Education in stroke: strategies to improve stroke patient care

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'Stroke units save lives', but organized care requires expert staff and regular training to be effective. However, the quality of inpatient care for stroke remains poor, and stroke education is often fragmented between the health-care professions. This review describes some national and local strategies aimed at ensuring that all patients are cared for by expert staff.

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The Intercollegiate Working Party for Stroke (2000) recommended that: 'Every organisation involved in the care of stroke patients over the first 6 months should ensure that stroke patients are the responsibility of and are seen by services specialising in stroke and rehabilitation. The stroke service should comprise: a geographically identified unit acting as a base, and as part of the inpatient service, a coordinated multidisciplinary team, staff with expertise in stroke and rehabilitation, educational programmes for staff, patients and carers....'

The focus of this statement is on hospital inpatient services for stroke. However, stroke patients present acutely to a range of specialties and to general practice.

The problems patients experience after stroke are dealt with by a wide variety of health-care and social services professionals and carers in a wide spectrum of settings, ranging from the community, acute hospital wards and geriatric wards to nursing and residential homes. It therefore seems appropriate to propose that, in addition, GPs and other hospital specialists have knowledge of stroke, nursing staff and professions allied to medicine are able to manage stroke, and social workers, home carers and nursing home staff are familiar with stroke-related problems. Only in this way can we be sure that all stroke patients receive treatment and care from expert staff throughout their illness.

This article describes some national and local strategies, which hopefully will move us closer to achieving this vision of improved interdisciplinary stroke education, but first it reviews the current situation and describes the low base from which this work starts.

THE PROBLEM

Stroke is a major burden on NHS resources, constituting over 4% of NHS expenditure. Stroke is the third highest cause of death in the UK and the biggest single cause of major disability (Martin et al, 1988). Despite this, Rudd et al (1999) have confirmed that the quality of inpatient care for stroke remains poor, and although stroke is a common condition, it is under-represented in most undergraduate curricula and in the examinations for membership of the royal colleges. Teaching is often fragmented between neurologists, physicians and geriatricians. There is also widespread ignorance about stroke management among nursing staff and carers in the community.

Interdisciplinary working is a key component of effective stroke care. However, the different disciplines train in isolation, and clinical practice may be influenced by different theoretical perspectives (Lacey, 1998). There is also widespread ignorance among the general public about the signs and symptoms and risk factors of stroke, and the effectiveness of treatment (Pancioli et al, 1997).

Finally, research in stroke is under-resourced and there are few academics specializing in stroke medicine.

Perhaps all this has come about because of previously widespread misconceptions about stroke, for example that stroke is not amenable to medical treatment, rehabilitation does not involve doctors, stroke can be managed effectively by generalists without specialist expertise, and the neurology of stroke is straightforward.

DRIVERS FOR CHANGE

Despite these problems, there are some encouraging signs and recent developments, which are grounds for cautious optimism. The *National*

Service Framework for Older People (Department of Health, 2001) devotes a section to stroke applicable to all ages, with a prescription and a timetable for change. The *National Clinical Guidelines for Stroke* (Intercollegiate Working Party for Stroke, 2000) and the sentinel audit (Rudd et al, 1999) have stimulated a great deal of local developments. The British Association of Stroke Physicians (BASP) has a growing membership and the potential to lobby for change, as well as leading developments in the specialty. The sponsorship of research and teaching by the Stroke Association over the years has been a powerful force in influencing these developments and raising the profile of stroke.

WHY IS EDUCATION IN STROKE IMPORTANT?

Education about the management of stroke involves covering a wide range of important concepts in a modern health-care system, such as multidisciplinary working, holistic care, rehabilitation and the use of organized services to improve outcome. The Stroke Unit Triallists' Collaboration (2001) found that regular staff training and the level of staff expertise and knowledge were factors distinguishing stroke unit care from routine care. Implicitly, the improved outcomes associated with organized care are at least in part a result of staff training. Indredavik et al (1999) found that mobilization therapy on the stroke unit was initiated by nurses and therefore began sooner. This was the result of physiotherapy training. In contrast, on the general wards delays occurred because mobilization depended on physiotherapy.

Effective interdisciplinary care requires that nurses, medical staff and therapists understand each others' roles and expertise. Often, understanding is required because roles can become blurred. For example, nurses have the main responsibility for ensuring safe positioning of patients and the greatest opportunity to ensure posture is effectively managed. In order to do this effectively, communication and understanding between nurses and physiotherapists need to be at a high level.

Short, targeted community awareness programmes can increase knowledge about stroke among potential patients and carers (Stern et al, 1999).

WHAT CAN BE DONE?

Clearly, a wide range of initiatives is needed, and many are already taking place. This article will highlight the role of the BASP in promoting the subspecialty of stroke medicine, and describe some local developments as examples of potential approaches to the problem.

Setting-up an interprofessional training programme

A complex area of health care such as stroke demands effective interaction between the professionals involved, and there is evidence that interdisciplinary working improves outcomes (Zwarenstein et al, 2001a). Interprofessional education (when members of more than one health care and/or social care profession learn interactively together) may have the potential to enhance collaborative practice; however, its effectiveness remains to be formally established (Zwarenstein et al, 2001b).

A multidisciplinary project team was set up to establish an interprofessional learning programme. The team carried out a training needs analysis for all professional groups involved in care delivery. The analysis took account of the Royal College of Physicians' *National Clinical Guidelines for Stroke* (Intercollegiate Working Party for Stroke, 2000), standard five of the *National Service Framework for Older People* (Department of Health, 2001) and the local trust's performance development scheme. Two 1-day workshops and two focus groups were used to identify the perceived needs of staff.

As a result of this work, training needs were identified that went beyond the purely clinical components of care specified in the guidelines. Staff needed to know about aspects of the organization of care, such as the key worker role and the discharge process. Interpersonal skills needed development, especially counselling skills, and managing conflict and challenging behaviour. Time management skills and leadership were important, as was knowledge of quality issues. Learning outcomes needed to be specified in each of the core areas.

Learning needs were addressed by a combination of approaches. In the first instance a basic training programme in stroke was offered to all staff, which covered general anatomy and physiology of stroke, risk factors and prevention, presentation and principles of rehabilitation. Sessions were scheduled to accommodate the maximum number of staff and to coordinate with nursing shift patterns. The purpose of these sessions was to provide all staff with a basic understanding of stroke and a basis on which to build further skills and knowledge.

Additionally, it was important to use existing service developments (e.g. multidisciplinary task groups to devise new systems of teamworking in the rehabilitation setting) in a way that involved all

staff and offered learning opportunities. Also, service-wide workshops (e.g. managing challenging behaviour, leadership development, elder abuse workshops) were used for areas not specifically related to stroke. Regular multidisciplinary team meetings were used as learning opportunities.

Teaching methods

According to Thomson O'Brien et al (2001), continuing educational meetings containing interactive workshops with or without didactic presentations are moderately effective in changing behaviour, but didactic presentations alone seem to have disappointing results. There has been a great deal of progress in knowledge and structures related to the delivery of educational programmes, which is outside the scope of this article. However, the management of stroke as a topic demands the use of the most modern teaching techniques and strategies, for example problem-based learning, new technology and assessment techniques.

The stroke CD-ROM

The authors have a particular interest in the use of multi-media and other learning aids. As part of a series of study guides (tutorials in print) on medicine in old age, experts at Barts and the London Queen Mary's School of Medicine and Dentistry and at the Queen's University Belfast have produced a study guide on stroke. This guide is regularly updated and forms the core of undergraduate training in stroke at both medical schools. Work is ongoing to develop the guide in electronic format, promoting self-paced, active learning and freeing tutorial time for discussion of problem areas.

Students have been consulted at all stages of development, and their feedback, in the form of completed questionnaires, logbooks, directed sessions using the study guide and focus group discussion, continues to guide the expansion of the project. The development process is outlined in *Figure 1*.

The G-disc

The Oxford Community Stroke Project (OCSP) classification (Bamford, 1992) is an excellent framework for teaching the neurological assessment and phenomenology of stroke. While it is well established among stroke physicians, familiarity and regular use of this system has not yet become widespread. This is unfortunate because the system has many advantages for teaching:

- It is comprehensive, including all stroke types, and haemorrhages and infarcts
- It is clinical rather than based on investigations
- It carries the important message that all strokes are not the same, and it can be used by non-experts
- It is also useful to promote an understanding of important concepts, such as localization of function, so that all staff can differentiate confusion from dysphasia, for example.

Walsh et al (2000) have developed a diagnostic and teaching tool based on the OCSP classification. The G-disc is constructed from three separate wheels made of laminate or card (*Figure 2*). The user is prompted to look for neurological findings that discriminate between the stroke subtypes. Pilot studies have demonstrated its validity and reliability, and it is popular with students.

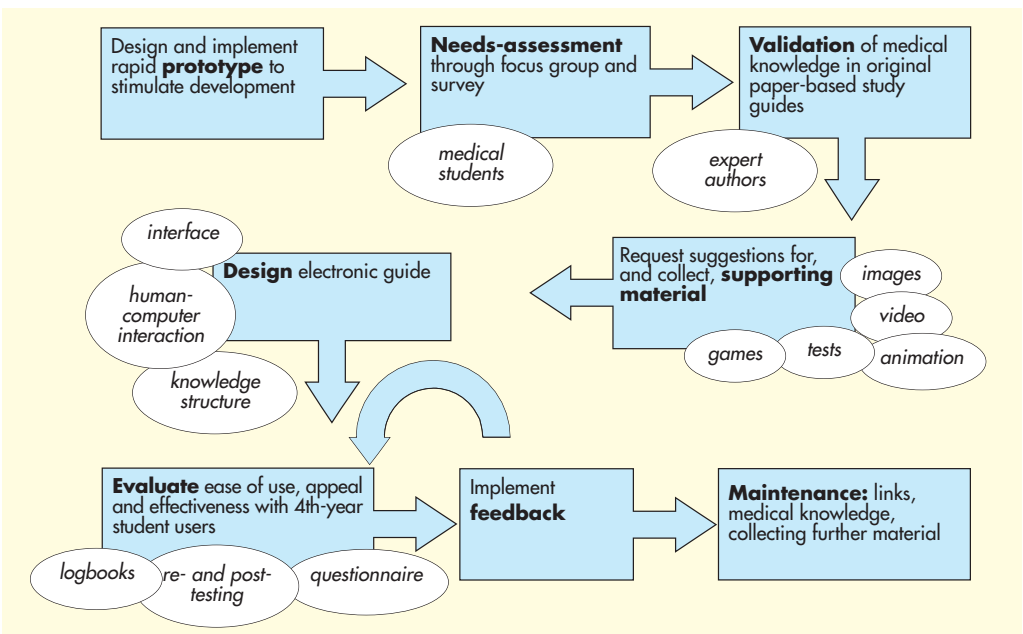


Figure 1. Developing a CD-ROM study guide.

Subspecialty training in stroke medicine

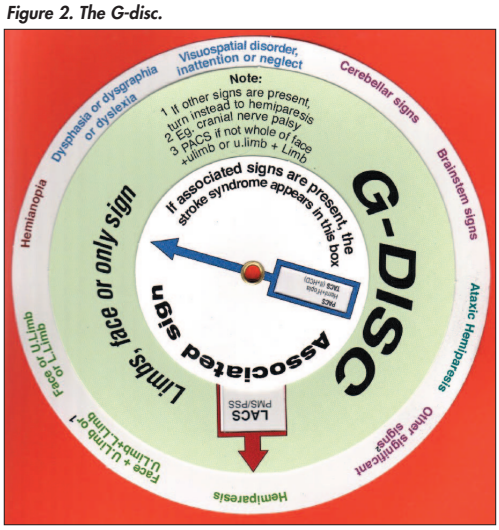
A proposal for submission to the Specialist Training Authority for a subspecialty of stroke medicine is currently being discussed by the BASP. The aims of the proposed training are to promote:

- The ability to apply knowledge and skills in diagnosis and management to ensure safe and independent expert practice as a consultant specialist in stroke medicine
- The ability to establish a differential diagnosis in the context of stroke presentations to ensure safe and appropriate management of acute stroke and non-stroke illness
- The competencies to develop management plans for people living with stroke illness including treatment, rehabilitation, health promotion, secondary prevention and long-term support
- The attitudes and communication skills to contribute to a comprehensive multi-disciplinary stroke service in hospital and/or the community and to work closely with other relevant agencies
- The understanding to work effectively within a multidisciplinary stroke service
- The abilities to advise, develop and evaluate district stroke services in partnership with local health and social care communities.

CONCLUSION

Stroke medicine is an exciting and expanding field, which is important for a wide range of medical professionals, nursing staff, health-care staff and professionals allied to medicine. At the moment the national level of stroke expertise is limited, and it is important that those with expertise should vocally implement strategies to share their skills and knowledge with as many of the relevant groups as possible. The success with which they do this will to a large extent determine local ability to meet government standards. The creation of an accredited subspecialty stroke training programme is an interesting approach, the implications of which need to be explored. HM

Figure 2. The G-disc.



For information about the G-disc and free copies, e-mail Patrick.Gompertz@thht.org.
For more details about the CD-ROM Study Guides, contact Mira.Vogel@thht.org
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Bamford J (1992) Clinical examination in the diagnosis and subclassification of stroke. *Lancet* **339:** 400–2

Department of Health (2001) *National Service Framework for Older People*. Department of Health, London

Indredavik B, Slordahl S, Haheim L (1999) Treatment in a combined acute and rehabilitation stroke unit: which aspects are most important? *Stroke* **30:** 917–23

Intercollegiate Working Party for Stroke (2000) *National Clinical Guidelines for Stroke*. Royal College of Physicians, London

Lacey P (1998) Interdisciplinary training for staff working with people with profound and multiple learning difficulties. *J Interprofessional Care* **12**(1): 43–52

Martin J, Meltzer H, Elliot D (1988) OPCS surveys of disability in Great Britain Report 1. In: *The Prevalence of Disability Among Adults*. Office of Population Censuses and Surveys. HMSO, London

Pancioli A, Broderick J, Kothari R, Brott T, Khoury J, Liu T (1997) Patients' awareness of stroke signs, symptoms and risk factors. *Stroke* **28:** 1871–5

Rudd AG, Irwin P, Rutledge Z et al (1999) The national sentinel audit of stroke: a tool for raising standards of care. *J R Coll Physicians Lond* **33:** 460–4

Stern E, Berman M, Thomas J, Klassen A (1999) Community education for stroke awareness. *Stroke* **30:** 720–3

Stroke Unit Triallists' Collaboration (2001) Organised inpatient (stroke unit) care for stroke (Cochrane review). In: *The Cochrane Library*. Issue 2. Update Software, Oxford

Thomson O'Brien MA, Fremantel N, Oxman AD, Wolf F, Davis DA, Herrin J (2001) Continuing education meetings and workshops: effects on professional practice and healthcare outcomes (Cochrane review). In: *The Cochrane Library*. Issue 2. Update Software, Oxford

Walsh K, Gompertz P, Chen P, Cawley C (2000) Preliminary evaluation of a diagnostic disc in the classification of stroke syndromes. *Age Ageing* **29**(Suppl 2): 53

Zwarenstein M, Bryant W (2001a) Interventions to promote collaboration between nurses and doctors (Cochrane review). In: *The Cochrane Library*. Issue 2. Update Software, Oxford

Zwarenstein M, Reeves S, Barr H, Hammick M, Koppel I, Atkins J (2001b) Interprofessional education: effects on professional practice and health care outcomes (Cochrane review). In: *The Cochrane Library*. Issue 2. Update Software, Oxford

KEY POINTS

- Stroke is the third highest cause of death in the UK and the biggest single cause of major disability.
- Interdisciplinary working is a key component of effective stroke care.
- Effective interdisciplinary care requires that nurses, medical staff and therapists understand each others' roles and expertise.
- The management of stroke as a topic demands the use of the most modern teaching techniques and strategies, for example problem-based learning, new technology and assessment techniques.
- A proposal for a subspecialty of stroke medicine is currently being discussed by the British Association of Stroke Physicians.