

## Riding into the future: a snapshot of elderly mobility scooter riders and how they use their scooters

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### Abstract

**Aim** The purpose of the study was to understand the typical mobility scooter rider, how they use their scooter and the role it plays in their lives.

**Method** A 30-item purpose designed questionnaire was used to collect data on rider demographics and mobility status, reasons for purchasing and using a mobility scooter, patterns of scooter use, and the role it plays in the individual's life. Riders aged 65 years and older were recruited from the wider Dunedin community.

**Results** Thirty persons (15 males and 15 females) aged 65 to 90 years participated. Most experienced walking limitations with only 5 participants able to walk further than one block. The majority (80%) purchased their scooter to address their walking limitations. They had owned a scooter for a mean of 4.4 (range 1–19) years and most had purchased it privately without the input of a health professional. The majority of the group used their scooter 2–3 days per week.

**Conclusion** This study provides a snapshot profile of mobility scooter riders and how they use their scooters to increase their mobility within the community. This information is useful for service providers and planners working towards providing services and infrastructures for the aging population.

Mobility scooters, or 'powered mobility devices',<sup>1</sup> have become more visible on our footpaths and in our shopping precincts in recent years. This reflects the growing use of mobility scooters as both a mobility aid and as a form of personal transport, particularly among those older New Zealanders who experience mobility difficulties.

Almost 50% of people aged 65 and over have some form of disability and mobility-restricting physical and sensory disabilities are the most common.<sup>2</sup> Mobility scooters provide a way to facilitate an independent lifestyle for their owners and promote "aging in place" and participation in the community.

The proportion of the New Zealand population aged 65+ is rapidly increasing and expected to constitute 23% of the population by 2036 and 26% by 2061.<sup>3</sup> This group are likely to experience high levels of mobility limitations and are likely to turn to mobility scooters as a primary solution; yet, at present, little is known about the extent of mobility scooter use in New Zealand.<sup>4</sup> However, it is clear that sales and marketing (magazines and television) of scooters is increasing. This suggests the need for a greater understanding of the pressure on services and infrastructure in order to provide a safer operating environment and to reduce accidents.<sup>5</sup>

Studies from Australia,<sup>6,7</sup> Canada,<sup>8,9</sup> Netherlands,<sup>10</sup> Scandinavia,<sup>11,12</sup> the United Kingdom,<sup>13,14</sup> and the United States,<sup>15,16</sup> have provided insight into the acquisition and prescription, patterns of and barriers to use, and safety of mobility scooters. However,

these studies are specific to those countries and their respective built environments and socioeconomic and healthcare systems.

This study, part of a larger programme of research examining mobility and mobility scooter use in the aging population, seeks to provide an initial understanding of mobility scooter use in a typical New Zealand city.

As such it will provide information to inform planners, social policy developers, service agencies and health professionals of the mobility needs of our aging population so that they may be more adequately understood and prepared for.

Specifically, this exploratory descriptive study sought to gain an initial understanding of the typical mobility scooter rider, how they use their scooter and the role their scooter plays in their lives.

## **Method**

The study sought to recruit mobility scooter riders living in the wider Dunedin (New Zealand) area. The convenience sample was drawn primarily from the suburbs of Mosgiel and South Dunedin, which are well known for their gentle terrain, generally wide footpaths and higher than average density of elderly residents. Mobility scooters are frequently observed in these areas.

Persons who met the inclusion criteria of being aged 65 years or older and a self-reported regular mobility scooter rider were recruited via public notices, referrals from mobility scooter sales and service agents and via word of mouth.

The study was approved by the University of Otago Human Ethics committee and all participants provided written informed consent before participating. The study was conducted during August 2011.

A 30-item questionnaire sought information on: the demographics of the riders and their mobility status; why they purchased their scooter; how they used it and barriers to its use. The questionnaire was developed specifically for this study and was based on; established questionnaires,<sup>17</sup> questions used elsewhere and adapted for the goals of this study,<sup>6,7</sup> and questions constructed based on the findings of a series of focus groups<sup>18</sup> conducted by the research team to better understand the phenomenon of mobility scooter use. Collectively, this assured the face validity of the contents of the questionnaire.

Generally a closed-question format was used, while others required participants to provide a short written response or complete a visual analogue scale. The wording was carefully chosen and reviewed to be age appropriate and presented in an easy to read manner, to facilitate completion.

Participants who expressed an interest in participating were contacted by phone and a time and place, usually their homes, to complete the questionnaire was established.

A member of the research team met with the participant and explained the requirements for participation and provided assistance in answering questions when needed. Participants were informed that they could complete all or some of the questions. The time to complete the questionnaire varied but was generally completed in approximately 30 minutes.

On completion of the questionnaire all participants were offered a grocery voucher as compensation for their time and contribution to the project.

The data were coded where necessary and entered into an Excel spreadsheet. Descriptive statistics including means and frequencies were computed using IBM SPSS Statistics for Windows, Version 20.0 (Armonk, NY: IBM Corp).

## **Results**

Equal numbers (N=15) of males and females were recruited with ages ranging from 65 to 90 years (Mean=78.2). Twenty-nine persons reported their ethnicity as being New Zealand European and one as Australian. Less than half (40%, 12/30) lived alone, while 60% (18/30) reported having two or more chronic health conditions.

The majority reported difficulties in walking: with 90% (27/30) able to walk inside the home; 73% (22 /30) around the home or garden; 43% (13/30) able to walk a block and only five persons (17%) reported that they could walk further than one block.

Participants used a number of mobility aids including; a cane (N=17), a crutch (N=7) and a walking frame (N=6). Participants had owned a mobility scooter from between 1 and 19 years (Mean=4.4).

The reasons they purchased a scooter are shown in Table 1. Most (22/30, 73%) purchased their scooter with private funds with a smaller group (N=6) obtaining funding support from the New Zealand Lottery Grants Board.

**Table 1. Participants’ reasons for purchasing their mobility scooter**

Reasons for purchasing	Persons reporting – n (%)
Inability or difficulty with walking	24 (80%)
Stopped driving	12 (40%)
Observed others	10 (33%)
Poor health or serious illness	9 (30%)
Felt isolated	8 (27%)
Partner stopped driving	3 (10%)

**Note:** Participants could indicate as many reasons as applied, therefore, the percentage of responses do not add up to 100.

Approximately one-half (14/30, 47%) of the participants purchased their scooter of the own accord, while 10 (33%) did so on the recommendation of a family member or friends, and only 5 persons (17%) on the advice of a health professional.

Twenty-three persons (77%) indicated that they received a demonstration and/or instruction on how to operate their scooter with only 3 (10%) stating that this was provided by a health professional.

Scooter use varied in a typical week with 17% (N=5) indicating they used their scooters on a daily basis, 33% (N=10) between 4-5 days per week, 43% (N=13) 2–3 days per week and two persons reporting they used their scooters just 1 day per week. It was estimated that the average trip length as 7.2 (±0.51) km. The purpose of these trips are presented in Table 2. On these excursions participants reported a range of barriers to their mobility scooter use, these are presented in Table 3.

**Table 2. Participants’ reasons for using their mobility scooter**

Reason for travel	Persons reporting – n (%)*
Shopping	27 (90%)
Visit a doctor	23 (77%)
Bank	20 (66%)
Post shop	19 (63%)
Visit friends/family	14 (47%)
Recreation	9 (30%)
Volunteer/paid work	4 (13%)

\*Participants could provide multiple responses.

**Table 3. Barriers to mobility scooter use**

Identified barrier	Persons reporting – n (%)*
Uneven footpaths	22 (73%)
Kerb height	21 (70%)
Pedestrians	21 (70%)
Potholes	11 (37%)
Street crossings	10 (33%)
Limited accessibility to buildings/shops	9 (30%)
Motorists	6 (20%)
Hills and slopes	6 (20%)
Other scooter users	3 (10%)

\*Participants could provide multiple reasons.

In general, participants were very satisfied (90%) with their scooter as a means to getting around. Not only did it increase their mobility, and independence (90%) they also reported that the best part of owning a scooter was that it increased their ability to participate in their community (14/30, 47%) and afforded them great recreation and leisure opportunities (24/30, 80%).

Participants were asked to rate their ability to get around on a 1 to 10 visual analogue scale as they perceived it to be before and after they obtained a mobility scooter. The mean score for ability to get around increased from 3.3 to 9.3 from before to after the scooter was obtained.

## Discussion

This snapshot of a small group of mobility scooter rides provides insight into the reasons they purchased their scooter and how they use it to overcome their mobility limitations and maintain their independence in their communities. These data are similar to those reported in other countries,<sup>6-8 13</sup> and confirm the emerging importance of mobility scooters within New Zealand's aging population.

With the projected rise in the number of persons aged 65 and over it is reasonable to assume that there will be an increasing number of persons using mobility scooters in the immediate future. This should highlight to both healthcare professionals and planners the need to consider the specific demands of this emerging group when developing and forecasting services for the aging population.

The riders reported severe mobility limitations which challenged their ability to walk even short distances. Yet, all rated their ability to get around as either very good or excellent due to the availability of their mobility scooter.

Their mobility limitation was often accompanied with other comorbidities reinforcing the central role scooters play in keeping them active and connected in their communities. The inability to walk several blocks is a severe limitation for a person living in the community and creates a dependence on others in the form of a support person or taxi service to complete regular errands or to visit a doctor.

For the participants in this study their scooter was their prime form of transport and in several instances the scooter replaced the ownership of a car following the loss of a

drivers licence. Their regular use of the scooter suggests that ownership facilitated their independence in a wide range of activities including shopping, socializing and for recreational purposes.

The independence gained by scooter ownership clearly enhanced their ability to “get around” in their community. While the use of a mobility scooter can facilitate geographical mobility it also has the potential in those who have minimum mobility restrictions to reduce the actual amount of walking an individual may do. This may in turn impact on their overall health status.

Providing an infrastructure conducive to the safe use of mobility scooters is primarily the responsibility of local authorities who maintain the footpaths, roads and signage. The state of the footpaths, kerbs and crossings all presented as barriers to the safe use of mobility scooters, and are potentially able to be fixed through regular maintenance or in some situations as part of planning exercises.

The recognition of the needs of mobility scooter users is only just beginning to appear in key policy documents which noted “we could also focus on the safety of mobility devices” as an area of future focus in discussing the older driver.<sup>19</sup> Clearly, there is still considerable work to be done to ensure adequate planning is taking place to serve the needs of this emerging group of footpath (and road) users.

Individuals are able to gain funding assistance from the Lottery Individuals with Disabilities programme<sup>20</sup> to purchase a scooter, and thus most probably had professional advice as to whether they need a mobility scooter and what was the most appropriate scooter for their needs. However, the majority of the participants in this study purchased their scooter privately. This raises the issue of whether they received any advice when purchasing their scooter or not. Very few participants (n=5, 17%) obtained the advice of a healthcare professional in the choice of their scooter or in learning how to operate it safely. This is a similar finding to that reported (10.9%) in a recent Australian study.<sup>6</sup>

Scooters can be purchased from dedicated dealers and distributors, internet sales sites or secondhand traders, thus the level of advice and instruction can vary considerably. This applies equally to whether the scooter is suitable for the client and their needs, and for instruction in the safe operation of machine.

While sales staff are well positioned to provide information and training they are also working in a commercial environment and may or may not have the time to provide detailed advice and or instruction. Thus, there is an emerging role for health professionals to provide independent advice to those considering whether a mobility scooter is the appropriate and safe mobility solution.

This study is limited by the relatively small sample from just one geographic region of the country. Thus it is not representative of mobility scooter riders throughout New Zealand and should be considered as a descriptive survey as the results do not necessarily generalize to the wider user group.

The survey area was carefully chosen due to its mixed socio-demographic characteristics and pockets of retired community dwelling persons with a highly visible number of mobility scooter users. Thus it provides a sound description of this emerging group and some insight into their future needs.

The acquisition of a mobility scooter is a major decision in helping persons to maintain their independence. For many persons on a fixed income it is also a costly decision and one in which they may benefit from professional advice.

Healthcare professionals need to be informed of the benefits associated with the ownership and use of a mobility scooter by our aging population.

**Competing interests:** Nil.

**Funding:** This project was conducted with funding from a University of Otago Research Grant.

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Scooter riding is a form of extreme sports. A kick scooter is used by the rider to perform various forms of tricks, in a manner similar to skateboarding or BMX-ing. A large number of people, especially the youth in their teens, get attracted to this sport and participate. In fact, it can be seen that the majority of the Best Scooter Riders who have shown their skill and talent start very early in their lives. Top 10 Best Scooter Riders In 2021. Although this sport has not been able to win as much popularity as other regular or extreme sports, it is definitely on the rise. Teenagers, boys, in particular, are attracted to this dangerous but greatly athletic sport and enter various competitions. Let us take a look at the 10 Best Scooter Riders in the World. Let's have a look. 10. Robbie Menzies. The majority of the group used their scooter 2-3 days per week. Conclusion: This study provides a snapshot profile of mobility scooter riders and how they use their scooters to increase their mobility within the community. This information is useful for service providers and planners working towards providing services and infrastructures for the aging population. Discover the world's research. Although many papers have examined the purchase and use of private passenger vehicles [8][9][10], little is currently known about mobility aid users and what influences their choices of mobility aids. A recent study has provided some insights to typical scooter usage in New Zealand [11]. Just how green, and how safe, are e-scooters? In Australia, Brisbane recently decided to extend its e-scooter trial by a year, expanding provision into the suburbs as part of efforts to increase active transport in the coronavirus recovery. In Colombia, Bogotá changed its e-scooter regulations to allow more providers to offer their services post-lockdown, with no payment to the city. In Argentina, Buenos Aires is actively encouraging short trips to be taken by bicycles and scooters, which it says play a fundamental role in the mobility of residents in this new scenario. Rome welcomed its first shared e-scooters in May. Rome is starting again under the banner of sustainable mobility, said mayor Virginia Raggi of the new scheme. CONCLUSION This study provides a snapshot profile of mobility scooter riders and how they use their scooters to increase their mobility within the community. This information is useful for service providers and planners working towards providing services and infrastructures for the aging population. @article{Sullivan2014RidingIT, title={Riding into the future: a snapshot of elderly mobility scooter riders and how they use their scooters.}, author={S. J. Sullivan and S. L. La Grow and S. Alla and A. Schneiders}, journal={The New Zealand medical journal}, year={2014}, volume={127 1402}, pages={. 43-9 } }. Bird electric scooter riders in Santa Monica, California. Photograph: Dan Tuffs/The Guardian. Bird electric scooter riders in Santa Monica, California. Photograph: Dan Tuffs/The Guardian. Electric share scooters have taken over Santa Monica, an affluent beachside city on the edge of Los Angeles, but as they swiftly spread across other cities in California and the US a backlash is already gathering force. Download an app, scan a scooter's barcode and away you go, zipping at up to 15mph to your destination. With a global market in their sights, the scooter startups are pushing back. Bird comes armed with \$115m (£80.3m) in investment funding and seems to take the Uber-esque, hard-charging stance on regulation that it is better to seek forgiveness than permission.