Quality improvement

Review: most disease management programmes for providers and patients lead to improvements in care


QUESTION: What is the effectiveness of provider and patient targeted interventions used in disease management programmes for patients with chronic illness?

Data sources
Studies were identified by searching Medline, HealthSTAR, and the Cochrane Database from January 1987 to June 2001; hand searching bibliographies of relevant articles and reviews; and consulting experts in the field.

Study selection
English language controlled clinical trials that evaluated the effectiveness of disease management programmes in improving care or reducing costs and potentially using multiple treatment methods for patients with common chronic conditions were selected for review. Studies were excluded if they did not use acceptable experimental or quasi-experimental design; exclusively evaluated single treatment methods or drug compliance programmes; or did not report sufficient information to allow for estimation of ≥ 1 relevant measure of programme effect and its variance.

Data extraction
Data were extracted on specific intervention components, study characteristics, target population, sample size, and measures of programme effects on process and outcome of care.

Main results
102 studies met the inclusion criteria and evaluated 118 disease management programmes; 92 were for patient education, 47 for healthcare provider education, 32 for provider feedback, 28 for patient reminders, 19 for provider reminders, and 6 for financial incentives. Results were pooled to calculate effect size using a random effects model. Patient education, patient reminders, and patient financial incentives led to improvements in provider adherence to practice care guidelines. Patient education, patient reminders, and patient financial incentives also lead to improved patient disease control. The relative effectiveness and costs of different types of interventions used for disease management are unclear.

Conclusions
Disease management programmes using provider education, provider reminders, and provider feedback as disease management strategies result in improved patient disease control and lead to improved adherence to practice care guidelines. Patient education, patient reminders, and patient financial incentives also lead to improved patient disease control. The relative effectiveness and costs of different types of interventions used for disease management are unclear.

COMMENTARY
The efficacy and cost impact of clinical decisions have become the focus of every healthcare delivery system. Insurers, hospitals, physicians, and purchasers (both patients and employers) do not want precious dollars to be wasted on frivolous or ineffective efforts. As a result, frontline clinicians are frequently asked to participate in disease management programmes to improve the cost effectiveness of their care. The review by Weingarten et al tries to clarify the evidence on the efficacy of these programmes. The meta-analysis shows the variegated picture of disease management structure (provider focused vs patient focused interventions) and the mixed results of its measured efficacy for several chronic conditions. The evidence drawn from 118 studies of 12 chronic conditions suggests the following conclusions. Firstly, depression and diabetes have been studied more than any other chronic condition. Depression disease management programmes surpassed diabetes and other chronic disease entities in almost every aspect of measured outcome (disease impact and efficacy, provider adherence, and patient focused intervention efficacy). Although the authors do not draw this conclusion directly, some of these outcome differences could have resulted from the fact that more depression disease management studies used ≥ 3 interventions (15/25 [60%]) than all the other studies (29/118 [25%]). No other clear indication is offered as to what critical element must be present to make these programmes work. From this review, one should conclude that disease management can produce benefits. However, although applied across a variety of diseases, disease management has not been studied sufficiently in most areas to show its full effect, both benefit and harm. Clinicians and organisations trying to justify the efforts and expense of staff and time needed to comply with such programmes should be requesting evidence of cost effectiveness before major system changes occur.

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Effects of disease management programmes in healthcare providers (HCP) and patients*

<table>
<thead>
<tr>
<th>Outcomes</th>
<th>Effect sizes (95% CI)</th>
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<tbody>
<tr>
<td>Adherence to guidelines</td>
<td>HCP education (0.44 (0.19 to 0.68))</td>
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<tr>
<td>Disease control</td>
<td>HCP education (0.35 (0.19 to 0.51))</td>
</tr>
<tr>
<td>Patient education</td>
<td>HCP reminders (0.17 (0.10 to 0.25))</td>
</tr>
<tr>
<td>Disease control</td>
<td>0.24 (0.07 to 0.40)</td>
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* CI defined in glossary. Length of follow up not reported.