

# Challenges & Benefits Utilizing A Digital Patient Pain Tool: A Qualitative Feasibility Study

A sub-study of the project:  
The surgical pain trajectory - feasibility and usefulness of patients' self-reporting of pain and well-being (MAPIP-FEAS)

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- What is already known**
- Surgical pain is still largely undertreated
  - Patients' self-reporting of pain is considered part of the gold standard for pain management, but barriers reduce their usefulness.
  - Digital health care solutions can provide more patient-centered care and improve pain management
  - The health services of the future must become more efficient to meet future needs

- What this study adds**
- Healthcare practitioners worries that digital systems reduce bedside nursing, underestimating their clinical value
  - The complexity of pain entails context-dependent assessment
  - Digital tools must be tailored to different settings
  - Digital patient reported scoring might empower patient communication and control

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**Background & Aims:** Postoperative pain is a known consequence of surgery. Even though there are different interventions to reduce pain, too many patients still experience moderate to severe pain after surgery<sup>[2]</sup>. In current clinical practice, various self-reported tools to assess pain intensity exist<sup>[5; 11]</sup>, but barriers reduce their usefulness<sup>[13-15]</sup>. For future efficiency and development of health care, digital solutions and using patient reported data, can provide more effective and personalized care<sup>[3; 9]</sup>. Digital solutions targeting postoperative pain have promising results<sup>[1; 12]</sup>. However, additional research is warranted to facilitate their integration into clinical practice<sup>[1]</sup>. As a first step guiding the implementation of digital patient self-reporting pain monitoring<sup>[6; 7; 10]</sup>, we wanted to explore healthcare providers' perspectives on using digital tools in everyday clinical practice. We aimed to explore healthcare providers perceived challenges and benefits related to utilizing digital pain intensity monitoring in different contexts. Second, we aim to use this knowledge to guide the implementation strategy for a digital pain self-report tool.

**Methods:** We employed a qualitative design with semi-structured focus group interviews of health care providers working with postoperative patients. The interview guide had open-ended questions about the health care practitioners experience with postoperative pain assessment and management, and perspectives on utilizing digital solutions in clinical practice. The interview guide was tested in a pilot and discussed in the research team to ensure that questions asked for had potential to explore the research-question. Seven focus group interviews with a total of 39 healthcare personnel from different hospital-departments (Postoperative/Intensive care units, General surgery wards and Orthopedic wards) at two hospitals at the west coast of Norway were conducted. The interviews lasted from 57 mins to 80 mins. Transcribed interviews were analyzed according to the six steps of Reflexive thematic analysis<sup>[4]</sup>.

**Ethical Permissions:** The local data protection officer at District General Hospital of Førde approved the study (eProtocol 3942). The Regional Committees for Medical and Health Research Ethics in the west region of Norway evaluated it not necessary to obtaining permission from the committee (646937), as it is a study of professionals' perspectives. Head nurse / department manager in included health trusts externally from District General Hospital of Førde, obtained approval from the data protection officer at their own health trust regarding participation in the study. Written informed consent was obtained before the interview and stored in a secure place to preserve anonymity. Secure data storage with separated key area in the Western Norway Regional Health Authority was used for storage of transcribed interviews and audio files.

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R39: Yes, because they [referring to healthcare organizers] want to, they look at a lot of opportunities to take tasks away from nurses so that we can focus solely on the professional aspect. But having someone else do the personal care for me is completely useless, really, because it's essentially data collection. (...).  
R38: That's when we see them.  
R39: That's when you see them.  
R38: Yes  
R39: It's not just "hygiene care", it's data collection. And I feel that we lose a bit of that when we "press" [referring to tools], [several express agreement].  
(Illustration of a quote coded under the sub-theme 1.1 in the analysis)

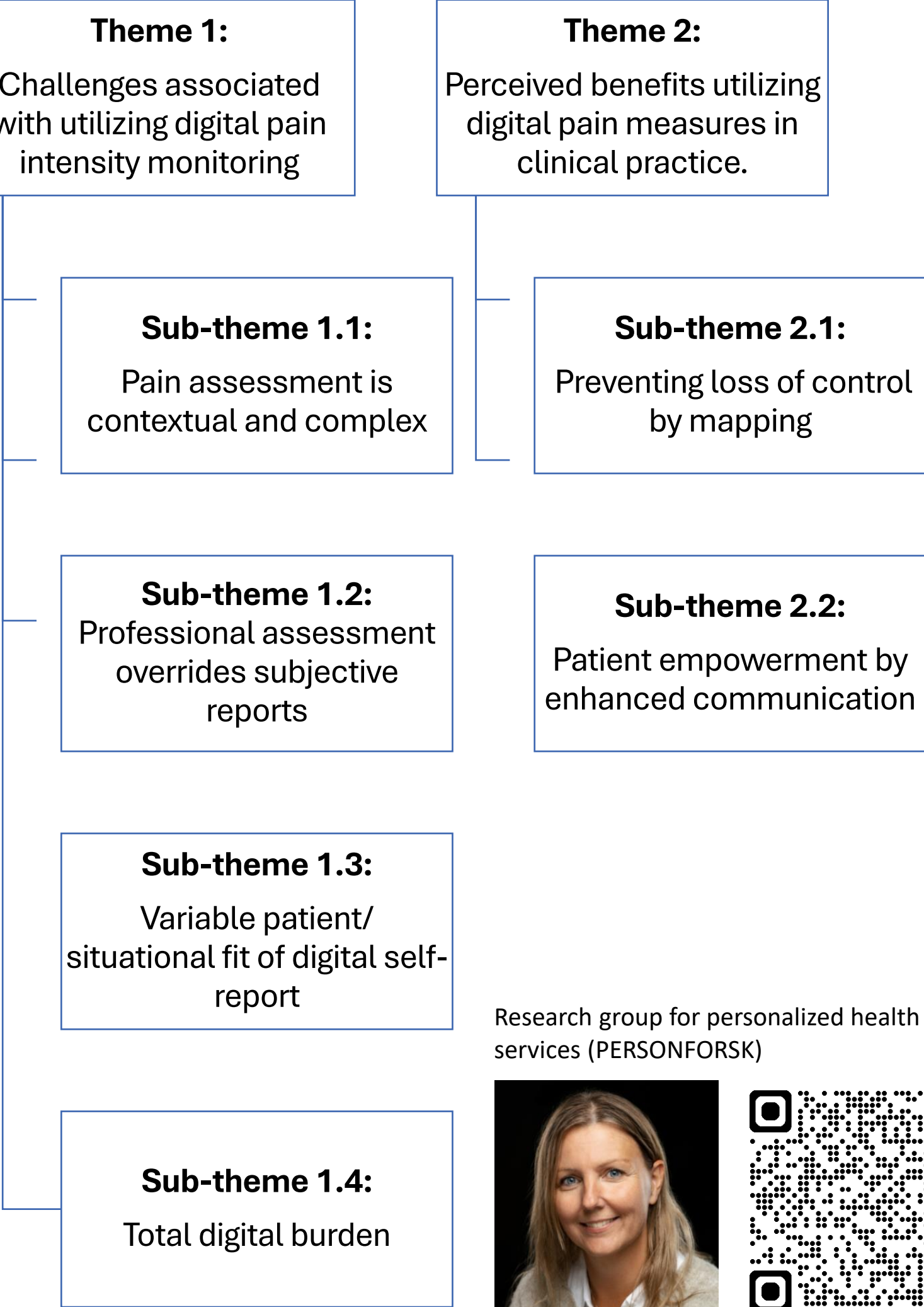
R39: I believe we can bring a six down to a four, for example, by providing reassurance and being bedside (...).  
(Illustration of a quote coded under the sub-theme 1.1 in the analysis)

R2: (...) I usually rely on my perception of the patient. If they're lying completely relaxed, scrolling on their phone, and saying they have an NRS [Numerical Rating Scale] of nine, I don't immediately draw up five milligrams of Morphine. I'll try something else first and see if it helps.  
(Illustration of a quote coded under the sub-theme 1.2 in the analysis)

R21: I think those patients who have woken up, whom you are administering pain relief to, they might be able to "pick up on" it a little earlier if we had such feedback, or such on the screen. That you might be able to more quickly monitor if it had turned and started getting worse. Especially if you have many then. But it requires being awake, or that he is not unclear and that he understands.  
(Illustration of a quote coded under the sub-theme 2.1 in the analysis)

R36: (...) And then I think that for those who, if there are communication difficulties, or if someone maybe is just quiet to begin with, then maybe a little keystroke could make it easier to convey that they're not feeling okay. (...)  
(Illustration of a quote coded under the sub-theme 2.2 in the analysis)

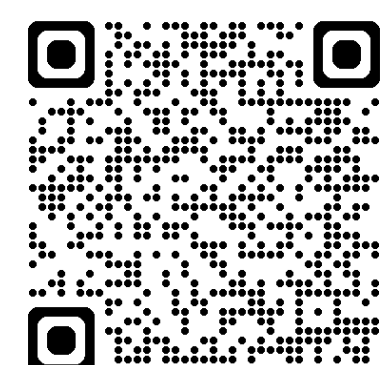
Health care providers perceived challenges and benefits towards implementing a digital patients self-report pain intensity tool



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