



## The Impact of Michigan’s Partial Repeal of the Universal Motorcycle Helmet Law on Helmet Use, Fatalities, and Head Injuries

<b>Purpose</b>	The purpose of this study is to examine the statewide impact of Michigan’s partial universal motorcycle helmet law (UHL) repeal on helmet use, fatalities, and head injuries, as well as to examine factors that are related to an increased risk for motorcycle fatalities and head injuries among crash involved riders.
<b>Background</b>	Research shows that motorcycle helmet use decreases both the risk for fatality and the risk for a head injury following a crash. In 2012, Michigan replaced its UHL with a partial law that allows motorcyclists (aged > 21 years) to ride unhelmeted if they have a valid motorcycle license and a \$20,000 vehicle insurance supplement. To date, this study is the first to evaluate the statewide impact of the partial repeal of Michigan’s UHL on fatalities and head injuries.
<b>Methods</b>	To examine motorcycle crash fatalities, researchers in this retrospective study used a statewide dataset of police-reported crashes that captured in- and out-of-hospital fatalities. In addition, researchers then linked these police reported crashes to cases in a statewide trauma registry, allowing for an examination of all head injuries among patients that were hospitalized at one of Michigan’s Level-1 or Level-2 trauma centers. Crash and trauma data included in analysis was limited to operators or passengers (aged > 16 years) riding a motorcycle in Michigan between April 12, 2011, and April 12, 2013 ( <i>i.e.</i> , 12-months before/after the helmet repeal).

### Key Findings

Following Michigan’s partial repeal of its UHL:

- Helmet use decreased among both the crash (93.2% vs. 70.8%) and trauma (91.1% vs. 66.2%) samples.
- While the statewide fatality rate did not change significantly overall, the fatality rate among unhelmeted riders was nearly two times higher than among helmeted riders.
- Head injuries increased 14% among hospitalized riders (43.4% vs. 49.6%).
- Fewer of these head injuries were attributable to minor concussions (56.2% vs. 46.4%) and more were attributable to skull fractures (23.2% vs. 31.9%), suggesting that in addition to more head injuries, there was a shift toward injuries with greater severity.
- Not wearing a helmet nearly doubled the odds of a fatality and more than doubled the odds of a head injury among this sample of crash involved riders and hospitalized riders.

### Implications

Since Michigan’s partial UHL repeal in 2012, helmet use has decreased and head injuries have increased among crash-involved motorcyclists. Future research studies should consider examining additional years of available data to determine the long-term impact on fatality rate, as well as to examine direct (*e.g.*, hospital-based costs) and indirect costs of Michigan’s partial UHL repeal, including societal costs for rehabilitation, lost productivity, and legal issues.

### Citation

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