Identifying Diagnostic Stewardship Mechanisms in the Electronic Test Result Management Process – Preliminary Findings from a Scoping Review

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Abstract. Digital health can play a key role in diagnostic stewardship, which refers to the coordinated guidance and interventions to ensure the appropriate utilisation of diagnostic tests for therapeutic decision-making. Outcomes of test result management and the impacts of digital health are a result of the interaction between dimensions of a complex environment. This poster will present preliminary findings from a scoping review which identifies the stewardship mechanisms that facilitate safe and effective electronic management of test results.

Keywords. test result follow-up, digital health, diagnosis, stewardship

1. Introduction

Diagnostic investigations aim to increase certainty of the presence or absence of disease, support clinical management, and monitor a patient's disease trajectory [1]. Despite the importance of diagnostic test results, the World Health Organization, World Alliance for Patient Safety has identified poor test result management as a high priority patient safety area [2]. Electronic applications developed to support test result follow-up include test result tracking systems that identify pending test results at hospital discharge [3], deliver result alerts to clinicians or allow acknowledgement and documentation of follow-up actions [4]. However, poor organisational integration of such systems has emerged as a significant hazard to patient safety [5]. Diagnostic stewardship encompasses the coordinated guidance and interventions to ensure the appropriate utilisation of diagnostic tests for therapeutic decision-making [6]. A previous systematic review on the impact of digital health on test result management concluded that the construction of safe and effective electronic interventions must acknowledge the complexity of the diagnostic process and consider the role of context-sensitive governance structures which run parallel to such systems [7]. This poster will present preliminary findings from a scoping review which aimed to identify the stewardship mechanisms that facilitate safe and effective electronic management of test results.

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2. Methods

The scoping review was conducted in accordance with the PRISMA Extension for Scoping Reviews (PRISMA-ScR) guideline [8]. A search for original studies reporting digital health-driven diagnostic test result management systems and outcomes in healthcare settings was conducted in the following databases: MEDLINE, EMBASE, CINAHL, Web of Science, ScienceDirect, ProQuest and Scopus from January 2013 to current. Handsearching of reference lists of relevant literature and grey literature was conducted supplementary to database searches.

3. Results

Included studies were assessed against an 8-dimensional sociotechnical model [9] developed to address the socio-technical factors which can shape the design, development, implementation, use and impact of digital health. Preliminary results will be presented on the stewardship mechanisms which ensure the appropriate follow-up and ultilisation of tests for therapeutic decision-making.

4. Conclusions

Outcomes of test result management and the organisational impacts of digital health are a result of the interaction between different dimensions of a complex environment [9]. Findings from this scoping review will facilitate understanding and improvement of digital health interventions during development and implementation to achieve safe and effective test result management.

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