Hispanic: 13.96% Not reported	Cannabis dependence: 8.21% AUD and CUD: 8.75% Alcohol abuse and cannabis abuse: 1.85% Alcohol abuse and cannabis dependence: 2.08% Alcohol dependence and cannabis abuse: 1.53% Alcohol dependence and cannabis dependence: 3.29% Other SUDs: 9.25%* Not reported Not reported by cannabis use status Overall (weighted) Past year MDE: 15.67% Past year STI: 2.60			
Palmer 2009[43] Young adults aged 17 and older 813*	Not reported by use status Overall Wave 2 Age 17: 27.7%* Age 18: 7.9%* Age 19: 13.3%* Age 20: 11.1%* Age 21: 12.1%* Age 22: 12.1%* Age 23 and older: 15.8%* Not reported by use status Overall Wave 2 Female: 52.7%* Not reported by use status Overall Waves 1 and 2 Caucasian: 88.7% Mixed ethnicity: 6.7% Unknown: 1.9% Asian: 1.2% African American: 0.8%	Not reported Not reported Not reported	Part of a community-based twin sample of individuals that had completed 2 waves of assessment	Twin	Not reported

Study ID Description Sample Size	Age Female Race/Ethnicity Rural/urban	Other Substance Use or Substance Use Disorders Age at First Use Comorbidities	Selection	Inclusion	Exclusion
	Native American: 0.5% Pacific Islander: 0.2% Not reported				
Park 2017[44] Adults with past year use 15,440	Age 18 to 25: 36.0% Age 26 to 34: 25.3% Age 35 to 49: 19.9% Age 50 and older: 18.8% 39.1% Non-Hispanic White: 68.1% Non-Hispanic Black: 13.8% American Indian or Alaska Natives: 0.8% Native Hawaiian, Pacific Islander, or Asian: 2.44% More than 1 race: 2.7% Hispanic: 12.2% Not reported	Not reported Not reported Not reported overall In the recreational only use group (the largest), past year behavioral health disorder MDE: 20.4% AUD: 20.2% Opioid pain reliever use disorder: 3.6% Cocaine use disorder: 4.9% Tranquilizer use disorder: 1.8% Hallucinogen use disorder: 1.7% Stimulant use disorder: 1.5% Tranquilizer use disorder: 1.8% Heroin use disorder: 2.4% Sedative use disorder: 0.4% Inhalant use disorder: 0.3% Illicit drug use disorder: 24.2% Illicit drug other than cannabis use disorder: 9.4% Illicit drug use or AUD disorder: 37.3%	National survey	Aged 18 and older Past year use	Not reported
Park 2021[45] Adults who are deaf or hard of hearing Not reported	Not reported by cannabis use status Overall Age 18 to 34: 9.0% with hearing loss; 31.1% with no hearing loss Age 35 to 49: 9.9% with hearing loss; 25.5% with no hearing loss Age 50 and older: 81.1% with hearing loss; 43.4% with no hearing loss Not reported by cannabis use status Overall	Not reported Not reported Not reported by cannabis use status Overall ADL: 41.1% with hearing loss; 12.8% with no hearing loss IADL: 16.7% with hearing loss; 4.6% with no hearing loss	National survey	Aged 18 and older	Not reported

Study ID Description Sample Size	Age Female Race/Ethnicity Rural/urban	Other Substance Use or Substance Use Disorders Age at First Use Comorbidities	Selection	Inclusion	Exclusion
	Female: 42.6% with hearing loss; 52.3% with no hearing loss Not reported by cannabis use status Overall White: 76.8% with hearing loss; 63.1% with no hearing loss Black: 6.4% with hearing loss; 12.2% with no hearing loss Hispanic: 11.1% with hearing loss; 16.3% with no hearing loss Other: 5.8% with hearing loss; 8.4% with no hearing loss Not reported by cannabis use status Overall Urban:79.6% with hearing loss; 86.2% with no hearing loss Rural: 20.4% with hearing loss; 13.8% with no hearing loss	MDE: 8.3% with hearing loss; 71% with no hearing loss			
Richter 2017[46] Adults aged 21 and older 55,271	Not reported Not reported Not reported Not reported	Not reported Not reported Not reported	National survey	Aged 12 and older	Not reported
Salas-Wright 2019[47] US-born and foreign-born adults reporting prior year cannabis use 3,424 in total	Not reported by cannabis use status Overall Age 18 to 25: 25.17% US-born; 12.88% foreign-born Age 26 to 49: 12.42% US-born; 2.77% foreign-born Age 50 and older: 4.28% US-born; 1.24% foreign-born Not reported	Not reported Not reported Not reported	National survey with in-person interviews (NESARC III)	Civilian, non-institutionalized adults Aged 18 and older	Not reported

Study ID Description Sample Size	Age Female Race/Ethnicity Rural/urban	Other Substance Use or Substance Use Disorders Age at First Use Comorbidities	Selection	Inclusion	Exclusion
US-born: 3,211 of 29,896 (10.7%; 95% CI, 10.2 to 11.4)* Foreign born: 213 of 6,404 (3.3%; 95% CI, 2.8 to 3.9)*	Overall Female: 7.78% US-born; 2.41% foreign-born For foreign-born only, region of origin Africa: 193 of 6,404 (3.02%; 95% CI, 1.30 to 6.60)* Latin America: 193 of 6,404 (3.01%; 95% CI, 2.40 to 3.70)* Europe: 513 of 6,404 (8.01%; 95% CI, 5.90 to 10.70)* Asia: 90 of 6,404 (1.40%; 95% CI, 2.40–3.70)* Not reported				
Schuermeyer 2014[48] People aged 12 and older Not reported	Not reported Not reported Not reported Not reported	Not reported Not reported Not reported	National survey	Aged 12 and older	Not reported
Schulenberg 2015[49] and Patrick 2011[50] Adults with past 5-year use 5,618*	All aged 35 Female: 32.1% CUD; 46.4% nondisordered use White: 73.7% CUD; 78.9% nondisordered use African American: 13.7% CUD; 9.4% nondisordered use Hispanic: 6.5% CUD; 5.4% nondisordered use Other: 6.1% CUD; 6.4% nondisordered use Not reported	Not reported Not reported Not reported	National survey	Aged 35	Not reported
Shi 2014[51]	Not reported by cannabis status Overall (weighted) Age 18 to 25: 14.74%	Not reported Not reported	National survey	Adults aged 18 and older	Not reported

Study ID Description Sample Size	Age Female Race/Ethnicity Rural/urban	Other Substance Use or Substance Use Disorders Age at First Use Comorbidities	Selection	Inclusion	Exclusion
Adults with depression or serious psychological illness Not reported	Age 26 to 34: 15.65% Age 35 to 49: 26.35% Age 50 to 64: 25.92% Age 65 and older: 17.31% Not reported by cannabis status Overall (weighted) 48.0% Not reported by cannabis status Overall (weighted) Non-Hispanic White: 66.73% Non-Hispanic Black:/Asian/other race: 18.65% Hispanic: 14.60% Not reported	Not reported by cannabis status Overall (weighted) Health status Excellent: 23.16% Very good: 36.10% Good: 27.00% Fair/poor: 13.72%			
Sonon 2016[52] Adults, aged 22, with lifetime use 289 of 590 (49.0%)* with past year use	Not reported by cannabis use status Overall Mean (SD): 22.8 (0.7) years Not reported by cannabis use status Overall Female: 52.9* Not reported by cannabis use status Overall African American: 57% Not reported	Not reported by cannabis use status Overall Any past year cannabis use: 48.9% Any past year other illicit drug use: 13.4% Any past year alcohol use: 48.9% Any past year cigarette use: 48.9% Any past year cocaine use: 48.9% Not reported by cannabis use status Overall Initiation at under 16 years: 50.5% Not reported	Women were recruited from a prenatal clinic from 1982 to 1985	English speaking At least 18 years of age In the fourth or fifth gestational month	Not reported
Vasilenko 2017[53] Adults Not reported by cannabis status	Not reported by cannabis status Overall Mean (SD): 45.6 (17.5) years Not reported by cannabis status Overall 56%*	Not reported Not reported Not reported	National survey	Not reported	Not reported

Study ID Description Sample Size	Age Female Race/Ethnicity Rural/urban	Other Substance Use or Substance Use Disorders Age at First Use Comorbidities	Selection	Inclusion	Exclusion
Overall 36,309	Not reported by cannabis status Overall White: 53% Black: 21% Hispanic/Latino: 19% Other: 6% Not reported				
Verplaetse 2018[54] Adults aged 18+ Not reported by cannabis use status Overall 36,309	Not reported by cannabis use status Overall Age 18 to 29: 22.9% men; 21.9% women Age 30 to 44: 27.5% men; 28.2% women Age 45 and older: 49.5% men; 49.9% women Not reported Not reported by cannabis use status Overall Caucasian: 53.9% men; 52.0% women African American: 19.9% men; 22.6% women Native American: 1.3% men; 1.5% women Asian: 5.4% men; 4.6% women Hispanic: 19.5% men; 19.3% women Not reported	Not reported by cannabis use status Overall AUD: 35.2% men; 21.6% women* TUD: 31.7% men; 23.1% women* CUD: 8.6% men; 4.3% women* OUD: 2.1% men; 1.8% women* Not reported Not reported by cannabis use status Overall 0 or 1 stressful life event: 57.8% men; 58.1% women 2 or more stressful life events: 42.2% men; 41.9% women	National survey with in-person interviews	Noninstitutionalized men and women Aged 18 years and older	Not reported
Vijapur 2021[55] Adults who binge drink 42,592	Not reported by cannabis use status Overall Age 12 to 17: 54,866 of 226,632 (9.20%) Age 18 to 25: 55,690of 226,632 (12.73%) Age 26 to 34: 35.415 of 226,632 (14.47%) Age 35 and older: 80,661 of 226,632 (63.60%)	Not reported Not reported Not reported	National survey	Aged 12 and older	Not reported

Study ID Description Sample Size	Age Female Race/Ethnicity Rural/urban	Other Substance Use or Substance Use Disorders Age at First Use Comorbidities	Selection	Inclusion	Exclusion
	Not reported by cannabis use status Overall Female: 118,763 of 226,632 (51.51%) Not reported by cannabis use status Overall Non-Hispanic White: 132,807 of 226,632 (63.04%) Non-Hispanic Black: 28,842 of 226,632 (12.01%) Hispanic: 41,547 of 226,632 (16.64%) Other: 23,436 of 226,632 (8.30%) Not reported				
Waddell 2021[56] Adults and children, aged 12 to 17, who use alcohol, cannabis, or both 176,686 past year cannabis users 161,318 of 176,686 (91.3%) past year cannabis and alcohol users [1,005,421 overall sample]	Marginal covariate distribution Cannabis users Aged 12 to 17: 45.2% Aged 18 to 25: 28.0% Aged 26 to 35: 8.5% Aged 36 to 49: 11.9% Aged 50 and older: 6.4% Cannabis and alcohol co-users Aged 12 to 17: 20.3% Aged 18 to 25: 53.1% Aged 26 to 35:13.1% Aged 36 to 49: 10.2% Aged 50 and older: 3.3% Cannabis users Range, 2002 to 2019 Aged 12 to 17: 15.0% to 28.8% Aged 18 to 25: 41.4% to 56.6% Aged 26 to 35: 8.2% to 19.8% Aged 36 to 49: 7.0% to 17.2% Aged 50 and older: 1.1% to 9.0% Cannabis and alcohol co-users Range, 2002 to 2019	Not reported Not reported Not reported	National survey	US civilians Age 12 or older	Institutionalized

Study ID Description Sample Size	Age Female Race/Ethnicity Rural/urban	Other Substance Use or Substance Use Disorders Age at First Use Comorbidities	Selection	Inclusion	Exclusion
	Aged 12 to 17: 12.2% to 26.9% Aged 18 to 25: 43.1% to 58.8% Aged 26 to 35: 8.4% to 21.1% Aged 36 to 49: 7.1% to 17.3% Aged 50 and older: 1.1% to 8.0% Marginal covariate distribution Cannabis users: 40.2% Cannabis and alcohol co-users: 45.4% Cannabis users Range, 2002 to 2019: 42.9% to 48.0% Cannabis and alcohol co- users Range, 2002 to 2019: 43.3% to 48.6% Marginal covariate distribution Cannabis users White: 49.5% Ethnic/racial minority: 50.5% Cannabis and alcohol co-users White: 65.5% Ethnic/racial minority: 34.5% Overall Non-Hispanic White: 61.8 % Non-Hispanic Black/African American: 12.7 % Non-Hispanic Asian: 3.8 % Non-Hispanic multiracial: 3.3 % Non-Hispanic Native American/Alaskan Native: 1.5 % .5% Non-Hispanic Hawaiian/Pacific Islander: 0.5% Hispanic: 16.5 % Ethnic/racial minority Cannabis users Range, 2002 to 2019: 27.0% to 41.1% Cannabis and alcohol co- users Range, 2002 to 2019: 26.0% to 39.7%				

Study ID Description Sample Size	Age Female Race/Ethnicity Rural/urban	Other Substance Use or Substance Use Disorders Age at First Use Comorbidities	Selection	Inclusion	Exclusion
	Not reported				
Wall 2019[57] Adults aged 18+ who used cannabis medically, recreationally, or both Nonmedical cannabis use only: 3,339 Medical cannabis use only: 82 Combined nonmedical and medical cannabis use: 362 (Total sample N=36,309)	Younger than age 50 Nonmedical cannabis use only: 2,733 of 3,339 (83.1%; SE, 0.85) Medical cannabis use only: 49 of 82 (52.3%; SE, 6.25) Combined nonmedical and medical cannabis use: 273 of 362 (74.8%; SE, 3.37) Age 50 or over Nonmedical cannabis use only: 606 of 3,339 (16.9%; SE, 0.85) Medical cannabis use only: 33 of 82 (47.7%; SE, 6.25) Combined nonmedical and medical cannabis use: 89 of 362 (25.2%; SE, 3.37) Nonmedical cannabis use only: 1,384 of 3,339 (37.9%; SE, 1.18) Medical cannabis use only: 34 of 82 (41.2%; SE, 6.57) Combined nonmedical and medical cannabis use: 136 of 362 (36.3%; SE, 3.3) (%; SE) White, non-Hispanic Nonmedical cannabis use only: 1,726 of 3,339 (65.7%; 1.39) Medical cannabis use only: 54 of 82 (65.8%; 4.87)* Combined nonmedical and medical cannabis use: 196 of 362 (62.5%; 2.99) Other 166 37.51(2.99) Nonmedical cannabis use only: 1,613 of 3,339 (34.3%; 1.49) Medical cannabis use only: 28 of 82 (34.17%; 4.87)*	Nonmedical prescription OUD Nonmedical cannabis use only: 136 of 3,339 (4.4%; SE, 0.41) Medical cannabis use only: 0 of 82 (0; 0) Combined nonmedical and medical cannabis use: 20 of 362 (6.2%; SE, 1.46) AUD Nonmedical cannabis use only: 1,537 of 3,339 (47.9%; SE, 1.25) Medical cannabis use only: 19 of 82 (19.7%; SE, 4.31) Combined nonmedical and medical cannabis use: 158 of 362 (42.6%; SE, 3.19) Other SUD (cocaine, heroin, stimulant, sedatives, inhalants, club drugs, and hallucinogens) Nonmedical cannabis use only: 219 of 3,339 (6.9%; SE, 0.55) Medical cannabis use only: 2 of 82 (1.2%; SE, 1.23) Combined nonmedical and medical cannabis use: 35 of 362 (8.9%; SE, 2.02) Not reported Pain interference in past 4 weeks Nonmedical cannabis use only: 713 of 3,339 (19.7%; SE, 0.93) Medical cannabis use only: 38 of 82 (52.5%; SE, 6.98) Combined nonmedical and medical cannabis use: 126 of 362 (35.8%; SE, 2.37) Arthritis in past 12 months Nonmedical cannabis use only: 340 of 3,339 (9.1%; SE, 0.61) Medical cannabis use only: 26 of 82 (26.1%; SE, 5.35)	National survey, in-person interviews	Adults age ≥18 years Past-year medical and/or nonmedical cannabis use	Not reported

Study ID Description Sample Size	Age Female Race/Ethnicity Rural/urban	Other Substance Use or Substance Use Disorders Age at First Use Comorbidities	Selection	Inclusion	Exclusion
	Combined nonmedical and medical cannabis use: 166 of 362 (37.5%; 2.99) Not reported	Combined nonmedical and medical cannabis use: 79 of 362 (23.3%; SE, 3.19) Nerve problems (combines fibromyalgia, reflex sympathetic dystrophy [RDS] or Complex Regional Pain Syndrome [CRPS], and any other nerve problem in your legs, arms or back) as diagnosed by a doctor or other health professional in last 12 months Nonmedical cannabis use only: 322 of 3,339 (9.7%; SE, 0.66) Medical cannabis use only: 19 of 82 (27.5%; SE, 6.70) Combined nonmedical and medical cannabis use: 71 of 362 (21.1%; SE, 1.98) Insomnia as diagnosed by a doctor or other health professional in last 12 months Nonmedical cannabis use only: 247 of 3,339 (6.8%; SE, 0.48) Medical cannabis use only: 19 of 82 (26.2%; SE, 6.63) Combined nonmedical and medical cannabis use: 55 of 362 (17.4%; SE, 2.79) Anxiety disorder per AUDADIS Nonmedical cannabis use only: 630 of 3,339 (19.4%; SE, 1.04) Medical cannabis use only: 17 of 82 (18.2%; SE, 4.96) Combined nonmedical and medical cannabis use: 95 of 362 (30.5%; SE, 2.96) PTSD per AUDADIS Nonmedical cannabis use only: 337 of 3,339 (10.0%; SE, 0.83) Medical cannabis use only: 14 of 82 (10.4%; SE, 2.94) Combined nonmedical and medical cannabis use: 54 of 362 (15.9%; SE, 2.42) Mood disorder per AUDADIS Nonmedical cannabis use only: 787 of			

Study ID Description Sample Size	Age Female Race/Ethnicity Rural/urban	Other Substance Use or Substance Use Disorders Age at First Use Comorbidities	Selection	Inclusion	Exclusion
		3,339 (23.9%; SE, 1.00) Medical cannabis use only: 21 of 82 (23.6%; SE, 6.54) Combined nonmedical and medical cannabis use: 100 of 362 (27.9%; SE, 2.28)			
Wu 2014[58] People, aged 12 and older, with past year use Not reported by cannabis use status Overall 394,499	Not reported by cannabis use status Overall Age 12 to 17: 8.68% White; 12.66% Black; 11.50% Native American; 10.13% Native Hawaiian or Pacific Islander; 9.62% Asian American; 16.33% Mixed race; 13.56% Hispanic Age 18 to 25: 11.92% White; 15.67% Black; 15.92% Native American; 16.77% Native Hawaiian or Pacific Islander; 14.02% Asian American; 15.50% Mixed race; 17.37% Hispanic Age 26 to 34: 12.52% White; 15.35% Black; 14.51% Native American; 18.08% Native Hawaiian or Pacific Islander; 18.83% Asian American; 13.96% Mixed race; 20.39% Hispanic Age 35 to 49: 25.00% White; 26.10% Black; 24.17% Native American; 32.86% Native Hawaiian or Pacific Islander; 29.51% Asian American; 19.60% Mixed race; 27.28% Hispanic Age 50 to 64: 24.14% White; 19.54% Black; 22.55% Native American; 18.11% Native Hawaiian or Pacific Islander; 18.01% Asian American; 20.85% Mixed race; 14.17% Hispanic Age 65 and older: 17.73% White; 10.67% Black; 11.35% Native American; 4.06% Native Hawaiian or Pacific Islander; 10.01%	Not reported Not reported Not reported	National survey	Aged 12 and older	Not reported

Study ID Description Sample Size	Age Female Race/Ethnicity Rural/urban	Other Substance Use or Substance Use Disorders Age at First Use Comorbidities	Selection	Inclusion	Exclusion
	Asian American; 13.77% Mixed race; 7.23% Hispanic Not reported by cannabis use status Overall Female: 51.40% White; 54.56% Black; 53.08% Native American; 50.54% Native Hawaiian or Pacific Islander; 52.46% Asian American; 52.73% Mixed race; 48.81% Hispanic Not reported by cannabis use status Overall White: 62.9%* Black: 12.7%* Native American: 1.5%* Native Hawaiian or Pacific Islander: 0.5%* Asian American: 3.5%* Mixed race: 3.1%* Hispanic: 15.9* Not reported				
Wu 2016[59] Adults with past year use White: 43,348 Black: 8,946 Native American: 1,394 Native Hawaiian or Pacific Islander: 338 Asian American: 1,258 Mixed race: 2,626 Hispanic: 8,079	Not reported by cannabis use status Overall Age 18 to 25: 14.76% Age 26 to 34: 15.84% Age 35 to 49: 27.83 Age 50 and older: 41.58% Not reported Not reported by cannabis use status Overall 51.78% White: 43,348 of 65,989 (65.7%)* Black: 8,946 of 65,989 (13.5%)* Native American: 1,394 of 65,989 (2.1%)* Native Hawaiian or Pacific Islander: 338 of 65,989 (0.5%)*	Not reported Not reported Not reported	National survey	Aged 18 and older	Not reported

Study ID Description Sample Size	Age Female Race/Ethnicity Rural/urban	Other Substance Use or Substance Use Disorders Age at First Use Comorbidities	Selection	Inclusion	Exclusion
	Asian American: 1,258 of 65,989 (1.9%)* Mixed race: 2,626 of 65,989 (4.0%)* Hispanic: 8,079 of 65,989 (12.2%)* Not reported				

Abbreviations. AUD: alcohol use disorder; AUDADIS: Alcohol Use Disorder And Associated Disabilities Interview Schedule; CUD: cannabis use disorder; DUD: drug use disorder; DUI: driving under the influence; MDD: major depressive disorder; GAD; general anxiety disorder; IQ: intelligence quotient; MDE: major depressive episode; MML: medical marijuana law; OUD: opioid use disorder; PTSD: posttraumatic stress disorder; SD: standard deviation; SE: standard error; SUD: substance use disorder; TUD: tobacco use disorder; US: United States.

Table E2c. Summary Characteristics of Included Studies

Study ID	Risk	Adjusted
Agrawal 2017[1] and Johnson 2019[60]	aOR (95% CI) cannabis dependence Model 1 Suicidal ideation (vs. reference, no ideation): 3.25 (2.67 to 3.96) Suicide attempt (vs. reference, no attempt): 2.50 (1.79 to 3.49) Model 2 Suicidal ideation (vs. reference, no ideation): 2.22 (1.74 to 2.82) Suicide attempt (vs. reference, no attempt): 1.47 (1.02 to 2.13) However, in other models, suicide attempt but not suicidal ideation continued to be significantly associated with the onset of dependence Suicidal ideation did not predict an increase in the odds of cannabis dependence overall, but there was a significant effect by gender (male) Suicide attempt predicts an increased odds of cannabis dependence overall, but there was a significant effect by gender (male) People in the high and moderate trajectories were significantly more likely to have CUD OR: 127.14 (95% CI, 41.19 to 392.41) high vs. no to low OR: 2.45 (95% CI, 1.39 to 4.31) high vs. moderate OR: 39.73 (95% CI, 19.40 to 81.37) moderate vs. no to low	Model 1 Gender, race, Hispanic, age Model 2 All covariates
Boyd 2020[2]	OR (95% CI) Sexual identity (vs. reference, heterosexual) Heterosexual (medical use): 14.0 (10.3 to 19.1) mild CUD; 16.2 (11.2 to 23.5) moderate CUD; 7.01 (4.03 to 12.1) severe CUD Sexual minority: 2.62 (1.79 to 3.83) mild CUD; 3.44 (2.05 to 5.78) moderate CUD; 2.03 (1.10 to 3.76) severe CUD Sexual minority (medical use): 8.67 (3.56 to 21.1) mild CUD; 20.1 (7.38 to 55.2) moderate CUD; 33.4 (11.2 to 98.9) severe CUD Lesbian/gay: 2.07 (1.12 to 3.82) mild CUD; 2.66 (1.13 to 6.26) moderate CUD; 0.73 (0.17 to 3.14) severe CUD Lesbian/gay (medical use): 15.0 (4.45 to 50.9) mild CUD; 12.9 (2.87 to 58.4) moderate CUD; 17.8 (3.77 to 83.8) severe CUD Bisexual: 3.13 (1.80 to 5.43) mild CUD; 5.10 (2.73 to 9.52) moderate CUD; 2.75 (1.28 to 5.88) severe CUD	Age Sex Educational level Race Past-year DSM-5 AUD (2 or more symptoms) Past-year DSM-5 tobacco use disorder (2 or more symptoms).

Study ID	Risk	Adjusted
	Bisexual (medical use): 6.36 (1.74 to 23.2) mild CUD; 23.6 (5.32 to 104.6) moderate CUD; 32.5 (8.75 to 121.1) severe CUD Not sure: 2.91 (0.92 to 9.28) mild CUD; 1.45 (0.47 to 4.47) moderate CUD; 4.02 (1.12 to 14.4) severe CUD Not sure (medical use): no mild CUD; 31.0 (3.37 to 284.9) moderate CUD; 115.5 (13.4 to 992.3) severe CUD aOR (95% CI) Sexual identity (vs. reference, heterosexual) Heterosexual (medical use): 6.69 (4.52 to 9.90) mild CUD; 6.07 (3.93 to 9.37) moderate CUD; 1.95 (1.04 to 3.66) severe CUD Sexual minority: 1.65 (0.91 to 2.14) mild CUD; 1.52 (0.88 to 2.65) moderate CUD; 0.85 (0.46 to 1.56) severe CUD Sexual minority (medical use): 3.95 (1.49 to 10.4) mild CUD; 7.21 (2.13 to 24.4) moderate CUD; 13.2 (4.20 to 41.6) severe CUD Lesbian/gay: 1.30 (1.80 to 2.53) mild CUD; 1.51 (0.62 to 3.72) moderate CUD; 0.36 (0.08 to 1.61) severe CUD Lesbian/gay (medical use): 8.83 (2.39 to 32.5) mild CUD; 4.79 (0.68 to 33.7) moderate CUD; 5.95 (0.88 to 40.1) severe CUD Bisexual: 1.36 (0.74 to 2.49) mild CUD; 1.78 (0.88 to 3.63) moderate CUD; 0.91 (0.37 to 2.21) severe CUD Bisexual (medical use): 2.87 (0.71 to 11.5) mild CUD; 9.86 (1.99 to 48.6) moderate CUD; 16.2 (3.80 to 69.6) severe CUD Not sure: 1.76 (0.48 to 6.48) mild CUD; 0.67 (0.21 to 2.15) moderate CUD; 2.09 (0.59 to 7.45) severe CUD Not sure (medical use): no mild CUD; 5.69 (0.27 to 121.6) moderate CUD; 27.0 (4.16 to 175.5) severe CUD	
Browne 2022[3]	Any past 12-month use (n=272) Medical marijuana law by 2012 (compared with no medical marijuana law in 2012) model 1: aOR, 2.37 (95% CI, 1.29 to, 4.38) Medical marijuana law by 2012 (compared with no medical marijuana law in 2012) model 2: aOR, 2.68 (95% CI, 1.09 to 6.60) CUD in past 12-month users Males (compared with females): aOR, 10.63 (95% CI, 2.69 to 42.06) Aged 18 to 29 (compared with age 45 to 64): aOR, 2.94 (95% CI, 0.83 to 10.37) Aged 30 to 44 (compared with age 45 to 64): aOR, 2.79 (95% CI, 1.29 to 6.00)	For demographic variables ORs adjusted for sex, age, race/ethnicity, education, marital status, employment status, family income, and urbanicity. For state medical marijuana laws Model 1: Odds ratios are adjusted for sex, age, race/ethnicity, education, marital status, employment status, family income, and urbanicity. Model 2: Additionally adjusted for state-level variables, including percent male, percent White, percent younger than age 30, and percent age 25 and older without a .high school diploma.

Study ID	Risk	Adjusted
	Black (compared with White): aOR, 1.39 (95% CI, 0.62 to 3.13) Hispanic (compared with White): aOR, 1.00 (95% CI, 0.36 to 2.77) Other (compared with White): aOR, 1.72 (95% CI, 0.64 to 4.62) Urban (compared with rural): aOR, 1.16 (95% CI, 0.54 to 2.51) aOR (95% CI) CUD by disorder (vs. reference, no disorder) AUD: 5.87 (3.33 to 10.34) OUD: 2.85 (0.58 to 14.03) DUD: 2.57 (0.63 to 10.51) TUD: 2.09 (1.12 to 3.93) Any mood disorder: 4.37 (2.16 to 8.82) Any anxiety disorder: 2.99 (1.52 to 5.90) PTSD: 2.05 (0.80 to 5.27) CUD in lifetime users Males (compared with females): aOR, 2.26 (95% CI, 1.19 to 4.29) Aged 18 to 29 (compared with age 65+): aOR, 11.75 (95% CI, 3.95 to 34.95) Aged 30 to 44 (compared with age 65+): aOR, 11.68 (95% CI, 5.82 to 23.41) Aged 45 to 64 (compared with age 65+): aOR, 7.11 (95% CI, 3.83 to 13.21) Black (compared with White): aOR, 0.75 (95% CI, 0.48 to 1.16) Hispanic (compared with White): aOR, 0.44 (95% CI, 0.21 to 0.94) Other (compared with White): aOR, 2.08 (95% CI, 1.09 to 3.97) Urban (compared with rural): aOR, 1.23 (95% CI, 0.78 to 1.96) aOR (95% CI) CUD by disorder (vs. reference, no disorder) AUD: 5.79 (3.89 to 8.62) OUD: 7.48 (3.38 to 16.55) DUD: 7.58 (4.74 to 12.14) TUD: 3.74 (2.40 to 5.82) Any mood disorder: 3.95 (2.66 to 5.88) Any anxiety disorder: 3.27 (2.11 to 5.08)	

Study ID	Risk	Adjusted
	Any personality disorder: 4.58 (3.27 to 6.41) PTSD: 2.82 (1.78 to 4.48)	
Callaghan 2020[4]	OR (95% CI) Quantity of cannabis used: 1.98 (1.64 to 2.39); *P* < .001 Frequency of use: 1.78 (1.62 to 1.96); *P* < .001 Quantity*frequency: 0.83 (0.75 to 0.93); *P* < .005 The quantity-by-frequency interaction showed that the relative effect of quantity on CUD decreased as frequency increased, and vice versa Age: 0.45 (0.26 to 0.76); *P* < .005 Age-squared: 1.35 (1.03 to 1.77); P, NS Age-cubed: 0.96 (0.93 to 1.00); P, NS Female: 1.01 (0.81 to 1.26); P, NS	Final model: Controlled for quantity, age-of-onset of cannabis use, frequency, and sex
Campbell 2020[5]	Model 1 aOR (95% CI) Psychiatric Diagnosis (vs. reference, no diagnosis) Depression: 1.08 (1.04 to 1.13); *P* < .001 Anxiety: 1.16 (1.11 to 1.21); *P* < .001 Bipolar: 1.16 (1.10 to 1.23); *P* < .001 Schizophrenia: 1.62 (1.48 to 1.78); *P* < .001 PTSD: 1.00 (0.94 to 1.08); P, NS Gender (vs. reference, female) Male: 0.77 (0.73 to 0.81); *P* < .001 Age at first use (vs. reference, age 18 to 24); *P* < .001 for all Age 25 to 34: 1.37 (1.26 to 1.48) Age 35 to 44: 1.60 (1.46 to 1.75) Age 45 to 54: 1.77 (1.60 to 1.96) Age 55 to 64: 2.00 (1.79 to 2.23) Age 65 and older: 3.95 (3.45 to 4.52) Race/ethnicity (vs. reference, Hispanic); *P* < .001 for all Non-Hispanic White: 0.57 (0.52 to 0.63) Non-Hispanic Black: 0.56 (0.49 to 0.64) Non-Hispanic Other: 0.77 (0.69 to 0.86)	Model 1: patient characteristics Model 2: age at first report of cannabis use during study period, race/ethnicity, FPL percentage, primary insurance payer, clinic state, number of visits over the study period, substance abuse, and smoking status

Study ID	Risk	Adjusted
	Unknown: 0.67 (0.59 to 0.76) SUD (vs. reference, no SUD); *P* < .001 for all OUD: 1.59 (1.48 to 1.71) AUD: 1.47 (1.37 to 1.59) Other SUD: 1.33 (1.25 to 1.42) Smoking status (vs. reference, not smoker) Smoker: 0.69 (0.65 to 0.73); *P* < .001 Gender (vs. reference, female) Male: 0.73 (0.68 to 0.78); 0.73 (0.69 to 0.78); *P* < .001 for both Depression*Sex interaction: 1.14 (1.06 to .1.23); *P* < .001 Anxiety*Sex interaction: 1.13 (1.06 to .1.22); *P* < .001 Among females, odds of CUD for patients with and without a depression diagnosis: 1.01 (0.96 to 1.07) Among males, odds of CUD for patients with and without a depression diagnosis: 1.15 (1.09 to 1.22) Among females, odds of CUD for patients with and without an anxiety diagnosis: 1.09 (1.03 to 1.15) Among males, odds of CUD for patients with and without an anxiety diagnosis: 1.23 (1.16 to 1.31)	
Choi 2016[6]	12-item Interpersonal Support Evaluation List (ISEL-12) total score (assesses perceived availability of resources that other people can provide to buffer the negative effects of stress; lower score indicates less interpersonal support) Total score Past-year users with CUD (vs. past-year users without CUD): 39.45 (SE, 0.35) vs. 41.66 (SE, 0.08); *P* < .001	Not reported.
Choi 2017[7]	OR (95% CI) Model 1 Medical use (vs. reference, nonmedical use): 1.87 (1.40 to 2.50) Model 2a Medical use (vs. reference, nonmedical use): 1.88 (1.40 to 2.53) Model 2b Medical use (vs. reference, nonmedical use): 1.86 (1.40 to 2.48)	All models Cancer, sleep disorder, arthritis, heart disease

Study ID	Risk	Adjusted
	Model 2c Medical use (vs. reference, nonmedical use): 1.87 (1.41 to 2.49) CUD in medical users aged 18 to 29: 72 of 141 (50.7%; SE, 4.35)* CUD in medical users aged 30 to 49: 59 of 182 (32.1%; SE, 3.59)* CUD in medical users aged 50 and older: 18 of 122 (15.0%; SE, 3.40)*	
Choi 2017[8]	People who used cannabis for nonmedical reasons had similar levels of CUD to people who used both cannabis and pain relievers for nonmedical reasons (past year CUD, 17.4% vs. 18.5%; lifetime CUD, 27.4% vs. 23.6%) OR (95% CI) of CUD OUD (vs. reference, no OUD): 2.95 (1.11 to 7.79)	Not reported
Choi 2018[9]	OR (95% CI) Any medical use (vs. reference, nonmedical use): 1.39 (0.80 to 2.41) In past year users, people with CUD used more frequently than people who did not have CUD (use on 300 days or more, 36.6% vs. 15.7%; $P < .001$). In past year users, people with CUD had higher levels of alcohol abuse or dependence than people who did not have CUD (24.3% vs. 13.3%; $P = .02$). In past year users, people with CUD had higher levels of nicotine dependence than people who did not have CUD (17.4% vs. 12.6%; $P < .001$).	Not reported
Choi 2021[10]	aOR (95% CI) Aged 65 and older (vs. reference, age 50 to 64): 0.38 (0.13 to 1.11) Male (vs. reference, female): 1.31 (0.76 to 2.26) Race/ethnicity (vs. reference, non-Hispanic White) Non-Hispanic Black: 1.30 (0.57 to 2.98) Hispanic: 1.30 (0.43 to 3.88) Other: 3.11 (1.18 to 8.22) Age at first use under 19 years (vs. reference, 19 and older): 1.08 (0.56 to 2.06) No. of medical conditions: 0.99 (0.76 to 1.28) Past year MDD (vs. reference, no MDD): 1.36 (0.65 to 2.85)	Not reported

Study ID	Risk	Adjusted
	Past year nicotine dependence (vs. reference, no dependence): 0.76 (0.43 to 1.34) Past year AUD (vs. reference, no AUD): 2.25 (1.11 to 4.57) Past year illicit drug use, other than cannabis (vs. reference, no use): 4.17 (2.08 to 8.36) Alcohol or drug treatment in lifetime (vs. reference, no treatment): 2.16 (1.21 to 3.85) More frequent use of cannabis in past year, 100 to 365 days (vs. reference, 1 to 99 days or missing): 5.80 (2.46 to 13.70) Initiation/reinitiation in past year (vs. reference, continued use in past 24 months): 1.21 (0.53 to 2.77) Any medical use (vs. reference, recreational use only): 1.84 (0.90 to 3.76)	
Compton 2016[11]	aRR (95% CI) CUD in adult users Age (vs. reference, age 50 and older) Age 18 to 29: 1.8 (1.54 to 2.08) Age 30 to 49: 1.2 (1.06 to 1.45) Men (vs. reference, women): 1.2 (1.14 to 1.25) Race/ethnicity (vs. reference, non-Hispanic White) Non-Hispanic Black: 1.4 (1.33 to 1.49) Non-Hispanic Native American or Alaska Native: 1.2 (1.01 to 1.46) Non-Hispanic Hawaiian or other Pacific Islander: 1.0 (0.76 to 1.30) Non-Hispanic Asian: 1.3 (1.10 to 1.49) Non-Hispanic more than 1 race: 1.2 (1.03 to 1.36) Hispanic: 1.3 (1.20 to 1.37) Substance use (vs. reference, no use) Tobacco: 1.1 (1.03 to 1.14) Alcohol: 1.8 (1.69 to 1.85) Cocaine: 1.5 (1.37 to 1.64) Hallucinogen: 2.1 (1.83 to 2.34) Heroin: 0.9 (0.71 to 1.05) Inhalant: 1.7 (1.16 to 2.45) Nonmedical prescription opioids: 1.7 (1.53 to 1.81) Nonmedical sedative: 1.8 (1.48 to 2.03) Nonmedical stimulant: 1.5 (1.31 to 1.77)	All the factors as well as the survey year and perceived risk of marijuana use

Study ID	Risk	Adjusted
	Age at first use (vs. reference, age 18 to 29) Age under 18: 1.2 (1.18 to 1.32) Age 30 and older: 1.2 (0.64 to 2.20)	
Copeland 2017[12]	Higher rates of DSM-5 CUD in men compared with women (23.2% vs. 12.3% Non-American Indians; 28.4% vs. 11.5% American Indians; *P* = .002) Higher rates of DSM-IV abuse or dependence in men compared with women (28.5% vs. 12.1% in Non-American Indians; 25.7% vs. 16.3% American Indians; *P* < .001) No differences between rates of CUD or abuse or dependence by race or ethnicity. People who met criteria for DSM-5 CUD initiated cannabis use younger than those who never met full CUD criteria (median 13.3 vs. 15.5 years, *P* < .001). In people with DSM-5 CUD, mean age at onset of CUD was significantly younger for women compared with men (19.0 years vs. 19.5 years Non-American Indians; 19.1 years vs. 19.4 years American Indians; *P* = .001) In people with DSM-IV abuse or dependence, mean age at onset of abuse or dependence was significantly younger for women compared with men (19.2 years vs. 20.1 years Non-American Indians; 16.1 years vs. 19.8 years American Indians; *P* < .001) No differences in age at onset by race or ethnicity.	Not reported
Enkema 2021[13]	Pain interference was assessed with a single, self-reported item in the NESARC, and information on pain duration was not collected. Veterans with pain, N=906; veterans without pain, N=2,211) Model 1 Prevalence of CUD in veterans with pain (SE): 2.72% (0.58) Prevalence of CUD in veterans without pain (SE): 1.40% (0.31) Prevalence difference (98% CI): 1.32% (-0.15 to 2.79); *P* = .04 Prevalence ratio (98% CI): 1.95 (0.98 to 3.87); *P* = .02 Model 2 Prevalence of CUD in veterans with pain (SE): 2.68% (0.56) Prevalence of CUD in veterans without pain (SE): 1.40% (0.31)	Model 1: sex, age, race or ethnicity, and education Model 2: sex, age, race or ethnicity, education, and MCL status

Study ID	Risk	Adjusted
	Prevalence difference (98% CI): 1.28% (-0.16 to 2.72); *P* = .04 Prevalence ratio (98% CI): 1.91 (0.96 to 3.79); *P* = .03	
Feingold 2020[14]	Predictors of transitioning from cannabis use to DSM-5 CUD Men (vs. reference, women; 95% CI) HR, 1.37 (1.21 to 1.54) Model 1 aHR, 1.38 (1.22 to 1.56) Model 2 aHR, 1.50 (1.35 to 1.67) Model 3 aHR, 1.26 (1.12 to 1.42) Race/ethnicity (vs. reference, White; 95% CI) Black HR, 1.33 (1.13 to 1.56) Model 3 aHR, 1.37 (1.15 to 1.62) Models 1 and 2 nonsignificant American Indian or Alaska Native HR, 1.62 (1.14 to 2.30) Model 3 aHR, 1.47 (1.06 to 2.05) Models 1 and 2 nonsignificant Asian HR Native Hawaiian or Pacific Islander HR, 1.46 (1.02 to 2.07) Model 3 aHR, 1.45 (1.03 to 2.04) Models 1 and 2 nonsignificant Hispanic Model 1 aHR, 0.72 (0.58 to 0.88) Model 2 aHR, 0.82 (0.69 to 0.98) Unadjusted and Model 3 nonsignificant Age (vs. reference, age 18 to 29; 95% CI) Age 30 to 44 HR, 0.51 (0.45 to 0.59) Model 1 aHR, 0.57 (0.48 to 0.67) Model 2 aHR, 0.57 (0.50 to 0.65) Model 3 aHR, 0.55 (0.48 to 0.63)	Model 1: sociodemographic characteristics, age at onset of tobacco and cannabis use and childhood adversities Model 2: sociodemographic characteristics, any mood disorder, any anxiety disorder and any personality disorder Model 3: sociodemographic characteristics and any substance use disorder (including AUD, TUD and any DUD)

Study ID	Risk	Adjusted
	Age 45 to 64 HR, 0.26 (0.22 to 0.30) Model 1 aHR, 0.30 (0.25 to 0.36) Model 2 aHR, 0.30 (0.25 to 0.36) Model 3 aHR, 0.32 (0.26 to 0.38) Age 65 and older HR, 0.14 (0.08 to 0.24) Model 1 aHR, 0.16 (0.09 to 0.27) Model 2 aHR, 0.18 (0.11 to 0.31) Model 3 aHR, 0.22 (0.13 to 0.39) Psychiatric disorders (vs. reference, no disorder; 95% CI) Any mood disorder HR, 1.81 (1.61 to 2.04) Model 1 aHR, 1.73 (1.49 to 2.00) Model 2 aHR, 1.53 (1.36 to 1.72) Model 3 aHR, 1.49 (1.32 to 1.67) Any anxiety disorder HR, 1.67 (1.47 to 1.89) Model 1 aHR, 1.56 (1.35 to 1.81) Model 2 aHR, 1.20 (1.06 to 1.37) Model 3 aHR, 1.35 (1.19 to 1.52) Any personality disorder HR, 2.85 (2.54 to 3.21) Model 1 aHR, 1.92 (1.67 to 2.21) Model 2 aHR, 1.97 (1.76 to 2.19) Model 3 aHR, 1.62 (1.44 to 1.82) SUDs (vs. reference, no SUD; 95% CI) AUD HR, 3.33 (2.88 to 3.85) Model 1 aHR, 2.49 (2.11 to 2.94) Model 2 aHR, 2.45 (2.11 to 2.85)	

Study ID	Risk	Adjusted
	Model 3 aHR, 2.21 (1.90 to 2.56) TUD HR, 2.85 (2.49 to 3.25) Model 1 aHR, 2.75 (2.28 to 3.32) Model 2 aHR, 2.24 (1.97 to 2.55) Model 3 aHR, 1.97 (1.72 to 2.25) DUD HR, 3.23 (2.85 to 3.66) Model 1 aHR, 2.20 (1.89 to 2.56) Model 2 aHR, 2.25 (1.95 to 2.58) Model 3 aHR, 2.00 (1.72 to 2.32) Age at onset of use (vs. reference, age 20 or older; 95% CI) Age 15 or younger HR, 3.79 (3.11 to 4.64) Model 1 aHR, 1.70 (1.27 to 2.28) Model 2 aHR, 2.11 (1.69 to 2.63) Model 3 aHR, 1.62 (1.10 to 1.71) Age 16 to 19 HR, 2.03 (1.68 to 2.46) Model 1 aHR, 1.37 (1.04 to 1.79) Model 2 aHR, 1.57 (1.26 to 1.96) Model 3 aHR, 1.37 (1.26 to 1.96) No. of ACEs (vs. reference, no ACEs; 95% CI) 1 to 2 ACEs HR, 1.37 (1.18 to 1.59) Model 1 aHR, 1.30 (1.08 to 1.57) Model 2 aHR, 1.26 (1.08 to 1.47) Model 3 aHR, 1.26 (1.03 to 1.42) 3 to 6 ACEs HR, 2.05(1.77 to 2.38) Model 1 aHR, 1.75 (1.46 to 2.09)	

Study ID	Risk	Adjusted
	Model 2 aHR, 1.53 (1.30 to 1.81) Model 3 aHR, 1.53 (1.32 to 1.78) Urbanicity (vs. reference, rural; 95% CI); all not significant HR, 1.10 (0.91 to 1.33) Model 1 aHR, 1.07 (0.89 to 1.28) Model 2 aHR, 1.06 (0.90 to 1.25) Model 3 aHR, 1.08 (0.92 to 1.27) Cumulative probability of transitioning from cannabis use to mild CUD after 1 year from the onset of use: 1.9% Cumulative probability of transitioning from cannabis use to mild CUD after 3 years from the onset of use: 4.4% Cumulative probability of transitioning from cannabis use to mild CUD after 5 years from the onset of use: 5.3% Cumulative probability of transitioning from cannabis use to moderate CUD after 1 year from the onset of use: 1.0% Cumulative probability of transitioning from cannabis use to moderate CUD after 3 years from the onset of use: 2.2% Cumulative probability of transitioning from cannabis use to moderate CUD after 5 years from the onset of use: 3.2% Cumulative probability of transitioning from cannabis use to severe CUD after 1 year from the onset of use: 1.0% Cumulative probability of transitioning from cannabis use to severe CUD after 3 years from the onset of use: 3.0% Cumulative probability of transitioning from cannabis use to severe CUD after 5 years from the onset of use: 4.5% Men were more likely to transition to CUD than women at any point ($P < .001$), with a lifetime probability of transitioning of 34.0% Cumulative probability of transitioning from cannabis use to CUD after 1 year from the onset of use: 4.0% Cumulative probability of transitioning from cannabis use to CUD after 3 years from the onset of use: 9.3% Cumulative probability of transitioning from cannabis use to CUD after 5 years from the onset of use: 13.3%	

Study ID	Risk	Adjusted
	Cumulative probability of transitioning from cannabis use to CUD after 10 years from the onset of use: 18.4% Cumulative probability of transitioning from cannabis use to CUD after 20 years from the onset of use: 22.0% In the first 3 years after onset of use, people who used cannabis and were aged 16 to 19 at onset had the highest risk of transitioning to CUD when compared with people who started use at aged 20 or older After the first 3 years of use, people who used cannabis and were aged 15 or younger at onset had the highest risk of transitioning to CUD when compared with people who started use at aged 20 or older In people aged 15 or younger at onset, the lifetime probability of transitioning to CUD was 45.0%, with a: Cumulative probability of transitioning from cannabis use to CUD after 1 year from the onset of use: 3.6% Cumulative probability of transitioning from cannabis use to CUD after 3 years from the onset of use: 9.4% Cumulative probability of transitioning from cannabis use to CUD after 5 years from the onset of use: 15.4% Cumulative probability of transitioning from cannabis use to CUD after 10 years from the onset of use: 22.7% Cumulative probability of transitioning from cannabis use to CUD after 20 years from the onset of use: 28.7% In people with any ACEs, the lifetime probability of transitioning to CUD was approximately 33.0%, with a: Cumulative probability of transitioning from cannabis use to CUD after 1 year from the onset of use for people with 3 or more ACEs: 6.0% Cumulative probability of transitioning from cannabis use to CUD after 3 years from the onset of use for people with 3 or more ACEs: 12.5% Cumulative probability of transitioning from cannabis use to CUD after 5 years from the onset of use for people with 3 or more ACEs: 16.9% Cumulative probability of transitioning from cannabis use to CUD after 10 years from the onset of use for people with 3 or more ACEs: 22.0% Cumulative probability of transitioning from cannabis use to CUD after 20 years from the onset of use for people with 3 or more ACEs: 27.0%	
Foster 2021[15]	See Table E6	Not reported
Freitag 2021[16]	aOR (95% CI)	Both models adjusted for substance use and abuse

Study ID	Risk	Adjusted
	Overall Sexual orientation (vs. reference, heterosexual) Model 1 Gay/lesbian: 1.56 (1.03 to 2.36) Bisexual: 3.24 (2.28 to 4.58) Conflicting: 2.04 (1.36 to 3.05) Sexual orientation (vs. reference, gay/lesbian) Model 2 Bisexual: 2.07 (1.15 to 3.73) Conflicting: 1.30 (0.73 to 2.33) Hispanic Sexual orientation (vs. reference, heterosexual) Model 1 Gay/lesbian: 1.94 (0.91 to 4.17) Bisexual: 7.32 (3.60 to 14.89) Conflicting: 2.09 (1.10 to 3.94) Sexual orientation (vs. reference, gay/lesbian) Model 2 Bisexual: 3.77 (1.35 to 10.48) Conflicting: 1.07 (0.42 to 2.76) Non-Hispanic White Sexual orientation (vs. reference, heterosexual) Model 1 Gay/lesbian: 1.06 (0.53 to 2.11) Bisexual: 2.69 (1.69 to 4.29) Conflicting: 2.19 (1.33 to 3.58) Sexual orientation (vs. reference, gay/lesbian) Model 2 Bisexual: 2.56 (1.08 to 6.04) Conflicting: 2.07 (0.89 to 4.85) Non-Hispanic Black	

Study ID	Risk	Adjusted
	Sexual orientation (vs. reference, heterosexual) Model 1 Gay/lesbian: 2.64 (1.31 to 5.32) Bisexual: 2.61 (1.31 to 5.23) Conflicting: 1.47 (0.75 to 2.88) Sexual orientation (vs. reference, gay/lesbian) Model 2 Bisexual: 0.99 (0.35 to 2.81) Conflicting: 0.56 (0.19 to 1.60)	
Gillespie 2012[17]	Young men have a greater latent liability toward expressing CUD than young women Mean (non-CUD users vs CUD users) Number of lifetime cannabis uses: 215.00 vs. 293.60; *P* < .001 Average alcohol drinks per occasion: 7.00 vs. 7.87; P ns Max alcohol drinks in 24 hours: 18.19 vs. 21.40; *P* < . 01 Number of drugs tried: 1.50 vs. 2.45; *P* < .001 Nicotine use disorder: 1.79 vs. 2.88; *P* < .001 AUD: 1.65 vs. 3.20; *P* < .001 Illicit use disorder: 0.35 vs. 1.82; *P* < .001 Adult antisocial behavior: 2.12 vs. 3.15; *P* < .001 MDD: 1.87 vs. 2.37; P ns Anxiety disorder symptoms: 2.32 vs. 3.23; P ns	Not reported
Han 2018[18]	aOR (95% CI) in people with past year medical use Age (vs. reference, age 50 and older) Age 18 to 29: 2.7 (1.00 to 7.00) Age 30 to 49: 1.1 (0.51 to 2.43) Male (vs. reference, female): 4.0 (2.13 to 7.40) Race/ethnicity (vs. reference, non-Hispanic White) Non-Hispanic Black: 1.2 (0.53 to 2.60) Hispanic: 1.0 (0.54 to 1.98) Non-Hispanic other: 0.9 (0.42 to 2.00)	Other covariates

Study ID	Risk	Adjusted
	Self-rated health (vs. reference, excellent) Very good: 1.1 (0.50 to 2.36) Good: 1.0 (0.48 to 2.10) Poor: 1.2 (0.44 to 3.18) MDE (vs. reference, no MDE): 1.9 (0.81 to 4.36) Suicidal ideation (vs. reference, none): 1.7 (0.79 to 3.54) Nicotine dependence (vs. reference, no dependence): 0.8 (0.41 to 1.42) AUD (vs. reference, no AUD): 2.6 (1.51 to 4.63) Cocaine use (vs. reference, no use): 2.9 (1.34 to 6.18) Heroin use (vs. reference, no use): 1.3 (0.12 to 14.30) Age at first use under 18 (vs. reference, 18 and older): 1.3 (0.74 to 2.42) DND use (vs. reference, no DND): 1.9 (1.08 to 3.22)	
Han 2019[19]	Among lifetime users Prevalence of CUD in people who started using in the past 12 months: 67 of 1,600* (4.2%; 95% CI, 3.16 to 5.52) Adjusted prevalence of CUD in people who started using in the past 12 months: 5.6% (95% CI, 4.26 to 7.23) Prevalence of CUD in people who started using > 12 months ago but ≤ 24 months ago: 170 of 2,400* (7.1%; 95% CI, 5.91 to 8.52) Adjusted prevalence of CUD in people who started using > 12 months ago but ≤ 24 months ago: 7.7% (95% CI, 6.45 to 9.17) Prevalence of CUD in people who started using > 24 months ago but ≤ 36 months ago: 272 of 2,800* (9.7%; 95% CI, 8.30 to 11.27) Adjusted prevalence of CUD in people who started using > 24 months ago but ≤ 36 months ago: 9.1% (95% CI, 7.81 to 10.57) Prevalence of CUD in people who started using > 36 months ago: 2,108 of 19,700* (10.7%; 95% CI, 10.06 to 11.29) Adjusted prevalence of CUD in people who started using > 36 months ago: 10.5% (95% CI, 9.87 to 11.12)	Age, sex, race/ethnicity, family income, age of first alcohol use, age of first tobacco use, 12-month major depressive episode, 12-month AUD, past-month nicotine dependence, 12-month cocaine use or use disorder, 12-month hallucinogen use or use disorder, 12-month prescription tranquilizer or sedative use disorder, 12-month prescription stimulant use disorder and 12-month OUD

Study ID	Risk	Adjusted
	Each estimate is significantly higher than that for people who started using in the past 12 months (P value not reported; *P* < .0001 for the linear trend) Younger people aged 12 to 17 were significantly more likely to have CUD than people aged 18 to 25	
Hartzler 2017[20]	aOR (95% CI) of CUD Age (vs. reference, aged 50 and older) Age 18 to 29: 3.54 (2.02 to 6.22) Age 30 to 39: 1.74 (1.09 to 2.78) Age 40 to 49: 1.18 (0.78 to 1.80) Male (vs. reference, women): 4.64 (2.75 to 7.84) Race or ethnicity (vs. reference, other) Non-Hispanic White: 1.88 (0.69 to 5.11) Non-Hispanic Black: 0.62 (0.22 to 1.72) Hispanic: 0.78 (0.22 to 2.76)	Site Assessment years (biennia)
Hasin 2015[21]	Past year prevalence of CUD in people who used in the past year (SE) Male: 34.2% (1.26) Female: 24.6% (1.46) Aged 18 to 29: 35.4% (1.81) Aged 30 to 44: 29.0% (1.81) Aged 45 to 64: 22.5% (2.17) Aged 65 and older: 23.8% (5.54) White: 28.9% (1.34) Black: 35.8% (2.27) Native American: 31.9% (6.02) Asian: 26.0% (4.57) Hispanic: 33.3% (1.89) Urban: 30.3% (1.09) Rural: 32.0% (2.60)	Not reported
Hasin 2016[22]	aOR (95% CI) Model 1	Model 1: all other sociodemographic characteristics

Study ID	Risk	Adjusted
	12-month CUD Male (vs. reference, female): 2.2 (1.84 to 2.68) Significantly higher for mild (2.2), moderate (1.8), and severe CUD (2.8) Race/ethnicity (vs. reference, White) Black: 1.4 (1.11 to 1.79) Significantly higher for moderate (1.7) and severe (2.0) CUD, but not for mild CUD (1.1) Native American: 2.1 (1.18 to 3.67) Significantly higher for severe CUD (3.6), but not for mild (1.7) or moderate CUD (1.7) Asian or Pacific Islander: 0.4 (0.24 to 0.59) Significantly lower for mild CUD (0.2), but not for moderate (0.6) or severe CUD (0.8) Hispanic: 0.7 (0.52 to 0.81) Significantly lower for mild CUD (0.5), but not for moderate (0.8) or severe CUD (1.1) Age (vs. reference, age 45 and older) Age 18 to 29: 7.2 (5.45 to 9.51) Significantly higher for mild (6.5), moderate (7.1), and severe CUD (9.7) Age 32 to 44: 3.6 (2.71 to 4.75) Significantly higher for mild (3.5), moderate (3.0), and severe CUD (4.8) Urban (vs. reference, rural): 1.2 (0.92 to 1.48) No significant difference for mild (1.3), moderate (1.1), or severe CUD (0.9) Lifetime CUD Male (vs. reference, female): 2.1 (1.84 to 2.33) Significantly higher for mild (1.9), moderate (2.1), and severe CUD (2.4) Race/ethnicity (vs. reference, White) Black: 0.9 (0.74 to 1.09) No significant difference for mild (0.8), moderate (0.9, or severe CUD (1.1) Native American: 1.7 (1.18 to 2.38) Significantly higher for severe CUD (2.4), but not for mild (1.5) or moderate CUD (1.1) Asian or Pacific Islander: 0.3 (0.25 to 0.49)	Model 12: sex, age, race/ethnicity, marital status, education, family income, urban/rural, and region (Midwest, Northeast, South, West).

Study ID	Risk	Adjusted
	Significantly lower for mild (0.3), moderate (0.4), and severe CUD (0.3) Hispanic: 0.4 (0.37 to 0.55) Significantly lower for mild (0.4), moderate (0.5), and severe CUD (0.5) Age (vs. reference, age 45 and older) Age 18 to 29: 2.9 (2.53 to 3.40) Significantly higher for mild (2.4), moderate (3.3), and severe CUD (3.6) Age 32 to 44: 2.3 (1.96 to 2.62) Significantly higher for mild (1.9), moderate (2.2), and severe CUD (3.1) Urban (vs. reference, rural): 1.2 (0.98 to 1.40) Significantly higher for mild CUD (1.3), but not for moderate (1.1) or severe CUD (1.1) Model 2 12-month CUD Any other SUD: 9.3 (7.70 to 11.21) Significantly higher for mild (7.4), moderate (12.2), and severe CUD (13.1) AUD: 6.0 (5.10 to 6.97) Significantly higher for mild (5.1), moderate (7.7), and severe CUD (6.8) Any other drug use disorder: 9.0 (6.65 to 12.19) Significantly higher for mild (6.6), moderate (11.5), and severe CUD (13.4) Nicotine use disorder: 6.2 (5.24 to 7.34) Significantly higher for mild (4.8), moderate (7.3), and severe CUD (10.5) Any mood disorder: 3.8 (3.10 to 4.56) Significantly higher for mild (2.8), moderate (3.5), and severe CUD (8.1) MDD: 2.8 (2.33 to 3.41) Significantly higher for mild (2.2), moderate (3.1), and severe CUD (4.2) Bipolar I: 5.0 (3.65 to 6.75) Significantly higher for mild (3.4), moderate (4.1), and severe CUD (10.1) Bipolar II: 2.7 (1.10 to 6.62) No significant difference for mild (2.7), moderate (3.4), or severe CUD (1.9) Any anxiety disorder: 2.8 (2.24 to 3.39) Significantly higher for mild (2.2), moderate (2.9), and severe CUD (4.4) Panic disorder: 3.3 (2.50 to 4.48) Significantly higher for mild (2.5), moderate (2.8), and severe CUD (6.6) Agoraphobia: 2.6 (1.64 to 4.06) Significantly higher for mild (2.4), moderate (3.5), and severe CUD (2.0)	

Study ID	Risk	Adjusted
	Social phobia: 2.3 (1.61 to 3.27) Significantly higher for moderate (3.5) and severe (3.9) CUD, but not for mild CUD (1.3) Specific phobia: 1.7 (1.28 to 2.29) Significantly higher for moderate (2.2) and severe (1.9) CUD, but not for mild CUD (1.4) GAD: 3.7 (2.79 to 5.02) Significantly higher for mild (3.0), moderate (3.6), and severe CUD (6.3) PTSD: 4.3 (3.26 to 5.64) Significantly higher for mild (2.1), moderate (6.2), and severe CUD (9.5) Any personality disorder: 4.8 (3.96 to 5.75) Significantly higher for mild (4.1), moderate (4.4), and severe CUD (7.9) Schizotypal personality disorder: 4.4 (3.60 to 5.46) Significantly higher for mild (3.7), moderate (4.0), and severe CUD (7.0) Borderline personality disorder: 5.0 (4.13 to 6.10) Significantly higher for mild (4.0), moderate (4.9), and severe CUD (8.8) Antisocial personality disorder: 3.8 (3.05 to 4.75) Significantly higher for mild (3.5), moderate (3.9), and severe CUD (4.6) Lifetime CUD Any other SUD: 14.5 (11.95 to 17.60) Significantly higher for mild (10.5), moderate (19.4), and severe CUD (21.9) AUD: 7.8 (6.95 to 8.74) Significantly higher for mild (6.1), moderate (9.6), and severe CUD (10.1) Any other drug use disorder: 10.0 (8.56 to 11.76) Significantly higher for mild (7.9), moderate (9.2), and severe CUD (14.6) Nicotine use disorder: 6.6 (5.79 to 7.64) Significantly higher for mild (5.1), moderate (7.9), and severe CUD (8.9) Any mood disorder: 3.3 (2.94 to 3.73) Significantly higher for mild (2.3), moderate (3.4), and severe CUD (5.6) MDD: 2.6 (2.26 to 2.95) Significantly higher for mild (2.0), moderate (2.6), and severe CUD (3.6) Bipolar I: 3.8 (3.10 to 4.59) Significantly higher for mild (2.2), moderate (4.0), and severe CUD (5.9) Bipolar II: 2.8 (1.51 to 5.23) Significantly higher for moderate (3.3) and severe CUD (3.1), but not mild CUD (2.3) Any anxiety disorder: 2.9 (2.54 to 3.31)	

Study ID	Risk	Adjusted
	Significantly higher for mild (2.3), moderate (23.09), and severe CUD (3.9) Panic disorder: 3.2 (2.66 to 3.76) Significantly higher for mild (2.4), moderate (3.3), and severe CUD (4.3) Agoraphobia: 2.9 (2.25 to 3.79) Significantly higher for mild (2.1), moderate (3.9), and severe CUD (3.5) Social phobia: 2.7 (2.22 to 3.40) Significantly higher for mild (2.0), moderate (2.6), and severe CUD (4.0) Specific phobia: 2.1 (1.73 to 2.46) Significantly higher for mild (1.4), moderate (2.9), and severe CUD (2.6) GAD: 3.2 (2.75 to 3.74) Significantly higher for mild (2.5), moderate (3.4), and severe CUD (4.3) PTSD: 3.8 (3.15 to 4.67) Significantly higher for mild (2.4), moderate (4.3), and severe CUD (6.0) Any personality disorder: 4.7 (4.18 to 5.28) Significantly higher for mild (3.2), moderate (4.7), and severe CUD (8.0) Schizotypal personality disorder: 4.0 (3.46 to 4.72) Significantly higher for mild (2.7), moderate (4.3), and severe CUD (6.2) Borderline personality disorder: 4.5 (3.96 to 5.19) Significantly higher for mild (3.0), moderate (4.6), and severe CUD (7.7) Antisocial personality disorder: 4.7 (4.07 to 5.34) Significantly higher for mild (3.5), moderate (4.4), and severe CUD (6.7)	
Hasin 2020[23]	The risk of CUD was significantly higher for people with pain compared with people without pain (4.18% vs. 2.74%) RD in CUD for adults with pain vs. adults without pain: 1.43 (95% CI, 0.63 to 2.23) Risk ratio for CUD for adults with pain vs. adults without pain: 1.52 (95% CI, 1.21 to 1.87) Difference in RD for adults with pain vs without pain: 1.02 (95% CI, 0.18 to 1.86) When compared with older people (aged 65 and older), younger people aged 18 to 29 had a significantly increased risk of CUD (DiD, 3.82; 95% CI, 0.57 to 7.07; *P* < .05). DiD not significant for ages 30 to 44 vs. 65 and older nor ages 45 to 64 vs. 65 and older. Difference in difference with vs. without pain, by age (95% CI) Age 18 to 29: 4.90 (1.88 to 7.92); *P* < .05 Age 30 to 44: 0.93 (-0.40 to 2.26); P, NS Age 45 to 64: 0.71 (0.08 to 1.34); *P* < .05	Sociodemographic covariates (age, gender, race/ethnicity, education level, marital status, and family income) Pain-by-covariate interactions

Study ID	Risk	Adjusted
	Age 65 and older: -0.07 (-0.44 to 0.30); P, NS Absolute difference by MML (95% CI) CUD in adults with or without pain in early MML states (vs. never MML states): -1.99 (-4.17 to 0.19) CUD in adults with or without pain in late MML states (vs. never MML states): -0.95 (-3.54 to 1.64) CUD in adults with or without pain in late MML states (vs. early MML states): 1.04 (-1.90 to 3.98) Models were adjusted for individual-level sociodemographic characteristics (age, gender, race/ethnicity, education level, marital status, and family income), pain x sociodemographic interactions, and state-level sociodemographics (percent of state that was: male, without high school diploma, under thirty, and white), state MML status, state MML status x survey interaction, and pain x state MML status interaction. Early MML states (passed by 2001): CA, CO, HI, ME, NV, OR, WA) Late MML states (passed between 2002 and 2012): AZ, CT, MD, MA, MI, MT, NJ, NM, VT	
Hayley 2017[24]	Individuals with diagnosed cases of current DSM-5 CUD reported significantly higher rates of lifetime use of any of; sedative/tranquilizer, painkiller, marijuana, cocaine, stimulants, club-drug, hallucinogen, inhalant/solvents, heroin and other medication/drug use than those without DSM-5 CUD (all $P < .05$) A greater proportion of those with DSM-5 CUD were current smokers, and indicated significantly elevated rates of DSM-5MDD, PTSD, panic disorder and bipolar I disorder. CurrentDSM-5 CUD diagnoses was similarly associated with significantly increased rates of concordant DSM-5 MDD, PTSD, bipolar I disorder and panic disorder (all P < 0.001) Individuals with diagnosed cases of current DSM-5 CUD reported using substances (cannabis, sedative/tranquilizer, painkiller, cocaine, stimulants, club-drug, hallucinogen, inhalant/solvents, heroin and other medication/drug) at a younger age than those without DSM-5 CUD (all $P < .001$) OR (95% CI) for CUD (vs., reference, no specific use disorder) Sedative/tranquilizer use disorder: 13.8 (8.4 to 22.6)	Age Gender Education Marital status Urbanicity Ethnicity Alcohol use Smoking status DSM-5 primary MDD, PTSD, bipolar I and panic disorder

Study ID	Risk	Adjusted
	Cocaine use disorder: 23.1 (15.4 to 34.6) Stimulant use disorder: 19.8 (11.9 to 33.1) Club drug use disorder: 117.4 (58.3 to 236.5) Heroin use disorder: 16.0 (5.9 to 43.6) OUD: 12.7 (9.1 to 17.8) AUD: 10.1 (8.7 to 11.7) Other drug/medication use disorder: 2.2 (0.3 to 17.8) aOR (95% CI) for CUD (vs., reference, no specific use disorder) Sedative/tranquilizer use disorder: 5.1 (2.9 to 9.0) Cocaine use disorder: 9.3 (5.6 to 15.5) Stimulant use disorder: 4.3 (2.3 to 7.9) Club drug use disorder: 16.1 (6.3 to 40.8) Heroin use disorder: 1.6 (0.6 to 4.6) OUD: 4.6 (3.0 to 6.8) AUD: 3.0 (2.5 to 3.7)	
Hill 2021[25]	OR (95% CI) Gender (vs. reference, female) Male: 1.51 (0.77 to 2.99) Age (vs. reference, aged 65 and older) Age 18 to 44: 4.11 (1.77 to 9.57) Age 45 to 64: 3.25 (1.52 to 6.92) Race/ethnicity (vs. reference, non-Hispanic White) Non-Hispanic Black: 3.26 (1.85 to 5.75) Hispanic: 0.41 (0.15 to 1.11) Other: 0.42 (0.09 to 2.10) Combat veteran (vs. reference not combat veteran): 1.03 (0.61 to 1.73) Cumulative lifetime traumas: 0.97 (0.94 to 1.00) ACEs: 1.18 (1.07 to 1.30) Current MDD (vs. reference, no MDD): 1.18 (1.07 to 1.30) Current PTSD (vs. reference, no PTSD): 0.70 (0.34 to 1.44) Current GAD (vs. reference, no GAD): 1.68 (0.86 to 3.37)	Not reported

Study ID	Risk	Adjusted
	Current AUD (vs. reference, no AUD): 2.62 (1.58 to 4.35) Current suicidal ideation (vs. reference, no ideation): 1.68 (0.89 to 3.15) Number of medical conditions: 0.81 (0.70 to 0.93) Somatic symptoms: 1.12 (1.04 to 1.20) Insomnia severity: 1.01 (0.97 to 1.05) Any disability (vs. reference, no disability): 2.43 (1.40 to 4.01)	
Hill 2021[26]	Not reported	Not reported
Hoggatt 2021[27]	Prevalence of CUD in all participants: 3.4% (95% CI, 3.0 to 3.9) CUD in all participants aOR (95% CI) Age (vs. reference 18 to 34) Aged 35 to 49: aOR, 0.66 (95% CI, 0.40 to 1.11) Aged 50 to 64: aOR, 0.44 (95% CI, 0.27 to 0.72) Aged 65 to 74: aOR, 0.28 (95% CI, 0.16 to 0.49) Aged 75 and older: aOR, 0.02 (95% CI, 0.01 to 0.09) Gender (vs. reference, men) Women: aOR, 0.35 (95% CI, 0.19 to 0.63) Race/ethnicity (vs. reference, White) Hispanic: aOR, 1.52 (95% CI, 0.92 to 2.52) Black: aOR, 1.55 (95% CI, 1.09 to 2.20) Other: aOR, 1.53 (95% CI, 0.72 to 3.24) Multiracial: aOR, 2.34 (95% CI, 1.30 to 4.22)	All other variables in the table (age, gender, race/ethnicity, education, marital status, employment, VA care)
Hughto 2021[28]	In a subset of the transgender sample for which gender spectrum (TF or TM) could be determined CUD: 48 of 2,079 transfeminine; 42 of 4,955 transmasculine; 2.3% vs. 0.8%; *P* < .001 Full transgender population, CUD 321 of 15,637 vs. full cisgender population, 186 of 46,911 ; *P* < .001 CUD: 114 of 23,247 male; 72 of 23,664 female; 0.5% vs. 0.3%; *P* < .001	Not adjusted
Kelly 2021[29]	Model 1 Full sample (N=208,495) with CUD only aOR (95% CI) Gender (vs. reference, female) Male: aOR, 2.48 (2.25 to 2.73); *P* < .001	Model 1: Past year SUD other than cannabis; MDD Model 2: Past year SUD other than cannabis; MDD

Study ID	Risk	Adjusted
	Age (vs. reference, aged 18 to 25); *P* < .001 for all Age 26 to 35: aOR, 0.40 (0.36 to 0.44) Age 36 to 49: aOR, 0.20 (0.17 to 0.22) Age 50 and older: aOR, 0.08 (0.06 to 0.10) Race/ethnicity (vs. reference, non-Hispanic White) Black or African American: aOR, 1.83 (1.66 to 2.03); *P* < .001 Hispanic/Latinx: aOR, 1.25 (0.91 to 1.73);P, NS Asian: aOR, 0.60 (0.41 to 0.87); *P* < .01 Native: aOR, 1.66 (1.29 to 2.13); *P* < .001 Multiracial: aOR, 0.96 (0.82 to 1.12) Sexual identity (vs. reference, heterosexual) Gay/Lesbian: aOR, 1.56 (1.22 to 2.01); *P* < .01 Bisexual: aOR, 1.87 (1.60 to 2.19); *P* < .001 Model 2 Individuals Reporting on Past-year Suicide Attempts (n=12,879) (subgroup on respondents with information on suicide attempts) CUD only aOR (95% CI) Gender (vs. reference, female) Male: aOR, 2.01 (1.66 to 2.43); *P* < .001 Age (vs. reference, aged 18 to 25); *P* < .001 for all Age 26 to 35: aOR, 0.43 (0.35 to 0.54) Age 36 to 49: aOR, 0.24 (0.16 to 0.34) Age 50 and older: aOR, 0.13 (0.08 to 0.20) Race/ethnicity (vs. reference, non-Hispanic White); P, NS for all Black or African American: aOR, 1.26 (0.91 to 1.75) Hispanic/Latinx: aOR, 1.28 (0.87 to 1.88) Asian: aOR, 0.96 (0.66 to 1.40) Native: aOR, 1.53 (0.95 to 2.46) Multiracial: aOR, 0.89 (0.62 to 1.27) Sexual identity (vs. reference, heterosexual); P, NS for all Gay/Lesbian: aOR, 0.82 (0.52 to 1.28)	

Study ID	Risk	Adjusted
	Bisexual: aOR, 1.27 (1.01 to 1.59)	
Kerridge 2018[30]	Note: Only took data with statistical significance of $P < .05$. Race/ethnicity (vs. White) Black men, any CUD: aOR, 1.5 (95% CI, 1.15 to 1.96) Black men, severe CUD: aOR, 2.1 (95% CI, 1.21 to 3.69) Native American men, mild CUD: aOR, 0.2 (95% CI, 0.04 to 0.99) Asian/Pacific Islander men, any CUD: aOR, 0.4 (95% CI, 0.20 to 0.75) Asian/Pacific Islander men, mild CUD: aOR, 0.2 (95% CI, 0.05 to 0.61) Hispanic men, any CUD: aOR, 0.6 (95% CI, 0.46 to 0.80) Hispanic men, mild CUD: aOR, 0.4 (95% CI, 0.29 to 0.60) -- Black women, moderate CUD: aOR, 1.9 (95% CI, 1.02 to 3.57) Native American women, any CUD: aOR, 3.3 (95% CI, 1.48 to 7.37) Native American women, mild CUD: aOR, 4.0 (95% CI, 1.46 to 10.92) Native American women, severe CUD: aOR, 3.3 (95% CI, 1.01 to 10.78) Asian/Pacific Islander women, any CUD: aOR, 0.4 (95% CI, 0.14 to 0.92) Asian/Pacific Islander women, mild CUD: aOR, 0.2 (95% CI, 0.07 to 0.84) Hispanic women, mild CUD: aOR, 0.6 (95% CI, 0.36 to 0.99) Age (vs. aged 45 and older) Aged 18 to 29, men, any CUD: aOR, 6.4 (95% CI, 4.64 to 8.93) Aged 18 to 29, men, mild CUD: aOR, 6.0 (95% CI, 3.82 to 9.43) Aged 18 to 29, men, moderate CUD: aOR, 6.2 (95% CI, 3.60 to 10.60) Aged 18 to 29, men, severe CUD: aOR, 8.0 (95% CI, 3.65 to 17.58) Aged 30 to 44, men, any CUD: aOR, 3.2 (95% CI, 2.34 to 4.39) Aged 30 to 44, men, any CUD: aOR, 3.0 (95% CI, 1.96 to 4.45) Aged 30 to 44, men, any CUD: aOR, 3.0 (95% CI, 1.64 to 5.40) Aged 30 to 44, men, any CUD: aOR, 4.2 (95% CI, 1.88 to 9.34) -- Aged 18 to 29, women, any CUD: aOR, 9.0 (95% CI, 5.89 to 13.91) Aged 18 to 29, women, mild CUD: aOR, 7.3 (95% CI, 4.20 to 12.87) Aged 18 to 29, women, moderate CUD: aOR, 8.9 (95% CI, 4.29 to 18.46) Aged 18 to 29, women, severe CUD: aOR, 17.5 (95% CI, 5.16 to 59.66) Aged 30 to 44, women, any CUD: aOR, 4.5 (95% CI, 2.73 to 7.28) Aged 30 to 44, women, any CUD: aOR, 4.6 (95% CI, 2.53 to 8.29) Aged 30 to 44, women, any CUD: aOR, 3.0 (95% CI, 1.31 to 6.79)	For age, race/ethnicity, family income: Odds ratios adjusted for all other sociodemographic characteristics. For comorbidities: Adjusted for sex, age, race/ethnicity, marital status, education, family income, urban/rural, and region (Midwest, Northeast, South, West) and other psychiatric disorders.

Study ID	Risk	Adjusted
	Aged 30 to 44, women, any CUD: aOR, 7.1 (95% CI, 2.15 to 23.20) Any other SUD (includes AUD, nicotine UD, and other drugs) Men, any CUD: aOR, 5.9 (95% CI, 4.70 to 7.37) Men, mild CUD: aOR, 4.7 (95% CI, 3.63 to 6.20) Men, moderate CUD: aOR, 10.6 (95% CI, 5.62 to 19.98) Men, severe CUD: aOR, 6.5 (95% CI, 3.48 to 12.09) -- Women, any CUD: aOR, 8.1 (95% CI, 5.47 to 12.09) Women, mild CUD: aOR, 8.4 (95% CI, 5.02 to 13.90) Women, moderate CUD: aOR, 6.8 (95% CI, 3.52 to 13.09) Women, severe CUD: aOR, 9.9 (95% CI, 4.00 to 24.60) Any mood disorder (MDD, persistent depression, bipolar I or II) Men, any CUD: aOR, 1.9 (95% CI, 1.34 to 2.64) Men, mild CUD: aOR, 1.6 (95% CI, 1.14 to 2.29) Men, severe CUD: aOR, 3.4 (95% CI, 1.85 to 6.40) -- Women, any CUD: aOR, 1.5 (95% CI, 1.05 to 2.23) Persistent depression Men, any CUD: aOR, 1.9 (95% CI, 1.09 to 3.30) Men, mild CUD: aOR, 2.7 (95% CI, 1.51 to 4.72) Any anxiety disorder (panic, agoraphobia, social phobia, specific phobia, GAD) Men, moderate CUD: aOR, 1.9 (95% CI, 1.11 to 3.20) Generalized anxiety disorder (95% CI, GAD) Men, moderate CUD: aOR, 2.2 (95% CI, 1.06 to 4.56) -- Women, mild CUD: aOR, 2.3 (95% CI, 1.31 to 3.96) PTSD Men, any CUD: aOR, 1.7 (95% CI, 1.12 to 2.57) Men, moderate CUD: aOR, 2.0 (95% CI, 1.08 to 3.81) Men, severe CUD: aOR, 3.7 (95% CI, 1.98 to 7.02) --	

Study ID	Risk	Adjusted
	Women, any CUD: aOR, 1.6 (95% CI, 1.01 to 2.48) Women, moderate CUD: aOR, 3.4 (95% CI, 1.69 to 6.98) Any personality disorder (schizotypal, borderline, antisocial) Men, any CUD: aOR, 2.0 (95% CI, 1.56 to 2.65) Men, mild CUD: aOR, 2.3 (95% CI, 1.79 to 2.91) Men, severe CUD: aOR, 2.2 (95% CI, 1.00 to 4.71) -- Women, any CUD: aOR, 3.1 (95% CI, 2.14 to 4.35) Women, mild CUD: aOR, 3.1 (95% CI, 2.02 to 4.82) Women, moderate CUD: aOR, 3.1 (95% CI, 1.46 to 6.48) Women, severe CUD: aOR, 2.8 (95% CI, 1.24 to 6.37)	
Kirisci 2013[31], Cornelius 2010, Ridenour 2006, Ridenour 2009, Tarter 2011, Tarter 2012, Tarter 2006	Logistic regression demonstrated that the development of CUD was associated with PTSD (Wald=12.7, p=0.000), African American race (Wald=14.2,p=0.000), and male gender (Wald=12.0, p=0.001). The median time to progression to dependence (CUD) was 24 months. Men who used cannabis at age 19 had had significantly higher odds of CUD at age 22 (OR, 3.8; *P* < .05). Men who used illegal drugs at age 19 had had significantly higher odds of CUD at age 22 *P* < .001). The order of use (cannabis before licit drugs or cannabis after licit drugs) was not significantly associated with the development of CUD in men aged 22.	Not reported
Kreuger 2020[32]	No difference in CUD prevalence between groups for men (3.4% heterosexual vs. 4.3% heterosexual-identified sexual minority vs. 3.1% gay vs. 9.6% bisexual; *P* = .004; sexual minorities *P* = .01). Heterosexual women had a lower prevalence of CUD (1.2% heterosexual vs. 4.5% heterosexual-identified sexual minority vs. 6.8% gay vs. 8.6% bisexual; *P* < .001). There were no significant differences in CUD prevalence between the sexual minority groups (*P* = .10) Heterosexual-identified sexual minority (HSM) is used to describe persons who maintain a heterosexual identity and report same-sex attractions or behaviors.	

Study ID	Risk	Adjusted
Lekoubou 2020[33]	aOR (95% CI) CUD Female (vs. reference, male): 0.49 (0.46 to 0.51) Race/ethnicity (vs. reference, White) Black: 1.71 (1.63 to 1.81) Hispanic: 0.90 (0.83 to 0.97) Other: 0.91 (0.81 to 1.02) Age (vs. reference, 18 to 44) Age 45 to 64: 0.42 (0.40 to 0.44) Age 65 to 84: 0.10 (0.09 to 0.12) Age 85 and older: 0.08 (0.00 to 0.02) CCI: 0.86 (0.84 to 0.88) Comorbidity (vs. reference, no comorbidity) Depression: 1.07 (1.01 to 1.13) Bipolar disorder: 1.45 (1.20 to 1.76) Anxiety: 1.14 (0.98 to 1.31) PTSD: 1.13 (0.99 to 1.31) OCD: 0.75 (0.51 to 1.10) AUD: 0.78 (0.63 to 0.95) Tobacco use disorder: 3.80 (3.64 to 3.98)	Not reported
McBain 2020[34]	aOR (95% CI) MML (vs no MML): 1.05 (0.87 to 1.28); *P* = .6 Serious psychological distress (vs. reference, no or mild distress): 2.94 (2.49 to 3.47); *P* < .001 Moderate psychological distress (vs. reference, no or mild distress): 2.17 (1.85 to 2.54); *P* < .001 MML * Distress status not significant for moderate or serious distress Conditional on any cannabis use in the past month, we observed a higher prevalence of daily cannabis use among users in MML states compared with non-MML states (35.1 % vs. 33.0 %, p = 0.03), but did not find evidence of a difference in the prevalence of CUD between users in MML states versus non-MML states (P = 0.30).	Sociodemographic characteristics including sex, age, race/ethnicity, income and educational attainment

Study ID	Risk	Adjusted
McCabe 2018[35]	aOR (95% CI) Past year continued or recurrent CUD (vs. reference, abstinence) Male (vs. reference, female): 1.9 (1.2 to 2.8) Race/ethnicity (vs. reference, White) Hispanic: 2.5 (1.5 to 4.1) Black: 1.3 (0.7 to 2.2) Other: 1.6 (0.8 to 3.6) Age (vs. reference, 18 to 24) Age 25 to 44: 0.4 (0.2 to 0.6) Age 45 to 64: 0.3 (0.1 to 0.4) Age 65 and older: 0.6 (0.1 to 3.1) Sexual identity (vs. reference, heterosexual) Gay/lesbian: 0.5 (0.2 to 1.5) Bisexual: 0.8 (0.4 to 1.6) Not sure/unknown: 3.3 (1.4 to 8.1) Childhood adversities: 0.99 (0.95 to 1.04) Stressful life events: 1.2 (1.1 to 1.3) Non-alcohol SUD only (vs. reference, alcohol and other SUD): 1.2 (0.6 to 1.3) Prior tobacco use disorder only (vs. reference, no lifetime tobacco use disorder): 0.4 (0.2 to 0.7) Prior tobacco use disorder or past year tobacco use disorder (vs. reference, no lifetime tobacco use disorder): 1.2 (0.8 to 1.7) Prior PTSD only (vs. reference, no lifetime PTSD): 1.0 (0.5 to 2.2) Prior PTSD or past year PTSD (vs. reference, no lifetime PTSD): 1.5 (0.9 to 2.5) Prior anxiety only (vs. reference, no lifetime anxiety): 0.5 (0.2 to 1.1) Prior anxiety or past year anxiety (vs. reference, no lifetime anxiety): 0.8 (0.5 to 1.2) Prior mood disorder only (vs. reference, no lifetime mood disorder): 0.9 (0.5 to 1.5)	Not reported

Study ID	Risk	Adjusted
	Prior mood disorder or past year mood disorder (vs. reference, no lifetime mood disorder): 1.6 (1.1 to 2.5) aOR (95% CI) Past year continued or recurrent CUD (vs. reference, asymptomatic use) Male (vs. reference, female): 1.0 (0.6 to 1.7) Race/ethnicity (vs. reference, White) Hispanic: 3.7 (1.7 to 8.0) Black: 2.2 (0.9 to 5.2) Other: 0.9 (0.3 to 2.6) Age (vs. reference, 18 to 24) Age 25 to 44: 0.3 (0.1 to 0.6) Age 45 to 64: 0.3 (0.1 to 0.8) Age 65 and older: 0.8 (0.1 to 6.6) Sexual identity (vs. reference, heterosexual) Gay/lesbian: 0.4 (0.1 to 1.1) Bisexual: 0.2 (0.1 to 0.6) Not sure/unknown: 2.0 (0.3 to 13.1) Childhood adversities: 1.03 (0.96 to 1.10) Stressful life events: 1.1 (0.99 to 1.2) Non-alcohol SUD only (vs. reference, alcohol and other SUD): 0.7 (0.4 to 1.2) Prior tobacco use disorder only (vs. reference, no lifetime tobacco use disorder): 0.7 (0.3 to 1.5) Prior tobacco use disorder or past year tobacco use disorder (vs. reference, no lifetime tobacco use disorder): 1.6 (0.9 to 2.7) Prior PTSD only (vs. reference, no lifetime PTSD): 0.3 (0.1 to 0.8) Prior PTSD or past year PTSD (vs. reference, no lifetime PTSD): 1.1 (0.5 to 2.3) Prior anxiety only (vs. reference, no lifetime anxiety): 0.7 (0.3 to 2.0) Prior anxiety or past year anxiety (vs. reference, no lifetime anxiety): 1.2 (0.6 to 2.3)	

Study ID	Risk	Adjusted
	Prior mood disorder only (vs. reference, no lifetime mood disorder): 0.6 (0.3 to 1.0) Prior mood disorder or past year mood disorder (vs. reference, no lifetime mood disorder): 1.8 (0.9 to 3.4)	
McCabe 2021[36]	aOR (95% CI) Sociodemographic covariates Male (vs. reference, female): 1.94 (1.57 to 2.41) college students; 2.20 (1.80 to 2.71) noncollege students White (vs. reference, not White): 0.80 (0.62 to 1.03) college students; 0.59 (0.48 to 0.72) noncollege students Urban [CBSA > 1 million] (vs. reference, not urban [CBSA < 1 million]: 0.96 (0.77 to 1.18) college students; 1.13 (0.91 to 1.39) noncollege students Lesbian/gay (vs. reference, not lesbian/gay): 0.87 (0.53 to 1.43) college students; 0.82 (0.49 to 1.36) noncollege students Bisexual (vs. reference, not bisexual): 1.02 (0.67 to 1.55) college students; 1.17 (0.86 to 1.61) noncollege students Physical health covariates Self-reported fair or poor health (vs. reference, not fair or poor health): 1.24 (0.73 to 2.12) college students; 1.20 (0.94 to 1.53) noncollege students Overweight or obese (vs. reference, not overweight or obese): 1.03 (0.82 to 1.30) college students; 0.78 (0.64 to 0.96) noncollege students Past year hospitalization (vs. reference, not hospitalized): 1.01 (0.68 to 1.61) college students; 1.01 (0.71 to 1.44) noncollege students Mental health covariates Past year mental health treatment (vs. reference, no treatment): 1.33 (1.01 to 1.76) college students; 1.13 (0.86 to 1.50) noncollege students Past year major depression (vs. reference, no major depression): 0.95 (0.70 to 1.29) college students; 1.15 (0.83 to 1.60) noncollege students Past year psychological distress (vs. reference, no distress): 1.46 (1.09 to 1.97) college students; 1.50 (1.16 to 1.93) noncollege students Past year WHO disability scale (vs. reference, no disability): 1.05 (1.02 to 1.07) college students; 1.04 (1.02 to 1.06) noncollege students Past year suicidal ideation (vs. reference, no ideation): 1.14 (0.86 to 1.51) college students; 1.41 (1.07 to 1.86) noncollege students	Sex Race/ethnicity Family income Population density

Study ID	Risk	Adjusted
	Substance use covariates Past year prescription drug use (vs. reference, no use): 1.85 (1.42 to 2.41) college students; 1.14 (0.91 to 1.43) noncollege students Past year prescription drug misuse (vs. reference, no misuse): 2.28 (1.71 to 3.03) college students; 2.04 (1.62 to 2.58) noncollege students Past year other illicit drug use (vs. reference, no use): 5.09 (3.86 to 6.70) college students; 4.41 (3.48 to 5.60) noncollege students	
Metrik 2016[37] , Metrik 2022[38]	PTSD (vs. reference, no PTSD): 39.0% vs. 11.9%; OR, 4.73; *P* < .001 MDD (vs. reference, no PTSD): 37.0% vs. 11.8%; OR, 4.40; *P* < .001 Longitudinal data showed that baseline PTSD, baseline CUD was significantly associated with CUD at 12 months follow-up; older age was associated with significantly lower chance of CUD at follow-up	Not reported
Meyers 2018[39]	aOR (95% CI) Physical abuse: 1.38 (1.26 to 1.47) Sexual abuse: 1.14 (1.08 to 1.26) Parental violence: 1.03 (0.94 to 1.07) Interactions with race/ethnicity, gender, and the combination were all nonsignificant See Table E7	Age Gender Race/ethnicity Household income Employment status Level of education Marital status
Montgomery 2016[40]	Specifically, female blunt users (23.8%) were more likely to report past-year marijuana abuse or dependence than their other marijuana-using (11.3%) counterparts (*P* < .01) In men, the odds of past-year marijuana abuse or dependence among blunt users (25.3%) and other users (25.3%) were similar (P value not reported)	Not reported
Moore 2021[41]	RR (95% CI) Gender (vs. reference, male) Female: 0.64 (0.58 to 0.71); *P* < .001 Age (vs. reference, 18 to 25 years); *P* < .001 for all Age 26 to 34: 0.53 (0.46 to 0.61) Age 35 to 49: 0.45 (0.40 to 0.52) Age 50 and older: 0.29 (0.23 to 0.37)	Not clear

Study ID	Risk	Adjusted
	Race/ethnicity (vs. reference, non-Hispanic White) Non-Hispanic Black: 1.60 (1.41 to 1.82); *P* < .001 Hispanic: 1.29 (1.08 to 1.55); *P* < .01 All others: 1.31 (1.06 to 1.61); *P* < .05 Any chronic health condition (vs. reference, no condition): 1.16 (1.03 to 1.30); *P* < .05 SUD (vs. reference, no SUD) AUD: 2.66 (2.34 to 3.04); *P* < .001 Nicotine dependence: 1.03 (0.91 to 1.18); P, NS Non-cannabis illicit drug use (vs. reference, no use): 2.05 (1.85 to 2.27); *P* < .001 Any medical cannabis use (vs. reference, no medical use): 1.12 (0.96 to 1.30); P, NS Frequent use (vs. reference, no frequent use): 5.13 (4.59 to 5.74); *P* < .001	
Pacek 2012[42]	aOR (98% CI) AUD vs. co-occurring AUD and CUD White Past year MDE: 0.76 (0.47 to 1.23) Past year STI: 0.54 (0.26 to 1.13) Past year treatment for drugs or alcohol: 0.61 (0.32 to 1.67) African American Past year MDE: 0.26 (0.09 to 0.71) Past year STI: 4.67 (1.03 to 21.12) Past year treatment for drugs or alcohol: 0.99 (0.32 to 3.01) Hispanic Past year MDE: 0.65 (0.19 to 2.15) Past year STI: 1.35 (0.17 to 10.73) Past year treatment for drugs or alcohol: 0.49 (0.15 to 1.56) aOR (98% CI) CUD vs. co-occurring AUD and CUD White Past year MDE: 1.26 (0.70 to 2.28) Past year STI: 0.69 (0.30 to 1.56)	Gender Age Marital status Income Education Cocaine use disorder

Study ID	Risk	Adjusted
	Past year treatment for drugs or alcohol: 0.75 (0.38 to 1.50) African American Past year MDE: 0.24 (0.09 to 0.65) Past year STI: 4.38 (0.90 to 21.29) Past year treatment for drugs or alcohol: 1.67 (0.61 to 4.58) Hispanic Past year MDE: 0.73 (0.19 to 2.86) Past year STI: 1.18 (0.12 to 11.86) Past year treatment for drugs or alcohol: 0.69 (0.20 to 2.39) aOR (98% CI) AUD vs. CUD White Past year MDE: 0.60 (0.40 to 0.90) Past year STI: 0.79 (0.47 to 1.33) Past year treatment for drugs or alcohol: 0.81 (0.54 to 1.21) African American Past year MDE: 1.07 (0.60 to 1.89) Past year STI: 1.07 (0.35 to 3.22) Past year treatment for drugs or alcohol: 0.59 (0.23 to 1.49) Hispanic Past year MDE: 0.88 (0.31 to 2.50) Past year STI: 1.14 (0.25 to 5.23) Past year treatment for drugs or alcohol: 0.71 (0.20 to 2.48)	
Palmer 2009[43]	OR (95% CI) of abuse or dependence at Wave 2 by drug use status at Wave 1 (mean age, 14.7 years) Model 1 Alcohol use with no AUD (vs. reference, abstinence): aOR, 3.34 (1.77 to 6.28) Tobacco use with no tobacco dependence (vs. reference, abstinence): aOR, 4.83 (2.92 to 8.00) Cannabis use with no CUD (vs. reference, abstinence): aOR, 6.03 (3.18 to 11.43) AUD (vs. reference, abstinence): aOR, 12.56 (5.39 to 29.29) Tobacco dependence (vs. reference, abstinence): aOR, 16.27 (6.03 to 43.89)	Model 1: age (mean deviated), sex and interactions Model 2: age (mean deviated), sex, interactions, and other substance patterns at wave 1

Study ID	Risk	Adjusted
	AUD (vs. reference, use without AUD): aOR, 5.32 (1.97 to 14.31) Tobacco dependence (vs. reference, use without dependence): aOR, 2.46 (0.83 to 7.26) Model 2 Alcohol use with no AUD (vs. reference, abstinence): aOR, 1.77 (0.87 to 3.59) Tobacco use with no tobacco dependence (vs. reference, abstinence): aOR, 2.34 (1.30 to 4.22) Cannabis use with no CUD (vs. reference, abstinence): aOR, 2.91 (1.41 to 6.00) AUD (vs. reference, abstinence): aOR, 3.86 (1.47 to 10.09) Tobacco dependence (vs. reference, abstinence): aOR, 4.51 (1.37 to 14.86) AUD (vs. reference, use without AUD): aOR, 1.80 (0.59 to 5.51) Tobacco dependence (vs. reference, use without dependence): aOR, 0.77 (0.22 to 2.72) Men were significantly more likely to have abuse (11.72% vs. 5.14; $P < .01$) and CUD (16.85% vs. 8.64%; $P < .01$) than women; but not dependence (5.13% vs. 3.50%: P not significant)	
Park 2017[44]	aOR (95% CI) of CUD Medical use (vs. reference, recreational use only): 0.78 (0.50 to 1.20) Medical and recreational use (vs. reference, recreational use only): 1.31 (0.97 to 1.76) aOR (95% CI) of CUD in men Medical use (vs. reference, recreational use only): 0.88 (0.52 to 1.48) Medical and recreational use (vs. reference, recreational use only): 1.28 (0.85 to 1.95) aOR (95% CI) of CUD in women Medical use (vs. reference, recreational use only): 0.53 (0.26 to 1.07) Medical and recreational use (vs. reference, recreational use only): 1.30 (0.76 to 2.22)	Age Race/ethnicity Education Marital status Household income Frequency of past-year marijuana use Survey year
Park 2021[45]	OR (95% CI) of past-year CUD People with hearing loss (vs. reference, no hearing loss): 0.65 (0.54 to 0.78)	Sociodemographic variables (gender, race, marital status, age, education,

Study ID	Risk	Adjusted
	aOR (95% CI) of past-year CUD People with hearing loss (vs. reference, no hearing loss): 1.30 (1.05 to 1.60) Model 2 aOR (95% CI) of past-year CUD in people with hearing loss ADL: 1.70 (1.10 to 2.62) IADL: 0.92 (0.49 to 1.74) MDE (vs. reference, no MDE): 2.60 (1.56 to 4.33) Model 3 aOR (95% CI) of past-year CUD in people with hearing loss ADL: 1.71 (1.10 to 2.64) IADL: 0.96 (0.50 to 1.85) MDE (vs. reference, no MDE): 2.19 (1.31 to 3.65) Men and women had similar odds of CUD Younger people (aged 18 to 49) had higher odds of CUD than people aged 50 and older	income, employment status, poverty, health insurance, and urbanicity) Complex survey design Model 2: additionally adjusted for ADL, IADL, and MDE Model 3: additionally adjusted for great risk perceptions, frequency of the religious service attendance, religious salience, and importance of peer religiosity
Richter 2017[46]	Abuse in people aged 21 and older with light past-30-day use: 3.27% (weighted) Dependence in people aged 21 and older with light past-30-day use: 4.60% (weighted) CUD in people aged 21 and older with light past-30-day use: 7.87% (weighted) Abuse in people aged 21 and older with moderate past-30-day use: 3.42% (weighted) Dependence in people aged 21 and older with moderate past-30-day use: 9.45% (weighted) CUD in people aged 21 and older with moderate past-30-day use: 12.86% (weighted) Abuse in people aged 21 and older with heavy past 30-day use: 6.01% (weighted) Dependence in people aged 21 and older with heavy past 30-day use: 13.98% (weighted) CUD in people aged 21 and older with heavy past 30-day use: 19.99% (weighted) RR (95% CI) for abuse in people aged 14 to 44 Age (vs. reference, 14 to 17)	Not reported

Study ID	Risk	Adjusted
	Age 18 to 20: 0.45 (0.32 to 0.63) Age 21 to 25: 0.24 (0.17 to 0.34) Age 26 to 44: 0.12 (0.08 to 0.17) Female (vs. reference, male): 0.58 (0.41 to 0.82) Race/ethnicity (vs. reference, White) Black: 1.60 (1.06 to 2.40) Hispanic: 1.40 (0.83 to 2.36) American Indian or Alaskan Native: 0.58 (0.25 to 1.33) Other: 1.60 (0.89 to 2.60) Intensity of use in past 30 days (vs. reference, no current use) Light (1 to 10 days): 9.72 (6.76 to 13.98) Moderate (11 to 20 days): 10.72 (7.19 to 16.00) Heavy (12 to 30 days): 17.11 (10.48 to 27.96) Age of initiation at 15 or older (vs. reference, age 14 or younger): 0.97 (0.67 to 1.42) Past year mental illness (vs. reference, no mental illness) Anxiety: 1.95 (1.10 to 3.45) Depression: 0.67 (0.38 to 1.18) Past 30-day substance use (vs. reference, no past 30-day use) Tobacco or nicotine: 1.27 (0.92 to 1.76) Alcohol: 0.57 (0.30 to 0.83) Illicit drug use and/or misuse of controlled prescription drugs: 1.40 (0.98 to 2.01) SUD (vs. reference, no SUD) Tobacco or nicotine: 0.84 (0.56 to 1.26) AUD: 3.05 (2.06 to 4.52) Other drug disorder: 2.74 (1.74 to 4.30) RR (95% CI) for dependence in people aged 14 to 44 Age (vs. reference, 14 to 17) Age 18 to 20: 0.58 (0.40 to 0.85) Age 21 to 25: 0.58 (0.40 to 0.83)	

Study ID	Risk	Adjusted
	Age 26 to 44: 0.24 (0.17 to 0.34) Female (vs. reference, male): 0.88 (0.69 to 1.12) Race/ethnicity (vs. reference, White) Black: 2.04 (1.47 to 2.82) Hispanic: 1.68 (1.23 to 2.29) American Indian or Alaskan Native: 0.81 (0.39 to 1.71) Other: 1.43 (0.93 to 2.19) Intensity of use in past 30 days (vs. reference, no current use) Light (1 to 10 days): 7.10 (5.00 to 10.10) Moderate (11 to 20 days): 15.52 (10.05 to 23.96) Heavy (12 to 30 days): 27.65 (19.43 to 39.33) Age of initiation at 15 or older (vs. reference, age 14 or younger): 0.82 (0.61 to 1.10) Past year mental illness (vs. reference, no mental illness) Anxiety: 1.17 (0.78 to 1.75) Depression: 1.57 (1.05 to 2.34) Past 30-day substance use (vs. reference, no past 30-day use) Tobacco or nicotine: 1.65 (1.30 to 2.11) Alcohol: 0.66 (0.52 to 0.84) Illicit drug use and/or misuse of controlled prescription drugs: 1.19 (0.81 to 1.75) SUD (vs. reference, no SUD) Tobacco or nicotine: 1.01 (0.76 to 1.34) AUD: 3.04 (2.37 to 3.89) Other drug disorder: 2.17 (1.24 to 3.80) OR (95% CI) for CUD in people aged 14 to 44 Age (vs. reference, 14 to 17) Age 18 to 20: 0.51 (0.38 to 0.68) Age 21 to 25: 0.40 (0.30 to 0.54) Age 26 to 44: 0.17 (0.13 to 0.23)	

Study ID	Risk	Adjusted
	Female (vs. reference, male): 0.75 (0.61 to 0.93) Race/ethnicity (vs. reference, White) Black: 1.88 (1.43 to 2.48) Hispanic: 1.57 (1.15 to 2.15) American Indian or Alaskan Native: 0.74 (0.39 to 1.38) Other: 1.51 (1.13 to 2.00) Intensity of use in past 30 days (vs. reference, no current use) Light (1 to 10 days): 8.20 (6.27 to 10.72) Moderate (11 to 20 days): 13.61 (9.94 to 18.63) Heavy (12 to 30 days): 23.59 (17.48 to 31.84) Age of initiation at 15 or older (vs. reference, age 14 or younger): 0.87 (0.67 to 1.14) Past year mental illness (vs. reference, no mental illness) Anxiety: 1.40 (0.98 to 2.01) Depression: 1.19 (0.83 to 1.71) Past 30-day substance use (vs. reference, no past 30-day use) Tobacco or nicotine: 1.49 (1.20 to 1.84) Alcohol: 0.62 (0.50 to 0.77) Illicit drug use and/or misuse of controlled prescription drugs: 1.26 (0.94 to 1.67) SUD (vs. reference, no SUD) Tobacco or nicotine: 0.96 (0.75 to 1.22) AUD: 3.03 (2.41 to 3.82) Other drug disorder: 2.35 (1.51 to 3.67) For the same comparisons, by age group for CUD Aged 18 to 20 Female: 0.63 (0.42 to 0.95) Black: 2.42(1.59 to 3.70) Other race or ethnicity: 1.99 (1.22 to 3.26) Light past 30- day use: 4.98 (2.76 to 8.97) Moderate past 30- day use: 5.90 (2.96 to 11.79) Heavy past 30- day use: 14.29 (7.82 to 26.13)	

Study ID	Risk	Adjusted
	Depression: 2.23 (1.27 to 3.89) AUD: 2.34 (1.61 to 3.41) Other drug use disorder: 2.08 (1.01 to 4.26) No other comparisons were statistically significant For the same comparisons, by age group for CUD Aged 21 to 44 Black: 1.96 (1.59 to 3.70) Hispanic: 1.79 (1.16 to 2.76) Light past 30- day use: 13.57 (9.26 to 19.88) Moderate past 30- day use: 21.97 (15.115 to 31.86) Heavy past 30- day use: 38.27 (26.111 to 56.10) Anxiety: 1.50 (1.01 to 2.25) Tobacco use in past 30 days: 1.71 (1.28 to 2.29) Alcohol use in past 30 days: 0.58 (0.43 to 0.78) AUD: 3.37 (2.51 to 4.52) Other drug use disorder: 2.45 (1.50 to 3.98) No other comparisons were statistically significant	
Salas-Wright 2019[47]	The rate of CUD among immigrants (0.86%, 95% CI 0.6 to 1.2) was lower than that among US-born adults (2.86%, 95% CI 2.62 to 3.13). Among US-born individuals, the CIs for the prevalence estimate for past year use ceased to overlap with the 2002–2003 estimate (11.8%, 95% CI = 11.5–12.1) beginning in 2010–2011 as rates increased steadily to reach their pinnacle in 2016–2017 (17.4%, 95% CI = 16.9–17.9). Among immigrants, we see also significant differences from the 2002–2003 rate, but only beginning in the most recent surveys (2015–2016: 5.4%, 95% CI = 5.0–5.9; 2016–2017:6.3%, 95% CI = 5.8–6.8). We observed significant increases of prevalence of cannabis use —beginning in 2010–2011 and continuing through to 2015–2017—among young adults ages 18–25. Rates were consistently between 11% and 12% among young adult immigrants between 2002 and 2007 before steadily climbing to a high of 18.7% in 2015–2017.	Not reported
Schuermeyer 2014[48]	aOR (95% CI) of CUD (abuse or dependence) Adults aged 18 to 25 in CO and 34 nonmedical use states	All independent variables

Study ID	Risk	Adjusted
	Exact age: 0.90 (0.89 to 0.92) Male (vs. reference, female): 2.00 (1.86 to 2.16) Race/ethnicity (vs. reference, White) Black: 1.18 (1.06 to 1.31) Hispanic: 0.77 (0.62 to 0.95) Other: 0.87 (0.77 to 0.99) Adults aged 26 and older in CO and 34 nonmedical use states Exact age: 0.93 (0.92 to 0.94) Male (vs. reference, female): 3.05 (2.53 to 3.67) Race/ethnicity (vs. reference, White) Black: 2.01 (1.62 to 2.49) Hispanic: 0.63 (0.40 to 0.98) Other: 0.41 (0.29 to 0.60)	
Schulenberg 2015[49] and Patrick 2011[50]	RR (95% CI) of CUD (vs. reference, abstainers) at age 18 Male (vs. reference, female): 2.18 (1.93 to 2.47) Race/ethnicity (vs. reference, White) African American: 1.56 (1.24 to 1.97) Hispanic: 1.09 (0.81 to 1.47) Other: 1.05 (0.81 to 1.35) Substance use (vs. reference, no use) Past year cannabis use: 4.52 (3.92 to 5.22) Past 30-day cigarette use: 1.05 (0.91 to 1.22) Past 2-week binge drinking: 1.07 (0.93 to 1.23) RR (95% CI) of CUD (vs. reference, abstainers) at age 35 Overall good physical health: 0.87 (0.82 to 0.92) Overweight/obese: 0.97 (0.86 to 1.10) Exercising vigorously: 1.05 (1.00 to 1.11) Trouble sleeping: 1.02 (0.99 to 1.06)	Not reported

Study ID	Risk	Adjusted
	Cognitive difficulties: 1.16 (1.10 to 1.21) Doctor visit for injuries: 1.13 (0.98 to 1.29) Substance use (vs. reference, no use) Past 30-day cigarette use: 3.25 (2.82 to 3.75) Past 2-week binge drinking: 1.98 (1.74 to 2.25) RR (95% CI) of CUD (vs. reference, nondisordered users) at age 18 Male (vs. reference, female): 2.09 (1.84 to 2.39) Race/ethnicity (vs. reference, White) African American: 1.48 (1.15 to 1.91) Hispanic: 1.27 (0.93 to 1.74) Other: 1.00 (0.76 to 1.31) Substance use (vs. reference, no use) Past year cannabis use: 1.46 (1.26 to 1.69) Past 30-day cigarette use: 0.95 (0.81 to 1.11) Past 2-week binge drinking: 0.96 (0.83 to 1.11) RR (95% CI) of CUD (vs. reference, nondisordered users) at age 35 Overall good physical health: 0.85 (0.80 to 0.90) Overweight/obese: 1.03 (0.91 to 1.17) Exercising vigorously: 1.01 (0.96 to 1.06) Trouble sleeping: 1.00 (0.97 to 1.04) Cognitive difficulties: 1.13 (1.07 to 1.19) Doctor visit for injuries: 1.02 (0.90 to 1.16) Substance use (vs. reference, no use) Past 30-day cigarette use: 1.37 (1.19 to 1.59) Past 2-week binge drinking: 0.91 (0.80 to 1.03) In multinomial logistic regression models, being male was no longer a significant predictor of CUD in users at age 35. In multinomial logistic regression models, use at age 18 was no longer a significant predictor of CUD in users at age 35.	
Shi 2014[51]	aOR (95% CI) for dependence or abuse	All sociodemographic covariates

Study ID	Risk	Adjusted
	Lifetime clinician-identified depression (vs. no depression): 2.32 (1.84 to 2.92) Lifetime MDE (vs. no MDE): 2.37 (1.89 to 2.97) Past year MDE (vs. no MDE): 2.86 (2.22 to 3.70) Past year serious psychological distress (vs. no distress): 3.05 (2.40 to 3.86) Grouped by MDE status: Past MDE (vs. no MDE): 1.52 (1.01 to 2.26) Recent MDE (vs. no MDE): 2.97 (2.30 to 3.85)	
Sonon 2016[52]	When compared with people without CUD, people with CUD were: Similar in age (22.8 vs. 22.8; P value not significant) More likely to be male (73.7% vs. 42.9%; *P* < .001) Similar in race/ethnicity (African American, 57.5% vs. 56.9; P value not significant) More likely to have initiated cannabis use at a younger age (before age 16, 81.2% vs 45.7%; between 16 and 22, 18.8% vs. 33.9%; *P* < .001) More likely to have past year cannabis use (77.5% vs. 44.5%; *P* < .001) More likely to have greater levels of cannabis use (mean daily joints, 2.2 vs. 0.6; *P* < .001) More likely to have past year cigarette use (66.2% vs. 39.2%; *P* < .001) More likely to have greater levels of tobacco use (mean daily cigarettes, 7.2 vs. 3.8; *P* < .001) Similar in levels of past year alcohol use (91.2% vs. 92.5%; P value not significant) More likely to have greater levels of alcohol use (mean daily drinks, 2.9 vs. 1.4; *P* < .001) More likely to have past year cocaine use (16.2% vs. 4.9%; *P* < .001) More likely to have past year other illicit drug use (33.7% vs. 10.2%; *P* < .001) The association between younger age at initiation and being male were confirmed in a path analysis	Not reported
Vasilenko 2017[53]	Men had higher prevalence of CUD compared with women at most ages. For both men and women, rates of CUD were highest at age 18 (13% men; 7% women), declined steeply through age 30, and then remained at a low rate at the remaining ages. Prevalence of disorders generally declined with age for all 3 racial/ethnic groups for CUD.	Not reported

Study ID	Risk	Adjusted
	Prevalence of CUD was higher for Black compared with White and Latino participants from ages to 20 to 66, after which there were very few cases of CUD for any racial/ethnic group. No further details; all reported graphically	
Verplaetse 2018[54]	New CUD vs. absent (never CUD) 2 or more stressful past-year events (vs. 0 or 1 event): OR, 5.52 (95% CI, 4.31 to 7.08) Female (vs. male): OR, 0.37 (95% CI, 0.28 to 0.50) Stress by gender: not statistically significant Ongoing CUD vs. remitted (CUD diagnosis 12+ months prior) 2 or more stressful past-year events (vs. 0 or 1 event): OR, 2.95 (95% CI, 2.18 to 4.01) Female (vs. male): not statistically significant Stress by gender: not statistically significant	Not reported
Vijapur 2021[55]	OR (95% CI) for CUD DSM-IV Binge drinking (vs. reference, no binge drinking): 1.11 (1.02 to 1.22) aOR (95% CI) for CUD DSM-IV Binge drinking (vs. reference, no binge drinking): 1.15 (1.05 to 1.26) OR (95% CI) for CUD DSM-5 Binge drinking (vs. reference, no binge drinking): 1.13 (1.05 to 1.23) aOR (95% CI) for CUD DSM-5 Binge drinking (vs. reference, no binge drinking): 1.12 (1.03 to 1.21)	Age Gender Race Total family income
Waddell 2021[56]	Between group risk factor Past year CUD, aOR (95% CI) Female (vs. reference, male): 0.65 (0.62 to 0.68); *P* < .001 Older age (vs. reference, younger age): 0.65 (0.64 to 0.67); *P* < .001 Racial/ethnic minority (vs. reference, not racial/ethnic minority): 1.34 (1.28 to 1.41); *P* < .001 Co-use (vs. reference, cannabis only): 0.96 (0.87 to 1.06); P, NS Within group risk factor	Study year (2002–2019) Age Race, Sex

Study ID	Risk	Adjusted
	Past year CUD, aOR (95% CI) Female (vs. reference, male): 0.81 (0.77 to 0.85); *P* < .001 Older age (vs. reference, younger age): 0.60 (0.59 to 0.62); *P* < .001 Racial/ethnic minority (vs. reference, not racial/ethnic minority): 1.29 (1.23 to 1.35); *P* < .001 Weekly alcohol and monthly cannabis use was associated with greater odds of CUD than occasional use of both and weekly alcohol and occasional cannabis but was associated with lower odds of CUD than weekly cannabis and occasional alcohol. Past year CUD, aOR (95% CI) Weekly alcohol and monthly cannabis (vs. reference, occasional both): 7.46 (6.12 to 9.09); *P* < .001 Weekly alcohol and monthly cannabis (vs. reference, occasional alcohol and weekly cannabis): 0.42 (0.39 to 0.47); *P* < .001 No CUD observed in the weekly alcohol and occasional cannabis (*P* < .001) Being an occasional alcohol and weekly cannabis user was associated with greater odds of having a CUD than occasional use of both and weekly alcohol and occasional cannabis. Past year CUD, aOR (95% CI) Occasional alcohol and weekly cannabis (vs. reference, occasional both): 17.57 (14.11 to 21.88); *P* < .001 No CUD observed in the weekly alcohol and occasional cannabis (*P* < .001) Being an occasional user of both was associated with greater odds of having a CUD than weekly alcohol and occasional cannabis user. No CUD observed in the weekly alcohol and occasional cannabis (*P* < .001) Being a weekly alcohol and weekly cannabis user was associated with greater odd of having CUD than all other categories. Past year CUD, aOR (95% CI) Weekly alcohol and weekly cannabis (vs. reference, occasional both): 23.17 (19.04 to 28.20); *P* < .001 Weekly alcohol and weekly cannabis (vs. reference, occasional alcohol and weekly cannabis): 1.32 (1.21 to 1.44); *P* < .001 Weekly alcohol and weekly cannabis (vs. reference, weekly alcohol and monthly cannabis): 3.11 (2.94 to 3.28); *P* < .001	

Study ID	Risk	Adjusted
	No CUD observed in the weekly alcohol and occasional cannabis ($P < .001$)	
Wall 2019[57]	Compared with nonmedical only users, combined users had a higher prevalence of CUD (41.5%; SE, 3.2%) The samples were weighted to adjust for nonresponse at the household and person levels, selection of one person per household, and oversampling of African Americans, Asians, and Hispanics. After weighting, the data were adjusted to be representative of the US adult population for variables including region, age, sex, race, and ethnicity based on the American Community Survey. CUD was only assessed in NESARC if respondents used marijuana other than prescribed (i.e., nonmedically).	After weighting, the data were adjusted to be representative of the US adult population for variables including region, age, sex, race, and ethnicity based on the American Community Survey
Wu 2014[58]	aOR (95% CI) CUD in past year users Race/ethnicity (vs. reference, White) Black: 1. 40 (1.27 to 1.54) Native American: 1.49 (1.03 to 2.14) Native Hawaiian or Pacific Islander: 0.73 (0.43 to 1.25) Asian American: 1.88 (1.39 to 2.55) Mixed race: 1.13 (0.89 to 1.43) Hispanic: 1.41 (1.25 to 1.58) Age (vs. reference age 12 to 17) Age 18 to 25: 0.47 (0.43 to 0.51) Significantly lower in all race/ethnicity groups, other than Native American Age 26 to 34: 0.27 (0.23 to 0.30) Significantly lower in all race/ethnicity groups, other than Native American (Native Hawaiian or Pacific Islander group not included as small sample sizes) Age 35 to 49: 0.20 (0.18 to 0.23) Significantly lower in all race/ethnicity groups (Native Hawaiian or Pacific Islander group not included as small sample sizes) Age 50 to 64: 0.15 (0.11 to 0.20) Significantly lower in all race/ethnicity groups (Native American and Native Hawaiian or Pacific Islander groups not included as small sample sizes) Age 65 and older: 0.11 (0.04 to 0.31) Not analyzed by group as small sample sizes Male (vs. reference female): 1.28 (1.18 to 1.38)	Race/ethnicity Age Sex Family income Government assistance County type Residential move MDE Arrested/booked Nicotine dependence AUD Frequency of use

Study ID	Risk	Adjusted
	Significantly higher in White and Black men, but not men in other race/ethnic groups MDE (vs. reference, no MDE): 2.05 (1.88 to 2.23) Significantly higher in all race/ethnicity groups, other than Native American and Native Hawaiian or Pacific Islander groups Nicotine dependence (vs. reference, no dependence): 1.16 (1.07 to 1.25) Significantly higher in White and Asian American groups, but not other race/ethnic groups AUD ((vs. reference, no AUD): 2.46 (2.26 to 2.66) Significantly higher in all race/ethnicity groups, other than Native American, Native Hawaiian or Pacific Islander, and Asian American groups Frequency of use (vs. reference, 1 to 11 days per year) 12 to 51 days: 8.95 (7.89 to 10.16) Significantly higher in all race/ethnicity groups 52 days and more: 24.10 (21.04 to 27.61) Significantly higher in all race/ethnicity groups	
Wu 2016[59]	aOR (95% CI) for cannabis abuse in past year users Race/ethnicity (vs. reference, White) Black: 1.39 (1.16 to 1.65) Native American: 1.68 (1.11 to 2.53) Native Hawaiian or Pacific Islander: 0.74 (0.35 to 1.59) Asian American: 1.14 (0.80 to 1.63) Mixed race: 0.99 (0.70 to 1.42) Hispanic: 1.27 (1.06 to 1.51) Age (vs. reference, 18 to 25) Age 26 to 34: 0.53 (0.45 to 0.63) Age 35 to 49: 0.50 (0.43 to 0.59) Age 50 and older: 0.44 (0.32 to 0.60) Female (vs. reference, male): 0.52 (0.45 to 0.59) aOR (95% CI) for cannabis dependence in past year users Race/ethnicity (vs. reference, White) Black: 1.56 (1.40 to 1.74)	Age Sex Education Survey year

Study ID	Risk	Adjusted
	Native American: 1.71 (1.24 to 2.36) Native Hawaiian or Pacific Islander: 0.88 (0.62 to 1.24) Asian American: 1.18 (0.83 to 1.67) Mixed race: 1.25 (0.95 to 1.63) Hispanic: 1.19 (1.02 to 1.39) Age (vs. reference, 18 to 25) Age 26 to 34: 0.64 (0.57 to 0.72) Age 35 to 49: 0.44 (0.38 to 0.52) Age 50 and older: 0.26 (0.18 to 0.37) Female (vs. reference, male): 0.73 (0.68 to 0.79) aOR (95% CI) for cannabis abuse or dependence in past year users Race/ethnicity (vs. reference, White) Black: 1.50 (1.35 to 1.66) Native American: 1.70 (1.29 to 2.25) Native Hawaiian or Pacific Islander: 0.83 (0.57 to 1.22) Asian American: 1.17 (0.87 to 1.57) Mixed race: 1.16 (0.91 to 1.48) Hispanic: 1.22 (1.07 to 1.38) Age (vs. reference, 18 to 25) Age 26 to 34: 0.61 (0.55 to 0.67) Age 35 to 49: 0.46 (0.41 to 0.52) Age 50 and older: 0.32 (0.25 to 0.40) Female (vs. reference, male): 0.65 (0.61 to 0.70)	

Abbreviations. ACE: adverse childhood experience; ADL: Activities of Daily Living; aHR: adjusted hazard ratio; aOR: adjusted odds ratio; AUD: alcohol use disorder; AZ: Arizona; CA: California; CI: confidence interval; CO: Colorado; CT: Connecticut; CUD: cannabis use disorder; DiD: difference-in-difference; DND: daily or near daily use; DSM: Diagnostic and Statistical Manual of Mental Disorders; DUD: drug use disorder; GAD: general anxiety disorder; OR: odds ratio; OUD: opioid use disorder; FPL: federal poverty level; HI: Hawaii; HR: hazard ratio; IADL: Instrumental Activities of Daily Living; ISEL; Interpersonal Support Evaluation List; MA: Massachusetts; MD: Maryland; MDD: major depressive disorder; MDE: major depressive episode; ME: Maine; MI: Michigan; MML: medical marijuana law; MT: Montana; NJ: New Jersey; NW: New Mexico; ns: not significant; NV: Nevada; OR: Oregon; PTSD: posttraumatic stress disorder; RD: risk difference; RML: recreational marijuana law; RR: risk ratio; SE:

standard error; STI: sexually transmitted infection; SUD: substance use disorder; TF: transfeminine; TM: transmasculine; TUD: tobacco use disorder; US: United States; WA: Washington; VA: Veterans Affairs; VT: Vermont.

Table E3. Factors Associated with Cannabis Use Disorder From Foster et al., 2021[15a]

Characteristic	Regular Use of Cannabis Without CUD	Regular Use of Cannabis With CUD	*P* Value
	Mean (SD)	Mean (SD)	
Early childhood (age 3 to 5)			
Depression or anxiety (CBCL)	**53.18 (4.02)**	**54.47 (4.01)**	***P* < .05**
Middle childhood (age 9 to 11)			
Health issues (count)	53.18 (4.02)	54.47 (4.01)	*P* ≥ .05
BMI	18.77 (4.18)	19.37 (4.58)	*P* ≥ .05
Major depressive disorder (%)	0.05 (0.13)	0.07 (0.14)	*P* ≥ .05
Social phobia (%)	0.22 (0.23)	0.27 (0.27)	*P* ≥ .05
Conduct disorder (%)	0.01 (0.03)	0.02 (0.06)	*P* ≥ .05
ADHD (combined, %)	0.32 (0.24)	0.41 (0.24)	*P* ≥ .05
Young adulthood (age 18 to 25)			
Maximum drinks in 24 hours	6.17 (1.80)	6.43 (2.03)	*P* ≥ .05
Cigarette use	**2.61 (1.53)**	**3.16 (1.40)**	***P* < .01**
Other drug use	**2.16 (2.47)**	**3.11 (2.37)**	***P* < .001**
Alcohol use disorder	**2.24 (2.07)**	**3.90 (2.66)**	***P* < .001**
Nicotine dependence	**0.95 (1.13)**	**2.64 (1.79)**	***P* < .001**
Other substance use disorder	**0.85 (3.25)**	**2.21 (3.92)**	***P* < .001**
Number of illnesses	5.99 (4.44)	7.66 (5.86)	*P* ≥ .05
Doctor visits	**4.46 (2.34)**	**5.48 (1.90)**	***P* < .01**
Dental visits	3.88 (2.41)	4.65 (2.14)	*P* ≥ .05
Dental cleanings	3.72 (2.25)	4.42 (2.15)	*P* ≥ .05
Depression	**1.46 (2.74)**	**3.53 (3.57)**	***P* < .001**
Social anxiety	0.59 (1.23)	1.02 (1.43)	*P* ≥ .05
Panic disorder	**1.14 (2.15)**	**2.15 (2.65)**	***P* < .01**
Posttraumatic stress disorder	**1.11 (2.67)**	**2.41 (3.94)**	***P* < .01**
Antisocial personality disorder	**2.41 (1.91)**	**3.70 (1.62)**	***P* < .001**

Note. [a] *Bold text indicates the result is statistically significant.*
Abbreviations. ADHD; attention deficit hyperactivity disorder; BMI: body mass index; CBCL: Childhood Behavior Checklist; SD: standard deviation.

Table E4. Factors Associated with Cannabis Use Disorder From Meyers et al., 2018[39a]

Factor	Model 1						Model 1					
	OR						OR					
	Male	*P* Value	Female	*P* Value	All	*P* Value	Male	*P* Value	Female	*P* Value	All	*P* Value
Physical abuse												
All	**1.40**	***P* < .0001**	**1.35**	***P* < .0001**	**1.38**	***P* < .0001**	**1.21**	***P* < .0001**	**1.17**	***P* < .0001**	**1.19**	***P* < .0001**
Non-Hispanic White	**1.37**	***P* < .0001**	**1.37**	***P* < .0001**	**1.37**	***P* < .0001**	**1.21**	***P* < .0001**	**1.19**	***P* < .0001**	**1.20**	***P* < .0001**
Non-Hispanic Black	**1.43**	***P* < .0001**	**1.21**	***P* < .001**	**1.34**	***P* < .0001**	**1.21**	***P* < .05**	**1.08**	***P* < .05**	**1.16**	***P* < .05**
Hispanic	**1.49**	***P* < .0001**	**1.52**	***P* < .0001**	**1.49**	***P* < .0001**	1.23	*P* ≥ .05	**1.24**	***P* < .05**	**1.22**	***P* < .001**
American Indian	1.24	*P* ≥ .05	1.27	*P* ≥ .05	1.19	*P* ≥ .05	1.08	*P* ≥ .05	1.05	*P* ≥ .05	1.01	*P* ≥ .05
Asian	**2.10**	***P* < .0001**	1.68	*P* ≥ .05	**2.02**	***P* < .0001**	**1.95**	***P* < .0001**	1.26	*P* ≥ .05	**1.77**	***P* < .0001**
Sexual abuse												
All	**1.22**	***P* < .0001**	**1.13**	***P* < .0001**	**1.14**	***P* < .0001**	**1.11**	***P* < .05**	1.05	*P* ≥ .05	**1.06**	***P* < .05**
Non-Hispanic White	**1.22**	***P* < .001**	**1.19**	***P* < .0001**	**1.14**	***P* < .0001**	1.11	*P* ≥ .05	1.05	*P* ≥ .05	1.06	*P* ≥ .05
Non-Hispanic Black	1.14	*P* ≥ .05	**1.22**	***P* < .0001**	**1.14**	***P* < .001**	0.99	*P* ≥ .05	**1.13**	***P* < .05**	1.07	*P* ≥ .05
Hispanic	**1.30**	***P* < .05**	1.05	*P* ≥ .05	1.12	*P* ≥ .05	1.17	*P* ≥ .05	0.91	*P* ≥ .05	0.99	*P* ≥ .05
American Indian	**2.89**	***P* < .05**	0.90	*P* ≥ .05	1.03	*P* ≥ .05	**2.72**	***P* < .05**	0.94	*P* ≥ .05	1.01	*P* ≥ .05
Asian	0.81	*P* ≥ .05	**1.68**	***P* < .05**	1.30	*P* ≥ .05	0.86	*P* ≥ .05	1.25	*P* ≥ .05	1.12	*P* ≥ .05
Parental violence												
All	1.04	*P* ≥ .05	1.03	*P* ≥ .05	1.03	*P* ≥ .05	0.94	*P* ≥ .05	0.96	*P* ≥ .05	**0.95**	***P* < .05**
Non-Hispanic White	1.01	*P* ≥ .05	0.97	*P* ≥ .05	0.99	*P* ≥ .05	**0.90**	***P* < .05**	**0.91**	***P* < .05**	**0.91**	***P* < .001**
Non-Hispanic Black	**1.15**	***P* < .05**	1.09	*P* ≥ .05	**1.11**	***P* < .001**	1.08	*P* ≥ .05	1.01	*P* ≥ .05	1.04	*P* ≥ .05
Hispanic	1.04	*P* ≥ .05	1.07	*P* ≥ .05	1.06	*P* ≥ .05	0.90	*P* ≥ .05	0.99	*P* ≥ .05	0.95	*P* ≥ .05
American Indian	1.11	*P* ≥ .05	**1.40**	***P* < .05**	**1.25**	***P* < .05**	1.34	*P* ≥ .05	**1.33**	***P* < .05**	**1.29**	***P* < .05**
Asian	1.10	*P* ≥ .05	0.82	*P* ≥ .05	0.96	*P* ≥ .05	1.02	*P* ≥ .05	0.86	*P* ≥ .05	0.88	*P* ≥ .05

Note. [a] *Bold text indicates the result is statistically significant.*
Abbreviation. OR: odds ratio.

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