

# TRANSCRIPT

## ROAD SAFETY COMMITTEE

### Inquiry into serious injury

Sydney — 5 August 2013

#### Members

Mr A. Elsbury  
Mr T. Languiller  
Mr J. Perera

Mr M. Thompson  
Mr B. Tilley

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#### Witnesses

Professor R. Ivers, director, injury division, and  
Ms C. Sakashita, project manager, George Institute for Global Health.

**The CHAIR** — Good afternoon, Professor Ivers and Chika. Thank you for appearing this afternoon before the Victorian Parliament's Road Safety Committee. We are conducting public hearings and obtaining expert evidence in relation to serious injuries and countermeasures that might assist in reducing the incidence of serious injuries in the Victorian community. It is a project that is being undertaken over a number of months, and we hope to come forward with some good information based upon best practice in other jurisdictions. The evidence you give today is being recorded by Hansard. You will get a copy of the transcript in due course. We invite you to correct any typos or factual errors and return it to us. If there are any remarks that you would like to make in camera, we can also facilitate that during the proceedings. We invite you to speak to your submission today, following which we will ask you a number of questions.

**Overheads shown.**

**Prof. IVERS** — Thank you. I will just give you copies of my presentation. I also have some copies of annual reports and publications here, which I will leave for you. I will just give you a little bit of background on the George Institute, our expertise and where we fit within the general spectrum. The George Institute is a not-for-profit medical research institute within the University of Sydney. We are a global organisation, but our office in Australia is based in Sydney and affiliated with the University of Sydney. We also have offices in Beijing, India and at the University of Oxford in the UK.

I am the director of the injury division at the George Institute. We conduct work on prevention and management of injury, with a strong focus on prevention of road injury. We do work on road injury prevention and also on trauma care and follow-ups. We have a range of studies across the whole spectrum — from prevention all the way through to outcomes. The George Institute also conducts other work looking at the burden of chronic disease. We also have research divisions that focus on critical care and trauma — so more sort of high-end work in the critical care clinical environment. I am not going to be reflecting on that work today; it will be more on the work that we do specifically in road injury.

We generally conduct epidemiological and public health research. We are coming at this from a population health perspective, but obviously focusing on road safety. We have a range of studies. If you could just move to the next slide, which is on page 3, this will give you some perspective on the kind of work that we are currently looking at at the moment. We are engaged in a big trial for VicRoads, the VicRide motorcycle coaching program, for which Chika is also a project manager. This is a big, randomised controlled trial involving nearly 2500 motorcyclists. We basically expose people to getting a program or not and then following them up over time. It is a great investment for the Victorian government and VMAC.

We also have a substantial program of research in Aboriginal road safety. We are doing a big study in New South Wales and South Australia looking at road safety and road injury in Aboriginal people. We have another follow-on study running in New South Wales, which is an Aboriginal driver licensing support program. I am also evaluating the Northern Territory's remote driver licensing program. We have also done quite a lot of child restraint work. I do not have that on this slide. We have just finished a big NHMRC-funded trial of child restraints in preschool settings, which was shown to be effective and published in the *American Journal of Public Health*. A number of jurisdictions are asking for resources. I believe VicRoads was looking at taking some of our resources and dubbing them in community languages. We are just about to embark on another extension of that in Aboriginal community settings in New South Wales.

We have also worked on a big heavy vehicle case-control study across New South Wales and WA, along with our collaborators at MUARC. We have an older drivers trial at the moment, which is supporting older drivers to reduce and modify their driving and for which we are instrumenting cars. We also have a lot of expertise in analysis of crash and hospital data for various studies or contracts, in which we looked at either police-reported crash data or hospitalisation data, and I think that is important in the context of this inquiry.

I am an investigator on a study funded by the Motor Accidents Authority in New South Wales which is an inception cohort of people injured in motor vehicle crashes. Again, I am sorry that that is not on the slide. It involves recruiting people who have had an injury and who have either been admitted to hospital or been recruited to GPs or physiotherapists. We are looking at a number of other sources for recruitment. We are then following them up over time to look at the impact of rehabilitation and compensation on outcomes, amongst other things. We are following up people for functional outcomes in that study.

There are a number of other studies that look at young people, including the rural adolescent cohort study as well as a big study in New South Wales involving 20 000 young provisional drivers. We linked that data to police-reported crashes and to hospitalisation data. Survey data from 20 000 drivers has been linked to their police-reported crash and hospitalisation data and also to the national death index. We have substantial expertise across the areas of the inquiry.

Just moving on to the first slide, we have arranged our submission around the key questions for your inquiry. We do not have significant expertise in all of these areas, so I will indicate that. The first area is: determine the appropriate methodology to identify the cost of a serious injury. Chika, feel free to jump in and interrupt me at any point.

**Ms SAKASHITA** — Okay.

**Prof. IVERS** — Or anyone else for that matter. Regarding the cost of a serious injury, costing injuries is not something we have done. We are building cost-effectiveness into our evaluations, but determining cost is not something that we have had experience in. Clearly you will have had submissions from a range of bodies on this. I am sure you are aware that there are two main sources of costing. Human capital is what is currently used. This just basically takes into account the economic cost, so it measures what the economic costs of injury are, taking into account the employment of people, their future earnings, the income that they will generate as well as looking at productivity nationally. It clearly has a lot of holes in it because it is very hard to actually take into account the income of people who are not working, community values and pain and suffering.

Willingness to pay is considered theoretically more sound by economists. It takes into account what people are prepared to pay to avoid death or injury; it is actually asking people what they would do to avoid it. It values everyone in the community. You can generate this from the revealed preferences or from what people are actually willing to spend. You can actually get information about what people are willing to spend from, say, paying for cars with airbags and electronic stability control and also from stated preferences, so what actually happens when people are asked questions in market research-type surveys.

Most OECD countries are now moving towards the willingness-to-pay model. Victoria is not quite there yet, but certainly New South Wales is moving that way, as is WA. It is really where road safety costing is going. We generally recommend that in line with the national road safety strategy recommendations. Moving towards a willingness-to-pay model is likely to be beneficial for Victoria.

It has a number of issues, and I think there is a need to make sure that it is in line with national and other state approaches. Again this is in line with most of our recommendations — that is, whatever Victoria does it should be consistent with other states and territories and the national approach so that we have comparability. One of the biggest issues in Australia is that because we have states and territories and we often develop our own systems we then have real problems with comparability around interventions and knowing how effective they are. Even looking at serious injury and death, it is very difficult when you have different definitions. I cannot overstate how important that is. It is a real issue across the whole field of road safety. It requires the development of methodologies to take into account all levels of injuries — so very trivial injury all the way through to serious injury. There is a bit more work that needs to be done in that area.

Moving on to processes about the exchange of data and information between agencies, clearly for road safety data we traditionally rely on data from these records — so police attending the scene of a crash. There are clearly issues with that because not every crash is reported to police. We have done work in the past for VicRoads on cyclist and pedestrian crashes which has shown that up to about 30 per cent involve cyclists. Overall about 30 per cent of incidents are not reported to police, so if you look at hospitalisation data compared to police data, particularly on cyclist-related crashes, the quality of data — and this is an area where we do have different definitions for most states — is clearly one of the reasons why this inquiry has come about.

The quality of the data is very dependent on police determining admission status. If police say there is a serious injury, they then need to follow up to see whether the person has actually been admitted to hospital and look at the level of injury. Depending on the jurisdiction within the state and access to hospital and then to TAC records claims data, which can also be used to validate it, there is very variable quality. Again that is not unique to Victoria; it is consistent across all states and territories. Police data is great for fatalities, because if you are dead we tend to have pretty solid measures. You would still have underreporting or overreporting of fatalities, but

serious injury data is very difficult. If someone has said that they are admitted to hospital, we code that as a serious injury. It could be shock. Someone could just have a scratch and be taken off in an ambulance and it is recorded as being a serious injury when in fact they get to hospital and they are discharged; they are not even admitted. That is an issue.

Clearly there are a number of other areas where you can get more accurate data including hospitalisation data, which is much better for more detailed information on injuries. We can get information on the severity, body part injured, the length of stay and the treatment people are receiving. Hospital data codes external cause down to a certain level. Clearly, though, hospitalisation data is not as good as police data when we look at the context of the crash, and it does have time lags built into that. You are also very well aware of your TAC claims data. Again, there are similar issues because not all people who are eligible lodge claims with the TAC, and some road-related crashes like single-vehicle cycle crashes are not eligible for TAC compensation, so we have another issue there.

The other really important data source that you have in Victoria, which we do not have in any other state, is VSTORM, the Victorian state trauma outcomes registry. That is something that has received much less attention than it should have when we look at serious injury, because you have a really efficient system set up for collecting information on major trauma and following up for functional outcomes. When we are looking at serious injury outcomes, that system is fantastic because it is really well established; they publish a lot of papers out of it, and I am sure you have had submissions with other publications. It is regarded in epidemiological circles as being very high quality data particularly for functional outcomes. You see the long-term functional outcomes coming through that you do not get from police data or from hospitalisation data. When you are following people up to look at their functional outcomes, you also get some of the psychological outcomes that you do not get from any of the other sources. Of course, for road injury and even things like whiplash that come out later on, you are going to be able to measure that. You also have your emergency department data collection as well.

Really the main recommendation that we have around this area is that data linkage is probably going to be the most useful tool that we have for better improving our injury outcome data. What we would be recommending is that you would use existing linkage services that you have. Rather than establishing an entirely new system that is built around police data linking to other systems, come back in through the Victorian data linkage unit, which already has significant expertise in actually doing linkage. There are a number of national linkage units that are all feeding in together, so there is a growing movement for health data and linking to other datasets. It would be far preferable to actually use that existing expertise and build it up from the other side and start trying to link police through to all the other things. You would start from the health data and the existing expertise that is there, particularly around the trauma outcome data.

There are a lot of issues around data linkage which need to be explored. It needs to start off with pilot data linkage projects, because there are issues to do with privacy and there are issues to do with whether it is probabilistic linkage, which is where you are sort of linking with a unique identifier whether we are at a state where we are actually able to look at finding a unique identifier across all the datasets that can be linked. Clearly that is a problematic issue because of privacy concerns from the public and linking health data, but it is certainly something that we should be moving towards.

The other thing that can be done in the short term is improving the police data and having clear protocols about how police follow up hospital admissions and getting more detailed information on serious injury. Again, there are issues there about police time and how much time we actually want police to be spending following up on hospitalisation date, because it is quite time consuming. There are very clear protocols that can be put in place in a cost-effective manner that would be worth exploring, but I think we need to be mindful that we do not want police taken out of police duties by following up hospitalisation and TAC claims data.

Streamlining that process is important, but I think moving towards data linkage to actually get a better indication of hospitalisation is better because you will get better serious injury data. Hospitalisation data also gives you a whole lot of different measures of serious injury. Chika will talk now about definitions and things like that, but clearly there is a range of different outcome measures that can be used for a range of different purposes, and linking to hospitalisation data gives you a lot of access to those things that you are not going to get from just improving police data collection.

**Ms SAKASHITA** — I am going to be referring to page 8 and term of reference (c). The current situation is that we have varied definitions across Australian jurisdictions, and best practice would be that we have consistent definitions across all jurisdictions in Australia and preferably adopt an internationally recognised standard measure of injury severity. That is important so that we have the comparability across states and internationally.

Comparability is really important for several reasons. First, it allows us to see how Victoria is going compared to other states and other countries. It also enables people in Victoria to monitor their progress against the national target. Victoria is a signatory to the national road safety strategy, which has the target of a 30 per cent reduction in fatalities and serious injuries. It is impossible to know whether Victoria is actually meeting that target unless all states are using the same definitions. Victoria is counting serious injury as hospital admission, irrespective of the length of stay in the hospital, whereas South Australia, for example, is counting serious injury as hospital admission involving overnight stay. If you are not counting the same thing, you cannot really assess that Australia is achieving that national target.

The other reason comparability is important is that it enables us to exchange research knowledge. If we know that something is working and something else is not working, we are able to share that knowledge with other countries and we are also able to learn from other countries what is working for them and what is not working. It just provides us with more efficiency and further facilitates our focus on improving the reduction in serious injuries.

On the existing measures, Victoria may adopt the international measures that exist now, which are under the injury severity score that is derived from the abbreviated injury scale, the international classification of disease-based injury severity score or disability-adjusted life years. I am not in a position to recommend which is the best measure. I think there will be other groups that would be more aware of what is the best measure.

**Mr TILLEY** — Go on; have a dip.

**Ms SAKASHITA** — I think what is also important is for all the states to negotiate which one would suit to achieve consistency. I think that is another important negotiation to have between the states, to decide on that. That is (c).

**Prof. IVERS** — Moving to (d), which is looking at the correlation between reductions in fatalities and serious injuries resulting from different road safety countermeasures, there is no real need I think to go into the number of interventions. There are multiple interventions that have been shown to be effective in reducing fatal crashes and/or injuries. Clearly it does require accurate measures of serious injury. I think the most important point to really highlight for this is the importance of strategic and timely research, particularly from a government perspective — that is, when you are implementing policies and programs, making sure that a clear evaluation framework is built around those, with consistent measures of injury and high-quality research.

Historically a huge amount of money has been poured into not very great research — short-term, not particularly well-conducted research — that is just evaluating programs that really have no hope of giving you a real outcome because they are too small and too short term. I do think that the VicRoads-funded trial that we are working on is a great example of really high-quality, long-term research because it is going to give us a definitive answer, one way or the other. It is actually important to know whether something works or does not work, because we spend a lot of money putting in place programs and not really knowing whether they are effective or not.

A second point is making public all research to maximise lessons learnt. We have not been particularly transparent in road safety, particularly government-funded road safety research. It is incredibly important that research that is conducted either internally or funded externally is published and made available. Again, we have a real history of state departments doing research and not particularly liking the outcomes or not wanting to make it public because it might be embarrassing, but it is really important because otherwise we get people in another state coming in and saying, 'Oh, let's try that. We don't really know whether it's effective or not'. It is an incredibly important lesson. Again, clearly I am a researcher, so I am always going to focus on the importance of research, but if we want evidence-based policy, we actually have to make public the research so that people like us can access it and look at what has been done.

On cost-effective countermeasures to reduce serious injury occurrence and severity, clearly the Australian government's basic approach, with the national road safety strategy in line with the World Health Organisation recommendations and the UN, is the safe system, which is focusing on safe people, safe vehicles, safe roads — and the fourth one could be safe speed or safe management, or whichever pillar the system picks. Clearly moving down that approach is important: taking the focus away from the individual, saying that what is important is that we have a safe system that people can operate within, so that if people make a mistake they are not at risk of being killed or seriously injured. That is the basic premise of it. It has worked very successfully in aviation — in aeronautical safety — and in shipping, and now this is where we are moving to in transport.

There are a couple of really important things. Again, as MPs, as people leading policy in Victoria, there are a couple of fundamental things that I think we need to be really farsighted about if we are looking at cost-effective countermeasures. That is the importance of forward planning. There is a shift to urbanisation; we have megacities. We cannot sustain the use of private transport in urban environments going forward. Clearly there is a move towards public transport in Melbourne and in Victoria and greater cycling. When you get people on public transport and cycling, you get more pedestrians. Protecting pedestrians by investing in infrastructure that supports pedestrians, cyclists and the use of public transport is fundamentally important.

The major shifts that we are going to have going forward over the next 20 years are going to be the shifts in urban transport. Being farsighted about that and planning for that in urban planning, thinking about how people are going to live and how they are going to get about, is a fundamental part of road safety that we cannot ignore, but it does require foresight to ensure safety for all road users, taking away the focus on the car user.

Rural and remote safety is another issue. We have made great advances in safety in urban environments, but in rural and remote areas we have not had the same shifts, so we have not had the same improvements. The reason is basically that people are travelling at higher speeds on poorer quality roads in older quality cars with less police enforcement because we cannot put enforcement in place. Looking at cost-effective measures around that, clearly they include investing in roads and having better safety for cars, so having government policies that make sure that all government cars are 5-star rated and have electronic stability control, because they roll over the fleet very quickly. The thing that actually changes safety is a fleet.

Then there is enhancing the dialogue on speeding in the community. Victoria has a great approach to speed. It is about ensuring that that continues and the investment in speed cameras is maximised by public awareness campaigns that make sure people understand the importance of speed, particularly in remote areas. We cannot necessarily invest in high-quality roads for every rural road in Victoria, but we can do something about speeds on those roads.

We can broaden the focus on alcohol. Clearly in remote, rural and regional areas alcohol is going to be an issue, as it is in urban areas. At a political level we need to broaden the discussion around alcohol and road safety so that it does not just include random breath testing or the usual approaches. We need to look at the role of alcohol advertising in sport and in the general community if we are going to actually tackle alcohol. Alcohol-related road deaths and serious injury are not going to shift without a substantial change in the drinking culture in Australia. It is foolish to think that the usual road safety approaches to alcohol are going to continue to work, because they have basically plateaued. Nothing is going to change unless we actually start revisiting how we approach alcohol in the community. That is something to flag. From a public health perspective it is really important to have that conversation. That culture is something that will take some strength from government to actually change.

Coming to the national and state road safety strategies, we need to refer back to the national road safety strategy to ensure there is a consistency in approach across all the states. Finally, there is the importance of evaluations and building in measures of cost-effectiveness. We need to make sure we look at the cost-effectiveness of road safety interventions. When you are putting programs in place and evaluating them, you need to make sure that cost-effectiveness is built in from the start. Again, there is not a huge body of research looking at the cost-effectiveness of interventions in this area. I will hand over to you, Chika.

**Ms SAKASHITA** — I would also like to emphasise what Rebecca just said about the safe system. Speed management is an important component of safe systems, as Rebecca mentioned. The WHO has a report on safe speed management in a road safety manual that clearly shows that speed management is a cheap and effective

way to reduce serious injuries. A clear relationship is shown between speed and serious injury. If you reduce speed, you reduce serious injuries, as indicated by the well-known Nilsson power model.

Speed management options might include just posting a speed limit. That in itself can significantly reduce serious injuries. With a 30 kilometre speed limit, pedestrians have a 90 per cent chance of surviving. With an 80 kilometre speed limit, pedestrians have no chance of surviving, so just having an appropriate speed limit for the environment. If there are a lot of pedestrians on the roads, then reduce the speed limit. Obviously on major highways it is fine to put up the speed limit. I think that is one thing that needs to be highlighted.

**Mr TILLEY** — So you are saying there is a difference between major highways and tight urban areas. If you are travelling between Melbourne and Sydney along the Hume Highway, the engineering infrastructure does not suggest that we could possibly increase the speed limit between Melbourne and Sydney.

**Ms SAKASHITA** — Yes, that is right. I will move on to the next one. The current situation is that we have a very low profile of serious injuries. If you ask the average person on the road, ‘How many serious injuries do you think we have in Australia?’, most people will not be able to answer that question. It is good that we are setting targets. Especially with the safe system approach we need to have clear performance indicators. We have a clear target for fatalities and serious injuries, but still the target is for fatalities and serious injuries combined.

Best practice would be to have the profile of serious injuries raised, and this will help us raise community awareness of their risk of serious injuries and also raise community demand on the government to do more for road safety. In order to focus more on serious injuries we need to set targets for serious injuries, independent of fatalities. One of the current barriers to raising the profile of serious injuries is the delayed reporting of injuries. We do not hear about injuries in official statistics until months later. On the other hand fatalities we know about on the day or the next day or at the latest on the Monday if it happens on the weekend. So fatalities become news, whereas by the time injuries reach the official records it is old news, so people just do not hear about it.

I think while it is important to have accurate and precise data, for the purpose of raising the profile of serious injuries the timeliness aspect needs to be given more weight, and one way to do that might be to make the police more accountable in the following up of serious injuries. They are the ones who attend the crash, so it makes sense and it is logical and most efficient that they follow up what happens to injuries. They can possibly report that on a daily basis to regional offices, and then a central agency like VicRoads can collate all that information from the regional offices. That way you have a daily reporting. At least it makes people aware that, okay, serious injury is a burden for our society.

**Mr TILLEY** — If I can quickly digress, that is a very important point that you make, because police services around various jurisdictions are changing their policy and the goalposts are moving. Whereas under legislation it provides that in a crash involving a vehicle the driver must report whether there are offences, property damage or injury, in Victoria in particular you do not even have to report to police, and police are not even attending. That has been the change in Victoria recently; in relation to New South Wales, I do not know whether you can assist the inquiry with some of that. I do take the point that having police take more responsibility instead of stepping away, which is where they are going now, makes sense — understanding resources and operational contingencies of course. But certainly it is a very important point. Could you expand on that a bit more about police taking more of a responsibility rather than handballing their responsibilities?

**Prof. IVERS** — It is something that has to be considered really carefully because clearly you can have legislative requirements about what people need to do in terms of reporting, and police following up on injuries can be a way of getting better injury data, but it has to be carefully balanced against police resources and how easy it is for police to get that information. If you have police who then have to follow up with hospitals and look at the injury status of a person, and you consider it might take 5 or 10 different phone calls or visits to a department, that is not going to be a cost-effective use of a highly trained professional. If there is a way that that can be streamlined, then again that is not something that we can actually comment on in terms of the process by which that could actually happen, but if there was some way in which that could be facilitated from the hospital side, then that would make that easier. But you have to be careful about putting too much back onto the police.

At the moment we have an indication from the police that if they are supposed to follow up with hospital records, often it just means ‘admitted’ or ‘not admitted’, but even that will not necessarily give you great detail on serious injury. You really need to get into what type of injury, the injury severity and how long the person

was in hospital, and that may not be best placed coming from the police. It might be better coming from the hospital system, which is where data linkage and other forms of information may be better.

**Mr TILLEY** — Certainly the data linkage and the sharing of information is the privacy issue.

**Prof. IVERS** — Yes, it is. There is one other issue, though, that I just wanted to comment on related to Indigenous status. One of the benefits with hospitalisation data is that you do have pretty good measures of Indigenous status, which we do not have in police data. You do not want police at the scene of a crash asking people whether or not they are Aboriginal, but in Victoria it is very hard to get information about road deaths in Aboriginal people. You can look at the hospitalisation data, but again you do not get the context of the crash. You do not have the information about licensing status. In New South Wales now we collect Indigenous status at the point of driver licensing, and that is then linked to your driver licence. If you are involved in a crash, we can get information from crash data about whether or not you are Indigenous.

What we do not want is a system where police are having to ask people at the scene of a crash whether or not they are Indigenous, clearly for a whole variety of reasons. There are a couple of states that do that; the NT does it. It is certainly not something you would want to do, and states should be moving away from that. But if you have data linkage, you can get Indigenous status from police data because you are linking with the hospitalisation data where you have an accurate measure through to the police crash data.

Likewise Victoria should also consider asking a question about Indigenous status at the point of driver licensing, because it is buried in the record; it is not something that is on a person's driver licence. It gives us very accurate measures of licensing data and crash data for people involved in crashes. Again, it is just a way of getting better information for population subgroups that we know are at higher risk. That is important.

We have done a lot of work in that area as well. I think it is worth flagging because Victoria does not have a lot of data around that, so it is actually very hard to look at what programs are needed and what programs are effective. It is certainly something that is worth thinking about in this context.

**Mr TILLEY** — With the number of forms we have nowadays it would probably not be difficult to ask the question: are you are Aboriginal or a Torres Strait Islander? That is on probably 90 per cent of the forms we fill out.

**Prof. IVERS** — That is right; it has not been controversial in New South Wales, and if appropriate community consultation is done with education campaigns about why it is being done, it is unlikely that there would be community resistance to it. But again it has to be very carefully differentiated, because a lot of Aboriginal people have had a horrible situation arise if they have been involved in a crash and basically people have assumed that they are Indigenous and they have had worse treatment. You do not want to go down that track. It is having an objective measure at the point of driver licensing that is the way to go forward on that.

**Mr TILLEY** — It is surprising, because when police in Victoria process individuals they have to ask whether they are Aboriginal or a Torres Strait Islander, but that is in relation to crime, so it should not be much different in relation to traffic management and those types of summary offences.

**The CHAIR** — We have a series of questions that we would like to run by you.

**Mr ELSBURY** — Just very quickly on the topic that Mr Tilley was talking about — that is, police data collection — since 1998 New South Wales police have not collected injury data. Are you saying that should be reinstated here in New South Wales and certainly collected in Victoria?

**Prof. IVERS** — I think it is problematic. I would not necessarily recommend that New South Wales goes down that way — Chika might disagree — if police could accurately identify whether someone had been severely injured or had gone to hospital and it was an easy objective measure, but we know the significant underreporting of road-related crashes to police, so you are not going to get the best measure of serious injury. If we are going to look at serious injury, the best place to look is at hospitalisation data linked to police crashes. That is going to give us the best measure.



**Mr ELSBURY** — Currently in Victoria crash and medical datasets are not formally linked, but we are aware that in West Australia and in New Zealand they do have linked integrated road crash or injury datasets. What advantages do these approaches have over existing collection methods?

**Prof. IVERS** — It allows you to look at both the context of the crash, so the data you get from the police report — that is, what happened, where the person was travelling, the time of day, the context of the crash and the type of crash; that information is only available in the police report — and then the hospitalisation data, so the severity, the length of stay and whatever injury severity scoring you might want to use. You can combine that data, because it gives you a much richer dataset to work with. If we are looking at preventing crashes, we would like to know all of those things together. What we are having to do at the moment is look at things in isolation. We have the police data saying, ‘These are the kind of crashes’, but we do not really know what the outcome of those crashes were in terms of severity. Having linked data allows you to pick out the worst crashes or the crashes that generate the most severe injuries and put in place interventions that are targeted at those particular crashes.

**Mr ELSBURY** — Would you see the linking of data from medical, policing and from insurance claims as being a way of monitoring and reporting on road safety?

**Prof. IVERS** — Absolutely, yes. They should link in with, as I said, the Victorian state trauma records as well, because they also collect information on functional outcomes. It is major trauma only. It is all trauma, not just road-related trauma, but about 25 per cent of the cases they collect information on are road-related. They also follow them up over time, so they can also then get information on health-related quality of life 12 months later. They make phone calls, and they also do surveys of all their major trauma patients. Including that in a linkage process for Victoria would be fantastic because you already have a very good system. It is already linked to TAC, so then linking it back to police data and expanding it would be a really positive way forward in terms of monitoring serious injury, because we often forget those 12-month functional outcomes.

**Mr PERERA** — A number of submissions have canvassed the use of burden-of-injury measures, such as disability-adjusted life years and quality-adjusted life years, to monitor road safety and measure long-term injury consequences. What are your thoughts on their use for this purpose?

**Prof. IVERS** — Using any of those quality-of-life and burden-of-injury measures is important. It depends what you are looking at. Again, you can make do with a whole range of quite simple measures. Those kinds of measures give you a real sense of what is actually happening, so if someone has a severe spinal injury or whiplash that causes significant dysfunction several years down the track, using health-related quality-of-life or disability-adjusted-life-years measures can be important. We use them for a whole range of different things.

My point is that there are some measures that are already collected by VSTORM in their follow-up of major trauma patient outcomes, so we are already collecting some of that information in Victoria for road-related serious trauma; we already have that information. It depends on the question being asked. It is important that any measures that are used are consistent with national approaches, with other states and with international approaches as well so that we do not develop a new measure that is only used in Victoria. That would really limit the ability to generalise your programs elsewhere and to take other programs and compare the outcomes to see how effective they are. Those measures absolutely have their place. I would not recommend one over the other, because it is something that would have to be done across the different agencies in Victoria and be carefully negotiated to make sure that it is consistent.

**Mr TILLEY** — I have a scripted question, which both of you have pretty well answered, but I will just put it on the record. When you were talking about behavioural things it was interesting to note the absence of illegal drugs and pharmaceuticals. It is only relatively recently that these types of matters have started to be prosecuted in New South Wales and Victoria. Do you have any comments in relation to where the substance abuse of pharmaceuticals and other illegal drugs comes into all this?

**Prof. IVERS** — It is a relatively new field. Again, screening tools are new and they are relatively expensive as well. Now that police are starting to do random roadside stops we are going to get more data coming through. It is actually very difficult to do at a population level because when people are involved in crashes they are not necessarily screened at the hospital when they arrive, so we do not have good evidence about the effectiveness of such approaches. My only comment would be that when we engage, we embark on more screening. We

know that drug use may be an issue for road-related serious injury crashes and deaths, but we need to make sure that we evaluate the programs we are putting in place to make sure people are getting the benefits from them, because it is still a relatively small number of people at a population level who are actually engaging in that behaviour.

**Mr TILLEY** — Are you sure?

**Prof. IVERS** — It is very hard to know. That is where you need to make sure you do the evaluation, especially if you are putting in place very expensive campaigns to try to prevent it. We need to make sure that we have the evidence that there is a serious problem to start with and also to monitor the effectiveness of those programs.

**Mr TILLEY** — Victoria has been screening for drugs for 10 years now.

**Prof. IVERS** — Yes.

**Mr TILLEY** — That is when the legislation first came in. When we talk about data and those types of things, it is still a relatively short period of time.

**Prof. IVERS** — Yes, you are, but also drug use constantly changes, with the changes in what is available on the market and the different impacts that it has. So you will find that the effect of drugs on driving can change quite dramatically from year to year. In focusing on things that are likely to have an impact on crashes it is really important to keep an eye on that. That is not really our area of expertise either. Chika, do have anything else you want to say?

**Ms SAKASHITA** — I think drug driving should be a focus. There are the swipes that you can use.

**Mr TILLEY** — The trays, yes.

**Ms SAKASHITA** — Yes. I think we can learn a lot from the alcohol measures because it is a substance, so I am sure we can extrapolate from the effectiveness of RBT that random drug testing would be effective too. I think it is an important focus for serious injuries because it will cause a major crash if you are under the influence.

**Mr TILLEY** — Yes. Thank you for that. I had better get on with the scripted questions. As I said, you have pretty well answered this already. The ability to identify cost-effective countermeasures relies on evaluations of these countermeasures. Many participants in this inquiry have noted that there are a limited number of evaluations of existing countermeasures and that it is more appropriate to look at the combined impact of countermeasures. Firstly, do you agree that there are limited evaluations of many existing countermeasures, particularly behavioural countermeasures? Is it appropriate to assess countermeasures as a group or on a collective basis? If so, how can decision-makers discern what works from what does not? You can take it on notice if you like.

**Prof. IVERS** — I would agree. There is substantial evidence about various interventions. For example, we know about seatbelts, we know about speed management and we know about random breath testing. We do not have great evidence about a whole range of different interventions, largely because when we implement them they are legislated, so it is very hard. It is not like doing a drug trial where you can give someone a pill and not give it to someone else and then look to see what the difference is in a big experimental trial. It is hard to do that in road safety because we tend to put in place legislation and then monitor trends over time. It can be very difficult to say whether this trend is because of the legislation or because of something that came in at the same time.

There are some quite sophisticated techniques you could use. You could use time series modelling to look at the effectiveness of various legislative interventions. Sometimes you need to do that in combination with other interventions if they are brought in at the same time. But if something has a strong effect, you will largely be able to see the impact of it. Motorcycle helmets is a classic example of bringing in legislation — the use changes, helmet wearing rates go up and head injury rates drop. It is very straightforward. You do not need a very sophisticated study design to look at that.

Other things can be more difficult. It really depends on the intervention you are talking about. If you are talking about novice driver interventions — for example, graduated driver licensing — sometimes it is very hard to break that down. You need to actually evaluate it as a package, because often things are brought in together. So you might say, ‘We don’t know whether it’s the night-driving restrictions or the passenger restrictions, because they were brought in at the same time. But we do know that fatalities have gone down, so overall we know the package is effective’.

It is impossible to say one way or the other whether you should look at things individually or as a group, because it depends on the timing and what else is going on. From our perspective as researchers, it is certainly very nice to have a nice level playing field and then to put in place one intervention and have a nice two-year period after that, but that is not reality.

For example, with things like technology there are devices that are now available in cars, including GPS devices, in-car telephones and things like that. How you evaluate them is very difficult. Those kinds of things are likely to need to be evaluated as a group in practice. When you look at things individually in simulators, you need to look at how that impacts on your actual driving performance in a simulator. But when you look at things in practice it is actually very hard to break them down because so many of them are in existence.

**Mr TILLEY** — Do you have a view on simulators, particularly how they might decrease road trauma?

**Prof. IVERS** — I think simulators have their place in understanding in a laboratory setting how a driver’s behaviour might change according to different experiences. So if people are taking drugs, you can observe their driving behaviour; or you can observe the use of mobile phones in the simulators. You need to be careful that that behaviour is then translatable into what actually happens in the real world in practice. I would always take simulated studies not with a grain of salt, but I think you need to be careful about the generalisation of the results. They certainly have their place, but I would not be basing all of my research on simulators.

**Mr TILLEY** — What about other technologies, such as Xbox, PlayStation and driver games? Do they have an impact on driver behaviour?

**Prof. IVERS** — I think it is a really important research question that needs to be answered. I do not think it has been evaluated particularly effectively. My view, and this is a personal view rather than being something based on science — I have not seen significant research on this — is I think it is possible that rather than encouraging people to drive more safely it might actually encourage overconfidence in the same way that putting young drivers in advanced or defensive driver training might increase their risk of crash, because it makes them overconfident in their driving ability. If people have spent significant hours on PlayStations driving, they may well think that that can translate into the real world, when it is unlikely to actually replicate what happens when you are driving on the roads. I think there are those kinds of things.

In road safety we have examples of interventions, like driver training. Intuitively you think it makes sense that if you give people advanced driver training, they become better drivers. We know that for novice drivers it actually increases the crash rate. So you always need to be mindful that programs can actually have adverse effects. We always need to look and think, ‘Can this do harm?’. It is occasionally the case that they can make things worse; it is always worth keeping that in mind. That is why research and evaluation is critically important. We always need to consider that things can do harm.

**The CHAIR** — Yes. Professor, we are moving through our time. We have a few more questions we would like to ask. We might try to get some moderately concise responses and we can follow them up, without hamstringing you unduly. Our next session starts shortly.

**Prof. IVERS** — Yes, that is fine.

**Mr TILLEY** — What are some of the issues that arise when conducting benefit-cost analyses of road safety measures that specifically target vulnerable road users, such as cyclists and motorcyclists, compared to the benefit-cost analyses of measures that target car and heavy vehicle occupants?

**Prof. IVERS** — I think we might move on. I do not think I could make a comment on that. I do not think there is anything sensible I would say about that.

**The CHAIR** — Thank you.

**Mr TILLEY** — According to the submission from the Institute for Road Safety Research in the Netherlands, SWOV, ‘road crashes resulting in fatalities are different types of crashes than road crashes resulting in serious road injuries’. The SWOV suggests that the causes of crashes resulting in serious road injuries can be traced to system errors rather than extreme behaviour. On this basis the SWOV concludes that policy aiming to reduce the number of serious road injuries needs to be different to that aimed at a reduction of road fatalities. What are your thoughts on these statements?

**Prof. IVERS** — I have not seen the evidence that they base those comments on. I think the key point is that it is a system that is actually focusing on the system to reduce serious injuries. I think actually focusing on the system to reduce fatalities is important as well. I would certainly agree with that in most cases, and I would argue that that is for fatal crashes as well as for serious injuries. It is not the result of reckless driving or intentional poor driving; it is more about system errors, which is why we have moved towards the safe system approach.

**Mr ELSBURY** — Your own research indicates that socioeconomic status and demographic factors can influence road safety. What impact do these factors have, and how do we better deal with them when designing future countermeasures or improving current ones?

**Prof. IVERS** — There is a clear link across all types of injury with socioeconomic status. Basically if you are poor, if you have lower social status and lower education levels, you are more likely to be living in an area that is not well serviced by public transport, where you may have less well-developed infrastructure because you have less public lobbying for better infrastructure than you have in more middle-class, highly educated areas, and you are more likely to be driving older cars.

Your response to social marketing campaigns may be different as well, because they tend to be targeted at mainstream populations. A lot of those things are about infrastructure and where people actually live, and that is why you will see increased serious injury and death rates in rural and remote areas, because there is a socioeconomic gradient across those areas. I think this is where we really struggle in Australia in all states. It is not unique in Victoria; it is certainly the case in New South Wales and other states.

As to how we actually target people of lower social status and the infrastructure issues that relate to them, we do need more research in those areas, because actually a lot of the rural and remote areas are related to lower social status as well. We do need to look at those individual population groups but also focus on enforcement strategies and infrastructure investment in those areas, because again it is looking at the system in those areas. It is about looking at urban planning, the type of transport options people have to get around and the types of cars that people are driving. If you are looking at an area with a lot of people of low social status and they are all driving older cars, how do you improve road safety in those areas? You might improve public transport and you might make vulnerable road users less vulnerable by building in better infrastructure to manage that, but we tend to focus on the mainstream and less on those areas, so again that is a research focus.

**The CHAIR** — Thank you.

**Mr ELSBURY** — Can you comment on the role and effectiveness of training, driver and rider education, public awareness campaigns and enforcement as countermeasures? Do they work? Are they cost-effective?

**Prof. IVERS** — There are a multitude of things you could say across that for each of those things. As I said, driver training for novice drivers is a problematic area. Understanding what the research literature actually says and developing strategies in response to that is important. Everyone has an opinion about road safety because everyone is a road user. The media is very focused on road safety. People in the media, likewise, are road users, and you will often find media commentators pushing very non-evidence-based solutions, and they get a lot of traction because, as Chika said, fatal crashes and multiple fatalities are news.

It is important for government to understand what the evidence base is, and using media and using social marketing campaigns in support of evidence-based interventions is really important, because again and again from a political angle you are responsive to the needs of your electorate. Your voters do not always necessarily know what the evidence is actually telling you. I know in Victoria there has been a great tradition of

evidence-based policy where in fact it has gone the other way, but it is actually something where there is a very delicate balance.

**The CHAIR** — Thank you. We are almost there. One very quick final question. You commented on alcohol. I read a report a while back where a senior police officer in Western Australia attributed a correlation with 60 per cent of crime to the use of alcohol. Earlier today in your comments you made some remarks about alcohol in society. Is there anything that you would commend to us in that regard?

**Prof. IVERS** — A lot of hospitalised injuries are actually due to alcohol. If you look at the hospitalisation day, alcohol is related to high levels of injury across the board. Road injury is no exception to that. Again, I would refer you to a group called FARE, and I can send you through the details, which is basically a group that lobbies for better control — so supply-side initiatives — around alcohol. In any case I will send you the website address, but I think we do need to broaden the dialogue around alcohol because again in road safety traditionally we have focused on road safety-related measures to address alcohol to stop people drink driving, but we will not reduce drink driving on the roads. Alcohol interlocks are an option, and we have random breath testing, but it is not until we actually look at alcohol advertising, binge drinking in young people and the pervasive culture of heavy drinking across Australian society that we are going to really shift that beyond what we are able to do.

We are only just fiddling at the margins now. There is not going to be a significant shift unless we actually start tackling alcohol, and that actually requires road safety policy-makers to actually engage in dialogue with health and other agencies. We are not very good at that in road safety; we tend to actually operate within a sort of little silo. We have our health silo over here — they treat the outcomes of injury, including road injury — and then we have the road authorities over here, and they very rarely talk to each other. One of the real benefits of actually having data linkage projects is that you actually start that dialogue happening a lot better, but bringing liquor licensing people into those dialogues is also important.

**The CHAIR** — Good. Professor Ivers and Chika, thank you very much for your attendance here today, for the calibre of your information and for your presentation that you have spoken to. As I indicated earlier, you will get a copy of the transcript. Feel free to correct any errors and return it to us. We appreciate your interest. If you have any other thoughts you would like to convey upon reflection, feel free to liaise with our secretariat. Thank you for attending.

**Prof. IVERS** — Thank you very much.

**Witnesses withdrew.**