University of Strathclyde Glasgow

The Dunhill Medical Trust Early Career Researcher Event 2023

Remarkable research for healthy ageing
THE DUNHILL MEDICAL TRUST

This work is supported by the Dunhill Medical Trust [grant number PDM2202\29]

Healthcare environments should be designed more inclusive and accessible to allow older adults with sensory impairment to navigate independently.

Architectural Provisions Supporting the Wayfinding for Older People with Sensory Impairment

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The Problem

How people with different eye conditions see the environment:

Normal Vision | **Colour Blindness** | **Cataracts** Severity Level 80/100 | **Macular Degeneration** Severity Level 60/100 | **Glaucoma** Severity Level 60/100 | **Diabetic Retinopathy** Severity Level 60/100

Background

- Vision and hearing are two key senses used for wayfinding and impairment of these can cause major issues for people (Health Facilities Scotland, 2007).
- It is crucial that architects give equal consideration to wayfinding for all , including older people living with sensory impairment.
- Healthcare facilities are used by high proportion of older people, whose sight and hearing have gradually deteriorated with age. Therefore, their needs should be considered in the design stage.
- Architectural elements such as layout, lighting and acoustic design, colour contrast have a significant impact on people's wayfinding.

Research Questions

1. What are the challenges and barriers to wayfinding faced by OPwSI on their journeys in healthcare environments?
2. What are the most influential parameters in architectural design that address these challenges?
3. Is a new design guideline required to help architects in considering these parameters in design?

Methodology

01 Scoping Review

To systematically map the literature on design strategies, legislation, and policies on wayfinding for the sensory impaired.

02 Direct Observation + Interview with OPwSI

To understand the barriers and facilitators of wayfinding in healthcare environments based on users' daily experiences.

03 Collaboration with stakeholders

Meetings with a range of stakeholders will be organised to develop a design guideline for the identified challenges.

04 Testing and Validation

The proposed design guideline will be tested through surveys engaging architects and users.

05 Finalising the design guideline

By analysis of the (qualitative and quantitative) data from previous steps the guideline will be finalised.

Scoping Review

Developing a protocol

Specifying the rationale and methods including review questions, stages, eligibility criteria, search strategy and so on.

Searching for literature

1) Scientific Papers:

Five Databases are used [Medline, Embase, APA PsychInfo, SCOPUS, and Web of Science]

2) Grey Literature:

Grey literature databases, Customised Google search, Targeted websites, and consultation with contact experts.

Screening over inclusion criteria

Three-stage screening is conducted (title, abstract, full text) based on PCC framework using CADIMA software.

Results are presented in a PRISMA-SCR flow diagram (Tricco et al., 2018).

Data Extraction

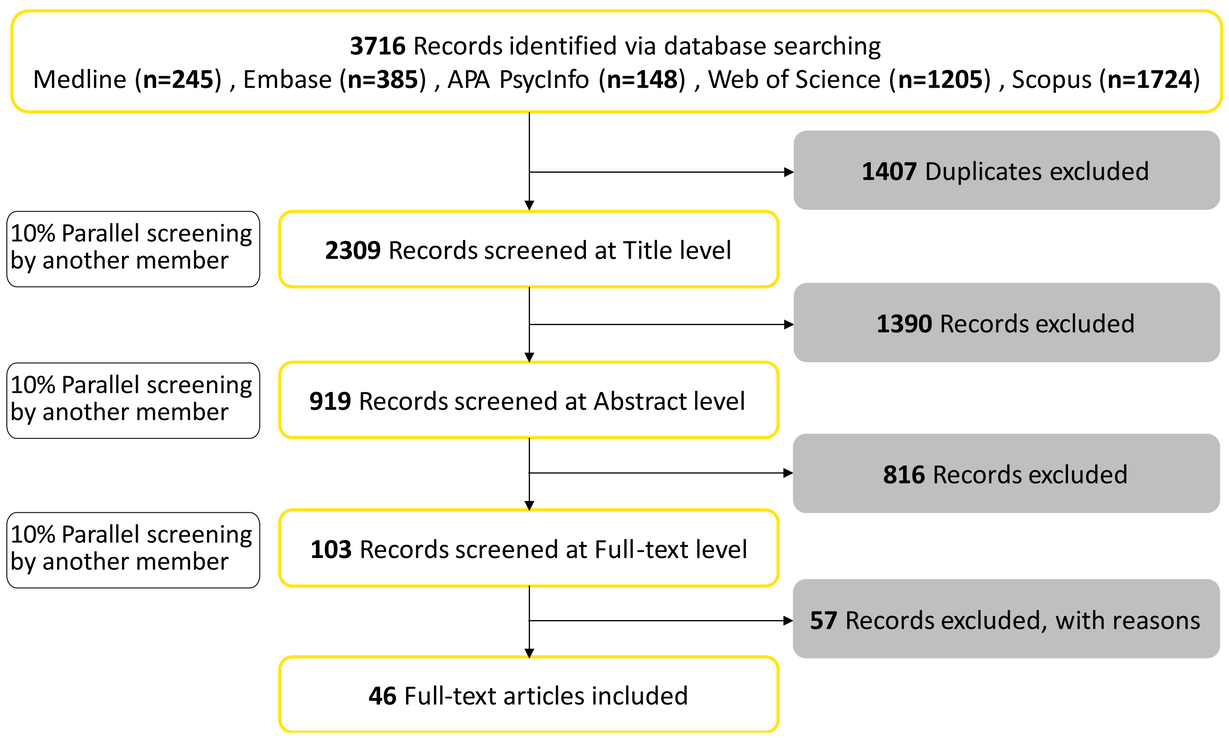
A data charting form is developed and used for extracting the required data.

Synthesis and Quality Assessment

The findings will be presented in the form of narration and description.

Where applicable, a quality appraisal will be conducted according to the Equator network guidelines (Equator 2023).

PRISMA-SCR Flow Diagram for Scientific Papers



References

Health Facilities Scotland (2007). Wayfinding: Effective Wayfinding and Signing System, guidance for healthcare facilities

Tricco, A.C. et al. (2018) 'PRISMA Extension for Scoping Reviews (PRISMA-ScR): Checklist and Explanation'. Annals of Internal Medicine, 169 (7), pp. 467-473.

Ecuator Network: reporting guidelines (2023). Available at: https://www.equator-network.org/reporting-guidelines/.

Visual simulations made by: Impairment simulator software at inclusive Design Toolkit, University of Cambridge.

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