Purchasing for Quality: the Providers' View

Services for people with stroke

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"Stroke is not well managed in our health district." This statement often seems to be generally agreed by purchasers, providers, and patients. However, any attempt to prove it or to analyse how management of stroke could be improved fails through lack of information. Ironically, this is perhaps the best proof that management is suboptimal. This article gives practical advice to purchasers, based on published evidence,¹ and it relates to all types of acute cerebrovascular incident, including subarachnoid haemorrhage and transient ischaemic attacks, but concentrates on stroke that causes disabling cerebral damage because this accounts for most use of resources.

There is little evidence to support or refute any individual component of management, but there is overwhelming evidence that a well organised integrated specialist service achieves a reduction in mortality and morbidity while using fewer resources than current services. This has major implications for purchasers and for the organisation of health services, specifically being a strong argument against the fragmentation now affecting both purchasing and providing agencies.

Aims and objectives of a stroke service

Purchasers should seek a service for stroke which offers its population a high quality, cost efficient service which minimises mortality and, for the survivors, maximises social functioning, minimises distress, and minimises carer (family) distress. Box 1 shows the necessary objectives of the service.

- 1 Accurate pathological diagnosis
- 2 Specific treatment of treatable conditions
- 3 Delivery of care appropriate to the patient's needs
- 4 Expert assessment of patients' disability within one week
- 5 Expert planning and coordination of management with regular reviews
- 6 Interventions to reduce dependence started within two weeks by experts
- 7 Provision to patient and family of appropriate and correct information and support throughout
- 8 Provision of opportunities for social (re)integration
- 9 Self monitoring of quality of service and outcome
- 10 Research involvement
- 11 Prevention

Box 1 Objectives of a management service for stroke

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MANAGEMENT OF PATHOLOGY, INCLUDING PREVENTION

Accurate pathological diagnosis is needed: (a) to distinguish stroke from other causes of the stroke syndrome; (b) to identify treatable causes of stroke; and (c) possibly to characterise the stroke by type, location, etc. The level of diagnostic detail required beyond identification of subarachnoid haemorrhage, stroke, and non-stroke is debated, but there is no evidence to support any routine (unthinking) investigation despite various "consensus" recommendations.²⁻³

Purchasers must ensure patients have rapid access to diagnostic clinical expertise, usually in neurology and neuroradiology. There is no evidence to guide the purchasing of specialist investigations but clinicians should be required to restrict investigations to those necessary in individual cases. Computed tomography is probably required for only 5%-10% of patients,^{4,5} and the number of other investigations required cannot be calculated.

When proven effective medical or surgical interventions exist they must be applied to the appropriate patients as soon as possible. Unfortunately, there is no current evidence to support any specific drug treatment^{6,7} or neurosurgical intervention for supratentorial haemorrhage.^{8,9} There are no randomised controlled trials investigating whether operations on berry aneurysms after subarachnoid haemorrhage reduce mortality or morbidity. Purchasers nonetheless will have to buy surgery for aneurysms but otherwise could resist pressure to buy any routine surgical or medical interventions. Instead providers should be encouraged to use specific treatments only in the context of randomised controlled trials.

Prevention of stroke is vital. Primary prevention will be part of a general policy to reduce vascular disease and is probably most appropriately considered separately from a stroke service but purchasers must ensure that opportunities for secondary prevention are not missed. Every patient should be taking aspirin 75-300 mg daily three weeks after a stroke unless they have had a proved haemorrhage; this reduces the rate of recurrence by about 25%.^{10,11} Every patient should be screened for hypertension and treated if necessary, though the benefit is not certain, as 850 person years of treatment will prevent only one stroke.¹² Any patient with a transient ischaemic attack

or minor stroke (that is, causing minimal residual disability) affecting the carotid territories should be considered for carotid endarterectomy, which is effective at reducing subsequent stroke.^{13 14} This operation must be performed by an experienced surgeon whose operative morbidity is proved to be low,¹³⁻¹⁵ which will often require a contract outside the district.¹⁵

MANAGEMENT OF DISABILITY

Purchasing sufficient care to support the patient through his or her dependence is the overriding need in managing disability. Care refers to all interventions needed to maintain the status quo and includes everything from coma care to helping with activities such as feeding, dressing, and getting and preparing food. The delivery of care must respond to changes in need, and care must be of sufficient quantity and quality that undue stress is not caused to carers and avoidable complications do not arise. Care needs may vary rapidly in the first week and may extend indefinitely. No useful distinction can be drawn between nursing or social care needs.

There is no evidence to guide purchasers on the nature or extent of care needed, although estimates have been made,¹ nor is there any useful evidence on the best place to deliver care. Thus purchasers must ensure mechanisms exist to deliver and monitor care appropriate to the patient's needs throughout their illness, including in the long term if needed. Purchasers in both the health authority and family health services authority must cooperate with social services to achieve delivery of care without arguments, to avoid causing stress to agencies providing care and to patients.

Few studies are available to underpin the purchase of assessment or planning. One observational study suggested that assessment itself improved function¹⁶; another study of discharge planning suggested that it did not reduce length of stay.¹⁷ However, assessment of patients and planning of future management as soon as possible are characteristics of services of proven effectiveness.¹⁸ Therefore purchasers should insist that every non-comatose, medically stable patient (and his or her family) is assessed by specialist professional staff from a specialist team (see later) as early as possible to begin planning future management, involving any agencies and other individuals as necessary. Plans should be reviewed at appropriate intervals, which will vary between patients.

Treatment and actions intended to reduce disability will be needed for most people with appreciable remaining disability at two weeks after the stroke. No controlled trials have specifically investigated the timing of interventions but observational studies suggest that early intervention (including correct positioning) is more effective.¹⁸⁻²⁰ Some weak evidence suggests that more therapy leads to better recovery,²¹⁻²³ but other studies suggest that more therapy is given to patients with more disability without proof of benefit.^{24 25} In

selected patients there may be a positive dose-response effect for speech therapy.^{26 27} It must be remembered that most hospital inpatients spend most of their day doing nothing²⁸ and that patients at home may receive no therapy yet recover reasonably well.²⁹ Counselling and education – that is, the provision to the patient and family of understandable, appropriate, and correct information – may be effective in reducing disability.^{30 31} Treatment at home after discharge does lead to benefit and is probably more cost effective than day-hospital treatment,³²⁻³⁴ but there is no evidence to support any specific approach, apart from the use of some aids.³⁵

MINIMISING HANDICAP

Social (re)integration, giving the patient opportunities to undertake some worthwhile occupation and to participate in social activities is the ultimate goal of health services. Suitable services are needed for all disabled people and, in practice, are usually provided and funded by voluntary agencies (for example, the Stroke Association). There is some evidence that active involvement in leisure pursuits reduces depression and greatly influences perceived quality of life.^{36 37} Because many patients will have limited mobility or other limitations special transport or special social settings (day centres), or both, may be needed. Thus, although primarily a responsibility of social services, health purchasers should ensure that a reasonable range of day care facilities exist and that public transport for patients with poor mobility is available and accessible; without such amenities health outcome is appreciably reduced.^{36 37}

ENSURING QUALITY

In ensuring the quality of the service purchasers should be realistic. Initially, they could ask for a series of audit measures (box 2). This audit must be applied to or set

Structure

Standard documentation
Use of standard audit package**

Process over six months

Complication rate (pressure sores, falls, and fractures)
Evidence of early involvement of therapists
Evidence that blood pressure measured
Taking aspirin unless good reason
Length of stay related to disability and living alone³⁸

Outcome at six months

Mortality
Accommodation
Barthel activities of dailing living index³⁹
Rivermead mobility index⁴⁰

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Box 2 Suggested audit measures for management service for stroke

in the context of all strokes occurring in a population because a selective service or component of the service can ignore difficult patients. Thus satisfactory audit can occur only if a register of all strokes is maintained*; this is an expensive and difficult undertaking, but less comprehensive data are impossible to interpret satisfactorily, and the practicalities and expense of running such a register should be discussed with providers. Active involvement in ongoing research projects should be encouraged for at least three reasons: involvement in research increases interest in and awareness of stroke; it inculcates a critical approach in all staff; and it would reduce our areas of ignorance about the condition and its management.

Organisation of management

There is now strong evidence from one meta-analysis that a single coordinated specialist stroke service leads to reduced mortality,⁴¹ and overviews of many individual studies show that specialist stroke services lead to a faster recovery of independence, with possibly a higher final level of independence and a reduced use of resources.^{20 42–45} The individual studies used totally different approaches. The only likely common features are the involvement of staff who are expert and committed; the use of some form of problem solving approach, albeit based on different underlying theories; and better than usual assessments with standardised protocols. Case studies and series of patients seen late after stroke also showed that rehabilitation can be effective.^{46–48}

Therefore a single coordinated specialist stroke service must be purchased, which should include patients of all ages and span all stages (acute to long term) and should cover patients in hospital and in the community. On the basis of the evidence mentioned above such a service is likely to deliver a better outcome at a similar or lower cost than at present. To achieve this purchasers will need to alter current practice radically, reallocating resources between provider units, professional groups, etc, a development requiring strong political and practical problems to be overcome. However, any compromise is likely to fail. The purchaser has to select one lead provider to be responsible for managing the service and then has to be committed to moving resources as necessary. The stroke service must relate closely to specialist neurological disability services and geriatric services.

A particular difficulty, which is worsening as a result of recent changes, is to integrate services across different agencies (within and outside health) and different purchasers. Integration is required both over time (that is, to achieve a seamless service from onset of stroke to long term care) and across areas of interest (that is, including acute “medical” and all “rehabilitation” services). Although most costs of acute care are met by health services, the costs of long term care also involve other agencies, including social services and

housing. If there are not easy, agreed, and quick mechanisms for the health service to mobilise all community resources, including long term residential care for the 5% of patients who need it, the expense of caring remains with the health service. About 40% of all hospital resources are used by 5%–10% of patients who need major long term support in homes or in the community.⁴⁹

Practical considerations

The benefits of a specialist stroke service have been proposed for many years, yet little action has occurred despite the increasing evidence in its favour. However in this context two factors need to be emphasised. Firstly, acute medical treatments are likely to become available within five years given the recent trend towards well designed large scale randomised controlled trials with good outcome measures which are likely to demonstrate benefits for one or more of the drugs currently under study. Once this occurs health authorities will have no choice but to buy acute hospital admissions for all patients with stroke (with the possible exception of comatose patients likely to die, who will usually be admitted anyway). It is therefore wise to develop a system (policy) which will allow for this. Secondly, any integrated service must involve experience in neuroscience (in diagnosis and some treatments) and in managing disability (rehabilitation) which will usually be found within the geriatric services and community services.

The evidence reviewed above^{20 41–45} dictates that purchasers aim for all patients with stroke to be admitted to a specialist ward and to remain under the care of a single service throughout their illness, including when at home. This ideal may be difficult to achieve in one step. A gradual process of evolution may be necessary, but this approach carries risks of increased use of resources, a possibility of worse outcomes during the process of change, and a possibility that the change may never be completed. Therefore, full commitment to the final goal of achieving a single service within a limited time (perhaps three years) is essential.

The key to success, and the first step, is to cluster hospital patients together: all patients admitted with stroke or suspected stroke must be admitted to a specific, specialised ward which could still admit other patients. Next the service should devise for these patients standardised notes, assessments, etc.* Then it will be vital for the ward based service to develop community services so that therapists and others can assess and treat patients at home, and possibly in nursing homes and community hospitals, both after discharge and if patients are not admitted. In some settings this may simply involve giving advice to local therapists.

At the same time purchasers must enable the hospital service to arrange community

* Accepted good practice unsupported by published evidence.

services without delay; social services must either allocate one specialist social worker (care manager) or more to the service or must devise ways of bypassing the delays associated with current discharge arrangements. At the same time health authority purchasers must contribute to the cost of adaptations and equipment and some care services needed to facilitate discharge. Health purchasers must persuade fundholding general practitioners to agree in advance to pay for domiciliary treatment by specialist therapists rather than using their own therapists (or denying any therapy). Unless there is full cooperation either imposed or generated through financial incentives the likelihood is that patients will suffer as one component of the service fails to link with the next.

Conclusions

Good care for patients with stroke, with reduced mortality and reduced morbidity at less cost to the community is possible today. It is not being achieved because the managerial, administrative, and political systems being developed in an era of resource constraint conspire to fragment services, destroying cooperation and expertise. The challenge for purchasers in pursuit of good quality services is to overcome these obstacles.

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