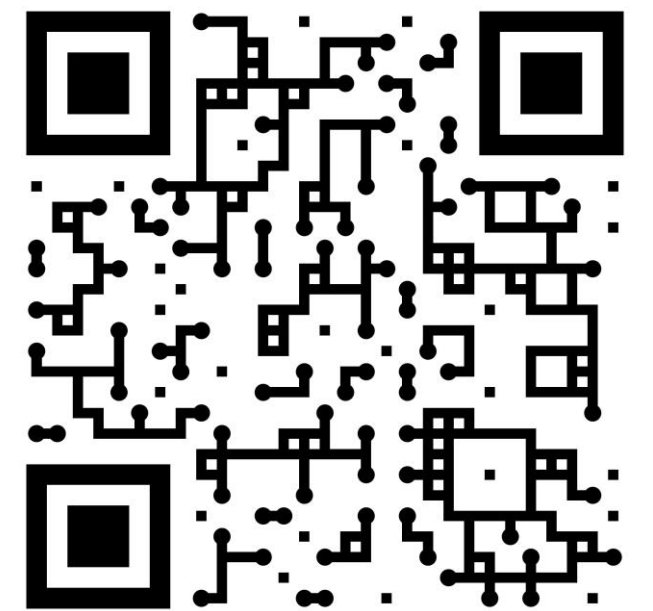


# Multidisciplinary care can reduce sick leave for low back pain patients without increasing costs

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## Cost analysis comparing guideline-oriented biopsychosocial management to usual care for low-back pain: a cluster-randomized trial in occupational health primary care



### Background

Low back pain (LBP) incurs substantial costs through healthcare use, disability and lost productivity. We hypothesized that biopsychosocial (BPS) approach combined with stratification of care by work disability risk, and with better division of work between OH professionals, could help optimize occupational health primary care (OHPC) resource use and costs as well as productivity costs at early stages of LBP.

The aim was to investigate the effect of a brief BPS training for professionals in OHPC on multiprofessional resource utilization and costs of management of patients with LBP compared to usual care.

### Methods

Six nationwide OHPC providers with 27 units were involved in the BPS training intervention (Figure 1). OHPC utilization and back-related sick leaves were collected from electronic patient records during one-year follow-up.

We estimated costs using linear mixed models, by multiplying unit costs by each type of OHPC resource use (visits to physicians, physiotherapists, nurses, use of imaging) and sick leaves. Estimated mean cost differences with confidence intervals (CIs) were reported for all and stratified by the risk of work disability based on Örebro Musculoskeletal Pain Screening Questionnaire within the arms, using bootstrapping to attempt to deal with skewed cost data.

### Results

Among the 232 intervention-arm patients and 80 control-arm patients, the median number of visits to physicians and physiotherapists was 1 (interquartile range: 0-3) vs. 2 (1-4) and 2 (1-3) vs. 1 (0-2), respectively.

The intervention arm accrued **lower physician costs** (€-43; 95% CI €-82–€-3;  $p=0.034$ ) and **higher physiotherapist costs** (€55; 95%CI €26–€84;  $p<0.001$ ), compared to the control arm.

**Total costs did not differ between arms** (€-1908; 95%CI €-6734–€2919).

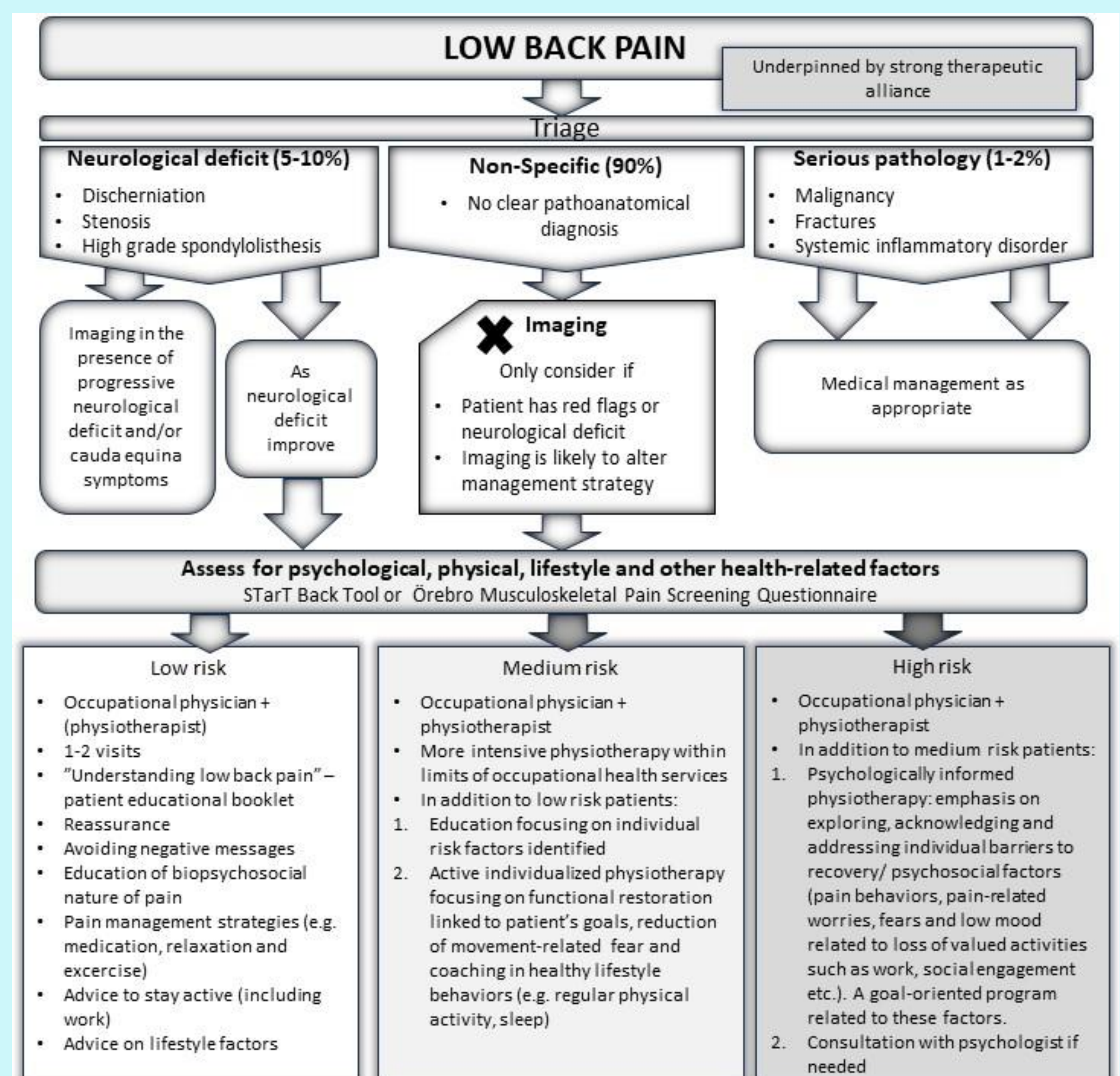


Figure 1. Biopsychosocial guideline used in the training

Compared to the control arm, a tendency towards reduced sick leave costs emerged among intervention-arm patients with medium and high risk of work disability. Among high-risk patients, median cost was €1196 under the BPS care, compared to €2801 with usual care.

**Costs for high-risk patients** were considerably higher than for those at low risk: more than **five times higher with BPS care** (€1196 vs. €222) and as much as **twelve times higher under usual care** (€2801 vs. €232).

### Conclusions

Brief BPS training may support shifting OHPC resource allocation towards multiprofessional physiotherapist-driven care, being potentially cost-beneficial in subgroups of LBP patients with higher risk for work disability.