

## **56. Effectiveness and Cost Effectiveness of an Occupational Health Intervention for Employees at High Risk of Sickness Absence**

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**Background** – Sickness absence, defined as non-attendance by an employee at work due to a health complaint, places a major economic burden on the society. The optimal occupational health intervention strategy for employees with high risk of sickness absence remains uncertain. Evidence from few prior randomised trials suggests that specific intervention programs that are targeted to selected individuals at high risk of sickness absence may provide benefits. It has not yet, however, become clear whether occupational health intervention in conjunction with identification of high-risk employees can generate benefits for employers and employees and also be cost-effective use of health care resources. The objectives of the present study were 1) to evaluate the effectiveness of a specific occupational health intervention program, and 2) to determine whether, from the healthcare perspective, the intervention is cost-effective in reducing sickness absence when compared with usual care at occupational health in workers with high risk of sickness absence.

**Methods** – Based on a health survey, 1341 employees (88% males; 62% blue-collar) in construction, service and maintenance work within one corporation in Finland were classified into three groups: ‘Low Risk’ (n=386), ‘Intermediate Risk’ (n=537) and ‘High Risk’ (n=418) of sickness absence. A randomised trial was performed in the group ‘High Risk’.

Those ‘High Risk’ subjects that were allocated to the intervention group (n=209) were invited to occupational health service for a consultation. The intervention included, if appropriate, a referral to specialist consultation and treatment. The control group received usual occupational health care. The primary outcome was sickness absence during a 12-month follow-up (register data).

Economic evaluation was performed alongside the randomised controlled trial. Register data of sickness absence were available for altogether 384 subjects and questionnaire data on health care costs from 272 subjects. Missing direct total cost data were imputed using a two-part regression model. Primary outcome measures were sickness absence days and direct health care costs up to 12 months after randomisation. Cost-effectiveness (CE) was expressed as an incremental CE ratio, CE plane, and CE acceptability curve with both available direct total cost data and missing total cost data imputed.

**Results** – The ‘High Risk’ group, representing 31% of the cohort, accounted for 62% of sickness absence days. Within the ‘High Risk’ group, after one year, the mean of sickness absence was 30 days in the usual care group (n=192) and 11 days less (95% confidence interval 1 to 20 days) in the intervention group (n=192). Among the employees with available cost data, the mean days of sickness absence were 22 and 24, and the mean total cost €74 and €1049 in the intervention group (n=134) and in the usual care group (n=138), respectively. The intervention turned out to be dominant, i.e., both cost saving and more effective than usual occupational health care. The saving was 43 € per sickness absence day avoided with available direct total cost data, and 17 € with missing total cost data imputed.

**Conclusions** – The identification of the high risk of work disability was successful. The occupational health intervention was effective in controlling work loss to a degree that is likely to be economically advantageous within the ‘High Risk’ group. One year follow-up data shows that the specific occupational health intervention for workers with high risk of sickness absence is cost-effective use of health care resources.

**References:**

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***Trial registration*** – [ClinicalTrial.gov NCT00378989](https://clinicaltrials.gov/ct2/show/study/NCT00378989)