



Nasjonalt senter for
e-helseforskning



User Perspectives on Electronic Health Record Functionality A Qualitative Evaluation of Clinical Experiences

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NINe -

National Implementation Research Network E-health

- The project started in 2019
- Collaboration with Nordic E-health Research Network (NeRN)
- The project has monitored the implementation of a new electronic health record system in Northern Norway Regional Health Authority



Background

- Norway has taken a national initiative to modernize its electronic health records (EHRs).
- DIPS Arena is a new EHR system introduced to support this digitalization effort in Norwegian hospitals.
- Implementation of DIPS Arena began in **2021** within the **Northern Norway Regional Health Authority**.
- This study is a **follow-up conducted in 2024, three years after implementation**, focusing on user experiences.



Aim of the study

Study Goal:

In this paper, we set out to explore clinical users' experiences with the DIPS Arena Electronic Health Record (EHR) system. Identifying challenges and benefits of the system as perceived by its users



Study Design & Methodology

Data Collection:

- Survey conducted in 2024 among clinical EHR users across Northern Norwegian healthcare institutions
- Total of 549 participants, with **57** providing detailed, text-based feedback that is used in this study
- The 57 qualitative responses included nurses, medical doctors, other clinical professionals (such as psychologists, physiotherapists, and midwives)

Analysis:

- Utilized thematic analysis following Braun and Clarke's framework to code responses and identify themes
- Coding by ESN, reviewed by RP



Overview of Themes:

Through iterative coding, we condensed the qualitative data into four key themes:

- System integration, technical stability, and communication
- Usability, design, and navigation
- Administrative processes, documentation, and clinical functions
- Training, implementation, and support



Theme 1: System Integration & Stability

- Fragmented data sharing across systems
- Manual data entry, slow performance
- Workflow disruptions



Theme 2: Usability & Design

- Non-intuitive interface and layout
- Excessive clicking and poor navigation
- Inconsistent shortcuts and icons
- Increased cognitive load



Theme 3: Administrative and Clinical Functions

- Redundant data entry and inefficient templates
- Documentation burden limits patient interaction
- Lack of integrated medication management



Theme 4: Training and Support

- Insufficient e-learning and classroom sessions
- No role-specific or hands-on training
- Heavy reliance on self-learning



Discussion

- Findings consistent with prior EHR usability literature
- Key pain points: interoperability, usability, training gaps
- Usability issues affect efficiency and safety
- Training quality influences adoption and use



Limitations

- Small and self-selected sample
- Potential bias in open-text responses
- Not generalizable to all users



Conclusion

- User feedback critical to EHR development
- System refinement needed to match clinical workflows
- Collaboration between users and developers essential



Future work in NINe

- Continuous work
Collaboration with Nordic E-health Research Network (NERN)
- Future: Combine qualitative and quantitative research



Thank you

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