Design of a mobile healthcare application to make administrative work more efficient for caregivers

Molly Lilljebjörn Rusk & Fanny Ejlertsson

As the administrative workload for hospital staff increases, the need for a solution that eases their work is becoming more and more apparent. To find such a solution, the use of a mobile application compatible with the existing product *Pulstavlan*, has been explored with promising results.

Fig. 1. *Left:* Main view with overview of all admitted patients. *Right:* Individual patient view.

Pulsappen is the resulting application design that aims at aiding hospital ward staff in their administrative workload. Pulsappen is compatible with the existing product, Pulstavlan. Pulstavlan is a digital product developed by the company Stretch Care AB and displays patient information to hospital staff members on a large board. Although the aim of Pulstavlan was to ease the administrative workload of caregivers, it does not eliminate the need to document the same patient information in multiple systems. Therefore, caregivers need to carry around a physical paper with patient information to enable constant access to the data without having to return to the location of Pulstavlan. The compatibility with Pulstavlan eliminates the need for such physical papers. The mobile application gives the staff an overview of all admitted patients with regard to patient flow in and out of the ward. It also eases the handover between staff members between shifts, as the patient information is always updated. Moreover, the mobile application can be used to distribute staffing resources on the ward based on the current workload of different staff teams.
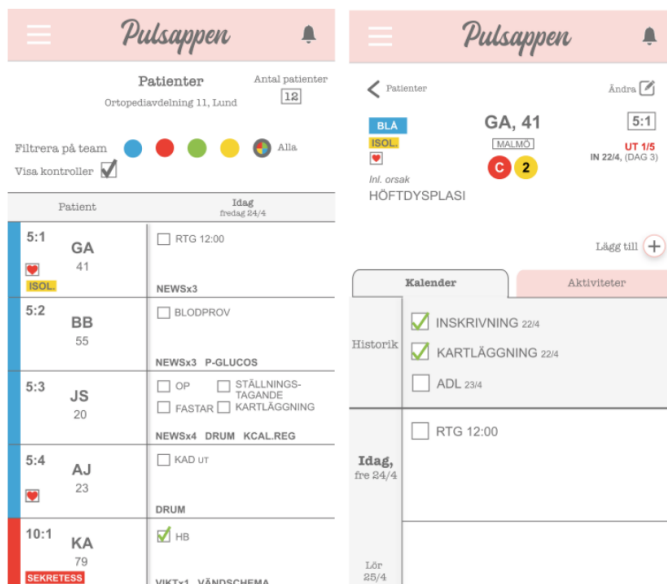
By interviewing 18 staff members on hospital wards in Skåne, the needs of caregivers were established and used as the base for the prototype design of Pulsappen. The prototyping of the application was done in four iterations, two iterations of designing a more simple, physical prototype, and two iterations of designing a digital and interactive one. All prototypes were evaluated by letting users complete tasks typical to hospital wards using the mobile application design while thinking aloud.

The design was considered easy to use by hospital staff members during the testing and indicated through the successful completion of the given tasks. This was also suggested by their anonymous rating of 82.5 out of 100 with regard to the design's usability. To achieve a design fully optimised for caregivers in the future, a wider user group can be used to collect data as well as for the testing of the prototypes. A greater number of desirable functions that were expressed in the user interviews can also be implemented to improve the final prototype further. However, the promising results suggest that Pulsappen is the next step toward a lighter workload on hospital staff.