Auditing the Environment Where Older Adults Live

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(accepted August 2013 by the Journal of Aging and Physical Activity)

BACKGROUND

Features of the built environment may have an effect on whether older adults are able to walk outside and can be classified as macroscale or microscale. Most research studies have focused on macroscale features as information is readily available from public and private sources such as geographic information systems and municipal surveys. However, microscale features may have a greater influence on older adults’ walking behaviour. For example, a deteriorating sidewalk (microscale feature) may deter an older adult who uses a walker, from venturing down the street as the cracks and unevenness make it challenging for her to navigate. Despite the fact that there may be a number of attractive destinations for Sally to visit (i.e. parks, shops, community centres), in a situation like this, the state of the sidewalk determines whether or not she goes out for walks.

Typically, microscale features are measured by environmental audits in-the-field. This approach is both time and resource intensive. A potentially less resource-intensive option is to conduct “virtual” audits online using Google Earth’s Street View. We tested the use of virtual audit method to evaluate specific microscale features that influence older adults’ walking behaviour.

Residents of Assisted Living are typically at a crossroads between living independently and transitioning into higher level of residential care. Assisted Living residents often have multiple health conditions and many have challenges with walking. To maintain independence of residents, microscale built environment features near Assisted Living sites need to support the physical activity. Assisted Living sites are thus good locations to test virtual audits methodology.

WHAT WE DID

We compared virtual and in-the-field environmental audits at four Assisted Living sites. The audits were carried out using an environmental audit tool designed specifically to assess microscale built environment features that influence older adults’ walking behaviour.
walking (1). Two surveyors conducted the virtual and in-the-field audits at four sites in Metro Vancouver.

**KEY FINDINGS**

The average time to complete the audits was similar between virtual (9min) and in-the-field (11min) audits. In-the-field audits required extra travel time to each site (20–80min), as well as between streets once at a site (~4 min).

Agreement between virtual and in-the-field audits was > 80% for the majority of audit items. Virtual audits were as good as in-the-field audits for identifying the presence of micro and macroscale features that potentially support older adults’ walking, such as sidewalks, benches, public washrooms and destinations (i.e shops). However, in-the-field audits were better at identifying fine-grained details of microscale features, such as types of curb cuts, continuity of walkways, condition and slope of sidewalks, counts of trees or street lights.

The built environment features varied across Assisted Living sites. The majority of streets in each Assisted Living site were free of litter/graffiti, had streets with more than one traffic lane and sidewalks on one or both sides of the street. However, destinations that may be important for older adults (i.e. grocery stores, pharmacy, banks, transit) were absent on 75% of the street audited.

**TAKE HOME MESSAGE**

With an aging demographic, we need reliable and efficient ways of understanding how the built environment influences older adults’ walking behaviour. Our findings suggest that virtual audits are a less resource-intensive means to conduct environmental audits and may be most appropriate for collection of information about the presence of microscale built environment features that may support older adults’ walking. Such information can help us to better plan and design our neighbourhoods to support aging in place.

**REFERENCES**


**AUDIT TOOL DETAILS**

We used the Seniors Walking Environment Assessment Tool-Revised (SWEAT-R) to conduct environmental audits. (1)

The SWEAT-R measures the following types of built environment features:

**Functionality**
- Buildings – e.g. land-use, predominant building heights
- Sidewalks – e.g. presence, condition, slope
- Street – e.g. condition, road surface, traffic direction
- Street life – e.g. presence and features of benches

**Aesthetics**
- e.g. the condition of buildings and yards, presence of litter

**Safety**
- Personal – e.g. traffic signs and traffic lights
- Traffic – e.g. presence of traffic calming devices

**Destinations**
- e.g. transit stops, public rest rooms, senior housing

**INTERESTED IN LEARNING MORE?**

If you have questions about our study or would like to know more, please contact Anna Chudyk at anna.chudyk@hiphealth.ca

This project was supported by an Meeting, Planning and Dissemination grant from the Institute of Aging at the Canadian Institutes of Health Research.