

Digital Information Management for Advanced Practice Nursing: Needs Assessment

Heidi LAINE^{a,1}, Asta HEIKKILÄ^b, Laura-Maria PELTONEN^c and Jouni SMED^a

^aDepartment of Computing, Turku, Finland

^bTurku University Hospital, Turku, Finland

^cDepartment of Nursing Science, Turku, Finland

Asta Heikkilä <https://orcid.org/0000-0003-1151-7382>

Laura-Maria Peltonen <https://orcid.org/0000-0001-5740-6480>

Jouni Smed <https://orcid.org/0000-0002-7242-5791>

Abstract. The aim of this pilot study was to explore needs related to a quality dashboard for advanced practice nursing to support quality management in a Finnish university hospital.

Keywords. Hospitals, nursing quality dashboard, nursing sensitive indicators

1. Introduction

The aim of this pilot study was to explore needs related to a quality dashboard for advanced practice nursing to support developmental work and quality management. This included interviewing Advanced Practice Nurses (APNs) from one Finnish university hospital about their information needs and experiences with their current workflow related to information management. Quality dashboards provide information about key performance indicators (KPIs) at the department or organization level to help decision making [1]. Studies show that use of healthcare dashboards can reduce cognitive burden, reduce errors, improve care processes, outcomes, and situational awareness [1, 2, 3].

2. Methods and Results

We used a qualitative study using semi-structured focus group interview, because it provides insight into topics such as revealing points of agreement, conflict or uncertainty [4]. The healthcare data of the studied university hospital is stored in a data lake. APNs can obtain information from it by information requests and the results are then provided as data tables. Five people working in varying roles related to nursing quality development participated in the interview, which lasted ca. 75 minutes and was arranged

¹ Corresponding Author: Heidi Laine, Department of Computing, University of Turku, Turku, Finland, E-mail: heidi.k.laine@utu.fi.

by using a video conference software [5]. Administrative approval for this study was given by the hospital district (T147/2022).

The results can be grouped into three categories. *Providing timely access to right information.* APNs often lack an opportunity to see the original data, regardless of its origin. The interviewees reported communication issues and difficulties selecting the right parameters for information request. Also, data obtained from the information systems can be inadequate or incorrect. The lack of valid and timely information causes interruptions and makes the study participants question whether they can trust the received data. *Providing aggregated information based on user needs.* The needed information is often distributed in several information systems that do not communicate with each other. This makes combining and comparing related data difficult. The number of information systems used in one unit to find the needed information is 10-20. Also, different professionals and departments have dissimilar information needs relating to both its coarseness and real-timeness. In some units, real-time information is vital whereas for other the validity and reliability of the data needs to be ensured. *Selecting and visualizing dashboard content.* The data currently available often lacks the context, which makes it less informative. Distinguishing information from qualitative data needs to be done manually with certain keywords since there is no statistics available. To avoid information overload the most important KPIs should be prioritised in the dashboard.

3. Discussion and Conclusions

This pilot study shows a need for more accessible and validated information presented in an easy-to-interpret form. Based on the results we can assume that the development of a nursing quality dashboard could benefit nursing quality management and development in this university hospital. One should consider the information needs of the APNs and issues experienced in the current work setting when designing the dashboard. The results align well with the existing literature: data stored in several inconsistent source systems, poor data quality and reliability and selecting suitable dashboard content are common issues in designing dashboards for healthcare [1, 6]. Since this was a pilot study with a limited setting, we need to further study the different user needs and how the dashboard could be integrated into the workflow of the APNs.

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