Has the legalisation of medical and recreational cannabis use in the USA affected the prevalence of cannabis use and cannabis use disorders?

Janni Leung [1, 2], **Chui Ying Vivian Chiu** [1,2], Daniel Stjepanović [1], Wayne Hall [1,3]

The Difference is Research

Background

US medical cannabis policy is subject to conflicting state and federal laws. Federally, cannabis is listed as a Schedule I drug under the Controlled Substances Act (CSA) [1] and hence classified as having a high potential for dependency and no accepted medical use.

Since the mid-1990s a number of US states have passed citizen-initiated referenda to legalise the medical use of cannabis. This approach was first used in California in 1996 when voters passed Proposition 215 (by 56% to 44%) which allowed the medical use of cannabis for a broad set of indications that included nausea, weight loss, pain and muscle spasm, and any "serious medical condition" for which cannabis may provide relief [2]. Since then 29 jurisdictions have legalised medical use of cannabis in some form. Since 2012, 9 States and District of Columbia have passed referenda and legislated to allow the sale of cannabis to adults over the age of 21 [3].

The conflict between federal and state policy on marijuana has resulted in a patchwork of state regulation. These policy variations made it difficult to map the possible influences of policy implementation on cannabis use and misuse, but they also provide opportunities to study the effects of a range of specific regulations on health outcomes.

Aims

1. Briefly describes the types of regulatory regimes for medical and recreational cannabis use in the United States.

2. Describes possible effects of these policies on cannabis use.

2. Assesses the impacts to date of the legalisation of medical and recreational cannabis use on the prevalence of cannabis use and cannabis use disorders in the US population.

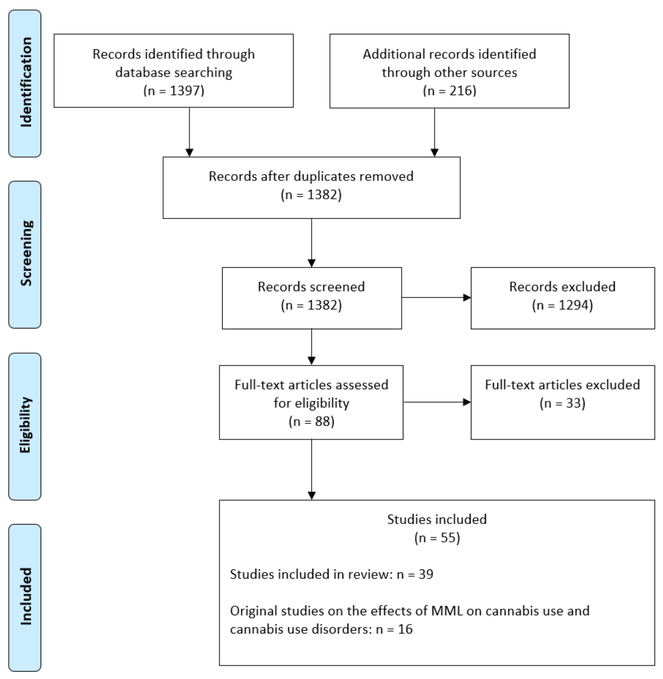
Methods

Relevant papers on the impact of legalisation of medical or nonmedical adult recreational use of cannabis on prevalence of use and cannabis use disorders in the United States were identified by searching PubMed up to May 2018.

Papers were selected for inclusion if they contained relevant data on: regulatory regimes for legal medical and recreational cannabis use in US states; effects of the establishment of these regimes on price and availability of cannabis in the USA; or effects of legalising medical or recreational cannabis use in the USA on rates of cannabis use and cannabis use disorders.

Papers were also identified from authors' hand search and from references cited in relevant articles (see flowchart of search results).

Studies conducted outside of the United States, and studies on non-representative samples were excluded.



Summary

The evidence from large nationally representative surveys have not consistently demonstrated that MMLs have increased adolescent cannabis use. Adolescent use is higher in states that have passed MMLs, but this reflects higher rates of use before the passage of MMLs. Early evidence suggests that the frequency of cannabis use increased among adults who already use cannabis after the legalisation of medical cannabis use.

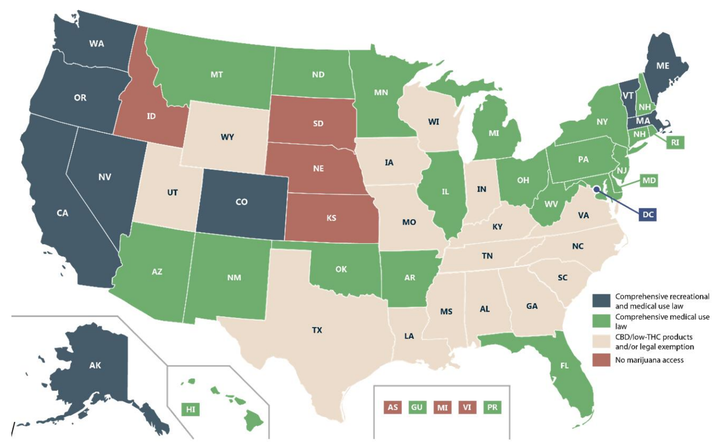
Population surveys until very recently have primarily been designed to provide nationally representative samples, and so have not provided data for analysis at state level. This has made it difficult to track the effects of cannabis policy changes in individual states. Studies of the effects of these policy changes have often crudely categorised states as either having MMLs or not and examined changes in the prevalence of use immediately before and after the introduction of MMLs. These research strategies ignore variations in state MML policies and have not allowed for differences in the time required for these polices to be fully implemented [4]. Future studies will need to focus more on specific details of state policies to better understand how policies, such as regulation of dispensaries, may affect cannabis use and disorders in adolescents and adults.

It will also be important to evaluate the effects of any future changes in cannabis policies. For example, no US state has, thus far, regulated the THC content of cannabis products or imposed higher taxes on more potent cannabis products. This could change if there were evidence of greater health risks from using high THC cannabis products. If so, it will be critical to evaluate the effects of any changes in THC regulation or taxation on cannabis use and harm. The implementation of a national medical and recreational cannabis market in Canada may provide an opportunity to do so if the Canadian government sets limits on the THC content of many (though not all) cannabis products [5].

Regulation of recreational cannabis schemes in US states and the District of Columbia

Jurisdiction	Year passed	Personal possession and home cultivation limit
Alaska	2014	1oz of cannabis; 6 plants
California	2016	1oz of flower/8g of concentrate; 6 plants
Colorado	2012	1oz of cannabis (eqv. 8g of concentrate/800mg in edible); 6 plants
Maine	2016	2.5oz of prepared cannabis; 6 plants
Massachusetts	2016	1oz of cannabis (which no more than 5g in concentrate form); 6 plants
Nevada	2016	1oz of cannabis; 6 plants if no access to a state-licensed dispensary
Oregon	2014	1oz of cannabis; 4 plants and 10 cannabis seeds
Vermont	2018	1 oz of marijuana; 6 plants
Washington DC	2014	2oz of cannabis; personal cultivation is not allowed
Washington State	2012	1oz of useable cannabis; 6 plants

Map presenting legal status of recreational and medical cannabis within the US states and territories.



References

1.Controlled Substances Act, 21 U.S.C. § 801 (1970).

2.Conboy JR. Smoke screen: America's drug policy and medical marijuana. Food Drug Law J. 2000;55:601-17.

3.Garvey T, Yeh BT. State legalization of recreational marijuana: selected legal issues. Washington, DC: Congressional Research Office. 2014.

4.Pacula RL, Smart R. Medical marijuana and marijuana legalization. Annu Rev Clin Psychol. 2017;13:397-419.

5.Webster P. Debate over recreational cannabis use legalisation in Canada. Lancet. 2018;391:725-6.

1) Centre for Youth Substance Abuse Research, The University of Queensland, Australia
2) The National Drug and Alcohol Research Centre, University of New South Wales, Australia
3) National Addiction Centre, Kings College London