

The Impact of eHealth on the Quality and Safety of Health Care: A Systematic Overview

.....report the findings of their systematic overview that assessed the impact of eHealth solutions on the quality and safety of health care...

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“.....There is considerable international interest in exploiting the potential of digital solutions to enhance the quality and safety of health care. Implementations of transformative eHealth technologies are underway globally, often at very considerable cost. In order to assess the impact of eHealth solutions on the quality and safety of health care, and to inform policy decisions on eHealth deployments, we undertook a systematic review of systematic reviews assessing the effectiveness and consequences of various eHealth technologies on the quality and safety of care.

Methods and Findings

We developed novel search strategies, conceptual maps of health care quality, safety, and eHealth interventions, and then systematically identified, scrutinised, and synthesised the systematic review literature. Major biomedical databases were searched to identify systematic reviews published between 1997 and 2010.

Related theoretical, methodological, and technical material was also reviewed. We identified 53 systematic reviews that focused on assessing the impact of eHealth interventions on the quality and/or safety of health care and 55 supplementary systematic reviews providing relevant supportive information.

This systematic review literature was found to be generally of substandard quality with regards to methodology, reporting, and utility. We thematically categorised eHealth technologies into three main areas:

- (1) storing, managing, and transmission of data;
- (2) clinical decision support; and
- (3) facilitating care from a distance.

We found that despite support from policymakers, there was relatively little empirical evidence to substantiate many of the claims made in relation to these technologies. Whether the success of those relatively few solutions identified to improve quality and safety would continue if these were deployed beyond the contexts in which they were originally developed, has yet to be established. Importantly, best practice guidelines in effective development and deployment strategies are lacking.

Conclusions

There is a large gap between the postulated and empirically demonstrated benefits of eHealth technologies. In addition, there is a lack of robust research on the risks of implementing these technologies and their cost-effectiveness has yet to be demonstrated, despite being frequently

promoted by policymakers and “techno-enthusiasts” as if this was a given. In the light of the paucity of evidence in relation to improvements in patient outcomes, as well as the lack of evidence on their cost-effectiveness, it is vital that future eHealth technologies are evaluated against a comprehensive set of measures, ideally throughout all stages of the technology's life cycle. Such evaluation should be characterised by careful attention to socio-technical factors to maximise the likelihood of successful implementation and adoption....”

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