Appendix A: Search Strategy and Results

Database: Ovid MEDLINE: Epub Ahead of Print, In-Process & Other Non-Indexed Citations, Ovid MEDLINE® Daily and Ovid MEDLINE® <1946-Present>
Search Strategy:
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1 ((Marijuana or marihuana or cannabis or cannabinoid* or psychoactive product* or psychoactive substances* or narcotic*) adj5 (Legaliz* or legalis* or decriminal* or depenaliz* or depenalis* or deregulat* or liberaliz* or liberalis*)).tw,kf.
2 ((marijuana or marihuana or cannabis or cannabinoid*) adj1 (policy or policies or law or laws or licens* or legislation or dispensar* or store or stores or regulat* or recreational or medical or medicinal or nonmedical or legal*)).tw,kf.
3 (legal high or legal highs).tw,kf.
4 Psychoactive Substances Act.tw,kf.
5 2 or 3 or 4
6 new psychoactive product*.tw,kf.
7 novel psychoactive product*.tw,kf.
8 novel psychoactive substance*.tw,kf.
9 new psychoactive substance*.tw,kf.
10 novel psychoactive drug*.tw,kf.
11 new psychoactive substances*.tw,kf.
12 Designer Drugs/sd [Supply & Distribution]
13 Medical Marijuana/sd [Supply & Distribution]
14 exp Street Drugs/lj, sd [Legislation & Jurisprudence, Supply & Distribution]
15 Marijuana Smoking/lj [Legislation & Jurisprudence]
16 Drug Users/lj, sn [Legislation & Jurisprudence, Statistics & Numerical Data]
17 "Drug and Narcotic Control"/lj [Legislation & Jurisprudence]
18 or/6-17
19 (Legal* or decriminal* or depenaliz* or depenalis* or deregulat* or liberaliz* or liberalis* or policy or policies or law or laws or licens* or legislation or regulat*).ti.
20 18 and 19
21 5 or 20
22 limit 21 to (clinical study or clinical trial, all or comparative study or evaluation studies or meta analysis or multicenter study or observational study or pragmatic clinical trial or systematic reviews or validation studies)
23 Epidemiologic studies/
24 exp case control studies/
25 exp cohort studies/
26 Case control.tw.
27 (cohort adj (study or studies)).tw.
28 Cohort analy$.tw.
29 (Follow up adj (study or studies)).tw.
30 (observational adj (study or studies)).tw.
31 Longitudinal.tw.
32 Retrospective.tw.
33 Cross sectional.tw.
34 Cross-sectional studies/

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35 or/23-34 [Observational Studies search filter used by SIGN (Scottish Intercollegiate Guidelines Network http://www.sign.ac.uk/methodology/filters.html#obs]
36 21 and 35
37 exp Epidemiologic Methods/
38 amphetamine-related disorders/ep or cocaine-related disorders/ep or drug overdose/ep or inhalant abuse/ep or marijuana abuse/ep or exp opioid-related disorders/ep or phencyclidine abuse/ep or psychoses, substance-induced/ep or substance abuse, intravenous/ep
39 Prevalence/
40 Incidence/ or incidence.ti,ab,kw.
41 (harm or harms).tw,kf.
42 ("marijuana use" or "marijuana availability" or "cannabis use" or cannabis availability or "drug use").tw,kf.
43 or/37-42
44 21 and 43
45 1 or 22 or 36 or 44
46 45 not (exp animals/ not humans.sh.)
47 limit 46 to (comment or editorial or letter)
48 46 not 47
49 limit 48 to yr="1970 -Current"

Database	**Number of Results**
Medline (OVID)	2041
Embase (OVID)	1453
PsycINFO (OVID)	1393
Web of Science: Science Citation Index Social Sciences Citation Index Conference Proceedings Citation Index- Science Conference Proceedings Citation Index- Social Science & Humanities	1358
Criminal Justice Abstracts (EBSCO)	1074
ProQuest Databases: Applied Social Sciences Index & Abstracts (ASSIA), International Bibliography of the Social Sciences (IBSS), PAIS Index, Policy File Index, Sociological Abstracts	910
Total Number of Results	**8229**
Total number of results after duplicates removed in EndNote	**4860**

Appendix B: Quality Appraisal Checklist

Adapted from: Downs SH, Black N. The feasibility of creating a checklist for the assessment of the methodological quality both of randomised and non-randomised studies of health care interventions. *J Epidemiol Community Health*. 1998;52(6):377-384.

1. Is the hypothesis/aim/objective of the study clearly described?

□ Yes (1)

□ No (0)

2. Are the main outcomes to be measured clearly described in the Introduction or Methods section? *If the main outcomes are first mentioned in the Results section, the question should be answered no.*

□ Yes (1)

□ No (0)

3. Are the characteristics of the individuals included in the study clearly described? In cohort studies and trials, inclusion and/or exclusion criteria should be given.

□ Yes (1)

□ No (0)

4. Are the interventions of interest clearly described?

□ Yes (1)

□ No (0)

5. Are the distributions of principal confounders in each group of subjects to be compared clearly described?

□ Yes (2)

□ Partially (1)

□ No (0)

6. Are the main findings of the study clearly described? *Simple outcome data (including denominators and numerators) should be reported for all major findings so that the reader can check the major analyses and conclusions. (This question does not cover statistical tests which are considered below).*

□ Yes (1)

□ No (0)

7. Does the study provide estimates of the random variability in the data for the main outcome *(e.g., IQR, standard deviation, confidence interval, etc.)?*

□ Yes (1)

□ No (0)

□ N/A [there is no variability because data come from the entire population] (1)

Appendix B: Quality Appraisal Checklist

8. Have actual probability values been reported (e.g. 0.035 rather than <0.05) for the main outcomes except where the probability value is less than 0.001? (*Confidence intervals are acceptable in place of p-values*)

□ Yes (1)

□ No (0)

9. Were the subjects that were asked to participate in the study representative of the entire population from which they were recruited? *The study must identify the source population for participants and describe how they were selected. Participants would be representative if they comprised the entire source population or a random sample. Random sampling is only feasible where a list of all members of the relevant population exists.*

□ Yes (1)

□ No (0)

□ Unable to determine (0)

10. Were those subjects who agreed to participate representative of the entire population from which they were recruited? *The proportion of those asked who agreed should be stated. Validation that the sample was representative would include demonstrating that the distribution of the main confounding factors was the same in the study sample and the source population.*

□ Yes (1)

□ No (0)

□ Unable to determine (0)

11. If any of the results of the study were based on "data dredging", was this made clear? *Any analyses that had not been planned at the outset of the study should be clearly indicated. If no retrospective unplanned subgroup analyses were reported, then answer yes.*

□ Yes (1)

□ No (0)

□ Unable to determine (0)

12. In trials and cohort studies, do the analyses adjust for different lengths of follow-up of participants, or in case-control studies, is the time period between the intervention and outcome the same for cases and controls? *Where follow-up was the same for all study participants the answer should be yes. If different lengths of follow-up were adjusted for by, for example, survival analysis the answer should be yes. Studies where differences in follow-up are ignored should be answered no.*

□ Yes or N/A (1)

□ No (0)

□ Unable to determine (0)

13. Were the statistical tests used to assess the main outcomes appropriate? *The statistical techniques used must be appropriate to the data. For example non- parametric methods should be used for small sample sizes. Where little statistical analysis has been undertaken but where there is no evidence of bias, the question should be answered yes. If the distribution of the data*

Appendix B: Quality Appraisal Checklist

(normal or not) is not described it must be assumed that the estimates used were appropriate and the question should be answered yes.

□ Yes (1)

□ No (0)

□ Unable to determine from article (0)

14. Were the main outcome measures used accurate (valid and reliable)? *For studies where the outcome measures are clearly described, the question should be answered yes. For studies which refer to other work or that demonstrates the outcome measures are accurate, the question should be answered as yes.*

□ Yes (1)

□ No (0)

□ Unable to determine (0)

15. Were the participants in different comparison groups recruited from the same population or from comparable populations? *Answer NO for studies without a comparison/control group.*

□ Yes (1)

□ No (0)

□ Unable to determine (0)

16. Were study subjects in different intervention groups recruited over the same period of time? *Answer NO for studies without a comparison/control group.*

□ Yes (1)

□ No (0)

□ Unable to determine (0)

17. Was there adequate adjustment for confounding in the analyses from which the main findings were drawn?

□ Yes (1)

□ No (0)

□ Unable to determine (0)

Appendix C: Included Studies

INCLUDED STUDIES

1. Adam C, Raschzok A. Cannabis policy and the uptake of treatment for cannabis-related problems. *Drug Alcohol Rev*. 2017;36(2):171-177.
2. Allshouse AA, Metz TD. Trends in self-reported and urine toxicology (UTOX)-detected maternal marijuana use before and after legalization. *Am J Obstet Gynecol*. 2016;1:S444-S445.
3. Anderson DM, Hansen B, Rees DI. Medical marijuana laws, traffic fatalities, and alcohol consumption. *J Law Econ*. 2013;56(2):333-369.
4. Anderson DM, Rees DI, Sabia JJ. Medical marijuana laws and suicides by gender and age. *Am J Public Health*. 2014;104(12):2369-2376.
5. Anderson DM, Rees DI, Tekin E. Medical marijuana laws and workplace fatalities in the United States. *Int J Drug Policy*. 2018;60:33-39.
6. Anderson MD, Hansen B, Rees DI. Medical marijuana laws and teen marijuana use. *Am Law Econ Rev*. 2015;17(2):495-528.
7. Arredondo J, Gaines T, Manian S, et al. The law on the streets: evaluating the impact of Mexico's drug decriminalization reform on drug possession arrests in Tijuana, Mexico. *Int J Drug Policy*. 2018;54:1-8. doi:10.1016/j.drugpo.2017.12.006.
8. Aydelotte JD, Brown LH, Luftman KM, et al. Crash fatality rates after recreational marijuana legalization in Washington and Colorado. *Am J Public Health*. 2017;107(8):1329-1331.
9. Bachhuber MA, Saloner B, Cunningham CO, Barry CL. Medical cannabis laws and opioid analgesic overdose mortality in the United States, 1999-2010. *JAMA Intern Med*. 2014;174(10):1668-1673.
10. Banerji S, Hoyte C. Marijuana and synthetic cannabinoid patterns in a US state with legalized marijuana: a 5-year NPDS review. *Clin Toxicol*. 2017;55 (5):418-419.
11. Bell C, Slim J, Flaten HK, Lindberg G, Arek W, Monte AA. Butane hash oil burns associated with marijuana liberalization in Colorado. *J Med Toxicol.* 2015;11(4):422-425.
12. Bjordal M, Garrard A. The impact of marijuana legalization on poison center calls in the evergreen state. *Clin Toxicol*. 2015;53(7):694.
13. Blachly PH. Effects of decriminalization of marijuana in Oregon. *Ann N Y Acad Sci*. 1976;282:405-415.
14. Boyle C. Butane hash oil manufacturing related burn injury: a disturbing trend. *J Burn Care Res*. 2014;35:S112.
15. Bradford AC, Bradford WD. Medical marijuana laws reduce prescription medication use in Medicare Part D. *Health Aff*. 2016;35(7):1230-1236.
16. Bradford AC, Bradford WD, Abraham A, Bagwell Adams G. Association between US state medical cannabis laws and opioid prescribing in the Medicare Part D population. *JAMA Intern Med*. 2018;178(5):667-672.
17. Bradford AC, Bradford WD. Medical marijuana laws may be associated with a decline in the number of prescriptions for Medicaid enrollees. *Health Aff*. 2017;36(5):945-951.
18. Brooks-Russell A, Ma M, Levinson AH, et al. Adolescent marijuana use, marijuana-related perceptions, and use of other substances before and after initiation of retail marijuana sales in Colorado (2013-2015). *Prev Sci*. 2019;20(2):185-193.
19. Calcaterra SL, Keniston A, Hulll ML. The impact of the legalization of recreational marijuana on a safety-net health system. *J Gen Intern Med*. 2018;33(S2):S361.

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20. Cassidy TA, Green T, Garg P, Butler SF. Up in smoke? Marijuana initiation and prevalence trends in Colorado: 2008 to 2014. *Drug Alcohol Depend*. 2015;156:e39.
21. Cerda M, Sarvet AL, Wall M, et al. Medical marijuana laws and adolescent use of marijuana and other substances: alcohol, cigarettes, prescription drugs, and other illicit drugs. *Drug Alcohol Depend*. 2018;183:62-68.
22. Cerda M, Wall M, Feng T, et al. Association of state recreational marijuana laws with adolescent marijuana use. *JAMA Pediatr*. 2017;171(2):142-149.
23. Cerveny J, Chomynova P, Mravcik V, van Ours JC. Cannabis decriminalization and the age of onset of cannabis use. *Int J Drug Policy*. 2017;43:122-129.
24. Choo EK, Benz M, Zaller N, Warren O, Rising KL, McConnell KJ. The impact of state medical marijuana legislation on adolescent marijuana use. *J Adolesc Health*. 2014;55(2):160-166.
25. Chu YW. The effects of medical marijuana laws on illegal marijuana use. *J Health Econ*. 2014;38:43-61.
26. Couper FJ, Peterson BL. The prevalence of marijuana in suspected impaired driving cases in Washington state. *J Anal Toxicol*. 2014;38(8):569-574.
27. Donnelly N, Hall W, Christie P. The effects of partial decriminalisation on cannabis use in South Australia, 1985 to 1993. *Aust J Public Health*. 1995;19(3):281-287.
28. Donnelly N, Hall W, Christie P. The effects of the Cannabis Expiation Notice System on the prevalence of cannabis use in South Australia: evidence from the National Drug Strategy Household Surveys 1985-95. *Drug Alcohol Rev*. 2000;19(3):265-269.
29. Dutra LM, Parish WJ, Gourdet CK, Wylie SA, Wiley JL. Medical cannabis legalization and state-level prevalence of serious mental illness in the National Survey on Drug Use and Health (NSDUH) 2008-2015. *Int Rev Psychiatry*. 2018;30(3):203-215.
30. Estoup AC, Moise-Campbell C, Varma M, Stewart DG. The impact of marijuana legalization on adolescent use, consequences, and perceived risk. *Subst Use Misuse*. 2016;51(14):1881-1887.
31. Feige C, Miron JA. The opium wars, opium legalization and opium consumption in China. *Appl Econ Lett*. 2008;15(12):911-913.
32. Félix S, Portugal P. Drug decriminalization and the price of illicit drugs. *Int J Drug Policy*. 2017;39:121-129.
33. Gonçalves R, Lourenço A, da Silva SN. A social cost perspective in the wake of the Portuguese strategy for the fight against drugs. *Int J Drug Policy*. 2015;26(2):199-209.
34. Gorman DM, Huber Jr JC. Do medical cannabis laws encourage cannabis use? *Int J Drug Policy*. 2007;18(3):160-167.
35. Grant TM, Graham JC, Carlini BH, Ernst CC, Brown NN. Use of marijuana and other substances among pregnant and parenting women with substance use disorders: changes in Washington state after marijuana legalization. *J Stud Alcohol Drugs*. 2018;79(1):88-95.
36. Grucza RA, Vuolo M, Krauss MJ, et al. Cannabis decriminalization: a study of recent policy change in five U.S. states. *Int J Drug Policy*. 2018;59:67-75.
37. Grucza RA, Hur M, Agrawal A, et al. A reexamination of medical marijuana policies in relation to suicide risk. *Drug Alcohol Depend*. 2015;152:68-72.
38. Harper S, Strumpf EC, Kaufman JS. Do medical marijuana laws increase marijuana use? Replication study and extension. *Ann Epidemiol*. 2012;22(3):207-212.

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39. Harpin SB, Brooks-Russell A, Ma M, James KA, Levinson AH. adolescent marijuana use and perceived ease of access before and after recreational marijuana implementation in Colorado. *Subst Use Misuse*. 2018;53(3):451-456.
40. Hasin DS, Sarvet AL, Cerda M, et al. US adult illicit cannabis use, cannabis use disorder, and medical marijuana laws: 1991-1992 to 2012-2013. *JAMA Psychiatry*. 2017;74(6):579-588.
41. Hasin DS, Wall M, Keyes KM, et al. Medical marijuana laws and adolescent marijuana use in the USA from 1991 to 2014: results from annual, repeated cross-sectional surveys. *Lancet Psychiatry*. 2015;2(7):601-608.
42. Hasin D, Sarvet A, Cerda M, Keyes KM, Fink DS. Driving under the influence of alcohol or cannabis in the U.S., 1991-1992 to 2012-2013: relationship to state medical marijuana laws. *Alcohol Clin Exp Res*. 2017;41:250A.
43. Hoyte CO, Caruso J. The prevalence of marijuana in fatalities involving operators of motor vehicles in Denver County, Colorado, USA. *Clin Toxicol*. 2015;53(4):268.
44. Huber A, Newman R, LaFave D. Cannabis control and crime: medicinal use, depenalization and the war on drugs. *BE Journal of Economic Analysis & Policy*. 2016;16(4). doi:10.1515/bejeap-2015-0167
45. Hunt P, Pacula RL. early impacts of marijuana legalization: an evaluation of prices in Colorado and Washington. *J Prim Prev*. 2017;38(3):221-248.
46. Johnson J, Hodgkin D, Harris SK. The design of medical marijuana laws and adolescent use and heavy use of marijuana: analysis of 45 states from 1991 to 2011. *Drug Alcohol Depend*. 2017;170:1-8.
47. Jones J, Jones KN, Peil J. The impact of the legalization of recreational marijuana on college students. *Addict Behav*. 2018;77:255-259.
48. Jones JT, Baldwin A, Shu I. A comparison of meconium screening outcomes as an indicator of the impact of state-level relaxation of marijuana policy. *Drug Alcohol Depend*. 2015;156:e104-e105.
49. Kerr DCR, Bae H, Koval AL. Oregon recreational marijuana legalization: changes in undergraduates' marijuana use rates from 2008 to 2016. *Psychol Addict Behav*. 2018;32(6):670-678.
50. Kerr DCR, Bae H, Phibbs S, Kern AC. Changes in undergraduates' marijuana, heavy alcohol and cigarette use following legalization of recreational marijuana use in Oregon. *Addiction*. 2017;112(11):1992-2001. doi:10.1111/add.13906
51. Kerr WC, Lui C, Ye Y. Trends and age, period and cohort effects for marijuana use prevalence in the 1984-2015 US National Alcohol Surveys. *Addiction*. 2018;113(3):473-481. doi:10.1111/add.14031
52. Keyes KM, Wall M, Cerda M, et al. How does state marijuana policy affect US youth? Medical marijuana laws, marijuana use and perceived harmfulness: 1991-2014. *Addiction*. 2016;111(12):2187-2195.
53. Khatapoush S, Hallfors D. "Sending the wrong message": did medical marijuana legalization in California change attitudes about and use of marijuana? *J Drug Issues*. 2004;34(4):751-770.
54. Kim HS, Anderson JD, Saghafi O, Heard KJ, Monte AA. Cyclic vomiting presentations following marijuana liberalization in Colorado. *Acad Emerg Med*. 2015;22(6):694-699.
55. Kim HS, Hall KE, Genco EK, Van Dyke M, Barker E, Monte AA. Marijuana tourism and emergency department visits in Colorado. *N Engl J Med*. 2016;374(8):797-798.

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56. Kim JH, Santaella J, Cerda M, Martins SS. Medical marijuana laws and annual opioid analgesic sales in the United States. *Drug Alcohol Depend*. 2015;156:e111.
57. Kim JH, Santaella J, Mauro PM, et al. Nonmedical use of prescription opioids and medical marijuana laws in the US from 2004-2013. *Drug Alcohol Depend*. 2017;171:e102-e103.
58. Kim JH, Santaella-Tenorio J, Mauro C, et al. State medical marijuana laws and the prevalence of opioids detected among fatally injured drivers. *Am J Public Health*. 2016;106(11):2032-2037.
59. Kosterman R, Bailey JA, Guttmannova K, et al. Marijuana legalization and parents' attitudes, use, and parenting in Washington state. *J Adolesc Health*. 2016;59(4):450-456.
60. Larimer ME, Lee CM, Kilmer JR, Rhew I, Fossos-Wong N. Risk perception, access, and use of marijuana among young adults following legalization in Washington state. *Alcohol Clin Exp Res*. 2015;39:261A.
61. Liang D, Bao Y, Wallace M, Grant I, Shi Y. Medical cannabis legalization and opioid prescriptions: evidence on US Medicaid enrollees during 1993-2014. *Addiction*. 2018;113(11):2060-2070.
62. Livingston MD, Barnett TE, Delcher C, Wagenaar AC. Recreational cannabis legalization and opioid-related deaths in Colorado, 2000-2015. *Am J Public Health*. 2017;107(11):1827-1829.
63. Lo SY, Baird GS, Hoofnagle A, Greene DN. THC use and marijuana legalization do not influence chronic opioid therapy compliance. *Am J Clin Pathol*. 2015;143:A046.
64. Lynne-Landsman SD, Livingston MD, Wagenaar AC. Effects of state medical marijuana laws on adolescent marijuana use. *Am J Public Health*. 2013;103(8):1500-1506.
65. Martins SS, Mauro CM, Santaella-Tenorio J, et al. State-level medical marijuana laws, marijuana use and perceived availability of marijuana among the general U.S. population. *Drug Alcohol Depend*. 2016;169:26-32.
66. Mason W, Fleming CB, Ringle JL, Hanson K, Gross TJ, Haggerty KP. Prevalence of marijuana and other substance use before and after Washington State's change from legal medical marijuana to legal medical and nonmedical marijuana: cohort comparisons in a sample of adolescents. *Subst Abus*. 2016;37(2):330-335.
67. Masten SV, Guenzburger GV. Changes in driver cannabinoid prevalence in 12 US states after implementing medical marijuana laws. *J Safety Res*. 2014;50:35-52.
68. Mauro C, Santaella J, Kim JH, Wall MM, Martins SS. Does perceived availability of marijuana explain changes in marijuana use after medical marijuana law implementation among U.S. adults? *Drug Alcohol Depend*. 2017;171:e134.
69. Mauro CM, Newswanger P, Santaella-Tenorio J, Mauro PM, Carliner H, Martins SS. Impact of medical marijuana laws on state-level marijuana use by age and gender, 2004-2013. *Prev Sci*. 2019;20(2):205-214. doi:10.1007/s11121-017-0848-3
70. Merker AM, Riaz M, Friedman S, Allegretti JR, Korzenik J. Legalization of medicinal marijuana has minimal impact on use patterns in patients with inflammatory bowel disease. *Inflamm Bowel Dis*. 2018;24(11):2309-2314.
71. Miech R, Johnston LA, O'Malley P, Bachman J, Schulenberg J, Patrick M. Trends in use of and attitudes toward marijuana among youth before and after decriminalization: the case of California 2007-2013. *Drug Alcohol Depend*. 2015;156:e151-e152.
72. Miller AM, Rosenman R, Cowan BW. Recreational marijuana legalization and college student use: early evidence. *SSM Popul Health*. 2017;3:649-657.

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73. Model KE. The effect of marijuana decriminalization on hospital emergency room drug episodes: 1975-1978. *J Am Stat Assoc*. 1993;88(423):737-747.
74. Morris RG, TenEyck M, Barnes JC, Kovandzic TV. The effect of medical marijuana laws on crime: evidence from state panel data, 1990-2006. *PloS One*. 2014;9(3):e92816.
75. Nappe T, Banerji S, Hoyte C. Drug exposure trends since decriminalization of marijuana in Colorado. *Clin Toxicol*. 2016;54(8):712-713.
76. Onders B, Casavant MJ, Spiller HA, Chounthirath T, Smith GA. Marijuana exposure among children younger than six years in the United States. *Clin Pediatr*. 2016;55(5):428-436.
77. Pacula RL, Kilmer B, Grossman M, Chaloupka FJ. Risks and prices: the role of user sanctions in marijuana markets. *BE Journal of Economic Analysis & Policy*. 2010;10(1).
78. Pacula RL, Powell D, Heaton P, Sevigny EL. Assessing the effects of medical marijuana laws on marijuana use: the devil is in the details. *J Policy Anal Manage*. 2015;34(1):7-31.
79. Parnes JE, Smith JK, Conner BT. Reefer madness or much ado about nothing? Cannabis legalization outcomes among young adults in the United States. *Int J Drug Policy*. 2018;56:116-120.
80. Phillips E, Gazmararian J. Implications of prescription drug monitoring and medical cannabis legislation on opioid overdose mortality. *J Opioid Manag*. 2017;13(4):229-239.
81. Plunk AD, Agrawal A, Harrell PT, et al. The impact of adolescent exposure to medical marijuana laws on high school completion, college enrollment and college degree completion. *Drug Alcohol Depend*. 2016;168:320-327.
82. Pollini RA, Romano E, Johnson MB, Lacey JH. The impact of marijuana decriminalization on California drivers. *Drug Alcohol Depend*. 2015;150:135-140.
83. Powell D, Pacula RL, Jacobson M. Do medical marijuana laws reduce addictions and deaths related to pain killers? *J Health Econ*. 2018;58:29-42.
84. Prue B. Prevalence of reported peyote use 1985-2010 effects of the American Indian Religious Freedom Act of 1994. *Am J Addict*. 2014;23(2):156-161.
85. Ramirez A. Marijuana, other drugs, and alcohol use by drivers in Washington state. *Alcohol Clin Exp Res*. 2017;41:314A.
86. Reith I. Two plants are better than one? *Contemp Drug Probl*. 2015;42(4):259-273.
87. Rodriguez CE, Sheeder J, Metz TD. Marijuana use in pregnant teens before and after legalization. *Reprod Sci*. 2016;1:282A.
88. Rohda J, Smith K, Smith L, Jacobitz K, Kirschner R. Impact of recreational marijuana legalization on synthetic cannabinoid use. *Clin Toxicol*. 2017;55(7):780.
89. Rusby JC, Westling E, Crowley R, Light JM. Legalization of recreational marijuana and community sales policy in Oregon: impact on adolescent willingness and intent to use, parent use, and adolescent use. *Psychol Addict Behav*. 2018;32(1):84-92.
90. Sabia JJ, Swigert J, Young T. The effect of medical marijuana laws on body weight. *Health Econ*. 2017;26(1):6-34.
91. Santaella-Tenorio J, Mauro CM, Wall MM, et al. US traffic fatalities, 1985-2014, and their relationship to medical marijuana laws. *Am J Public Health*. 2017;107(2):336-342.
92. Schmidt LA, Jacobs LM, Spetz J. Young people's more permissive views about marijuana: local impact of state laws or national trend? *Am J Public Health*. 2016;106(8):1498-1503.
93. Sevigny EL, Pacula RL, Heaton P. The effects of medical marijuana laws on potency. *Int J Drug Policy*. 2014;25(2):308-319.

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94. Shah AB, Hayes CJ, Lakkad M, Martin BC. Impact of medical marijuana legalization on opioid use, chronic opioid use and high-risk opioid use. *Value Health*. 2018;21(S1):S247.
95. Shepard EM, Blackley PR. Medical marijuana and crime: further evidence from the western states. *J Drug Issues*. 2016;46(2):122-134.
96. Shi Y. Medical marijuana policies and hospitalizations related to marijuana and opioid pain reliever. *Drug Alcohol Depend*. 2017;173:144-150.
97. Sokoya M, Eagles J, Okland T, et al. Patterns of facial trauma before and after legalization of marijuana in Denver, Colorado: a joint study between two Denver hospitals. *Am J Emerg Med*. 2018;36(5):780-783.
98. Steinemann S, Galanis D, Nguyen T, Biffl W. Motor vehicle crash fatalities and undercompensated care associated with legalization of marijuana. *J Trauma Acute Care Surg*. 2018;85(3):566-571.
99. Stolzenberg L, D'Alessio SJ, Dariano D. The effect of medical cannabis laws on juvenile cannabis use. *Int J Drug Policy*. 2016;27:82-88.
100. Straub H, Drennan KJ, Pflugeisen B. Maternal marijuana use: a natural experiment from prohibition to access. *Am J Obstet Gynecol*. 2017;216(S1):S554-S555.
101. Suggs DL. A qualitative and quantitative analysis of the impact of Nebraska's decriminalization of marijuana. *Law Hum Behav*. 1981;5(1):45-71.
102. Ullman DF. The effect of medical marijuana on sickness absence. *Health Econ*. 2017;26(10):1322-1327.
103. Urfer S, Morton J, Beall V, Feldmann J, Gunesch J. Analysis of DELTA9-tetrahydrocannabinol driving under the influence of drugs cases in Colorado from January 2011 to February 2014. *J Anal Toxicol*. 2014;38(8):575-581.
104. Wagner J, Leonard J, Jensen J, et al. The impact of marijuana legalization on reversible cerebral vasoconstriction syndrome. *Neurology.* 2016;86(S16):115.
105. Wall MM, Mauro C, Hasin DS, et al. Prevalence of marijuana use does not differentially increase among youth after states pass medical marijuana laws: commentary on Stolzenberg et al. (2015) and reanalysis of US National Survey on Drug Use in Households data 2002-2011. *Int J Drug Policy*. 2016;29:9-13.
106. Wall MM, Poh E, Cerda M, Keyes KM, Galea S, Hasin DS. Adolescent marijuana use from 2002 to 2008: higher in states with medical marijuana laws, cause still unclear. *Ann Epidemiol*. 2011;21(9):714-716.
107. Wang GS, Davies SD, Halmo LS, Sass A, Mistry RD. Impact of marijuana legalization in Colorado on adolescent emergency and urgent care visits. *J Adolesc Health*. 2018;63(2):239-241.
108. Wang GS, Hall K, Vigil D, Banerji S, Monte A, VanDyke M. Marijuana and acute health care contacts in Colorado. *Prev Med*. 2017;104:24-30.
109. Wang GS, Le Lait MC, Deakyne SJ, Bronstein AC, Bajaj L, Roosevelt G. Unintentional pediatric exposures to marijuana in Colorado, 2009-2015. *JAMA Pediatr*. 2016;170(9):e160971.
110. Wen H, Hockenberry JM. Association of medical and adult-use marijuana laws with opioid prescribing for Medicaid enrollees. *JAMA Intern Med*. 2018;178(5):673-679.
111. Wen H, Hockenberry JM, Cummings JR. The effect of medical marijuana laws on adolescent and adult use of marijuana, alcohol, and other substances. *J Health Econ*. 2015;42:64-80.

Appendix C: Included Studies

112. Wen H, Hockenberry JM, Druss BG. The effect of medical marijuana laws on marijuana-related attitude and perception among us adolescents and young adults. *Prev Sci*. 2019;20(2):215-223.
113. Williams AR, Santaella-Tenorio J, Mauro CM, Levin FR, Martins SS. Loose regulation of medical marijuana programs associated with higher rates of adult marijuana use but not cannabis use disorder. *Addiction*. 2017;112(11):1985-1991.
114. Williams J, Bretteville-Jensen AL. Does liberalizing cannabis laws increase cannabis use? *J Health Econ*. 2014;36:20-32.