Journal of Transport & Health 2 (2015) 1–4

Contents lists available at ScienceDirect

Journal of Transport & Health

journal homepage: www.elsevier.com/locate/jth

The role of transport and mobility in the health of older people

ARTICLE INFO

Keywords:
Ageing
Health
Wellbeing
Transport
Mobilities
Older people

ABSTRACT

The world's population is ageing. Older people are healthier and more active than previous generations. Living in a hypermobile world, people want to stay connected to dispersed communities as they age. Staying connected to communities and social networks enables older people to contribute and connect with society and is associated with positive mental and physical health, facilitating independence and physical activity while reducing social isolation. Changes in physiology and cognition associated with later life mean longer journeys may have to be curtailed. A shift in focus is needed to fully explore older people, transport and health; a need to be multidisciplinary in approach and to embrace social sciences and arts and humanities. A need to embrace different types of mobilities is needed for a full understanding of ageing, transport and health, moving from literal or corporeal through virtual and potential to imaginative mobility, taking into account aspirations and emotions. Mobility in later life is more than a means of getting to destinations and includes more affective or emotive associations. Cycling and walking are facilitated not just by improving safety but through social and cultural norms. Car driving can be continued safely in later life if people make appropriate and informed decisions about when and how to stop driving; stringent testing of driver ability and skill has as yet had little effect on safety. Bus use facilitates physical activity and keeps people connected but there are concerns for the future viability of buses. The future of transport may be more community led and involve more sharing of transport modes.

Ageing is a global phenomenon due to a combination of falling fertility rates and substantial increases in life expectancy (UN, 2013). In 1950, there were almost 385 million people aged over 60 across the world, representing only 8.6% of the global population; now there are just over 840 million people over 60, representing 11.7% of the population (UN, 2013). Projections suggest there will be 2 billion people aged over 60, representing 21.2% of the global population by 2050 (UN, 2013). Increases in ageing are happening across the world but the rate of increase is faster in wealthier countries. For example, the UK will reach 25% of the population being over 60 by around 2030 (ONS, 2013).

Not only will there be more older people, but there will also be changes in their health and wellbeing. Older people are more fit and active than previous generations. They have more aspirations, may still be working, have caring responsibilities (for other older people, for children or grandchildren, for example) and social and recreational networks that span over wide geographical distances. Ageing does not change the engagement people wish to have with a hypermobile society, wanting and needing to travel large distances, more frequently. Mackett (2015) neatly outlines the importance of keeping older people mobile, in terms of their contribution to society, including direct benefit of expenditure in shops, employment, voluntary work, childcare and taxation. He also notes that mobility provides intrinsic value too including facilitating independence and physical activity and reducing social isolation. He states the contribution to society will continue, if not increase, in the future, so long as mobility options are maximised for older people, for example increasing the numbers of buses, improving concessionary tickets for public transport use and the introduction of driverless cars. Research from Japan suggests that using motor vehicles and cycling allows people to travel further and this is linked with higher physical activity, increased social networks and better mental health (Tsunoda et al., 2015).

At present, older people still report great difficulty in accessing shops, banks and hospitals and to stay connected to local communities, especially when no longer driving (see Musselwhite, 2011 for overview). The need to be mobile and to travel is also related to psychological wellbeing in old age. A reduction in mobility can result in an increase in isolation, loneliness and depression (Edwards et al., 2009; Fonda et al., 2001; Ling and Mannion, 1995; Windsor et al., 2007; Ziegler and Schwanen, 2011) and overall a poorer quality of life (Schlag, et al., 1996). Recent figures from Great Britain suggest around 342,000 over 75 year olds 'feel trapped' in their own homes through lack of suitable transport (WRVS, 2013).

It must be remembered that people do not suddenly become old: ageing is happening all the time to everyone. In addition, people's ageing process varies hugely for a variety of reasons; nevertheless much previous research tends to view older people as a homologous

http://dx.doi.org/10.1016/j.jth.2015.02.001
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group. It is therefore disappointing to find practices aimed at improving mobility in later life across Europe tend to focus solely on disability, showing grounding in a rather old-fashioned reductionist medical model (Marin-Lamellet and Haustein, 2015). Marin-Lamellet and Haustein, interestingly, also note that such practices are targeted at improving the service for current users or improving how services are used by the user; hence non-users of a particular mode get less benefit. Thus, they do little at changing modal perceptions and are often aimed at improving mobility within specific modes or certain groups of people, making shifts from car to public, community or active modes of mobility difficult. There needs to be more interventions that help older people move between modes, to try out new modes and new destinations; in addition to supporting mobility, this supports a gradual process of giving-up driving, potentially reducing its negative consequences. (Musselwhite and Shergold, 2013). Musselwhite (2010), for example, suggests training aimed at improving driver skills should also explain how to reduce driving and help older people choose different modes in order to aid people with driver cessation. Overall, there is an appeal here for a greater understanding of older people at the disaggregated level and hence associated changes in methodology and focus are needed. A need to understand the importance of mobility at a subjective level is every bit as, if not more important than, understanding it at an instrumental and purely functional level. Siren et al. (2015) note the importance of mobility going beyond instrumental notions of travel, to include discretionary mobility in order to stay connected to community. Hence, travel solutions focussed primarily on utilitarian or instrumental needs will not suffice without building in additional understanding of the role of mobility in both maintaining independence and also of staying connected. Hence, as public health requires a shift in thinking from a medical to a more social model, so does transport studies, where a shift in thinking is needed from a traditional economic and engineering approach to one embracing a range of social science approaches and methods in order to understand complexities and diversities of older people.

An obvious relationship between health and transport is found in examining active travel. Continuing active travel in later life has direct physical health benefits. For example, regular walking or cycling can reduce cardiovascular disease by around 30% and reduce all-cause mortality by 20% through reducing the risk of coronary heart disease, stroke, cancer, obesity and type 2 diabetes (see Hamer and Chida, 2008; NICE, 2013; Sinnett et al., 2011). It also keeps the musculoskeletal system healthy and promotes mental wellbeing (NICE, 2013). However, older adults lead more sedentary lifestyles than younger age groups and older women in particular are the most inactive segment of the population (Hall and McAuley, 2010). Older people often feel excluded from the pedestrian environment because of poor design. Connectivity helps, having places to walk from and between, with quality connections in place. Walking is an important mode in later life for keeping older people connected (Stjernborg et al., 2014) and Chudyk et al. (2015) show that among older adults from lower socio-economic backgrounds, walking is higher than in the general population, and having places associated with food that are accessible locally, grocery stores, malls, cafes and restaurants to be precise, increases likelihood of walking among that group. Another important area Chudyk et al. note is that of walking speed where older people, on average, walk much slower than the 1.2 m/s guidelines set out in many high income countries that affect the length of time signalled crossings allow for pedestrians, which concurs with previous research (Asher et al., 2012; Musselwhite, 2015; Newton and Ormerod, 2007). Fear of not being quick enough to cross the road is known to restrict people leaving the home or limit their accessibility when out and about (Lord et al., 2010; Zijlstra et al., 2007). Julien et al. (2015) suggests that it is bus or transit use, above and beyond walking, that keeps people connected to their communities, to the public libraries, the malls, pubs, cafes, parks and physical activity centres. They do note of course that using buses keeps people walking to access the bus stops from origin and destination. This is further evidence to suggest free or concessionary bus fares and provision of good quality bus services being vital to health and wellbeing of older people. As outlined by Laverty and Millett (2015), free or concessionary bus use encourages physical activity and fosters a sense of belonging that underpins a vibrant community which older people contribute to, building on previous work by Green et al., (2014), Jones et al. (2012) and MacIntrye et al. (2008) among others.

Cycling is linked to fitness and health for older people and has less impact on hips and joints than other cardiovascular activity such as running. Cycling helps people stay connected to others (Tsunoda et al., 2015). However, in America and the UK only 1% of all journeys by the over 65s are made by bicycle; compared with 9% in Germany, 15% in Demark and 23% in the Netherlands. Much is noted about how this may be due to poor and lack of dedicated infrastructure for cycling at all ages, reducing habitual and normalisation of cycling through the lifecourse (Jones et al., 2014). Winters et al. (2015) studied a bicycling area of Vancouver, where 3.2% of trips were made on bicycle by older people. They found similarly that a key barrier to cycling in later life was safety and the need for dedicated infrastructure was paramount. However, beyond this, there are also important aspects such as social and cultural norms that influence cycling take up. Along with Jones et al. (2014), Winters et al. (2015) research suggests the need for more lifecourse based approaches to understand the motivations for use of particular transport modes.

O'Hern and Oxley (2015) note how the car continues to be the prime mode of transport for older people in their study using data from Melbourne and regional areas of Victoria, Australia. This mimics data from many other high income countries, including those across America and Europe. It is therefore vital that older people are safe as drivers on the road. Data suggest that in most countries older people are relatively safe, especially up to the age of around 80 years (e.g. Mitchell, 2013). Some of the increase in the prevalence of the numbers killed or seriously injured is as a result of frailty; older people are more likely to be injured or killed if involved in a collision. There is also intriguing evidence that low mile drivers make up a significant proportion of the increase in deaths or seriously injured drivers found in later life (Langford et al., 2006). Siren and Haustein (2015) present data that shows licencing interventions, aimed at reducing unsafe drivers on the road, actually make very little difference to overall safety of older and other drivers. There is tentative evidence that vision tests and some cognitive tests may make a small improvement, but there is very little evidence for re-testing or medical screening as an intervention. Similarly there is little evidence that training provided for older drivers makes much difference to performance whether it is on or off road and more research is required to examine benefits (Korner-Bitensky et al., 2009; McNamara et al., 2014). Functional, cognitive and visual impairments are precursors to driving cessation (MacLeod et al., 2014), yet older people with similar health issues seem to have very different trajectories to giving-up driving and how they engage with training, testing or licence withdrawal varies (see McNamara et al., 2014). Relying on self-regulation at the moment seems to work well, despite evidence suggesting people are not good at evaluating their own driving (e.g. Baldock et al., 2006; Holland, 2001; Musselwhite and Haddad, 2010; Musselwhite and Shergold, 2013; Rabbitt et al., 1996; Rabbitt and Parker, 2002). However, maybe this allows people to become over reliant on driving and adds to the difficulty in having to stop abruptly should health or other issues require them to do so, as it is known to be associated with poor self-reported wellbeing (Musselwhite and Shergold, 2013), and as such a move to a more multimodal presence earlier in life would be more beneficial.