Bilaga 9 Meningsbärande enheter från kvalitativa studier/Appendix 9 Findings from qualitative research

Studie/Study	Citat/Quote
Arthanat 2012	the iBOT@ has allowed him 'back in the community', finds the iBOT@ effective, efficient, and safe for driving outdoors.
Arthanat 2012	ambassador' of the iBOT@ and takes pleasure in interacting with people at an eye-toeye level using the balance function, which was inconceivable in his old wheelchair. Feels that people are also much more engaging in conversations with him.
Arthanat 2012	regards the iBOT@ as an 'incredible innovation' and although he acknowledges that it is not for everyone with a mobility impairment, appreciates the added independence it could bring to a significant segment of this population"
Arthanat 2012	asserts that the iBOT@ is 'the next best thing to walking'. Its primary function was to help get around in the community and outdoors.
Arthanat 2012	accessibility gets better with the iBOT@' and prefers to use it in unfamiliar environments. it effectively overcomes surface barriers such as curbs and uneven terrain, and is well suited for public transportation.
Arthanat 2012	particularly has to rely on the iBOT@'s balance function to enhance his reach, its 4-wheel drive to traverse rough terrain and overcome adverse weather conditions, and the small turning radius for maneuverability in confined spaces. He stated that his day-to-day activities now seem 'impossible' with a standard power wheelchair or scooter
Arthanat 2012	particular benefit with the iBOT@ with its use in confined spaces—'The technology opens up most public buildings'. The balance function enhanced his reach, provided better visibility and above all, given him the opportunity to engage in eye-to-eye level interactions with people.

Studie/Study	**Citat/Quote**
Arthanat 2012	visit unfamiliar environments where the iBOT@ is effective. Still finds the need to use his old power wheelchair because he can independently transfer and strap on his seatbelt unlike with the iBOT@.
Arthanat 2012	the iBOT@ has strengthened quality of life by promoting an active lifestyle, involvement in meaningful social interactions, and a way to sustain his employment.
Arthanat 2012	noted the iBOT@ to be useful in public places for extending her visibility and reach and being able to communicate with people from an eye-to-eye level. finds the four-wheel function to be effective for driving on rough terrain and snow.
Arthanat 2012	The iBOT@'s seating feels 'ergonomic' and secure . very comfortable with all basic functions of iBOT@ including driving and control. still hesitant to use the advanced features such as stair climbing and balance function.
Arthanat 2012	home is well suited for use of the iBOT@ except in the bathroom. trouble using it in confined spaces and doorways due to its broader dimensions and the protruding lights and footrest.
Arthanat 2012	One of the major concerns with iBOT@ has been its stair climbing feature. the feature too complex to operate and coordinate with an assistant. unable to use the feature as expected in unfamiliar environments due to the wide ranging variations in staircases (height, depth, angle and landing).
Arthanat 2012	going to restaurants, shopping and plays, and finds the balance function extremely helpful for maneuvering and eye-to-eye communication with iBOT@
Arthanat 2012	with iBOT@, appreciates the balance function in enhancing his reach and the seating comfort that allows him to spend the whole day in the wheelchair without having to transfer to an office chair.
Barbareschi 2020	Wheelchair users complained about the absence of wheel locks, which poses significant challenges and increases the danger of these transfers.

Studie/Study	**Citat/Quote**
Barbareschi 2020	Participants who performed standing transfers complained about the current design of wheelchair footplates, as they can be difficult to move and can prevent the individuals from placing their feet appropriately when transferring.
Barbareschi 2020	suggestions concerned wheelchair modifications such as retractable footplates that would not get in the way, or extendable armrests that could offer support when the person is standing up to transfer
Barbareschi 2020	low tech solutions such as telescopic or collapsible transfer boards that could be easily carried around and function as a portable tray when needed.
Barbareschi 2020	a more complex board that could deal with greater height gaps, such as a transfer board with steps or transfer boards with an embedded sliding seat that could lock in place allowing the user to break the transfer into smaller motions.
Barbareschi 2020	a motorized transfer board featuring a conveyor belt mechanism that could safely carry wheelchair users with more limited mobility.
Barbareschi 2020	a device that could be used to level all transfers by raising the height of the lower surface, a system that could keep the shoulders in a stable and safe position during transfers or a glove that could be used to increase the grip when relying on slippery supports during transfers.
Barbareschi 2020	need for resources which could help people learn how to transfer by providing suggestions, guidelines and tips for safe and efficient technique regardless of the medical condition of the individual.
Blach Rossen 2012	Battery limited the users' occupation in relation to the wheelchair, because the battery was big and heavy, thereby influencing the weight of the wheelchair.
Blach Rossen 2012	the capacity of the battery was too small. This meant that the wheelchair had to recharge for several hours every day and the user of the wheelchair had to adapt to this and be immobile during these hours every day.

Studie/Study	Citat/Quote
Blach Rossen 2012	"Some of the participants were very active and needed a battery that could go as far as 40 km on a full charge depending on the weight of the user, the terrain, the age of the battery, etc. Some participants were less active, but for them battery capacity was still an issue, because the uncertainty about when the battery would run out, prevented them from going far alone.
Blach Rossen 2012	as the battery only had a limited capacity, it limited the participants' aspirations and plans for daily occupation in accordance with their wishes and what gives value.
Blach Rossen 2012	The participants described being in a dilemma between the need of a wheelchair to do occupation outside, and one to manage occupation indoor. Choose a Class B wheelchair, because it made it possible for them to manage both indoor and outdoor. This could be a problem, since a Class B wheelchair often was not fit for such activities as sport, gardening or managing hindrances.
Blach Rossen 2012	outdoor activities made the wheelchair break down as a consequence of these activities. First the user had to take into consideration that the wheelchair was not robust enough, which might put a limit on those activities that they were taking part in. Second, when the wheelchair was broken the user had to wait for a long time for the wheelchair to be repaired
Borisoff 2018	…. barriers …. were inaccessible public environments…
Borisoff 2018	…. supports …... related to availability of private accessible vehicles.
Borisoff 2018	those who discussed public transportation viewed it as both a support …... and a barrier
Bowers 2020	The first theme focused on how participants understood the clinical benefits (e.g., reducing curvature of the spine) of their prescription and the emphasis placed on this compared to functional benefits (e.g., being able to sit and watch television effectively
Bowers 2020	Participants identified that as well as their own expectations, understanding, and priorities, other people could impact their decisions.
Bowers 2020	For those with visible disabilities, especially powered wheelchair users, bodies are the obvious source of an individual's disability;

Studie/Study	**Citat/Quote**
	often being associated with incapability and limitations
Bowers 2020	An example of individuals not identifying as disabled was found in swimmers with various disabilities who noted a strong athletic identity and reported sport as being important to them
Bowers 2020	participants did not see "wheelchair user" as a distinct group. Participants instead seemed to prefer to define ways in which they affiliated to other groups, had other interests or hobbies, or were "more" than their any sort of support like, no I'm not affiliated with any of that at the moment.
Bowers 2020	some participants highlighted that the reality of using clinically prescribed features in a nonclinicalway could raise issues.
Bowers 2020	These quotes would suggest that the functional reasons were enhancing participants' daily living and could again be aligned to the TAM's perceived utility component in the experiences of power chair users. Whilst functional reasons would be a key component of clinical prescription and is positive for users, this alone may not produce clinical benefits.
Bowers 2020	While the participants do not express "dissatisfaction" per se, the difference between expectations and reality could be classified as a barrier as discussed in the HBM
Bowers 2020	This theme included several aspects of a participant's experience, all centered around what the person's expectations were of the equipment and how these compared to the reality of usage
Bowers 2020	This fitted with other participant experiences which suggested some did not fully understand the clinical benefits of the features. For Participant M, E, and J, this was associated with some confusion as to why the assistive technology was prescribed and how to best engage with the feature.
Fomiatti 2014	To explore the lived experience of individuals who used a scooter to compensate for limited mobility, a deductive approach and the ICF [14] were used as a framework to sort the data into the categories of participation, activities, personal factors and environmental factors. Three main themes emerged, namely, knowledge, engagement and challenges.

Studie/Study	**Citat/Quote**
Fomiatti 2014	When considering purchase of a scooter, individuals rarely sought information from more than one supplier, with only one individual receiving advice and referral from a health professional. Often purchases seemed impulsive with few participants trialling more than one scooter or seeking comparisons. Retailers provided no formalised training and most participants were given only limited information regarding the basic operational instructions of the device such as, starting, accelerating and reversing. This resulted in many uninformed purchases of scooters, people often basing decisions on comfort alone.I had seen a couple of people with them, but that was just all. I just decided I needed one and we bought it
Fomiatti 2014	The lack of formal training and trialling, coupled with limited information resulted in some participants being dissatisfied with their purchase due to issues including resultant pain while driving, lack of adjustability of the seat and driving controls. This overall deficit in information resulted in two individuals being in potentially harmful situations, including being thrown from the scooter due to the sudden stopping and being knocked over after stepping off the scooter and leaving the key in the ignition.
Fomiatti 2014	Most participants were unaware of battery life or the correct charging procedures for batteries. Each participant indicated that the way they charged their batteries was what was recommended to them or, in the absence of information, what they thought was the appropriate care. People's practices ranged from constantly charging the batteries when not using the scooter to charging after a certain number of uses, or when battery life indicated low levels of power.
Fomiatti 2014	Participants were uncertain how far their scooter should travel on a full battery charge. Fear of running out of power and being stranded was a concern even when given an estimated travelling range. A lack of knowledge surrounding battery performance and range of distance was a common concern, with many participants stating they did not travel any further than they had to. Well we know it can go quite a way, but I'm frightened of going to

Studie/Study	**Citat/Quote**
	the shops and getting stuck and running out of battery I don't get very far because, I really don't know how far the battery of the scooter will allow me to go and get back again, after all you have got to get back
Fomiatti 2014	The limited knowledge about scooter batteries severely affected the way in which participants used their scooter. Many participants restricted their use to the immediate surroundings of their residence and local community. Prior to purchasing a scooter participants displayed minimal consideration regarding how their current level of function would influence their skills and abilities to safely handle the scooter. There was a strong perception that prior skills attainted through vehicle driving directly transferred over to current scooter driving ability. Reasons for ceasing driving were generally in regards to loss of licence due to accidents, near accidents or decline in skills. Participants failed to acknowledge a possible link between the decline in driving ability and risks to personal safety when driving the scooter.
Fomiatti 2014	Visible battery life indicator, speedometer and the scooter's lack of adjustability were poor design issues raised by drivers. Only one scooter had a visible battery life indicator and no indicator of travelling speed. Within the current scooters owned by the participants there was no adjustability for seats and control systems to cater for varying levels of need and skill. Adjustable armrests, seat height, steering column height and distance from person are all features mentioned by participants that would potentially improve comfort when driving.
Fomiatti 2014	Acceleration methods varied from using just the thumb, or using a whole hand grasp: one participant experienced pain and discomfort using the thumb control. These problems were only recognised by participants post purchase of the scooter.
Fomiatti 2014	The second theme that emerged was engagement, including two sub-categories of participation in activity and social interaction. Increased choice and independence in participation was a key outcome from using the scooter.
Fomiatti 2014	The scooter was primarily used for shopping, and to support engagement in a variety of other

Studie/Study	Citat/Quote
	activities including attending appointments, church, health care (doctor, chemist, physiotherapist), attending educational institutions, going for a ride, engaging in hobbies, going to the cinema, walking the dog, collecting mail and visiting family and friends. Well I go to the pictures at the other end of the shopping centre; I have been going with my scooter right into the theatre itself.
Fomiatti 2014	Use of the scooter was further attributed to maintaining community participation and engagement including being independent in their shopping, able to visit friend and engage in a range of leisure and social pursuits. Well I did, I used to use it to go down to our church; I used to do that only to go to craft I didn't go to church because they had a bus, and then I used to go shopping.
Fomiatti 2014	Participants all expressed improvements to their quality of life through enhancements to independence, mobility, autonomy, freedom, choice or convenience. Motorised mobility scooter user 185 Well it has given me independence and freedom to still keep me being a person, not just a part of this establishment. Well I can do things which I got past that stage of doing in mobility. Well sometimes I suppose the purpose is just to be out in the sunshine and take in the scenery.
Fomiatti 2014	Some participants considered the scooter a more convenient way to travel compared to using a car. There were fewer barriers to parking and less effort getting in and out of the scooter.
Fomiatti 2014	Participants who had previously driven reflected on the liberated feeling associated with transitioning to scooter use, which further led to comments about obtaining and using a scooter before the onset and subsequent decline in health from age and disability.
Fomiatti 2014	Participants revealed how the scooter allowed for completion of a variety of tasks throughout each day, including shopping, attending appointments, and socialising which prior to the scooter would have been difficult.
Fomiatti 2014	It can be inferred from this that the scooter further provided a means for energy conservation.
Fomiatti 2014	Interacting in the community was associated with maintaining and facilitating social

Studie/Study	Citat/Quote
	interactions. Participants considered that the scooter provided a catalyst for social engagement among people and provided a means to visit friends and family. People tell me how happy I am driving it down there and you make conversations, it opens a lot of conversations. You can just jump on it and go for a ride around the village . . . you always find somebody to talk to.
Fomiatti 2014	Emerging from the data was the final theme of environments which can be divided into the sub-themes of environment barriers of the built environment, natural environment and attitudes of people.
Fomiatti 2014	Built environmental barriers were barriers to community mobility when using the scooter. Difficulties were experienced with limited available space to manoeuvre in shopping aisles, checkouts, lifts and on public transport. Attention was required to ensure safe transit and to avoid knocking into objects and walls. T
Fomiatti 2014	o combat this, participants frequented locations they knew provided adequate space and avoided peak times of the day for shopping and public transport use. Supermarket one I think is the one that is more awkward but supermarket two has a very nice wide checkout that I always go through and I take my scooter out the front and come back and pay because it helps with other people, it's not a hindrance to other people.
Fomiatti 2014	Additionally physical barriers such as uneven footpaths, joins in pathways, and lack of ramps between pathways and roads all influenced the driving experience.
Fomiatti 2014	Space was often an issue in retirement or residential aged care facilities; residents were faced with a lack of appropriate space for storage and charging. One location for storing the scooter was on the opposite side of the facility in a room which housed two other scooters, underneath a wall mounted air conditioning unit. When charging her scooter the participant bumped her head and had difficulty reaching the power socket. Manoeuvring out of the room was also difficult.
Fomiatti 2014	Discrimination in the form of the built environment was also found in building design. One participant who resided in a retirement village commented about the frustration felt

Studie/Study	Citat/Quote
	from the village design and the restrictions put in place for scooter users. When riding over the curbing in the village pain was felt in the limbs, due to the height of curbs and subsequent impact related to changing height levels.
Fomiatti 2014	Within the same village the participant was not allowed to take the scooter into indoor spaces such as the mail boxes, library or the pool area, the participant was required to park the scooter outside and walk in. Limitations of space were cited as the reason. This resulted in pain, difficulty and a feeling of being restricted in the village. In this particular incident it was noted by the participant that using the scooter outside the residential village in the wider community resulted in less difficulty and pain, due to less height variations in the community pathways, joins and curbs.
Fomiatti 2014	The natural environment posed barriers, including inclement weather, steep gradients and overgrown grass.
Fomiatti 2014	People were also an environmental barrier. When using the scooter in busy locations such as shopping centres and public transport there is an increased need to be vigilant and aware of the people around them. The public they don't take much notice besides what they are going to do and where they are going to go, so you have to watch; they will step out in front of you, walk backwards into you, do all sorts of things. So you have got to be very vigilant.
Fomiatti 2014	Children created a further need for vigilance as they were difficult to notice, often unaware of their surroundings and some parents or guardians did not control the child's behaviour or movements. A lot of mothers let the children run wild in the shopping centres.
Frank 2012	The themes that emerged from the interview data were pain in relation to sitting, the critical nature of the support structures of the chair, posture and seating, pain and discomfort when out and about in the EPIOC and pain relating to the underlying medical condition.
Frank 2012	In response to the questions posed, 55 (86%) users reported experiencing pain or having strategies for pain relief relating to sitting in past or present wheelchairs. Forty-three (67%) experienced pain using their current EPIOC. Eleven (17%) described their pain as severe, five (8%) described their pain as moderate to

Studie/Study	**Citat/Quote**
	severe, 27 (42%) experienced moderate pain and 21 (33%) reported experiencing no pain. There was an indication that the severity of pain increased with age with those without pain being, on average, 34 (range 11—77, SD 22) years; those with moderate pain being 40 (range 10—76, SD 22) years; those with pain between moderate to extreme being 65 (range 41—81, SD 15) years and those with extreme pain being 50 (range 29—71, SD 12) years. Only one user without pain (n = 21) had a musculoskeletal diagnosis while three with severe pain (n = 11) had such a diagnosis. Those reporting no pain had 12 users with congenital impairments or a muscular dystrophy compared to only two with severe pain.
Frank 2012	Analysis of the "in-depth" interviews indicated that 38 (59%) users described ways in which they felt their pain was influenced by their EPIOC and 19 (30%) reported pain or discomfort aggravated by sitting.
Frank 2012	An important emerging theme focused on pain in relation to the duration of sitting: "When sitting for long periods, the pain gets progressively worse" [User 4, cerebral palsy, aged 12 years].
Frank 2012	For some users, the problem was attributed to the seating system: "Gets discomfort if sits in it for more than 2 hours . . . I don't think it can be helped. With anyone, if you're sitting in the same position, you just get up, don't you, but he can't, so we just move him" [User 54*, acquired neurological disorder, aged 61 years].
Frank 2012	Other users reported pain relief following adjustments to the EPIOC: "The back. Gets backache. This is because of his posture, leaning forward. Has had a special back rest made. [Did that help?] Yes and no. He thinks that it can be improved upon" [User 27* , cerebral palsy, aged 18 years].
Frank 2012	Several users described the critical nature of the support structures within the EPIOC: "I have a... back support which helps. It does because it's higher than the last one I had and it supports my shoulders a bit more" [User 66, cerebrovascular disease, aged 47 years]. "I've got a contoured back and a jelly seat, they do help a little bit" [User 19, lower limb amputee, aged 50 years].

Studie/Study	Citat/Quote
Frank 2012	However, there were some reports of difficulties in obtaining a resolution with wheelchair adaptations: "That's why I'm getting a new one. They're changing the seating for me" [User 57, cerebral palsy, aged 18 years].
Frank 2012	In some cases, particularly for younger EPIOC users, these difficulties were attributed to poor posture: "Her posture is very bad. She almost sits at between 45 and 60 degrees. So she's uncomfortable and she's got aches and pains Because of her posture, she's not sitting that well. In her lower back she's got more pain because she's sitting so far forward . they ordered a different kind of tray for more support for her arms" [User 48*, muscular dystrophy, aged 14 years].
Frank 2012	Despite the diffculties, 16 (25%) users commented on reduced pain and discomfort with EPIOC use. "Ihese users appeared very satisfied with both their EPIOC and the service provided: "With this new chair, I have no pain. This latest chair is really great because it's padded and it's very comfortable...l don't get bruised, sore and my back doesn't hurt so much...l can sit up better. Of course I'm deteriorating all the time. I just wish I had this chair years and years ago. I could have done an awful lot more". [User 3(), multiple sclerosis, aged 69 years].
Frank 2012	Several users described how seemingly trivial changes in wheelchair adaptations affected their pain experience: "The foot rests do need careful positioning if everything's going to be reasonably comfortable. It has been adjusted" [User 73, cerebrovascular disease, aged 81 years].
Frank 2012	Seventeen (27%) commented on the use of cushions, padding and gel seats, many commenting on the difficulty in finding the right cushion for them: "For a long, long while I was very uncomfortable because they couldn't get the right cushion for me. They tried every cushion going. But now they've found one" [User 39, acquired neurological condition, aged 39 years].
Frank 2012	For others, finding the most comfortable solution for their wheelchair comfort involved more complex cushion adaptations: "I've got a cushion because I'm bony. Gets sore after a while sitting on it ... . I've got a tendency to lean

Studie/Study	Citat/Quote
	on my left side, the weak side. I lean on the elbow, so I've had the arm rest cushioned to help with this" [User 26, multiple sclerosis, aged 42 years].
Frank 2012	For a small number of users, obtaining the correct cushion was vital in the prevention of pressure sores. "I've got one of those . . . I call them cushions with the tea bag in because that's what they look like. They build me up, one side. It does help and it stops you getting sores as well" [User 53, multiple sclerosis, aged 63 years].
Frank 2012	The final emergent theme was that of pain and discomfort caused by users being out and about in the EPIOCs and dealing with environmental hazards: "It jolts me around. It makes it worse. Environment outside, it's a bit uncomfortable — suspension wise. Because I've got the osteoarthritis" [User 33, multiple sclerosis, aged 44 years].
Frank 2012	The jolting associated with kerbs and pavement potholes was not helped by the earlier designs of EPIOCs: "There's no suspension on them. It's just a solid frame . . . 'boomp' and you're down" [User 19, lower limb amputee, aged 50 years].
Frank 2012	One user gave a graphic account of his experience: "Sometimes I get more pain when I'm going up kerbs. Especially if I jolt or if there's a bumpy pavement and there's a lot of those and I just get a jolting through my back because there's no suspension on a wheelchair so it just travels straight up my back" [User 17, cerebrovascular disease, aged 64 years].
Frank 2012	Pain relating to the underlying medical condition
Frank 2012	Fifteen users made miscellaneous comments relating to their pain, of which five users specifically commented that the pain related to their underlying illness rather than wheelchairrelated issues, although one of the five was not certain, and two users also specifically commented on aggravation of their pain in cold or damp weather: "It actually gives me more freedom because my disease itself, rheumatoid arthritis, that stops me doing everything near enough. I don't even like being parted from it in hospital" [User 70, rheumatoid arthritis, aged 54 years]. "The weather is another factor. If it's cold, I have more pain" [User 33, multiple sclerosis, aged 44 years]).

Studie/Study	**Citat/Quote**
Frank 2012	Strategies for pain relief
Frank 2012	In response to queries, 45 (70%) users reported a strategy for pain relief. The strategies used comprised two main categories: first, strategies that involved the wheelchair user carrying out actions of their own volition that ameliorated their pain and discomfort and
Frank 2012	second, strategies related to the need for adjustments to the wheelchair or its constituent parts which were the responsibility of the wheelchair service.
Frank 2012	The most frequently used self-help strategy was use ofanalgesia, which was reported by 30 (47%) users. Most of the users taking analgesics did not specify the nature of the analgesics, although four were taking codeine preparations and one user took Tramadol. Some users reported taking muscle relaxants and antispasticity medication. A minority took two or three different preparations.
Frank 2012	Other self-help strategies included changing position in their chair [User 54] , getting out ofthe chair [User 3] and doing exercise and/or physiotherapy which were each reported by 8 (13%). Some typical quotes are as follows: "Takes a paracetamol. Does stretching exercises at school [User 25* , muscular dystrophy, aged 14 years].
Frank 2012	I have to keep on the move, changing positions and that sort of thing. Not that the chair is uncomfortable, it's just me. I like to keep moving all the time [User 53, multiple sclerosis, aged 63 years].
Geisbreicht 2011	Participants were open to exploring alternatives to their existing wheelchairs …..
Geisbreicht 2011	Most indicated a sense of excitement or curiosity about exploring a new option for mobility and what impact it might have on occupational engagement in their community:
Geisbreicht 2011	"... the PPW [pushrim-activated power-assisted wheelchair]provided a more enjoyable experience than their power wheelchair, articulating it was more than just a form of transportation from one point to another; it allowed them to interact with their world to a greater degree."
Geisbreicht 2011	"..it [PPW] allowed them to interact with their world to a greater degree."
Geisbreicht 2011	the PPW provided a sense of accomplishment in performing occupations— that they were

Studie/Study	**Citat/Quote**
	contributing to the experience, even if it was not as expedient as using the power chair.
Geisbreicht 2011	the PPW might reduce or eliminate this need for assistance.
Geisbreicht 2011	The potential capacity for increased autonomy ...
Geisbreicht 2011	the PPW was much easier to push than their manual chairs, allowing them to go faster and further.
Geisbreicht 2011	able to propel the PPW at a sufficient speed to keep up with colleagues and friends who were walking
Geisbreicht 2011	"….. increase their level of community mobility and access new environments compared with using their manual chair
Geisbreicht 2011	" ...managing inclines/ramps was identified as an important achievement, as well as propelling over softer surfaces, such as grass and carpet."
Geisbreicht 2011	"... the PPW still required some degree of upper extremity strength to operate and could prove fatiguing ..."
Geisbreicht 2011	"...they identified difficulty coordinating pushes of equal force on each wheel, which resulted in the PPW turning or moving erratically."
Geisbreicht 2011	….during braking and when negotiating a decline, and raised concerns about safety in a community setting
Geisbreicht 2011	"...concerned about the length of battery charge"
Geisbreicht 2011	"...difficulty managing some features of the PPW, such as inserting/removing batteries"
Gudgeon 2015	Three overarching themes were present in all nine interviews, and the first theme was "working to achieve an adequate fit between the self, the EPIOC and the environment"
Gudgeon 2015	and this had two subthemes — "integrating the self and the EPIOC"
Gudgeon 2015	"working to achieve an adequate fit between the integrated self/EPIOC and the environment".
Gudgeon 2015	From the children's accounts it appeared that using an EPIOC was an experience which required active involvement from themselves
Gudgeon 2015	as they worked to balance, or achieve an adequate fit, between their own abilities, desires and needs; those of their parents and friends
Gudgeon 2015	the demands of the environment and the capabilities and limitations of the EPIOC itself.

Studie/Study	Citat/Quote
Gudgeon 2015	When this was achieved the experience of being an EPIOC user was positive. This experience is reflected in the second overarching theme "experiencing positive consequences of being an EPIOC user".
Gudgeon 2015	However when there was a mismatch the experience became negative resulting in the third overarching theme "experiencing negative consequences of being an EPIOC user".
Gudgeon 2015	For most children there was a continual, and individual, interplay between the elements resulting in them experiencing a fluid mix of the positive and negative consequences of using an EPIOC.
Gudgeon 2015	Working to achieve an adequate fit between the self, the EPIOC and the environment
Gudgeon 2015	The children perceived that the "self" that existed before they had an EPIOC did not adequately fit the environment, and hence they were prevented from fulfilling their needs and desires.
Gudgeon 2015	In contrast using an EPIOC was seen as allowing a new self to emerge, one that integrated their body and EPIOC.
Gudgeon 2015	This was particularly illustrated by the way some of the children used verbs commonly used to describe ambulatory movement to describe their movement in the EPIOC. They described how they went for "walks", or "stood" around in their chair.
Gudgeon 2015	Rosie demonstrated how she viewed the EPIOC as being integrated with her body in her use of the pronoun "I" as she explained how she negotiated her home environment:
Gudgeon 2015	However, for this integration to be achieved the children emphasised a requirement for the EPIOC to fit their individual needs in relation to speed, comfort and appearance.
Gudgeon 2015	Gaining adequate control of their EPIOC also appeared to be a vitally important element of achieving an integrated self/EPIOC.
Gudgeon 2015	The children demonstrated the active element of the experience by describing how they personally learnt to control the EPIOC as Farrah explained: You've got to do it yourself. . . it's like you've got to let them get used to it [pause] cos as soon as you're used to it it's fine but [pause] it's just like otherwise you're just either zooming forward and then you can't stop it [pause] but you can't really write down how to

Studie/Study	**Citat/Quote**
	do it because [pause] you've just gotta [pause] It depends on yourself.
Gudgeon 2015	The children were not only involved in an active process of integrating self and the EPIOC they also had to actively work to manage this new integrated self within the physical and social environments in which they found themselves. Negotiating the physical environment was a particularly important part of the children's experiences.
Gudgeon 2015	It appeared that the experience of achieving an adequate fit between the integrated self/EPIOC and environment was continual and decisions were made based on how they perceived the integrated self/EPIOC best fitted the available space. Matthew explained how: It depends, say err if it's like a test and there's a massive space I'll probably go in it [stay in the EPIOC] but usually like there's big classrooms and small classrooms but say it's a small one I'll just maybe like drive into the doorway and leave it there.
Gudgeon 2015	Many of the children's accounts revealed that they felt safe and secure in environments where they were able to manage the EPIOC well. This was frequently in buildings such as schools, colleges or large shopping centres which were characterised as being adapted buildings with relatively large open spaces inhabited by supportive others.
Gudgeon 2015	However, in other environments the children had very different experiences to the extent that some children appeared to find themselves facing a transformed physical world where features previously accessible to them were now problematic as Matthew described: cos there's like buses that come up ere [. . .] like they've got a bar on them and they're right in the middle of the door so you can get on them, like you can get on them with a manual chair, but you can't get on them in an electric one cos its a lot, a lot wider.
Gudgeon 2015	The difficulties which arose were not simply barriers in the physical environment but problems of fit between the individual child, the EPIOC and the environment. For example, for some children kerbs were barriers but for others they were not seen as being problematic and characteristics such as gender or age did not appear to influence these perceptions.

Studie/Study	**Citat/Quote**
Gudgeon 2015	Actively achieving an adequate fit between the integrated self/ EPIOC and the environment involved careful planning of the routes they could take which also needed to take account of the battery range, which is limited by speed and distance travelled, as Matthew explained: You gotta judge it, you know what I mean like go, what speed I've gotta go but like I gotta think of the time as well
Gudgeon 2015	A common strategy employed by the young people to obtain a good fit was one of avoidance of using the EPIOC in certain environments as explained by Farrah: I don't choose to go in it when I go outside like on kerbs and stuff in case of it skidding
Gudgeon 2015	The children's accounts revealed how they found managing the fit between the self/EPIOC and other people within the environment especially difficult to manage. Indeed other people could act as barriers, Liam described how one train conductor repeatedly refused to allow him to board a train in his EPIOC and Rocky explained how another child had caused a crash: Sometimes people touch it cos there was somebody called Oscar and he drove my chair . . . once he made me go head first into the wall, head forwards
Gudgeon 2015	While several of the children explained how they actively tried to avoid other people they were frequently unable to do so which Farrah highlighted: I know I was trying to be careful but it just, I just every time I ran over their foot they'd say 'Be careful!' I tried to but I really didn't think anything of it because they said it to me that many times I already knew.
Gudgeon 2015	These experiences were distressing with some children describing incidents where they felt that people had tried to deliberately harm them despite their attempts to safely negotiate the environment by following social rules such as using pedestrian crossings. David described his experience: I was trying to cross at the lights once and someone tried to run me over.
Gudgeon 2015	Conversely others could be supportive and this was particularly true of family, friends and teachers who encouraged the children, opened doors, accompanied and assisted them in negotiating roads and transport. Some children did describe going out completely alone at

Studie/Study	**Citat/Quote**
	times but many required continual support from adults or peers.
Gudgeon 2015	Experiencing positive consequences of being an EPIOC user
Gudgeon 2015	For many of the children the most important consequence of them achieving a good fit between themselves, their EPIOC and their environment was improved social participation. The children used their chairs in everyday life at school, to go shopping, to go out with friends and to take part in games and sports. Optimus described how he participated in games of tag with friends: I stop and then I reverse back so they go forward and then, so I can go behind then and, errm, cheat.
Gudgeon 2015	Hector described how the EPIOC itself became the focus of pleasurable experiences with others, such as an occasion when one of his teaching assistants ' 'hitched" a ride on the back. Farrah recalled stories of how she and a friend had enjoyed races in their EPIOCs. Several of the children recounted stories of enjoying occasions when other members of the family had tried their EPIOC and discovered the difficulties in controlling it. This gave the children a feeling of superiority enhancing their self-esteem.
Gudgeon 2015	One recurrent phrase the children used was "keeping up". Although they meant this literally, it was also evident that using an EPIOC enabled a psychological "keeping up" by allowing them to participate more fully in their social group which was valued. Related to this was a gain in independence. For Matthew a gain in independence was highly valued as it meant he was able to be with his peers rather than adults: if I wanna go like town with my mates Mam can just go and sit and have a cuppa somewhere [. . .] and I can wander off for like half an hour or so
Gudgeon 2015	Even small gains in independence were valued as Farrah described: I can get like paper and stuff from like the tables and get pencils and I can (pause) I don't know how to put it, it's like I don't have to like wait for them and I can get there at my own speed
Gudgeon 2015	The children also perceived that these gains in independence were beneficial in reducing the need for others to help them. In fact Farrah indicated that this was her main reason for

Studie/Study	Citat/Quote
	using her EPIOC: It's a lot easier for other people, that when I'm at college that I stay in my electric chair so I can like go places.
Gudgeon 2015	Enjoying movement for its own sake was also important, particularly for some of the boys who both described and demonstrated their enjoyment of the sensation of movement and speed. Glen was typical in constantly moving around when in his chair and saying he would recommend an EPIOC to a friend as: They would like the speed . . .[and] moving it around
Gudgeon 2015	Experiencing negative consequences of being an EPIOC user
Gudgeon 2015	When children perceived there was an unsatisfactory fit between them, the EPIOC and the environment they all described experiencing negative consequences. While an EPIOC could enable participation it could conversely block participation, limit choices and cause separation. Farrah explained how her EPIOC's size made it difficult for her to join a queue in a cafeteria so her friend would order and collect the food for her instead: it's because I'd just be, I'd just take ages and plus because I'm in my wheelchair it's like bigger and then people have to squeeze past me and stuff [pause] so it's just easier if my friend does it for me and so and people can still get past
Gudgeon 2015	The lack of fit between the EPIOC and the physical environment also limited their spatial choices with the result that some children lived in a fairly narrow geographical space. Whilst having an EPIOC enabled Matthew to participate in shopping with his mother, his choice of shops was limited as he explained: We had to go like Debenhams nearly every day [during the holidays] cos that was like the only spot where you could get in
Gudgeon 2015	These limitations were exacerbated by poor access to transport which the children felt unable to actively overcome. Even transport designed to accommodate wheelchairs could be inadequate and two of the boys described having their options of attending after-school clubs limited by the inflexibility of suitable transport which they felt was out of their control.
Gudgeon 2015	For many of the children a significant consequence of a poor fit between themselves, the EPIOC and the environment was the

Studie/Study	**Citat/Quote**
	potential of physical harm. Some described injuring themselves and damaging the environment (for example, hitting a doorframe or wall while negotiating a confined space). Others described more serious harm. In this extract, Optimus explains harm was caused due to a problem in the integration of the self and EPIOC: Erm I crushed Oliver and Elliot at school once because my arm got stuck and then I flied forward into them.
Gudgeon 2015	Some children described experiencing fear and anxiety when attempting to negotiate physical obstacles which Rosie demonstrates here in her description of getting into the car: then dad presses this button and it winches me up, and it is so, it can be very scary.
Gudgeon 2015	he fear was so great for Farrah that she was only able to use her EPIOC outside when she had the support of friends to help her: I just said 'I'm not doing this on me own' because if it skids I'm gonna be really scared
Gudgeon 2015	The actions of other people could also lead to feelings of anger and frustration due to their inconsiderate or deliberate actions: Matthew: 'you feel quite frustrated you're just sitting there and next minute this person walks right in front of you [. like 'Did you not see me sat there?' you know what I mean, it's frustrating'
Gudgeon 2015	Liam was particularly frustrated and upset at the time of the interview as he had been unable to go on the bus to swimming with his classmates as his EPIOC could not be transported and he described the whole experience as "crap". This was a young person with a deteriorating condition and for him it appeared that his EPIOC had become a symbol of his disability.
Hughes 2019	"... wheelchair as an aid to better QoL and pain management.
Hughes 2019	it enabled independence and mobility that distracted her from pain.
Hughes 2019	wheelchair as a force that repelled others, causing her further pain
Hughes 2019	The wheelchair in these instances was viewed a barrier to a good QoL by denying independence,
Hughes 2019	Complaints regarding wheelchairs included problems navigating home environments, sleeping in separate rooms from partners and difficulties with basic personal care. These were

Studie/Study	**Citat/Quote**
	all a source of frustration, pain and sometimes embarrassment
Hughes 2019	The participants saw the use of wheelchairs as contributing to the experience of their pain as much as its management
Krants 2017	"somewhere in the city there is always a hindrance"
Krants 2017	"At home I never think of it"
Krants 2017	The environment affects the experience as a reminder of differentness.
Krants 2017	a will to not live their lives based on lacking accessibility.
Krants 2017	the environment renders certain activities less prioritised due to an excluding construction.
Krants 2017	using one's energy in activities perceived as more important.
Krants 2017	a fight in order to learn to do anything
Krants 2017	a process of learning not to care; even though you, deep down, recognise that you do
Krants 2017	find a spouse
Krants 2017	"it is difficult to compete fully" (om att träffa partner)
Krants 2017	"everyone looks at you, like 'nice to have people like you here'. . . " (tex i en bar)
Krants 2017	"everything takes more energy" (om att åldras)
Krants 2017	Getting older implies a need of preserving one's energy
Krants 2017	The electric wheelchair implied passivity and a physical capitulation,
Krants 2017	a process of choosing one's battles
Krants 2017	An electric wheelchair can be a rational choice
Krants 2017	choice between a manual and an electric wheelchair can be based on physical and social factors
Krants 2017	Personal attitudes towards electric wheelchairs can also be quite emotional
Krants 2017	the assistive device a mere means of the activity.
Krants 2017	wheelchair power" is used in the dual sense of both personal agency and being one's own source of power
Krants 2017	I need to preserve my shoulders and arms for the rest of my life" (
Krants 2017	dissonance emerges between the user's agency and the ability ascribed by normates, in turn increasing stigmatisation.
Krants 2017	to be offered assistance in just about any situation or activity.
Krants 2017	"say 'thanks, but no thanks'"

Studie/Study	**Citat/Quote**
Krants 2017	To answer even quite unnecessary questions with a polite smile is expressed as an obligation
Krants 2017	being a representative of other persons using wheelchairs.
Krants 2017	"Every question is a reminder of me being in a wheelchair, being different"
Krants 2017	"I just say that if there is something I actually need a hand with I will tell you"
Krants 2017	role of a teacher
Krants 2017	" I think of those questions like almost. . . lack of respect"
Krants 2017	others making attempts to anticipate obstacles
Krants 2017	"over-attentiveness" and occurs when someone perceives a disabling attribute as significantly more hindering than is actually the case
Krants 2017	'everybody is staring at us'
Krants 2017	, staring may be an obvious reaction among normates
Krants 2017	. The person in the wheelchair could "take command"
Krants 2017	clarifying that there is no need for special treatment
Mandy 2011	all the users and the carer identified that the NUW afforded greater independence
Mandy 2011	freedom from haviong to wait för someone to propel them
Mandy 2011	" I am abel to take myself to the bathroom when I need"
Mandy 2011	"freedom"
Mandy 2011	ease of use and manouverability
Mandy 2011	"a great improvement over standard wheelchairs"
Mandy 2011	"it is easy and intuitive to drive"
Mandy 2011	users had underestimated the usefulness and value of the NUW
Mandy 2011	NUW resulted in changes in their daily routines
Mandy 2011	"could take himself to the diningroom and not be exhausted"
Mandy 2011	" I can take part in after lunch activities"
Mandy 2011	All agreed they had been more active and enjoyed using the NUW because of its ease of use
Mattie 2020	Functional benefits were primarily related to three main areas: reach, positioning and transfers.
Mattie 2020	on-the-fly adjustments extended their reach, allowing them to independently access high locations that would otherwise be out of range

Studie/Study	**Citat/Quote**
Mattie 2020	putting the wheelchair into dump (i.e., posterior tilt, with the rear of the seat lower than the front) facilitated picking things up from the ground
Mattie 2020	adjustment features provided participants with the flexibility to vary their seated position and wheeling posture
Mattie 2020	the posterior tilt position put them in a more "powerful" wheeling position and positively impacted feelings of safety and stability.
Mattie 2020	backrest adjustments to facilitate wheeling on hills
Mattie 2020	adjustments facilitated transfers to and from the wheelchair
Mattie 2020	height adjustment feature to facilitate transfers into a vehicle.
Mattie 2020	some noted that they preferred the seat to be in neutral (or a little dump) in order to transfer back into the wheelchair.
Mattie 2020	a couple of times he needed assistance to lower the seat height prior to transferring back in
Mattie 2020	The functional benefits of reach, positioning and transfers positively impacted how users participated in a range of activities both at home and in the community
Mattie 2020	being able to adjust her seat height gave her flexibility when doing errands,
Mattie 2020	impact of on-the-fly adjustments for a range of leisure activities
Mattie 2020	back rest adjustments allowed them to position themselves to play music (e.g., to hold a guitar
Mattie 2020	benefits for sport and fitness activities
Mattie 2020	using the adjustment features to position themselves in more powerful/ accurate sporting positions for activities
Mattie 2020	Benefits of on-the-fly adjustments were also noted in the work place
Mattie 2020	adjustments to position themselves at different table heights
Mattie 2020	the extra reach gave them greater access to things in the office
Mattie 2020	comfort, convenience and usability
Mattie 2020	varied their seating position to optimize comfort according to their unique needs and/or different situations
Mattie 2020	they did not need to remain "stuck" in one position.
Mattie 2020	appreciating both the flexibility to change positions for different activities, and the

Studie/Study	**Citat/Quote**
	convenience of being able to quickly and easily make these adjustments whenever they wanted
Mattie 2020	many talked about reclining their backrests (e.g., to make it "feel like a lounged
Mattie 2020	described the importance of even small adjustments
Mattie 2020	sometimes felt unstable in the fully elevated position
Mattie 2020	the MWSUA's adjustment features were easy to use
Mattie 2020	"quick to learn" and "instinctual."
Mattie 2020	When discussing the frequency of making adjustments and the positions they used, participant comments were varied
Mattie 2020	"it became a habit'
Mattie 2020	Participants discussed a number of perceived benefits to physical health.
Mattie 2020	positive impact on skin integrity, attributed not only to their ability to change position, but also to the reduction of perspiration
Mattie 2020	perceived benefits related to managing spasms and tone.
Mattie 2020	"It gave me flexibility and comfort to change my positions and help manage my spasms"
Mattie 2020	"Just having that little bit of adjustment to play with made a big difference. I didn't go to bed in pain every night"
Mattie 2020	Other perceived benefits included improving posture, and counter-acting mobility loss due to aging
Mattie 2020	Benefits to psychosocial well-being
Mattie 2020	the advantages of being closer to eye level for conversations.
Mattie 2020	the positive impact MWSUA had on communication
Mattie 2020	reduced neck strain and also allowed them to project and hear better
Pettersson 2014	Even though the participants used different types ofPMDs they had many experiences in common
Pettersson 2014	having a PMD was described as something very beneficial
Pettersson 2014	the participants struggled for independence and tried to overcome accessibility problems.
Pettersson 2014	described their use of the PMD as a complex matter that involved their everyday occupations, themselves as a person, and the context where the occupation took place.

Studie/Study	**Citat/Quote**
Pettersson 2014	struggling to include the PMD as part of everyday occupations
Pettersson 2014	struggling to operate the PMD
Pettersson 2014	participants discussed the transition from using a manual wheelchair to becoming an independent PMD user in everyday occupations
Pettersson 2014	described how relations to other people sometimes were difficult, and how they also struggled to operate their device.
Pettersson 2014	The men who used PWS discussed how at first they did not want to have PWs and leave their manual wheelchairs, since they saw it as a sign of failure and of decline
Pettersson 2014	Their own reflections were that they had been stubborn and had wanted to manage everyday occupations without a PW, and how they had struggled before they had come to realize that they should have had it earlier.
Pettersson 2014	The women who used PWS did not mention that they should have had the PW earlier, but described how they struggled with getting used to using it among other people.
Pettersson 2014	They felt they were being stared at when they drove their PW for the first time, and they had to force themselves to go outside using the PW
Pettersson 2014	Now, they said their PW had become a part of them in managing their everyday occupations.
Pettersson 2014	The PW users of both genders expressed how they wished that the occupational therapist had facilitated the process of accepting the device, for example by demonstrating the opportunities and advantages of using a PW.
Pettersson 2014	All participants explained that their use of a PMD gave them freedom that enabled them to be active and independent.
Pettersson 2014	All PS users discussed how they appreciated that they could get out, getting fresh air and having a look around.
Pettersson 2014	PW users of both genders described that from the time they received their PWS they were no longer in need of home care or relatives, and were now able to engage in everyday occupations independently.
Pettersson 2014	Using a PW was expressed as a prerequisite for being able to manage everyday occupations
Pettersson 2014	Receiving help from other people was also discussed across all focus groups and, in general, people are kind and help when they are asked to

Studie/Study	**Citat/Quote**
Pettersson 2014	the women did not like it when people offered help when it was not needed.
Pettersson 2014	participants experienced that other people did not speak directly to them, but instead turned to the person who accompanied them, who was not a PMD user This was particularly emphasized among the women who had only used their PS for a short period
Pettersson 2014	participants described how they struggled to handle different parts and functions of their PMDs.
Pettersson 2014	They expressed that they often thought about how far they could drive
Pettersson 2014	The women who used PSS stressed that they got nervous of staring at the meter whereas, in contrast, the women who used PWS expressed the importance of having a meter.
Pettersson 2014	Another issue that was discussed in relation to operating the PMD was safety issues
Pettersson 2014	The men who used PWS said that they were aware of the importance of using turn signals and lights on the PWs, but they did not always use them
Pettersson 2014	They found it too complicated, since they had to handle several functions at the same time, and with the same hand
Pettersson 2014	The importance of being aware of risks and problems when driving PWs among others was also emphasized.
Pettersson 2014	The men who used PSS described how they altered their driving depending on the circumstances in the environment, for example by changing their speed.
Pettersson 2014	The women who used PSS described that they were aware of the risk of having the PS stolen, and therefore they never left them, for example outside a shop
Pettersson 2014	The women who used PWS also described their strategies for operating their PWs, and gave examples of how they avoided crowds and had bought reflective vests and flags to ensure that they were visible in traffic.
Pettersson 2014	having appropriate provision and service delivery of PMDs is a necessity
Pettersson 2014	having appropriate housing adaptation to facilitate PMD use is crucial
Pettersson 2014	participants discussed the provision process and their different needs in relation to when the PMD was provided

Studie/Study	**Citat/Quote**
Pettersson 2014	shared experiences in relation to the possibility of receiving housing adaptations that corresponded to using a PMD according to individual needs.
Pettersson 2014	focus groups discussed the PMD service delivery process (acquisition, training, and maintenance of the device received), and the importance of receiving the correct type of PMD in relation to their individual needs.
Pettersson 2014	The participants discussed difficulties with driving during cold as well as rainy weather, and as a consequence they used their devices less during the winter.
Pettersson 2014	The women who used PWS emphasized the need to have more than one PW to manage everyday occupations.
Pettersson 2014	they said they needed one PW for outdoor use, and one smaller device indoors to manage kitchen occupations, but since they were only allowed one device they had choose to prioritize a PW for outdoor use
Pettersson 2014	Some of the women had managed to receive two devices, whereas others said their struggle to have the occupational therapist understand their needs had been unsuccessful.
Pettersson 2014	Among the PS users, the discussions were focused on the type of PS models that were available for acquisition, and how it sometimes was difficult to get the appropriate type of PS, for example a device that could manage rough terrain in the forest or at the seaside.
Pettersson 2014	Another issue mentioned was the specified driving time demand of 20 hours per year
Pettersson 2014	discussed among the two focus groups with women, where users of PWS and PSS had different opinions
Pettersson 2014	PS users found it stressful to achieve the required driving time, whereas the PW users felt that this was not a problem at all
Pettersson 2014	if you do not need a PW, you do not ask for one, and if you really need a PW, then you use it
Pettersson 2014	discussed the training in PMD driving that they received in the service delivery process, especially the men who used PSS
Pettersson 2014	shared the feeling that they sometimes lacked enough training when they received their PSS, whereas this was not discussed at all among the women

Studie/Study	Citat/Quote
Pettersson 2014	Another aspect discussed among all the PW users was repairs
Pettersson 2014	they were satisfied with the repairs they received but also concerned since repairs were not available during weekends.
Pettersson 2014	they were completely dependent on their PWs, they were worried they would not be able to manage their everyday life if no repair services were available.
Pettersson 2014	Having the appropriate housing adaptation to facilitate PMD use is crucial
Pettersson 2014	discussed the possibility ofreceiving housing adaptations that would facilitate PMD use
Pettersson 2014	Among the PW users, some participants had positive experiences, while others were more negative
Pettersson 2014	PW users discussed how they had received housing adaptations mainly indoors in their dwellings, and that housing adaptations are pivotal
Pettersson 2014	The women who used PWs emphasized that the possibility of getting a housing adaptation differs depending on which municipality you live in, which they argued was not acceptable.
Pettersson 2014	the PS users discussed housing adaptations outdoors
Pettersson 2014	The men stressed that they should not have the responsibility to arrange for storage, and argued that a housing adaptation, paid for by the municipality, should be a prerequisite when a PS is provided.
Pettersson 2014	The women who used PSS expressed how housing adaptations for storage had taken a long time to process, and consequently they had to wait to receive their devices.
Pettersson 2014	They discussed how occupational therapists and administrators in the municipalities have a shared responsibility for housing adaptations, but they did not collaborate very efficiently.
Pettersson 2014	this process and the collaboration between the different people involved must be improved
Pettersson 2014	P 11: "the Region [the authorities responsible for PS acquisition] kept on asking [me] all the time [about how the housing adaptation was proceeding] but I just wanted them to contact the municipality.. .. Unfortunately the same thing happened with the housing adaptation, it took such a long time, so finally we did it by ourselves but it is you have the right to have [a

Studie/Study	Citat/Quote
	housing adaptation] but it [the decision process of housing adaptation] does not work
Pettersson 2014	'There should have been collaboration between the municipality [and the Region] then it would have been easy".
Pettersson 2014	P I l: "it would have been the same [authorities] who [were responsible for] both [the PS acquisition and the housing adaptation] ". P 10: "Yes, the PS and the storage". (Focus group: women PSS)
Pettersson 2014	experiencing insufficient accessibility in public environments
Pettersson 2014	experiencing insufficient accessibility when transporting and travelling with the PMD
Pettersson 2014	participants discussed accessibility problems related to the PMDs, and current policies and standards for accessibility in society
Pettersson 2014	described challenges in relation to travelling with the PMD as well as transporting the device, e.g. driving the PMD.
Pettersson 2014	, the participants experienced accessibility problems in public buildings such as libraries and shops.
Pettersson 2014	men who used PW complained that the toilets in public buildings were constructed for manual wheelchair users, and not accessible for those using PWs.
Pettersson 2014	women expressed that they felt excluded since they do not have access to public environments.
Pettersson 2014	exclusion, expressed among PW users of both genders, was that they sometimes could not access their friends' dwellings due to stairs and lack of accessible toilets, and as a consequence they found it difficult to maintain their social network.
Pettersson 2014	gave examples of insufficient space for the PMD, for example, they described how lifts in public buildings were too narrow, and also had insufficient space outside.
Pettersson 2014	men also claimed that most of the accessible parking spaces often have sufficient space for manual wheelchairs but not for PMDs.
Pettersson 2014	that shopping centres and newly built shops were accessible for PMDs, while the women who used PSS expressed how they felt limited to boring shopping centres, arguing that all buildings should be accessible to PMD users.
Pettersson 2014	the participants emphasized the importance for occupational therapists, municipality

Studie/Study	Citat/Quote
	administrators, politicians and the general public to gain knowledge about accessibility, not only in relation to manual wheelchairs but also in relation to PMDs.
Pettersson 2014	that was described was how ramps installed at shops were not always accessible for PW users:
Pettersson 2014	P 1: "a metal ramp that they put over the stairs and it feels extremely dangerous since you have to go straight up".
Pettersson 2014	"P 4: ""Sometimes they have those tracks, but it's impossible to drive the PW on them [the two parallel tracks] because they should have an entire metal ramp"".
Pettersson 2014	P 5: ""Yes, yes"".
Pettersson 2014	P 4: ""Then it's no problem""."
Pettersson 2014	P 2: "Well, parallel tracks, often they are very happy that they [shop-owners] have those tracks because they feel they have done something to help [facilitate accessibility] ". (Focus group: women pws)
Pettersson 2014	the men who used PWS elucidated how they had informed politicians, media, and others about their needs.
Pettersson 2014	who used PWS emphasized that occupational therapists and PW users have valuable knowledge about accessibility for PWs, and should be involved whenever new buildings are being planned, and to plan for accessibility in society at large
Pettersson 2014	if the different actors could work together, accessibility in public buildings and in society at large could be improved.
Pettersson 2014	P 9: "The occupational therapists that have knowledge should be contacted when toilets are being built since now they use the standard for new toilets, but it's not enough for us".
Pettersson 2014	P 7: "There [at the local swimming pool] are toilets but there are no accessible toilets so now that they are rebuilding it [accessible toilets] . I went to the municipality and told them not to forget that PW users need space to turn round. We need to have changes [in accessibility], but it comes about as a result of discussion in society and so on.. ."
Pettersson 2014	P 9: "Even today they build toilets according to a certain standard that does not work [for a PW] so I told the occupational therapist and then the politicians how an accessible toilet should be [suitable for a PW]". (Focus group: men PWs)

Studie/Study	**Citat/Quote**
Pettersson 2014	the participants described difficulties when travelling with their PMD.
Pettersson 2014	they often needed assistance when they boarded or exited a bus or train with their PMD, since they had to drive the PMD onto a ramp.
Pettersson 2014	Sometimes a ramp was lacking, and occasionally the station platform was lower than the train, which made it difficult to board the train independently with the PMD.
Pettersson 2014	women who used PSS also described difficulties when using the STS, and that they needed more information to be able to use the STS with the PS.
Pettersson 2014	men who used PMDs considered being able to transport their devices by car to be important.
Pettersson 2014	. Some had received a car modification, while others managed to transport their PMDs by means of ramps and a trailer to the car.
Pettersson 2014	they sometimes did not manage to take the PMD in the car, for example when they went shopping with their wives, and therefore they often had to wait in the car
Pettersson 2014	men using PWs said that it was sometimes easier to use their device to drive directly to the desired destination instead of taking it in the car, because it caused too many strenuous transfers.
Pettersson 2014	participants discussed difficulties when they wanted to take their PMDs while travelling to new places and other countries
Pettersson 2014	men who used PSS discussed how they tried to use their device at places other than those they already knew, and turned back if they encountered accessibility problems
Pettersson 2014	men who used PWS were more careful and checked the accessibility beforehand
Pettersson 2014	women described how they did not dare to take the risk of not being able to use their device when arriving at a new place.
Rice 2018	The time of day that the fall occurred emerged as a factor contributing to a fall
Rice 2018	Although the majority of falls occures during day, falls at night seemed to center around toilieting
Rice 2018	The Most frequently reported location was the street/sidewalk.
Rice 2018	Falls occurring in the bathroom were also commonly reported
Rice 2018	Multiple fall attributions were decribed single fall description. Fall attributions had both

Studie/Study	Citat/Quote
	intrinsic and extrinsic factors which attributes to fall
Rice 2018	The influence of the environment and disability-related impairments was also commonly associated with falls occurring while driving the power wheelchair
Rice 2018	Participants also frequently reported that falls occurred during transfers. Several of the fall attributions associated with transfers involved environmental factors (extrinsic fall attributions), such as wet floors.
Rice 2018	Finally, falls during ambulation were noted. Inaccessible environments (fall attribution) were cited as reasons why ambulation was necessar
Rice 2018	The influence of disability-related impairments, such as limited vision or spasticity, and environmental factors, such as a steep ramp or cracks in the sidewalk, emerged as an important factor
Rice 2018	the were worried of concerned that they might fall
Rice 2018	the stopped doing some things they used like to do
Rice 2018	participants reported they developed fear of falling
Rice 2021	Related to positive impressions, participants found anterior tilt to help them reach further, have additional options to change position, improve functional mobility, and felt that anterior tilt helped to increase the use of their seat functions.
Rice 2021	Related to negative impressions of anterior tilt, participants who did not use a chest strap on their own chair reported that they felt the safety equipment was restrictive.
Rice 2021	Participants reported that to get the most out of the functionality of anterior tilt, an accessible environment was needed in which a wheelchair could get under surfaces, such as sinks or counters.
Rice 2021	Participants reported that anterior tilt was beneficial in many different settings: community, work/school and their own home. In the community, participants found anterior tilt helpful when retrieving items from shelves and accessing elevators.
Rice 2021	Regarding specific challenges participants faced when using anterior tilt, the restriction of

Studie/Study	Citat/Quote
	movement was noted, along with difficulties manipulating the safety equipment.
Rice 2021	Regarding the comfort of the chair with anterior tilt, many participants reported that there was no influence on their comfort level. However, the benefit of having another position to perform a pressure relief was noted
Rice 2021	Discomfort was also noted, primary related to the use of the knee blocks
Rice 2021	Participants were asked if they would request anterior tilt on their next chair. Four participants reported that they definitely would request anterior tilt on their next chair, four reported they would not request anterior tilt, one participant was unsure and one participant did not provide a response.
Rice 2021	Participants primarily focused on improvements needed to the safety equipment. Participants felt that it was necessary to make the knee blocks more compact. In addition, participants reported that the knee blocks needed to be easier to manipulate and changes should be made to prevent the knee blocks from rubbing during movement.
Rice 2021	Participants also reported a need to change positions faster and have additional arm support to facilitate forward reaching.
Rushton 2017	Seven of the ten participants believed that the IPW would facilitate participation in activities outside of the LTC facility such as shopping, visiting friends and family, and banking.
Rushton 2017	For five of the ten participants, use of an IPW would enable engagement in activities that they are not able to do in their current wheelchair.
Rushton 2017	the participants would continue to engage in the same activities using an IPW but would be able to do so more easily, frequently and independently
Rushton 2017	collision avoidance assistance offered by all three driving modes was considered by all participants to be instrumental in facilitating participation in activities
Rushton 2017	participants reported that the IPW would be beneficial in navigating specific static (e.g., entering/exiting an elevator, parking at a dining room table, ramps) and dynamic (e.g., other wheelchair users and staff in the LTC facility and people on sidewalks and in stores) environmental challenges.

Studie/Study	Citat/Quote
Rushton 2017	automatic driving mode was also felt to be advantageous in relation to participation in activities, in particular for those residents who have difficulty remembering/finding their way around the facility.
Rushton 2017	"Some residents can't even find their own rooms, especially at night". According to this participant, an IPW would be of assistance.
Rushton 2017	John spoke about using the features at various times, such as at the end of the day or at the end of an activity when fatigued or, alternatively, to get to an activity in order to save energy for the activity itself.
Rushton 2017	John when he said, " ... I would be assured that I can come back by myself [with an IPW] because sometimes it's not easy to get someone to help you get back to the room with a manual wheelchair".
Rushton 2017	Nine of the ten participants described how the collision avoidance assistance of the three IPW modes would improve safety.
Rushton 2017	Steve stated, "It [use of the IPW] would be great. I wouldn't hit things. I wouldn't be hit. I could go places and do things".
Rushton 2017	Betty captured the improved safety for staff when she said, "I wouldn't be endangering them anymore".
Rushton 2017	John expressed how being able to move quickly is one of his biggest challenges and, thus, an IPW would be essential in avoiding collisions when he said, "I wouldn't have to worry so much about hitting any objects ... sometimes things appear in short notice".
Rushton 2017	The IPW would also be good for avoiding collisions in crowds as illustrated by Freda when she said, " it [the IPW] would help with the traffic jams in the hallways and especially in the dining room! You know, at mealtimes ... I have to just wait and you have to look really hard to see an opening to get in so that you're not going to bump into other people ... "
Rushton 2017	The collision avoidance was also considered to be important in improving safety outside of the LTC facility such as on busy sidewalks and stores.
Rushton 2017	All but one participant described positive feelings associated with the use of the IPW and its potential impact on their day-to-day lives.
Rushton 2017	Jack, whose responses indicated an indifference to the IPW use, was very independent and

Studie/Study	**Citat/Quote**
	content with his functional ability in his current power wheelchair.
Rushton 2017	positive feelings from the other participants included happiness, amazement, pride, confidence, power and decreased anxiety.
Rushton 2017	Freda said, "I think it would make you a lot happier to have the extra freedom
Rushton 2017	I was just a little amazed at myself that I could do that ... I've never driven, tried to drive anything ... "
Rushton 2017	John articulated, "I feel proud in the wheelchair [IPW], to move alone without needing anything . I was showing off to the people around me"
Rushton 2017	"It [IPW] would allow me to go anywhere with a lot of confidence"
Rushton 2017	Betty conveyed, "I would feel powerful being seen in the IPW".
Rushton 2017	Linda expressed, "When it [the IPW] was driving for me, that was a chance to relax it made my anxiety go away "
Rushton 2017	the majority of participants felt positively toward the IPW.
Rushton 2017	Participants varied regarding the extent to which they felt the IPW would impact others.
Rushton 2017	Three participants commented that they felt that the IPW would not impact others at all
Rushton 2017	five others described how it would decrease required assistance, worry and frustration
Rushton 2017	terms of decreased assistance provision, three participants commented that the staff in their LTC facility were very busy and that use of an IPW would be helpful in that staff would no longer need to assist them with getting to and from their activities and destinations such as art class, the pool and the cafeteria
Rushton 2017	Florence described how if she were to use an IPW her family and friends would worry less when she said, "I think they [participant's family] would be happy that I have it [the IPW] ... they wouldn't worry about me ... they worry about me now
Rushton 2017	Linda discussed how people become impatient and annoyed when they have to wait for a power wheelchair user to move around when she commented, "They would get all upset ... when there's nothing to be upset about ... there are some people that are extremely impatient". She felt that these situations could be eliminated with use of an IPW.

Studie/Study	**Citat/Quote**
Rushton 2017	Participants also voiced concerns related to using the IPW in LTC facilities, although less so relative to the positive discussions described above. These concerns were of both a technological and personal nature.
Rushton 2017	Although all participants could see the benefit of the collision avoidance feature, concerns regarding drawbacks were also voiced
Rushton 2017	Steve felt that this feature would not be of benefit in all situations. In particular, he explained that the use of collision avoidance in crowded, busy areas of the LTC facility, such as the dining room, would be problematic because it [the IPW] stopped everywhere ... it would be a rat race ... oh, it would be terrible, we're all going somewhere, and you wanna get there, and we wouldn't get to go!"
Rushton 2017	Harold voiced his angst about the IPW not allowing the user to get close enough to objects to perform functional tasks, such as eating at a table, when he stated, "What if I wanted to put something on the table?" and "If I wanted to get close to something, maybe the wheelchair would stop me".
Rushton 2017	Susan expressed her concern over the use of the automatic driving mode outside of the LTC facility when she said, . too dangerous, it should be used in the building".
Rushton 2017	Linda was concerned about the IPW malfunctioning,
Rushton 2017	three participants expressed the importance of the user having the opportunity to choose and override modes as desired.
Rushton 2017	there were a variety of concerns related to the IPW controlling the user's mobility
Rushton 2017	Three participants did not feel comfortable with giving up control,
Rushton 2017	by Steve who said, "I wanted to be in charge"
Rushton 2017	Rose who stated, "I like steering on my own".
Rushton 2017	Harold was concerned about the IPW reacting to the environment unexpectedly or in a way that may be incongruent with how he might respond as indicated by these comments, "It [the IPW] may do more than I'd expect it to . . it might come as a surprise ... the wheelchair would be more cautious than I would be, or would need to be ".
Rushton 2017	Harold also expressed feelings of inferiority related to the intelligence of the wheelchair in comparison to his own impaired cognition, as

Studie/Study	Citat/Quote
	indicated in this statement, "In some respects, you would think that the wheelchair is smarter than I am".
Rushton 2017	two participants did not want to be reminded of their own personal deficits in relation to the IPW's intelligence and control,
Rushton 2017	Freda, "I know that it's slowing down and I know I'm turning . I don't have to have it tell me I'm doing that. I don't like that. I don't want to be told by this voice that I almost hit somebody".
Rushton 2017	Freda was also concerned that the IPW would be an "attention grabber" and that it would make her feel self-conscious,
Titus 2018	when asked to describe how power tilt was used in daily life in their own life or in the lives of their clients, participants' descriptions revolved around reasons for tilt use
Titus 2018	I find if I tilt back too long, I start slouching so I'll consciously tilt more vertically so I am sitting up straighter because I value good posture" (PI);
Titus 2018	Just plain comfort. Just being uncomfortable so you change to be more comfortable" (P2);
Titus 2018	"Oh the other way I use tilt is, I wash my hair in the sink so I'll tilt all the way back to the sink" (hair was washed by the caregiver) (PI).
Titus 2018	When I'm getting out of bed, it has to be a certain, it can't have tilt to put me in the chair but when they [caregivers] set me back into the chair it has to have a large amount of tilt so my butt slides all the way back into the chair (P3).
Titus 2018	The participant described instructing caregivers to use tilt to ensure she was properly positioned on the seat as part of the morning transfer;
Titus 2018	Participant descriptions were of pain contributing to feelings of discomfort but no descriptions were found indicating that discomfort caused pain
Titus 2018	"I wasn't comfortable so I put it [tilt] back and re-positioned myself" (P5).
Titus 2018	. "I try to tilt back a bit so I don't slide out" (P5).
Titus 2018	So you don't use it (tilt) necessarily for pressure per se? (researcher). No I don't think so because the way I am sitting now doesn't seem like it's a lot of tilt. But without the tilt I would be uncomfortable so it's not like I need (participant paused) I think I'm talking out both sides of my mouth. No, I do use it so my butt isn't sore (from pressure). I didn't realize (P3).

Studie/Study	Citat/Quote
Titus 2018	. "And I think it takes a bit of pressure off of the back. Like when I'm sitting straight I have different strain on my back then I do when I go into tilt; it takes the strain away" (P5)
Titus 2018	"I put pressure on my elbows, and I need, if I have too much, if my elbow is bothering me, if I put tilt on, it takes a bit away of the stress on my elbow" (P3).
Titus 2018	The amount of tilt depends a lot on the activity, that way I can say normally I am at this tilt but because I am doing this. Like tomorrow I am going to play scrabble and I know there will be times when in order to see the scrabble board correctly I have to be down a bit and then I'll go up to somewhere that's more comfortable (when it's not her turn) (P3).
Titus 2018	I have never had the concept of there is 10% tilt, 20% tilt. Not like I do the speed of my chair. I think about it because it has 4 speeds and it has the constant increase. It can go from turtle to rabbit, that's all adjustable on here, so I think about it that way. But tilt is just guided by comfort. I don't think things like how far back am I right now? Na, I think things like table tops and desks kind of limit me in how far I can go (P2).
Titus 2018	participants who used power tilt were asked to demonstrate a small, medium and large amount of tilt which were found to vary in comparison to actual amplitudes of tilt, particularly for large amplitudes. As indicated in Table 3, Participants 1 and 4 perceived large tilt were actually around 20 degrees whereas Participants 2, 3 and 5 perceived large tilt was actually greater than 40 degrees. Interestingly, regardless of these differences, there were similarities in the activities in which participants engaged when using large amplitudes of tilt, primarily resting, napping and being transferred into the wheelchair.