

Preconditions for Enabling Advanced Patient Centered Decision Support on a National Knowledge Information Infrastructure



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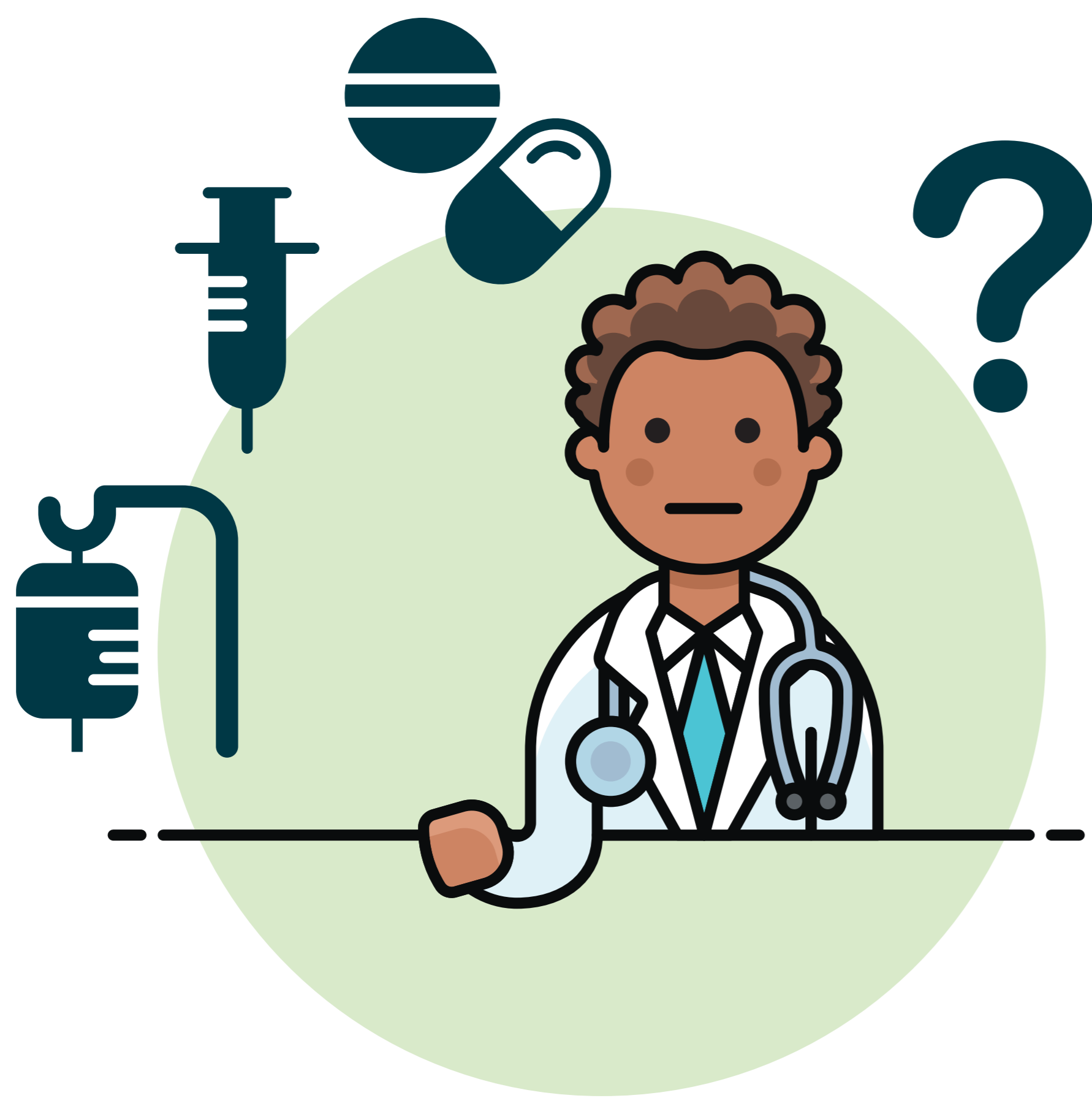
Introduction

In healthcare, important goals are to provide clinical decision support (CDS) “for the right healthcare personnel in the right situation at the right time”. Well-designed Electronic Patient Record (EPR) systems have the potential to support complex healthcare processes, and subsequently improve the quality of treatment and increase patients’ outcomes. Still, Clinical Decisions Support (CDS) capabilities are not widely used.

In Norway, a national initiative has started to explore how to establish a standardized “knowledge platform” where the overall goal is to enable high quality knowledge support for healthcare personnel.

The research questions are:

- *How can a national knowledge information infrastructure be organized?*
- *What are the preconditions to enable advanced patient centered decision support?*



Method

A qualitative interpretive approach was used, including literature search and semi-structured interviews with EPR vendors, knowledge-base providers, and healthcare personnel/managers. The interviews were transcribed and coded by themes.

Information Infrastructure theory was used to analyze the data and generalize the findings to make them relevant for other contexts beyond the Norwegian Healthcare.

Results

This study presents three different categories of clinical knowledge support depending on the extension of integrations between different sources of evidence-based knowledge and an EPR system.

External Passive Knowledge Support

External Passive Knowledge Support is the most basic form of knowledge support and CDS, in which healthcare personnel need to access knowledge through external publishing channels outside their EPR.

Integrated Passive Knowledge Support

Integrated passive support offers CDS solutions as part of EPR systems. However, the clinicians have to actively decide when to access knowledge support.

Active Knowledge Support

Active Knowledge Support is the most advanced form of evidence-based CDS and offers knowledge support integrated with an EPR. Health professionals automatically receive active notifications and recommendations, as well as access to patient-specific decision support in various clinical situations.

Conclusion

Establishing a national knowledge information infrastructure requires:

- An extensive governance structure spanning different organizational levels. Neither knowledge providers nor the system vendors’ offers governance related to evidence-based knowledge bases and CDS systems.
- The EPR system must be based on structured clinical information, since active CDS engines only extract structured data elements.
- Clinicians need to change their practice of recording clinical information in EPR system, and start doing real time recording by using structured clinical elements.
- A national knowledge II demands for defining what standards, codes and terminologies to use to enable integration between different sources of knowledge sources.

References can be provided upon inquiry.