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Economic and claims development effects of occupational health interventions: A systematic review from Companies' and Insurers' Perspectives

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ADMINISTRATIVE INFORMATION

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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 15 November 2024 and was last updated on 15 November 2024.

INTRODUCTION

Review question / Objective The aim of this systematic review is to evaluate the impact of specific occupational health intervention (OHI) types on two outcome measures. First, on the economic benefits for insuree, measured e.g., by return on investment (ROI). Second, on the claims development for insurers, measured e.g., by number of sick days. Thus, this review reflects implications for the insurees and insurers.

Rationale Although previous literature reviews investigated the economic impact of OHIs, findings often remain inconclusive given varying study quality and scope. Secondly, new intervention types (e.g., digital interventions, virtual coaching) are constantly emerging, but systematic reviews on their effectiveness cannot keep up with the fast development. Lastly, this review aims to provide a comprehensive, dual-perspective analysis of economic outcomes for both insurees and insurers.

Condition being studied Chronic non-communicable diseases such as cardiovascular conditions, diabetes, cancer, and mental health disorders are among the most prevalent health issues affecting employees in Switzerland (Swiss Federal Statistical Office, 2022). The COVID-19 pandemic has brought deficits in mental health, lack of physical activity, and worsening of workplace atmosphere issues to the forefront (Hamouche, 2020; Gonzales et al., 2022). Especially the latter is commonly cited as a determinant of absenteeism rates (Brauchli et al., 2021). Given their high prevalence, this review will focus on health conditions concerning physical health (e.g., musculoskeletal disorders), mental health (e.g., stress, anxiety, burnout), and workplace atmosphere.

While safety incidents (e.g., accidents, injuries) are critical concerns, their occurrence is often addressed by mandatory regulations providing less strategic flexibility/implications for both the insuree and insurer. Several employee health conditions across diverse settings and industries will be addressed with this review.

METHODS

Search strategy The research is conducted by two independent researchers (J.B. and S.M.) and conflicts are resolved through discussion and mutual agreement. Search terms are defined according to a module approach for (1) work-related occupational interventions, (2) each intervention type in focus, and (3) each outcome measure in focus. The following search strings exemplify the planned research via PubMed. The search string for (1) work-related occupational interventions is as follows: Work*[ti] OR employ*[ti] OR occupational[ti] OR job[ti] OR labor[ti] OR OHS[ti] OR company*[ti]) AND (health[ti] OR well-being[ti] OR wellness[ti] OR prevent*[ti] OR assistan*[ti]) AND (intervention*[ti] OR program*[ti] OR strateg*[ti] OR initiative*[ti]). The search string for (2) mental health as an example of one intervention category is as follows: Mental[tiab] OR psych*[tiab] OR stress[tiab] OR depress*[tiab] OR therapy*[tiab] OR cognit*[tiab] OR cognitive behavioral therapy[tiab] OR CBT[tiab] OR mindful*[tiab] OR burnout[tiab] OR anxiety[tiab] OR emotion*[tiab]. The search terms for physical health are divided into one for physical activity and one for nutrition, given the substantial difference in type of relevant keywords. Lastly, the search string for (3) ROI as an examples for an outcome measure is as follows: Econom*[tiab] OR cost-effectiv*[tiab] OR cost-benefit[tiab] OR ROI[tiab] OR return on investment[tiab] OR economic impact[tiab].

Participant or population Participants of the reviews studies/article should be part of the adult working population (≥ 18 years). Due to the different types of OHI, healthcare systems and economic conditions in each country, we limit ourselves to studies conducted in developed countries as classified by OECD in order to ensure the transferability of the results to Switzerland.

Intervention The OHIs mentioned above are voluntary according to Robson et al. (2007) and aim to improve mental health, increase physical activity, or promote a favourable working atmosphere. We assume that interventions are often not carried out in isolation, but can involve a combination of several measures.

Comparator The study's OHI(s) should be compared with conventional management/care as usual (without intervention) or a shortened version of an intervention programme.

Study designs to be included We will include different study formats investigating the above

intervention types (i.e. experimental, quasi-experimental, observational and modelling studies) and exclude qualitative studies such as protocols, case reports, systematic reviews and meta-studies.

Eligibility criteria Only studies in English and German will be considered. Furthermore, the process of article collection in this review does not impose any time restrictions on the published articles/studies. However, in light of the constant evolution of interventions and health concerns, this review will put more emphasize on studies from the last 20 years.

Information sources Medline (via PubMed) and Web of Science will be the most important databases for this systematic research. If only limited search results are obtained, other databases such as Scopus, EconLit and PsychInfo will be screened.

Main outcome(s) Outcomes include both economic measures (e.g., return on investment or incremental cost effectiveness) as well as measures of claims development (e.g. sick days or claims).

Data management The data management platform Rayyan will be used by the independent researchers. Rayyan will be used in the first phase of the systematic review, which involves screening and selection of articles based on titles, abstracts and inclusion/exclusion criteria. To analyse and synthesise the data from the final selection of articles, data extraction will be carried out via an Excel-based collection template.

Quality assessment / Risk of bias analysis In accordance with the recommendations of the Cochrane Handbook, this review will utilize the Joanna Briggs Institute (JBI) quality appraisal tools, selected based on the type of study. E.g., the critical appraisal tool for assessing risk of bias in RCTs will be applied to the respective trials. Meanwhile, studies focusing on ROI or cost-effectiveness will additionally be evaluated using the JBI checklist for economic evaluations.

Strategy of data synthesis This study aims to use a randomised effect model (e.g. the Der Simonian and Laird method recommended by Cochrane) to estimate the standard mean difference in economic outcomes and claims trends for the different types of intervention. To summarise the results, this review aims to display results via a forest plot.

Subgroup analysis Depending on the available data, several subgroup analyses may be conducted based on intervention types (e.g., mental health, physical health, workplace health), target groups (e.g., organization, leadership, workforce, team-based), and subject characteristics (e.g., company size, industry).

Sensitivity analysis In the case of high heterogeneity (e.g. a high I^2 value), a sensitivity analysis is performed to understand whether the pooled effect size is strongly influenced by an individual study. For this, the pooled effect size is recalculated by excluding one study at a time.

Language restriction Only English and German.

Country(ies) involved Researchers are based in Switzerland.

Keywords Occupational health intervention, Economics, Return, Sick days development.

Contributions of each author

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