

Wind in My Hair

The cost of going without a motorcycle helmet

2023 Michigan Traffic Safety Summit

June 13 -14

Grand Rapids, MI

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SMARTER – www.smarter-usa.org

SMARTER

Skilled **M**otorcyclist **A**ssociation – **R**esponsible, **T**rained and **E**ducated **R**iders

A 501c3 education association

2007 with focus on helmet requirement research & the MI law

15 + years of data gathering and analysis & study of research

Nationally recognized one-stop-spot for accessing motorcyclist safety research

Workshop Objectives

- **Become aware of and familiar with the Michigan specific motorcyclist crash data especially related to helmet use**
- **Understand the economic costs associated with not wearing a helmet**
- **Understand the uniqueness of the MI specific helmet use/non use research**
- **Realize the strength of an all-rider helmet requirement as a life and injury saving countermeasure**

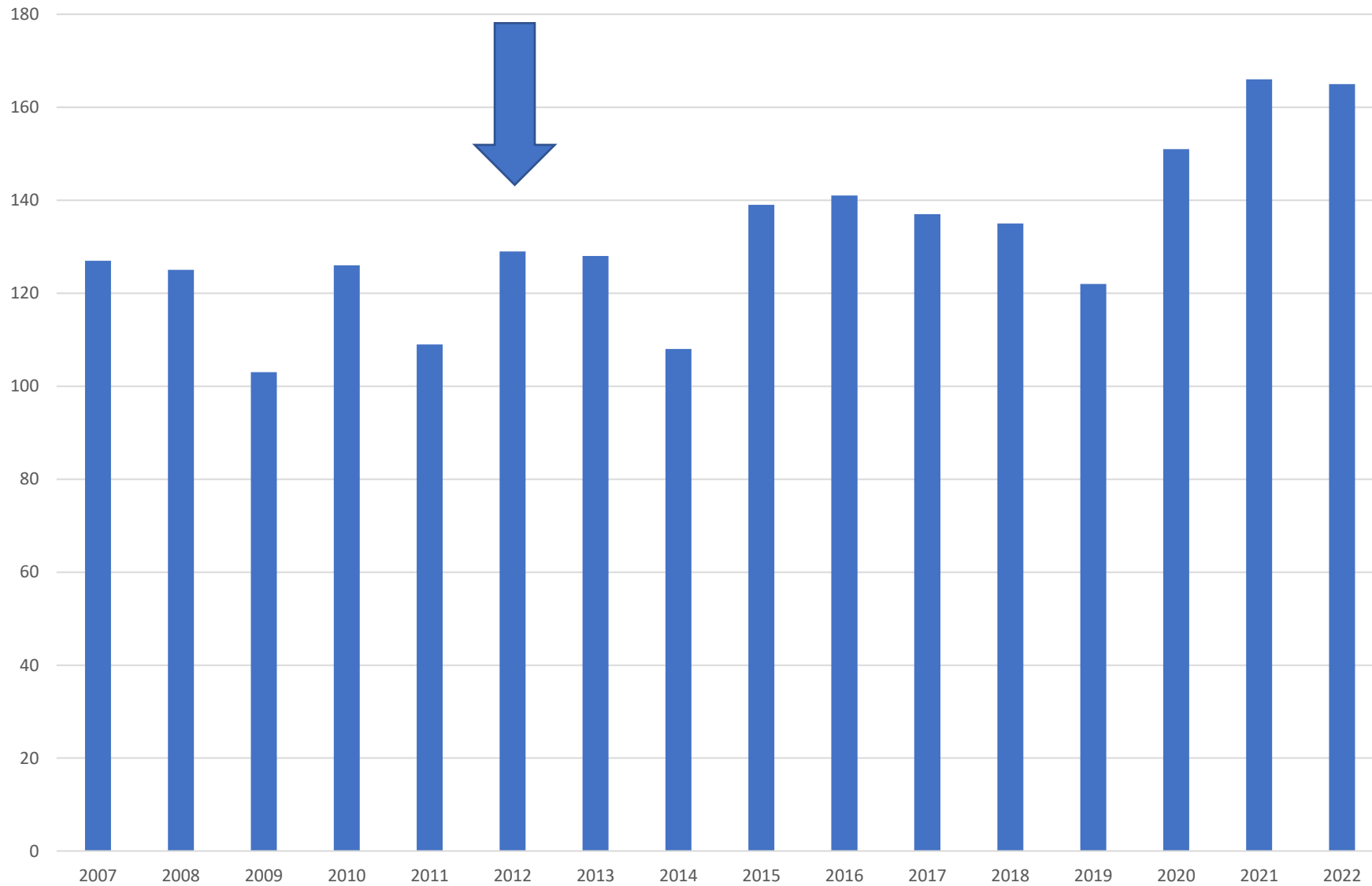
Talk about these questions

- **Has the repeal of the all-rider helmet requirement resulted in changes in motorcyclist fatality numbers? Fatalities up, down or remain the same?**
- **If up or down, by how many fatalities per year?**

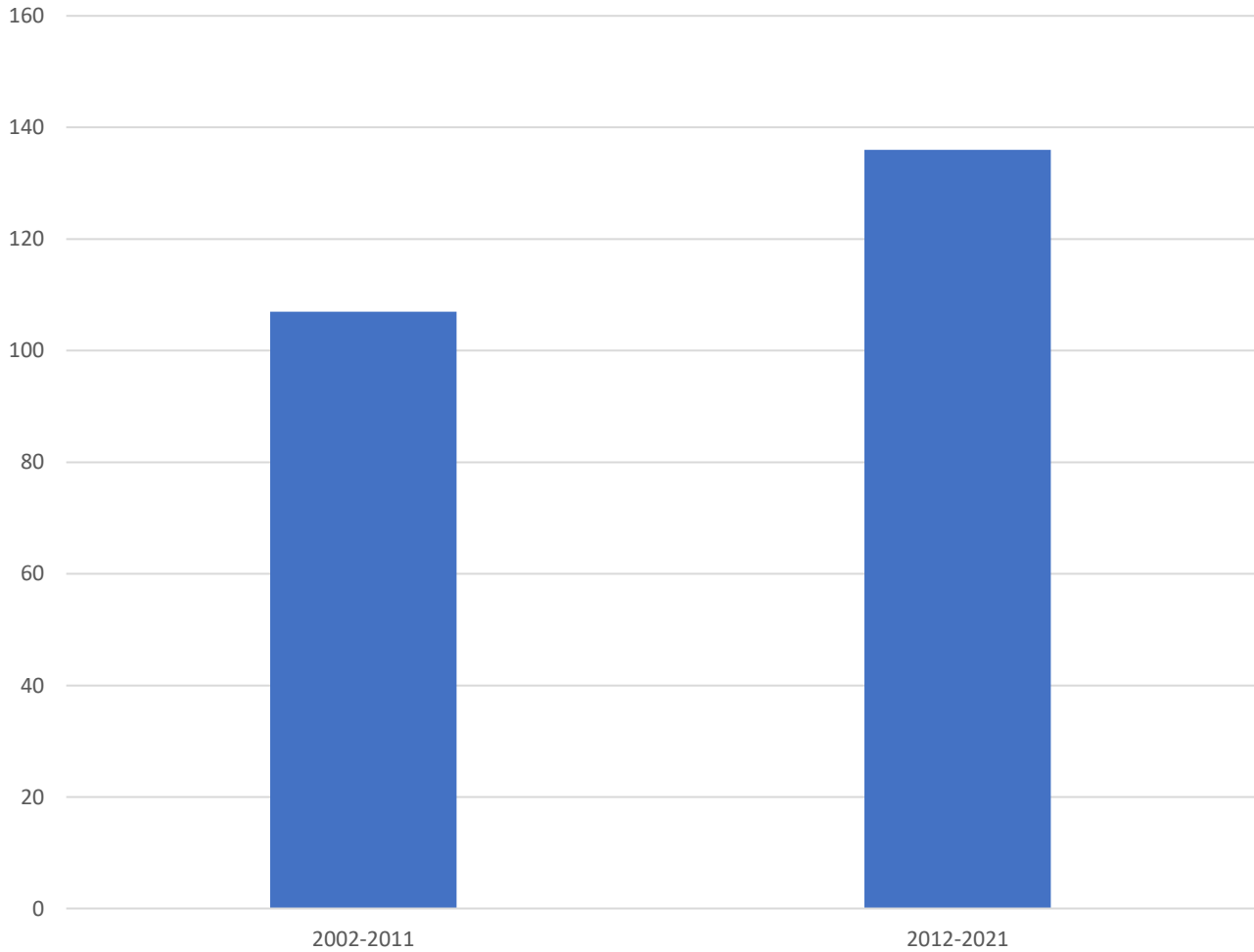
The Evidence

- **Data from: Michigan Traffic Crash Reporting System, Criminal Justice Information Center, *Motorcycle Helmet Traffic Crash Statistics***
- **Expert Report: Estimate of Reduction in Deaths, Injuries and Societal Costs in 2015 Michigan Motorcycle Crashes with Helmet Use, Lidia P. Kostyniuk, Ph.D.. P.E.**
- **Research: Seven (7) Michigan specific peer reviewed studies published between 2014 and 2020**

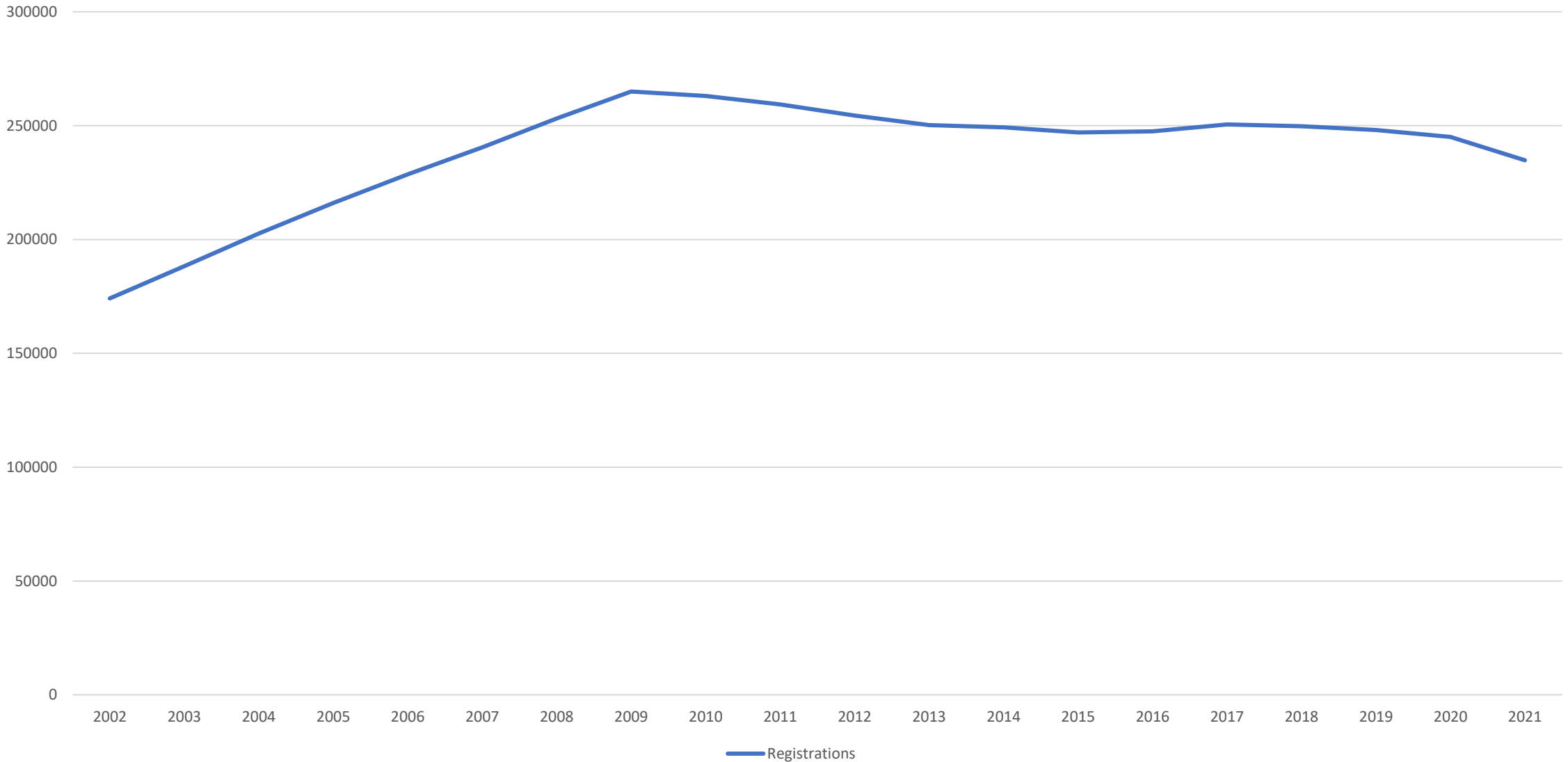
Motorcyclist Fatalities per Year 2007 - 2022



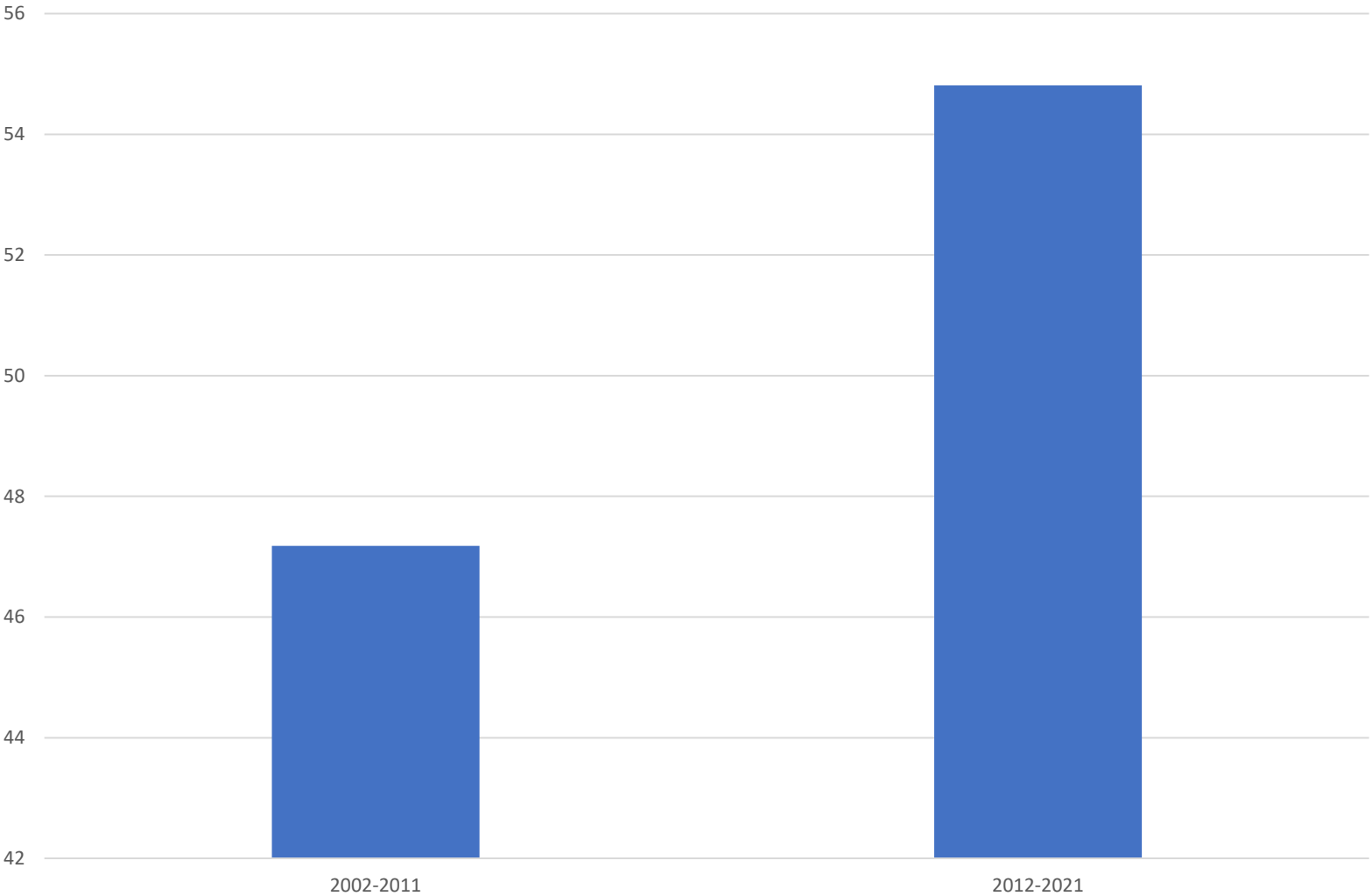
Average Fatalities per Year – Pre & Post Repeal - 108 vs 136



Michigan Motorcycle Registrations 2002-2021



Fatality Rate per 100,000 Registrations 10 yr. Pre & Post Repeal – 47 vs. 55



Summary of General Data

- **27.10 % increase in average fatalities per year**
- **16.30% increase in fatality rate per 100,000 registrations**
- **18 -28 additional fatalities per year**

2022 was 11 years since repeal = 198 – 308 deaths

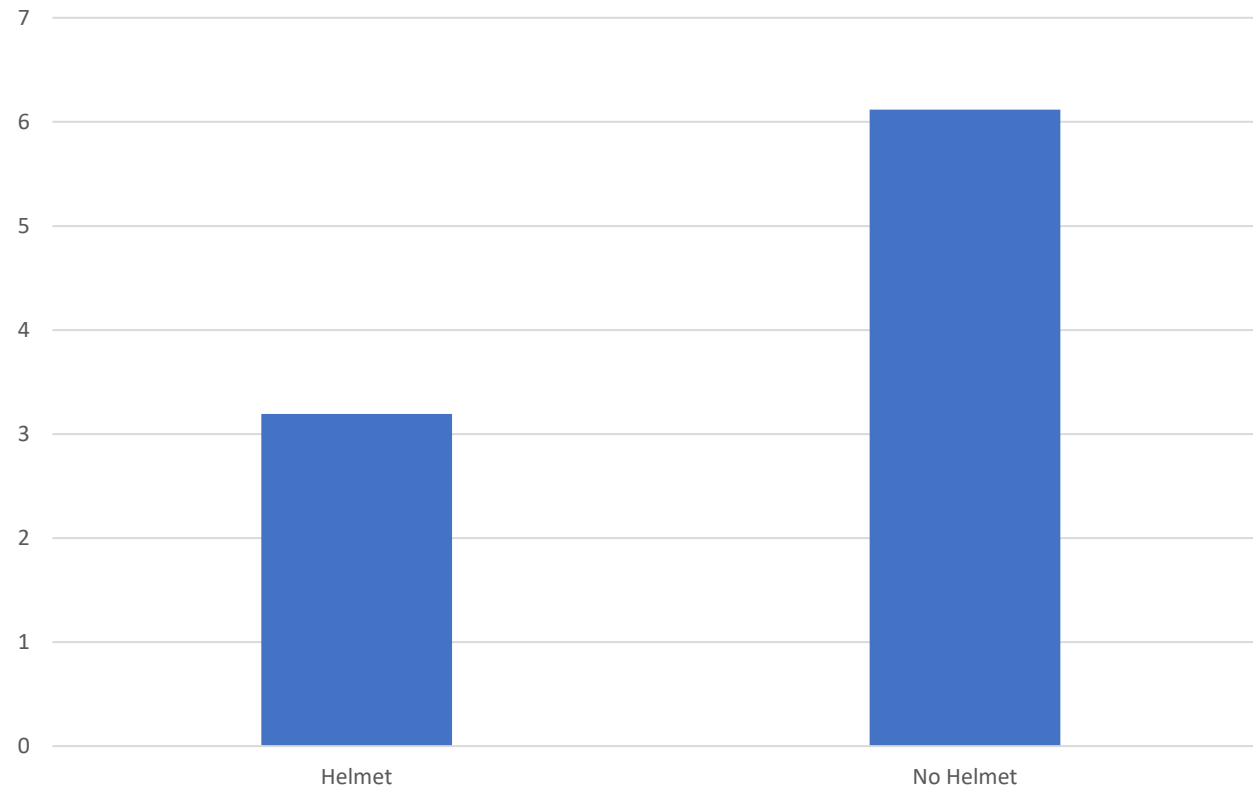
Helmet vs No Helmet 2012-2022

- **Data from: Michigan Traffic Crash Reporting System, Criminal Justice Information Center, *Motorcycle Helmet Traffic Crash Statistics***
- **In addition to the overall fatality data, these reports also show comparisons between those involved in fatal crashes who were wearing helmets vs those who made the choice to not wear a helmet**

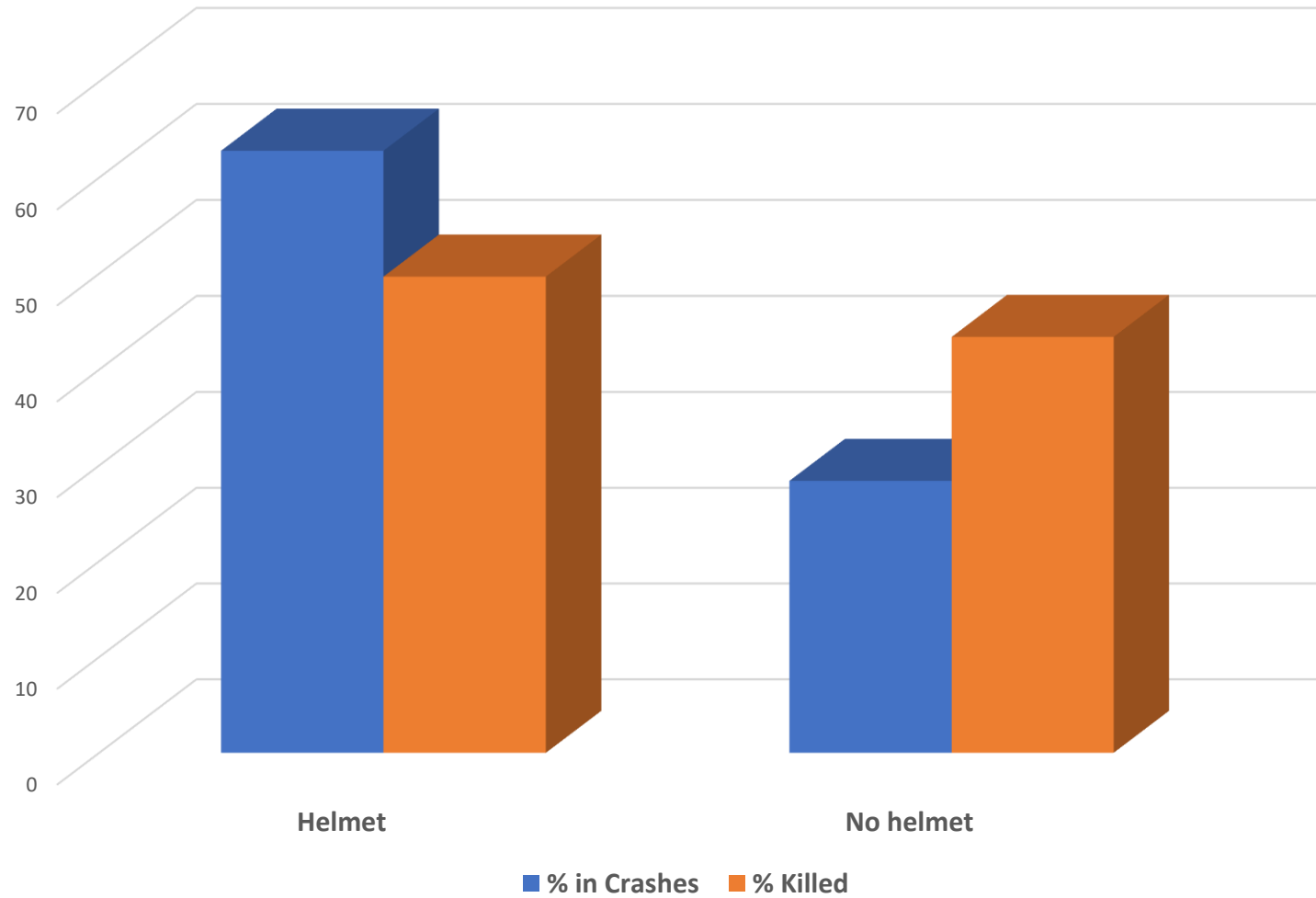
We will look at some detail

How to double your chance of dying if you crash your motorcycle!

Deaths per 100 Crashes – 2012 - 2022



Over - Under Represented in Fatalities vs Crash Population



The problem with raw data

This over/under representation of the % killed vs the % in the crash population makes simply reporting the number killed wearing a helmet vs the number killed not wearing a helmet very misleading

Example – 2019: 56 fatalities helmet worn

54 fatalities helmet not worn

Helmet worn % of crashes = 60.18 vs. 45.90 % of fatalities

Helmet not worn % of crashes = 31.52 vs 44.26 % of fatalities

This is the case for every year 2012 - 2022

Think about the crash data

What does the data tell you?

What about the data confirmed what you already thought?

What surprised you?

Next we will look briefly at economic costs data

Economic Cost - Expert Report

If helmets had been worn by all the crash-involved motorcyclists in 2015 total societal costs would have been reduced by \$185 to \$201 million. This report was based on 2015 data and the calculation was for 2015 only.

Without adjusting for inflation or other factors, what is the estimated reduction in total societal costs if helmets had been worn by all crash involved motorcyclists for all years 2012 -2022 – eleven years total?

Estimate of Reduction in Deaths, Injuries and Societal Costs in 2015 Michigan Motorcycle Crashes with Helmet Use, Lidia P. Kostyniuk, Ph.D.. P.E.

Economic Cost of Eleven Years w/o Helmet Requirement in 2015 \$

185 million per year x 11 years = Two billion thirty five million

201 million per year x 11 years = Two billion two hundred eleven million

MI Specific Research

Michigan is special in that we have available for our consideration at least seven (7) peer reviewed and published research reports on the impact of the repeal of the all-rider helmet requirement.

All of these reports are available on the SMARTER web site

See the handout

We will review a few of the findings

MI Specific Research findings

- 1. Nonhelmeted motorcyclists more frequently died on the scene, spent more time in the intensive care unit, required longer ventilator support, had higher medical costs. Non-helmeted rider more often died on street.**
- 2. Helmet use drops for all riders, including young riders, out-of-state ridership is stable, risk for injury and death for nonhelmeted riders is significantly higher than for those who wear a helmet.**
- 3. Three years after this legislative change, we are now observing increased injury severity score, higher in-patient mortality, and worse neurologic injury for unhelmeted riders**

MI Specific Research Findings

- 4. Helmet law repeal decreased helmet use - increased head injury**
Helmet nonuse doubled the odds of a fatality and tripled the odds of a head injury.
- 5. Compared with helmeted trauma patients, unhelmeted patients were nearly twice as likely to sustain craniomaxillofacial injuries including fractures and soft-tissue injuries.**
- 6. Following the repeal, patients were more likely to be unhelmeted and to have a traumatic brain injury. Patients were also more likely to require neurosurgical interventions**

MI Specific Research Findings

7. Unhelmeted motorcyclists are three times more likely than helmeted riders to become organ donors, possibly due to the well documented increase in severe traumatic brain injuries population. From a public health perspective, helmets should be required for all motorcyclists.

Decades of research

- **Every reputable safety research organization in the world supports the use of helmets as a way to reduce injury, death, and the economic costs resulting from brain trauma**
- **Meticulous reviews of the literature (hundreds of researchers – decades of studies) have concluded the research clearly demonstrates the lifesaving benefits of wearing a helmet**
- **The tragic Michigan experiment – 10 plus years of data, MI specific economic cost analysis and seven MI specific research reports**

Discussion, Comments & Questions

- **Motorcyclist crash and fatality data: General and helmeted vs not helmeted**
- **Economic cost**
- **Specific research**

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