

*Evaluating the Needs and
Experiences of Older Adults Using
Power Mobility Devices*

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Current Team Members

| Team Leads | Trainees |
|-------------------|-------------------|
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Project One Objectives

- Examine the power technology needs and experiences of older adults and their caregivers
- Investigate the perspectives of health care providers, policy makers, and funding agencies

What is Currently Known?

- One in three older Canadian adults report having mobility limitations (*Statistics Canada, 2007*).
- Older adults comprise the largest group of mobility device users (*Kaye, Kang, & LaPlante, 2000; Shields, 2004*)

What is Currently Known?

- Use of assistive devices associated with:
 1. Having a higher income (*Tomita et al., 1997*)
 2. Frailty/poor health (*Clarke & Colantonio, 2005; Hartke, Prohaska, & Furner, 1998*)
 3. Living alone (*Tomita et al., 2004*)

What is Currently Known?

- Older adults take a pragmatic attitude towards assistive technology: Simple, reliable, meets and addresses individual needs (*McCreadie & Tinker, 2005*)

Study Design – Three Parts

1. **Interviews → Power Mobility Users**
 - Alex Korotchenko and Erica Bennett interviewed 29 power mobility device users (*aged 51 to 92*)
 - Participants interviewed once for an average of 1.5 hours (*range of 0.5 to 2.15 hours*)
 - Diverse sample of 15 men and 14 women

Study Design (cont'd)

2. **Interviews → Wheelchair Prescribers**
 - Krista Best interviewed 10 occupational therapists
 - Participants interviewed once for an average of one hour (*range of 0.75 to 1.5 hours*)
 - Diverse sample of one man and nine women

Study Design (cont'd)

3. Interviews → Caregivers

- Rosalie Wang is in the process of recruiting and interviewing formal and informal caregivers of older power mobility device users
- To date, Rosalie has conducted two interviews
- We are aiming to recruit a total of 10 to 15 caregivers

Findings → Importance (Users)

- ▶ 23/29 users enthusiastically expressed gratitude and appreciation for their power mobility devices
 - *Increased mobility, independence, and quality of life*
 - *Importance in everyday life and in times of poor health and hardship*

Example: User Perspective

“It’s given me the ability to do a lot more things on my own that I could never do before. Whatever it may be, I’ve got the freedom to do it... It’s just a huge independence that I never had before.”

(52 year-old man)

Findings → Importance (Providers)

- ▶ All 10 providers considered power mobility to be an important tool in enabling meaningful activities and independent mobility

Example: Provider Perspective

“People who use power successfully have a whole different life than those who don’t...If they didn’t have power, their lives would be completely isolated. The ability for people to get out into their communities and interact is so healthy. There’s a whole community of people out there who are independently mobile because of power and their lifestyle is so much better than it would ever be without it.”

(Community-based OT)

Findings → Dissatisfaction (Users)

➤ All 29 participants dissatisfied with some aspect of their power mobility device:

- *Comfort and appearance*
- *Suitability to various weather and terrain*
- *Cost and durability*
- *Battery life*
- *Design and ease of use*

Example: Comfort and Appearance

“I feel [self] conscious with all this stuff... You know, I’ve seen others, they’ve got a million things [on their wheelchairs], I don’t know how they can handle it all. They’ve got this and that on their chair... It just seems a bit excessive. For me, I think, the simpler the better.”

(51 year-old man)

Example: Weather and Terrain

“This is what I use. If I’m out and about, I’m using this. It’s difficult in the snow. It’s very difficult because you just can’t get through it, you’re bogged down and you slide and you slip but... because I’m out and about, it needs to be able to withstand. It can’t be a sissy chair. If it gets a little wet, it’s gotta keep moving.”

(59 year-old woman)

Example: Cost and Durability

“I mean, it’s nothing high-tech, it doesn’t have a tilt, it doesn’t have raise up, it doesn’t go up and down, it’s just a basic chair and that’s all I want. People want all these features, but I just don’t ever see the need for it, right? It’s more things to go wrong, really. The more things you put on a chair, if it involves electronics, the more things can go wrong.”

(52 year-old man)

Findings → Dissatisfaction (Providers)

- ▶ All 10 providers described having some doubts and apprehensions about power mobility
 - *Rehabilitation vs. loss of function*
 - *Age-related concerns*
 - *Cost concerns*

Example: Loss of Function Perspective

“[Using power technology] is almost giving into the disease...so I feel strongly that people have to try other means of mobility before [they use power mobility], because this is kind of the last resort in my mind.”

(Community-based OT)

Example: Age-Related Concerns

“With [older adults], less is more...I can hardly understand [new technologies] myself sometimes, so [older adults] haven’t got a chance...There’s a few [older adults]...who are more technology savvy... You grew up with technology, I’m learning technology...[Older adults] weren’t born or raised with it, so it’s something totally new and pretty wild and out there for them.”

(OT who worked in residential care)

Example: Cost Concerns

“I think there aren’t enough sources for funds. I think if you’re a child, lots of people want to give money for children. But for adults, there’s really not much of a pot.”

(OT who worked in rehabilitation)

Findings → Path Planning (Users)

- ▶ 9/29 users approved of path planning
- ▶ 11/29 users objected to the technology
- ▶ 7/29 felt ambivalent

Example: User Perspective

“[Path planning technology] would be great...Getting lost is...a really bad Post-Polio problem apparently. All of sudden because your concentration isn’t as good as it used to be, apparently you can get lost. You come out of building and you’ve totally forgotten where you’ve put the car. This isn’t just forgetting but you know, ‘how did I get here?’”

(83 year-old woman)

Findings → Path Planning (Providers)

- ▶ 6/10 providers were amenable to path planning technology
- ▶ 4/10 providers were opposed to the technology

Example: Provider Perspective

“I see pros in the fact that you know they’re safe. [Even though] their control is certainly not %100 there, if [path-planning] increases their independence somewhat, they can actually go out versus not go out.”

(OT who worked in a long-term care facility)

Findings → Collision Avoidance (Users)

- ▶ 9/29 users approved of collision avoidance
- ▶ 4/29 users objected to the technology
- ▶ 14/29 felt ambivalent

Example: User Perspective

“It wouldn’t be useful [for me] because I drive quite carefully...but I think that would be good for people using power wheelchairs who have visual difficulties.”

(59 year-old man)

Findings → Collision Avoidance (Providers)

- ▶ All 10 providers were enthusiastic about technology that could help reduce or eliminate the likelihood of collisions by older users

Example: Provider Perspective

“[A collision avoidance system] would be amazing, because it would extend the time that people are able to use a power chair ... [Collisions] are why you start to take chairs away. When there’s... the risk of harm to self or others.”

(OT working in a long-term care facility)

Findings → User and Provider Concerns

1. Safety of the technologies
2. Impact on autonomy
3. Cost of path planning and collision avoidance

Example: Safety

“I think [collision avoidance] is really ridiculous, because if you don’t have the wherewithal not to go over a cliff... you shouldn’t be out in public if you’re driving like that.”

(54 year-old woman)

Example: Safety

“If [the power wheelchair users were not able to] find their way to... a room in their house, then they probably shouldn’t be driving the power chair...if they are not safe or cognitively alert enough to do that, then... what is it they’re going to be doing when they get to where they are going, and will they be able to do it on their own and stay out of trouble?”

(OT who worked in rehabilitation)

Example: Autonomy

“Technology has a way of backfiring...it never works out quite the way you want it. You think you got everything covered and suddenly you’re sitting at the table and wanting to move closer and the technology won’t allow it.”

(51 year-old man)

Example: Autonomy

“I see power mobility as giving the client... some control over their mobility and what they’re doing and how they’re doing it. And if I plan it all for them and do it for them, I’m taking away all that kind of control. Because I see it as a piece of power they have over their life and what they can do. I would rather nurture their ability to use it than override it and do it [for them] because I don’t think they learn if I do it.”

(Community-based OT)

Example: Cost

“Can you imagine what those chairs are going to cost people? Fully motorized chairs with all those fancy gadgets and technology on them could easily run well over the price of twenty thousand... That’s the thing, I wonder how many people are going to be able to afford it?”

(54 year-old woman)

Example: Cost

“The higher costs of these items...I mean some of them would be a great idea, but if it costs a lot, [the funders] have to draw an artificial line somewhere... So that’s the other risk of development of technologies, it may be available, it may be a great idea, but if no one buys it, unfortunately it just doesn’t get used.”

(Community based OT)

Summary

- ▶ Varying support for path planning and collision avoidance
- ▶ Similar concerns and aspirations for power mobility technology among providers and users
- ▶ Keeping technology simple, accessible, and appropriate