Does primary medical practitioner involvement with a specialist team improve patient outcomes: a systematic review

Mitchell G, Del Mar C, Francis D

Authors' objectives
To assess the efficacy of formal liaison of general practitioners (GPs) with specialist service providers on patient health outcomes, the behaviour of medical practitioners, and the costs of health delivery.

Searching
MEDLINE was searched from 1966 to 2001, EMBASE from 1980 to 2001, CINAHL from 1982 to 2001, PsycINFO from 1984 to 2001, and the Cochrane Library up to August 2001. The search was conducted using keywords such as exp 'family practice' or exp 'physicians/family', exp 'interprofessional relations', exp 'patient care planning', exp 'patient care team', 'multidisciplinary team' and 'interdisciplinary team'. Further details of the search strategy were provided in the text of the review. The reference lists from the identified studies were handsearched.

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

Specific interventions included in the review
Any formal arrangement in patient care that linked GPs with specialist practitioners (medical and/or nursing) was eligible for inclusion in the review. This definition included: case conferences between the specialist and GP; shared consultations; organised consultations by GPs of patients in specialist in-patient units; visits by specialist staff to a GP clinic; and formal shared care arrangements between the patient's GP and a specialist clinic.

Participants included in the review
Patients of primary care physicians (GPs, family practitioners and other primary care physicians) were eligible for inclusion. The participants in the included studies were: the frail aged, routine orthopaedic referrals, asthma patients, patients with chronic schizophrenia, patients with hypertension, adult diabetics (both type 1 and 2), and the chronic mentally ill.

Outcomes assessed in the review
The outcomes assessed were health outcomes, contact with services, patient satisfaction with services, clinical behaviour of GPs and the cost.

How were decisions on the relevance of primary studies made?
All abstracts were read in duplicate. Articles that reported controlled or randomised trials relevant to the definition were retrieved in full and the inclusion criteria applied.

Assessment of study quality
The methodological quality of the studies was assessed using the strategy described by the Australian National Health and Medical Research Council (see Other Publications of Related Interest). This rates studies according to the recruitment strategy, randomisation procedure, presence and method of blinding, procedure for dealing with cases lost to follow-up, and method of analysis (intention to treat or not). The authors do not state who performed the quality assessment.

Data extraction
The authors do not state how the data were extracted for the review, or how many of the reviewers performed the data
The data were extracted into the following categories: participants, sample size, withdrawals and losses to follow-up, intervention, study design, outcome, and result.

Methods of synthesis
How were the studies combined?
The studies were too heterogeneous to combine statistically in a meta-analysis. The data were therefore combined narratively according to the outcome: i.e. health outcomes, contact with services, patient satisfaction with services, clinical behaviour of GPs, and cost.

How were differences between studies investigated?
Heterogeneity was not tested formally.

Results of the review
Seven RCTs (n=1,862) were included in the review.

Health outcomes (7 studies).

There were mixed effects for physical outcomes. One study reported that the intervention participants had less nocturnal asthma, although more intervention patients smoked at the end of the study than at the beginning. There was no difference in the proportion of patients with the same or improved levels of hypertension (1 study) or in creatinine and haemoglobin A1c levels in diabetics, although diabetics in the intervention group also showed greater weight gain than controls (1 study).

Frail aged patients were more likely to have changes made to their discharge plans when a GP was involved, but there was no improvement in readmission rates or time to readmission (1 study). When GPs were closely involved in community programmes for chronic psychiatric illness, more treatment needs were met than with out-patient-based care (1 study). There were significant reductions in in-patient hospital stays and increased length of time between admissions in chronic mentally ill patients (1 study). With the exception of these, no intervention group had worse outcomes.

Contact with services (3 studies).

Patient retention rates were improved within programmes involving GPs, compared with patients of standard out-patient specialist care for people with hypertension, diabetes and chronic schizophrenia.

Patient satisfaction with services (4 studies).

Compared with controls, GP involvement in care led to greater patient satisfaction among patients with diabetes, hypertension, chronic schizophrenia and geriatric problems. Improved professional accessibility, reduced waiting times, and reduced personal costs per consultation were reported. One study reported that patients felt better prepared for discharge from hospital when the GP was involved in pre-discharge planning.

Clinical behaviour of GPs (4 studies).

All 4 studies demonstrated improved clinical behaviour for GPs. This included: more rational use of resources and diagnostic tests by both GPs and specialists; improved clinical skills; more frequent use of appropriate treatment strategies, e.g. better rates of referral to community services; and more frequent clinical behaviours designed to detect disease complications, e.g. more patients owning peak flow meters in asthma and performing fundoscopy in diabetes.

Cost.

The results were mixed. One study demonstrated significant reductions in hospital bed days and longer time to
readmission. Another study could draw no conclusions because of wide patient variation.

Cost information
The cost data were discussed. However, the authors stated that the comparisons between general practice-based interventions and standard out-patient care employed such different methods of measuring direct costs that meaningful conclusions were impossible.

Authors' conclusions
Formal collaboration between GPs and specialist services confers no consistent benefit in most cases with chronic or complex conditions, but there is modest benefit in some chronic mental health conditions. When GPs and specialists are engaged in a formal relationship with each other, the clinical practice of each changes - probably for the better. The cost of obtaining this benefit could not be established from the studies identified.

CRD commentary
The review question and the study selection criteria were stated clearly. The literature search seemed reasonably comprehensive, although it was unclear if language restrictions were applied or if unpublished data were sought. The authors provided some information on the literature selection and validation processes, but not how they were conducted. There was also no information on how the data were extracted. The decision not to pool the data statistically seems appropriate given the manifest heterogeneity of the studies.

There was adequate presentation and discussion of the findings. The authors' conclusions seem appropriate in the light of the data they present.

Implications of the review for practice and research
Practice: The authors state that formal collaboration between GPs and specialist services confers no consistent benefit in most cases with chronic or complex conditions, but there is modest benefit in some chronic mental health conditions. When GPs and specialists are engaged in a formal relationship with each other, the clinical practice of each changes - probably for the better. The cost of obtaining this benefit could not be established from the studies identified.

Research: The authors did not state any implications for further research, but implied that better cost-effectiveness studies would be helpful.

Bibliographic details

PubMedID
12434964

Other publications of related interest

This additional published commentary may also be of interest. Bower P, Blakeman T. Formal liason between GPs and specialist teams may improve patient satisfaction, but has a limited effect on clinical outcomes. Evidence-based Healthcare 2003;7:68-9.

Indexing Status
Subject indexing assigned by NLM
MeSH
Cooperative Behavior; Family Practice /organization & administration; Humans; Interprofessional Relations; Medicine; Mental Health Services /organization & administration; Patient Care Team /organization & administration; Patient Satisfaction; Physician's Role; Psychiatry; Referral and Consultation; Specialization; Treatment Outcome

AccessionNumber
12002008579

Date bibliographic record published
31/03/2003

Date abstract record published
31/03/2003

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.