

# No difference in cost-effectiveness of intensive group training for chronic back pain compared with usual physiotherapy care

## Synopsis

Summary of: van der Roer N, van Tulder M, van Mechelen W, de Vet H (2008) Economic evaluation of an intensive group training protocol compared with usual care physiotherapy in patients with chronic low back pain. *Spine* 33: 445–451. [Prepared by Julia Hush, CAP Editor.]

**Question:** Is an intensive group training protocol cost-effective compared to usual care physiotherapy for chronic low back pain? **Design:** Economic evaluation alongside a randomised controlled trial comparing two physiotherapy interventions for chronic low back pain. **Setting:** Primary care physiotherapy clinics in and around Amsterdam, the Netherlands, involving 85 physiotherapists. **Participants:** 114 participants with a new episode of non-specific low back pain of more than 12 weeks duration and aged 18 to 65 years were included. Patients with specific spinal pathology were excluded. **Interventions:** Participants in the intensive group performed 10 individual and 20 group sessions consisting of graded exercises and back school based on behavioural principles. Those allocated to usual care received an average of 9 sessions of individual physiotherapy treatments according to the Royal Dutch College for Physiotherapy Low Back Pain Guidelines. **Outcomes:** Treatment effectiveness was measured using the following pre-specified outcomes: functional status (24-item Roland-

Morris Disability Questionnaire), pain intensity (11-point numerical rating scale), general perceived effect (6-point GPE scale) and quality of life (EuroQol-5D) at baseline, 6, 13, 26, and 52 weeks after randomisation, with 89% follow-up at 1 year. Diaries were used to measure costs associated with utilisation of health care, non-health care, medications, and loss of productivity due to work absenteeism. Multilevel analyses were performed to determine the difference in effects. The mean differences in costs between groups and 95% confidence intervals (CIs) were obtained by bias corrected and accelerated bootstrapping. Quality of life was expressed in utilities based on the Dutch tariff. **Results:** The differences in effects were small and not significant. Although the direct health care costs were higher for the intensive training group, (between-group difference per patient €233, 95% CI 2185 to 2764), there were no differences between the groups in terms of total health costs. **Conclusion:** The intensive group training protocol is not cost-effective compared with usual care physiotherapy carried out according to the guidelines. Whilst there is no clinical contraindication to the use of the intensive group training program, the results do not support implementation of the intensive program for back pain in primary care in the Netherlands.

## Commentary

Economic evaluation is the systematic comparison of the costs and consequences of alternative interventions, programs, or services. It is used to provide information about the relative value for money provided by options under consideration. A common vehicle for an economic evaluation is a randomised controlled trial.

A wide range of techniques and programs to treat back pain have been developed, many of which have not been evaluated systematically. It is particularly important to assess the cost-effectiveness of an intervention that is designed to be more intensive than the alternative; even if effectiveness is improved, costs are likely to be higher and therefore understanding what additional benefits are being gained for what cost is important.

In the trial reported here, there were no differences in the clinical effectiveness measures between the intensive and usual care groups. However, the costs were higher, due mainly to the increased costs of providing additional physiotherapy input. However, the importance of collecting information about the use of health care other than physiotherapy is

illustrated by the finding that more members of the intensive program group used more secondary and complementary care.

The cost per additional point of functional status was €16 349 (\$A27 728) and the cost per quality-adjusted life year (QALY) gained was €5141 (\$8405). These results are only useful if they can be compared with a threshold, usually set by a government agency to indicate how much society is willing to pay for new interventions or technologies. Although there is no official threshold in Australia, decisions made by the Pharmaceutical Benefits Advisory Committee (PBAC) indicate that ~ \$A70 000 per QALY gained is a reasonable benchmark. Although this seems to indicate that the intensive program was relatively cost-effective, the use of cost-effectiveness planes (which are used to show the distribution of costs and effects) indicated no significant differences in effectiveness or cost-effectiveness. A more practical reason for not using an intensive program is the finding that 22 patients either did not start or dropped out of the intensive program.

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