

# Mobility transition of older adult populations in Worcester, South Africa

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## Introduction

Community mobility refers to an individual's ability to access and utilise public and private transport such as taxis, busses, driving, cycling or walking to move about in and around the community. Access to various modes of community mobility is essential for reaching destinations that are meaningful for occupational engagement. With ageing, mobility transition plays a fundamental role in maintaining community mobility. In addition to referring to the way in which individuals pass through physical spaces and places, such as moving within the home to complete day-to-day tasks or commuting from home to work, mobility transition also refers to the modification of locomotive means over an individual's life to best suit their physical abilities which change with ageing.

Community mobility also contributes to giving an individual a sense of identity and aids in accessing health services. Understandably, a lack thereof is linked to feelings of loneliness, deteriorating health, and symptoms of depression<sup>1</sup>. Consequently, maintaining community mobility plays a significant role in preserving a good quality of life as one advances into the late stages of adulthood. In a context with poor infrastructure, such as in South Africa, maintaining community mobility as one ages can often be a difficult task. This challenges both the social development and public health systems with the important task of developing effective and efficient strategies to promote health and well-being in a growing and increasingly diverse ageing population.

A situational analysis done for the South African Plan of Action for Older Adults showed that older adults in rural areas especially, experience challenges to access health care services available to them. The main challenge was identified as the lack of appropriate transport and information on the availability of transport services<sup>2</sup>. These findings motivated the researchers to investigate the forms of transport used by older adults in the Worcester area to access their out-of-home occupations. Unique to this study is the inclusion of older adults who present with various sensory impairments.

## Methods

This quantitative cross-sectional descriptive study was inspired by a similar, on-going multi-international study by the International Expert Advisory Panel on Community Health and Transport (I-CHaT)<sup>3</sup> and approved by the Stellenbosch University Undergraduate Research Ethics and Health Research Committee. Convenience sampling was used to recruit eligible participants from three population groups within Worcester. These three population groups constituted of individuals from Innovation for the Blind (IFB) for visually impaired persons, National Institute for the Deaf (NID) for

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persons with hearing loss, as well as the Worcester Community Day Clinic (CDC) for people without any disability.

Healthcare professionals from all three facilities were given pre-defined eligibility criteria and assisted in recruiting eligible participants. The recruited participants were screened using the World Health Organization Disability Assessment Schedule 2.0 (WHODAS 2.0), which has been standardised in both English and Afrikaans to assess for difficulties experienced within the past month as a result of any disability. Participants were considered eligible to continue with the study if they could mobilise independently (without a wheelchair), if they obtained a disability score of less than 60% on the WHODAS 2.0 and had provided informed consent.

All participants who were screened and eligible for the study proceeded to participate in a structured interview. The interview form used in the study include questions on demographic information, as well as aspects from a questionnaire on Accessing Places and Activities for Participation Outside Home for Older Adults (ACT-OUT)<sup>4</sup>. Specific aspects from the ACT-OUT include modes of transport used and frequency and satisfaction with these, and places of interest. Interviews were conducted in English, Afrikaans and isiXhosa, the predominant languages in this context. South African Sign Language (SASL) interpreters were utilized to communicate with persons with hearing loss. The data were analysed using the SPSS version 24 and STATA version 15.

## Results

A total (N) of 58 participants were eligible to take part in the study with 16 (28%) from IFB, 20 (34%) from NID and 22 (38%) from CDC. Table I shows the various modes of transport that the three population groups used to mobilise in the Worcester community. The most frequently used modes of transport used were: walking (47%), institutional transport (41%), family members (28%), minibus taxi (21%) and own vehicle (14%).

When considering the individual population groups, none of the IFB participants used their own vehicle, minibus taxis or family members as transportation modes, instead, 62% (10/16) of them used institutional transport and 56% (9/16) used walking as modes of transport. From the NID participants 70% (14/20) utilised institutional transport and 60% (12/20) walked to attend places of interest. Forty five percent of NID participants also relied on family members for transport while 25% (5/20) and 5% (1/20) relied on the minibus taxi and their own vehicle respectively, to mobilise in the community. Fifty percent (11/22) of CDC participants used minibus taxis as transport, while 32% (7/22) relied frequently on family members or walking 27% (6/22). Fourteen percent (3/22) of CDC participants made use of their own vehicle while none used institutional transport.

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## Discussion

The three most frequent modes of transport in this study were walking, institution transport and opportunities provided by family members. The majority of those who walked were from the IFB and NID. Not only are both these institutions in central town, but participants from the IFB are also assisted by user-friendly adaptations like stud-patterned curb ramps and blind-crossings available in central town, while those from the NID have most of their places of interest located within the institution. Participants from CDC who mostly suffered from age-related mobility disability, live on the outskirts of Worcester and normally need to travel long distances to access their places of interest. This might explain the significant difference in percentages in walking as a mode of transport between CDC versus NID and IFB as we understand the additional physical demands of the former.

Participants from CDC compensate for the unavailable privilege of institutional transport by using minibus taxis as the most readily available mode of transport in their community. With that being said, the obstacles with public transport faced by Worcester community-dwellers are similar to those highlighted by Ramachandran and D'Souza in their research study conducted in a similar rural setting in India<sup>5</sup>. These include high taxi costs and train stations being too far, all barriers to the successful travelling of the older adults. Albeit minibus taxis being popular within the community, their use is not a matter of preference, but rather of limited options as the commuters' form part of the participants who indicated that they have never owned a driver's license or do not drive anymore. A large influence on the modes of transport participants used was the prevalence of gang-related activity especially around the outskirts of Worcester. Participants reported that they opted not to walk certain routes or to not use certain modes of transport at certain times out of fear, which at worst resorted to participants not engaging in certain out-of-home occupations altogether.

Studying opportunities like lifts from family members, none of the IFB participants used this mode of transport possibly because many of them have lived in an institution their entire lives and have never had to rely on family members before. This finding can also be viewed as the other two population groups needing higher levels of assistance in comparison to IFB participants. Could it be that IFB participants are the most independent of the three population groups?

Although the scope of the study did not allow for a qualitative component nor the inclusion of older adults who are wheelchair users it is evident that walking, despite being physically demanding and

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difficulty for the elderly, serves as a primary mode of transport. We recommended that the local municipality and relevant facilities prioritize creating a safe and pedestrian-friendly environment for all older adults in keeping with the aforementioned policies. However, the question remains regarding how the quality of life of a CDC member without institutional transport, who is not flexible to use taxis and with no relative to rely on, is sustained? Institutions and communities alike should also take pride in providing transportation opportunities that are comfortable, affordable and user-friendly to their users. Institutions should broaden the variety of places that their older adults can visit using the institutional transport.

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<b>Mode of Transport</b>	<b>IFB (n = 16)</b>	<b>NID (n =20)</b>	<b>CDC (n = 22)</b>	<b>Total (N = 58)</b>
<b>Own vehicle</b>	0%; (0 of 16)	25% ;(5 of 20)	14%; (3 of 22)	14%; (8 of 58)
<b>Minibus taxi</b>	0%; (0 of 16)	5%; (1 of 20)	50%; (11 of 22)	21%; (12 of 58)
<b>Family Members</b>	0%; (0 of 16)	45%; (9 of 20)	32% ;(7 of 22)	28%; (16 of 58)
<b>Institution Transport</b>	63%; (10 of 16)	70% ;(14 of 20)	0%; (0 of 22)	41% ;(24 of 58)
<b>Walking</b>	56% ;(9 of 16)	60% ;(12 of 20)	27%; (6 of 22)	48%; (28 of 58)

**Table 1: Most utilised modes of transportation by older adults from Innovation for the Blind (IFB), NID (National Institute for the Deaf) and the CDC (Community Day Clinic) in Worcester**

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