



Applying Human Factors To Improve Quality of Care

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Description

Human factors is the scientific discipline concerned with the understanding of interactions among humans and other elements of a system¹. User-Centred Design (UCD) applies human factors principles to product design² and involves understanding users' needs, designing to meet those needs, and testing designs with users (Figure 1). In healthcare, human factors and UCD principles can improve products, tools, and processes that are used to care for patients.

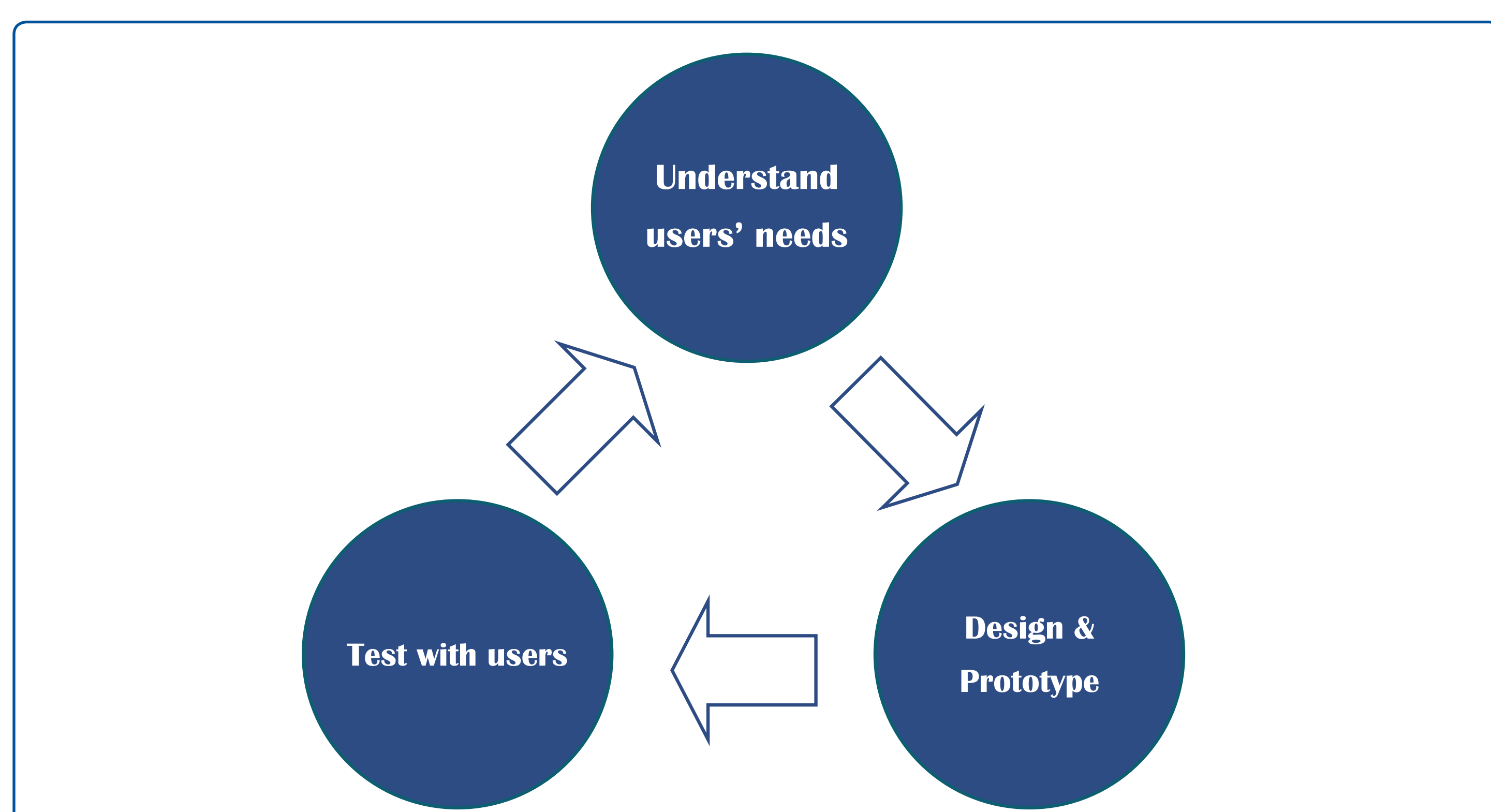


Figure 1. The user centred design methodology

Aim

Applying human factors principles to improve the quality of care at Humber River Hospital.

Actions Taken

Leveraging the UCD methodology, end users identified influential factors to enhance the patient room whiteboard and patient identification verification audit tool. UCD was also applied to assess and improve the post-discharge call centre's (PDCC) workflow process and the patient experience survey used to solicit feedback from patients (see Table 1).

	Patient Room Whiteboards	Patient Identification Verification	PDCC Surveys
Understand users' needs	Focus groups Surveys Semi-structured interviews	Semi-structured interviews Observations	Semi-structured interviews Current state review
Design & prototype	Paper prototypes Thirteen design iterations	Wireframes Paper prototypes Two design iterations	Workflow re-design One design iteration
Test with users	Low-fidelity formative evaluation	Low-fidelity formative evaluation	Low-fidelity formative evaluation

Table 1. Humber River Hospital's application of the UCD methodology.

Summary of Results

Standardized patient room whiteboards were designed and implemented to improve provider-patient communication. A minimalistic designed patient identification verification audit tool collects electronic data efficiently with 3-clicks. A modified PDCC process requires less time for data entry and allows more dedicated time to engage patients for feedback (see Figure 2).

Figure 2. MS Access user interface for auditing patient ID verification.

1 - Definition and Domains of Ergonomics | IEA Website [Internet]. <https://www.iea.cc/whats/>. Accessed 2018-September-17.

2 - User Centred Design | Chartered Institute of Ergonomics and Human Factors Website [Internet]. https://www.ergonomics.org.uk/Public/Resources/Publications/User_Centred_Design/Public/Resources/Publications/UCD.aspx?hkey=2138360f-c44a-4c20-b500-1efb4f04e43a. Accessed 2018-September-17.