Methods for making best use of retrospective analysis of critical incidents

Introduction

The aim of the HTA programme is to ensure that high quality research information on the costs, effectiveness and broader impact of health technologies is produced in the most efficient way for those who use, manage and work in the NHS. Health technology assessment forms the single largest portfolio of work within the NHS Research and Development Programme and each year some 40 new studies are funded to help answer questions of direct importance to the NHS. These studies, which include both primary and secondary research, cost about £5 million a year.

Within the HTA programme, it is extremely important that resources are applied to areas where the returns will be of greatest benefit to both patients and the NHS. The process of identifying and prioritising research questions is therefore crucial and one of the key roles of the Standing Group on Health Technology is to advise on national priorities for health technology assessment. "Methods for making best use of retrospective analysis of critical incidents" has been identified as such a priority for assessment and outline project proposals are now invited. These will be considered by the HTA Commissioning Board at its meeting in **April 1999**. If they are acceptable, investigators will be given a minimum of eight weeks to submit a full proposal.

Title

How can retrospective analysis of critical incidents be best used to improve quality of care in the NHS?

The topic

Proponents of critical incident analysis suggest that most medical accidents are not random events but arise through identifiable and remediable interactions between human error and system faults. Analysis of near misses has been used in complex socio-technical systems as a means to detect unfavourable trends so as to increase safety and reduce the number of accidents. Notably, experience from the airline industry has shown that carefully structured protocols to analyse such near misses (and actual accidents) can result in timely intervention to avert disasters in the future. Early indications that there are avoidable problems in health services might be identified through more systematic assessment of critical incidents, particularly where a new technology is being provided. The approach is characterised by assessment of single or clusters of events without a denominator or controls, taking them as a starting point for analysis of the system concerned.

There is growing interest in the UK and abroad in developing a clearer understanding of the applicability of critical incident analysis at local levels within health services, but no systematic approach to developing methods has been identified.

Methods

The following are required:

1. A critical review of the literature on the application of retrospective critical incident or failure analysis to health care situations is required, leading to the development of a conceptual model for critical incident analysis in the UK.
2. Draft guidance for health care professionals on best practice
3. Evaluation of the draft guidance as it might apply in the many and varied systems of care within the NHS leading to further development to facilitate effective implementation.

Methodological research is required, using a variety of complementary methods. Researchers are invited to justify the methods they propose to use.
Applicants should demonstrate knowledge of both current research in the field as well as systematic review methods and how these would apply to the question posed. Valid and reliable methods should be proposed for identifying and selecting relevant material, for assessing its quality and synthesising the results. Guidance on choice of appropriate methods is contained in NHS CRD Report 4 "*Undertaking systematic reviews of research or effectiveness*" (which can be accessed from their website: http://www.york.ac.uk/inst/crd/report4.htm). If applicants consider these methods inappropriate for this piece of research, they should justify their opinion. Reviews should summarise the evidence and highlight areas for further research. Where policy implications are considered, the emphasis should be on assessing the likely effects of a range of policy options open to decision makers rather than a judgement on any single strategy.

In order to inform decisions on whether and when to update this work, researchers will be expected to give some indication of how fast the evidence base is changing in the field concerned, based on the nature and volume of ongoing work known at the time the review is completed. Applicants should note that they will not be expected to carry out updating as part of the contract to complete the review.

Communication of the results of research to decision makers in the NHS is central to the HTA Programme. Applicants will be required to communicate their work through peer reviewed journals and may also be asked to support the NCCHTA in further efforts to ensure that results are readily available to all relevant parties in the NHS. Where findings demonstrate continuing uncertainty, these should be highlighted as areas for further research.

Timescale

There are no fixed limits on the duration of projects or funding and proposals should be tailored to fully address the problem. At the same time, there is a pressing need within the NHS for the information and so the research would normally be expected to be completed within 12 months.

What to do now

Submit an outline proposal to the Commissioning Manager at the National Coordinating Centre for Health Technology Assessment, Mailpoint 728 Boldrewood, University of Southampton, SOUTHAMPTON SO16 7PX by **12th February 1999**.

Applications received after 1700 hours on the due date will not be considered.