Aims: This study estimated Standardized Mortality Ratios (SMRs) for accidents, suicide, homicide, and natural causes following treatment for cannabis use disorders. Predictors of death within the sample and the time of death in relation to treatment start and ending were determined.

Methods: This was a register-based cohort study of 6445 individuals in treatment for cannabis use disorders in Denmark between 1996 and 2006. The register of individuals in treatment for cannabis use disorders was linked with registers on causes of death and psychiatric treatment. The sample was followed after treatment entry and 142 deaths were recorded during 26584 person-years of follow-up.

Results: The all-cause Standardized Mortality Ratio (SMR) was 4.9. For different causes of death the SMRs were: accidents: 8.2 (95% CI 6.3-10.5), suicide: 5.3 (95% CI 3.3-7.9), homicide: 3.8 (95% CI 1.5-7.9), and natural causes: 2.8 (95% CI 2.0-3.7). Secondary opioid use predicted all-cause mortality as well as death from accidents and homicide, while higher age predicted all-cause mortality and death from natural causes. After exclusion of those with secondary opioid use, excess mortality from homicide was no longer observed, while SMR's associated with other causes of death remained largely unchanged. The SMR was 17 in the first two weeks after treatment start, fell during the following year, and rose again thereafter. No excess mortality was observed following the end of treatment.

Conclusions: Individuals with cannabis use disorders have highly increased mortality from accidents, suicide, homicide, and natural causes.