

# INPLASY

## Unraveling Digital Determinants Shaping Pharmacists' Preparedness for Interoperability and Practice Evolution: Systematic Review

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### ADMINISTRATIVE INFORMATION

**Support** - This research received no external funding (Self-funded).

**Review Stage at time of this submission** - Preliminary searches.

**Conflicts of interest** - None declared.

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**Amendments** - This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 16 August 2023 and was last updated on 16 August 2023.

### INTRODUCTION

**Review question / Objective** Primary objective: What are the digital-related factors that influence pharmacists' readiness for interoperability practice change? Secondary objective: Is digital literacy a barrier to pharmacists' readiness for a technology-oriented practice change?

**Rationale** Healthcare system interoperability has gained significant adoption, particularly in the United Kingdom (UK), where its implementation has yielded positive impacts on the delivery of healthcare services. Conversely, certain countries such as the United Arab Emirates (UAE) have initiated substantial strides toward achieving healthcare interoperability, yet the trajectory of developing a seamlessly integrated healthcare system remains at a nascent stage. It is noteworthy that interoperability holds the potential to make substantial contributions to the decision-making processes and advisory roles of pharmacists. Access to patients' health data can

optimize health outcomes and enhance the scope of pharmaceutical care services.

Previous studies discussed the determinants that shape the readiness for embracing changes in professional practice, with parallel studies investigating the extent of digital literacy knowledge. However, existing studies exhibit constraints in encapsulating the comprehensive spectrum of technology-driven factors capable of influencing pharmacists' adoption of healthcare technologies and their predisposition to embrace transformative technological shifts within pharmacy practice.

This present review assesses the void in technological prerequisites within the pharmacy practice domain. In doing so, it delineates the imperative technological proficiencies and competencies that pharmacists ought to possess in congruence with the demands of the 21st-century landscape. Importantly, the insights gleaned from this review could function as a compass, steering the development of curricular frameworks for both undergraduate and postgraduate pharmacy education preparing

pharmacists for a digitally inclined professional trajectory.

**Condition being studied** Digital-related factors influencing pharmacists' readiness for interoperability and technology-oriented practice change.

## METHODS

**Search strategy** Searched databases: Pubmed, Scopus, and Cochrane.

Searched terms: Pharmacist, Digital literacy, Practice Change Readiness, Interoperability, Cyber literacy, Computer literacy, Computer skills, Digital skills, Digital competence, e-literacy, Communication literacy, Practice alteration, Practice development, Connectivity, Interconnectivity, Inter-operability, Organizational Change, Readiness potential, and Health Information System Interoperability.

**Participant or population** Pharmacists, community pharmacists, retail pharmacist, clinical pharmacist.

**Intervention** The investigated issues are: Digital-related factors influencing technology acceptance and interoperability. Population exposed: Pharmacists who were assessed for their technological competencies or shared their feedback about a technological intervention or technology acceptance.

**Comparator** Not applicable.

**Study designs to be included** Any study design: would expect to be observational/cohort studies rather than RCT's.

**Eligibility criteria** Studies that involved feedback from pharmacists from any age, gender and nationality. Population not restricted to the UAE, will examine papers from all over the world. Pharmacists who were assessed for their technological competencies or shared their feedback about a technological intervention or technology acceptance.

**Information sources** Electronic databases such as Pubmed, Scopus, and Cochrane Library. In addition, the authors are open to any suggested studies from field experts.

**Main outcome(s)** The studied outcome is the readiness and acceptance of interoperability and technology-oriented practice change.

**Data management** Searches are saved in the history records of databases as well as copied to word documents for reference. The studies will be selected by generating Excel (.csv) documents generated from the databases.

**Quality assessment / Risk of bias analysis** The literature appraisal method will include using the Strengthening the Reporting of Observational Studies in Epidemiology (STROBE) framework tool which is often used to measure the quality of cohort, case-control, and cross-sectional studies. In addition, the Assessing the Methodological Quality of Systematic Reviews tool (AMSTAR 2) will be used to evaluate systematic reviews that include randomized or non-randomized studies of healthcare interventions, or both.

**Strategy of data synthesis** Narrative synthesis will be carried out using a framework which consists of four elements;

1. Develop a PICO question, key words, and a search methodology
2. Develop a preliminary synthesis of findings of included studies
3. Select studies that meet the inclusion criteria
4. Assessing the quality and risk of bias of selected studies.

**Subgroup analysis** To be decided in subsequent phases.

**Sensitivity analysis** To be decided in subsequent phases.

**Language restriction** Studies published in English only.

**Country(ies) involved** Institution Affiliations: Malaysia and United Arab Emirates.

**Keywords** Digital literacy; interoperability; pharmacist; readiness; practice change; Technology acceptance.

### Contributions of each author

Author 1 - Sabrina Ait Gacem - S.A.G. contributed to the concept and the methodology of the review. S.A.G. contributed to the data extraction, analysis, and data interpretation. S.A.G. significantly contributed to the writing of the manuscript.

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