

# Cannabis legalisation in Germany – Impact on Life Insurance from an insurance medicine perspective

---



## Key take aways

- On balance of existing medical literature we expect an increase of cannabis consume prevalence in the general population after Cannabis legalisation (CL), although the findings are mixed and generally do not suggest large magnitude short-term impact.
- The evidence regarding the potential for an increase in psychotic disorders following CL is inconclusive. In the largest studied cohort with a comparison between US states with and without state cannabis policy there was no statistically significant association of state cannabis policy level with overall rates of psychosis-related diagnoses or prescribed antipsychotics.
- At point of underwriting we still recommend to ask for substance abuse (including Cannabis), frequency of abuse, related medical therapy interventions and absence of work as the future risk for individual claims, especially disability claims is not related to changes in the legal framework.

## Introduction

According to the German government, the current drug policy on cannabis use has reached its limits. Despite bans, Cannabis is the most commonly consumed addictive substance after alcohol and nicotine. The use of cannabis is on the rise, especially among young people. In Germany more than 4.5 million people between the ages of 18 and 59 have consumed cannabis in the last 12 months in 2021<sup>1</sup>.

On April, 1st 2024, a new law came into force that allows the possession of 50 grams of dried cannabis in private spaces (up to 25 grams of dried cannabis in public spaces). Possession of cannabis remains prohibited for minors. There are also special regulations for young adults – with lower dispensing quantities and reduced THC levels.

Naturally, the effects are not yet clear on our business, but the question arises as to whether we can gain insights from a medical insurance perspective from other countries that have already implemented same or similar CL laws.

We asked ourselves: Based on experience from other markets and from an insurance medicine point of view, do we predict material changes due to CL in the German life and Disability insurance market?

To answer this question, we investigated into the following areas:

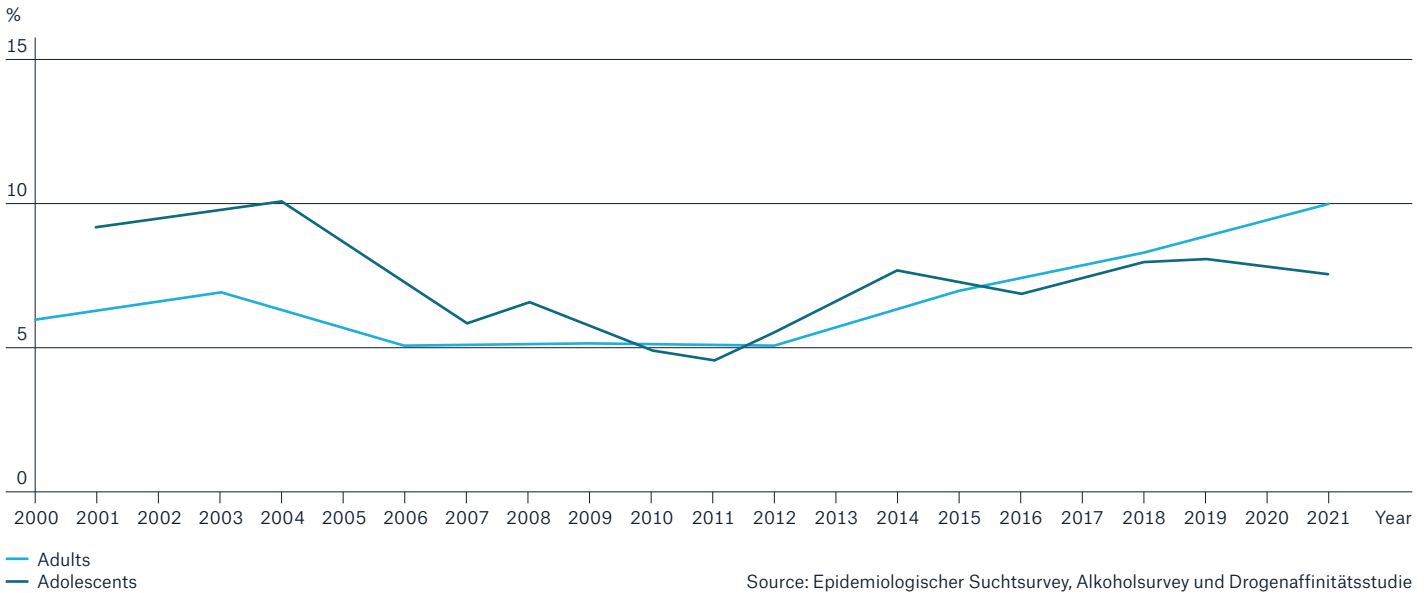
1. Changes in prevalence of Cannabis consumption in the general population after CL
2. Increase in health related outcomes due to the increased use with focus on cannabis related diseases like psychotic disorders in adults and on adolescence (albeit no legal change for those under the age of 18 in Germany)
3. Need for adaption in the underwriting process, e.g. in the application questionnaire

## Changes in the prevalence of Cannabis consumption in the general population after CL

In order to ascertain the future prevalence of cannabis consumption, it is first necessary to gain an understanding of the current status quo. According to recently published data<sup>2</sup> almost 40% of adults between the ages of 18 and 59 have used cannabis at least once in their lives. According to recent surveys, 10.0% of adults and 7.6% of 12 to 17-year-old adolescents in Germany have also used cannabis in the last 12 months (see Figure 1). The current literature – despite mixed findings and heterogeneity of evidence – generally suggests an increase in cannabis use for adults in the general population following CL. This was shown in a recent metanalysis with 4 out of 5 of the reviewed studies based on mostly US and Canadian data supporting this conclusion<sup>3</sup>. The effect of increase of cannabis user due to CL seems to be weaker if the usage of cannabis due to medical prescription is already allowed – as it is the case in Germany since 2017. In Canada for example the prevalence of cannabis use significantly increased from 14.0% in 2018 to 20.0% in 2020<sup>4</sup>. Same seems to be true for adolescence with a mild increase from 36% in 2018 to 43% in 2023<sup>5</sup> albeit other surveys have shown rather stable adolescent cannabis consumer numbers<sup>6</sup>. Of course one bias we have always to keep in mind: cannabis use outcomes in the studies are always self-reported and CL may impact the willingness of a respondent to disclose cannabis use.

The above numbers already represents a relatively high prevalence and is not compatible with the information we received during the underwriting process. An analysis of German applicant data before CL showed that around 2 per thousand stated that they had been treated/counselled/examined for alcohol or drug consumption in the last 10 years. For a good 30% of these applicants, the consumption of cannabis was the “trigger”. It can be reasonably deducted that the proportion of cannabis users is already higher in our portfolio than we were previously were aware of. However, with the new legal framework, we would not be surprised to see more disclosures for Cannabis use in daily underwriting. This can already be seen in MIRA – Munich Re’s underwriting guideline. For the first 7 months in 2024 Cannabis was queried 30% more often compared to the same time frame in 2023.

**Figure 1: How many adults and adolescents use cannabis within a 12-month period (2000–2021)?**



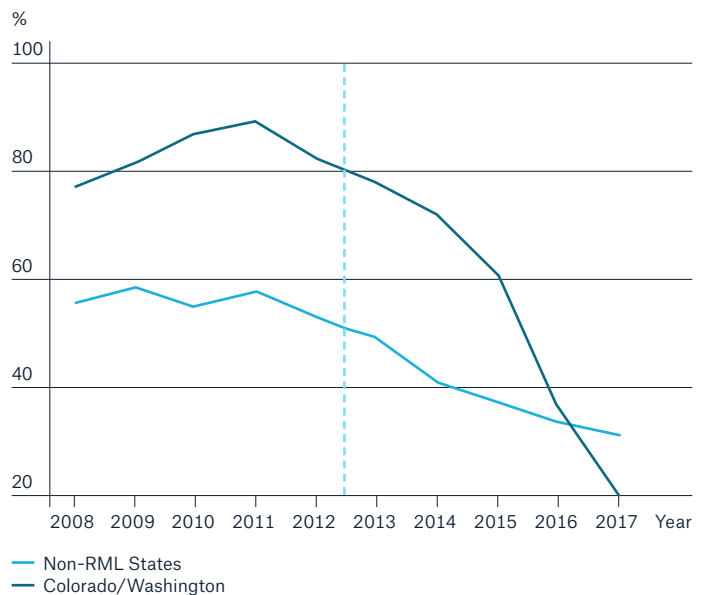
Source: Epidemiologischer Suchtsurvey, Alkoholsurvey und Drogenaffinitätsstudie

### Increase in health related outcomes due to increased use

Within the substance use disorders, abusive use of or dependence on cannabinoids is second only to alcohol. That was already the case even before the CL. Due to acute intoxication or poisoning with cannabinoids, a good 1,800 cases were hospitalised in 2021 in Germany, but no deaths as a result of such overdoses were recorded<sup>2</sup>. Other relevant cannabis use related health outcomes are adverse physical and mental health consequences, e.g. respiratory and cardiovascular diseases related to smoking habits, dependency disorders and psychosis. There is evidence that cannabis use in adolescence is linked with poorer cognitive performance, psychotic disorders, and increased risk of mood and addictive disorders, especially from intensive (e.g. frequent/high potency) or long term cannabis use<sup>7</sup>.

To answer the question whether a legalisation increases the cannabis use disorders (CUD) among the youth (12–17 years of age), a study compared substance use disorder treatment admissions for marijuana use before and after CL in Colorado and Washington. Results showed a significant decline, interestingly the decline in admissions rate was greater in Colorado and Washington compared to non-CL states, though this difference was not significant<sup>8</sup> (see Figure 2). If in the long term cannabis use among adolescents and young adults who perceive cannabis as less harmful due to CL leads to more CUD is still under debate but first evidence indicate the safe side in this respect<sup>9</sup>.

**Figure 2: Mean annual adolescent substance use disorder (SUD) treatment admission rates (number of admissions per 10,000 resident adolescents) for Colorado/Washington (dark blue line) and non-RML states (blue line), 2008–2017. Dashed vertical line indicates when RML was enacted in Colorado and Washington.**



RML = Recreational marijuana legalisation

Source: Mennis J, Stahler GJ. Adolescent treatment admissions for marijuana following recreational legalization in Colorado and Washington. Drug and Alcohol Dependence. 2020

Psychosis has long been investigated as a potential consequence of cannabis use and numerous study have shown an association between cannabis use and psychosis. Whether cannabis is the cause in the onset of psychosis or not remains a highly debated controversy. A retrospective study compared health care claims data 63,680,589 beneficiaries followed for 2,015,189,706 person-months in US states with and without CL. In contrast to other studies, a statistically significant association of state cannabis policy level with overall rates of psychosis-related diagnoses or prescribed antipsychotics was not observed<sup>10</sup>. In Portugal, where the possession of Cannabis was decriminalised since 2001 a study found a percentage increase of 0.87% to 10.6% for all hospitalisation episodes due to psychotic disorders or schizophrenia with associated Cannabis consume from all schizophrenia and other psychotic disorders hospitalisations<sup>11</sup>. Noteworthy we lack a comparison group like in the US study, and as such it's hard to tell if an increase in Cannabis consumption is the cause for this or just a sign for general changes within a society.

In addition anecdotal evidence from our colleagues in Canada confirms that since the 2018 legalisation claims experience has not demonstrated any specific or unspecific increase for either life, CI or DI as of today. Although we do not have direct evidence, it doesn't look like the legalisation of marijuana has led to increase of cannabis use related adverse health outcomes among the insurance population.

### Need for adaption in the underwriting process, e.g. in the application questionnaire

From an underwriting perspective, an evaluation of potential necessary changes in the application questionnaire is necessary. In general from an adequate risk assessment perspective it is recommended to ask for abuse of any harmful substances such as alcohol, cannabis and harder drugs (Cocaine, Opioids etc.). The purely medical perspective is that there is no such thing as healthy consume of all those intoxicants, but from a medical insurance perspective the questions is more if there is consume behaviour that is compatible with allowing access to insurance protection. It seems logical – as we do with other intoxicants – the harm from cannabis (ab)-usage is among other related to frequency, THC dosage and duration of use. In addition high probability of future cannabis use disorder is related to younger age groups compared to adults in their thirties<sup>4</sup>. The proportion of adults with problematic cannabis use in Germany increased from 1.2% in 2015 to 2.6% of respondents in 2021<sup>2</sup>. In the scientific world harmful consume is defined as having 2 points or more in "The Severity of Dependence Scale (SDS)". This is a 5-item self-administered questionnaire that provides a score indicating the severity of dependence on drugs (see Figure 3), but it does not seem applicable to our underwriting process. A clear sign for a harmful and risk relevant consume is if there was the need for a therapeutic intervention, as this itself is more objective than self-reporting consumption behaviour that goes beyond the indication of frequency of consumption.

All of the above per se does not correlate to any legal changes and still is true for Cannabis. Taken all together at point of underwriting we recommend to ask for substance abuse including Cannabis. In addition if the answer to this question is yes we should seek for more detailed information including the question for frequency, absence of work and treatment related to substance use disorder. This could be not only of relevance from an underwriting perspective but also in the case of future claims management (e.g. income protection products).

Cannabis consumption, which is clearly problematic from a medical insurance point of view, could be adressed in the application question regarding medical advice and treatment for alcohol and drugs. Information about cannabis consumption itself could also be included in the smoking question with the disadvantage that other forms of consumption (vaping, edibles, oils etc.) are missed. Munich Re's underwriting department takes these points into account as part of the life insurance application process with appropriate wording and questions.

In summary, we do not predict material changes due to CL in the German life insurance market based on experience from other markets in short-term. Possible increasing numbers of disclosures can be handled with existing digital underwriting rules & guidelines.

Figure 3: Severity of Dependence Scale (SDS)

Circle the answer that best applies to how you have felt about your use of \_\_\_\_\_ over the last twelve months.

	Never/ Almost never	Some- times	Often	Always/ nearly always
Do you think your use of (substance) was out of control?	0	1	2	3
Did the prospect of missing a fix, shot or dose make you feel anxious or worried?	0	1	2	3
Did you worry about your use of (substance)?	0	1	2	3
Did you wish you could stop?	0	1	2	3
	Not difficult	Quite difficult	Very difficult	Impossi- ble
How difficult did you find it to stop or go without (substance)?	0	1	2	3
<b>SDS total</b>				

## Contact

Dr. Alban Senn  
Chief Medical Officer  
Medical Research and Development  
Tel.: +49 89 38 91-93 27  
asenn@munichre.com



Prof. Dr. med. Mathias Orban  
Senior Medical Consultant  
Medical Research and Development  
Tel.: +49 89 38 91-20 65  
morban@munichre.com



## References

- <sup>1</sup> Datenportal, *Drogen Su. Cannabiskonsum in Deutschland*. <https://datenportal.bundesdrogenbeauftragter.de/cannabis>: Der Beauftragte der Bundesregierung für Sucht und Drogenfragen; 2024 (cited 2024 09.09.2024).
- <sup>2</sup> Olderbak S, Mockl J, Manthey J, Lee S, Rehm J, Hoch E, Kraus L. *Trends and projection in the proportion of (heavy) cannabis use in Germany from 1995 to 2021*. *Addiction*. 2024; 119(2): 311–21.
- <sup>3</sup> Farrelly KN, Wardell JD, Marsden E, Scarfe ML, Najdzionek P, Turna J, MacKillop J. *The Impact of Recreational Cannabis Legalization on Cannabis Use and Associated Outcomes: A Systematic Review*. *Subst Abuse*. 2023; 17: 11782218231172054.
- <sup>4</sup> Boury H, Hall W, Fischer B. *Developments and Changes in Primary Public Health Outcome Indicators Associated with the Legalization of Non-Medical Cannabis Use and Supply in Canada (2018): A Comprehensive Overview*. *Int J Ment Health Addict*. 2022: 1–15.
- <sup>5</sup> Government of Canada. *Canadian Cannabis Survey 2023: summary of results* (2024).
- <sup>6</sup> Fischer B, Jutras-Aswad D, Robinson T. *How has non-medical cannabis legalization served the health and welfare of under-age (adolescent) youth in Canada?* *Lancet Reg Health Am*. 2024; 35: 100773.
- <sup>7</sup> Lorenzetti V, Hoch E, Hall W. *Adolescent cannabis use, cognition, brain health and educational outcomes: A review of the evidence*. *Eur Neuropsychopharmacol*. 2020; 36: 169–80.
- <sup>8</sup> Mennis J, Stahler GJ. *Adolescent treatment admissions for marijuana following recreational legalization in Colorado and Washington*. *Drug and Alcohol Dependence*. 2020; 210: 107960.
- <sup>9</sup> Mennis J, McKeon TP, Stahler GJ. *Recreational cannabis legalization alters associations among cannabis use, perception of risk, and cannabis use disorder treatment for adolescents and young adults*. *Addict Behav*. 2023; 138: 107552.
- <sup>10</sup> Elser H, Humphreys K, Kiang MV, Mehta S, Yoon JH, Faustman WO, Matthey EC. *State Cannabis Legalization and Psychosis-Related Health Care Utilization*. *JAMA Netw Open*. 2023; 6(1): e2252689.
- <sup>11</sup> Goncalves-Pinho M, Braganca M, Freitas A. *Psychotic disorders hospitalizations associated with cannabis abuse or dependence: A nationwide big data analysis*. *Int J Methods Psychiatr Res*. 2020; 29(1): e1813.

© 2024

Münchener Rückversicherungs-Gesellschaft  
Königinstrasse 107, 80802 München, Germany

Picture credits: Scanderbeg Sauer Photography

Münchener Rückversicherungs-Gesellschaft (Munich Reinsurance Company) is a reinsurance company organised under the laws of Germany. In some countries, including in the United States, Munich Reinsurance Company holds the status of an unauthorised reinsurer. Policies are underwritten by Munich Reinsurance Company or its affiliated insurance and reinsurance subsidiaries. Certain coverages are not available in all jurisdictions.

Any description in this document is for general information purposes only and does not constitute an offer to sell or a solicitation of an offer to buy any product.