Co-Visualised Sleep Disturbances:
Design Toolkit for Improving Sleep of Older Patients within Hospital Environment

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The research was carried out at **Chelsea and Westminster Hospital** (London).

The goal of this study is to stimulate a discussion on how to help designers in communication with healthcare patients, how to gather feedback on their experiences and ultimately how to improve research for change making in the field of healthcare. It explores new ways of approaching elderly patients for collecting insights on their individual perception of sleep disturbances in hospital environment.

The research investigates how to gather and deliver the understanding of older patients' personal experiences to design a better sleep within hospital setting.
The study focuses on sleep experience, as it is an important part of the recovery process. Therefore, it is utmost crucial for the environment of healthcare facility to provide for it. Design interventions based on and followed by gathering patients insights, can resonate with their health and wellbeing helping them to recover faster. That is why, methods and tools for collecting patients feedback are significant in the process of change making and are worth improving.

Research process & Methodology

The design practice part of the study develops a diagnostic kit for co-visualising sleep disturbances. It was built on literature review, ethnographic and participatory studies undertaken within Chelsea and Westminster Hospital setting and was put to test by both experts and patients. The research toolkit aims to be an interactive and socially beneficial tool accompanying the discovery interview method helping to include patients in co-design process for hospital physical environment improvements.

The final design probe has been tested on older patients of Chelsea and Westminster Hospital on a sample of ten and explored their experiences.

How to gather and deliver the understanding of older patients' personal experiences to design a better sleep withing Hospital?

- Engaging
is process of engaging with the hospital community, approaching patients, ethnographic study

- Transforming existing tools
literature review, initial findings

- Diagnostic kits' experiments
research through making, design probes, theoretical and technical context, participatory study, evaluation

- Testing
a feedback loop, investigating insights and potential contributions of created tool

The target audience for the design toolkit probe testing were elderly individuals over the age of 65, being hospitalised in Chelsea and Westminster Hospital in London. The healthcare wider community has been also engaged in the study, meaning hospital staff employees and researchers were also involved. Three types of design toolkits were put to the test.

PATIENTS PERSPECTIVE:
- Engaging
- Interactive - socially beneficial
- Intuitive - stands for the purpose of research

DESIGNER/ RESEARCHER PERSPECTIVE:
- Help to understand patients' perspective
- Obtain valuable insights
- Visualise the feedback to ease data collection and evaluation

The toolkit was built to help designers gather patients' spatial experience and deliver understanding of the improvement needed for overcoming the institutional sleep disturbances.

The Co-Visualised Sleep Disturbances' Toolkit aims to be used as a part of a discovery interviewing, a conversation tool, for the purpose of transforming healthcare experience. It provokes a discussion on co-design approach for providing a shared value and co-improving healthcare. It explores potential contribution to better institutional sleep experience.

A model of a non-medical toolkit outlines the quality of space from patients perspective and can be used to accompany gathering feedback for environmental aspects of experiencing sleeping in hospitals. It investigates patients' relationship to healing places, exploring their needs and extracting spatial issues that require improvement. Bringing an interaction to collecting hospitalised individuals' insights, it bridges designers with patients for the purpose of design intervention. Its intuitiveness supports conversation, helping to provide understanding and extracting issues in regards to sleep disturbances in places of healing.

Findings & Conclusions

Insights into patients experience physical environment of healing places are a key factor for successful quality improvement of healthcare. NHS itself is feedback driven and relies on it for any key alterations in policy making (NHS Confederation, 2010).

The designed toolkit can be viewed as instrumental for healthcare transformation. All the tested models were engaging and absorbing for patients. The toolkit itself stood for the purpose of the research and brought an immediate understanding of it to both participating patients and medical staff. This proves that an adequate form of conversation tool was selected and it did match the inquiry of investigation. The transparency of tested models supports navigation of space and allows for clear recording of feedback. While the process of testing patients were sharing their personal perspectives. Among disturbances raised by participants many were commonly related to "strange noises" produced by other patients, staff, medical equipment or other elements of arrangement. Lighting in corridor, temperature in the bay were more related to individual preferences.
In summary, the study explored different ways of creating patients' engagement and interactions with a toolkit: sticking, pushing, writing, drawing and pointing, in order to challenge ways of co-visualising the feedback. It was observed that pushing and pointing were the easiest for patients, while writing and drawing were the most valuable for data collection and evaluation. The relation of significance of the collected information to the level of patient engagement in co-visualising remains an interesting research topic. Its aim should remain to maximise the efficiency of both.

Marking spatial issues — Unstable, not durable enough, does not give a sense of a space orientation

Fixed plexiglass cubicle — Easy to navigate — Reusable

Short notes - not a detailed feedback — Literal representation of basic arrangement elements — Stickers of different colours distinguishing types of issues

Plexiglass fixed box with laser cut circles on each wall — Pushing out the elements to show the direction of incoming disturbances

Using different material (cellulose sponge) for describing other characteristics of disturbances (e.g. intensity)

Subtractive of additive way of marking problems — Not easy to navigate the space if viewed when laying

Folding up to use

Navigating the space by sketching basic arrangement elements — Qualitative data

PET/ PC nets — Written/ drawn feedback recorded — Folding down to record