Provision of feedback on perceived health status to health care professionals: a systematic review of its impact

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Authors’ objectives
To assess the impact on the process and the outcomes of care of feeding back information on patient's perceived health status to health care professionals in clinical practice.

Searching
MEDLINE (1982 to 1997) was searched using the following as textwords: 'health status', 'functional status', 'quality of life', 'clinical practice', 'clinical setting', 'practice setting', 'medical practice', 'medical consultations', or other related terms. The authors then investigated all 'related' articles (using a feature of MEDLINE on PubMed). Citation lists of all articles retrieved were also checked and authors selected articles were also contacted. Only English, Spanish, French or Italian language papers were considered for inclusion in the review.

Study selection
Study designs of evaluations included in the review
Only randomised controlled trials (RCTs) in which individual or groups of physicians or patients were randomised to one or more intervention groups and to one or more control groups were included in the review. In the studies included in the review, randomisation was at the level of physician in two, practices in nine and patients in the other ten.

Specific interventions included in the review
Replicable interventions consisting of feedback of information (defined as provision of information about patients' reports of health status) to healthcare professionals in routine clinical practice. The feedback information provided to the physician was provided either before, during or after a medical consultation. In general the health status measures used were well known specific ones (e.g General Health Questionnaire and Zung Self-Rating depression scale) or generic instruments (e.g. Functional Status Questionnaire and SF-36 Health Survey). Of the studies included in the review, seven examined feedback only and 14 examined feedback plus an educational intervention for the physicians on how to use health status information.

Participants included in the review
Participants were adult patients visited at either community or outpatient practices. Of the included studies, 15 were conducted in primary care practices and six in outpatient practices. The included studies were in psychiatric patients, people with chronic conditions or functional disability, arthritis, asthma, epilepsy or general medical problems. Seven studies did not specify the patient characteristics.

Outcomes assessed in the review
The outcomes assessed in this review were effects on process of care, effects on patient outcome, satisfaction with care and usefulness to clinicians. Process of care outcomes were grouped under three categories: health services utilisation, diagnosing, and treatment (details are provided in the review). Patient outcome was assessed by changes in functional or health status.

How were decisions on the relevance of primary studies made?
The inclusion criteria for the review were applied independently by two of the authors and disagreements were resolved by consensus.

Assessment of study quality
The individual validity of studies selected for review was assessed using a modified version of the criteria proposed by Guyatt et al. and Sackett et al. (see Other Publications of Related Interest nos.1-2). In this assessment one point was awarded for each criterion present and a summation score (maximum of eight) was calculated for each study. The
The summation validity score was independently calculated for each study by two of the investigators. Where a study was described in more than one publication a mean study score was calculated.

**Data extraction**

The authors do not state how the data were extracted for the review, or how many of the reviewers performed the data extraction. The categories of data extracted were: setting, type of participating physician, type of participating patients, with age, level of acquaintance between physician and patient, health status information, type of intervention (educational intervention plus feedback or feedback only), the unit of randomisation (patient, practice, or physician), and results of study.

**Methods of synthesis**

How were the studies combined?

The studies were combined in a narrative and quantitative synthesis. A meta-analysis was performed using the 13 studies that provided feedback of information about mental health. Meta-analysis of the two variables that had been similarly measured in all the studies (effects on diagnosing and treatment) was performed. Other variables were too heterogeneous to be combined. Meta-analysis was performed using the program developed by Joseph Lau of the Center for Health Services Research in the New England Medical Center. A pooled odds ratio with 95% confidence intervals (CI) was computed. Publication bias was investigated using a funnel plot.

How were differences between studies investigated?

The authors recognised that there were major differences between the nature of the studies included in this review and thus not all studies were included in the meta-analysis. For those studies included in the meta-analysis, heterogeneity was addressed by using both a fixed-effect model and a random-effects model. In addition, the authors stated that sensitivity analyses, excluding some studies and reassessing the effects, were performed, although these are not presented in the review.

**Results of the review**

A total of 21 studies were included in the review. These included a total of 83 practices, 606 physicians, and 8744 patients. 20/21 studies examined some process of care and 11 included patient outcome data. Other characteristics of the studies included are presented in a table in the review.

The mean quality score of the studies included in the review was 5.4 (range 2.5 to 7). Twenty studies assessed the care process and 11/20 (55%) detected statistically significant (p<0.05) differences between the intervention and control groups. Seven trials reported positive effects on diagnosing, six on health services use, and four on treatment. Of the 11 studies that assessed patient outcomes, four (36%) found a statistically significant improvement for the intervention group. A similar trend but lower percentages were observed among the eight interventions that provided general health status information. Three of seven studies that assessed patient satisfaction with care found a statistically significant improvement in favour of the intervention, as did five of six studies that assessed usefulness to clinicians. The results of the meta-analysis found that there was a higher rate of diagnosis (recognition or notation) in the intervention group patients, with a combined OR of 1.91 (95% CI: 1.28, 2.83) (11 studies) using a random-effects model. Seven studies evaluating the effect on treatment showed no statistically significant effect, with a OR of 1.15 (95% CI: 0.76, 1.75). The funnel plots of the results of individual studies suggested a tendency for publication bias towards studies with positive results, i.e negative studies might have been under-reported.

**Authors' conclusions**

The provision of feedback on perceived health status to health professional seems to have an effect on the process of care but not on patient functional or health status. This is especially true for mental health status information.

**CRD commentary**

This review addresses an appropriate question with adequate inclusion and exclusion criteria. The search was limited to
a single electronic database (MEDLINE), which, even though the search was complemented with checking of citation lists of all retrieved articles and selected authors were contacted, could have resulted in important relevant studies being missed. The validity of the studies included in the review was formally checked and on average they were of reasonable quality. The quality score was not formally incorporated into the narrative synthesis or meta-analysis. The details of the individual studies are tabulated in an appendix to the review. The narrative synthesis of the studies too heterogeneous to be included in the meta-analysis was of limited value, consisting only of the number of trials demonstrating positive effects or statistically significant differences. More details within the text of the report would have been helpful. The results of the meta-analysis should be interpreted with caution, given that there is still marked variation between some of the trials included. The results of testing for heterogeneity within the meta-analysis are not given in the review. The authors conclusions appear to be supported by the findings of the review, but generally the data presented in the review are weaker than the authors' conclusions. Given the broad remit of the review and the wide range of studies included in the review the robustness of the conclusions is difficult to judge.

Implications of the review for practice and research

Practice: The authors state that 'widespread, routine use of health status information can't be recommended without further research and evaluation'.

Research: The authors state that 'there is still need for a more thorough evaluation of this type of intervention' and that 'research is needed to help healthcare professionals identify those patients who would benefit most from such interventions'.

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Other publications of related interest


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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.