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# Success Factors of a Perioperative Medication Mobile CDSS

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# Success Factors of a Perioperative Medication Mobile CDSS[1]

*TREO Talk Paper*

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## Abstract

Up to 20% of patients undergoing major surgery suffer complications (Chahal, et. al., 2020). Optimal perioperative management of patients are crucial to mitigate this risk. The following presents current progress of an exemplary case study, where a mobile Clinical Decision Support System (CDSS) for perioperative patient management in a leading Australian cancer hospital is codesigned (Peffers, et. al., 2007) through Academic and Industry collaboration. An existing mobile CDSS that was developed in 2013 has been utilized real-time in the clinic at a dedicated cancer hospital. The clinical impact since the implementation of this CDSS was assessed between 2013 and 2018 (Chahal, et. Al., 2020). The purpose of the redesign is to update the content and decision-making algorithms; integrate into existing electronic workflows; advance the CDSS to gain the approval of the Therapeutics Goods Administration (TGA) of Australia and commercialization. Between October 2020 and October 2021, multiple codesign cycles were carried out with the participation from health informatics and computer science specialists from an Australian university, and the clinical leads and end users of the current CDSS in the selected leading cancer hospital in the southern hemisphere. The codesign study is governed by the principles from Design Science Research Methodology (DSRM) (Peffers, et. al., 2007). The critical success factors of a mobile CDSS for perioperative management are discussed under the following themes: Perspectives of the clinician leads; perspectives of the end-user clinicians; and IoT and analytics capabilities desired by clinician leads. In addition, user satisfaction, fidelity and ease of use were gathered. This was mapped using a task technology fit perspective where fit was connected with ability to support decision making around blood clotting/bleeding in surgery. A brief demonstration of the mobile CDSS (i.e., the CLOTS App) is provided in the video (CLOTS App, 2022).

## References

Chahal, R., et. al., 2020. Impact of a risk-stratified thromboprophylaxis protocol on the incidence of postoperative venous thromboembolism and bleeding. Anaesthesia, 75(8), pp.1028-1038.

CLOTS App, 2022. Link:
https://drive.google.com/file/d/1Rx5FJoPXErsxkoBkYuuoMka9uT50tceT/view?usp=sharing.

Peffers, K., et. al., 2007. A design science research methodology for information systems research. Journal of management information systems, 24(3), pp. 45-77.

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