The effectiveness of the use of patient-based measures of health in routine practice in improving the process and outcomes of patient care: a literature review

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Authors' objectives
To review the evidence for the effectiveness of patient-based measures of health in routine practice in improving the process and outcomes of patient care, and to identify factors that may influence effectiveness. This abstract will only report data relating to the effectiveness of patient-based measures of health care with respect to patient related outcome measures.

Searching
MEDLINE, CINAHL and PsycLIT were searched for the years 1987 to 1997, using a strategy (available on request) developed from: CRD's strategy for identifying randomised controlled trials (see Other Publications of Related Interest no.1), the UK Clearing House on Health Outcomes intermediate strategy for identifying studies on outcome measurement (see Other Publications of Related Interest no.2), and search terms relating to the impact of outcomes measurement in routine practice. No language restrictions were reported.

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

Specific interventions included in the review
The collection and feedback of information from patient-based measures of health to health professionals within routine practice, in the care of individual patients. Patient-based measures of health care reported in the review included: the MOS Short Form Health Survey (SF-36), Functional Status Questionnaire (FSQ), General Health Questionnaire (CHQ), Self Rating Depression Questionnaire (SDS), Symptom Checklist 90 (SCL-90), Co-op Charts, Screen for the Impairment in Ambulatory Elderly, Beck Depression Inventory (BDI), Arthritis Impact Measurement Questionnaire (AIMS), and the Modified Health Assessment Questionnaire (MHAQ). Studies were excluded if the use of health status information was part of a wider intervention such as geriatric evaluation and management or counselling programmes, or if the information was used as a means to monitor overall service quality. In addition studies were also excluded if the health status information was collected by someone other than the patient.

Participants included in the review
Participants were not defined a priori. Participants reported in the review included the elderly, people with epilepsy, male veterans and people in general with untreated/unrecognised depression, the general population, people with functional disabilities, prenatal women, people with rheumatoid arthritis, and people with unrecognised psychological distress.

Outcomes assessed in the review
Outcome criteria included patient's health status (e.g. patients physical and mental functioning) and patient satisfaction. Physicians' perceptions of the feasibility and use of the interventions were also included. Process outcomes included problem detection, referral rates, treatment rates, quantity, adherence to treatment and quality of doctor-patient communication.

How were decisions on the relevance of primary studies made?
The authors do not state how the papers were selected for the review, or how many of the authors performed the selection.

Assessment of study quality
Method of randomisation (open vs concealed) and unit of randomisation (patient vs physician). Studies were organised
into a hierarchy of evidence to provide a crude indication of study quality. The authors do not state how the papers were assessed for validity, or how many of the authors performed the validity assessment.

**Data extraction**

Data were extracted in a standardised format including study name, authors, clinical setting, condition, study design, instruments used, type of feedback, implementation method, impact on process and impact on outcome. The number of authors involved in extracting the data was not stated.

**Methods of synthesis**

*How were the studies combined?*

A qualitative narrative was used to summarise the study findings. The impact of patient-based measures of health on process and outcomes were summarised using a rating system. For comparisons between control and intervention groups, ratings were based on whether statistically significant differences were found for the total population under study or whether differences were only found for specific subgroups or problems. Statistically significant differences (0.05% level of significance) for one subgroup/problem were rated as ‘+’; for two subgroups as ‘++’; for the total population studies as ‘+++’; and no statistically significant differences were rated as ‘0’.

*How were differences between studies investigated?*

Not stated.

**Results of the review**

Thirteen RCTs were included in the review with a total of 387 physicians (not stated in one study) and 7518 patients.

The majority of the studies were conducted in the US (n=12) and were based on the general population (n=3) or people with unrecognised psychological problems such as anxiety or depression (n=4). Most studies employed educational methods (n=8), either group (n=5) or individual (n=3), though a significant number did not report providing clinicians with any introduction to the collection and feedback of patient-based health information. In all of the studies, the information was fed back to the medical profession rather than other health professionals. Most studies used generic instruments, most commonly SF-36 (n=3), however almost half of the studies used a condition specific instrument and one study used both.

Detection rates (n=7):

Four studies found statistically significant higher detection rates for psychological problems (only for one subgroup of patients in one study) and one for functional problems (but only one of eight functional problems), in the intervention group versus the control group.

Change to treatment (n=10): Two studies found a statistically significant increase in changes to treatment in the intervention group compared with the control group.

Test ordering (n=10):

One study showed a statistically significant increase in test ordering in the treatment as compared to the control group.

Referral rates (n=7):

Two studies showed significantly higher referral rates to other professionals in the intervention groups compared with the control.

Patient adherence (n=1):

No significant differences between the control and intervention groups were reported.
Doctor-patient communication (n=4):

One study reported that the intervention group had improved doctor-patient communication (patient self-report) versus the control group.

Patient functioning (n=7):

One study reported significant improvements in mental functioning in the intervention group compared with the control. Another study showed had significantly better self-reported functional status and fewer anxiety symptoms in the intervention group versus the control group, despite similar anxiety scores on the SCL-90.

Patient satisfaction (n=3):

No significant differences between the control and intervention groups were reported.

Authors' conclusions

Our review found little evidence to suggest that the use of patient-based measures of health in routine practice improved the outcomes of patient care. Only two studies showed that provision of patient-based health information to clinicians improved aspects of mental health, but no other studies demonstrated any differences in any other aspects of patient functioning or satisfaction. There was also little evidence to suggest their use substantially changed patient management. Our findings suggest that the ways in which patient based measures of health are implemented in routine practice may have an impact on their effectiveness.

CRD commentary

This review is based on clear inclusion criteria and a reasonable search of the literature. However, no attempt was made to locate unpublished studies and so publication bias may have a possible effect on the review findings. Few methodological details were provided about how studies were selected for inclusion and how many reviewers were involved in assessing the relevancy and validity of studies. Details of the type of data extracted from the studies were provided and individual study data presented in tabular form, however the number of reviewers involved in this procedure was not stated.

Only RCTs were included in the review and study quality was assessed using a basic set of criteria and the studies crudely divided within the tables using a study hierarchy. The effects of the studies were also rated using an arbitrary system and the actual outcome data itself was not presented. It was not always clear therefore how the outcomes were measured and whether they were subjective or not. It also appeared that the authors did not consider study heterogeneity. The authors do however discuss a number of limitations of the review and the conclusions do appear to follow from the data provided. However, considering the problems highlighted above the findings of the review should be treated with caution.

Implications of the review for practice and research

Practice: The authors state that ‘the ways in which patient-based measures of health are implemented in routine practice and the extent to which the practical, methodological and attitudinal barriers to using such instruments are addressed may have an impact on their effectiveness’. In addition ‘the review could not provide equivocal guidance on which patient population may benefit most from the use of patient-based measures of health in clinical practice’ and 'suggests that the value of the use of patient-based measures of health in clinical practice is likely to vary depending on patient and clinical characteristics'.

Research: The authors state that ‘there is a need to conduct theory building work to specify what realistic benefits are likely to be gained from their (patient-based measures of health care) use in routine practice’. There is also ‘a need to design implementation strategies that adequately address the barriers to using patient-based measures of health in routine practice in order to maximise their potential impact’ and ‘there is a need for the reassessment of the aims of health care’.
**Bibliographic details**

**PubMedID**
10579704

**Other publications of related interest**

**Indexing Status**
Subject indexing assigned by NLM

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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.