

Wayfinding with Alzheimer's Dementia

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The health impact of Alzheimer's Dementia

More than 25 million people worldwide are currently affected by dementia, with approximately five million new cases every year. A progressive neurodegenerative disease, Alzheimer's accounts for 75% of all dementia cases, and age-specific prevalence doubles every five years after the age of 65 years. An ever-increasing proportion of older people (65 years and older) will result in a concurrent rise in the worldwide population affected by Alzheimer's.

Currently, more than 413,106 Australians live with dementia, some of whom are younger than 65 years of age. Similar to the increasing incidence rate worldwide, the incidence of Alzheimer's in Australia is doubling every 10 years after 60 years of age. This accounts for a prevalence in Alzheimer's of up to 30% in older adults. The health impact is significant dementia is the second leading cause of death in Australia, and the single most significant cause of disability for older Australians.

Living with Alzheimer's

A key symptom of Alzheimer's, and one which may worsen with time, is the inability to navigate through space to get to a destination. This can include previously familiar and routine spaces, which may impede activities of daily living, or result in confinement to the apparent safety of homes and specialised facilities, without previous freedom of mobility and spatial choices. This loss of autonomy often leads to a sense of loneliness and a loss of self.

Regardless of whether an individual copes with their environment alone or with a carer, it is imperative that they have the right to access their neighbourhoods. Given that people living with Alzheimer's are spatially disempowered, investigating their wayfinding experiences and the spatial environment that they have to navigate is important to explore opportunities for design intervention to keep people living in their neighbourhoods for as long as safely possible.

Getting Lost with Alzheimer's

The initial presentation of Alzheimer's can be diverse. Stereotypically, the early concern is memory loss. However, research suggest that a major component of cognitive loss is the tendency to 'become lost'. This spatial disorientation is not directly related to memory impairment but is instead a pathological inability to connect recognised scenes with locations. Disorientation is markedly common, and is even present in those with early, milder forms of the disease.

Wandering with Alzheimer's

Because of the spatial disorientation caused by Alzheimer's, wandering can be a major behavioural trait of those affected

by the disease. Despite the problems associated with getting lost, wandering is thought to be important for people living with Alzheimer's, to express themselves physically and emotionally helps them cope with the loss in their state of mind.

Systems and designs that discourage walking and wandering behaviour can consequentially be triggering and detrimental. In designing for Alzheimer's, safety features and opportunities to build on and include meaningful stops along the way are vital to add quality to wandering. This is especially important for those who find themselves lost and anxious, or in a seemingly unceasing loop.

Alzheimer's and Wayfinding

Wayfinding is essentially a process requiring a series of decision-making along one's journey. This involves the way one perceives the environment in order to navigate it, available wayfinding information, cognitive decision-making, and the ability to act on the decisions made to go on a route.

To support this process, most people rely on three modes of knowledge:

1. Survey knowledge, with which one is cognisant of the street schema of their neighbourhood
2. Prior knowledge from experience and routine
3. Landmark knowledge, or distinct cues – eg buildings, art, vegetation.

Often, people living with Alzheimer's may cognitively possess these modes of knowledge but struggle to make decisions with them. For example, an individual who desires to go to the library is cognisant of where the destination should be, remembers where it is and how it looks like, but is unable to decide whether they should turn left or right at an intersection to get to the library.

Interventions at intersections

Medical and urban design studies on the topic have concluded that those with early and intermediate Alzheimer's can still make simple decisions based on familiar spatial features at intersections, in the following order of significance:

1. Building forms and styles, especially traditional ones, with local meaning associated to them
2. Street furniture, vegetation, and green spaces.

Wayfinding signs are only useful if and when attached to or associated with these features, as they can be distracting and confusing on their own. This was a common feature found in people both affected and unaffected by Alzheimer's, suggesting that redesigning our streets to be friendly to those living with Alzheimer's will lead to an overall community benefit anyway. ●

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