

Executive summary

Cost and outcome implications of the organisation of vascular services

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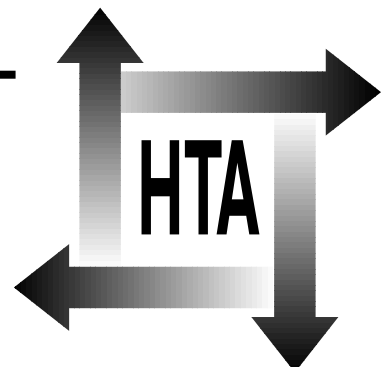
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**Health Technology Assessment
NHS R&D HTA Programme**





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Objectives

To evaluate the cost and quality implications of different possible organisational models for sub-specialist vascular services.

Design

A number of techniques were used including local activity analysis, systematic literature review, conjoint analysis, utility analysis using a standard gamble technique, decision analysis and modelling.

Setting

The study was based upon the population requiring vascular services in North Trent, comprising Sheffield and the surrounding health districts.

Subjects

Activity data related to users of vascular services in North Trent. For conjoint analysis, an outpatient sample of patients with moderate or mild peripheral vascular disease in a teaching and a district general hospital in North Trent was used. For the standard gamble exercise a sample of the general population was identified in four districts within North Trent.

Interventions

All vascular surgical and interventional radiological procedures carried out for patients with vascular disease were considered in the workload analysis and modelling exercise. A number of options for the organisation of services were considered including devolved, fully centralised and 'hub and spoke' arrangements. Utility analysis used a 'no props' variant of the standard gamble technique. Conjoint analysis was through a self-completed postal questionnaire.

Main outcome measures

The study considered clinical outcomes including mortality, amputation and symptom severity,

generic outcomes of utility, quality-adjusted life years (QALYs) and patient preference, resource use, costs and cost-effectiveness.

Results

Data analysis showed significant differences between districts in terms of the services on offer, rates of procedures and possible indicators of outcome. Key issues that were identified were the relationship between volume and outcome for particular procedures, access to carotid endarterectomy, differences in the availability and use of femoro-distal bypass and endovascular treatments, and differences in some outcome measures including mortality and rates of major amputation. The findings of local activity analysis were supported by those of the literature reviews.

The effect of different treatments for peripheral vascular disease on QALY was estimated. Conjoint analysis showed a strong preference for the availability of local treatment. Modelling demonstrated that centralisation of services would be expected to lead to improved outcomes but with an increase in overall resource requirements, and the cost-effectiveness of some of the changes was estimated.

Conclusions

The study has demonstrated a number of problems stemming from the current configuration of vascular services, which are leading to excess mortality and morbidity, including limb loss and stroke. There is a need to rationalise services, taking into account the demonstrated clinical benefits of sub-specialisation and patient preferences for local services. The compromise of 'hub and spoke' arrangements, with a variable range of facilities being provided locally through a service linked to a major centre would seem likely to best achieve this compromise for centres without sufficient workload to provide a full range of local services. Such an arrangement would also be relatively straightforward to achieve through a staged reconfiguration of services.

Further research is required to allow better identification of casemix and outcome through coding systems, to study the cost-effectiveness of both established and new vascular interventions, to consider the issues around access to services and the determinants of patient preferences.

Publication

Michaels J, Brazier J, Palfreyman S, Shackley P, Slack R. Cost and outcome implications of the organisation of vascular services. *Health Technol Assess* 2000;4(11).

NHS R&D HTA Programme

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This report is one of a series covering acute care, diagnostics and imaging, methodology, pharmaceuticals, population screening, and primary and community care. It was identified as a priority by the Acute Sector Panel and funded as project number 94/20/01.

The views expressed in this publication are those of the authors and not necessarily those of the Standing Group, the Commissioning Board, the Panel members or the Department of Health. The editors wish to emphasise that funding and publication of this research by the NHS should not be taken as implicit support for the recommendations for policy contained herein. In particular, policy options in the area of screening will be considered by the National Screening Committee. This Committee, chaired by the Chief Medical Officer, will take into account the views expressed here, further available evidence and other relevant considerations.

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The editors have tried to ensure the accuracy of this report but cannot accept responsibility for any errors or omissions. They would like to thank the referees for their constructive comments on the draft document.

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ISSN 1366-5278