Analysis of Certifying Conditions for Medical Cannabis based on the 2017 National Academy of Medicine Report

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Introduction

- Almost three-quarters (74%) of states, representing 73% of the United States (US) population, have legislation or regulation for **medical cannabis (MC)**
- 2.5% of Americans reported using cannabis for medical needs in 2019-2020[1]
- In 2017, **The National Academies of Sciences, Engineering, and Medicine (NAS)** published a report on the level of evidence, or lack of evidence, of the therapeutic effects of cannabis for over twenty conditions[2]
- Our objective was to compare each state's current and past **qualifying conditions (QCs)** for MC with the NAS report's findings to assess gaps in evidence-based recommendations made for cannabis use

Methods

- We collected the QCs of each of the 38 states (including Washington, D.C.) where MC was legal in 2023[3] (Figure 1)
- Conditions were divided into the NAS-established categories into which they fit (Table 1a)
- QCs that only partially fit into the NAS-established categories, when taken exactly as written, were labeled as "partial"

Table 1. Categories of evidence established by the 2017 National Academies of Sciences, Engineering, and Medicine (NAS) report (a).

National Academies of Sciences categories of evidence	Conditions/symptoms
Substantial evidence of effectiveness	
	For the treatment of chronic pain in adults
	As antiemetics in the treatment of chemotherapy-induced nausea and vomiting
	For improving patient-reported multiple sclerosis spasticity symptoms
Moderate evidence of effectiveness	
	Improving short-term sleep outcomes in individuals with sleep disturbance associated with obstructive sleep apnea syndrome, fibromyalgia, chronic pain, and multiple sclerosis
Limited evidence of effectiveness	
	Increasing appetite and decreasing weight loss associated with HIV/AIDS
	Improving clinician-measured multiple sclerosis spasticity symptoms
	Improving symptoms of Tourette syndrome
	Improving anxiety symptoms, as assessed by a public speaking test, in individuals with social anxiety disorders
	Improving symptoms of posttraumatic stress disorder
Limited evidence of a statistical association	
	Better outcomes (i.e., mortality, disability) after a traumatic brain injury or intracranial hemorrhage
Limited evidence of ineffectiveness	
	Improving symptoms associated with dementia
	Improving intraocular pressure associated with glaucoma
	Reducing depressive symptoms in individuals with chronic pain or multiple sclerosis
No/insufficient evidence to support or refute effectiveness	
	Cancers, including glioma
	Cancer-associated anorexia cachexia syndrome and anorexia nervosa
	Symptoms of irritable bowel syndrome
	Epilepsy
	Spasticity in patients with paralysis due to spinal cord injury
	Symptoms associated with amyotrophic lateral sclerosis
	Chorea and certain neuropsychiatric symptoms associated with Huntington's disease
	Motor system symptoms associated with Parkinson's disease or the levodopa-induced dyskinesia
	Dystonia
	Achieving abstinence in the use of addictive substances
	Mental health outcomes in individuals with schizophrenia or schizophreniform psychosis

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89.5% of US states had at least one Qualifying Condition (QC) for Medical Cannabis (MC) with **substantial evidence**.

On average, only **8.4%** of a state's QCs met this standard.
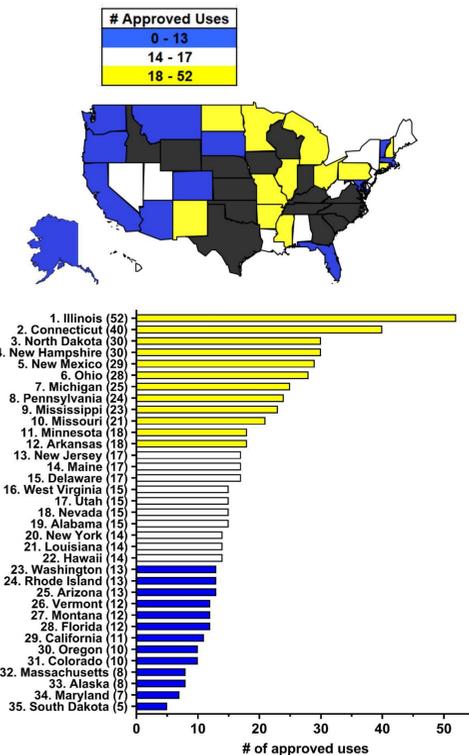
Results

Figure 1. Number of approved Qualifying Conditions (QC) per state in 2023. Washington, D.C., Oklahoma, and Virginia were not displayed due to lack of QC.

- Number of QCs for medical cannabis in 2023 varied widely between states (mean = 16.4)
- South Dakota had the fewest (5) and Illinois the most (52)
- 89.5% of states had at least one QC with substantial evidence. On average, only 8.4% of a state's QCs met this standard (Figure 2A)
- 78.9% of states listed one or more QCs with limited evidence of *ineffectiveness* (Figure 2B)
- Three-quarters (76.3%) of states had at least one QC with no/insufficient evidence to support or refute effectiveness, and 36.8% of states had three or more of such conditions
- Four-fifths (81.6%) of states had at least one QC that was not in the NAS report
- On average, 19.6% of a state's QCs were not included in the NAS report, and 40.2% of QCs were partial
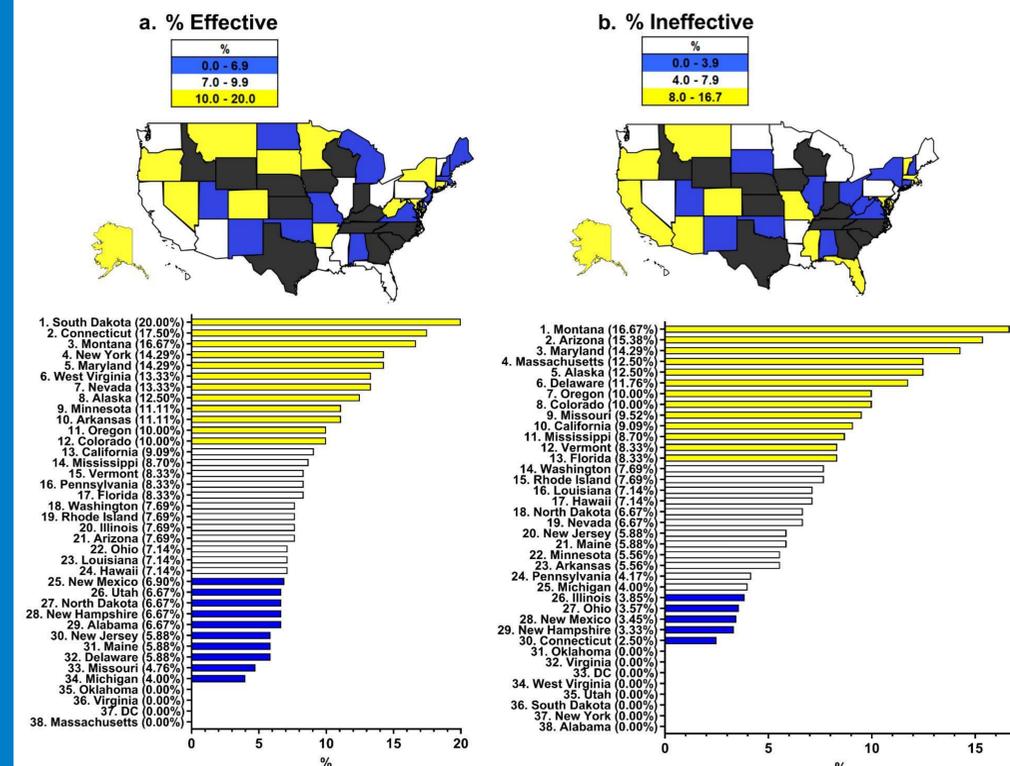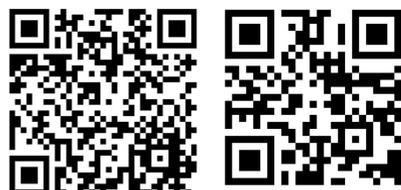

Figure 2. Percent of each state's QCs that have substantial evidence of effectiveness (a) and limited evidence of ineffectiveness (b) according to the National Academy of Sciences, Engineering, and Medicine (NAS).[2] Alabama's program was not yet in effect as of 4/3/2023.