

Motorised mobility scooters – understanding a growing transport mode for older Australians

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Abstract

As our population ages, the safe mobility of older Australians is a growing community concern. While this group generally mainly relies on private vehicles, there comes a time when many people consider reduction or cessation of driving. At this time, motorised mobility scooters (MMS) are one option that can help individuals maintain independent travel, at least for short trips. MMS can provide a range of mobility benefits, including maintenance of quality of life, social inclusion and overall health. Yet, there is little understanding of the extent and nature of MMS use, and the safety and mobility implications of MMS use by older Australians.

The aim of this study was to identify the potential benefits and the issues of MMS use by older Australians. A series of in-depth interviews were conducted with key stakeholders including representatives from state government, local government and advocacy and support groups for older Australians. Findings provide new insights into the challenges from a policy and legislative perspective and recommended actions within a Safe System context needed to ensure the continuation of safe, independent alternative transport options for older Australians.

1. Introduction

Australia, like most developed countries, has an ageing population. It is projected that in less than 20 years, 15 percent of Australians will be aged over 70 years (Australian Bureau of Statistics 2008). The ageing profile of Australia's population has important implication for both the magnitude of the likely demand for motorised mobility scooters (MMS) and the geographic distribution. The desire for, and importance of, continued independent travel for older Australians has contributed to a growth in the use of non-vehicular mobility options, including MMS, particularly for shorter trips. MMS enable people to maintain a degree of independence and participation in their community, in addition to potentially enabling people to extend the time that they are able to live in their own home (Missikos and James 1997). Daff noted that 'more than other modes, scooters (MMS) are a transitional mode which liberates older people for perhaps 3 to 5 years'(Austroads 2010).

Extension of time at home has broader societal economic benefits compared to the alternative of entering an assisted care residence, therefore reducing overall health costs. Moreover, the ability to travel is associated with freedom, activity and choice and driving offers an important mobility option for most older adults (OECD, 2001). Alternative transport options, such as MMS, can provide an independent travel mode that augments mobility at a time when ageing and related health conditions may affect capacity to drive, use public transport or walk. However, MMS purchasing and use is currently relatively unregulated in Australia and the broad, systemic issues related to increased MMS use are not well understood.

A recent report from the Australian Competition and Consumer Commission on MMS use and safety reported that half of the people who used MMS in Australia were over 60 years of

age (Australian Competition and Consumer Commission, Services et al. 2012). With the ageing population, this proportion is likely to increase. The aim of this study was to address identify the main mobility and safety issues related to use of MMS by older Australians through a series of in-depth interviews with key stakeholders.

Another Australian Competition and Consumer Commission report published data on serious injury collisions amongst older MMS users and reported an increase from 20 to 64 (increase of 255%) from 2000 to 2009. The authors concluded there was a need to conduct evidential research to gain a better understanding of the issues surrounding MMS use (Gibson, Ozanne-Smith et al. 2012). The need for further understanding was also identified in an OECD report on the safe mobility of older road users (OECD 2001).

The paper begins by presenting an overview of MMS in Australia, the benefits of MMS use and the growing injury rate related to MMS crashes. The study design and data analysis method are described followed by the findings of the in-depth interviews within four key themes. Subsequent sections discuss implications of the broader issues identified in the interviews and the final section presents conclusions of the paper and identifies some of the gaps in the knowledge and future research suggestions related to MMS use by older Australians.

2. Background and existing knowledge

2.1 Motorised mobility scooters in Australia

In Australia, motorised mobility scooters (MMS) users are classified as pedestrians and are permitted to be used on the footpath. Like pedestrians, MMS users are permitted on the road, in particular where there is no suitable footpath available, however they are not permitted to travel in the traffic lane as if a vehicle. The classification is predicated on a maximum speed of 10km/h (Australian Transport Council 2009). Older MMS users have reported being satisfied with the 10km/h speed limit (Somenahalli and Taylor 2007). MMS can have a considerable range depending on the battery configuration, some can travel over 35km on a single charge.

Under the Australian Road Rules Regulations 2009, there are some discrepancies in relation to definitions of what constitutes a motorised scooter; this may be a result of a lack of clarity between motorised scooters (i.e. two wheeled devices) and motorised mobility scooters (i.e. three or four wheeled device ridden seated). For example, a 'scooter' may be propelled by pushing one foot against the ground (ARR244A, e, i) and users must use an approved bicycle helmet (ARR244B)(Australian Transport Council 2009). In contrast, the MMS refers to the three or four wheel devices, with a seat and propelled solely by an electric motor powered by a battery and this is the definition used in the current study (see Figure 1).

Figure 1 Examples of motorised mobility scooters



2.2 Regulation

Currently there are relatively few regulations governing motorised mobility scooters. There are no regulations governing sales or purchasing, no standards for their design and manufacture and, apart for one Australian jurisdiction discussed below which requires the vehicles to be registered, no requirements for competency assessment, training or rider licensing. The only mechanism for competency testing with a qualified health professional is when a person seeks government assistance to purchase a device, such as the State-wide equipment program (SWEP) funded by the Victorian Department of Human Services which offers a maximum subsidy of \$4,000 for motorised scooters (Victorian Department of Human Services 2010).

There are jurisdictional differences in the way MMS are regulated in Australia. Nationally MMS are not legally defined as a vehicle, but rather a mobility aid or device, so technically the units cannot be 'registered' as they are not a vehicle. However, this is the major difference in regulation with Queensland requiring MMS to be registered. The registration is without cost and includes compulsory third party insurance. A certificate from a health practitioner is required for registration as use is restricted to people who have severe mobility impairment and require the device for assisted travel (Queensland Government 2010). In other states, the alternative source of public liability insurance is via separate private insurance, possibly as part of the owner's home contents insurance policy (Cassell and Clapperton 2006).

2.3 Motorised mobility scooters and independent travel

For many older people, continuing to drive is important for their daily activities, but perhaps more importantly, the car is a symbol of freedom, independence, self-reliance and having some control of their life.

In addition, driving one's own vehicle is associated with higher levels of life satisfaction, higher adjustment, less loneliness and better perceived control (OECD 2001). Unfortunately, skills and abilities decline with age and inevitability at some point, it becomes necessary for people to consider reducing or retiring from driving. Early findings from the Ozcandrive study, a longitudinal study of older drivers, reported that older people who drove less (<5,001km per year) were more likely to perform at the lowest levels on physical/sensory and cognitive areas compared to drivers who drove greater distances. The authors suggested this is consistent with the notion that low distance travelled and heightened crash risk were contributed to by drivers' basic fitness to drive (Langford, Charlton et al. In press).

Driving cessation may be a gradual progression as people reduce their driving or it may occur suddenly. The decision may be voluntary as an individual's health declines or a loss of confidence or involuntarily due to a sudden onset of a medical condition or a crash related event as crash risk is known to increase with age (Di Stefano and Macdonald 2003). For some, reduction or cessation of driving can be a stressful experience which can lead to a range of detrimental consequences including an increase in depression, loss of self-confidence and status, and some suggest even early death (Yassuda, Wilson et al. 1997, Harper and Schatz 1998, Rabbitt, Carmichael et al. 2002, Ragland, Satariano et al. 2005).

Several factors can improve the experience of driving cessation including timing and independence of driving cessation decision making and knowledge of, experience with and access to alternative transport options including MMS, walking and public transport (Oxley and Charlton 2009). Alternative and public transport systems are important options to maintaining the mobility of older Australians (Oxley and Whelan 2008) including the ability to use MMS on public transport. However, there are concerns about the fitness to use a MMS if a person is considered unfit to drive.

Currently, according to VicRoads, MMS use is restricted to people who have a disability, are not capable of walking, or have difficulty walking (Vicroads 2011). However, this is not

regulated and anyone can purchase an MMS. This practice leads to concerns that people who do not have a mobility impairment are using the devices instead of walking or driving (Cassell and Clapperton 2006). In the absence of any formal assessment process, people who have mobility impairment, but who also have cognitive impairment, neurological disease or visual defects are also able to purchase and use MMS (Berndt 2002).

Arguably, the safety of the latter category is of greater concern, particularly when cessation of driving is due to an impairment that would directly affect someone's ability to manoeuvre a MMS safely. A coronial finding following the death of a 90 year old man who was struck by a vehicle while travelling on the road on his MMS highlights such risks:

Whilst his scooter undoubtedly gave the deceased a great deal of mobility, the evidence before me indicates that the manner in which he used it generally and also on the day of his death, presented not only a risk to himself but to other pedestrians and road users...It appears that some users, such as the deceased, may erroneously develop the belief that they are entitled to right of way whilst riding; or alternatively that riding a scooter affords them a greater protection from traffic than as a pedestrian on foot. There may also be a lack of appreciation of the danger to pedestrians of irresponsible riding.(Austroads 2010)

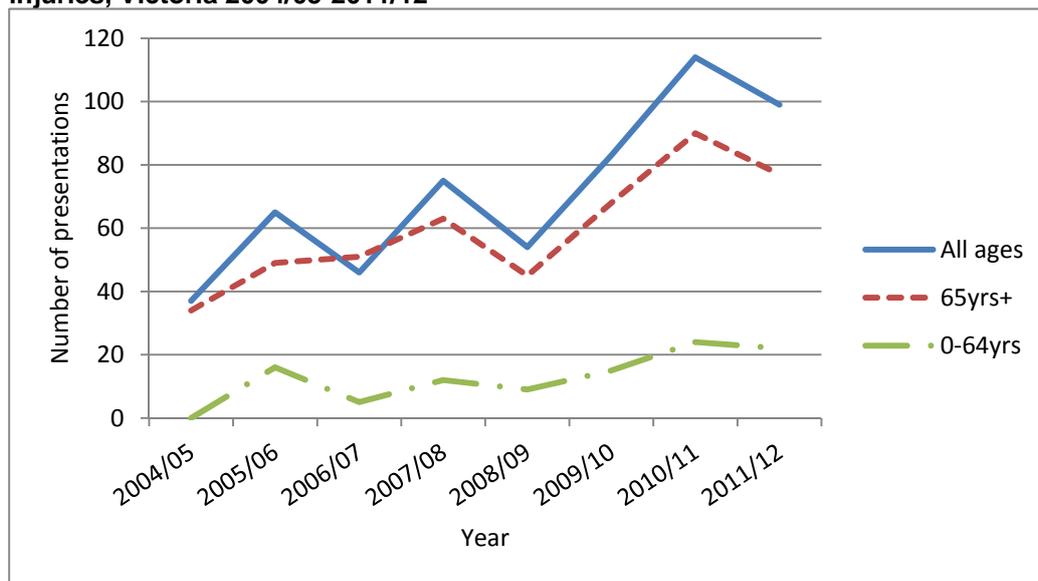
In addition, a crash involving an older MMS user is likely to result in more severe injury outcomes given the physical frailty of older people. The number of MMS crashes involving older users is increasing and is discussed in more detail below.

2.4 Injury outcomes

It is a difficult task to examine crash and injury risk amongst MMS users as crashes involving MMS are underreported and better data on crashes and injuries are needed to better understand the extent of MMS related injuries (Cassell and Clapperton 2006). Cassell and Clapperton (2006) analysed fatality (n=6) and injury crash (n=75) data from Victoria from 2000/01 to 2004/05 and reported that MMS related injuries are increasing with the annual frequency almost doubling over the reported period.

To extend the analysis by Cassell and Clapperton (2006), a review of hospital emergency department presentations, including subsequent admissions for the 8 year period from 2004/05-2011/12 was conducted for this study by the Victorian Injury Surveillance Unit (VISU). The number of hospital presentations due to people being injured while using MMS has increased in Victoria with the highest number of presentations recorded in 2010/11 (Figure 2).

Figure 2 Hospital emergency department presentations for motorised mobility scooter related injuries, Victoria 2004/05-2011/12



However, the same limitations were evident in the data that were identified by Cassell and Clapperton. Specifically, MMS crashes are often the result of a 'fall' from the device, however there was little information on the fall injury mechanisms including the likelihood that a health condition contributed to the fall. Again, we were not able to determine the rate of injury as exposure data is not available and exposure is likely to have risen over the same time period.

Physical frailty associated with normal ageing also impacts the severity of injury outcome. Falls can easily result in hospitalisation and rehabilitation for many months. In addition to falls, crash causes also include collisions with objects alongside the pathways (bushes, trees etc.,) uneven surfaces or kerbs/gutters and collisions with other road users (Austroads 2010). Micro-level infrastructure design and construction features have an important role to play in determining the comfort, convenience and safety provided to MMS users and the absence of adequate footpaths would result in higher on-road use. In that context, the lack of adequate footpaths in non-metropolitan areas is likely to directly impact safe MMS use.

3. Methods

Semi-structured in-depth interviews were conducted with representatives from key stakeholder organisations. In total, eight in-depth interviews were conducted. Study protocols were approved by the Monash University Human Research Ethics Committee.

3.1 Participants

The researchers identified the key stakeholders as having involvement in the mobility of older Australians or a direct involvement in mobility scooter use in public spaces. Participants were representatives from a range of key government, non-government and advocacy/professional organisations.

The organisations were selected to understand a range of perspectives on the benefits and issues related to MMS use and included staff from local governments (Shire of Mornington Peninsula, City of Greater Geelong), an advocacy group that specifically represents the interests of older Australians (Council on the Ageing, COTA), health professionals who assist with the selection of mobility scooters prior to purchase (Independent Living), the Victorian state road authority (VicRoads), a commercial business who provide short term mobility hire

in the Melbourne central business district (Travellers Aid), a motoring advocacy and insurance company (RACV) and the Victorian Public Transport Ombudsman.

3.2 Interviews

The interviews were conducted in person by the researchers (MJ, GR) in the workplace of each interviewee. One interview was conducted via telephone (COTA). The interviews were semi-structured with a list of interview topics that provided an interview guide. The topics included were: usage and mobility; injury outcomes; urban design; legislation; purchasing, and; policy.

Emphasis on topics varied depending on the focus of the organisation and the knowledge or involvement of the interviewee. The open style of discussion allowed us to discuss issues of particular concern and also explore new areas raised in the interview.

All interviews were audio taped and transcribed. A transcript was forwarded to each participant to review for accuracy and privacy in the event that specific names or personal details had been provided.

3.3 Data analysis and interpretation

The data was analysed thematically using template analysis with the interview topics used for the initial template (King 2004). Each transcript was then systematically reviewed to identify and code the data according to the initial template. The template was revised and amended during this process. In the final version, the interview topics were retained as the broad themes with the exception of legislation and policy which was collapsed into one theme. The coded data within each theme was organised hierarchically cascading to a narrower focus of specific themes.

4. Results

All participants recognised the benefit of MMS for continued independent travel of older Australians. The main usage was for short trips, described as 'more blocks than kilometres'. The ability to maintain independent travel allowed people to retain their quality of life by maintaining their connection to the community, remain in their own home and reduced the sense of isolation and associated depression. The main trip destinations identified were trips to doctor's appointment, local shops, library and friends. Freedom from pain was also identified as a major benefit for MMS users, for example:

I've had clients that have taken almost ten minutes to get across the display store to the scooters, in pain, struggling. And they get to the scooters and then when they're in their trial, the smile, you know, the wind in my hair and bugs in my teeth, just so happy, it's so rewarding. And I think for them it's just that sense of freedom without pain. I'm moving through the air without pain, so very rewarding.

Participants were asked about MMS crashes and injury outcomes among older Australians. However none of the participants were directly involved in the recording or reporting of MMS crash data. It was noted that there would be a record of police reported MMS crashes in CrashStats, the public database of police reported crashes, but this would not be a coded field that could be analysed easily and would require a manual review of the police reports and would be biased towards more severe injury outcome crashes.

Most participants did comment that they believed MMS crashes were likely to be underreported and this would be mainly due to only minor injuries sustained and medical treatment being not sought or medical attention being received from GP and not centrally reported or if the crash was reported it could be miscoded. Participants commented that hospital presentations may be likely to be classified as falls without mention of the involvement of the MMS. Some participants also suggested there would be some

embarrassment associated with the incident and as a result, minor events may not be reported.

Four main themes were identified from the interviews that raised systemic concerns in relation to MMS use by older Australians: regulation; assessment; purchasing and usage.

4.1 Regulation

The lack of regulations, in particular the lack of design standards, was consistently raised as a key concern by participants. Currently MMS are clearly mobility devices and are not classified as a vehicle. However, the (un)foreseen consequence of this classification is that the standards related to design, manufacture, retailing and use are voluntary. Participants considered this to be a gap that needed to be addressed, with a direct and clear need for legislation for their use:

there is a case to be made for increased legislation around the use of the scooter and the standard of the scooter itself so that whether the scooter has safety features that are legislated that are a must.

Overall, participants recognised that the standard needed to be mandated to be effective and that only devices that met the standard should be imported, therefore ensuring the retailers only sold compliant MMS.

I think that there should be a standard that's mandated, at the moment the standard is voluntary. We wouldn't be importing ones in to Australia that don't comply with the road rules because people unknowingly go out and buy them so we need to stop the import of ones that doesn't comply with the road rules. Which means, nothing that's got a capable speed of more than 10km/h and there are some that hold two people, the road rules say that the definition of a wheelchair is it carries a person.

Without a legislated design standard, the models available are increasing in size and weight and this is negatively impacting on how the devices can be used, some devices are too large to fit into taxis, variations in design mean that the device cannot be secured in the taxi, and there are significant issues created when someone wants to use their MMS on public transport:

Some people get kicked off every now and again because they haven't got the right scooter but there's no standard about what is the right scooter.

One suggestion was that greater benefit may be achieved by having a standard that is governed by the road rules, similar to the approach currently used for child restraints:

The way child restraint legislation works is that you have a mandatory standard and then the road rules govern that you can only use a product that meets that standard so it's actually the road rules that makes it mandatory, not the standard itself. So if you had a separate category for scooter, you'd have a standard, this is the standard for scooters, it could be voluntary but then the road rules could mandate it that you could only use a product on a public road space that meets this standard.

Oversized MMS that exceed the maximum unladen mass requirement of 110kg, plus the weight of the operator, create additional issue in mixed mode use, for example on public transport. The ramps used to assist passengers to board trains have weight limits that may be compromised by the weight of some MMS:

But I know that train(operator)s are worried too because the weight capacity of those ramps with some of the oversized scooters, whether that's gonna cause issues...they don't want commuters hurt.

There are also space issues inside public transport vehicles, particularly in peak travel times. Currently there is only adequate space for two or three MMS and participants identified the need for adequate space for MMS be addressed in future public transport vehicle design:

So future train design, bus design, tram design will need to look at access and I guess that's why if the issue of an Australian standard and size isn't looked at, isn't addressed at this point in time...

However, participants were also clear about the potential negative consequences of any legislation, regulation or restrictions that could create a barrier to use:

I do think that you don't want to make the legislation prohibitive in the sense that it's discouraging people to be using it and making it too hard, because I think the benefits far outweigh the costs, but if you're talking about fine tuning how we go about managing mobility scooters, I do think that legislation has a role to play. And they are, you know, they are, particularly when we're talking about their use on the road and the potential conflict with vehicles, I think that there's something to be looked at there.

While most participants disagreed with the need for registration of MMS, this was considered a barrier to a section of the population who are already financially constrained and the benefits of MMS may not justify the expense. However, some associated benefits were identified:

One of the benefits of (registration) could be licensing...that would mean that people would have a requirement to be trained, to meet a certain level of trialling and knowledge about what they're doing...And presumably it would be like vehicle insurance, third party, fire and theft type of thing. And I presume that's the more, it's the third party insurance that's the important thing here for when somebody does get carried away and bowls over people down the street that there's some sort of coverage and compensation for those people.

4.2 Assessment

Most participants had serious concerns about the current lack of assessment in relation to MMS users. Three key elements of assessment were identified:

1. Fitness to operate – related to physically manoeuvring the device, hand strength to operate the levers, cognitive capabilities, impact of multiple health conditions
2. Ability to manoeuvre in the environment – related to safely travelling through the environment, negotiating footpaths, gutters, kerbs etc
3. Eligibility to own one – MMS use is restricted to people with a disability or mobility impairment

There are some people who plan well in advance and research and really look at all the options and they're usually the ones who will put their name down on a waiting list to get an assessment and go through a very robust process and makes sure that they're safe. Then there are others who will do it more on the spur of the moment and they're probably more likely to go down the more unconventional path and be able to get one quickly and cheaply.

A fourth element was also identified, however this was longer term and not directly related to the initial purchase of the MMS. The fourth element was an assessment of the ongoing suitability of the person to use the MMS, that is each individual's decline in health or progression of medical conditions may negatively impact their ability to safely use a MMS over time.

4.3 Purchasing

The lack of regulation of the types of MMS models available means that a wide variety of suitable and unsuitable devices are currently available for purchase. The participants acknowledged the primary role of the retailer is commercial, therefore ultimately, it was not practical or reasonable to expect them to have any other role:

Retailers are there to sell a product, they would get commission. So they've got their job to do. I don't know how you could put the responsibility onto them because at the end of the day, their job is to sell and they're there to sell. I think it goes back to the manufacturer rather than the retailer.

Independent Living provides a specialist service to the public which allows people to inspect and test MMS prior to purchase. There is an occupational therapist present to address any queries and present different devices without the pressure of purchasing. However, the main clientele is people seeking government subsidy for the purchase of their MMS and it is likely that this service was only accessed by a minority of consumers.

Regulation of the retailer was suggested by some participants. Suggestions include creating a type of point of sale checklist that required people to have some evidence that they have completed training or had been medically assessed and were both eligible to purchase the device and able to operate it. However, this view was not shared by all participants as for retailers; they had an economic imperative and were concerned with the successful sale of the devices, not the training or assessment of the purchaser or eventual user. Further, any regulation of retailers was considered by some participants as futile as this could easily be circumvented by consumers by purchasing their device online or from a friend or family member.

People are increasingly purchasing through second hand options, there's a number of second hand dealers in any area...through eBay, it used to be through the old Trading Post, hard copy Trading Post. Now it might be through different community newsletters or what have you where people advertise, or even on the, you'll see on the noticeboard outside Safeway, you know scooter for sale or through word of mouth. A lot of people know, my Auntie so and so just died and I've got a scooter if you might think you need one here you go. So there's all sorts of ways that people come about scooters.

There is also the complication of the purchaser being someone other than the end user. Many participants commented that adult children purchased the MMS for their parent, often without the parent present, again without a clear understanding of the voluntary standards. While these purchases were considered to be made with good intentions, the device they purchase may not be suitable:

When older adult children buy the equipment for their parent, they often don't have any way to know what's suitable so from a consumer point of view I think there needs to be some regulation nationally.

Finally, online purchasing was recognised as a significant issue in relation to MMS. Online purchasing was completely unregulated and products are available without any information about what is permitted in Australia.

4.4 Usage

Independent travel gains were identified by participants:

shopping, appointments so going to their local GP, going to their social connections, so it might be the bridge club down the road or the senior citz club or visiting friends...[the MMS] Just removes the dependence on structures and systems outside of their own decision making. I think that it allows them to retain that independence and that is important.

Despite acknowledging the overall mobility benefits of MMS use, concerns were raised regarding the availability of physical space urban design issues. Specific issues included: inadequate footpath facilities and maintenance; connectivity with other public transport services; speed; and shared spaces where MMS users interacted with other pedestrians.

Poor public transport services, particularly in non-urban areas where the main form of public transport was a bus service, was identified as a major impediment to people extending their MMS trips.

with kneeling buses and low floor buses, it doesn't always mean that someone feels confident to get onto a bus even though we have those options.

Heavy demands on metropolitan train services means that sometimes people in MMS will not be assisted to board the train:

In some cases they leave them there, they leave them there and say I'm sorry, the train is too crowded, we can't get you on.

Speed is another usage issues, but typically this was raised in relation to the safety of the device for other pedestrians. Currently, MMS are supposed to be limited to a maximum of 10km/h for the people using them to be considered a pedestrian.

I think often the women are a little bit more hesitant because the men are more gung-ho about driving and that sort of thing. Although we do have a few women around here that have got themselves some hot scooters...More powerful, bigger models rather than the little, smaller, slower models.

However, most participants reported that many devices travel considerably faster:

Well I understand that there is a speed limit, they're not supposed to go more than 10ks but you can import some of them now that can go 25ks, if you hit me with one of those things at 25ks that's gonna bloody hurt.

Finally, a major usage issue identified by participants was the provision of recharge facilities. Currently in some council areas there is a recharge scheme organised with retailers who display a logo that advertises MMS recharge facilities. However, typically recharge availability is at the discretion of retailers. This posed challenges in non-metropolitan areas where:

Because we are in a semi-rural area, I think, it's a different challenge for people to go further becuse there may be long stretches where there are very few houses. In inner urban, people may feel more comfortable because there are people around who may be able to assist them.

The RACV offers a roadside assist program to MMS users, however many calls for this service were for devices that had flat batteries and need to be transported home, rather than due to mechanical failure.

5. Discussion and conclusions

Motorised mobility scooters have great potential to facilitate improved mobility and accessibility for their users, and as noted by one of the participants:

There is a much more significant proportion of the older population that are choosing to use mobility scooters as a way to compensate for limitations in mobility as they age.

Given the reportedly high level of satisfaction from people who already own and use a MMS, sales and use are likely to continue to increase in Australia (Somenahalli and Taylor 2007). However, there are significant issues related to the integration of these devices in the existing transport network and the safety issues for users, particularly older users who tend to be more physically frail. Adequate responses are needed to ensure safe outcomes for MMS users in the case of single-vehicle crashes or conflict with other road users, as well as the safety of other vulnerable road users (including pedestrians).

This series of in-depth interviews with key stakeholders conducted as part of this study has identified a range of the broad, systemic issues arising as a result of increased MMS use among older Australians. Those issues cover:

- Regulations, particularly the merits of a MMS design standard, the maximum speed of the devices and the classification of MMS users as pedestrians,
- User assessment, given that many older adults who are deemed unfit to drive may choose to use a scooter as their main travel mode and therefore may not have the functional abilities to operate a scooter in a manner which is safe for them and other road system users,
- Education to support informed purchasing decisions, as well as safety training and tuition about MMS use to ensure safe operation,
- Better understanding of usage patterns and the implications of those usage patterns and difficulties users experience for the microscopic design of urban infrastructure to support safe and efficient use of MMS.

To date, these broader systemic issues associated with MMS usage have received only limited attention from the research community. This study represents a first step toward building broader systemic understanding. There is a clear need for further research into the safety and mobility issues associated with MMS so that policy decisions can be made to ensure that these devices are able to deliver the clear benefits which attract users to them while at the same time, protecting the safety of both MMS riders and other road system users.

In terms of research, next steps would be to identify issues and concerns from the users and people who are considering purchasing MMS to determine the benefits to health and mobility as well as the safety issues related to use.

The safe system approach which is increasingly influencing policy development in relation to motor vehicles could provide a valuable framework for also considering how to best manage the opportunities presented by MMS while appropriately managing risks that might arise from their increased use.

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