

Cost-effectiveness calculators for health, well-being and safety promotion interventions

Background

Economic ex-ante evaluation of health and well-being promotion interventions is needed to compare cost-effectiveness and to gain sustainable and equitable outcomes. This research project aimed to 1) identify and describe the cost-effectiveness calculators that analyse interventions that promote health, well-being and safety, and 2) explore their development and implementation needs.

Methods

The research project was carried out in Finland in 2020–2021 and included three phases. The first phase comprised a systematic review (Hult et al. 2021) and a document analysis to identify and describe cost-effectiveness calculators. In the second phase, small group interviews for experts (n=14) in health care and health economics were organised. The third phase explored in detail the development stages and implementation of one cost-effectiveness calculator.



Table 1. Cost-effectiveness calculators.

Calculators	Outcomes
Workplace health and safety (n=10)	
Employee health promotion (n=6)	Employee absenteeism and staff turnover, savings from reducing obesity and smoking, Programme cost-effectiveness, return on investment (ROI), Use of medical services, sickness absence
Substance use (n=2)	Estimated cost of the programme, benefits
Occupational safety (n=2)	Cost savings from reduced injuries at work, medical care costs, insurance applications
Public health and health behaviour (n=8)	
Disease prevention (n=4)	Effect of increased cycling on mortality, QALY, savings and impact of lifestyle changes, the effect of increased breastfeeding on the costs of maternal and child morbidity, medication-related re-hospitalisation or first aid and blood glucose and blood pressure
Diabetes (n=3)	Programme costs, diabetes-related medical costs and ROI, absences from work, mortality due to diabetes, adverse health effects
Weight management (n=1)	Weight management intervention costs per QALY, 25-year forecast
Social and regional well-being and safety (n=10)	
Community well-being (n=3)	ROI, health services, income growth, cost of living, benefits of community intervention, the social value of interventions
Ageing people (n=2)	QALY, use of health and social services, health benefits, ROI when nursing homes are brought into health care
Traffic safety (n=2)	Savings from the prevention of deaths and injuries, benefit-cost ratio, the net effect
Health services (n=3)	Monetary value of the intervention, the social value of interventions, cost-benefit analysis of the new service

More information: Hult M, Halminen O, Linna M, Suominen S, Kangasniemi M. 2021. Cost-effectiveness calculators for health, well-being and safety promotion: a systematic review. *European Journal of Public Health*, 31(5), 997–1003.
Kangasniemi M, Halminen O, Hult M, Kallio H, Linna M, Suominen S. 2021. Focused and predictive promotion of well-being, health and safety: tools for the assessment of impact and cost-effectiveness. Report. <http://urn.fi/URN:ISBN:978-952-383-421-7>

Results

Cost-effectiveness calculators (n=28) for well-being, health and safety promotion at local, regional and national levels focused on public health and health behaviour, social and regional well-being and safety, and health and safety at work (Table 1). However, the calculators mainly focused on changes on an individual level. Based on results, calculators have limited availability, and their introduction requires adaptation to the national needs. Calculators can be used to assess the economic impact and as a means of knowledge management to assess the need and purpose of interventions and make preventive work visible. To be reliable and usable, calculators need to be based on scientific evidence. The data applied by calculators need to be available from regional or national registers and databases and collected as part of day-to-day work.

Discussion

Need for the cost-effectiveness calculators to promote well-being, health, and safety in short- and long-term planning and decision-making is obvious. Calculators demonstrate the value base of activities in terms of their selection, goals, and evidence-based decision-making. To strengthen the use of cost-effectiveness calculators in promoting well-being, health and safety, precise and comprehensive planning of targets, timing and evaluation of interventions is important. More research is needed on the functionality and accuracy of calculators and the choice of the financial perspective.