Fatal crashes involving motorcycles: medicolegal perspectives from the death scene

Oliver Page, Ph.D.¹, Peter D. Frade, Ph.D.², William Kasper³, Albert Samuels⁴

ABSTRACT
In April 2012 the State of Michigan repealed the Universal Helmet Law (UHL) for certain categories of motorcyclists. Proponents of the UHL state that numbers of fatalities from crashes involving motorcycles (MCs) are most likely to increase as a direct result of the legislative change. However, is such a predicted trend reflected in the actual numbers of fatal crash scenes involving MCs and what medicolegal insights can be gained from first responders and forensic scientists who attend to and process fatal crash scenes?

A 25-month study observed that during the ‘Before’ period April 2011 through April 2012, 18 MC occupants lost their lives in 18 fatal crashes. In the ‘After’ period April 2012 through April 2013, 22 MC occupants were killed in 21 fatal MC crashes. A 17% increase in MC fatal crashes between the ‘Before’ and ‘After’ periods, resulted in a 22% increase in MC fatalities between the same two periods.

The authors postulate that ‘to assume the lack of a helmet contributed directly to the death would be to ignore other fatal injuries and behavioral factors unrelated to helmet use, that may have played an equal or greater contributory role as revealed during or after the forensic autopsy/investigation.’ Research outcomes from this study will be useful in the continued evaluation of effective injury prevention strategies targeting MC riders.

Keywords: Forensic Investigation, Helmet Law, Injury, Motorcyclist.

¹ Communicating Author: Independent Transportation Safety Specialist, 2419 Central Avenue, Augusta, GA 30904 email: o.a.page@gmail.com
² Chair, Department of Fundamental and Applied Sciences, Eugene Applebaum College of Pharmacy and Health Sciences, Wayne State University, 259 Mack Avenue, Detroit, MI 48201 email: pfrade@wayne.edu
³ Chief Investigator, Office of the Wayne County Medical Examiner, 1300 E. Warren Avenue, Detroit MI 48207 email: wkasper@co.wayne.mi.us
⁴ Administrator, Office of the Wayne County Medical Examiner, 1300 E. Warren Avenue, Detroit MI 48207 email: asamuels@waynecounty.com
INTRODUCTION

Since April 2012 there has been much debate about the efficacy of helmets worn by motorcyclists, reducing the extent of injuries arising from fatal traffic crashes. It is very likely that this debate will continue as long as motorcyclists are able to exercise their right to choose, in jurisdictions where such a choice is still permitted, whether or not to wear a helmet and legislators sanction this right while acknowledging the preponderance of empirical safety data.

In April 2012 the State of Michigan repealed the Universal Helmet Law (UHL) for certain categories of motorcyclists. This was achieved through an amendment to section 658 of 1949 Public Act (PA) 300 (Michigan Compiled Laws (MCL) 257.658). Proponents of the UHL argue that fatalities from crashes involving motorcycles (MCs) will increase as a direct result of the legislative change. However, is such a predicted trend reflected in the actual numbers of fatal crash scenes involving MCs? Furthermore, what medicolegal insights can be gained from first responders and forensic scientists who attend to and process a fatal crash scene?

STUDY OBJECTIVE

This paper, seeks to highlight medicolegal and forensic science perspectives put forward by first responders who attend MC fatal crash scenes. Medicolegal insights from state troopers/police officers and Death Scene Investigators (DSIs) have not adequately been heard when compared to UHL advocates, trauma surgeons, emergency room staff and traffic safety experts.

Research outcomes from this study will be useful in the continued evaluation of effective injury prevention strategies targeting MC riders. It will add new perspectives from state troopers/police officers and DSIs into understanding the empirical reasoning, if any, behind the repeal of UHLs. Written or oral testimony from either of these two groups as first responders or forensic scientists, on the effectiveness of helmets in fatal MC crashes were not presented during any of the public hearings leading up to the repeal of the UHL in April 2012.

Several Michigan-based media reports post-April 2012 suggested that the numbers of motorcyclist fatalities and associated crash scenes in Michigan increased as a direct result of the repeal of the UHL (Barnes, June 21, 2012; Dorsey, March 19, 2013; Oosting, July 19, 2012). Nevertheless, to decisively state a direct and irrefutable relationship between a fatal crash involving a MC and the lack of wearing a helmet, may hide other factors, known and recorded by state troopers/police officers or DSIs that may flag this accepted relationship. Thus, it is useful to examine this accepted relationship from a medicolegal perspective. Towards that end, this research effort can make a useful contribution.

MATERIALS AND METHODS

Study Period
On April 12, 2012 Governor Rick Snyder of the State of Michigan signed in law Senate Bill No. 291, Public Act 98 of 2012 (effective April 13, 2012), marking the repeal of the UHL in Michigan. The study period, April 1, 2011 through April 30, 2013 represents a two-year period (i.e., 24 months excluding April 2012). The two study periods permit a before and after comparison between a 13-month ‘Before’ period (i.e., April 2011 thru April 2012) where the wearing of helmets by motorcycle riders was mandatory; with a corresponding ‘After’ period (i.e., April 2012 thru April 2013) where the wearing of helmets was optional for certain categories motorcyclists.
Wayne County, Michigan and Wayne County Medical Examiners’ Office
According to 2014 U.S. Census Bureau population estimates, 1,764,804 persons resided in Wayne County; making it the most populous county in Michigan, and the 19th populous county in the U.S. Wayne County has several notable firsts relating to transportation; for example, the first mile of concrete highway built in the U.S., in 1942; and, home to the first depressed urban expressway built in 1942 (Michigan Department of Transportation, 2015). Vehicle registration statistics reveal that in November 2013 there were 254,396 MCs registered in the state of Michigan of which 27,938 (or 11%) registered in Wayne County (Michigan Department of State, 2013).

According to the Center for Disease Control (CDC) Wide-ranging OnLine Data for Epidemiologic Research (WONDER) database, Wayne County has consistently ranked in the top five (5) U.S. counties for autopsies performed since 2010. Wayne County Medical Examiners’ Office (WCMEO) is the busiest in the state of Michigan, and according to WONDER data, in 2013 conducted 2,116 autopsies compared to 874 autopsies at the Oakland County MI Medical Examiner’s offices, the second busiest ME office in Michigan (Center for Disease Control, 2015).

Data Abstraction
Fatal crash scene data was obtained from traffic crash reports of the Michigan State Police (MSP). Traffic crash fatality data from the Fatality Analysis Reporting System (FARS) of the National Highway Traffic Safety Administration (NHTSA) was complemented by data from the Michigan Traffic Crash Facts (MTCF) of the Office of Highway Safety Planning State of Michigan (OHSP). Death scene notes prepared by DSIs with associated images were obtained from WCMEO. Lastly, qualitative information was gained from interviews with autopsy technicians, DSIs, MEs and state troopers/police officers.

Combining data from several sources may “Address the broader picture of death by MC (Nunn, 2011),” and “Increase the richness of data to assist in prioritization of injury prevention activity and for identifying methods of prevention (Cryer, 2001).” As the subject matter in this study focuses on deceased individuals, Institutional Board Approval (IRB) though requested was not required.

Interviews
Structured and unstructured interviews with open-ended questions were held with DSIs, MEs, autopsy technicians, and state troopers/police officers to gather qualitative information. Open-ended questions asked of all interviewees permitted respondents to share personal insight, provide anecdotal evidence or express opinions about fatal crashes involving MCs. One-on-one interviews lasted between 15 to 75 minutes and were held at a time and place convenient to the interviewee. To protect the identity of interviewees and respondent confidentiality, personal identifiers are not divulged in this research effort.

RESULTS

Fatal Crashes Involving Motorcycles
A fatal crash is defined in this study, as a crash involving “A motor vehicle traveling on a trafficway customarily open to the public, and must have resulted in the death of a motorist or a non-motorist within 30 days of the crash (U. S. Department of Transportation, 2012).” A fatal
crash involving a MC can be located in any place or location where a MC is operated, e.g., highway, local street, off-road trail, etc., and the MC operator, pillion rider or another person dies from being ejected from, run over or struck by another vehicle. A stationary MC being repaired which then falls, fatally injuring the attending mechanic would be deemed a ‘death scene’ but not a fatal crash scene. All fatal crash scenes are death scenes. However, all death scenes involving a MC are not fatal crash scenes.

For the period April 2011 through April 2012 there were 18 fatal crashes involving a MC in Wayne County (Table 1). The period April 2012 through April 2013 (i.e., ‘After’), 21 fatal crashes occurred, three (3) more crashes than the ‘Before’ period.

Table 1: Motorcycle Fatal Crashes in Wayne County April 2011 - April 2013

<table>
<thead>
<tr>
<th>Month</th>
<th># MC Fatal Crashes</th>
<th>Month</th>
<th># MC Fatal Crashes</th>
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<tbody>
<tr>
<td>Apr-11</td>
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<td>Mar-12</td>
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<td>2</td>
</tr>
<tr>
<td>Total</td>
<td>18</td>
<td>Total</td>
<td>21</td>
</tr>
</tbody>
</table>

Source: Authors’ analysis of FARS Data

Fatalities and Fatal Crash Scenes
Accepting the FARS definition of a fatal crash, permits a crash scene to transform into fatal crash scene at the exact instant of the crash (i.e., the victim dies immediately from the incident) or up until 30 days after the crash (i.e., the victim dies from injuries sustained in the incident). Table 2 presents MC fatality statistics for Wayne County.

Table 2: Motorcycle Fatalities in Wayne County April 2011 - April 2013

<table>
<thead>
<tr>
<th>Month</th>
<th># MC Fatalities</th>
<th>Month</th>
<th># MC Fatalities</th>
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<tbody>
<tr>
<td>Apr-11</td>
<td>1</td>
<td>Apr-12</td>
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<tr>
<td>May-11</td>
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<td>3</td>
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Table 2 indicates that during April 2011 through April 2012, 18 fatalities were the direct result of 18 fatal MC crashes (from Table 1) in Wayne County. For the period April 2012 through April 2013, 22 motorcyclists lost their lives in 21 MC crashes. A ‘Before’ and ‘After’ comparison reveals an increase of four (4) fatalities in the 12-month period (excluding April 2012) following the repeal of the UHL, a 24% increase. July 2012, just 3 months after the repeal of the UHL witnessed five (5) MC fatalities, the highest monthly total in Wayne County during the study period.

**Fatalities and Helmet Use**

MC fatalities and whether these decedents wore a helmet or not is presented in Table 3. Eighteen MC occupants lost their lives during the period April 2011 through April 2012; of these 13 (or 73%) wore helmets. Correspondingly, in the ‘After’ period, April 2012 through April 2013, 22 MC occupants were killed; and only 7 (32%) wore helmets.

**Table 3: Fatalities and Helmet Use in Wayne County April 2011 - April 2013**

<table>
<thead>
<tr>
<th>Month</th>
<th># MC Fatalities</th>
<th># Helmeted</th>
<th>Month</th>
<th># MC Fatalities</th>
<th># Helmeted</th>
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<td>0</td>
</tr>
<tr>
<td>Total</td>
<td>18</td>
<td>13</td>
<td>Total</td>
<td>22</td>
<td>7</td>
</tr>
</tbody>
</table>

Source: Authors’ analysis of FARS Data
Fatal Crash Scenes as Death Scenes
All fatalities resulting from a fatal crash as defined by FARS must be reported to a ME. Michigan compiled laws stipulate that certain types of death must be reported to and be investigated by a ME (or an authorized representative). Section 52.202 of Act 181 of 1953 states that “A county medical examiner or deputy county medical examiner shall investigate the cause and manner of death of an individual under each of the following circumstances: (a) …… (b) The individual's death is unexpected (State of Michigan, 1953).” An unexpected or accidental death would be a death arising from a MC crash.

DSIs only attend a crash scene where an injured victim expires at the scene. After which the decedent is ordered into (i.e., sent to) the ME for a full autopsy to determine the manner and mechanism of death, as well as the proximate (i.e., distant) and immediate cause of death. The manner and mechanism of death are recorded on the death certificate before the decedent is released to the next of kin (or other authorized person).

Immediate Environment and the Fatal Crash Scene
Fatal crash scenes may be situated at one location or extend over a wide area. Often these crash scenes present a hostile and unsafe environment to first responders. A fatal crash scene “May take the form of physical, chemical and/or biological hazards (Clark, 1996)” that may impede first responders in the execution of their duties. Inclement weather, low lighting conditions, swarming traffic, excited onlookers, inadequate traffic control, chemical spills, e.g., gasoline, body fluids, e.g., blood, pieces of human tissue, shards of glass, and the spatial separation between the decedent and the MC, may all contribute to a hostile fatal crash scene.

The Decedent at the Fatal Crash Scene
On arriving at the crash scene where on initial inspection a lifeless victim is present, state troopers/police officers may do basic checks to determine whether the victim is alive or deceased. However, sometimes such basic assessments are not needed based on the extent of viewable injuries, such as amputations, on the decedent. As one interviewee stated, “[If] there’s a pulse, they’re still breathing, or if there’s a pulse but they’re not breathing, we will render aid whether it be Cardiopulmonary Resuscitation (CPR) or rescue breathing; until further advanced medical personnel arrive on the scene.”

A ME or their representative has jurisdiction over the decedent at a fatal crash scene. Ideally, the decedent has not been moved in any significant way. The context that is from a medicolegal perspective, in which the decedent is found is critical in the investigation of the death scene. There is also a need to preserve any evidence that may be found on the body. However, the decedent may have been repositioned by EMS during resuscitation efforts or searched by a state trooper/police officer to locate any forms of identification.

Facial or visual identification are often the least reliable methods of identifying the decedent, in particular where the decedent has trauma to the head or face. Bucholtz confirms this by stating, “With many motor vehicle deaths, bodies are deformed by their injuries and visual identification of the decedent with comparison to a driver’s license photo is potentially erroneous. It is not uncommon for people to carry false identification or borrow a friend’s vehicle (Bucholtz, 2014).” Positive identification may be confirmed by latent fingerprints, identifying scars, markings or tattoos, forensic odontology, DNA and by prosthetic medical appliances, e.g., pacemaker, implanted in the body.
**DISCUSSION**

**Motorcycle Fatalities ‘Before’ and ‘After’ Comparison**

Returning our focus to MC fatal crashes in Wayne County, the ‘After’ period saw an increase of three (3) fatal crashes when compared to the ‘Before’ period (Table 1). In percentage terms MC fatal crashes increased 17% compared to the 12% decrease in (all vehicle) fatal crashes overall in Wayne County. Looking closer at the popular months for MC activities, June through September, there was a significant 50% increase in MC fatal crashes in 2012 (15 fatal crashes) compared to the same months in 2011 (10 fatal crashes) (Table 2). Possible reasons for the increase in MC fatal crashes in 2012 were: 1) Repeal of the UHL stimulated an increase in MC registrations and more riders to ride MCs, some of whom may be inexperienced; and, 2) Renewed attraction of Michigan to MC riders from neighboring Midwest states. None of Michigan’s bordering U.S. states have UHLs in place. Increased numbers of MC riders on Michigan’s roads together with increased summer traffic in general, increases the level of exposure to a potential crash.

As stated earlier in this study, many proponents of the UHL hypothesized that that numbers of fatalities from MC crashes will increase as a direct result of its repeal. Such proponents may state that in the case of Wayne County this has been the case as confirmed by the data in Table 2. In the ‘Before’ period April 2011 through April 2012, 18 MC occupants lost their lives in 18 fatal crashes. In the ‘After’ period April 2012 through April 2013, 22 MC occupants were killed in 21 fatal MC crashes. A 17% increase in MC fatal crashes between the ‘Before’ and ‘After’ periods, resulted in a 22% increase in MC fatalities between the same two periods. July 2012 is a particularly significant month where five (5) MC occupants lost their lives compared to three (3) MC occupants in July 2011.

The 22% increase in the number of MC fatalities in Wayne County in the 12 month ‘After’ period may not conclusively relate to the repeal of the UHL in Michigan based on the following reason; ‘To assume that the lack of a helmet contributed directly to the death would be to ignore other fatal injuries and behavioral factors unrelated to helmet use, obtained during post-forensic investigation, that may have played an equal or greater contributory role as revealed during or after the forensic autopsy/investigation.’ These ‘other’ fatal injuries are not the focus nor are they captured in FARS data. Analysis of FARS data may support a positive relationship between the lack of helmet use and a resulting fatality in MC crashes. However, the authors suggest that such an analysis cannot be conclusive of a direct causal relationship, often validated through the analysis of traffic crash datasets, if contributing behavior patterns or catastrophic injuries are omitted.

Thirteen (or 72%) of the 18 MC fatalities in Wayne County during April 2011 through April 2012 wore helmets (Table 3). This can be compared to 7 of the 22 (or 32%) MC fatalities during the period April 2012 through April 2013. It is evident from these statistics that fewer decedents wore helmets in the 12-month period after the UHL repeal in April 2012. However, it is being argued here again that, ‘To assume that the lack of a helmet contributed directly to the death of a MC occupant would be to ignore other fatal injuries and behaviors unrelated to helmet use, obtained during post-forensic investigation, that may have been equal or greater contributors as revealed during or after the forensic autopsy/investigation.’ This reasoning supports the need to hear medicolegal perspectives of DSIs, MEs and state troopers/police officers who attend fatal crash scenes, perform forensic autopsies or provide expert testimony in any resulting court case.

After the repeal of the UHL in Michigan there was a 22% increase in the number of fatalities in Wayne County in the ‘After’ period. Proponents of UHL may use this as conclusive evidence as to the efficacy of helmet use. Indeed, had these decedents wore a helmet they may...
have survived the crash. However, the 22% increase in MC fatalities may simply be the result of an increased number of MC riders in the ‘After’ period compared to the ‘Before’ period. With more MCs on the road, an increase in the population at risk, the level of exposure to become involved in a crash increases.

The change in legislation, repeal of UHL, may have contributed to an increase in the number of MC riders taking to the roads. This finding is corroborated by Strom et al (2013) in a before and after study of UHL repeal in Louisiana, who stated “Legislation may play a meaningful role in the relative population of motorcycle ownership (Strom, 2013).” This influence is similarly confirmed in a study by O’Keeffe et al (2007) on the impacts of the repeal of UHL in Miami-Dade Florida. They concluded, “1) Repeal of the motorcycle helmet law was associated with an increase in motorcycle ridership. 2) When adjusted for the increase in motorcycle riders, there was no significant increase in the motorcycle fatality rate after the repeal, despite a large increase in the absolute number of motorcycle-related deaths (O’Keeffe, 2007).” Other potential contributing factors to the increase in MC fatalities, such as alcohol, age, experience, etc., were not considered as part of this study.

**Efficacy of Helmet Use in Fatal Motorcycle Crashes**

Statistics for the ‘After’ period (April 2012-2013) indicated a 22% increase in the number of MC fatalities in Wayne County (Table 2) with an associated 40 percentage points decrease in the number of fatalities wearing helmets (Table 3). For some readers these statistics support the assertion that the lack of wearing a helmet is a significant contributory factor in fatal MC crash outcomes. During the course of data collection for this research project, interviewees as first responders to fatal MC scenes were given the opportunity to share their opinions on the efficacy of MC helmets. Their responses are presented here.

The helmet protects only one part of the body that is the head. Confirming this observation, an interviewee stated, “When you’re on a motorcycle and you get hit by a motor vehicle whether it is 40mph or 50mph (64 km/hr or 80 km/hr), all the helmet does is protect your head which is also obviously a very valuable part of your body.” As discussed earlier, the lack of a containment area, exposes the whole body to injury and significantly increases the severity of injury outcomes, if the MC occupant becomes involved in a crash. The vulnerability of the whole body to debilitating injury may diminish the efficacy of a helmet mitigating a fatal crash outcome. This viewpoint was supported by an interviewee who stated, “In my opinion anything that you can use or wear that will protect you [the motorcycle occupant] may help, but like I said sometimes it’s not just your head that is going to be involved in the crash, it’s going to be other parts or your body. I don’t think the helmet will have a whole lot to do with it [the fatal crash outcome].” Nunn (2011) in his study of behavioral and situational correlates of fatal MC crashes, also points out the limitations of helmet use. Nunn concludes, “There are circumstances under which helmets will make no difference in the fatal outcome. Massive thoracic trauma can render any prophylactic benefits of helmets ineffective (Nunn, 2011).”

A potential benefit of a helmet is its influence on the type of head injury sustained and injury severity. However, the amount of influence is dependent on many factors including the impact of the motorcyclist and the road, vehicle or other object. “Any time you have a barrier that would protect the head during any kind of impact I think would be critical [to their survival]. I think they [helmets] do make a difference. A motorcycle helmet would make a difference between a closed-head injury, and a non-closed head injury.” This ‘difference’ taken together with other critically injured organs may all contribute to the demise of the MC occupant. As one interviewee
stated, “Head injuries with or without a helmet, are catastrophic. Without the helmet there are open head injuries and with the helmet there are internal injuries, all of which lead to death.” This opinion was also supported by other interviewees. From a medicolegal perspective one benefit of a helmet is that “The brain and skull are still intact when they [the ME] get the body.” DiMaio and DiMaio (2007) similarly agree, where they state, “While motorcycle helmets reduce the incidence of head trauma in low-speed accidents, at moderate and high speeds their sole function is to prevent brain matter from being spread over the highway (DiMaio, 2007).”

Several interviewees could not state with certainty whether helmets are effective in preventing MC fatalities or injury severity. However, they did point out the benefit in reducing head injury but noted other parts of the body are exposed to injury and taken together this may lead to the demise of the motorcyclist. “Well, I don’t know. It may reduce it to the head itself but then is not going to reduce your multiple injuries that occur, [such as] broken arms, ribs and a crushed chest. In these cases even with a helmet they [the MC occupant] still die because of the multiple injuries.” Another interviewee who has processed several fatal crash scenes involving MCs indicated that, “There’s no mechanism really to say whether somebody who had a helmet on if they would have survived [the crash] or not.”

The vulnerability of the motorcyclist to an injury outcome is also related to the travel speed of the motorcyclist and speed on impact at the time of the crash. Several interviewees confirmed that the speed of the motorcyclist was a contributory factor in the fatal crashes scenes they attended. Traveling at a high rate of speed potentially reduces the efficacy of a helmet. As one interviewee confirmed, “From my experience in attending scenes of motorcycle deaths I think for most of them the helmet probably would not have made a difference because they are usually traveling at a high rate of speed. We [death scene investigators] have seen many motorcyclists [decedents], with the helmet still intact but cracked, but of course, you know, it’s a fatal injury.”

An interviewee noted that the efficacy of helmet protection is related to the type of helmet worn. This interviewee was emphatic about the lack of protection afforded by novelty helmets that do not meet Federal Motor Vehicle Safety Standard No. 218 requirements, worn by many motorcyclists. The protection of a novelty helmet, “Is about as effective as taking this sheet of paper, putting it on my head and strapping it on with a rubber band! They offer zero protection. It may protect you from a June bug, that’s it. They are not crash helmets!” The popularity of novelty helmets is related to empirically unproven claims that DOT approved helmets block out noise, are heavy and reduce visibility. These claims among others have been put forward by MC advocacy groups lobbying for greater individual choice whether to wear or not wear a helmet when riding a MC. This interviewee was also of the opinion that motorcyclists who wore novelty helmets under the UHL regimen opted not wear helmets at all after the repeal of UHL in Michigan. This transition might also be a contributing factor to the numbers of MC fatalities in the post-UHL period.

Another interviewee stated that “A motorcyclist’s helmet is designed essentially for an impact [speed] of about 35mph. So, when you’re talking about having a helmet on at 70mph (113 km/hr) when you’re at freeway speeds, it’s not intended for that. It’s intended for a 30-to-35mph (48-to-56 km/hr) crash impact.” Nevertheless, even at low speeds the lack of wearing a helmet may contribute to fatal outcomes as the interviewee went on to say that “There have been fatal crashes that I’ve been on where operators without helmets have died at low speeds 30-to-40mph. It makes you wonder, had they had a helmet on would they still be here? Again there’s no mechanism to say one way or the other, to track that, or suggest it. I would say that they have a better chance than obviously not wearing one.”
STUDY LIMITATIONS

This ‘Before’ and ‘After’ study of MC fatal crash scenes was based on one county in Michigan, namely, Wayne County. The small sample size, short time period of 25 months (April 2011 through April 2013) and limited geographical area, require that the statistical findings and opinions presented in this analysis should not be taken to represent the state of Michigan nor the nation. However, the information provided by state troopers/police officers and DSIs is premised on many decades of crash/death scene experience and would we believe be validated by state troopers/police officers and DSIs in other jurisdictions around the nation. This study focused on the decedent, and thus was unable to identify whether the repeal of UHL in Michigan increased overall injury rates, rates of hospitalization, or discharge to a long-term care facility.

CONCLUSION

This research effort has sought to highlight the experiences and opinions of state troopers/police officers and DSIs into the debate on the efficacy of helmets in MC crashes. The purpose of this study was not to define the causal relationship between helmet use and fatal outcomes but to illustrate from a medicolegal perspective that the accepted causal relationship between lack of helmet use and fatal crash outcomes, often validated through the analysis of traffic crash datasets, cannot be conclusive if contributing behavior patterns or catastrophic injuries, obtained during post-forensic investigation, are omitted.

MC riding is an enjoyable recreational activity and feasible commuting option for many people. Motorcyclists as all other road users have the right to be safe and make correct choices to operate their vehicles safely. Nevertheless, helmets can and do save lives and, as a first responder interviewed stated, “Everybody’s not going to survive it [a crash], with or without a seatbelt or an airbag or whatever. If you save one person with a helmet, I’m all for it. That’s one person that’s saved!”
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Disclaimer: The views and opinions expressed in this report represent those of the interviewees and authors and do not necessarily reflect official policy or position of any agency that they may represent.
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