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Living on the margins of care: A scoping review of factors which influence wheelchair provision for older people in Irish nursing homes.

Authors: O’Gorman, E.

Background: The importance of appropriate wheelchair and seating provision cannot be underestimated (Gowran 2012). Older adults form the largest user group of wheeled mobility devices (Karmarkar et al 2012) and in nursing homes wheelchairs are often used as the primary means of mobility among residents (Mortenson et al 2012). According to Gavin-Dresechnack et al (2010) eighty percent of residents spend time sitting in a wheelchair every day. Despite this there appears to be no guidelines which influence wheelchair provision in this setting leading to poor use of wheelchairs.

Objectives: The aim of this scoping study is to inspect the extent, range and nature of evidence available and factors which influence wheelchair provision in nursing homes.

Methods: A methodological framework developed by Arksey & O’Malley (2002) for conducting a scoping study has been used to guide this research.

Results: Appropriate wheelchair selection is an important factor for resident’s quality of life and participation in meaningful occupation. Irish policies which outline standard of care and practice in nursing homes are significantly undeveloped.

Conclusion: This scoping study has found that systematic, organisational and interactional factors influence wheelchair provision in nursing homes. In Ireland, poor access to occupational therapy services for residents in these settings has potentially adverse effects on the implication of the provision of suitable wheelchairs services.
1. **INTRODUCTION**

“A wheelchair must be considered a highly user-specific device. Making wheelchairs in one "universal" extra-large size makes no more sense than making clothes in one extra-large size. People are of different sizes, and will therefore require different-sized wheelchairs.”

(United Nations Publication 1997).

The above statement sums up the practical reason behind individualised wheelchair prescription. However, it is not the simple analogy used that strikes me as a reader. It is that almost 17 years on from when this quote was written, it appears that policy in relation to provision and use of wheelchairs is deficient; particularly in the setting and population group I have chosen to examine. This has provided the researcher with many challenges and questions in order to understand the complexities involved in providing services for adequate wheelchair provision. The following research will aim to unravel the story and propose why such services remain undeveloped, including the factors which influence the provision of individualised wheelchairs in the Irish nursing homes.
2. LITERATURE REVIEW

2.(a). Wheelchair Policy and Provision

At any given point in our lives we may become disabled (WHO, 2011), and acquire an impairing condition. 15% of the world’s population is estimated to live with some form of disability which can be defined as an umbrella term for impairments, activity limitations and participation restrictions (WHO, 2012). In addition, any one of us could become a wheelchair user and it is imperative that a suitable wheelchair is seen as a requirement in the hierarchy of needs from basic survival to self-actualisation (Rousseau-Harrsion et al 2009). In this event an appropriate wheelchair is a basic human right (Gowran et al 2012).

The importance of appropriate wheelchair and seating provision cannot be underestimated (Gowran et al 2012), with the WHO defining an appropriate wheelchair as “a wheelchair that meets the user’s needs and environmental conditions; provides proper fit and postural supports; is safe and durable; and can be obtained and maintained and services sustained in that country...” (WHO 2008 p.11). Improper wheelchair or seating provision can be associated with detrimental physical effects and decreased social participation and occupational performance (Arthanat et al 2007; Constatine et al 2006). As a consequence, undervaluing wheelchair policy may have potentially devastating effects. According to the WHO (2013) there are over 70 million wheelchair users worldwide, yet only between 5 - 15% have access to such devices. In 2008, while the WHO established international guidelines for good practice for the provision of wheelchairs, it must be emphasised that wheelchair policy lies within the remit of individual governments.

Currently, for the 35,000 wheelchair users in Ireland (Census 2011) there is no national policy for wheelchair and seating provision, with a lack of uniformity within services (Gowran et al 2012). It is clear that policy in wheelchair and seating in essential, as evidence shows once barriers to inclusion are removed persons with disabilities are empowered to participate fully in societal life, resulting in their entire community benefiting (UN 2012).
2.(b). Population Group: Older People

In the year 2025 there will be 1.2 billion people over the age of 60, and in almost every country, the proportion of older people is growing faster than any other age group (WHO 2013). In Ireland, the CSO has projected the numbers aged 65 and over will increase to 926,000 in 2030 (Census 2011). With aging, the boundaries of health and disease become less defined, as the prevalence of neurologic and mental impairment increases (Aldwin et al 2004). In particular, motor function, gait, balance and memory are affected within this population (Timiras 2003). The likelihood of multiple chronic conditions increases with age, and older adults are an ‘at-risk’ population for neurological, cardiovascular, pulmonary and orthopaedic conditions.

According to Balanda et al (2010), although the population is living longer, chronic conditions have reduced the quality of the extra years which have been gained. There is now a significant increase in older people requiring formal care to meet their health needs in the future. Nursing homes are long-term care facilities for older adults, who require assistance in daily care (Nursing Home Ireland 2012). In the twenty-first century, nursing homes have grown exponentially. In Ireland, this has been associated with growing elderly population who are living longer, rapid economic development. Over the next ten years, it is likely that an additional 10,000 nursing home beds will be required to meet demands (CARDI 2011). In 2021, Nursing Homes Ireland (NHI 2012) estimates that 35,000 older adults will be residing in residential care.

2.(c). Older People in Nursing Homes

In ‘Home from Home’ a study published by Age & Opportunity (2003) Irish residents perceived companionship, privacy, contact with family and friends and engagement in meaningful activities and functional competence as main factors which contributed to their quality of life (QoL). In a study by Cooney et al (2009) the author identified four themes which impacted on QoL in Irish nursing homes including; ethos of care, sense of self and identity, connectedness, and activities and therapies. From an international perspective, residents in New Zealand found connectedness, promotion of physical activity and the quality of life of co-residents. (Wilkinson et al 2012).
Medical conditions will also determine residents QoL and ability to participate in some of the aforementioned factors. In Canada, a survey of 150,000 nursing home residents found that three out of five residents had a diagnosis of dementia, half had muscular skeletal problems, 84% had a moderate physical disability while one-third of residents had a diagnosis of clinical depression (Canada Institute for Health Information 2012). In the UK, nursing home residents have higher rates of physical dependency, cognitive impairment and behavioural disturbances with was associated with depressed mood (Rothera et al 2003). In an Irish context, Falconer & O’Neill (2007) found people with a high prevalence of memory problems including dementia, and physical disability make up the majority of Irish nursing homes residents.

2.(d). Wheelchair Use in Nursing Homes

From the above information, mobility problems are of particular concern for older adults and such issues can restrict performance in everyday activities (McIntyre 2005). According to Inmrie (2000), mobility and movement is central to an individual’s identity, life, experiences and opportunities. Older adults form the largest group of users of wheeled mobility devices Karmarkar et al (2012) and in nursing homes wheelchairs are often used as the primary means of mobility among residents (Mortenson et al 2012). According to Gavin-Dresechnack et al (2010) 80% of residents spend time sitting in a wheelchair every day; while Mortenson et al (2012) found that some residents in nursing homes spend 10 hours a day in wheelchairs. Therefore, the provision of an appropriate wheelchair is invaluable to older adults who live in this setting; both as a means to meet health needs, assist in participation in their desired environment and potentially vital to their overall quality of life.
3. METHODOLOGY

For the purpose of this research a ‘scoping review’ is the selected methodology in reviewing the literature in this area. In general, the aim of this scoping study is to inspect the extent, range and nature of evidence available, rather than quality of literature (Rumrill et al 2010) in the area of wheelchair provision in nursing homes. There is a need to identify all relevant literature in this area, regardless of study design; including grey literature such as relevant policies, government document from organisation and bodies.

3.(a). Methodological Framework

A methodological framework for conducting a scoping study has been developed by Arksey and O’Malley (2002). Within this framework, it is purposed that researchers use five stages, to conduct a review which is rigorous and can be replicated by others.

Figure 3.1: Visual Representation of Methodology Framework
Framework stage 1: Identifying the research question.

At this stage, it is purposed by Levac et al (2010) that the researcher’s ‘combine a broad research question, with a clearly articulated scope of inquiry’ (pp.3). This may include defining the concept and target population, as these will have implications for search strategies. Therefore the researcher has chosen to examine factors which influence the provision of wheelchairs among older adults in long term care.

Framework stage 2: Identifying the relevant studies

This stage involves developing a plan for where to search, which terms to use and which sources are to be searched. As a scoping study is used to address broader topics and is applicable where many different study designs and frameworks are employed, this research was conducted in two phases using a wide base of sources as recommended by Levac et al (2010).

Phase I

The first phase of this research is to identity related scientific literature associated with older people in nursing homes and wheelchair use. Three databases (MEDLINE, CINAHL, PubMed) using Mesh Headings and free text key words that were used – in combinations using the Boolean operators ‘AND’ and ‘OR’.

Key words used in scientific data search includes: wheelchairs, nursing homes, wheelchair provision, long term care, older people. The search strategy returned 127 papers, 65 were chosen to be relevant before the researcher applied the inclusion/exclusion criteria. 14 papers were included in for stage three.


**Phase II**

In the second phase of this review the author aims to identify and examine related policies which may influence wheelchair and seating provision in Irish nursing homes. A policy map identifies the main documents and statements from government agencies and professional bodies that have a bearing on the nature of practice in that area (Anderson *et al* 2008). Therefore, data was collected from the following agencies,

![Image of agencies]

**Figure 3.2:** Relevant agencies associated with health care standard and guidelines in Irish NH.

(iii) **Framework stage 3: Study Selection**

At this stage the researcher purposes a refinement of inclusion and exclusion criteria as well as the expansion or search descriptors (Rumrill *et al* 2010). This criteria for phase I is outlined in figure 3.3.
For phase II it was important to include policies which are client group specific (older people) and those that are system wide (long term care). Documents were included if they addressed any aspect in relation of health care in long term care, research, practice or professional development, education or service provision.

<table>
<thead>
<tr>
<th>Inclusion</th>
<th>Exclusion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Residents who use wheelchairs in nursing</td>
<td>Assisted living/ supported living home</td>
</tr>
<tr>
<td>homes or residential homes</td>
<td></td>
</tr>
<tr>
<td>Older adults aged 65+</td>
<td>Power Wheelchair users.</td>
</tr>
<tr>
<td>Published between 1999 - 2013</td>
<td>Articles before 2000</td>
</tr>
<tr>
<td>All methods of study design</td>
<td>Articles not published in English.</td>
</tr>
</tbody>
</table>

**Figure 3.3: Inclusion/Exclusion criteria for phase I**

**Framework stage 4: Charting the data**

In charting the data from the scoping review of the research area, the researcher summarises key themes, trends, and patterns. Thematic analysis was used as means of making sense of seemingly unrelated material and developing a deeper appreciation of the content and this will be used to summarise and report results (Boyatzis 1998). Overall, this review found four themes which are presented at a general level rather than highlighting individual studies (Rumrill *et al* 2010). These themes are presented in section four.

**Framework stage 5: Summarizing and reporting the results.**

The challenge of this stage is making sense of seemingly unrelated material and developing a deeper appreciation of the content (Boyatzis 1998). For this review, the author has chosen a framework to present the results and this is outlined in section five.
3.(b). Ethical considerations

No participants were recruited for this review. However, when collecting and analyzing data the researcher must ensure that included studies have gone through ethical approval committees. Furthermore, the researcher should be aware of author bias, dual roles of author, in both research literature and grey literature; and the potential it could have on impacting results. As a researcher yourself, you should analyze your data correctly, and remain unbiased (Flick 2007)
4. **FINDINGS**

As discussed in the previous section, this review was conducted in two phases. Findings in relation phase I are presented in table 4.1 and themes are discussed below.

(i) **Table 4.1: Scientific literature associated with wheelchair provision in nursing home facilities**

<table>
<thead>
<tr>
<th>Author</th>
<th>Study Design</th>
<th>Sample Size</th>
<th>Location</th>
<th>Main Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mortenson et al (2012)</td>
<td>Ethnographic study design</td>
<td>N=33 including residents, family, staff of a nursing care facility.</td>
<td>Canada</td>
<td>Appropriate wheelchairs enable participation for residents. Wheelchair can also be used by staff to move and control residents and therefore may act as a barrier of independent participation.</td>
</tr>
<tr>
<td>Giesbrecht et al (2012)</td>
<td>Logistic regression analysis using secondary data from a cross-sectional survey</td>
<td>N=263 residents of 11 nursing care facilities</td>
<td>Canada</td>
<td>Overall prevalence rate of inappropriate seating was 58.6%. Discomfort, poor positioning, decreased mobility, and poor skin integrity were the associated with inappropriate WC use. Two facility level variables were significant predictors of need for seating assessment: availability of occupational therapists and expectation that residents purchase wheelchair.</td>
</tr>
<tr>
<td>Mortenson et al (2011)</td>
<td>Cross-sectional Study Design.</td>
<td>N=268 residents of 11 nursing care facilities</td>
<td>Canada</td>
<td>Wheelchair related factors such as wheelchair skills and wheelchair design directly and non-directly impact resident participation in activities.</td>
</tr>
<tr>
<td>Karmarkar et al (2010)</td>
<td>Quantitative methods.</td>
<td>N=72 from four Nursing homes (two public and two private)</td>
<td>USA</td>
<td>Participants in NH who used customised wheelchairs covered more distance and with greater endurance</td>
</tr>
<tr>
<td>Study Authors</td>
<td>Study Design</td>
<td>Sample Size</td>
<td>Country</td>
<td>Findings</td>
</tr>
<tr>
<td>------------------------</td>
<td>-----------------------------------</td>
<td>-------------</td>
<td>---------</td>
<td>--------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Karmarkar et al (2009)</td>
<td>N=102 wheelchair users</td>
<td>Canada</td>
<td>The community group reported higher levels of satisfaction with their wheelchairs and service delivery when compared with the private nursing home residents. Service provision programme in the community focus on individualised wheelchairs. There less individualised in NH.</td>
<td></td>
</tr>
<tr>
<td>Mortenson et al (2009)</td>
<td>Cross sectional study</td>
<td>N=268 residents of 11 nursing care facilities</td>
<td>Canada</td>
<td>The significant predictors of mobility were wheelchair skills and functional independence in activities of daily living.</td>
</tr>
<tr>
<td>Clarke et al 2009</td>
<td>Multinomial logistic regression analysis using from secondary data.</td>
<td>N=308 residents of long term care facilities.</td>
<td>Canada</td>
<td>53.7% of respondents reported using a wheelchair to get around. The odds of using a wheelchair were 97 times higher for those who reported difficulty with walking.</td>
</tr>
<tr>
<td>Stewart et al 2008</td>
<td>Qualitative Study Design</td>
<td>UK</td>
<td>Dissatisfied users of UK National Health Service wheelchair provision were more likely to be living in residential and nursing care homes.</td>
<td></td>
</tr>
<tr>
<td>Bournonnie re et al 2007</td>
<td>Descriptive cross-sectional study</td>
<td>N=99 residents of two long term care facilities</td>
<td>Canada</td>
<td>Only 22% of residents needed wheel-chair seating intervention in the two facilities. The need for wheel-chair seating intervention can be minimized if independent mobility for long-term care residents maximized by care staff and homes.</td>
</tr>
<tr>
<td>Trelfer et al (2004)</td>
<td>Semi-crossover research design</td>
<td>N= 28 residents of long term care.</td>
<td>USA</td>
<td>Results indicated that individualised wheelchair systems benefit residents A positive impact of providing customised manual wheelchairs to NH residents, was increased functional reach and overall quality of life.</td>
</tr>
</tbody>
</table>
4.(b). Presenting of themes from stage I

Theme 1: Appropriate wheelchair prescription is related to improved quality of life

The benefits of adequately prescribed wheelchairs in residential care settings documented as improving quality of life and facilitate participation in everyday activities (Trefler et al 2004; Daly et al 2013; Mortenson et al 2011). The physical benefits of adequate wheelchair provision include ability to propel longer distances, increased functional reach, better posture (Daly et al 2013; Hsieh et al 2011; Karmakar et al 2010; Trefler et al 2004). Conversely the standard wheelchair used in residential care settings is a poor choice for most frail elders (Fuchs et al 2003; Trefler et al 2004; Giesbrecht) and are frequently inadequate (Karmakar et al 2010; Trefler et al 2004). Wheelchair-related problems in residential care settings associated with standard wheelchairs include poor posture, discomfort, and breakdown of skin integrity (Fuchs et al 2003; Trefler et al 2004; Daly et al 2013; Giesbrecht et al 2013). In addition, standard heavy wheelchairs disable self-propulsion and increase the resident’s dependency on care staff and decrease participation in independent activity (Mortenson et al 2011; Clark et al 2009; Bournonniere et al 2007). Standard wheelchairs restrain participation among residents in long term settings, due to many of the physical factors listed above.

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| Fuchs et al (2003) | Mixed Methods Questionnaire | N=42 NH USA | Custom order wheelchairs led to higher satisfaction among residents Wheelchairs met both client therapist goals Lack of follow up services mean residents still at risk from adverse conditions, such as pressure ulcers. |
| Daly et al (2013) | Non-randomised control trial. Control Group Northern Ireland and Intervention Group in one NH facility. | Intervention group showed 88.3% reduction in pressure ulcers, better posture, effective repositioning and weight loading due to personalised seating matter chair. |
Theme 2: Service delivery is crucial for effective provision of wheelchairs in nursing homes.

According to Stewart et al (2008) the characteristics of dissatisfied users of UK NHS wheelchair provision were more likely to be the eldest and frailest of disabled individuals who are likely to be living in residential and nursing care homes. Poor service delivery is associated with poor provision of wheelchairs and decreased awareness of appropriate wheelchair use among staff and nursing homes (Mortenson et al 2012; Giebrecht et al 2012; Karmarkar et al 2010; Karmarkar et al 2009; ournonnierre et al 2007). Wheelchair skills training and education with residents and staff were key factors associated with independent wheelchair use and prevention of the overuse of wheelchairs (Mortenson et al 2011; Mortenson et al 2009; Clark et al 2009 Bournonniere et al 2007). Nursing homes access to occupation therapists was associated with better outcomes for wheelchair use (Giebrecht et al 2012; Mortenson et al 2011). Funding factors are also highlighted by Stewart et al (2008) and Mortenson et al 2011 as barriers to individualised wheelchairs systems and financial rationing of services.
Phase II

Findings from the second phase are outlined in table 4.2. Themes from these main documents and subsequently presented below. Overall nine documents were reviewed from varied organizations.

Table 4.2 Main documents and statements from government agencies and professional bodies related to practice Irish nursing homes.

<table>
<thead>
<tr>
<th>Documents</th>
<th>Evidence of WC Provision</th>
<th>Implication of findings for Occupational Therapy Services in Nursing Homes</th>
<th>Recommendations</th>
</tr>
</thead>
<tbody>
<tr>
<td>2009 National Quality of Standards for Residential Care Settings for Older people in Ireland (2009) Health Information and Quality Authority</td>
<td>Wheelchair use related to ‘Access Section’ (p. 45, p. 46, p.53.) No evidence WC service or provision.</td>
<td>Related to Section 13.2. Access to Health Care Services. 13.2 Ensure that the resident is referred to health care services including primary care, secondary care, specialist services, allied health professionals, and has access to assistive devices to meet his/her assessed needs, irrespective of geographical location or place of residence.</td>
<td>Recommends HIQA standards are adhered to nursing homes.</td>
</tr>
<tr>
<td>2008 Healthy Ageing in Ireland: Policy, Practice and Evaluation NCAOP</td>
<td>No evidence</td>
<td>Future Priorities for Health Ageing: Stakeholders Views Participants felt that older people required more therapeutic based services in long-stay care, including occupational therapy. Participants expressed concern in that older people in residential care are perceived by policy-makers as being passive consumers of care.</td>
<td>Access to therapeutic services should involve an integrated approach for those in NH.</td>
</tr>
<tr>
<td>2008 Long Term Care Report Department of Health and Children</td>
<td>No evidence</td>
<td>Investment package of an additional €150 million has been put in place for Services for Older People. This investment will be focused on providing care for older people at home The priority will be older people living in the community or who are inpatients in an acute hospital and who are at risk of admission to long-term care</td>
<td>Recommends Home Care Packages, Day/Care Centres to include Occupational Therapy services. No recommendation for Nursing Home to provide these services.</td>
</tr>
<tr>
<td>2007 Improving Quality of Life for Older People in Long-Stay Care Settings in Ireland. Conference Proceedings</td>
<td>No evidence</td>
<td>The study found, that some or all of these therapies were often unavailable or available on a very limited basis. Staff and residents view services such as occupational therapy essential to care in nursing homes.</td>
<td>Recommends that services (which include occupational therapy) must be made available by the nursing home proprietor or by arrangement with the health board.</td>
</tr>
<tr>
<td>Year</td>
<td>Title</td>
<td>Citation</td>
<td>Findings/Recommendations</td>
</tr>
<tr>
<td>------</td>
<td>-----------------------------------------------------------------------</td>
<td>----------</td>
<td>-----------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>2006</td>
<td>Improving Quality of Life for Older People in Long-Stay Care Settings in Ireland</td>
<td>Kathy Murphy, Eamon O'Shea, Adeline Cooney, Agnes Shiel and Margaret Hodgins</td>
<td>The absence of facilities and equipment such as wheelchairs, detracted from the quality of life of residents. The study found that some or all of therapies were often unavailable or available on a very limited basis to residents in nursing homes. The Council, therefore, reiterates recommendations that it has made previously that these services be defined as core services available to all residents on the basis of need and that this is underpinned by legislation and funding. A policy which stated the rights of older people to the range of services was, therefore, required.</td>
</tr>
<tr>
<td>2000</td>
<td>Framework for Quality in Long-Term Residential Care for Older People in Ireland</td>
<td>NCAOP</td>
<td>No evidence No evidence No evidence</td>
</tr>
<tr>
<td>1994</td>
<td>The Economics and Financing of Long-Term Care of the Elderly in Ireland. Seminar Proceedings</td>
<td>Jenny Hughes</td>
<td>No evidence No evidence</td>
</tr>
<tr>
<td>1991</td>
<td>The Role and Future Development of Nursing Homes in Ireland</td>
<td>Eamon O'Shea, David Donnison and Joe Larragy</td>
<td>No evidence No evidence</td>
</tr>
<tr>
<td>1986</td>
<td>Nursing Homes in the Republic of Ireland: A Study of the Private and Voluntary Sector</td>
<td>O'Connor and Thompstone</td>
<td>80% of nursing homes residents used wheelchairs Report suggests that therapeutic services such as occupational therapy are not provided by many nursing homes. OT is not provided in 63% of NH. Number of Nursing Homes surveyed: 182</td>
</tr>
</tbody>
</table>
4.(c). Presentation of themes from Stage II

Theme 1: Lack of wheelchair and seating policy in Irish long term care health policies and documents.

Wheelchair and seating policies are significantly lacking in Irish health and social policies for residents in long term care. A review of evidence from relevant network, organisations, conference generated identified nine documents relevant for this review. Overall, no existing policy or guidelines for the provision of wheelchair in Irish nursing homes was evident in these documents. Findings the National Quality of Standards for Residential Care Settings for Older People in Ireland (HIQA, 2009) indicated that wheelchairs were associated with accessing the physical environment and wheelchair accessibility. A 2006 document published by National Ageing Council and Older People (NACOP) highlights the absence of wheelchairs as a factor which can impact resident’s quality of life. However, no information regarding the provision of this equipment, or its use in the setting is detailed. Only one document gave figures in relation to the amount of residents who use wheelchairs and this was in 1986, who stated that 80% of residents used wheelchairs, there was no descriptive data accompanied with this statistic (O’Connor and Thompston 1986).

Theme 2: Poor access to Occupational Therapy in Irish nursing homes

An unexpected finding of this review was evidence related to occupational therapy service delivery in Irish nursing homes. Data was collected from my home from home.ie website. This website supported by the HSE and NHI provides listing of nursing homes, their services available and level of care. Evidence demonstrated that 24% (n=99) of private and public nursing homes had no access to an occupational therapist; while the remainder could avail of occupational therapy through the general medical card scheme (GMS) or at additional cost to the resident. A further breakdown of nursing homes and their location revealed varying figures in access to occupational therapy service. For example, less than 20% of Dublin and Donegal nursing homes have no access of occupational therapy, while only half of nursing homes in Mayo, Louth and Offaly had access to such services. The review of Irish health and
social policies indicate that access to occupational therapy services was poor in 1986, 2006, 2007 and 2008 documents. Policies in this review have reported considerable concerns and made recommendations regarding access to key services including occupational therapy (Murphy et al 2006; McGivern 2007; HIQA 2009; NCAOP 2008)
5. **DISCUSSION**

The final stage of a scoping review requires that the reviewer considers the overall implications of results on policy, practice and research (Levac *et al* 2010) and also for occupational therapy. Therefore, a framework outlining *interactional factors* (factors based on relationships between staff and clients), *organisational factors* (conditions within the organisation) and *systematic factors* (condition outside the organisation) will be used to discuss the findings herein.

5.(a). **Interactional Factors**

*(i) Power Dynamics between Staff and Residents*

Interactional factors have been defined as those which impact teamwork (San Martin-Rodiguez *et al* 2005). However, as effective wheelchair provision is also dependent on the service user’s experiences and input (Dillion 2012), for the purpose of this discussion, interactional factors will include the working relationship between staff and residents of nursing homes. This review indicates that inappropriate wheelchair selection is contributory to residents becoming dependent on staff (Mortenson *et al* 2011; Gavin Dresnack *et al* 2010; Clark *et al* 2009; Bournonniere *et al* 2007). Mortenson *et al* (2011) proposes that wheelchairs can actually restrain some residents by “virtue of being in chairs that they could not move themselves” and by staff applying breaks to wheelchairs which some residents cannot physically release.

Gavin-Dreschnack *et al* (2010) states that wheelchairs are over-used in nursing homes due to convenience and a lack of motivation on the part of both staff and residents. Mortenson *et al* (2011) has said that older people living in residential settings may also ‘lack voice’ and an inability to express their own needs. This is supported by Bowers *et al* (2009) who states that staff, family members, often speak on behalf residents. This was compounded by wheelchair use being indicative of the power dynamics between staff and residents, as in some cases, staff used wheelchairs to control resident’s participation in activities (Mortenson *et al* 2011). These findings are supported by Murphy (2005) and Waters (1994) who previously found that staff in nursing home adhered to routines which “controlled” residents and better suited
staff as opposed to residents. These factors may result in poor wheelchair provision by staff in nursing homes which inhibit resident autonomy over everyday activities. Thus, this may lead to an occupational alienation (2007), defined by Townsend & Polatajko as when people experience life as purposeless and devoid of choice. From this occupation-health imbalance may occur where there is a loss of balance between the doing and being (Wilcock 1998).

5.(b). Organisational Factors

(i) Lack of Awareness

This review also finds that organisations responsible for the care of the older people in nursing homes have little awareness of the consequences of poor wheelchair prescription. As highlighted in the findings, poor provision of wheelchairs is associated with detrimental physical effects (Fuchs et al 2003; Daly et al 2012; Giebrecht et al 2013; Gavin-Dreschnack et al 2010). Yet according to Karmakar et al (2010) and Trefler et al (2004), wheelchairs for older people in nursing homes are frequently purchased in bulk and are of poor choice for this population group. This concurs with the findings of this review, which demonstrates that key organisations responsible for research and information around the care standards in Irish nursing homes such as Age & Opportunity, CARDI, HIQA and Nursing Homes Ireland (NHI) have yet to produce or publish guidelines around wheelchairs.

There is also a dearth of studies in Ireland on issues directly relating to care and services offered in nursing homes (NSIC 2012). This is notwithstanding that research is vital to informing policies and guidelines. This review of the scientific literature highlighted only one study which was related to wheelchair seating provision in Irish nursing homes in Daly et al 2013.

(ii) Lack of Education

This review demonstrates that staff awareness around proper wheelchair use is poor (Morternson et al 2011; Clark et al 2009; Bournonniere et al 2007), and thus questions whether care staff receive specific education or training in this area. According to Fitzgerald & Robert (2004), a key factor contributing to the quality of care for older people in care
homes is in “ensuring that care staff is equipped with the necessary knowledge and skills to fulfil their roles with competence and sensitivity” (pp.1258). This author has been unable to identify any healthcare assistant training courses inclusive of modules which address proper wheelchair use with this population group. High staff turnovers, as well as the difficulty in finding funds for the training of staff are barriers associated with up skilling nursing home care staff (Fitzgerald & Roberts 2004). Hsieh et al (2011) notes that the attitude of the organisation and funding supports are important considerations related to effective individualised wheelchair prescription. The fostering of staff knowledge around issues impacting on the quality of life of the resident not only improves the quality of care, but also promotes resident autonomy (Davis 1999). Furthermore, if staffs are unaware of the impact an inadequate wheelchair has on resident participation, it may result in those residents experiencing ‘occupational deprivation’ or the ‘deprivation of occupational choice and diversity ... beyond the control of the individual’ (Wilcock, 1998 p 257).

5.(e). Systematic Factors

(I) Poor access to services

This review also finds that older people in nursing homes have poor access to wheelchair and occupational therapy services which may be due to conditions outside organisational control. Occupational therapy services are crucial to better outcomes for wheelchair use in nursing homes (Gierbrecht et al 2012) and an absence of such may have negative implications for the provision of wheelchairs. This review finds that almost one quarter (23%) of all nursing homes in Ireland have no access to occupational therapy. The grey literature would suggest that the provision of occupational therapy in nursing homes has been historically lacking. These findings are correlated by Irish research conducted by Cooney et al (2009); O’Neill (2003) and Noone et al (2001) which emphasised poor service delivery of therapies for residents. Despite numerous recommendations outlined in the grey literature for the provision of such therapies in nursing homes, such services appear to inaccessible This is further evidenced in the findings of two audits, one undertaken by the Department of Health and Children in 2007 and the other by the Health Service Executive in 2013. In 2007, there was evidence to suggest that residents had poor access to health professionals (DoHC 2007); while in 2013, it was revealed that only half of residents had access to therapies in public
nursing homes and that only one-third had access to such services in private nursing homes (HSE 2013).

In contrast, it would appear that older people in the community have better access to occupational therapy, which is free of charge. According to O’Connor (2013) the provision on integrated care is inadequate and while the Government have agreed to develop an infrastructure of long-term care services however it appears once one enters a nursing home such services become almost unattainable (Murphy et al 2006; Cooney et al 2009). Poor access to services for residents may be linked to occupational injustice, as older people are restricted and marginalised from professionals who can increase occupational participation (Kronenberg 2005). As a result, a resident needs may remain unmet, thus potentially leading adverse effects on the quality of life,

“…what’s extremely frustrating is you end up prescribing the wheelchair and the patient for example will go to nursing home and then there are different rules right, ok, so people may be requiring this, just because they go to nursing home because there is no funding or whatever then they don’t get it...” (Gowran 2012)

5.(d). The Irish Context

In the absence of national guidelines, wheelchair services in Ireland have traditionally been provided at local and community level (Kane 2000). However, there from this review there appears to be uncertainty as to who is responsible for the provision of wheelchairs in nursing homes. At the crux of this issue are complex systematic factors. While, the present scoping study remit is not to critique national nursing home legislation; this author must still consider the potential impact of the Nursing Home Support Scheme (NHSS 2009) and whether the nursing home being private or public can have an impact on wheelchair provision.

The objective of the NHSS (2009) is to make state support for residential care equitable for all (Pierce et al 2010). In 2012, 22,871 persons were approved for the NHSS and under the conditions of the scheme, clients can avail of private or public nursing homes subsidised by the government (NHI 2012). However, in times of reduced public spending, public bed capacity has declined significantly (HSE 2012a) and as a result, three quarters of all people reside in private nursing homes (NHI 2012).
In private nursing homes, residents are less likely to have access to public HSE staff, such as occupational therapists from the community primary care team. In addition, under the conditions of the NHSS (2009), therapies and specialised wheelchairs are not covered under this scheme (National Treatment Purchase Fund 2008). Therefore, if one is in a private nursing home and availing of the NHSS, therapies are accessed at market rates; costs which the resident or their family must incur. This is supported by the O’Shea et al (2006 pp.127) which highlighted particular concerns voiced by residents and staff regarding the payment of such services, which they deemed “essential”. It stated;

“Private nursing homes reported that some residents had difficulties in accessing services because residents had to pay. While some residents had the resources to pay for services others did not”

The question of payment for occupational therapy services asks whether that this is inequitable, especially as residents would receive this service free if they were living in a public facility. Furthermore, the ability to pay may be an issue for residents, especially for those in receipt of public subventions. WHO guidelines (2008) indicate that good practice in funding is to procure the selected wheelchair for the person, as early as possible. According to Steward et al (2008) high cost is one of the main reasons nursing homes do not provide individualised wheelchairs. In Mortenson et al (2011) residents were encouraged to purchase their own wheelchairs and it appears Irish residents or their families would also be required to self fund in such circumstances. This issue could potentially further impact on the resident’s quality of life as Batavia (2001) has commented, waiting for funding is a highly stressful event for wheelchair users. These barriers are in direct contrast of human rights legislation outlined in the literature review and also ones which are based on the principles of equity and economic accessibility,

“Health facilities, good and services must be affordable for all...” (CESR, Article 12 part b, section (iii))

Furthermore these barriers may infringe on ‘The right of elderly persons’ (European Social Charter 1961 Article 23) and also rights which HIQA have stated in their document which outlines that health services should be easily accessible and equal to all (HIQA 2009 Section 13.2)
5.(e). The implications for Occupational Therapy

Older people in need of long term care services in Ireland may rise by 142% by 2051 (ERSI 2005). A new belief system is required which emphasises that good long term care is needed (Kane 2001). Some of that can come from increased research, but much depends on better advocacy. Occupational therapists play a key role in initiating policy changes to enable groups, communities or organisations to engage in occupations (Townsend 2007); and according to Gowran (2012) it is important that occupational therapists advocate on behalf of services at a political level as well as encouraging users to express their needs. By empowering service users, they become actively involved in the decision making process. This process was highlighted by Mortenson and Miller (2008) as essential to effective wheelchair prescriptive service. Overall, “As health professionals, we need to take responsibility as occupational activists, delivering the evidence for practice, shaping policy and practice developments...” Atwal & McIntyre 2013 pp.69.

In this scoping review, evidence suggests residents don’t have the same access to occupational therapy services in Ireland as others. Therefore occupational therapists should consider a role in advocating for the occupational needs of this group as part of a fair and empowering society (Wilcock 2000). According to international literature nursing home residents who receive a relatively brief intervention from an occupational therapist are less likely to deteriorate in their ability to perform activities of daily living (Sackley et al 2006). The framework used in this review encompasses an optional sixth stage entitled ‘consultation’ (Arksey and O’Malley 2002). Consultation “is extensive and pervasive throughout the practice of occupational therapy” and is inherent within rapport building with client. However there is also formal consultation to nursing homes in relation to service delivery (Townsend & Polatajko 2007 pp. 120).

5.(f). Limitations

In summary, scoping studies are an increasingly popular option for gathering health evidence (Levac et al 2010), however there are limitations regarding this approach. According to Arksey and O’Malley (2002) scoping studies do not appraise the quality of evidence, and may neglect to consider the effectiveness of any particular form of intervention. Finally, there is no critical appraisal tool to assess scoping study methodology (Levac et al 2010).
5.(g). **Recommendations**

The following recommendations are proposed:

- Better integrated service delivery in nursing homes which can improve continuity through three levels of integration: linkage, co-ordination, and full integration between cure and care services (Hébert *et al* 2005)
- Increase research activity in this area to improve understanding of how the nursing home setting and residents use wheelchairs; to improve opportunities for residents to access appropriate wheelchairs; to support lobbying for better funding for wheelchairs and wheelchair services.
6. **CONCLUSION**

Wheelchair provision is a complex process (Dillion *et al.* 2004). A mixed and varied range of factors have led to the under-development of wheelchair seating provision and policy in Irish nursing homes, and these are multifaceted and interrelated. This scoping study has found that systematic, organisational and interactional factors have a ripple like effect on the provision of wheelchairs in nursing homes. Within this, legislation barriers, financial barriers and knowledge barriers have been identified as sources which prevent older people in nursing homes from accessing services important for the provision of adequate wheelchairs.

There is a considerable lack of research or auditing in relation to wheelchair use among Irish nursing homes residents. This includes how many wheelchair users exist in nursing homes or what they use their wheelchair for. As a result, the policies related to long term care do not include advice, funding or planning for the provision of wheelchairs. Without guidelines to influence practice, occupational therapy services are disjointed and provided ad-hoc to nursing homes. Without occupational therapy input resident’s needs in relation to wheelchair provision may not be adequately assessed. In addition, nursing and care staff on the ground are not receiving adequate training from allied health professionals around wheelchair use and the impact of correct provision on a resident’s QoL.

Finally, the nursing home resident may have mobility impairment yet continues to use a wheelchair which they may not be been suitable for. If this resident has a cognitive impairment, they may be unable to express discomfort and the care staff, unaware of the poor wheelchair use are unable to the address the source of discomfort which the resident is experiencing.

>“Every assistive device must be appropriate for the person who uses it. Even the least user-specific devices, may not fit well with a user's lifestyle” (UN 1997).

Yet, it appears nursing homes are using wheelchairs with residents without appropriate guidance thereby, leaving residents living on the margins of care.
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