Is goal planning in rehabilitation effective: a systematic review
Levack W M, Taylor K, Siegert R J, Dean S G, McPherson K M, Weatherall M

CRD summary
This review concluded that good-quality evidence about the generalisable effectiveness of 'goal planning' interventions in clinical rehabilitation is inconsistent and suffers from a number of methodological limitations. There is limited evidence to suggest that goal planning is associated with some positive effects in local contexts. The authors’ cautious conclusions and recommendations for future research appear to be supported by the data presented.

Authors' objectives
To assess the effectiveness of goal planning in clinical rehabilitation.

Searching
MEDLINE, EMBASE, PsycINFO, CINAHL, AMED, the Cochrane CENTRAL Register, the Cochrane Database of Systematic Reviews, ACP Journal club and DARE were searched up to 30th June 2005; the search terms were reported. In addition, the reference lists of retrieved studies and previous reviews were checked. Only studies written in English and published in a peer-reviewed journal were eligible for inclusion in the review.

Study selection
Study designs of evaluations included in the review
Randomised controlled trials (RCTs) were eligible for inclusion.

Specific interventions included in the review
Studies that allowed an independent assessment of some aspect of goal planning or an approach to goal planning were eligible for inclusion. Aspects of goal planning could include: identification and/or documentation of goals for treatment or rehabilitation; stakeholder involvement in goal selection (including but not limited to patient involvement); feedback on patient performance towards specific goals and encouragement to attain goals (generic encouragement must be controlled for); and the development of a plan or the provision of information on how to attain goals (generic education and/or levels of health professional contact must be adequately controlled for). Studies of goal-directed decision-making by medical staff in emergency or intensive care settings were excluded from the review.

All of the included studies used standardised forms and/or procedures. Approaches included collaborative goals that involved negotiation between the health professional and patient, and goals prescribed by health professionals; one study combined collaborative and prescribed goals and another varied the level of patient involvement. Six studies involved regular, often weekly, meetings to discuss feedback on progress and three used formal processes that allowed patients to monitor their own progress.

Participants included in the review
Studies of adults suffering from postacute or chronic disabling conditions, defined according to the World Health Organization's International Statistical Classification of Diseases and Health Related Problems (ICD-10), were eligible. Such conditions included burns, injuries or diseases (congenital or developmental conditions were excluded) of the musculoskeletal system or connective tissue, skin or subcutaneous tissue, or the respiratory, circulatory, nervous, endocrine, nutritional or metabolic systems, or any mental or behavioural disorders (except those due to psychoactive substance use, mental retardation, or psychological development). The included participants had musculoskeletal disorders, central nervous system disorders or injuries, mental health conditions, cardiovascular disorders, endocrine or dietary disorders, or were described as frail elderly.

Outcomes assessed in the review
Eligible studies had to assess a patient outcome using a standardised measure. A wide variety of outcome measures were assessed in the included studies. Most of the outcomes were assessed over a period of weeks or months as part of a treatment and/or rehabilitation programme; six studies assessed immediate outcome measures over a few hours or days. The effects on rehabilitation programmes, patient motivation and/or treatment adherence, and patient self-regulation were assessed.
How were decisions on the relevance of primary studies made?
Two reviewers independently assessed the eligibility of studies. Any disagreements were resolved through discussion or, if required, through arbitration with a third reviewer.

Assessment of study quality
Two reviewers independently assessed the validity of the included studies using the PEDro scale. Each study was assessed according to 11 criteria and awarded a total score of between 0 and 10 points. Studies scoring at least 6 points were considered to be of a high quality. Any disagreements were resolved through discussion or, if required, through arbitration with a third reviewer.

Data extraction
Two reviewers independently extracted the data using a standardised form. Any disagreements were resolved through discussion or, if required, through arbitration with a third reviewer. Attempts were made to contact the first author of studies with missing data. The main characteristics and results of each study were reported.

Methods of synthesis
How were the studies combined?
A narrative synthesis was used. Summary statements of therapeutic effect (strong, moderate, limited or no evidence) were reported with reference to the quantity, quality and consistency of the evidence. Outcomes were considered consistent if 75% or more of the studies reported the same finding. The effect of using a cut-off of 6 points for high-quality studies was investigated by repeating the analysis with cut-offs of 4 and 5 points.

How were differences between studies investigated?
Some differences between the studies were evident from the data tables and discussed in the review text. Subgroup analyses examined factors such as the different types of goal planning approach used.

Results of the review
Nineteen RCTs (n=1,142), four of which were cluster RCTs (n=351), were included in the review.

The total PEDro scores ranged from 2 points (1 study) to 8 points (3 studies); the majority of studies (n=10) scored 4 points. Six of the 19 studies were considered to be of a high quality. None of the 4 cluster randomised RCTs adequately controlled for effects of cluster randomisation in their analysis.

Effects on rehabilitation programme outcomes (13 studies).

The quality and findings of the studies were inconsistent. Six studies reported no significant effects between the intervention and control groups, while eight reported varying significant differences. Subgroup analyses based on the type of intervention, and additional analyses using different cut-off scores for ‘high quality’ studies, did not significantly alter the findings.

Effects on patient motivation and/or treatment adherence (10 studies).

Six low-quality studies (PEDro scores 2 to 4 points) reported some limited evidence for the improved adherence to treatment regimens with goal planning interventions in comparison with control groups. Four high-quality studies (PEDro scores 8 or 9 points), carried out by the same group of authors, reported that for people with acquired brain injury, an intervention using prescribed, specific difficult goals resulted in an immediate improvement in motor and cognitive skills.

Effects on patient self-regulation (1 study).

One low-quality study of 30 individuals with traumatic brain injury reported that a 1-hour session of goal management training immediately resulted in a statistically significant improvement in everyday paper-and-pencil tasks compared with a control group receiving motor skills training.
Authors' conclusions
The best available evidence regarding the generalisable effectiveness of goal planning in clinical rehabilitation was inconsistent and suffered from a number of methodological limitations. There was limited evidence to suggest that goal planning is associated with some positive effects in local contexts.

CRD commentary
This well-conducted review evaluated a clear research question using a broad range of interventions, populations and outcome measures. A large number of electronic databases were searched, but some studies might have been missed as only published, peer-reviewed English language studies were eligible for inclusion. Indeed, the authors, who were aware of one unpublished study that did not meet the review criteria, acknowledged the risk of publication bias. However, the potential effects of this omission were described as unlikely to alter the review's cautious conclusions. Appropriate steps were taken to ensure that errors and biases were kept to a minimum during the remainder of the review processes, and the authors' synthesis of findings appropriately considered the quantity, quality and consistency of the included study findings.

Limited details of the individual study findings and effect sizes were reported in the review, although this is most likely due to the large number of included studies and outcomes and the poor reporting by the original study authors. The review recommended that future studies should ensure adequate reporting of study outcome data and effect sizes. Overall, the authors' cautious conclusions appear to be supported by the data presented and their recommendations for further research appear justified.

Implications of the review for practice and research
Practice: The authors stated ‘there is some limited evidence that goal planning can improve patients’ adherence to treatment regimes and strong evidence that specific difficult goals can improve immediate patient performance in some clinical contexts’. However, they went on to state that evidence regarding generalisable effects on the outcomes of rehabilitation programmes is inconsistent.

Research: The authors stated that future studies should include adequate concealment of allocation and blinding; adequately assess the severity of injury and baseline testing of performance for at least one of the outcome measures; ensure adequate blinding of the outcome assessors; carry out an intention-to-treat analysis; carry out an appropriate statistical analysis; and report effect sizes for all of the primary outcome measures used. They also stated that future studies should ensure that where complex interventions are used, the specific effects of goal planning can be adequately assessed and controlled for.

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Record Status
This is a critical abstract of a systematic review that meets the criteria for inclusion on DARE. Each critical abstract contains a brief summary of the review methods, results and conclusions followed by a detailed critical assessment on the reliability of the review and the conclusions drawn.