Controversies in management

Does palliative care have a role in treatment of anorexia nervosa?

A recent report in a palliative care journal described a patient with longstanding and severe anorexia nervosa who was transferred from a psychiatric unit to a hospice, where she died. Williams and colleagues argue that patients with anorexia nervosa should be actively treated. Russon and Alison put the case for palliative care.

We should strive to keep patients alive

Christopher J Williams, Lorenzo Pieri, Andrew Sims

Anorexia nervosa is defined as severe, self inflicted loss in body weight to at least 15% below that expected for the subject's sex and height. Mortality varies between 5% and 18% depending on case selection and length of follow up. A recent report described the case of a 24 year old woman who had suffered from anorexia nervosa for seven years and who was admitted for palliative care to a UK hospice in a poor physical state, received opiates, and died.[1] This report concerns us for a number of reasons and raises several issues about how such cases should best be managed.

Recovery is possible

The goal of treatment must always be clarified when considering palliative care. In terminal illness, the decision to withdraw active treatments and provide a supportive approach to symptom control is often appropriate. We question whether this is applicable in anorexia. Recovery is possible even in patients with longstanding severe anorexia. In a 10 year follow up of 76 severely ill women with anorexia, Eckert et al found that 18 (24%) had fully recovered, about half had a benign outcome, and only five (7%) had died.[2] Ratnasuriya et al found a fairly constant rate of recovery during the first 12 years after onset of illness, with reduced likelihood of recovery after this.[3] In the light of these findings, we believe that the hospice admission and treatment with opiates raises important issues about the difficulties some medical and nursing staff have in dealing with chronic mental illness.

Judgments may be clouded

Symptoms of depression, common in very underweight patients, may occur also in close family members. They may cause the sufferer, and his or her family, to underestimate previous positive clinical interventions and times of relative improvement. In this case it was reported that, "She had not committed herself to any therapeutic program, and had failed to gain any significant weight despite numerous episodes of intensive behaviour therapy and psychotherapy."[1] There is no intimation that clinical information had been sought from other hospitals where she had been treated. When the consequences of abandoning active treatment are so important the clinical assessment should include not only the patient's subjective report but also a review of all previous case notes and discussion with doctors who had been involved in the case.

In other medical settings the presence of depression is associated with the rejection of treatment even in situations with a good medical prognosis.[4] Most general psychiatrists see few patients with anorexia each year and rarely have to manage the most severe and chronic cases. The emotional demands of working with a young person who is dying are arduous, and the resultant pessimism of patient and relatives may also affect the emotional response of the psychiatric team. In studies of the use of euthanasia and assisted suicide in Holland, a patient's feeling of hopelessness is one of the main factors in affecting the perceived appropriateness of

OLIGNY/EDITING/IMPACT/MODEL RELEASE

Division of Psychiatry and Behavioural Sciences in Relation to Medicine, Clinical Sciences Building, St James's University Hospital, Leeds LS9 7TF
Christopher J Williams, *senior lecturer*
Andrew Sims, *professor*

Yorkshire Centre for Eating Disorder, Seacroft Hospital, Leeds LS14 6UH
Lorenzo Pieri, *consultant*

Correspondence to: Dr Williams
psycjw@leeds.ac.uk

BMJ 1998;317:195–7

euthanasia.[5] When low weight levels are reached, staff may accept at face value statements that previous treatments have been ineffective, or assume that no other treatments will be effective in future, and therefore cease active treatment for a distressed patient who is not improving. Treatment with opiates can be effective in reducing pain and distress in physical illness, but this is not a recognised treatment of anorexia nervosa.

Anorectic patients, unlike those with physical terminal illnesses, fulfil the criteria for mental illness. A further complication is the impact of low body weight on cognitive function. In the Minnesota Studies normal volunteers were systematically starved over several months.[6] Although none of these subjects initially suffered from anorexia nervosa, as they began to lose weight they developed anorectic patterns of eating, with preoccupation with food, bingeing, poor concentration, reduced libido, reduction in outside interests, social withdrawal, and apathy and they inaccurately perceived themselves to be overweight. Such perceptual abnormalities may lead to patients overestimating the width and size of their own faces by over 50% and reflect the impact of starvation on the brain.[7] In most such patients, these features disappear with weight restoration. This raises important issues about the ability of patients who reach a very low body weight to give or withhold consent from treatment as a result of their mental disorder. Thus, treatment with nasogastric tube feeding on a medical ward when necessary (and imminent death could be argued to be such a case) can be justified under Section 3 of the Mental Health Act.[8]

Conclusions

When dealing with chronic illness, doctors should be able to tolerate distress and negativism and still offer support, control of symptoms, and effective treatment. This may require consistent care for years and necessitates a positive therapeutic stance. If possible, patients should be prevented from reaching such a low physical and emotional state that death seems the only acceptable option to them, their families, and doctors. Severe physical complications are best approached with medical care shared between physician and psychiatrist. Severe chronic anorexia is best treated by an experienced multidisciplinary team, with treatments of proved efficacy offered by experts in the specialty. When such skills are not available, a second opinion should be sought. Specialist centres make a valuable contribution to the assessment and treatment of such patients. The pessimism of patients and relatives at a time of exacerbation of illness should not prevent active treatment. Without this, decisions made benevolently may fail to offer patients adequate care.

1 O'Neill J, Crowther T, Sampson G. Anorexia nervosa: palliative care of terminal psychiatric disease. *Am J Hospice Palliative Care* 1994;Nov/Dec: 36-8.
2 Eckert ED, Halmi KA, Marchi P, Grove W, Crosby R. Ten year follow-up of anorexia nervosa: clinical course and outcome. *Psychol Med* 1995;25:143-56.
3 Ratnasuriya RH, Eisler I, Szmukler GI, Russell GFM. Anorexia nervosa: outcome and prognostic factors after 20 years. *Br J Psychiatry* 1991;158: 495-502.
4 Lee MA, Ganzini L. Depression in the elderly: effects on patient attitudes towards life sustaining therapy. *J Am Geriatr Soc* 1992;13(2):21-6.
5 Ogilvie AD, Potts SG. Assisted suicide for depression: the slippery slope in action? *BMJ* 1994;309:492-3.
6 Keyes A, Brozec J, Henschel A, Nichelsen O, Taylor HL. *The biology of human starvation.* Vol 1 and 2. Minneapolis: University of Minnesota Press, 1950.
7 Slade PD, Russell GFM. Awareness of body dimensions in anorexia nervosa: cross-sectional and longitudinal studies. *Psychol Med* 1973;3:188-99.
8 Tiller J, Schmidt U, Treasure J. Compulsory treatment for anorexia nervosa: compassion or coercion? *Br J Psychiatry* 1993;162:679-80.

Palliative care does not mean giving up

Lynne Russon, Dawn Alison

Palliative care team, St James's University Hospital, Ashley Wing, Leeds LS9 7TF

Lynne Russon, *senior registrar*

Dawn Alison, *Macmillan senior lecturer*

Correspondence to: Dr Russon Lynne.Russon@st-gemma.co.uk

The World Health Organisation defines palliative care as: "The active total care of patients whose disease is not responsive to curative treatment. Control of pain, of other symptoms and of psychological, social and spiritual problems is paramount. The goal of palliative care is the achievement of the best quality of life for patients and their families. Many aspects of palliative care are also applicable earlier in the course of the illness in conjunction with anti-cancer treatment."[1]

Appropriateness of palliative care for anorectic patients

Specialist palliative care services were developed to address the needs of patients dying from cancer and their families. Such care is now considered appropriate for patients with any diagnosis causing active, progressive, and advanced disease and a limited prognosis.[2] Currently, lack of resources restricts provision of specialist palliative care.

Anorexia nervosa is a complex illness that combines psychological and physical morbidity. Detailed information and effective communication are essential to establish appropriate goals of treatment. The staff of most hospice units discuss and agree the aims of inpatient admission with the patient, his or her family, and referring teams. Frequent review of care plans and discussion of changes in clinical care are routine.

Williams et al comment on the effects of starvation on cognition and the impact on the ability of such patients to give informed consent. This clarifies the need for specialist psychiatric advice in patients with anorexia nervosa and highlights the benefit of clear guidelines in their management. Interestingly, although some patients with cancer suffer marked cachexia, the potential effect on their cognitive function is not widely considered with respect to their making decisions about treatment. This may warrant further study.

Palliative care is not just terminal care

The possibility of recovery from anorexia nervosa, even for patients with a poor prognosis, is cited as a reason for withholding specialist palliative care. This argument no longer holds for cancer patients. The need for pain and symptom control is just as clear for patients with a 90% chance of long term survival as for those with a 10% chance. Close cooperation between specialists in palliative care and other medical disciplines can achieve optimal care without sacrificing survival chances. There is confusion over use of the terms palliative care and terminal care. Terminal care makes up a part of the spectrum of palliative care, when it is recognised and accepted that a patient will die within hours or days. At this stage all care is focused on providing comfort even if there is a risk that measures to do so may hasten death.

Involvement of specialist palliative care services for patients with anorexia nervosa would not necessarily involve admission to a hospice. Shared care in a hospital setting can allow a patient to remain in a psychiatric unit nursed by familiar ward staff who have psychiatric expertise. This environment may not always provide sufficient generic nursing skills for care of patients with severe debilitating physical problems. By contrast, acute medical wards may have difficulty in providing all the elements of satisfactory care for patients with complex psychiatric problems and difficult family dynamics. Perhaps the best care for severely ill anorectic patients requires the development of specialist units where staff are competent and confident in dealing with complex physical and psychological care. If cure or remission is being sought then a hospice inpatient unit is unlikely to be acceptable to most anorectic patients. However, if death is felt to be imminent the needs of a terminally ill anorectic patient could probably be best met in a hospice unit.

The association between receiving opiates and dying is a common misconception among those unfamiliar with opiate use in effective pain control. For severely malnourished patients with hypoproteinaemia and disturbances of renal and liver function, opiates are one of the safer drug groups to use. Appropriately prescribed and titrated, they act as a totally reversible means of relieving pain without necessarily hastening death. The patient to whom Williams et al refer suffered from several different sources of pain (pressure sores, osteoporotic fractures, and sciatic leg pain) and seemed to benefit from a small dose of diamorphine without being sedated.[3] If a patient's pain is eased he or she may be more able to comply with the intensive behaviour therapy and psychotherapy necessary for recovery.

Conclusions

We argue that for patients with anorexia nervosa good palliative care is not a last resort. It should not exclude all other specific treatments and could work alongside these to provide optimal care potentially leading to remission or cure. Patients' eligibility for palliative care should be determined by their level of need and not purely by their diagnosis.

1 World Health Organisation. *Cancer pain relief and palliative care. Technical report series 804.* Geneva: WHO, 1990.
2 Standing Medical Advisory Committee and Standing Nurse and Midwifery Advisory Committee. *The principles and provision of palliative care. Joint report of the Standing Medical Advisory Committee and Standing Nurse and Midwifery Advisory Committee.* London: HMSO, 1992.
3 O'Neill J, Crowther T, Sampson G. Anorexia nervosa: palliative care of terminal psychiatric disease. *Am J Hospice Palliative Care* 1994;Nov/Dec:36-8.

Personal paper

Has health economics lost its way?

D P Kernick

St Thomas' Health Centre, Exeter EX4 1HJ
D P Kernick, *general practitioner*
stthomas@eclipse.co.uk

BMJ 1998;317:197–9

Until recently, medicine was fairly straightforward. The doctor had limited therapeutic options, patients did as they were told, and mortality was an unequivocal outcome. Now medicine has become health care, an amalgam of psychology, physiology, anthropology, epidemiology, education, management theory, and politics. Economics has been the latest candidate for the melting pot, on the back of a simple message: when resources are limited, relating the cost of an intervention to its benefits can facilitate the difficult choices that have to be made between competing options. In Britain, with the development of a primary care led service,[1] this approach will be of particular relevance to general practice.

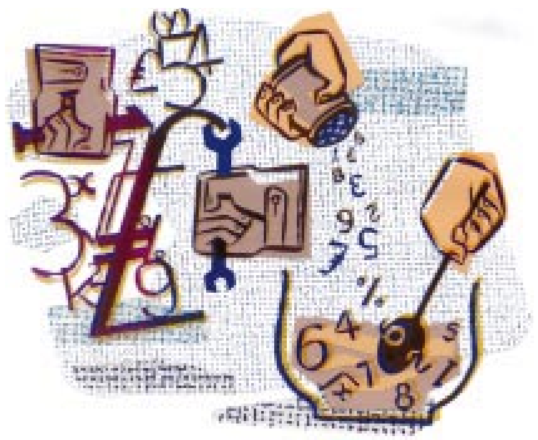
Although the difficulties of applying traditional economics to health care and the uncertain relation between health care and health is well recognised, the introduction of internal market reform in Britain in the 1980s gave health economists a chance to establish their credentials and assert their influence on the way health care is delivered. But the early optimism that health economics could provide an explicit framework which could facilitate an ethical approach to the inevitable rationing of health care has proved illusory. And although the importance of economic information is clearly recognised,[2 3] economic studies have little impact on healthcare decisions, which continue to be

Summary points

Relating the outputs of a health intervention to the resources that are used is important in choosing between competing interventions

Health economics has not made a substantial impact on decisions in health because of problems with acquiring evidence, recognising the relevance to the decision maker, and implementing the message

Approaches should be developed that are acceptable to and assessable by end users and which reflect local circumstances and context



MARK HUDSON

made with little or no evidence of cost effectiveness.[4] Why should this be?

The process of utilising research evidence has been described as a series of five stages[5]: acquisition of evidence; dissemination of information; recognition of validity of information; relevance to the decision maker; and understanding, adoption, and implementation of the message. All these areas have been tested from the point of view of primary care and found to be wanting.

Acquisition of economic evidence

Although there is agreement on a number of basic principles governing the design of economic studies, many issues remain unresolved.[6] Ideally, evidence should be obtained from trials that can deliver unbiased and unambiguous answers in generalisable settings, but these criteria are rarely met. Like clinical trials, economic evaluations are often contentious, and disagreement can arise over method, presentation, and interpretation.[7] Often there is conflict between the clinical and economic requirements for statistical power—and usually clinical demands will prevail.

Guidelines on the conduct of economic studies help to maintain consistency and comparability in an area where uncertainty can arise from variability in sample data, generalisability, and the analytical methods used,[8 9] and some countries have developed regulatory standards for the conduct of the economic studies which all new drugs are required to undergo.[10 11] But guidelines continue to have a large theoretical component across which there remains a lack of consensus among health economists. Maynard has said that they disguise "where analysts are coming from in a fog of pseudo consensus."[12]

The failure to agree on how economic evidence is acquired and integrated does not inspire confidence in end users.

Dissemination of information

Pharmacoeconomic evaluations form the majority of published economic evaluations. They are often commercially funded and like clinical trials can suffer from publication bias.[13–15]

The Department of Health has assembled a list of independent cost effective studies relevant to the NHS that contains 200 economic evaluations, of which 147 were considered suitable to be published in a register of cost effectiveness studies.[16] An analysis of these data found a wide range of quality and concluded that methods and data were not reported in a way that would facilitate dissemination and decision making by end users.[17]

Recognition of validity to decision maker

If a study is to achieve internal validity, both its costs and outcomes must accurately reflect what they set out to measure. The introduction of the internal market in the early 1990s revealed the paucity of cost data within the NHS, and the wide range of estimates that are found by various studies probably reflect inconsistent methodology rather than true differences in efficiency. For example, a recent review of 20 studies that derived the unit cost of a consultation with a general practitioner found a range of between £3 and £11, depending on the method of costing used.[18] Indirect costs such as productivity losses often form a major component of a study, but again, there is no consensus on the best approach to this area.[19]

Traditionally, measurement of health outcomes has concentrated on mortality and morbidity, but with the development of a broader concept of health, other domains have been included. These multidimensional outcomes are often difficult to quantify, and it may be difficult to attribute them to specific interventions. Even with this broader approach, other sources of benefit and disbenefit that affect health status can be overlooked,[20] and no satisfactory approach has been devised to integrate the disparate outcomes of health interventions, particularly in the complex environment of primary care.

Relevance to decision maker

The viewpoint of an analysis defines which costs and benefits of an intervention are relevant. Researchers often generate information within a political framework, and this may influence the alternatives explored and the method of presentation. The perspective of the individual patient, the general practice, the hospital, the purchasing authority, the NHS, or society in general can all be considered, and different answers may be obtained for each approach. Drummond has argued that the relevance of individual costs and benefit will be a function of each decision making setting.[21] He concluded that even perfect standardisation would not necessarily permit simple comparisons or generalisability across different settings, where particular analytic viewpoints may differ. The perspective of many studies may not be relevant to the general practitioner.

Understanding, adoption, and implementation of message

The health economist's aim is for a universal method where a seamless theory can be applied to all healthcare decisions, integrating all outcome measures into a single unit of measurement which can be weighed to take equity considerations into account.[22] This population ethic of efficiency sits uneasily with the individual ethic of effectiveness, and it may be difficult to resolve the conflict of perspective between the individual patient and society that often occur in an economic analysis. Often, probabilistic findings do not coincide with the need to make choices for a particular patient.

Doctors will be influenced by advocacy for their patients, with an emphasis on decisions taken jointly on the basis of full information; economic practitioners will be driven by a value system based on cost and efficiency. Considerations on equity will sit uncomfortably between these two perspectives. Although the message may be clear, implementation may prove difficult.

Conclusion

Economic evaluation has been introduced into health to provide a framework on which rational decisions can be made, as without it choices may be made on the basis of "politics, emotion, and unsubstantiated advocacy." But over the past decade, this approach has made little impact on the delivery of health. Maynard has argued that resources used to "re-invent the wheel with guideline reiteration and quasi-consensus statements" should be targeted where they could produce the greatest return.[12] He calls for a retreat to basics and a closer relationship to academic departments—a return to a broader perspective where the formulation and execution of health policy can be influenced, rather than the narrower confines of economic evaluation where success has been limited.[23] This is a move in the wrong direction.

Overstandardisation following a recipe blindly may be counterproductive. There is a difference between "cookbook" and "toolkit" approaches to economic analysis.[21] General practitioners have made implicit economic choices for many years, and fundholding has shown that they can accommodate a more explicit approach. Health economists should develop simple tool kits that complement and support a pragmatic system of health delivery; help local providers evolve satisfactory rather than optimum solutions; work more closely with those they seek to influence; and develop simpler rather than more complex evaluation systems that are accessible and acceptable to end users.

Health economists have lost their way. They have failed to grasp that decisions will continue to be distanced from government and focused on end users where judgments are often taken in a broader context. But all is not lost. Rather than retreating into their academic laagers and analysing why they have made so little impact, health economists should scrutinise their baggage: in a primary care led health service, it may be best to travel light.

Funding: St Thomas' Medical Group is a research practice and receives funding from the NHS Research and Development Executive.

Conflict of interest: None.

1 NHS Executive. Priorities and planning—guidance for the NHS, 1997/8. Leeds: NHSE, 1996.
2 Ryan M, Yule B, Bond C, Talor RJ. Scottish general practitioners' attitudes and knowledge in respect of prescribing costs. *BMJ* 1990;300:1316-8.
3 Drummond M, Cooke J, Walley T. *Economic evaluation in health care decision making: evidence from the UK.* York: Centre for Health Economics, University of York, 1996. (Discussion paper 148.)
4 Coyle D. *Increasing the impact of economic evaluations on health care decision making.* York: Centre for Health Economics, University of York, 1993. (Discussion paper 108.)
5 Bayer JM, Trice HM. The utilisation process: a conceptual framework and synthesis of empirical findings. *Administrative Science Quarterly* 1982;27:591-622.
6 Hutton J. Economic evaluation of health care: a half-way technology. *Health Econ* 1994;3:1-4.
7 Freemantle N, Maynard A. Something rotten in the state of clinical and economic analysis. *Health Econ* 1994;3:63-7.
8 Drummond MF, Jefferson D. Guidelines for authors and peer reviewers of economic submissions to the BMJ. *BMJ* 1996;313:275-83.
9 Russell LB, Gold MR, Siegel JE, Daniels N, Weinstein MC. The role of cost-effective analysis in health and medicine. *JAMA* 1996;276:1172-7.
10 Guidelines for the pharmaceutical industry on preparation of submissions to the Pharmaceutical Benefits Advisory Committee. Canberra: Department of Health, 1992.
11 *Ontario guidelines for economic analysis and pharmaceutical products.* Toronto: Ministry of Health, 1994.
12 Maynard A. Economic evaluation in healthcare—reinventing the wheel? *Pharmacoeconomics* 1997;11:115-8.
13 Sacristan J, Bolanos E, Hernandez J, Soto J, Galende I. Publication bias in health economic studies. *Pharmacoeconomics* 1997;11:289-90.
14 Davidson RA. The source of funding and outcome of clinical trials. *J Gen Intern Med* 1986;1:155-8.
15 Cho MK, Bero LA. The quality of drug studies published in symposium proceedings. *Ann Intern Med* 1996;124:485-9.
16 *Register of cost effectiveness studies.* London: Department of Health, 1994.
17 Mason J, Drummond M. The Department of Health register of cost effectiveness studies: content and quality. *Health Trends* 1995;27:50-6.
18 Graham B, McGregor K. What does a GP consultation cost? *Br J Gen Pract* 1997;47:170-2.
19 Posnett J, Jan S. Indirect costs in economic evaluation: the opportunity cost of unpaid input. *Health Econ* 1996;5:13-23.
20 Ryan M, Shackley P. Assessing the benefits of health care: how far should we go? *Qual Health Care* 1995;4:207-13.
21 Drummond M, Brandt A, Luce B. Roveira J. Standardising methodologies for economic evaluation in health care. Practice, problems and potential. *Int J Tech Assess Health Care* 1993;9:26-36.
22 Blumenschein K, Johannesson M. Economic evaluation in health care. A brief history and future directions. *Pharmacoeconomics* 1996;10:114-22.
23 Maynard A. Health economics: has it fulfilled its potential? In: Maynard A, Chalmers I, eds. *Non-random reflections on health services research.* London: BMJ Publishing Group, 1997.

(Accepted 5 May 1998)

A paper to change your practice

A simple and effective intervention

As we struggle to optimise the delivery of limited medical resources our interventions become increasingly complex.

Britain is a nation of couch potatoes, and increasing the prevalence of physical activity may be more important for public health than our professional preoccupations with diet, blood pressure, or smoking. Even small increases in activity may yield significant benefit in sedentary people. Standing out like a beacon in a rapidly changing world of technological innovation and molecular advance is a paper on health promotion that encourages the use of stairs.[1]

A sign was placed in an underground station where stairs and escalators were adjacent saying, "Stay healthy, save time, use the stairs." The sign doubled the percentage of passengers using the stairs and there was still a significant difference over baseline at 12 weeks.

I am unable to calculate the impact of this intervention on national morbidity and mortality if it were extended to all lifts and escalators. But in a field of uniformly poor success GPs could do far worse than nail a sign to their door saying, "Stay healthy, don't smoke, get active." In a medical environment of increasing sophistication it is important not to lose sight of the fact that rewards can be achieved that do not have to be commensurate with the cost and complexity of the intervention.

D P Kernick, *general practitioner, Exeter*

1 Blamey A, Mutrie N, Aitchison T. Health promotion by encouraged use of stairs. *BMJ* 1995; 311:289-90.

Getting research findings into practice

Finding information on clinical effectiveness

Julie Glanville, Margaret Haines, Ione Auston

This is the third in a series of eight articles analysing the gap between research and practice

NHS Centre for Reviews and Dissemination, University of York, York Y01 5DD
Julie Glanville, *information service manager*

Library and Information Commission, London W1V 4BH
Margaret Haines, *principal adviser*

National Information Center on Health Services Research and Health Care Technology, National Library of Medicine, 8600 Rockville Pike, Bethesda, MD 20894, USA
Ione Auston, *librarian*

Correspondence to: Ms Glanville jmg1@york.ac.uk

Series editors: Andrew Haines and Anna Donald

BMJ 1998;317:200–3

There is increasing pressure on healthcare professionals to ensure that their practice is based on evidence from good quality research, such as randomised controlled trials or, preferably, systematic reviews of randomised controlled trials and trials of other study designs. This pressure comes from various sources. The evidence based healthcare movement encourages a questioning and reflective approach to clinical practice and emphasises the importance of lifelong learning. Thus, good access to research based evidence is necessary. Many governments are encouraging the development of evidence based medicine because its advantages are understood, especially in terms of improved efficiency in the delivery of health care through the identification of effective treatments.[1 2] There are also indications that legal decisions may take account of whether research evidence and clinical guidelines were adhered to.[3 4] Better informed consumers may provide another incentive for clinicians to be more aware of research findings. Clinicians will need to be able to access information on clinical effectiveness in order to improve the quality of care and to stay well informed on developments in specialist areas. We examine the resources that are already available to clinicians, strategies for finding and filtering information, and ways of improving dissemination.

Evidence based information already available

In the 1990s evidence from research has become more easily available. In part this has been due to the development of programmes for assessing health technology and to the growth in systematic reviews. Systematic reviews evaluate primary evidence and the effectiveness of particular interventions. They necessarily take time to complete but a useful compilation of reviews is available in *The Cochrane Library* and there are also reports from technology assessment agencies such as the Agency for Health Care Policy and Research in the United States or in England the Department of Health's health technology assessment programme. The publications and databases in the box present evidence on effectiveness, often in a summarised form suitable for the busy clinician or policymaker. However, important problems remain, such as how to increase awareness of what information is available and how to provide clinicians with information when they need it. Collections of systematic reviews and critical appraisals of primary research are valuable sources of evaluated research. The proliferation of these collections is creating its own information explosion; this is a serious problem that needs to be addressed. Because there is no single comprehensive index to all the material described in the box several searches through both paper journals and electronic services may be required to locate relevant information. It may also be necessary to obtain copies of the original publication. These are disincentives to searching for and obtaining research evidence. Information technology may eventually provide a more streamlined way of dealing with this explosion of information, perhaps in the form of world wide web interfaces that provide links to a range of evidence based information services that filter publications for quality, or by providing access to the full text of publications. Biomednet is one model of this type of service. It offers a range of full text resources with free Medline access, discussion facilities, and virtual meeting rooms. Biomednet is beginning to highlight important papers that have been cited and evaluated by expert reviewers as a means of filtering papers for quality.[5]

The resources in the box provide information that has been evaluated and filtered—that is, they highlight the best quality studies from the mass of available literature. However, research based answers to many questions of effectiveness are not yet available in such time saving, value added forms. Clinicians may still need to search indexes and abstracts of published literature. For several years it has been possible for clinicians to search Medline using software such as Grateful Med, and its world wide web interface, internet Grateful Med. This has provided access to a large body of peer reviewed studies that are mostly unsynthesised and unevaluated. There are tools to help searchers identify the types of studies that are more likely to provide high quality information on clinical effectiveness, such as systematic reviews or randomised controlled trials.[6 7] Once the original papers have been retrieved there are checklists that, together with

Summary points

Information alone is often not sufficient to encourage changes in practice

A national dissemination strategy for important research messages combined with local support mechanisms may increase the uptake of changes in practice

All healthcare decision makers need to know how to filter research for quality and how to appraise evidence from research

Extensive information on clinical effectiveness is already available, and computer based systems are being developed that will present clinicians with evidence based information when they need it

Good library and information support provided to doctors has been proved to make a positive impact on clinical decision making

Selected resources

The Cochrane Library
A collection of databases including the full text of the *Cochrane Database of Systematic Reviews*, critical commentaries on selected systematic reviews that have been assessed for quality by the NHS Centre for Reviews and Dissemination, and brief details of more than 170 000 randomised controlled trials.
Available from: Update Software, Summertown Pavilion, Middle Way, Summertown, Oxford, OX2 7LG, or http://www.medlib.com and http://www.hcn.net.au/

Clinical Guidelines from the US Agency for Health Care Policy and Research
A series of clinical guidelines based on thorough reviews of research evidence. The agency is now focusing on producing evidence reports (reviews and analyses of scientific literature designed to provide the basis for guidelines, measures of performance, and other tools for quality improvement), as well as working with the American Medical Association and the American Association of Health Plans to develop an online clearing house for practice guidelines; the online service will have electronic mailing lists to keep users informed about the implementation of guidelines.
Available from: http://text.nlm.nih.gov/ and http://www.ahcpr.gov:80/news/press/ngc.html

Best Evidence Database on CD ROM
Abstracts of primary and review articles that have been published in the *American College of Physicians Journal Club* and *Evidence-Based Medicine*, with assessments of quality by clinical experts.
Available from: BMJ Publishing, London WC1H 9JR, or http://hiru.hirunet.mcmaster.ca/acpjc

Effective Health Care Bulletins
Reports of systematic reviews presented in a readable and accessible format, produced by the NHS Centre for Reviews and Dissemination.
Available from: Subscriptions Department, Pearson Professional, PO Box 77, Fourth Avenue, Harlow CM19 5BQ, or http://www.york.ac.uk/inst/crd

Guide to Clinical Preventive Services, 2nd ed
US Preventive Services Task Force. Baltimore: Williams and Wilkins, 1996
Evidence based recommendations on preventive services.
Available from: http://text.nlm.nih.gov/

Canadian Guide to Clinical Preventive Health Care
Ottawa: Health Canada, 1994
Evidence based recommendations on preventive services.

Bandolier
UK newsletter alerting readers to key evidence about effectiveness in health care.
Available from: http://www.jr2.ox.ac.uk/Bandolier

Drug and Therapeutics Bulletin
Independent assessments of drugs and other treatments.
Available from: Consumers' Association, Castlemead, Gascoyne Way, Hertford, SG14 1LH

Effectiveness Matters
Summaries of published research on a single topic which emphasise presenting clear messages on effectiveness.
Available from: NHS Centre for Reviews and Dissemination, University of York, York Y01 5DD, or http://www.york.ac.uk/inst/crd

MeReC Bulletin
Reviews of new drugs compiled for general practitioners, with discussion of effectiveness, safety, appropriateness, acceptability, and cost.
Available from: Medicines Resource Centre, Hamilton House, 24 Pall Mall, Liverpool L3 6AL

NHS Economic Evaluation Database
Critical assessments of published economic evaluations, produced by the NHS Centre for Reviews and Dissemination.
Available from: NHS Centre for Reviews and Dissemination, University of York, York Y01 5DD, or http://nhscrd.york.ac.uk/Welcome.html

training in critical appraisal skills, can be used to assess the rigour and validity of such studies.[8–10]

Although Medline is a rich resource, access is increasingly required to a wider range of material than it presently indexes. The US National Library of Medicine and the American Hospital Association have recently launched the HealthSTAR database which seeks to provide expanded access to both non-clinical information (on topics such as healthcare administration, economics, and planning) and non-journal information (such as reports, meeting abstracts, and chapters from books) that is not available in journals.[11] The National Library of Medicine has recently announced that access to Medline and HealthSTAR through internet Grateful Med and access to Medline through the PubMed interface will be free.[11] Other databases that cover specific clinical areas, specific types of publications, and non-English language material should also be used. Tools such as search strategies and single interfaces, like PubMed, are required to enhance access to a range of such databases.

Strategies for finding and filtering information

Training and practice are required to search information services and navigate the internet effectively, but other options are available which may help clinicians cope with the challenges of finding information. Locating, appraising, and exploiting resources, both print and electronic, has typically been the role of the librarian or information professional. Increasingly, clinicians are finding that librarians can

IAN BARRACLOUGH

not only help them locate information in answer to a particular question but also can help to keep their knowledge up to date by presenting selections of important new evidence in the form of paper or electronic bulletins.

The value of library and information support has been demonstrated on both sides of the Atlantic. Trained librarians are often more effective than physicians in filtering papers for quality.[12] Some American studies have shown that library support not only contributes to lower patient care costs by decreasing the number of admissions, length of stay, and number of procedures but also contributes to a higher quality of care in terms of patient advice, improved decision making, and savings in time.[13 14] A similar study in the United Kingdom found that library services had a positive impact on the continuing education of hospital doctors.[15]

Not all clinicians have the time to visit libraries, and new models have emerged for delivering library support directly to hospital wards and departments.[16 17] In the United States, the National Network of Libraries of Medicine provides outreach services to general practitioners (and, more recently, to public health professionals); in the United Kingdom the BMA library offers an electronic outreach service to members.[18 19] Also in the United Kingdom, the Oxford PRISE (primary care sharing the evidence) project is developing a model whereby general practitioners' computers are linked to a central computer that provides access to a range of databases; in this model the general practitioners can also request librarians to follow up particular questions in more detail.[20] Librarians are increasingly asked to provide training in information skills as part of courses in evidence based medicine offered to NHS staff.

The development of primary care based services presents a challenge to librarians; they must become better trained to deal with a wider range of inquiries, to evaluate and synthesise evidence, and to present selected information through innovative delivery systems. Clearly initiatives such as the Oxford Health Libraries' training programme, known as the "librarian of the 21st century," is a model for other library networks.[21] Similar initiatives under development in the United States include the National Information Center on Health Services Research and Health Care Technology, web based training materials that are not copyrighted and can be modified to suit the user,[22] and training programmes for librarians sponsored by the National Library of Medicine in subjects such as medical informatics.

Improving dissemination

For information to be accessible it must be packaged and published in formats that promote easy identification and encourage use. Evidence based information is becoming easier to find: structured abstracts in articles in journals make it easier to identify the methodology of a study and its potential reliability. Innovations, such as the *BMJ*'s key messages boxes, make it easier to identify the important points of research. Journal editors have an important role in encouraging authors to provide informative abstracts and in ensuring that researchers' conclusions are supported by their paper's results. However, the benefits of clearer labelling may be undermined if current buzz words, such as "effective" and "evidence based," are adopted and used incorrectly or inaccurately so that previously useful labels become meaningless.

Organisations that produce recommendations on policy and clinical guidelines are finding it necessary to make their guidelines more explicitly evidence based, both by using research evidence to develop their guidelines and in stating the level of evidence on which the guidance is based.[23 24] It would be easier and quicker to assess guidelines if the types of evidence used in their development were stated as clearly as possible, for example on the front cover of published guidelines there could be a statement to the effect that "this guideline is based on a Cochrane review." The guideline appraisal project of the Health Information Research Unit at McMaster University is an example of efforts to help practitioners identify and critically evaluate clinical guidelines, and to determine their applicability to local practice.[25]

Information from research needs to be presented in forms that are appropriate for the target audience. Guidelines from the Agency for Health Care Policy and Research have been packaged in different ways for different users; they have been packaged as a detailed report of the review with a full exposition of the evidence for researchers and decision makers, as a briefer guideline for clinicians, and as a leaflet for patients. In the United Kingdom, the Midwives Information and Resource Service has produced a series of leaflets aimed at both pregnant women and their professional carers using, when possible, evidence from Cochrane reviews.[26]

Simply presenting research evidence to clinicians is often insufficient to ensure that it is incorporated into practice. Government directives and direct incentives such as payments can increase the speed of uptake. Sometimes powerful research findings will have an immediate effect; swift changes in practice followed the publication of research findings that sleeping position could affect mortality from the sudden infant death syndrome.[27 28] However, even when findings are packaged, summarised, and made relevant to clinicians further action will be needed to ensure their implementation.

A complex set of factors influences the uptake of research findings, and a variety of dissemination methods need to be used to encourage clinicians to make informed changes in their practice.[29] Much research on effective implementation is currently under way, but a nationally coordinated strategy to disseminate and promote important evidence from research and systematic reviews could improve implementation among healthcare professionals. National campaigns to distribute information packs, briefings, and videos of important points from research findings could speed the wider adoption of changes in practice. Such national campaigns would need to be complemented by a variety of other activities at a local level.[30] Local implementation strategies involving continuing education programmes, patient education programmes, and library and information outreach services could be coordinated to ensure that key research evidence is not only accessible but also acted on.

Helpful comments were provided by Olwen Jones, Susan Mottram, Ian Watt, Trevor Sheldon, Andrew Jones, and the two referees for this paper.

Funding: None.

Conflict of interest: None.

1 NHS Executive. *Priorities and planning guidance for the NHS: 1997/98.* Leeds: Department of Health, 1996.
2 Glasziou PP. Support for trials of promising medications through the pharmaceutical benefits scheme: a proposal for a new authority category. *Med J Aust* 1995;162:33-6.
3 Stern K. Clinical guidelines and negligence liability. In: Deighan M, Hitch S, eds. *Clinical effectiveness from guidelines to cost-effective practice.* Brentwood: Earlybrave Publications, 1995.
4 Doctors in the dock. *Economist* 1995;Aug 19:23-4.
5 URL: http://biomednet.com/.
6 Dickersin K, Scherer R, Lefebvre C. Identifying relevant studies for systematic reviews. *BMJ* 1994;309:1286-91.
7 McKibbon KA, Wilczynski NL, Walker-Dilks CJ. How to search for and find evidence about therapy. *Evidence-Based Medicine* 1996;1:70-2.
8 Oxman AD. Checklists for review articles. *BMJ* 1994;309:648-51.
9 Hayward RS, Wilson MC, Tunis SR, Bass EB, Guyatt GH. How to use clinical practice guidelines. Part A. Are the recommendations valid? *JAMA* 1995;274:570-4.
10 Wilson MC, Hayward RS, Tunis SR, Bass EB, Guyatt GH. How to use clinical practice guidelines. Part B. What are the results and will they help me in caring for my patients? *JAMA* 1995;274:1630-2.
11 URL: http://www.nlm.nih.gov/databases/freemedl.html.
12 Fuller AB, Wessel CB, Ginn DS, Martin TP. Quality filtering of the clinical literature by librarians and physicians. *Bull Med Libr Assoc* 1993;81:38-43.
13 Marshall JG. The impact of the hospital library on clinical decision-making: the Rochester study. *Bull Med Libr Assoc* 1992;80:169-78.
14 Klein MS, Ross FV, Adams DL, Gilbert CM. Effects of on-line literature searching on length of stay and patient care costs. *Acad Med* 1994;69:489-95.
15 Urquhart CJ, Hepworth JB. The value to clinical decision making of information supplied by NHS Library and Information Services. London: British Library, 1995. (British Library research and development report no. 6205.)
16 Cimpl K. Clinical medical librarianship: a review of the literature. *Bull Med Libr Assoc* 1985;73:21-8.
17 Schatz CA, Whitehead SE. "Librarian for hire": contracting a librarian's services to external departments. *Bull Med Libr Assoc* 1995;83:469-72.
18 Wallingford KT, Ruffin AB, Ginter KA, Spann ML, Johnson FE, Dutcher GA, et al. Outreach activities of the National Library of Medicine: a five-year review. *Bull Med Libr Assoc* 1996;84 (April suppl):1-60.
19 Rowlands JK, Forrester WH, McSean T. British Medical Association library free Medline service: survey of members taking part in an initial pilot project. *Bull Med Libr Assoc* 1996;84:116-21.
20 URL: http://wwwlib.jr2.ox.ac.uk/prise/.
21 Palmer J, Streatfield D. Good diagnosis for the twenty-first century. *Libr Assoc Rec* 1995;97:153-4.
22 URL: http://www.nlm.nih.gov/nichsr/nichsr.html.
23 Scottish intercollegiate guidelines network. *Clinical guidelines: criteria for appraisal for national use.* Edinburgh: SIGN, 1995.
24 NHS Executive. *Improving outcomes in breast cancer: the research evidence.* London: Department of Health, 1996.
25 http://hiru.mcmaster.ca/cpg/.
26 Oliver S, Rajan L, Turner H, Oakley A. *A pilot study of "Informed Choice" leaflets on positions in labour and routine ultrasound.* York: NHS Centre for Reviews and Dissemination, 1996.
27 Spiers PS, Guntheroth WG. Recommendations to avoid the prone sleeping position and recent statistics for sudden infant death syndrome in the United States. *Arch Pediatr Adolesc Med* 1994;148:141-6.
28 Hilley CM, Morley CJ. Evaluation of government's campaign to reduce risk of cot death. *BMJ* 1994;309:703-4.
29 Deykin D, Haines A. Promoting the use of research findings. In: Peckham M, Smith R, eds. *Scientific basis for health services.* London: BMJ Publishing Group, 1996.
30 Davis DA, Thomson MA, Oxman AD, Haynes RB. Changing physician performance: a systematic review of the effect of continuing medical education strategies. *JAMA* 1995;274:700-5.

The articles in this series are adapted from *Getting research findings into practice*, edited by Andrew Haines and Anna Donald, which is published by the BMJ Publishing Group.

A personal recollection
The wicked do not always prosper

When I was a student in Vienna in the 1930s great emphasis was laid on medical ethics. Our first lectures were in the anatomical institute where the inscription above the professor's lectern read in large letters: Primum non nocere (firstly, do no harm). Among other advice we were told never to admit to patients that they had a fatal illness, still less that they were about to die. It was assumed that they could not take such information, that they would be driven to despair and their remaining time would be a constant torment once any hope for recovery was extinguished. Even when patients asked whether they were about to die, we had to deny it.

During the clinical part of my course I attended the lectures of Professor Hans Eppinger. He was the head of the first medical clinic in the Allgemeines Krankenhaus, the university hospital. He was a brilliant man, well known not only as a clinician and a researcher, but also for his dry and impersonal attitude. One day he brought a patient into the lecture theatre and introduced him to the students with the following words which I still remember after 60 years: "Nephritis can be compared with a tragedy in five acts and"—pointing to the patient—"this is the final act of the tragedy." The patient broke down in tears and was obviously distressed throughout the demonstration. We were all shocked by Eppinger's brutal and unfeeling manner and talked about it among ourselves for some time afterwards.

I had not thought about Eppinger for decades until I came across his name twice recently. Looking through the list of unclaimed secret Swiss bank accounts which was published a few months ago I saw the name of Hans Eppinger. Why had he not claimed his money more than 50 years after the end of the war? The answer became obvious from the other publication.[1] During the Nuremberg trials Eppinger was brought to court for conducting "medical experiments" on Jewish prisoners in the Dachau concentration camp and committed suicide.

Otto Fleming, *retired general practitioner, south Yorkshire*

1 Ernst E. A leading medical school seriously damaged: Vienna 1938. *Ann Intern Med* 1995; 122:789-92.

We welcome articles up to 600 words on topics such as *A memorable patient, A paper that changed my practice, My most unfortunate mistake,* or any other piece conveying instruction, pathos, or humour. If possible the article should be supplied on a disk. Permission is needed from the patient or a relative if an identifiable patient is referred to. We also welcome contributions for "Endpieces," consisting of quotations of up to 80 words (but most are considerably shorter) from any source, ancient or modern, which have appealed to the reader.