

# The Hidden Costs of Marijuana Use in Colorado: One Emergency Department's Experience

*Volume 10, Issue 2 – Summer 2016 | Kenneth Finn, MD, President Springs Rehab, PC  
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## Abstract

**Purpose:** This study aims to assess potential health care costs and adverse health effects related to cannabis use in an acute care community hospital in Colorado, comparing study findings to those medical diagnoses noted in the literature. Little information is available about specific hospital health care costs, thus this study will add to the knowledge gap and describe charges and collections from visits of these patients in one hospital's Emergency Department (ED).

**Objective:** Review diagnoses of cannabis users visiting a local ED and outline the potential financial and health effects of these patients on the health care system.

**Design:** An Institutional Review Board (IRB) approved retrospective observational study of patients seen in the ED from 2009 to 2014 with cannabis diagnoses and positive urine drug analyses (UDA) matched with hospital billing records. Randomized patient records were reviewed to determine completeness of documentation and coding related to cannabis use.

**Setting:** An acute care hospital in one city in Colorado. The city has nearly 100 medical marijuana dispensaries, but has not legalized recreational cannabis use. The city decided to not allow recreational stores in city limits as they were allowed to make that determination as a result of Amendment 64, which allowed municipalities to determine if they wanted recreational marijuana in their town. As of this publication, more than 70% of Colorado's municipalities have opted out of recreation marijuana sales.

**Participants:** Subjects seen through the ED who had both a diagnosis code listing cannabis and a positive UDA for cannabis. Exclusions were subjects with UDA for cannabis but also tested positive for other substances, subjects who had cannabis diagnosis but no UDA result or those who had no UDA but did have a cannabis diagnosis.

**Conclusion:** Subjects seen in the ED had similar diagnoses as those reviewed in the literature, confirming the serious side effects of marijuana use. During the study period, the study hospital incurred a true loss of twenty million dollars in uncollected charges after allowing for contractual obligations. While adverse health effects have been described in the literature, there is little data on the financial impact of marijuana use on the health care system. This study demonstrated an increasing number of patients who are seen in the ED also have used cannabis. These patients are not

**always able to pay their bills, resulting in a financial loss to the hospital.** The authors encourage the collection of hospital financial data for analysis in the states where medicinal (MMJ) and/or recreational marijuana is legal.

**<http://goo.gl/6nuuMG>**

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