Media distortion and blogger fiction in reporting and discussing road safety research outcomes

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Main issues

- Road safety and injury prevention initiatives are sometimes met with considerable resistance from vocal minority groups within the community.

- Media and blogospheres buzz with unsubstantiated opinions and distortions, sometimes elevated to accepted fact by non-scientists and opinionated opponents. We live in a new age of instant communication to the masses at low cost.

- Road safety, and indeed many aspects of injury prevention that attempt to address injurious risk taking, can be categorised as ‘wicked or intractable problems’, i.e. resistant to scientific and social resolution.
Main issues

• Recent examples of wicked problems:
  – speed cameras (covert, fixed and point to point) highly effective in reducing speeding and hence casualties - labeled government revenue raisers;
  – reducing or adopting speed limits on open roads in Northern Territory that reduce road casualties opposed by vocal minority motoring enthusiasts;
  – efficacy of bicycle helmet wearing and Mandatory Helmet Law to mitigate serious head injuries;
  – installation of wire-rope barriers strongly rejected by motorcyclists;
  – Quad bike and rollover protection bars – safety advocates and regulators vs industry standoff.

Main issues

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- Information exchange is now instantaneous.
- Opinions and solutions are often provided via blogospheres and email.
- Media sources, wanting to increase publication subscriptions and ratings within a highly competitive market, search for controversy on the topic, often inflating and paying substance to unsubstantiated claims.

Speed cameras – Media Watch and ACA

26th September 2011
Australia has a worse death toll on the roads than Germany and Germany doesn't have speed limits on certain roads. It's nothing to do with speed, it's driver behaviour that needs to change in Australia. I have driven in many countries around the world and no one driver is as close or as aggressively as us in Australia. Change behaviour and much of the carnage and fatalities would reduce, the government or police really need to be totally transparent about their claims and produce empirical data. Speed limits alone and stupidity are cited in the decade take away powerful cars from inexperienced drivers, under 25s shouldn't be driving anything over a 1.6. The government need to address many factors but they won't, cause of the 5. Another thing, I live in Britain and we don't get fog, so why do so many people drive around with frost and come with rear fog light on, they wouldn't be able to drive in real fog. Again it's behaviour. Do something about it, but this will fall on deaf ears as usual.

Opinion: Skaife's killer proposal
Author: Lori Moore and Raphael Ghoseheta
Date: Thursday, 17 June, 2010

There has been considerable media coverage of Mark Skaife's suggestion that speed limits should be raised to 140 km/h on Australia freeways. He has suggested Australia should stop being a nanny state focused on speed reduction and should instead take a road safety approach more similar to that of Germany. This brings for a response. There is no problem with raising public debate on government policies. However, when people's lives and health are likely to be seriously affected, it is important factual information informs the debate.

Mr Skaife's notion that Germany has it right and Australia has it wrong is not supported in the statistical trends or their road safety strategy. The table below compares Australia to Germany, to the world leaders Sweden and the Netherlands, and to Canada and the USA, the latter being two countries of similar in size, vehicle mix and cultural background to Australia. Both Australia and Germany have made some good achievements over recent decades, are at similar levels of road fatality rates per population and per exposures and ahead of countries such as the USA and Canada. However, there is still considerable room for improvement in comparison to world's best being the Netherlands and Sweden.
Community is clearly divided on the issue of speed management.

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- There are people who either don’t want to know about the evidence that challenges their views or don’t really care.
- For some people “freedom” is more important than “safety”.
- Others dispute statistical evidence, basing their thoughts more on their own personal experience, e.g. “I speed all the time and have not had a crash, therefore my speeding is safe speeding.” This perspective may be supporting the view in some driver’s mind that others just need to be trained to drive better.
Community is clearly divided on the issue of speed management. There are people who either don’t want to know about the evidence that challenges their views or don’t really care. For some people “freedom” is more important than “safety”. Others dispute statistical evidence, basing their thoughts more on their own personal experience, e.g. “I speed all the time and have not had a crash, therefore my speeding is safe speeding.” This perspective may be supporting the view in some driver’s mind that others just need to be trained to drive better. Then, there are a vocal few that support lower speed limits and rigorous enforcement.
Road safety researchers, politicians and advocates are disappointed and frustrated by the recent spike in NSW road deaths. A staggering 237 lives were lost in the first six months of 2019, almost one-third greater than the same period last year.

That has required police to break on to extra shifts to perform the grueling task of informing families that their loved ones have died in a traffic crash. Hospital doctors resulting from traffic crashes are also up or on, a further strain on an already burdened health system.

After a long and relatively stable decline in road accident rates, this year has come as a rude shock. A speed-related death rate of road traffic accidents tripled at the weekend and concluded that an increase in speeding has been a key cause.

The Australian government has recently introduced more safety speed cameras, particularly covert mobile cameras, prompting politicians from all sides to do anything they can to slow down speeding and to reduce road deaths.

Some facts about speeding:
- Speeding is a major contributing factor to road deaths and injuries, and there are huge economic benefits to be gained from reducing speeds by just 5%.
- Speeding is a major factor in speed-related accidents. Research shows that just a 10% reduction in average vehicle travel speeds could result in a 20% reduction in road deaths.

Slow down on speed camera hysteria

Headlines such as the Sydney Morning Herald: “Top Speed Cameras still make a fast buck” and “Some speed cameras cash in, slush fund” and the Daily Telegraph’s front page headline “Can’t Kick Speed Habit” and “Speedy end to cameras” are all missing the point.

But worse is the ongoing and unchallenged campaigns by the commercial television programs such as Today Tonight and A Current Affair, that have repeatedly aired misleading and unbalanced stories that focus on the revenue raising aspects without acknowledging the scientific facts that these cameras are saving many lives.

It’s a feeding frenzy by the media — it is being portrayed as if there is a huge injustice being carried out against people that has now been corrected by the new NSW government. Are we missing something or were these people fined for breaking the law?

Do we have to take our word for it that these cameras save lives and reduce injuries?

They can read the Cochrane review into the effects of speed cameras on speeds and road trauma by Wilson and her colleagues.

This review assessed twenty eight studies from around the world that measured the effect of speed cameras on crashes. The review reported consistent positive reductions in speed and as a result crashes. For crashes resulting in death or serious injury reductions ranged from 17% to 50%, with most studies reporting a result in the 30% to 40% reduction.

And if there are still any further suspicions, then doubters can also read the Pilkington and Kinra paper in the British Medical Journal that reviewed 92 studies on the effectiveness of speed cameras and concluded that “Research consistently shows the effectiveness of speed cameras in preventing road traffic collisions and injuries.”
Wire-rope barriers
Protection against tree impacts & hazards, drains, culverts, median cross over.
Wire-rope in combination with tactile line marking (rumble strips) – very effective in reducing fatal and serious injury crashes

Motorcyclists’ lives are being placed at risk because of the increased use of wire rope barriers, Federal Member for Cooper Luke Hartsuyker said today.

"The accident highlights why State Governments should review their policies in relation to the installation of wire rope barriers," Mr Hartsuyker said.

"In my view, many of these barriers have been installed without due consideration to the threats they pose to motorcyclists. Whilst Governments do have a responsibility to address blackspots where head-on collisions are prevalent, they also have a duty of care to all road users.

"There is no use endangering motorcyclists simply to address a separate road safety problem.

Wire rope barriers are potentially deadly for motorcyclists and at the very least they can inflict serious permanent damage.

"It is a time for State Governments to review if and when these types of barriers are installed.

"In my opinion, the danger wire barriers pose to motorcyclists should be the starting point, before any more are installed. Wire ropes might be appropriate to stop cars and trucks colliding but they are the most aggressive form of barrier for bike riders.

"A full review should include, but not be limited to, establishing whether they should be banned, whether existing wire barriers should be made safer and whether all current wire barriers are necessary.

"The fact that wire barriers have a much shorter working life than concrete barriers should also be taken into account."
Motorcyclist barrier mythology

It is sad Mr Victor Marshall decided to perpetuate motorcyclist's mythology (Median Strip Horrors July 23) that wire-rope barriers (WRB) are "cheese cutters" banned in Europe, America and other countries. This is pure fiction. No country has banned wire-rope barriers. The very few 'real world' injuries occurring result from hitting the posts — not the wire-rope. International studies show wherever WRB is installed in Europe, Australia and North America, road casualties fall by around 70 to 90%!

Had Mr Marshall bothered to read recent reports he would quickly find that Sweden, with half Australia's road casualty rate and one of three safest countries to drive in, achieved this significant result because of installing wire rope barriers. The Swedes found motorcycle fatalities fell by around 65 to 70% on these roads. UNSW studies published in the November 2009 Australasian College of Road Safety journal highlight that only 6% of motorcycle fatalities (0.1% of all road fatalities) are barrier related, that W-beam steel barriers are over represented in fatal motorcycle barrier crashes, that 3 of 4 motorcyclists killed are either speeding, drunk or on drugs or a combination of the three, and the majority of crashes happen on weekend rides.

Motorcycle into Barrier Fatalities

National Coroners Information System - findings

Motorbike Crashes 2001-2006

<table>
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<tr>
<th>Country</th>
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Motorcycle into Barrier Fatalities

National Coroners Information System - findings
Motorbike Crashes 2001-2006

Motorcycle into Barrier Fatalities

Installed Lengths - Australia

W beam comprises 71.5% of the barriers and results in 72.7% of the fatalities; Concrete comprises 8.6% of the barriers and results in 10.4% of the fatalities; and Wire rope comprises 15.9% of the barriers and results in 7.8% of the fatalities.

Wire rope barriers have around half the fatality rate of W beam barriers and around 0.4 of concrete barriers – concrete most dangerous

<table>
<thead>
<tr>
<th>State</th>
<th>Total road length (kms)</th>
<th>Total length of roadside barriers (kms)</th>
<th>Steel Barrier length (kms)</th>
<th>Concrete barrier length (kms)</th>
<th>Wire rope barrier length (kms)</th>
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<td>1,263.0</td>
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<td>463.0</td>
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<td>Western Australia</td>
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<td>370.0</td>
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<td>60.4</td>
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<td>4,634.4</td>
<td>484.9</td>
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<td>Total New Zealand</td>
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<td>1,383.0</td>
<td>902</td>
<td>188</td>
<td>170</td>
<td>123</td>
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* These figures refer to the roadways managed by the state authorities and excludes roads managed by the local government authorities such as councils and shires.
* not available

Installed lengths of roadside barriers along roads in Australia and New Zealand

Motorcycle into Barrier Fatalities

Speed, alcohol, drugs or a combination of the three were a factor in 2 in every 3 crashes

Wire-rope barrier installation

• NZ Centenial Highway

  – 1996 to 2000: 8 fatalities, 2 serious injury and 7 minor

  – 2001 to 2004 removed passing lanes & wide yellow double tactile lines & reflectors & signs: 4 fatalities 2 serious injuries 2 minor injuries

  – 2005 to 2009 installed wire-rope median barriers and dropped speed limit to 80 km/h: No fatalities, No serious injuries, 3 minor injuries.

Bicycle Helmets

Presented by A/Prof. Jake Olivier in previous session

Since mandatory bike helmet laws were introduced in 1997, researchers, cyclists and campaigners have debated the law’s role in cyclist safety and the desirability of bike riding.

A new analysis reveals rates of head injuries reduced by almost a third after the laws were introduced. We spoke with the lead author of the study Jake Olivier, Senior Lecturer at UNSW’s Prince Wales Clinical School, about the evidence used in the bike helmet debate.

My involvement in this research began when the Voukelatos and Rissel paper came out last year in the Journal of the Australasian College of Road Safety. The paper said rates of cyclist head injury had decreased more in the period before the mandatory helmet laws were introduced than after.

When I read it initially, I thought the article had some interesting methods. But on closer inspection, the authors’ analysis looked weak.

It came out later that there were some data errors, which were pointed out by Tim Churches. The errors turned out to be real and Voukelatos and Rissel were given a chance to respond. They didn’t, so the journal retracted the paper.

At that stage, I decided to take Voukelatos and Rissel’s basic idea and do a more comprehensive and statistically rigorous analysis.

Bicycle Helmets

What was your methodology?

In order to find out whether there was a reduction in head injuries, we looked at the ratio of head to arm injuries – and this is what Voukelatos and Rissel did.

Any major drop in cycling rates would have resulted in a drop in head and arm injury rates. So the comparisons we made were “exposure free”, meaning the variations in cycling numbers wouldn’t affect the analysis.

What periods and regions did you examine?

We looked at data from New South Wales from eighteen months before the legislation and then eighteen months after its introduction. It’s the same data source that Voukelatos and Rissel used. (The Daily Telegraph ran a story today saying it was new data but this isn’t true.)

When Tim Churches noted the mistakes from Voukelatos and Rissel’s paper, he came to the same conclusions we did.

Did cyclist numbers reduce after the mandatory helmet laws were introduced?

The Roads and Traffic Authority (RTA) commissioned a few reports around the time the helmet law was introduced. One that came out in 1991 found the number of child cyclists reduced by around a third but there seemed to be an increase in adult riders. The overall numbers appear stable around that time.

So the numbers of cyclists overall may not have changed much, with more adults cycling but fewer children cycling – our model accounts for that.

Our conclusions remain the same regardless of the numbers of cyclists. But there is certainly active debate about whether it stopped people from cycling or not, and whether those that stopped cycling took up other activities and returned to cycling after our study period.

What are the key findings from your re-examination of the data?

We found a 29% reduction in bicycle-related head injury attributable to the introduction of the mandatory helmet law.

There has been some debate about whether the head to arm injury ratio was the best methodology. So we also looked at the ratio of head to leg injury, to see if we could obtain the same effect among cyclists, and we did.

We then repeated those two analyses on pedestrians. The helmet law was directed at cyclists not pedestrians, so if we found a big drop in pedestrians, that would be an indication of general road safety improvements.

But we did not see a reduction in pedestrian head injury at all relative to limb injuries. The reduction in head injuries seems to have been isolated to cyclists and that drop appears to be real.

How does your analysis compare with the existing data on the introduction of mandatory bike helmet laws?

There are some conflicting reports out there. And a lot of these have been dogged by problems of confounding variables. Is the decline in head injury a result of general road safety improvements? Is it because of other things that are happening in the community?

We developed our analysis to account for all that – and this sets our methodology apart from what’s been done in the past.

Based on our analysis, I think the question of whether mandatory helmet laws reduced head injury should no longer be debatable in NSW. We should maintain mandatory helmet laws.

Are helmets currently a barrier to cycling?

Helmets aren’t a major barrier. There’s a widely cited survey by the Cycling Promotion Fund and the National Heart Foundation that suggests it’s one of the more common in the North most selected barrier. However, there were some problems with their methodology in terms of finding the primary barriers to cycling.
Bicycle Helmets

Harvey C
Cyclist

In reply to Nigel Perry

Interesting Nigel, as NSW data confirms your hypothesis.

Hospital data on children injuries in NSW shows that the risk of head injuries increased by 5% after the helmet law, while the risk of non-head injury increased by 46%.


The rise in the risk of non-head injuries indicates a significant increase in the risk of accidents.

It is incorrect to claim that head injuries declined from a decline in the ratio of head to leg or arm injuries.

Harvey C
Cyclist

In reply to Nigel Perry

Could the study authors please tell us which data source shows that adult cycling increased in NSW after the helmet law?

There is evidence that, like child cycling, adult cycling decreased significantly in NSW after the helmet law. For example, between 1991 and 1996, the number of cyclists dropped by 46% in Sydney.

Walker M. Bicycling in Sydney: Law compliance and attitudes to road safety. Vict Aust: 1996; Fremantle, Western Australia.

This is similar to a 44% drop in the number of children cycling measured by the RTA two years after the helmet law.

In Melbourne, adult cycling was measured 29% lower one year after the helmet law.


How could adult cycling have increased in Sydney? Where is the supporting data?

Bicycle Helmets

Harvey C
Cyclist

In reply to Nigel Perry

I’m puzzled by the headline claim made in this article and in the media that head injuries were reduced by 29%. What is odd is that the study itself does not even claim that. The study claims that the ratio of head to arm or leg injury was reduced by “up to 29%”.

To claim that head injuries fell assumes that the risk of accidents did not increase. Hospital data on children injuries in NSW shows that accidents per cyclist increased significantly after the helmet law, as the risk of non-head injury increased by 46%, while the risk of head injuries increased by 5%.


It is incorrect to claim that head injuries declined from a decline in the ratio of head to leg or arm injuries.

Why didn’t the study authors consider the possibility that there could have been an increase in the risk of accidents after the helmet law? There are two well-known factors that would have contributed to an increase in the risk of accidents:

1. Risk compensation: the tendency of people to take more risks when wearing safety equipment.

2. Safety in numbers: the more people cycle, the safer cycling becomes. A reduction in cycling results in a more dangerous cycling environment.


http://www.cycle-helmets.com/safety_in_numbers2.pdf
Bicycle Helmets

In reply to Harvey C

Harvey,

There was a decline in bicycle related head injury hospitalisations in NSW which I mentioned above. “In terms of actual numbers of head injuries, we noted 1298 bicycle related head injuries in the 18 month period before the law and 886 in the 18 period thereafter.” There was a decline in bicycle related head injury hospitalisations for both children and adults.

In reply to Harvey C

Harvey,

Please read the following. The timing of this report is important as data was collected only a few months after the adult helmet law went into effect.


The summary page clearly states an overall increase of 6% in adult cyclists post-law. This increase is attributable to a 22% increase in numbers in Sydney and a 9% decrease in numbers in rural New South Wales. Since over 60% of the NSW population lives in Sydney, a 22% increase is quite important.

Bicycle Helmets
Quad bikes & rollover protection

HWSA: Quad Bike fatalities

The Heads of WorkSafe Authorities Australia (HWSA) identified quad bike safety to be a major issue on farms in Australia and New Zealand.

A major mechanism of injury identified by HWSA is a rollover crash where the rider is pinned under the vehicle. Around a ¼ of the deaths are by asphyxiation.

Rollover protection in the form of Crush Protection Devices has been proposed as one means of providing protection in the event of a rollover.

Industry position – No ROPS on Quad bikes - We do not recommend the fitting of roll bars or crush protection devices to ATVs because of international research which found that all ROPs and CPDs examined at the time posed an unacceptably high risk of creating new injuries .... helmets and training are the two key ways in which deaths and injuries can be reduced.”
Crush Protection Devices (CPD)

In principle, it appears such systems may have a protective benefit. However, they are not effective in all rollover situations, as ejection still occurs and crush by stiff areas on the Quad bike may still result.

**Research on the level of effectiveness in terms of injury outcomes has yet to be done.**

Quad Bike Performance Project

- Little progress made in reducing rollover incidents or crash severity
- Strong community and regulatory push for CPD type devices
- Strongly opposed by the ATV manufacturers as unsafe.
- To help overcome impasse on improving Quad Bike safety, TARS UNSW proposed the introduction of an NCAP type safety rating program.
- Provide consumers with vehicle safety performance ratings, rather than prescriptive approaches.
Institutes set up and funded to seed doubt to hinder introduction of injury prevention regulation

Article from:

**ATV stats under fire**

Peter Hunt | October 19, 2011

Do we have all the facts when it comes to quad bike safety and protecting riders from injury or death?

Motorcycle manufacturers are using flawed US research to counter calls for rollover protection structures on their ATVs. Australian transport safety experts claim:

TELL US WHAT YOU THINK

- Should rollover protection be mandatory on ATVs?
- READ MORE: Law ATV laws spell danger
- Have Your Say in the form below

ATV manufacturers have used US firm Dynamic Research Inc’s work to back their claim ROPS cause as many injuries as they prevent.

But University of NSW researchers and local safety consultants say the US research falls to simulate real-life rollovers.

Dynamic Research built a computer model to simulate 113 real-life rollover accidents.
What have we learnt from all of these interactions?

- Financial support of good researchers at University road safety centres who publish credible evidence based data in International Journals is essential! Publish, publish, publish, ....... E.g. in A+ journals – conferences not enough.

- Interaction with bloggers is tedious and often frustrating. However it is also important to interact and respond though on credible sites and through opinion pieces.

- Also worthwhile exposing them for what they are – armchair experts and junk scientists with no formal qualifications. Policy makers know this but the general public do not. Ground swell can be detrimental, i.e. rescinding US motorcycle helmet law, open speed limits in NT, etc.
What have we learnt from all of these interactions?

- Collaboration from all research centres on issues which are well founded in evidence and science, i.e. drink driving, speeding, speed cameras, protection against head injuries using helmets, etc.

- All researchers need to respond and interact and become more involved. It is critical we engage. Publication in a journal without engagement with such wicked problems can lead to it having little if any effect on a policy outcome.

- Important to provide evidence based information to reputable and highly credible organisations – Australasian College of Road Safety, College of Surgeons, Australian Medical Association, RiAus, etc. Engagement with Policy Makers and Parliamentary Committees critical.

Questions?

Together we can save lives.