Outpatient Services and Primary Care: A scoping review of research into strategies for improving outpatient effectiveness and efficiency

A report to the NHS Service Delivery and Organisation R&D Programme from the National Primary Care Research and Development Centre and Centre for Public Policy and Management of the University of Manchester

March 2006

Lead investigators

Professor Martin Roland (Lead)
Dr Ruth McDonald
Professor Bonnie Sibbald
National Primary Care Research and Development Centre
University of Manchester

Contributors

Alan Boyd
Dr Marianna Fotaki
Liz Smith
Centre for Public Policy and Management
University of Manchester

Professor Hugh Gravelle
National Primary Care Research and Development Centre
University of Manchester

Address for correspondence

Professor Martin Roland
Director, National Primary Care Research and Development Centre
5th Floor, Williamson Building
University of Manchester, Oxford Road
Manchester M13 9PL

E-mail: martin.roland@manchester.ac.uk
Telephone: 0161 275 6759
Fax: 0161 275 7600

Executive Summary

Background

A key government objective in NHS reform is to reduce waiting times for specialist care. Broadly speaking there are two strategic approaches to achieving this objective. The first is to increase hospital capacity and so achieve faster throughput of patients. The second is to reduce demand for specialist care by finding alternatives to outpatient treatment. This review is focused on the latter of these two strategies.

Aims

Our aim was to identify strategies and processes involving primary care that influence the efficiency and effectiveness of outpatient services. Four types of models were reviewed:

- Transfer: The substitution of services delivered by hospital clinicians for services delivered by primary care clinicians. This included: minor surgery, diabetes care, GPs with special interests, discharge from outpatient follow-up, and direct access for GPs to hospital tests and services.
- Relocation: Shifting the venue of specialist care from outpatient clinics to primary care without changing the people who deliver the service. This included: shifted outpatient clinics, telemedicine (as a 'virtual' form of relocation), and attachment of specialists to primary care teams.
- Liaison: Joint working between specialists and primary care practitioners to provide care to individual patients. This included shared care and consultation liaison.
- Professional behaviour change: Interventions intended to change the referral behaviour of primary care practitioners, including referral guidelines, audit and feedback, and education and financial incentives.

For completeness we looked also at two models of care that do not involve primary care, although these were not subject to the rigorous scoping methods described below. These included intermediate care services (community mental health teams and hospital at home) and hospital redesign of outpatient services (rapid-access chest pain clinics, treatment centres and hospital outreach nurses for chronic obstructive pulmonary disease).

Methods

We conducted a 'scoping' review of published research into each of the four models described above.

Data sources

The databases searched (from 1980 onwards) included: MEDLINE®; Health Management and Information Consortium (HMIC) Health Management and Policy database; Cochrane Database of Systematic Reviews; Cochrane Central Register of Controlled Trials; System for Information on Grey Literature (SIGLE); National Research Register; Research Findings Electronic Register (ReFeR); Index to Theses; Campbell Collaboration Social, Psychological, Educational and Criminological Trials Register.

Study selection

Studies were included if they related to one of the four models above and included usable information about any of the following outcomes: patient health or satisfaction; quality of care; impact on hospital services; impact on primary care services; and costs. All types of study designs were eligible for inclusion including: existing literature reviews, clinical trials, observational studies, and qualitative case studies. Where a high-quality systematic review was found for a particular intervention, we sought only to update the review by adding more recent publications.

Data extraction and analysis

For each type of intervention covered by the review, one reviewer decided which studies to include and carried out all data extraction. Data synthesis was qualitative. The findings across all types of intervention for each model were then summarised by one reviewer and scrutinised by all reviewers to arrive at an overall conclusion about that model's impact on outpatient effectiveness and efficiency. The feasibility and policy implications of implementing the model were then considered and recommendations made, where appropriate, for further research.

Limitations of the review

The review was not intended to be a comprehensive systematic review, and the search strategy lacked sensitivity in some areas. It may be that some relevant publications were not identified. Despite this limitation, we are confident that the review is sufficiently robust to

have identified the main potential strengths and weaknesses of the different models of care.

Results

Interventions shown to be effective in reducing outpatient demand included:

- Discharge of outpatients to (i) no follow-up, (ii) patient-initiated follow-up, or (iii) general practice follow-up, as alternatives to routine follow-up in hospital outpatient clinics. These interventions improve access and reduce outpatient attendance without adverse effects on the quality of care. Primary care workload is increased but overall NHS costs may be reduced. Uptake may be limited by low acceptability to a significant minority of patients and clinicians. Patient-initiated access requires major revision of hospital appointment systems.
- Direct access for GPs to (i) hospital-based diagnostic tests and investigations or (ii) hospital-provided treatments, without the prior approval of a specialist in an outpatient clinic. These interventions reduce waiting times and outpatient attendance without adverse effects on the quality of care. Direct access to tests requires expansion of hospital services but increases in primary care workload appear slight. Savings in reduced outpatient attendance may be offset by overall increases in demand. The intervention is suitable only for tests and services that lie within the competency of primary care.
- Structured referral sheets that prompt GPs to conduct any necessary pre-referral tests or treatments. The administrative burden for GPs may restrict widespread application.
- Educational outreach by specialists, such as involvement of specialists in activities to support local referral guidelines. This requires a substantial time commitment from both specialists and GPs.

Promising interventions that merit further investigation included:

- Early evaluation of GPs with special interests (GPSIs) acting as substitutes for outpatient specialists suggest GPSIs improve access and reduce waiting time without adverse effects on the quality of care. Treatment thresholds may lower, provoking service-led increases in demand. The intervention requires the co-operation of hospital specialists who sometimes block change. Impact on cost and effectiveness appears context dependent and merits further investigation.
- The transfer of medical care for common chronic conditions, such as diabetes, from secondary to primary care improves access. Quality of care is unaffected provided that practices establish disease registers, recall patients at regular intervals for review,

and conduct those reviews in accordance with evidence-based guidelines. Primary care workload is increased. Overall cost-effectiveness is unknown. The potential for moving management of a wider range of chronic conditions from hospitals to primary care warrants further investigation.

- 'In-house' second opinion prior to referral was shown to reduce outpatient referral without adversely affecting the quality of care in one study. Further studies are needed to assess the reproducibility of this finding.

Ineffective interventions included:

- Relocation of specialist services to primary care settings was generally associated with improved access for patients. Greater equity in care provision may be achieved by relocating specialists to communities with poor access to secondary care services (e.g. remote rural areas). Locating specialists to well-served communities was associated with reduced outpatient effectiveness and efficiency. Specialist attachment to primary care teams was shown to reduce outpatient attendance for only one of three specialties evaluated (physiotherapy).
- Joint working between primary and secondary care clinicians, which may improve the quality of care, but appears to have little impact on outpatient attendance. The intervention demands excellent communication and good relations between primary and secondary care clinicians, and these conditions are not always present.
- Certain professional behaviour change strategies were ineffective in changing the referral behaviour of primary care clinicians. These included: passive dissemination of referral guidelines; audit and feedback of referral rates; and discussion of referral behaviour with an independent medical advisor. These interventions could be discontinued where they are presently used with cost savings to the NHS.

Strategies that were effective but had unintended negative effects included:

- Transferring minor surgery from outpatient clinics to primary care was associated with important reductions in the quality and safety of care.
- Financial incentives designed to discourage outpatient referral from primary care were effective but risked reducing necessary referrals.

Strategies not involving primary care

Although outside the remit of this review, we looked briefly at interventions not involving primary care that might improve outpatient effectiveness and efficiency. This overview suggested that the

introduction of intermediate care services may reduce use of hospitals for more severely ill patients and improve patient satisfaction. Overall cost-effectiveness is uncertain and merits further investigation. Redesign of outpatient clinics to provide rapid access for patients with life-threatening conditions can reduce waiting time, with potential health gains for patients. Costs are increased and the impact on routine outpatient attendance is unknown. Private sector provision of care in treatment centres has the potential to expand NHS capacity but research into overall cost-effectiveness is not yet complete. Specialist outreach into the community (bypassing primary care) does not appear to improve outpatient effectiveness or efficiency.

Conclusions

The paucity of high-quality research for any one intervention was striking, making it risky to draw firm conclusions. Nonetheless, there was a surprisingly high degree of consistency in outcomes across the range of interventions included within each of the four models of care investigated. The findings broadly suggest that transferring services from secondary to primary care and strategies intended to change the referral behaviour of primary care practitioners were often effective in improving outpatient effectiveness and efficiency. Relocating specialists to primary care and joint working arrangements between primary and secondary clinicians were largely ineffective. Strategies not involving primary care that may improve outpatient effectiveness and efficiency include the introduction of intermediate care services and redesign of hospital outpatient services.

The quantity of available research varied widely across individual interventions, showing a marked relationship to contemporaneous changes in NHS policy. That is to say, we formed the impression that research was triggered by changes in policy and was predominantly targeted at assessing whether new initiatives fulfilled their stated policy objectives. Unintended consequences and impacts on allied health sectors received less attention. The research was nonetheless useful in identifying the potential benefits and disadvantages associated with each broad approach to reducing outpatient demand. No effective strategy involving primary care was without risk. Identifying these risks means, however, that policy-makers and managers can now take steps to mitigate their effects when new initiatives are introduced.

Future research

Many new changes are planned at the primary–secondary care interface following the publication of the 2006 NHS White Paper '*Our Health, Our Care, Our Say: a new direction for community*'. The precise form that these interventions will take is not yet clear, but the

proposals appear to blend a number of the strategies reviewed here for reducing outpatient demand, namely transfer of services to primary care, relocation of specialist services, liaison between primary and secondary care practitioners and professional behavioural change. Evaluation of these new initiatives is highly likely fall within the remit of the Service Delivery and Organisation programme in its research commissioning role.

In our view, evaluations should, wherever possible, be robust and employ a (quasi) experimental design e.g. randomised controlled trials or controlled before and after studies. While this is not always possible when new policies are implemented, the literature we surveyed showed the unhelpful nature of weak study designs with initial claims often not substantiated by subsequent rigorous research.

It is important to include an appropriately broad range of outcomes. Alongside patient access and satisfaction, it is essential that new initiatives be evaluated in terms of:

- quality of care and patient safety
- NHS *costs* in providing the new service, also taking into account *prices* charged by providers and actual savings realised in other parts of the service
- overall effects on demand for care, whether from patients or GPs.

Future evaluations need also to assess the extent to which successful implementation depends on local contextual factors that may not be transferable, such as the attitudes, enthusiasm and skills of key actors. This demands that good qualitative research be conducted alongside the quantitative research described above.

Authors

This report was produced under contract to the NHS Service Delivery and Organisation Research and Development Programme by the National Primary Care Research and Development Centre and the Centre for Public Policy and Management, of the University of Manchester.

March 2006

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This report presents independent research commissioned by the National Institute for Health Research (NIHR). The views and opinions expressed therein are those of the authors and do not necessarily reflect those of the NHS, the NIHR, the SDO programme or the Department of Health

Addendum

This document was published by the National Coordinating Centre for the Service Delivery and Organisation (NCCSDO) research programme, managed by the London School of Hygiene and Tropical Medicine.

The management of the Service Delivery and Organisation (SDO) programme has now transferred to the National Institute for Health Research Evaluations, Trials and Studies Coordinating Centre (NETSCC) based at the University of Southampton. Prior to April 2009, NETSCC had no involvement in the commissioning or production of this document and therefore we may not be able to comment on the background or technical detail of this document. Should you have any queries please contact sdo@southampton.ac.uk