

December 14, 2021

Dear Chairpersons and Members of the Joint Committee on Cannabis Policy:

I am writing in support of Bill H152 and strongly recommend that the committee supports THC potency and product limits, improved warning labels on marijuana/THC products to include the risk of psychosis, implements a more comprehensive public awareness campaign to include the risk of psychosis, and bans public advertising methods that target youth for cannabis products. I am a psychiatrist with expertise in psychosis and work with patients on an inpatient unit dedicated to the treatment of psychotic disorders in eastern Massachusetts and previously provided care at a clinic for patients with first-episode psychosis in Maryland. In addition to my own research on cannabis and psychosis, I teach psychiatry residents on cannabis and psychosis, and summarize the vast body of research that demonstrates an association between cannabis use and psychotic disorders such as schizophrenia. **Critically, the risk of psychosis with cannabis use is even greater in individuals who use high potency products.**¹⁻⁴ Advances in analytical methods over the past decade that allow inferences about causality have provided support for a causal relationship, i.e., these studies suggest that cannabis use has a causal effect on the development of psychotic disorders, rather than a mere association.^{5,6}

From my experience as a psychiatrist, I cannot express how devastating psychotic disorders are to young individuals and their families. On the inpatient unit where I work, we often see young patients who have developed addiction to cannabis without involvement of other substances of abuse who present with new-onset psychosis, particularly common given high density of universities in the greater Boston area. Psychotic disorders typically start in adolescence or young adulthood. Our patients are often unable to fulfill their educational aspirations and drop out of college. Individuals with psychotic disorders have high rates of unemployment, disrupted social and family relationships, an increased risk of homelessness and suicide and die on average 25 years earlier than the general population. Our patients with psychosis lack insight into their condition and are often unwilling to stop using cannabis, and our experience as well as research demonstrates that individuals with pre-existing psychotic disorders who continue to use cannabis have an increased risk of relapse, repeated hospitalizations and often are less responsive to treatment with antipsychotic medication.⁷ Any measures that you can take that may limit use of cannabis by youth and prevent young people from using high potency products has the potential to decrease risk of developing these devastating disorders.

In my own research, using national data we found that areas of the United States with more liberal cannabis legalization policies (recreational and medical use) have an increased rate of hospitalizations for psychotic disorders (manuscript under review at *Psychiatry Research*). During the year 2017 alone, at least 129,070 individuals in the U.S. were hospitalized for psychosis associated with cannabis use. In a separate study, I systematically evaluated 1,374 patients admitted for first episode psychosis between 2005 and 2019 and found that more than half used cannabis in the past month, supported by urine toxicology data, with the most common pattern being daily use. In an analysis that rigorously controls for potential confounders, when comparing individuals admitted for first-episode psychosis to those admitted for mood disorders (without psychosis), daily cannabis use is associated with a 2.7-fold increased risk of first-episode psychosis. We have also published a study that found that patients with psychotic disorders with premorbid cannabis use prior to illness developed psychosis at an earlier age, consistent with the findings of more than 50 published studies showing an earlier onset.^{8,9}

In summary, I strongly urge you to pass H152 to adopt potency restrictions for cannabis/THC products in Massachusetts. Adding warning labels about the risk of psychosis, limiting development of

products that target youth and educating citizens of Massachusetts on the risk of psychosis with cannabis/THC use will have a substantial impact on public health in our communities.

Thank you for your attention to this urgent matter. This letter has been co-signed by psychiatrists and psychologists that treat patients with psychotic disorders and/or conduct research on psychotic disorders. The views expressed in this letter are our own and may not necessarily be reflective of institutions where we work.

Sincerely,



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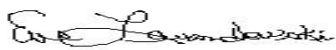
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References:

1. Di Forti M, Sallis H, Allegrì F, et al. Daily use, especially of high-potency cannabis, drives the earlier onset of psychosis in cannabis users. *Schizophr Bull* 2014;40(6):1509–17.
2. Di Forti M, Marconi A, Carra E, et al. Proportion of patients in south London with first-episode psychosis attributable to use of high potency cannabis: a case-control study. *Lancet Psychiatry* 2015;2(3):233–8.
3. Di Forti M, Quattrone D, Freeman TP, et al. The contribution of cannabis use to variation in the incidence of psychotic disorder across Europe (EU-GEI): a multicentre case-control study. *Lancet Psychiatry* 2019;6(5):427–36.
4. Quattrone D, Ferraro L, Tripoli G, et al. Daily use of high-potency cannabis is associated with more positive symptoms in first-episode psychosis patients: the EU-GEI case-control study. *Psychol Med* 2020;1–9.
5. van Os J, Pries L-K, Ten Have M, et al. Schizophrenia and the Environment: Within-Person Analyses May be Required to Yield Evidence of Unconfounded and Causal Association-The Example of Cannabis and Psychosis. *Schizophr Bull* 2021;47(3):594–603.
6. Vaucher J, Keating BJ, Lasserre AM, et al. Cannabis use and risk of schizophrenia: a Mendelian randomization study. *Mol Psychiatry* 2018;23(5):1287–92.
7. van Dijk D, Koeter MWJ, Hijman R, Kahn RS, van den Brink W. Effect of cannabis use on the course of schizophrenia in male patients: a prospective cohort study. *Schizophr Res* 2012;137(1–3):50–7.
8. Large M, Sharma S, Compton MT, Slade T, Nielssen O. Cannabis use and earlier onset of psychosis: a systematic meta-analysis. *Arch Gen Psychiatry* 2011;68(6):555–61.
9. Moran LV, Masters GA, Pingali S, et al. Prescription stimulant use is associated with earlier onset of psychosis. *J Psychiatr Res* 2015;71:41–7.