ECONOMIC EVALUATIONS OF OCCUPATIONAL HEALTH INTERVENTIONS: CURRENT PRACTICES AND METHODOLOGICAL CHALLENGES

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ROOM D.005, CAMPUS ETTERBEEK + ONLINE

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ABSTRACT OF THE RESEARCH

Introduction

In the European Union, 8% of the workforce report work-related health problems. This results in 7.1 million disability adjusted life years, representing an economic burden of 476 billion euros annually. Thus, the workplace is an important influential factor regarding health, and at the same time, a promising context to promote health. The goal of occupational health management (OHM) is to optimize the ratio of job demands to job resources. However, decision makers want to know if there is a financial benefit in investing scarce resources in OHM. By analyzing the incremental costs and benefits of OHM interventions, economic evaluations (EEs) can provide important insights into which stakeholders benefit (and to what extent) from improved workers' health.

Results

The first study, entitled "**Cost-effectiveness and cost-benefit of worksite health promotion programs in Europe: a systematic review**", aimed to systematically summarize EEs of OHM interventions. Nine out of 21 cost-benefit analyses reported a financial benefit and 12 out of 31 cost-effectiveness analyses concluded that the intervention was cost-effective. Productivity loss was the main cost driver in the EEs.

In the second study, "**Health economic evaluations of interventions to increase physical activity and decrease sedentary behavior at the workplace: a systematic review**", 18 EEs were synthesized. The effects of worksite physical activity interventions were generally small, potentially due to low participation rates within the included studies. Due to small sample sizes, costs were subject to substantial uncertainty. There was a significant negative relationship between the methodological quality of the EEs and their reported return on investment.

In the third study, the knowledge gained about EEs in the field of OHM from the two systematic literature reviews was applied in the form of a trial-based EE entitled "**Health Economic Evaluation of an Influenza Vaccination Program to Prevent Sick Leave in Employees - A Prospective Cohort Study**". The incidence rate of influenza-like illness of VUB employees who participated in the voluntary influenza vaccination program (n = 173) was compared with the rate of influenza-like illness of unvaccinated VUB employees (n = 238). A cost-benefit analysis from the employer's perspective and a cost-effectiveness analysis from the societal perspective were performed. In the base scenario, the influenza vaccination program was less effective and more expensive, and thus neither cost-effective nor cost-beneficial. Lack of randomization may have caused selection and allocation bias, which is why modelling techniques were used to apply published estimates of vaccination effectiveness. In this scenario, the influenza vaccination program became dominant and thus cost-beneficial.

In the fourth study, "**What are the economic dimensions of occupational health and how should they be measured? A qualitative study**", OHM specialists were confronted with questions which arose during the PhD research. The interview transcripts were analyzed using a mix of inductive and deductive content analysis. Five main themes emerged: Understanding of OHM, costs, benefits, environmental aspects, and evaluation of OHM. Participants perceived costs and benefits of OHM significantly different from how they are represented in current EEs. The OHM specialists pointed out intangible benefits that they consider particularly relevant. Furthermore, OHM specialists deemed (randomized) controlled studies unrealistic and inadequate in the OHM context.

Conclusions

Organizations are complex social systems. Culture and social dynamics play a central role in whether and to what extent OHM interventions are adopted. OHM interventions interact with each other and result in multidimensional outcomes, of which many are intangible. Furthermore, OHM is influenced by environmental factors of the organization itself, the employees, and other stakeholders. Randomized controlled trials might be too protocol driven to address these complicating factors. This requires that more EEs are implemented in a real-world setting, adopting multiple perspectives.

CURRICULUM VITAE

Nathanael Lutz obtained his Master's degree in physiotherapy in 2015 at the Zurich University of Applied Sciences. Since 2016, he is lecturer at the Bern University of Applied Sciences, Department of Health Profession, Divison of Physiotherapy.