



Exploring Patient Centered Care Through the Design of Personal Storage for Patients

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An unexpected stay in the hospital can be a traumatic and stressful experience. In addition to the pain and discomfort endured as a result of injury or illness, patients often experience increased stress associated with the healthcare facility itself such as “delirium, elevated blood pressure, increased need for pain medication and longer hospital stays following surgery” (Ulrich, 1992, p. 20). This stress is counterproductive for both the patient and hospital staff and may be preventable because patient centered design has been shown to counteract negative patient reactions related to the hospital stay (Devlin & Arneill, 2003; Ulrich, 1992).

An extended hospital visit often results in numerous moves between hospital floors and care facilities and as a result personal belongings may be lost in the shuffle. Access to a few personal items could increase overall comfort as well as act as a form of emotional security for the patient. This is not surprising because attachment to objects as symbols of security is a cultural and universal function (Wallendorf & Arnould, 1998). Through interaction with hospital personnel, it became obvious that there was a potential need for personal storage to house and transport patient belongings during the hospital stay. Many patients in hospital settings don't have the opportunity to keep personal belongings close at hand. The significance of control over one's possessions and the loss of control in the medical environment is a concern that surfaced in multiple studies (Cleary, et al., 1991; Douglas & Douglas, 2004; Douglas & Douglas, 2005). The purpose of this study was to explore existing patents for hospital containers that could inform designs for future products that enable storage of personal items in a medical setting. Another objective was to identify and gain a better understanding of patient centered care that prioritizes patient involvement in the healthcare process. Future designs could utilize this information to incorporate the principles of inclusive design to satisfy a range of patient needs. The following questions informed the direction of the research. What patient needs do patent inventors identify as important and what specific product features were included in the patented inventions?

A constructivist perspective informed the direction of the research because it acknowledges that all persons have a unique way of viewing the world and that meaning is not discovered but constructed in a social world (Schwandt, 1994). Fleming's model for artifact study guided the initial patent analysis and was adapted to evaluate and classify properties of the patents to provide the foundation for interpretive analysis based on a comparative approach. Seventeen patents were evaluated for the study and provided valuable information because they identified solutions to specific problems over a period of sixty years. The focus of this analysis was on the identification of needs as reflected in the patent text and independent of actual production of the patented designs.

Patent inventors identified a need for personal storage options so patients could help take care of themselves, lessen their reliance on caregivers and prevent the loss of valuables. Initially, five patents for bedside storage containers were analyzed to determine recurring themes. An additional twelve patents for storage containers for bedside use, walkers and wheelchairs were evaluated and the resulting themes were consistent with the original set of patents. The following eight product characteristics were identified as important features in the development of hospital containers. They included: ease of use, secure, slim, reusable, adaptable, multiple pockets, washable, and convenient. An internet search provided nine websites related to patient centered care from the US, Canada, Australia and New Zealand. Mission statements and *about* pages were compared to provide general themes. The websites advocated the importance of patient involvement in healthcare and all of the websites provided educational resources. This information suggests that patient centered care continues to be a timely concern for patients as well as healthcare providers.

The information obtained from this study could inform future designs of hospital storage containers that incorporate cutting edge technology, in particular to add to the safety and overall desirability of such products. Additional research may include in-depth interviews to gain another perspective to better evaluate and understand patient quality of life in the hospital. Future designs will include a diverse range of users. This makes sense within the broader context of patient centered care as well as on an individual level to improve the quality of life for long-term hospital patients.

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