eHealth interventions to facilitate work participation: a scoping review protocol

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Review question: The objective of this scoping review is to identify and synthesize existing literature on the different types of eHealth interventions used in workplaces and healthcare settings to facilitate work participation. The following questions will be examined: For which user groups, in which settings and by which stakeholders are eHealth interventions provided? Are eHealth interventions that are aimed at work participation theory-driven or based on empirical evidence?

Keywords: eHealth; occupational rehabilitation; return to work; sickness absence; workplace intervention


Introduction

Worldwide, there is an increased demand for better healthcare services, technologies and medicines.¹ Healthcare expenditures continue to rise, and governments face pressure to restrain costs.¹ The World Health Organization (WHO) recommends looking at ways to improve efficiency, and the use of information and communication technology is proposed as a useful tool.¹ In 2001, Eysenbach claimed that eHealth was an emerging field in the intersection of medical informatics, public health and business.² eHealth may also be a promising solution to better manage the process of return to work (RTW) among sick-listed employees.³⁻⁵

The use of information and communication technology in health care (eHealth) is one of the most rapidly growing areas in the delivery of healthcare services.⁶⁻⁷ The WHO is actively working to improve health by providing member states with strategic information and guidance on effective practices and standards in eHealth.⁶ At present, more than half of all member states have an eHealth strategy.⁶

Similarly, the European Union (EU) has an eHealth Network, which aims to increase the potential and use of information and communication technology to improve the prevention, diagnosis, treatment, monitoring and management of health.⁸

There is growing research literature on eHealth for various patient groups and healthcare settings.⁹⁻¹³ eHealth has shown positive impacts on health-related outcomes, such as behavior changes among persons with anxiety disorder¹⁴ and more person-centered care for patients with cancer.¹⁵⁻¹⁹ The evidence for cost-effectiveness of eHealth interventions is promising in some specialties (e.g. teleophthalmology and telecardiology), although reviews conclude there are still several limitations, such as a lack of randomized controlled trials (RCTs).²⁰,²¹ An overview concluded that 23% of reviews found eHealth to be effective to reduce healthcare costs, and 42% found promising evidence.²¹ When it comes to eHealth and measures of sick leave and work-related outcomes, there seems to be a significant gap in the literature on cost-effectiveness.

Currently, there is still a number of barriers to the implementation of eHealth in routine healthcare practices, including skepticism among stakeholders, such as nurses, physicians, nutritionists and other groups of healthcare providers.²¹,²² There is also debate about whether the introduction of eHealth in modern
healthcare may influence trust in the patient-doctor relationship in various ways, but the current practice seems to indicate that eHealth is supplementing rather than replacing other health services.

Barriers to the implementation of eHealth may build on policy-related, technical, organizational and process-related factors. Healthcare providers’ personal beliefs in the eHealth tool, both for themselves and their patients, are important factors for successful implementation. Furthermore, dropouts among patients may hinder full implementation of eHealth. An overall reason for dropouts seems to be loss of motivation, often related to frustrations with the technology or irrelevant and incomprehensible content. Many patients prefer other types of communication and face-to-face encounters.

Web-based follow-up interventions have shown promising results in terms of faster RTW for sick-listed employees and employees with common mental disorders. An ongoing study is seeking new insights into the feasibility and effectiveness of eHealth interventions on RTW for patients with cancer. However, the literature on eHealth interventions to facilitate RTW has not yet been comprehensively reviewed, and little is known about specific areas (e.g. to whom, by which stakeholders, and in which settings eHealth is provided). Furthermore, assessment of work outcomes is needed to evaluate the effectiveness of health services. Long-term sick leave and work disability are costly not only for society and workplaces, but also for the individual. There is, however, no consensus among researchers about how to measure sick leave and successful RTW. Thus, a broad approach is needed to capture different work-related outcomes available in the literature.

A preliminary search for existing reviews on the topic was conducted in the JBI Database of Systematic Reviews and Implementation Reports, the Cochrane Database of Systematic Reviews, PubMed and Trip Database. Only one systematic review focusing on clinical outcomes was found in which RTW was a secondary outcome in two of the included studies. However, the search in this review was performed only until February 2007, and there is a need for a more current search.

A search in PROSPERO revealed approximately 30 systematic reviews on eHealth interventions, of which only one ongoing systematic review included a work-related outcome. In this review, the objective was to examine the effectiveness through RCTs, with RTW as the only outcome. In contrast, this planned scoping review will include eHealth interventions aiming to facilitate RTW among sick-listed employees, as well as stakeholders’ (e.g. healthcare professionals and managers) follow-up of sick-listed employees.

The search will also include all types of quantitative and qualitative studies, and populations across diagnoses and settings. Therefore, this scoping review will map and increase knowledge on the topic beyond only effectiveness and may identify gaps in evidence. This scoping review may inform current practice by presenting examples of how stakeholders in different settings use eHealth in their follow-up of sick-listed workers (e.g. in occupational health services).

Furthermore, information about the theoretical basis for the interventions will be extracted. It is important to inform practice on why and how interventions might work. Therefore, more theory-driven research is sought (e.g. in complex clinical processes).

Inclusion criteria
Participants
The current scoping review will consider studies that include working-age employees/patients (18–65 years) on sick leave (full or partial) due to any type of diagnoses/disabilities.

Concepts
Two core concepts, eHealth and work participation, will be combined in this scoping review. In light of the rising profile of eHealth in the policy agenda, the term has become an accepted neologism, despite the lack of an agreed-upon definition. The review will consider studies that evaluate eHealth interventions or telehealth interventions. That means the intervention must be accessible via the Internet, mobile devices/telephones and/or computer programs/software. The definitions of eHealth may vary between stakeholders and settings, and no clear definition is provided, although there is an implicit understanding of its meaning across stakeholder groups. eHealth contains three key elements: data obtained from the patient, electronic transfer of data over distance and patient-tailored feedback from a healthcare professional. Furthermore, eHealth communication is personalized and...
interactive in contrast to patient information websites. The communicative functions of eHealth are often emphasized and the use of networked digital technologies is specified, thus differentiating eHealth from the field of medical informatics.

Work participation in this study is operationalized by measures of work-related outcomes. Terminology and measurements of work-related outcomes (e.g. reduced work participation, sick leave duration, time to RTW and work productivity) vary between studies, depending on the purpose of the study and available data. Return to work is not an isolated event, but rather an evolving process with several phases before and after work re-entry. Moreover, the complexity in RTW outcomes may be influenced by differences in the legal system, labor market and work environment in different countries.

Context
The current scoping review will consider studies on eHealth interventions aimed to facilitate work participation for the specified target group, and conducted in all countries and settings. The context may, for example, be in primary health care or specialist health care, workplaces or within occupational health services. Exclusion criteria will be studies on eHealth interventions offered to the unemployed (with or without any health problems) and to health professionals aimed at their own work participation. Furthermore, studies focusing on presenteeism (reflecting people working with an injury or illness that impacts their work productivity) will be excluded.

Type of studies
The current scoping review will include empirical studies with either qualitative or quantitative data published in English, Norwegian, Swedish or Danish. The review will exclude all types of reviews, protocols, book chapters, editorial letters, guidelines and websites.

Methods
To guide the review and synthesis process, the Joanna Briggs Institute (JBI) approach will be employed, using the framework by Arksey and O’Malley, enhanced to eight stages proposed by Peters et al. and recommended in the Joanna Briggs Institute Reviewer’s Manual.

Search strategy
The search strategy will aim to locate both published and unpublished studies. The main databases searched will be PubMed, Scopus, Embase, PsycINFO, the WHO clinical registry and ClinicalTrials.gov.

The JBI three-phase search process will be followed. Initially, a limited search of PubMed and the Trip Database will be performed, followed by an analysis of the index terms and text words contained in the title and abstract. A second search across all included databases will use the identified index terms and keywords. Thirdly, the reference lists of all identified reports and articles that have been included will be searched for additional studies.

The search will be limited to studies published after 2008, as eHealth technology is changing constantly and rapidly. Since reporting of eHealth interventions is determined by what is technologically possible, earlier studies will be less relevant for the current practice of eHealth technologies. The search strategy developed for PubMed will be refined for use in the other electronic databases, with assistance from a research librarian. A full search strategy for PubMed is detailed in Appendix I.

Study selection
The study selection process will be conducted in three stages. In stage one, all the titles and available abstracts of the identified citations revealed in the literature search will be screened. This will be done to select full-text papers and will be performed based on inclusion criteria, which means that the abstract should include both the terms eHealth interventions and work-related outcomes. To decrease the likelihood of bias or errors, two authors will screen the citations independently. The full text will be accessed if at least one of the authors deems the study potentially eligible. Studies are eligible regardless of the quality.

In stage two, the full texts of eligible studies will be assessed. This will be done by pairs of two independent authors comparing the results within the couple. To reduce bias, the pairs of authors will change through the selection process. The selection of full-text papers will be performed based on inclusion and exclusion criteria. Disagreement will be discussed, and if a consensus cannot be reached, it will be resolved through a third author.

In the third stage, the reference lists of all identified reports and articles will be searched for
additional studies. The reviewers will contact authors of primary studies or reviews for further information, if required.

The selection process will be recorded in a Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) flow diagram. Reasons for excluding studies following full-text reading will be provided in the PRISMA flow diagram. The search records will be collated and managed by use of RefWorks (ProQuest LLC, Ann Arbor, USA).

Data extraction
Data will be extracted from the papers included by two independent authors using a structured data extraction form, designed by using the participant, concept and context (PCC) strategy and based on the research questions (Appendix II). Charting the results will be an iterative process whereby the extraction form may be updated. The review team will trial the data extraction form on 10 studies to ensure consistency, so as to gain familiarity with the source results and to ensure that all relevant results are extracted. Any disagreements that arise between the authors will be resolved through discussion, or with a third author. Authors of papers will be contacted to request missing or additional data, where required.

Data mapping
The extracted data will be presented in diagrammatic or tabular form in a manner that aligns with the objectives and scope of this scoping review. Results will be classified under main conceptual categories, such as study population, setting, eHealth intervention and key findings. The charts and tables will report on distribution of studies by period of publication, countries of origin, settings and research methods.

A draft charting form will be developed including detailed key information on authors, year of publication, country (where the study was conducted), aims, methods, study population/sample size, setting (e.g. primary healthcare, occupational health service, workplace), stakeholders, eHealth intervention type, comparator intervention (in RCTs), duration, if the intervention is theory or evidence-base, outcomes and results.

A narrative summary will accompany the charted results and describe how the results relate to the review objective and type of questions.

Acknowledgment
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References


37. Schumacher L, Woods P. Effectiveness of e-Health interventions to support return to work: a systematic review. PROSPERO 2016; CRD42016027086.


Appendix I: Search strategy for PubMed

#1 (patients [MeSH] OR beneficiaries OR “sickness beneficiaries” OR “benefit recipients” OR “sick listed” OR sicklisted OR worker OR employee)
#2 (telemedicine [MeSH] OR telerehabilitation [MeSH] OR “tele medicine” OR “tele rehabilitation” OR telecare OR “tele care” OR teleconsultation OR “tele consultation” OR telehealth OR “tele health” OR “electronic health” OR “e health” OR ehealth OR etherapy OR “e therapy” OR mhealth OR “m health” OR internetbased OR “internet based” OR webbased OR “webbased”)
#4 (return to work [MeSH] OR sick leave [MeSH] OR absenteeism OR “returning to work” OR “back to work” OR sick OR sickness OR sicklist OR sick list OR “work participation” OR “work disability”)
#5 #1 AND #2 AND #3 AND #4

Limited to: 01-01-2008-2018, English
## Appendix II: Draft study details, characteristics and results extraction instrument

<table>
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<td>Study characteristics</td>
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<td>Aims and outcomes</td>
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<td>Methods (details on design)</td>
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<td>Stakeholders (details on stakeholders involved in the intervention)</td>
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<td>Details of eHealth intervention (type, mode, tools, duration/sessions)</td>
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<td>Description of comparator intervention (in randomized controlled trials)</td>
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<td>Base of theory or evidence</td>
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<tr>
<td>Results/findings (details of the work-related outcomes)</td>
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