

Profession Specific Audit of Stroke 2006: A Multidisciplinary Pilot Study

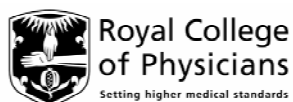


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on behalf of the Intercollegiate Working Party for Stroke

THE CHARTERED SOCIETY OF PHYSIOTHERAPY



Clinical Standards Unit



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SECTION ONE

Executive Summary

Profession-specific audit standards were originally jointly published by the Royal College of Physicians (RCP) and the professional colleges in 2002. Having updated and further developed these audit tools in 2006, the Allied Health Care Professionals (dietitians, occupational therapists, physiotherapists, and speech and language therapists) and nurses involved in the Intercollegiate Working Party for Stroke (IWPS) decided to pilot their profession-specific audit proformas on a national level.

Aims of the Pilot Profession Specific Audit

1. To further develop and update the audit tools originally published within the multidisciplinary stroke audit package published by the RCP in 2002.
2. To pilot the tools and data collection processes in order to indicate the feasibility of national profession-specific audit and the functionality of the tools.

Thirty Trusts in England, Wales and Northern Ireland were systematically selected from current participants in the National Sentinel Audit for Stroke (NSAS). The audit forms were produced in the form of an Excel spreadsheet and, for those experiencing difficulty with Excel, a Word document; these were sent via e-mail to ease data collection. The audit consisted of two parts per stroke unit: a retrospective case note audit of 5 patients (consecutive admissions from 1st February 2006), and an audit of the organisation of stroke services (as of 1st April 2006). Data analysis was carried out with statistical advice from the Clinical Effectiveness and Evaluation Unit (CEEU) of the RCP, London

Participation

Participation varied across professions for both the organisational and clinical audits. The number of participating sites varied between 20 to 35 for the organisational audit, and between 64 to 140 cases for the clinical audit. Data were collected between 1st February 2006 and 15th September 2006.

Organisation of the audit

This pilot audit was funded by the professional colleges of participant groups and the CEEU of the RCP. Professional groups in each clinical site had a designated lead clinician with overall responsibility for local data quality. Members of the profession specific audit sub group (PSAG) of the Intercollegiate Working Party for Stroke (IWPS) were responsible for the preparation, conduct, and reporting of the audit.

Key Messages for Nursing Services

Staffing:

- Identification of appropriate ranges of staffing establishments for different unit configurations (Acute Stroke Unit / Rehabilitation Stroke Unit / Combined Stroke Unit etc) is imperative.

Staff development:

- Systematic investigation of the learning needs of the workforce is required, to inform staff development planning.
- Availability of stroke-related continuing education should be expanded, including essential skills and underpinning knowledge. This may occur through various routes, including workplace-based learning.
- More detail of teaching commitments of senior staff may be helpful in mapping current provision and informing strategic planning.

Practice development:

- Guidance should be readily available for all key elements of stroke nursing practice, and usage promoted.
- Procedures for accessing specialist advice should be established and known by all.

Service development:

- Appropriate individuals should be involved at all levels of service development.
- Resources are required to support and evaluate service developments; for example, development of follow-up services.
- Career development frameworks and opportunities are required that will enable nurses to lead and develop stroke nursing-related research, including, for example, as components of multi-disciplinary projects or additional perspectives to uni-disciplinary studies.

Key Messages:

- Whilst there was high compliance with generic assessments and generic essential nursing interventions, there was much less attention paid to stroke-specific measures.
- There is scope to increase recognition of psycho-social, cultural and lifestyle / health promotion needs, and incorporate these within care planning.
- Assessed needs of carers require to be addressed through a structured care planning process.
- Assessed needs appeared incompletely carried forward into care planning.
- The importance of neurological monitoring must be recognised and enacted for all stroke patients.
- Discharge/ transfer of care were generally initiated in a timely fashion. Within this, preparation for self-medication and medication management, and communication of arrangements to patients and carers are areas with scope for improvement.
- The effectiveness of goal-setting may be enhanced by systematic evaluation according to target dates.

Key Messages for Nutrition & Dietetic Services

Service organisation:

- There is poor evidence of written documentation of service agreements.
- It is unknown from this audit if there is any limitation of the service; however two services reported limitation of service to patients receiving enteral feeding due to limitation of dietetic resources.

Specialist practice and research:

- A minority of stroke patients are being looked after by dietitians with specialist knowledge and experience of stroke.
- Most patients have nutritional goals / action plan with a review date.
- A minority of dietitians are involved in research relating to nutrition and stroke.

Nutritional Screening & intervention:

- A very high % of units have recommendations that nutritional screening should occur within 48 hours of admission; however, from the case note audit only 54% of patients had a nutritional screening tool completed.
- Only 48% of patient's notes had evidence that the patient was weighed weekly during admission.
- 81% of units offer a choice of meals of modified consistency.
- Nearly all patients are seen within the locally agreed timescale.
- Few stroke units recommend that all patients on a modified consistency diet should be referred to a dietitian.

Follow up & review:

- Only 55% of units recommend that the need for enteral feeding tubes is reviewed on a regular basis. If the need for enteral feeding is not reviewed as dysphagia resolves, patients may continue on enteral feeding for longer than necessary, with the patient having the burden of feeding and with unnecessary costs to the NHS.
- Only 45% of units have access to secondary prevention dietary advice in the form of a leaflet.
- While it would appear that the majority of patients who were referred to the service and required education on their nutritional needs received advice, it is likely other patients who may have benefited from dietetic service are not being referred due to limitation of dietetic resources.

Key Messages for Occupational Therapy Services

Service organisation:

- There is poor knowledge of written documentation of service agreements or formal links with local relevant statutory and voluntary bodies.

Specialist practice:

- Stroke patients are looked after by appropriately skilled occupational therapists.

Screening & intervention:

- Stroke patients are not receiving information about the occupational therapy service and when information was given, it did not always have the contact details of the occupational therapist.
- Stroke patients are interviewed within the agreed time frame although initial assessments did not include leisure and driving.
- There is written evidence of assessment in notes but the individual impairment modalities were variable.
- The majority of interventions are focused at activities of daily living.

Research:

- Occupational therapists are not involved in ongoing research.

Patient & carer involvement:

- Occupational therapists are documenting goals relating to the assessment in collaboration with stroke patients.

Outcomes:

- Occupational therapists do not use reliable and valid outcome measures.

Transfer of Care & Review:

- There is little evidence of plans for review following discharge.
- There is little evidence that information has been given regarding accessing the occupational therapy service in the future.
- Discharge summaries do not address goals set or achieved.

Key Messages for Physiotherapy Services

Staffing levels:

- Staffing levels vary widely: the mean number of physiotherapy staff including therapists and assistants is 1.71 FTE for 10 beds (range: 0.55-3.7 FTE per 10 beds). Appropriate staffing levels for different types of stroke units need to be identified.

Specialist practice:

- Stroke patients are being looked after by skilled, experienced physiotherapists.
- Patients are assessed within agreed time frames by experienced physiotherapists with postgraduate training in stroke care.

Research:

- The level of participation in research needs to improve. Opportunities are required that will enable physiotherapists to lead, participate in and develop physiotherapy-related and multidisciplinary research in stroke care.

Team work:

- Physiotherapists have a high level of participation in team working.

Goal setting:

- Physiotherapists are not using timed targets for goal achievement.

Patient & carer involvement:

- There is considerable scope for improving patient and carer involvement in physiotherapy care planning, and intervention.

Outcomes:

- Physiotherapists do not use reliable and valid outcome measures.

Transfer of Care & Review:

- Over a third of cases do not have a discharge summary; key aspects of care are not recorded in discharge summaries.
- There is considerable scope for improvement in planned follow up and review.

Key Messages for Speech & Language Services

Specialist Practice:

- Stroke patients are treated by a high number of specialist SLTs.
- Many SLTs are participating in stroke-related CPD activities.

Research:

- Many SLTs are participating in stroke-related research.

Screening & intervention:

- The use of screening tools for swallowing by other professionals other than a SLT is high.
- The use of screening tools for communication problem by other professionals other than a SLT is very low.

Team work:

- SLTs are good at liaising with the MDT team.

Patient & carer Involvement:

- SLTs are not so good at liaising with carers.

Transfer of care & review:

- Documentation of intervention plans could be improved.

Conclusions

This pilot audit is the first stage towards the first ever national profession-specific stroke audit. This work has enabled revision of documentation and recognition of difficulties and problems within the audit process; these will need to be addressed before full-scale national audit can take place. Key issues occurred within all stages of the audit: format and content of the audit tool, processes for data collection, quality monitoring and data delivery for central analysis.

In terms of audit tool, the ideal would be a web-based proforma. This would support standardisation of data entry and remove issues of data delivery. Content has already been addressed through the experiences of this pilot, with subsequent revision of tools. Ideally, all professions would use a single common organisational audit tool; this remains an aspiration. For maximal efficiency, a national audit should be centrally coordinated by a single audit coordinator across professions. Such a vision will require funding.

Organisations may wish to implement local profession-specific audits and revised audit tools can be found on the professional organisations' websites. For the future, it is recommended that these profession-specific audits be used locally alongside the National Sentinel Audit of Stroke, to give a more complete picture of service provision. The ultimate aim of this project would be to conduct of a national profession-specific audit, to enable professional teams, departments and trusts to bench mark the quality of their stroke services compared to national standards; to provide detail to support practice development and evaluation of the progress of implementation of the National Clinical Guidelines for Stroke.

BACKGROUND AND INTRODUCTION

Every year, over 130,000 people in the UK have a stroke. A stroke is the third most common cause of death in the UK (Stroke Association, 2007). Of all people who suffer from a stroke, about a third are likely to die within the first 10 days, about a third are likely to make a recovery within one month and about a third are likely to be left disabled and needing rehabilitation. A quarter of a million people are living with long-term disability as a result of stroke in the UK (Stroke Association, 2007), stroke service development is therefore a crucial element of UK health care quality improvement.

Evidence to guide practice has been made readily accessible with National Clinical Guidelines for Stroke (NCGS), published by the Intercollegiate Working Party for Stroke (IWPS) in 2000 and 2004. Stroke services in the UK have been audited on a national biennial basis, with five rounds of National Sentinel Audits of Stroke (NSAS) undertaken to date (1998; 1999; 2002; 2004 and 2006). Despite good evidence that well organized stroke care can reduce mortality and morbidity (Stroke Unit Trialists' Collaboration (2004), audit reports have shown that whilst UK stroke care is improving, there are still substantial variations in the quality of care.

Standards for stroke care

The NSAS is based on standards for the organisation of stroke services derived from reviews of evidence undertaken by the IWPS, a multi-disciplinary group with representatives of the Colleges and professional associations of disciplines involved in stroke management, and a patients' organisation. The NSAS addresses both the organisation of services and care delivered to individual patients, and covers acute and community management of key aspects of stroke care. The content of each round of the NSAS has varied slightly from one round to the next, making direct comparisons difficult. However, overall a slow trend of increasing compliance with guideline recommendations has been demonstrated.

Why is profession-specific audit required?

The NSAS focuses on key multi-disciplinary aspects of care with only limited information on performance of individual professional groups. However, detail of activities within individual professions is necessarily limited and may not cover all aspects which disciplines would identify as essential to evaluate local performance. For example, Hammond et al (2005) compared the results of occupational and physiotherapy elements of the NSAS (2002) with these professions' elements of the NCGS (2000). This highlighted important omissions within the multidisciplinary proforma for the NSAS (2002) in relation to crucial aspects of care such as assessment of moving and handling, intensity or duration of therapy, different types of therapy intervention, management of shoulder pain, spasticity, assessment of Activities of Daily Living (ADL) and provision of equipment or home adaptations. It also indicated that overall variation in compliance seen within the NSAS also affects performance at individual professional levels. It identified that therapists were not fully complying with national standards, such as assessment upon admission within 72 hours (59% compliance), or provision of information for patients (44%). This type of information is essential for service review and practice development, but through the NSAS is only available for a small proportion of key activities for each discipline.

The merit of the NSAS for service development has been widely acknowledged (Rudd et al, 2001); aiming to build on this, the profession specific audit sub-group (PSAG) of the IWPS convened to expand the audit remit in relation to individual professions' services and care processes.

This report presents the results of the pilot stage for the first ever national profession-specific audit for nursing and four allied health care professions (dietetics, OT, PT and SLT).

AIMS OF THE PILOT PROFESSION SPECIFIC AUDIT

1. To further develop and update the audit tools originally published within the multidisciplinary stroke audit package published by the RCP in 2002.

2. To pilot the tools and data collection processes in order to indicate the feasibility of national profession-specific audit and the functionality of the tools.

METHODS

The method for the audit was retrospective case-note audit, with local Trust staff collecting the data. To ensure auditors worked in a similar way with consistent data collection, help notes with criteria for the applicability of each standard were circulated with the audit documentation.

Sample

Thirty trusts in England, Wales and Northern Ireland were systematically sampled (identifying 1 in 5 trusts) from the main NSAS database of Trusts in England, Wales and Northern Ireland (see Appendix 1). Within each Trust letters of invitation were sent to clinical leads of the five professions.

Audit Tools

Profession-specific audit tools were originally published within the multidisciplinary audit package by the RCP in 2002. The PSAG, with support from members of the constituent professional bodies and other professional groups, substantially updated and revised these original tools to ensure they were in line with current best evidence from NCGS (2004), the Profession-Specific Concise Guides for Stroke for nursing, OT, PT and SLT published between 2005-2006 (extracted from the main guidelines document) and profession specific documents from all colleges.

With formats modelled on the NSAS, each audit tool consisted of two parts. The first focused on organisation of the service with one audit form to each specific profession on each clinical site. This collated information on service organisation in terms of staffing, team-working, expertise, and continuing professional development.

The second part comprised one form per patient, auditing processes of care in relation to assessment and planning/ referral, treatment/ interventions, patient and carer involvement, team working, outcome measurement, and transfer of care. For the second section, data were retrospectively extracted from records of 5 consecutive admissions to each Stroke Unit, with the first admission occurring anytime after 1st February 2006. The deadline for submission of data was September 2006. The audit proformas were distributed in the form of a Microsoft Excel spreadsheet, accompanied by

Microsoft Word format for use where clinicians had difficulty with Excel. Forms were sent, and requested to be returned, via e-mail to ease data collection.

Data Quality

Each professional group in each location had a designated lead clinician with overall responsibility for local data quality.

Data Analysis and Reporting

Data analysis was carried out with statistical support from the CEEU of the RCP, London. Preliminary results were presented at the UK Stroke Forum Conference in December 2006.

PARTICIPATION

Table 1 demonstrates the number of trusts and sites from which each profession participated in the audit. Since 30 trusts were contacted, at least 30 sites and 150 cases would have indicated maximal participation. However, as Table 1 illustrates, participation varied across professions for both organisational audit and clinical audit

Table 1: Numbers of trusts and clinical sites participating across professions

	Organisational Audit		Clinical Audit	
	Trusts	Stroke Units	Stroke Units	Cases received
Nursing	20	25 + 1 non-Unit based service	14	72
Nutrition & Dietetics	30	31	21	103
OT	25	22	22	97
PT	29	35	35	140
SLT	25	25	25	130

SECTION TWO PROFESSION SPECIFIC SECTIONS: RESULTS FOR EACH PROFESSION

The following section contains individual reports for each profession. For all proformas it was acknowledged that there would be some questions that would not be relevant in some settings and there was a 'No, but.....' option that could be used in the case note audit. The questions in these results are numbered as in the audit proformas and tabled within the sections below. All proformas are provided in Appendices 2-5.

NURSING SERVICES

ORGANISATIONAL AUDIT NURSING (N=26)

20 proformas were analysed.

Whilst 20 sites responded to the nursing organisational section, not all questions were completed from all sites. The 'No but' response option was variably used and this was reviewed as part of the evaluation of this pilot audit. Missing data was accepted as such and omitted from calculations.

Of the 20 sites:

- 3 had Acute Stroke Units (ASU) alone;
- 4 had Rehabilitation Stroke Units (RSU) alone;
- 6 had both an Acute Stroke Unit and a Rehabilitation Stroke Unit;
- 6 had a Combined Stroke Unit (CombsU),
- 1 reported a non-unit-based service.

In total, therefore, respondents were reporting on activities of 9 ASUs, 10 RSUs, 6 CombsUs and 1 non-unit based service. However, some ASUs and RSUs were provided on the same site and there was some inconsistency in reportage, whether data were identified as from 1 or 2 separate units. Overall, Units reported a median of 22.5, interquartile range 15.5 to 28.5, beds per Trust.

Staffing

Question 1.2 asked about Registered Nurse staffing in terms of whole time equivalent posts (wte).

- 8 ASUs reported a mean (SD) of 9.9 (3.8) (range 4.0-15.0) wte; 1 Unit commented that staff were not specifically allocated to the ASU.
- 10 RSUs reported a mean (SD) Registered Nurse establishment of 10.3 (2.8) wte, ranging from 5.0 to 14.0 wte.
- For 6 CombsUs, staffing was 14.2 (4.7) wte, ranging 9.0 to 20 wte.
- 1 non-ward based stroke service reported 6 wte Registered staff.

Question 1.3 asked about unregistered nurse staffing in terms of whole time equivalent posts (wte).

- 8 ASUs reported a mean (SD) of 7.1 (4.0) (range 0-13.0) wte; 1 Unit commented that staff were not specifically allocated to the ASU.
- For 10 RSUs mean (SD) unregistered nurse establishment was 10.6 (2.2) wte, ranging from 6.0 to 15.0 wte.
- For 6 CombsUs staffing was 8.5 (2.9) wte, ranging 3.0 to 11.0 wte.
- No data were supplied for unregistered staffing of the non-ward-based service.

If staffing establishment numbers are converted to a base of whole time equivalent (wte) staff per 10 beds, mean numbers of Registered nurses for hospitals with ASUs and RSUs (reported jointly), ASUs only, RSUs only, or CombsUs were 7.5, 4.0, 5.2 and 7.1 respectively (Table 2).

Table 2 : Registered nurses wte per 10 beds		
ASU and RSU	Mean	7.5
	Std. Deviation	1.2
	Minimum	6.0
	Maximum	9.1
ASU only	Mean	4.0
	Std. Deviation	0.7
	Minimum	3.6
	Maximum	4.5
RSU only	Mean	5.2
	Std. Deviation	1.3
	Minimum	3.8
	Maximum	6.4
Combined	Mean	7.1
	Std. Deviation	1.5
	Minimum	5.0
	Maximum	9.5

If staffing establishment numbers are converted to a base of whole time equivalent (wte) staff per 10 beds, mean numbers of unregistered nurses for hospitals with ASUs and RSUs (reported jointly), ASUs only, RSUs only, or CombsUs were 5.6, 4.6, 4.8 and 4.1 respectively (Table 3).

Table 3 : Unregistered nurses wte per 10 beds		
ASU and RSU	Mean	5.6
	Std. Deviation	0.9
	Minimum	4.7
	Maximum	6.4
ASU only	Mean	4.6
	Std. Deviation	2.7
	Minimum	2.8
	Maximum	6.5
RSU only	Mean	4.8
	Std. Deviation	0.9
	Minimum	4.2
	Maximum	5.8
Combined	Mean	4.1
	Std. Deviation	1.1
	Minimum	2.5
	Maximum	5.1

Question 3.4 asked how many nurses are usually rostered to work on the three shifts. Eight ASUs reported mean numbers of 3.7, 3.1 and 2.5 nurses for early, late and night shifts respectively (Table 4).

Table 4: Numbers (% respondents) nurses on duty in ASU per shift

Nurses	Early:		Late:		Night:	
	No	%	No	%	No	%
1	1	(14.3)	1	(14.3)	1	(14.3)
2	1	(14.3)	2	(28.6)	2	(28.6)
3	2	(28.6)	1	(14.3)	4	(57.1)
4	1	(14.3)	2	(28.6)	0	(0.0)
5	0	(0.0)	1	(14.3)	0	(0.0)
6	1	(14.3)	0	(0.0)	0	(0.0)
7	1	(14.3)	0	(0.0)	0	(0.0)

Ten RSUs reported mean numbers of 5.2, 3.7 and 2.9 nurses for early, late and night shifts respectively (Table 5).

Table 5: Numbers (% respondents) nurses on duty in RSU per shift

Nurses	Early:		Late:		Night:	
	No	(%)	No	%	No	%
1	0	(0.0)	1	(11.1)	0	(0.0)
2	1	(11.1)	1	(11.1)	2	(22.2)
3	1	(11.1)	0	(0.0)	6	(66.7)
4	0	(0.0)	5	(55.5)	1	(11.1)
5	2	(22.2)	2	(22.2)	0	(0.0)
6	4	(44.4)	0	(0.0)	0	(0.0)
7	1	(11.1)	0	(0.0)	0	(0.0)

Six CombSUs reported mean numbers of 5.3, 4.0 and 3.2 nurses for early, late and night shifts respectively (Table 6).

Table 6: Numbers (% respondents) nurses on duty in Combined SU per shift

Nurses	Early:		Late:		Night:	
	No	%	No	%	No	%
1	0	(0.0)	0	(0.0)	0	(0.0)
2	0	(0.0)	0	(0.0)	1	(14.3)
3	1	(14.3)	2	(28.6)	3	(42.9)
4	0	(0.0)	2	(28.6)	3	(42.9)
5	2	(28.6)	2	(28.6)	0	(0.0)
6	2	(28.6)	1	(14.3)	0	(0.0)
7	2	(28.6)	0	(0.0)	0	(0.0)

If staffing numbers are converted to a base of nurses on duty per 10 beds, mean numbers of nurses on early shifts in ASUs were 2.58 (1.30) nurses; in RSUs 2.38 (0.21) nurses; in sites with both ASUs and RSUs (reported jointly), 2.89 (0.78) nurses; in CombSUs 2.68 (0.48) nurses (Figure 1).

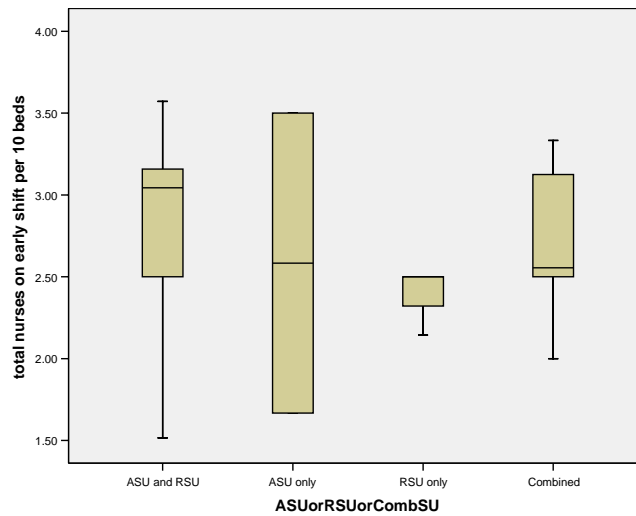


Figure 1: Mean numbers of nurses on early shift duty in Stroke Units.

On a similar basis, the mean (SD) number of nurses on late shifts in ASUs was 2.08 (0.59) staff; in RSUs 1.60 (0.77) nurses; in sites with both ASUs and RSUs (reported jointly), 2.20 (0.61) nurses; in CombSUs, 2.04 (0.42) nurses (Figure 2).

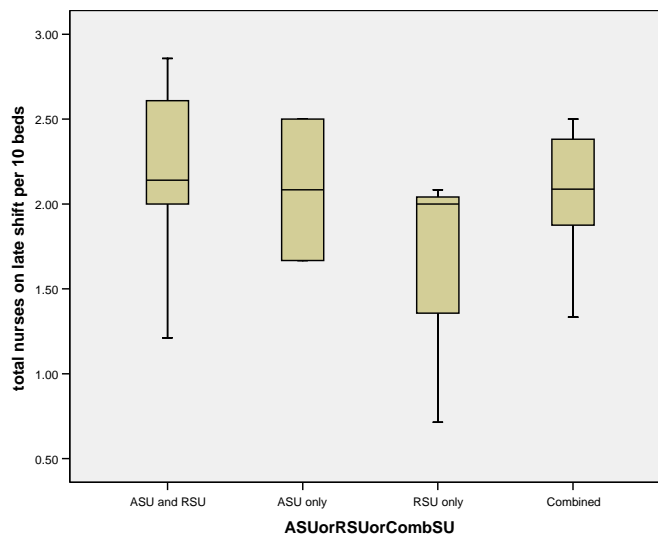


Figure 2: Mean numbers of nurses on late shift duty in Stroke Units.

Finally, mean (SD) numbers of nurses on night shifts in ASUs was 1.58 (0.12); in RSUs, 1.39 (0.13); in sites with both ASUs and RSUs (reported jointly), 1.76 (0.35); in CombsUs, 1.61 (0.33) nurses (Figure 3).

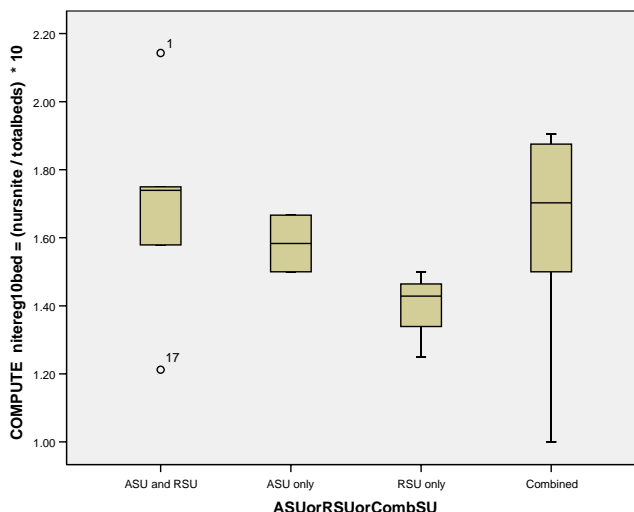


Figure 3: Mean numbers of nurses on night shift duty in Stroke Units.

Support for nurses

Question 2.1: This asked whether there was a senior nurse (defined as: ‘qualified for at least five years with three years experience in a nursing specialty relevant to the care of stroke patients’) on each shift. This question was deemed relevant for 22 units, of whom 13 (59%) responded positively, 9 (41%) that there was not.

- Of the 7 ASUs who reported on this, 4 (57%) had a senior nurse available on each shift;
- Of the 9 RSUs, this was available on 5 (56%);
- Of the 6 CombsUs, this was available on 4 (67%).

Question 2.2: Asked whether there was a policy/protocol in place that outlines who to contact for specialist advice, of 18 respondents 12 (66.7%) stated there was, 5 (27.8%) that there was not. 1 ‘No but’ response is hard to interpret. Comparing responses to these 2 questions, 2 ASUs and 3 RSUs did not have a senior nurse available on every shift and did not have a policy outlining who to contact for specialist advice.

Nursing involvement in pan-stroke strategic planning

Question 3.9: This asked whether there was nursing representation at the level where local stroke services and strategies are planned/ developed. Of 18 respondents 15 (83%) responded positively, 2 (11%) that there was not. This person was named as:

- stroke specialist nurse/ clinical nurse specialist (6 times)
- Stroke co-ordinator (2 times)
- Matron (2 times)
- Nurse consultant (stroke or older people) (4 times)
- Ward / Stroke Unit manager (2 times)
- Senior Sister (1 time)
- Clinical Lead Nurse (1 time)
- 1 site mentioned 3 people, another 2 post-holders.

Teamwork

Question 1.1: This asked whether nurses participated in patient review meetings, case conferences and stroke team meetings. Responses were positive in all 19 responding sites except for 1 site for case conferences.

Question 1.4: This asked whether nurses contributed to a single multidisciplinary set of patient notes. Of 18 respondents 10 (56%) stated they do contribute, 6 (33%) that they do not.

Question 1.5: This asked whether nurses have access to information about other team members' interventions. Of 18 respondents, 17 (94%) responded positively, 1 (6%) that they do not.

Education and training

Questions 3.1 and 3.2 asked about education and training that was available to staff. Even for essential elements of care (moving and handling) and minimal levels of education (2 sessions per year), a substantial percentage of units reported staff were not receiving this (Table 7). Senior nurses, however, were heavily involved in providing stroke education for pre and post-registration student nurses, to non-registered staff and for inter-disciplinary sessions (Table 7).

Table 7: Nurses' receipt and delivery of education and training: *percentage applicable (number) of respondents

	Yes: % (n)	No: % (n)	Missing data: (n)	No but: (n)
3.1 Do you have a specialist stroke moving and handling and positioning programme, which can be accessed by nurses?	66.7 (12)	33.3 (6)	(2)	0
3.2 Have all nursing staff participated in at least two formal education sessions relevant to stroke care within the previous 12 months?	50 (8)	50 (8)	0	(2)
3.3 Are senior nurses involved in providing education for:				
Non registered nurses	94.4 (17)	5.6 (1)	(2)	0
Pre reg staff	82.3 (14)	17.7 (3)	(1)	(2)
Post reg staff	73.3 (11)	26.7 (4)	(2)	(3)
Inter-disciplinary teaching	81.2 (13)	18.8 (3)	(3)	(1)

*percentage applicable = yes/ (yes+no) x 100

Policies and guidelines

Question 3.5 asked about the existence of written protocols to guide key elements of stroke nursing care.

Several sites omitted to respond to some questions and a substantial percentage lacked policy statements or guidance on, for example, promotion of continence (Table 8). ‘No but’ responses are difficult to understand and with hindsight might have been better not provided as an option.

A particular concern arises where low levels of continuing stroke-specific education were reported in Units where guidance was lacking. For example, in 6 of 8 sites where all nursing staff do not achieve a minimum of 2 educational sessions per year, there were no policies established for promotion of continence or self-medication, 1 did not have a moving and handling policy.

Table 8: Existence of written protocols for key elements of stroke nursing care: *percentage applicable (number) respondents.

	Yes: % (n)	No: % (n)	Missing data: (n)	No but: (n)
Are there written protocols for:				
Self medication programme	21.4 (3)	78.6 (11)	(3)	(3)
Moving & handling	87.5 (14)	12.5 (2)	(4)	0
Continence	43.7 (7)	56.3 (9)	(3)	(1)
Dysphagia	88.2 (15)	11.8 (2)	(3)	0
Nutrition management	94.1 (16)	5.9 (1)	(3)	0
Naso-gastric feeding	100 (14)	0	(4)	(2)

*percentage applicable = yes/ (yes+no) x 100

Service provision

Question 3.6 asked whether there are specific stroke nurse follow-up clinics for patients to attend after they are discharged from various locations.

Such services appeared more commonly available for patients leaving RSU and wards, but ‘No but’ responses might indicate services in development (Table 9).

Question 3.7 asked about nursing input to Early Supported Discharge schemes.

Positive responses were in the minority but with a substantial ‘No but’ response, the option indicating the service is not available locally (Table 3.6/7).

Table 9: Nursing follow-up services

	Yes: % (n)	No: % (n)	Missing data: (n)	No but: (n)
Is there a specific stroke nurse follow-up clinic for patients leaving*:				
ASU	20 (1)	80 (4)	(9)	(6)
RSU	50 (4)	50 (4)	(8)	(4)
Comb SU	20 (1)	80 (4)	(10)	(5)
Other wards	50 (4)	50 (4)	(10)	(20)

	Yes: % (n)	No: % (n)	Missing data: (n)	No but: (n)
If there is an Early Supported Discharge scheme, are nurses part of this?	45 (5)	55 (6)	(2)	(7)

Note: Unit totals reported elsewhere as 9 ASUs, 10 RSUs, 6 CombSUs, 1 non-unit based service

Research

Question 3.8 asked about nursing involvement in stroke research.

Responses appeared generally positive for participation, and involvement with local research networks, less so for leading studies (Table 10).

Table 10: Nursing involvement and research roles: number (percentage) respondents.

	Yes: % (n)	No: % (n)	Missing data: (n)	No but: (n)
Do nurses within your stroke services participate in stroke research?	61.1 (11)	38.9 (7)	(2)	0
Do nurses within your stroke services lead on stroke-relevant research?	17.6 (3)	82.4 (14)	(3)	0
Are nurses within your stroke services involved with local stroke research networks?	68.7 (11)	31.3 (5)	(2)	(2)

DISCUSSION

The aim of this audit was to obtain a small but representative sample of data from Stroke Units in England, Wales and Northern Ireland. However, limited response rates in turn restrict inferences that may be drawn from this data. The response rate for the nursing organisational audit was 66.7%, albeit with some missing data. With no data available from 10 Trusts it is impossible to estimate whether there may be any systematic differences between respondent and non-respondent locations.

Staffing

Conversion of staffing data to a base of per 10 beds facilitated cross-site comparison. This indicated:

- Similar mean (SD) Registered Nurse staffing for sites with both ASUs and RSUs, and those with CombSUs, at 7.53 (1.20) and 7.06 (1.45) wte respectively.
- RSU numbers were lower at 5.18 (1.32) wte;
- ASU numbers markedly lower at 4.04 (0.65) wte.

This clearly warrants further investigation, seeking factors underpinning such differences as, for example, minimum staffing of 6.02 and 5.04 wte reported for sites with both ASUs and RSUs, and those with CombSUs, yet minimum levels of 3.58 and 3.76 wte for sole ASUs and RSUs, respectively. It might be informative to explore, for example, comparative workload and staffing levels of ASUs and Coronary Care Units / High Dependency Units.

The picture for unregistered nurse staffing was different. Lowest numbers were seen in CombSUs, at 4.14 (1.10) wte, with highest numbers in sites with both ASUs and RSUs, at 5.58 (0.89) wte.

Looking at numbers of staff on duty for the different shifts within differently configured services, converted to a base of 10 beds, similarities were seen across the service types with

- mean 2.38 - 2.89 nurses on duty for early shifts;
- mean 1.60 - 2.20 nurses on duty for late shifts;
- mean 1.39 - 1.76 nurses on night duty shifts.

With the data available it is not possible to proceed further with exploration for reasons why significant differences seen at establishment level between unit types did not emerge in relation to numbers reported on duty per shift. Data have been taken at face value, and possible explanations may lie with the quality of data reportage. However, currently many Trusts are reported with posts frozen and cover reduced for sickness and maternity leave absence. Establishment figures may thus not relate closely to shift numbers, indicated with an only moderate positive correlation between values (Pearson's Correlation Coefficient $R=0.680$, $p<0.004$). However, with increasing acuity and intensity of treatment options, further work is clearly required to identify relationships between staffing levels, skill mix and patient outcomes, to identify optimal resourcing.

Support for nurses

Senior nursing support for ward staff was inconsistent, with senior staff available on less than half the Units. Two thirds had established procedures for advice, but that 5 Units had neither a senior nurse available for every shift nor an established procedure for who to contact is worrying.

Senior nurses were reported as involved with providing education for a wide range of staff. However, between one third and one half of nursing staff were reported as not receiving essential training or not meeting very minimal levels of continuing professional stroke-related education. When it is taken into account that in-service training is seen as one of the five key components of defining a stroke unit, this gives cause for concern.

Many Units had policies and guidance in place, but some lacked these for key elements of nursing care. Where lack of policies and guidance combined with very low levels of continuing stroke-specific education, this is a particular cause for concern. For example, of units where not all staff were reported as obtaining a minimum of 2 educational sessions per year, 6 did not have guidelines in place for management of continence or self-medication, 1 did not have moving and handling protocols; of these, 2 did not have senior members of staff available for every shift. Combination of low educational input for staff with absence of readily available best practice guidance is very worrying, and especially so where units lack experienced staff or a means to access specialist advice. Whilst this scenario of multiple deficits occurred in only a small minority of units, it demonstrates local priorities and challenges.

Service development

In most sites nurses were reported as participating in all aspects of stroke care, from involvement with strategic planning through contributing to team-working and participating in research. Nursing follow-up services were reported from between 20-50% of locations, clearly representing a developing service, and with possibly more in progress. Nursing involvement in research and with local stroke research networks is laudable, although there is clear scope for development of nurses as leaders of stroke nursing-related studies.

KEY MESSAGES ORGANISATIONAL AUDIT NURSING

Foci for future attention include:

Staffing

- To identify appropriate ranges of staffing establishments for different unit configurations (ASU / RSU / CombSU etc). Collaborative enquiry with coronary care and high dependency staff may be useful.

Staff development

- Systematic investigation of the learning needs of the workforce is required, to inform staff development planning.
- Availability of stroke-related continuing education should be expanded, including for essential skills and underpinning knowledge. This may occur through various routes, including workplace-based learning.
- More detail of teaching commitments of senior staff may be helpful in mapping current provision and informing strategic planning.

Practice development

- Guidance should be readily available for all key elements of stroke nursing practice, and usage promoted.
- Procedures for accessing specialist advice should be established and known by all.

Service development

- To ensure involvement of appropriate individuals at all levels of service development.
- To ensure resources are available to support and evaluate service developments; for example, development of follow-up services.
- To establish career development frameworks and opportunities that will enable nurses to lead and develop stroke nursing-related research, including, for example, as components of multi-disciplinary projects or additional perspectives to uni-disciplinary studies.

CLINICAL CASE NOTE AUDIT NURSING

72 proformas were analysed.

For this pilot feasibility pre-audit, respondents were asked to audit 5 cases from each site. They were asked to identify 5 consecutive admissions in the period with a start date to be identified locally but within the date range 1 April to 30 June 2006. For the nursing audit, 12 sites returned 5 audited cases, 3 sites returned 4, a total of 72 cases. However, data were not complete for all 72 cases.

RESULTS

Characteristics of audited patients

Of these 72 patients, 10 were initially admitted elsewhere, 11 died during this hospitalisation at mean (SD) 26.6 (29.8) days after admission. Mean and median length of stay was 31.7 and 17.5 days, respectively, with 2 still in-patients at close of audit. There were equal numbers of men and women, with an overall mean (SD) age 73.6 (14.8) years. However, the women were significantly older, at mean age 77.1 compared to 70.0 years for men ($t=2.064$, $df69$, $p<0.044$).

Nursing assessments

Question 4.1 sought evidence of conduct of essential nursing initial assessments (Table 11). This demonstrated high compliance with generic essential nursing assessments (e.g. temperature, blood pressure, pressure damage risk assessment etc). The picture with stroke-specific assessments was more mixed. Whilst some assessments received high compliance rates (e.g. swallowing, neurological status) these may be undertaken by various healthcare professional groups and there was no question to identify whether these were completed by nursing staff. Other assessments were less well completed, such as for nausea and vomiting, stroke severity and need for anti-embolic stockings.

Table 11: Nursing initial assessments in relation to compliance with guideline recommendations

Is there evidence of initial assessment within 24 hours of admission to the service of:	Responses: number	Number applicable to:	% compliance (number)
Initial assessment of swallowing	65	60	88.3 (53)
initial assessment of nutritional status	66	61	78.7 (48)
initial assessment for nausea/ vomiting	68	55	29.0 (16)
initial assessment of pain	67	60	63.0 (38)
initial assessment of stroke severity	65	52	53.8 (28)
initial assessment of neurological status	67	65	86.2 (56)
initial BP measurement	68	68	100 (68)
initial pulse measurement	68	68	100 (68)
initial temperature measurement	68	68	100 (68)
initial respiration rate measurement	68	68	97.1 (66)
initial SaO2 measurement	68	68	97.1 (66)
initial need for thrombo-embolic stockings assessed	68	64	51.6 (33)
initial blood glucose measurement	67	66	78.8 (52)
initial pressure damage risk assessment	68	65	86.2 (56)
initial communication ability assessment	67	63	76.2 (48)
initial continence assessment	66	63	85.7 (54)
initial moving and handling assessment	68	66	84.8 (56)
initial assessment of sensory impairment	65	63	63.5 (40)
initial social assessment	67	66	86.4 (57)
initial carer support assessment	67	60	68.3 (41)

Planning of nursing care

Following assessment, planning of care is normally undertaken. The audit demonstrated that whilst 56 case notes contained a nursing care plan; 4 were scored 'No but', which is difficult to interpret. Eight patient notes lacked a nursing care plan; all were in-patients for longer than one week.

Question 5.2 asked whether there was evidence of assessment findings having been taken into account when the plan was devised (Table 12). This demonstrated much better concordance between documented assessment and planning for physiological needs than for other potential problem areas such as psychological and social needs.

Question 6.1 asked whether there was evidence of nursing involvement in multidisciplinary goal setting. For 6 sets of case notes a 'No but' response was entered, but for 48 (77.4% for whom this was deemed to apply) this was present.

Question 6.2 asked whether there was evidence of the nursing team involving patients in their goal setting. For 10 sets of notes the response entered was 'No but'; for 36 (62.1% for whom this was deemed appropriate) this was present.

Table 12: Evidence of links between assessment outcomes and nursing care planned

Do the documented problems in the care plan take account of assessed:	Responses: number	Number applicable to:	% compliance (number)
Physiological needs?	68	66	75.8 (50)
Psychological needs?	68	63	49.2 (31)
Social needs?	68	57	28.1 (16)
Cultural considerations?	68	57	26.3 (15)
Lifestyle / secondary prevention needs?	68	64	45.3 (29)
Medication management?	68	64	40.6 (26)
Carer needs?	67	60	50.0 (30)

Timely (early) initiation of discharge planning is a key element of nursing management of acute care. For many stroke patients this will entail ensuring that assessment has been made and appropriate plans instituted to address requirements of those who will be undertaking a care-giving role when the stroke patient is discharged from hospital.

Question 6.3 asked whether there was evidence of assessment of carers' needs prior to stroke patients' discharge from hospital. For 18 cases, 'No but' responses were entered; for 29 (59.2% for whom this was deemed applicable) this was so.

Nursing interventions

Question 5.6 asked whether the care plan contained evidence that essential stroke nursing interventions had been considered. With 'No but' responses provided for between 5-17 of audited cases, compliance with 'best practice' varied for between 42.9% - 75.9% (Table 13). Asked whether the care plan referred to other aspects of nursing management, 3 case-notes mentioned communication, 2 referred to hygiene needs and 2 to the care of the dying pathway.

Table 13: Evidence of essential stroke nursing interventions

Does the care plan include nursing interventions for:	Responses: number	Number applicable to:	% compliance (number)
Pressure damage prevention?	68	63	74.6 (47)
DVT prevention?	68	58	50.0 (29)
Aspiration prevention?	67	57	59.6 (34)
Constipation prevention?	68	56	67.9 (38)
Continence management?	68	56	62.5 (35)
UTI prevention?	67	55	50.9 (28)
Nutrition management?	68	57	66.7 (38)
Fluid management?	68	58	56.9 (33)
Flexion contracture prevention?	68	54	44.4 (24)
Prevention of complications of immobility?	67	54	75.9 (41)
Pain management?	68	51	51.0 (26)
Depression management?	68	56	42.9 (24)
Hypo/hypertension detection/ prevention?	67	53	50.9 (27)
Falls prevention?	63	57	75.4 (43)

Nurse monitoring

Monitoring of various parameters is an important component of stroke nursing. Research evidence and national guidelines are not able to indicate required frequency, but this is usually addressed through local protocols which may indicate both basic requirements and indices for variance.

Questions 5.3 and 5.4 respectively asked whether there was evidence of intermittent and continuous physiological monitoring.

For 59 (91%) there was evidence of intermittent, for 25 (52%) evidence of continuous monitoring.

The 'No but' option was used for 2 responses to question 5.3, but is difficult to understand.

Question 5.5 sought evidence of neurological monitoring.

With 10 'No but' responses, 39 (67%) of case-notes demonstrated this occurred.

Question 7.1 asked whether frequency of recorded physiological observations were compliant with local service protocols, recognising that local protocols will vary, and will tailor interventions to meet individual patient needs. With 5 'No but' responses, case-notes demonstrated compliance in 63 (94%).

Nursing evaluation

Question 8.1 asked whether patient progress was evaluated and documented on the target dates specified in the nursing or rehabilitation goals. With 5 'No but' responses recorded, case-notes demonstrated compliance in 34 (64%).

Discharge / transfer of care

Question 9.1 asked whether there was a comprehensive plan for transfer of care. Of 11 'No but' responses, 9 related to patients who died during hospitalisation, 1 was still an in-patient, 1 had been discharged. There was no indication why there was no plan for this latter, a 34 year old male admitted directly to the site and hospitalised for 9 days. With a plan for transfer of care contained in 48 sets of notes, compliance was 84.2%.

Question 9.2 asked whether there was evidence of patients receiving information about arrangements for transfer of care. With 19 'No but' responses, 25 case-notes documented patients being informed of arrangements, 51.9% compliance.

Questions 7.2 and 7.3 asked about preparation for medication management, and demonstrated 51% compliance with provision of information to patients but only 28.3% with assessment of patient safety prior to hospital discharge (Table 14).

Table 14: Evidence of preparation for medication management

	Responses: number	Number applicable to:	% compliance (number)
Is there evidence that the patient has been given information about their medication management prior to discharge?	68	49	51.0 (25)
Is there evidence that the patient has been assessed safe to dispense their own medications prior to discharge?	68	46	28.3 (13)

Question 9.3 asked whether there was evidence of patients receiving information concerning a contact point for the future; with 19 'No but' responses, this was demonstrated for 26 (53.1%) patients.

Question 9.4 asked for evidence of the carer receiving information about arrangements for transfer of care. With 16 'No but' responses, there was documentary evidence this was accomplished for 35 (67.3%) carers.

Question 10.1 asked if there was evidence of arrangements being made for patients to be seen by a stroke specialist post transfer of care. With 23 'No but' responses, this was evident in 30 (69.8%) case-notes.

DISCUSSION

As with all case-note audits, these findings can only demonstrate if what nurses recorded was done; where there is no record, it is not possible to assess whether the deficiency is in the documentation or care delivery. Non-response and missing data also restrict what can be inferred from the data submitted.

Assessment

Generic nursing assessments generally demonstrated high compliance with 'best practice' expectations or guideline recommendations; the picture for more stroke-specific activities was less clear cut. Some, such as screening/ assessment of swallowing and communication, achieved compliance rates above 75%; others, such as need for thrombo-embolic stockings, assessments of stroke severity or sensory impairment, fared much worse. This indicates areas with scope for improvement, perhaps related to need for further education to understand the rationale for these assessments, as well as training to ensure accurate application.

Care planning

Lack of nursing care plans for a number of patients with other cases scored 'No but' are hard to see as acceptable practice. If audit of these cases was undertaken retrospectively, documents may have been misfiled or lost. However, this merely replaces unacceptable nursing practice with inadequate data management.

Accurate completion of the audit proforma required that nurses carry forward and apply information from earlier questions. For example, question 4.1 asked whether there was pressure damage risk assessment completed within the first 24 hours, followed by question 5.6 asking about evidence of pressure damage interventions. The auditor needed to remember or refer back to records retrieved for question 4.1 to know whether intervention was appropriate for the individual patient, or whether a 'No but' response should be entered. With no inter-rater reliability testing conducted, it is not possible to estimate the accuracy of entered data, and a degree of caution must be used in interpretation.

When it came to carrying forward assessment findings into care planning, physiological problems were recognised more often than social, cultural or life-style health promotion needs. Practice development opportunities are flagged in these areas.

Nurses were generally involved with multi-disciplinary goal-setting, demonstrated in over 77% of cases. This reflects their high involvement in the various meetings where this tends to occur, see in the organisational audit. Nursing involvement of patients with goal-setting was also high, at 62%, but again, there remains scope for improvement. The role of carers was generally recognised, with assessment of carers' needs recorded in 59% of cases. Planning only took account of these needs in 50% of cases, however.

A very limited degree of cross-tabulation between findings of assessments and planning was possible. This indicated, for example, that 65 and 63 people, respectively, were deemed appropriate for pressure damage risk assessment and interventions; 43 of 61 (70.5%) case-notes where both initial assessment and planning were deemed appropriate contained records of both; 10 case-notes with a pressure damage risk assessment did not incorporate pressure damage prevention in the plan, where it was deemed appropriate. With 86.2% compliance with initial assessment recommendations, 74.6% compliance with those for intervention, 11.6% difference in compliance was found between these two pressure damage nursing activities (Table 15).

Table 15: Evidence of initial pressure damage risk assessment compared to care plan evidence of damage prevention

		Does care plan include nursing pressure damage prevention?				Total
		Missing data	No	No but	Yes	
Was initial pressure damage risk assessed?	Missing data	4	0	0	0	4
	No	0	6	1	2	9
	No but	0	0	1	2	3
	Yes	0	10	3	43	56
Total		4	16	5	47	72

Similar analysis for continence management demonstrated 54 (85.7%) patients were appropriate for and received initial continence assessment; 35 (62.5%) were appropriate for and had recorded continence management intervention. Whilst these are, initially at least, high compliance figures, this demonstrates 23.2% reduction in recorded appropriate intervention between these 2 time points (Table 16).

Table 16: Evidence of initial continence assessment compared to care plan evidence of nursing continence management

		Does care plan include nursing continence management?				Total
		Missing data	No	No but	Yes	
Evidence of initial continence assessment?	Missing data	0	1	0	1	6
	No	0	7	0	2	9
	No but	0	0	1	2	3
	Yes	0	13	11	30	54
Total		4	21	12	35	72

Of 61 patients for whom initial nutritional screening/ assessment was deemed appropriate, 48 (78.7%) were recorded as receiving this. Of 57 patients for whom nutritional intervention was deemed appropriate, 38 (66.7%) had recognition of this documented. Once again there was a reduction in percentage compliance with 'best practice', although at 12%, smaller than for continence management (Table 17).

Table 17: Evidence of initial screening/ assessment of nutritional status compared to care plan evidence of nursing nutrition management

		Does care plan include nursing nutrition management?				Total
		Missing	No	No but	Yes	
Evidence of initial screening/ assessment of nutritional status?	Missing data	4	0	0	2	6
	No	0	6	2	5	13
	No but	0	0	2	3	5
	Yes	0	13	7	28	48
Total		4	19	11	38	72

Nursing interventions

In terms of documented nursing interventions, once again generic rather than stroke-specific activities featured more often; for example, highest percentages of compliance were seen for pressure damage and constipation prevention, and activities to minimize risks of immobility and falls. Interventions to address or prevent problems such as contractures, pain and depression were noticeably less often found. As a documentary audit, it is unclear whether practice or documentation is lacking, but scope for improvement is flagged.

Monitoring activities also demonstrated this pattern of preferential attention to generic rather than stroke-specific care. There was 94% compliance with local protocols for minimum observation schedules, but only 67% demonstrated neurological monitoring. Lack of monitoring of neurological status in one third of stroke patients is not acceptable, and would have been unlikely in other acute brain injury diagnostic groups such as traumatic brain injury or sub-arachnoid haemorrhage. There needs to be heightened recognition of stroke as an acute brain injury, where there is potential both for deterioration and swift intervention to address this.

Preparation of patients for discharge demonstrated some scope for improvement, with evidence that the patient was given information about their medication in only 51% of case-notes, and in only 28.3% was it documented that the patient has been assessed safe to dispense their own medications prior to discharge. With the number of stroke patients who have cognitive and/or physical disability, it is concerning that so few patients were assessed safe to dispense their own medications. With 84.2% of case-notes containing a plan for transfer of care, only 51.9% documented patients and 67.3% stated carers were informed of arrangements for transfer of care. At 64%, incomplete evaluation on target dates undermined the value of goal-setting.

KEY MESSAGES CLINICAL AUDIT NURSING

Foci for future attention:

- Whilst there was high compliance with generic assessments and generic essential nursing interventions, there was much less attention paid to stroke-specific measures although even here, some fared better than others. There is particular scope to improve completion of assessments of stroke severity and sensory impairments; nursing management to prevent contractures and pain.
- There is scope to increase recognition of psycho-social, cultural and lifestyle / health promotion needs, and incorporate these within care planning.
- Assessed needs of carers also require to be addressed through a structured care planning process.
- A consistent pattern whereby assessed needs were incompletely carried forward into care planning requires closer attention than this data allows. It is unclear whether this represents care planning deficit.
- The importance of neurological monitoring must be recognised and enacted for all stroke patients.
- Discharge/ transfer of care was generally initiated in a timely fashion. Within this, preparation for self-medication and medication management, and communication of arrangements to patients and carers were areas with scope for improvement.
- The effectiveness of goal-setting may be enhanced by systematic evaluation according to target dates.

CONCLUSION

This small feasibility audit has tested the procedure for multi-disciplinary, profession-specific audit. Trial of the procedure has enabled revision of documentation and recognition of difficulties and problems within the audit process, which have been or will be addressed before full audit. Despite small numbers and incomplete data, useful indicators of national stroke nursing practice have been obtained, and key issues for practice and service development flagged.

NUTRITION AND DIETETIC SERVICES

BACKGROUND

Throughout the audit, when relevant, the questions have been linked to the BDA's Professional Standards for Dietitians (2004). The audit of service organisation included twenty questions divided in to 5 sections relating to: the provision of the nutrition and dietetic service; team working; nutritional screening; dysphagia management; discharge planning. The case note audit examined: whether patients had a nutritional screen; what was documented in the dietetic initial assessment; whether patients were weighed weekly; evidence of multi-disciplinary team working; action on discharge.

NUTRITION AND DIETETIC AUDIT RESULTS

To obtain a 100% response rate, 8 out of 31 sites (26%) of the organisational audits were completed by telephone. However, completion of the case audit by telephone was not possible. Fourteen of the 21 sites who completed data for both the organisational and case note audit completed the data in Excel format by e-mail, while the remainder completed data in Word format.

ORGANISATIONAL AUDIT NUTRITION AND DIETETICS

31 proformas were analysed.

Provision of Dietetic Service

Only 4 (13%) of units have a service level agreement for nutrition and dietetic services (Table 18). Only 13 (42%) of units have a service provided by a dietitian with specialist knowledge of stroke, while 13 (42%) of units have a senior Dietitian available for consultation where there is no dietitian with specialist knowledge providing the service.

Table 18: Provision of Dietetic Service

		Yes (%)	No (%)	Missing Data
1	Is there a written service level agreement for nutrition and dietetic services to stroke patients? If yes, which area (s) does it cover (tick all that apply) a)Acute services b)Rehabilitation c)Community	4 (13%) 3 (75%) 3 (75%) 2 (50%)	26 (84%)	1 (3%)
2	Does a dietitian with specialist knowledge and experience of stroke provide the dietetic service to stroke patients?	13 (42%)	18 (58%)	
3	If you answered 'No' to question 2 : Is there a senior Dietitian with experience of stroke patients available for consultation?	13 (42%)	18 (58%)	
4	If you answered 'Yes' to question 2 Does this Dietitian participate in research relating to stroke?	3 (23%)	28 (77%)	

Team Working

Nineteen (62%) of units hold regular multidisciplinary educational update sessions, of which 14 of the 19 (74%) dietitians attend multidisciplinary educational update sessions at least monthly and 3 / 19 (18%) attend weekly (Table 19).

Only 4 (13%) of units provide stroke patients and their carers with information on the scope of the dietetic service.

Twenty-one (20%) of dietitians reported that they attend multidisciplinary patient review meetings, of which 17 of the 21 (81%) reported that dietitians attend multidisciplinary patient review meetings weekly.

Table 19: Team Working

		Yes (%)	No (%)	Missing Data
5	Are regular multidisciplinary educational update sessions held for all staff to promote understanding of each others roles and needs of stroke patients? If yes, how frequently are they held? (tick one option) Weekly? Fortnightly? Monthly?	19 (62%) 3 (18%) 14 (74%)	12 (38%)	2 (11%)
6	Does the Dietitian contribute to a single multidisciplinary set of patient notes?	26 (84%)	5 (16%)	
7	Does the Dietitian attend multidisciplinary patient review meetings? Weekly? Fortnightly? Monthly? Less than once a month	21 (20%) 17 (81%) 0 1 (5%) 3 (19%)	10 (32%)	72 (48%)
8	Does the Dietitian attend case conferences?	22 (71%)	9 (29%)	
9	Are stroke patients and their carers routinely given information that outlines the scope of the dietetic service?	4 (13%)	27 (87%)	

Nutritional Screening & Dysphagia Management

Thirty (97%) of units have a nutritional screening tool in place (Table 20). Twenty-five (81%) of units provide a choice of meals of modified consistency to patients, but only 9 (29%) of units have recommendations that all patients on a modified consistency diet should be referred to a dietitian (see Table 21). Only 17 (55%) of units have guidelines that recommend the need for enteral feeding tubes is reviewed on a regular basis.

Table 20: Nutritional Screening

		Yes n (%)	No n (%)	Missing Data
	Nutritional Screening			
10	Is there a nutritional screening tool with guidelines on when to refer to a dietitian, completed by appropriately trained staff, in place for stroke patients?	30 (97%)	1 (3%)	
11	If yes to 10. Are there recommendations that nutritional screening should be completed within 48 hours of admission?	29 (97%)	1 (3%)	
12	Is there a protocol in place for the development of a nutrition care plan based on the outcome of the nutrition screening tool?	29 (97%)	1 (3%)	
13	Are educational sessions held regularly for the use of this tool and nutritional care planning?	17 (59%)	13 (43%)	
14	Is there a protocol recommending that patients are weighed on admission and at regular intervals during their stay?	29 (94%)	2 (6%)	

Table 21: Dysphagia management

	Organisational Audit Questions	Yes n (%)	No n (%)	Missing Data
	Dysphagia Management			
15	Is a choice of foods with agreed specified consistency between Speech & Language Therapists and dietitians available to patients with dysphagia?	25 (81%)	6 (19%)	
16	Are there guidelines recommending all patients who require a modified consistency diet are referred to the dietitian?	9 (29%)	22 (71%)	
17	Are there guidelines that recommend that the need for enteral feeding tubes are reviewed on a regular basis?	17 (55%)	14 (45%)	

Discharge Planning

While 26 (84%) of services provide follow up when required, only 14 (45%) have a leaflet available for patients on secondary prevention dietary advice (Table 22).

Table 22: Discharge Planning

		Yes (%)	No (%)	Missing Data
18	Does the department policy include the provision of follow up: When required? At the most appropriate location for the patient?	26 (84%) 22 (71%)	5 (16%) 8 (26%)	0 1 (3%)
19	Is there a leaflet available for patients on secondary prevention dietary advice after TIA / stroke?	14 (45%)	17 (55%)	0
20	Have relevant staff been trained on secondary prevention dietary advice?	12 (39%)	19 (61%)	0

CLINICAL CASE NOTE AUDIT NUTRITION AND DIETETICS

103 proformas were analysed

Screening and Assessment

Fifty-six (54%) patients had a valid nutritional screening tool completed, of which 50 out of these 56 (89%) patients had evidence that the nutritional screening tool was completed within 48 hours of admission (Table 23). Six (6%) patients did not have a nutritional screening tool completed and they were reported as being enterally fed within 48 hours of admission. Only 25 (25%) of patients had had an initial dietetic assessment by a stroke specialist dietitian, while 10 (10%) were assessed by an elderly care dietitian and 61 (59%) by a non-specialist dietitian.

Table 23: Screening and Assessment

		Yes	No	No, but.....	Missing Data
21	Has a validated nutritional screening tool been fully completed for the patient?	56 (54%)	41 (40%)	3 (3%) 3 (3%) –NG feeding	
22	If the answer to D21 is 'yes', was the nutritional screening tool completed within 48 hours of admission?	50 (89%)	6 (11%)	0	
23	Is there evidence that the initial assessment by the dietitian has been completed and documented within the agreed local timescale?	100 (97%)	3 (3%)	0	
24	Was the initial assessment carried out by a i) stroke specialist dietitian? ii) other dietitian iii) elderly care dietitian	25 (25%) 61 (59%) 10 (10%)	15 (25%) 0 20 (20%)	0 0 0	63 (50%) 42 (41%) 73 (71%)
25	Does the initial assessment include: (Answer 'No, but' if this information is contained within a multidisciplinary record)				
	a) Initial weight	83 (81%)	19 (18%)	1 (1%)	
	if Yes is it - actual weight	34 (41%)	1 (1%)	0 (0%)	48 (58%)
	- estimated weight	44 (53%)	0 (0%)	1 (1%)	38 (46%)
	b) Height or surrogate height	37 (36%)	63 (61%)	3 (3%)	
	c) Initial BMI	36 (35%)	62 (60%)	5 (5%)	
	d) Weight history / usual weight	40 (39%)	57 (55%)	6 (6%)	
	e) Target weight	6 (6%)	88 (86%)	5 (5%) 4 (4%) N/A	
	f) Diet history (answer 'No, but..' if patient is unconscious)	28 (27%)	31 (30%)	44 (43%)	
	g) Able to self feed or not (No, but...if patient NBM)	36 (35%)	49 (47%)	18 (17%)	
	h) Bowels noted i.e. diarrhoea / constipation	57 (55%)	26 (25%)	20 (19%)	
	i) Skin integrity	31 (30%)	48 (47%)	24 (23%)	
	j) Estimation of nutritional requirements	73 (71%)	29 (28%)	1 (1%)	
	k) Awareness of neurological deficits	76 (74%)	10 (10%)	17 (16%)	
	l) Social situation recorded	83 (80%)	13 (13%)	7 (7%)	
	m) Is the date of stroke and / or admission to hospital recorded	93 (90%)	3 (3%)	7 (7%)	

Treatment

Forty-eight (47%) of patients were weighed weekly during their hospital stay while 14 (14%) of patients were unable to be weighed (Table 24). Seventy (68%) patients had nutritional goals / action plan recorded with a review date.

Table 24: Treatment

		Yes	No	No, but.....	Missing Data
26	Has the patient been weighed weekly during their hospital stay? (<i>Answer 'No, but.....if patient is unable to be weighed</i>)	48 (47%)	41(40%)	14 (14%)	0
27	Is there evidence of a documented nutritional care plan in medical / multidisciplinary notes?	92 (89%)	11(11%)	0	0
28	Is there evidence this care plan has been shared with the multidisciplinary team at a multidisciplinary team meeting?	40 (39%)	63(61%)	0	0
29	Have nutritional goals / nutritional action plan been set with a review date?	70 (68%)	33(32%)	0	0

Patient and Carer Involvement

Thirty-nine (38%) patients' notes had written evidence that they were educated on their nutritional needs, while in 37 (36%) of cases, it was noted that it was not appropriate to do so or the patient had died (Table 25).

Twenty-nine (28%) patients' notes had written evidence that written guidelines had been provided to the patient, but in 53 (52%) of cases it was not appropriate to provide written information or the patient died.

Table 25: Patient and Carer Involvement

		Yes	No	No, but.....	Missing Data
30	Is there written evidence that the patient and / or their carers have been educated on their nutritional needs? (<i>No, but ...if not appropriate, or patient died</i>)	39 (38%)	27(26%)	37(36%)	
31	Is it documented that written guidelines have been provided to the patient and / or their carer? (<i>No, But... if it was not appropriate to provide written guidelines or patient died</i>)	29 (28%)	21(20%)	53 (51%)	

Discharge Planning

Only 14 (14%) of patient's notes contained a multidisciplinary discharge report (Table 26).

Table 26: Discharge Planning

Case Note Audit Questions	Yes	No	No, but.....	Missing Data
Is a nutrition and dietetic summary written for the multidisciplinary discharge report?	14 (14%)	80(78%)	9 (9%)	

DISCUSSION

A greater number of Trusts took part in the organisational audit as a number of these were done by telephone. While it was explained, that only yes or no answers could be recorded, while on the telephone two dietitians reported that their service was limited to only patients receiving enteral feeding due to limitation of dietetic resources. This means that their service would not accept referrals for patients on modified consistency diets who have dysphagia who are likely to have difficulties eating and have their nutritional status compromised. Neither would patients who are highlighted in the nutritional screening tool as being at nutritional risk be accepted for referral. This is despite it being known that 20 - 30% of patients admitted to a stroke unit are at nutritional risk (Gariballa et al. 1998) and that good nutritional care improves patient outcomes and improves quality of life. Future audits should therefore include questions on limitation of service. While it is reported in the audit that only 10% of acute stroke units have a service level agreement for a nutrition & dietetic service, it is unknown from this audit if there is any limitation of the service.

It is excellent that 97% of units have recommendations that nutritional screening should occur within 48 hours of admission as recommended in the National Clinical Guidelines for Stroke (2004). However, from the case note audit it is disappointing that only 54% of patients had a nutritional screening tool completed, although the majority of these were completed within the first 48 hour period. Nutritional screening is the starting point of identifying and treating those at risk of malnutrition. This poor record of completed nutritional screening tools may be related to only 41% of patients having an actual weight recorded, as noted in the initial dietetic assessment, as weight is an integral part of most nutritional screening tools. However, alternative measurements to weight can be made in order to complete nutritional screening tools (Stratton et al., 2006).

Although this is the nutrition & dietetic audit, it is not the dietitian's responsibility to complete the nutritional screening tools. Dietitians may well have a role in monitoring and promoting the implementation of screening, but this is likely to be outside the scope of a new graduate and this may reflect the current level of dietetic expertise within stroke units. Nutritional care is the responsibility of many different staff, especially nursing, within the multidisciplinary team. It is noted that questions relating to nutritional screening are also within the nursing case note audit, therefore to

avoid duplication within the audits; questions on nutritional screening may be more appropriately kept within the nursing audit.

It is encouraging that 81% of units offer a choice of meals of modified consistency, although this was not audited within the case note audit to check if patients were actually being offered this choice. This information is likely to be done only by direct questioning of patients and could not be done within this audit format.

It is of concern that only 55% of units recommend that the need for enteral feeding tubes is reviewed on a regular basis. If the need for enteral feeding is not reviewed as dysphagia resolves, patients may continue on feeding for longer than necessary, with the patient having the burden of feeding and with unnecessary costs to the NHS.

Patients are often keen to know how they can improve their diet after a stroke to reduce the risk of further strokes and without evidence based advice may unnecessarily restrict their diet. It is of concern therefore that only 45% of units have access to secondary prevention dietary advice in the form of a leaflet, or staff who are trained in this knowledge.

With the case note audit, more than 70% of the dietitian's initial assessment included estimation of nutritional requirements, awareness of neurological deficits and initial weight. However, less than 40% of assessments included BMI, weight history, target weight, able to self feed or not. With this question there was potential for ambiguity for the 'No but....' responses, as 'No, but...' could be completed if this information was obtained within the multidisciplinary record or in some questions whether the patient was Nil by Mouth. This needs to be clarified in future audits. In addition knowing what the patient is referred for is relevant to the completion of these assessments e.g. if the patient is Nil by Mouth, 'ability to self feed' is not relevant on the initial assessment. Therefore although some of the assessment questions are only completed in the minority of cases, it is not known if they were not relevant for the particular patient.

Only 48 (47%) of patient's notes had evidence that the patient was weighed weekly during admission. While it is known that alternative measurements can be made if patients cannot be weighed this was not examined within the audit.

The reason for patient referral was not asked within this audit and future audits should include a question on patient referral to enable description of referral patterns. While it would appear that the majority of patients who were referred to the service and required education on their nutritional needs received advice, it is likely other patients who may have benefited from dietetic service are not being referred due to limitation of dietetic resources.

THE WAY FORWARD

As a result of this pilot audit the audit tool will be amended taking these points in to account and will be available on the British Dietetic Association and Royal College of Physicians websites.

Questions that can be deleted from future audits:

Questions 10, 11 and 12 on nutritional screening can be deleted from the audit as scores of 97% were obtained in all these questions and to avoid duplication with the nursing audit.

Additional questions to be included:

Organisational Audit

- Is the dietetic service limited in any way?
- Does the service provide the following: please estimate the number of sessions a WTE dietitian is available for stroke for
 - An inpatient stroke service of acute care?
 - An inpatient stroke service to Rehabilitation Units?
 - An out-patient service?
 - A community / domiciliary service?
 - Another model of care?
- How much of a WTE dietetic assistant provides a service to the stroke unit?
- How many beds do you have on your stroke unit?

Case Audit

- Reason the patient was referred?
- If the patient has not been weighed, has an alternative measurement been taken i.e. mid upper arm circumference?

OCCUPATIONAL THERAPY SERVICES

BACKGROUND

The standards and audit questions for the Occupational Therapy section of the profession specific pilot stroke audit were extracted from the Royal College of Physicians and College of Occupational Therapists Occupational Therapy Audit Package for Stroke, (2006). These in turn were derived from the National Clinical Guidelines for Stroke 2nd edition (2004).

The audit was available in either excel or word format. During the audit it became apparent that there were three anomalies in the two versions, question 12e had been omitted from the word version and questions 15d and 23d had been omitted from the excel version. Sixteen sites used the excel version and 6 sites used the word version. Hence question 12e was available for only 75 case notes and questions 15d and 23d were available for only 22 case notes.

OCCUPATIONAL THERAPY RESULTS

Of the 30 Trusts selected from the RCP database, 24 agreed to take part. The 24 Trusts, who agreed to participate, included 30 sites, of which 2 declined participation, leaving 28 sites agreeing to participate. Of the 28 sites who agreed to participate, 6 failed to submit any audits, leaving 22 sites from 18 Trusts who actively participated in the audit. Nineteen complete audits were received and 3 incomplete audits were received, which comprised 22 organisational audits and 97 case notes audits.

Sixteen sites used the excel version and 6 sites used the word version. Hence question 12e was available for only 75 case notes and questions 15d and 23d were available for only 22 case notes.

The choice of responses for each audit question were “yes”, “no” or “no, but... please give reason”, the latter being including to allow for the diversity of effects from a stroke which create difficulties for clinical management and for determining overall standards of care. Some participants recorded responses as “not applicable”, which were counted as “no, but...” responses as “not applicable” was not one of the response choices given to participants.

The applicability of each audit question was calculated to account for situations where the standard did not apply for a particular case, for example if someone was unconscious after their stroke it would not be possible to assess their functional ability within the time frames normally required. Applicability is recorded as a percentage, with 100% being optimal.

Calculation of applicability: Exclude any missing responses

Applicability = (number of yes responses + number of no responses) divided by (number of yes responses + number of no responses + number of no, but responses) x 100

The compliance with each audit question was calculated only for those cases for whom, the standards applied, i.e. any “no, but...” exceptions were not included in the calculations of compliance. The compliance rate is recorded as a percentage, with 100% being optimal.

Calculation of compliance rate:

Compliance - (number of yes responses) divided by (number of yes responses + number of no responses) x 100

ORGANISATIONAL AUDIT OCCUPATIONAL THERAPY

22 proformas were analysed.

Service Structure (n=22; Table 27)

- There was poor knowledge of written documentation of service agreement.
- Stroke patients were being looked after by appropriately skilled occupational therapists.

Table 27: Service Structure

No	Question	Yes	No	No, but	Not applicable	Applicability (%)	Compliance (%)
1	Is there a written service agreement?	5	15	2		90.91	25.00
2	Is the occupational therapy stroke service under the overall supervision of an appropriately qualified occupational therapist?	18	2	2		90.91	90.00
3	Has the lead supervising occupational therapist been qualified at least five years?	16	4	2		90.91	80.00
4	Does the lead supervising occupational therapist have two years experience in stroke rehabilitation?	17	3	2		90.91	85.00

Information and links (n=22; Table 28)

- Stroke patients were not receiving information about the occupational therapy service and when information was given, it did not always have the contact details of the occupational therapist.
- There was poor knowledge of written documentation of formal links with local relevant statutory and voluntary bodies.

Table 28: Information and links

No	Question	Yes	No	No, but	Not applicable	Applicability (%)	Compliance (%)
5	Are stroke survivors and families / carers routinely given information which outlines the scope of the local occupational therapy stroke service e.g. via leaflet?	9	8	5		77.27	52.94

No	Question	Yes	No	No, but	Not applicable	Applicability (%)	Compliance (%)
6	Does the information contain the name and contact telephone number of the stroke survivor's occupational therapist?	11	5	5	1	72.73	68.75
7	Is there written evidence of a formal link between the occupational therapy stroke service and local relevant statutory and voluntary bodies i.e. contracts or minutes of regular meetings?	7	11	4		81.82	38.89

Participation in Research (n=22; Table 29)

- Occupational therapists were not involved in ongoing research.

Table 29: Participation in Research

No	Question	
8	How many occupational therapy staff (wte) within the stroke service, are currently involved in any research projects?	Please give number 1
9	How many different research projects (where consent or assent have been gained) are the occupational therapy staff within the stroke service taking part in on the day this form is completed?	Please give number 8
	Please list (OT and Stroke Coordinator starting on in Sept) South London stroke register CLOTS / stockings trial IST-3 PERFORM Neglect syndromes Motor Neglect Mobilisation and tactile stimulation to enhance recovery LTM specialist stroke care	

CLINICAL CASE NOTES AUDIT OCCUPATIONAL THERAPY

97 proformas were analysed

Initial Interview

(n=97, except 12e where n=75; Table 30)

- Stroke patients were interviewed within the agreed time frame.
- Initial assessments included most aspects recommended except leisure, driving, work and concerns of the stroke survivor.
- Two thirds of stroke survivor's family / carer were contacted within seven days and there was evidence that a similar number had discussions of the family / carer's concerns.

Table 30: Initial Interview

No	Question	Yes	No	No, but	Not applicable	Missing	Applicability (%)	Compliance (%)
10	Is there evidence that the stroke survivor was interviewed within the agreed time frame?	74	12	7	1	3	91.49	86.05
11	Is there a case record (either an occupational therapy record or an agreed multidisciplinary record)?	95	1			1	100	98.96
12	Does the case record contain information on the following:							
	a) Home situation (physical environment)?	87	4	3		3	96.81	95.60
	b) Home situation (socio-cultural)?	84	8	2		3	97.87	91.30
	c) Previous level of self-care?	88	5	1		3	98.94	94.62
	d) Previous employment?	44	16	7	27	3	63.83	73.33
	e) Previous domestic responsibilities? (Excel version only n=75)	54	4	1	3	13	93.55	93.10
	f) Previous leisure activities?	49	38	2	5	3	92.55	56.32
	g) Previous driving status?	45	33		16	3	82.98	57.69
	h) Concerns of the stroke survivor?	49	30	5	4	9	89.77	62.03

No	Question	Yes	No	No, but	Not applicable	Missing	Applicability (%)	Compliance (%)
	i) Medical history?	81	2	4		10	95.40	97.59
13	Is there written evidence that:							
	a) The family / carer were contacted within seven days of initial contact with the stroke survivor?	53	26	8	5	5	85.87	67.09
	b) There was discussion on the concerns of the family / carer?	43	30	1	8	15	89.02	58.90

Assessment

(n=97, except 15d where n=22; Table 31)

- There was written evidence of assessment in case notes but the number of individual impairments considered were variable.
- Many occupational therapists considered assessments of certain impairments to be not applicable but failed to give the reason for this.

Table 31: Assessment

No	Question	Yes	No	No, but	Not applicable	Missing	Applicability (%)	Compliance (%)
14	Is there written evidence of assessment in the occupational therapy record?	89	1	1		6	98.90	98.89
15	Does the assessment include:							
	a) Lifestyle?	74	14	3	2	4	94.62	84.09
	b) Needs of younger stroke survivors?	9	19	4	61	4	30.11	32.14
	c) Positioning and support?	46	16	3	28	4	66.67	74.19
	d) Visual disturbance? (Word version only n=22)	15	4	2	1		86.36	78.95
	e) Mood disturbance?	51	25	4	13	4	81.72	67.11
	f) Spatial awareness?	58	17	4	14	4	80.65	77.33
	g) Memory?	65	13	4	10	5	84.78	83.33
	h) Attention?	64	18	4	7	4	88.17	78.05
	i) Praxis?	57	18	4	14	4	80.65	76.00
	j) Executive function?	56	21	4	12	4	82.80	72.73
	k) Motor control?	72	10	2	8	5	89.13	87.80
	l) Orthotics?	14	18	4	57	4	34.41	43.75
	m) Management of spasticity?	17	16	2	58	4	35.48	51.52

No	Question	Yes	No	No, but	Not applicable	Missing	Applicability (%)	Compliance (%)
	n) Sensory disturbance?	53	20	4	16	4	78.49	72.60
	o) Shoulder pain?	23	18	3	49	4	44.09	56.10
	p) Activities of daily living?	86	4	1	2	4	96.77	95.56

Goal Setting

(n=97; Table 32)

- Occupational therapists were usually documenting goals relating to the assessment in collaboration with stroke patients.
- The goals often did not have a date set for achievement and review, evidence of stroke survivor / family / carer collaboration in agreeing goals, evidence of an intervention plan to achieve the goals or a record of goals achieved.

Table 32: Goal Setting

No	Question	Yes	No	No, but	Not applicable	Missing	Applicability (%)	Compliance (%)
16	Is there written evidence of goals in the occupational therapy record?	62	27	1	3	4	95.70	69.66
17	Do the goals relate directly to the results of assessment?	61	16	1	15	4	82.80	79.22
18	Do the goals have a time or date set for achievement and review?	42	31	5	15	4	78.49	57.53
19	Is there evidence of stroke survivor / family / carer collaboration in agreeing goals?	51	29	2	10	5	86.96	63.75
20	Is there evidence of an intervention plan to achieve the goals?	59	24	1	9	4	89.25	71.08
21	Is there a record of goals achieved?	49	31	5	8	4	86.02	61.25

Intervention

(n=97, except 23d where n=22; Table 33)

- The majority of interventions were focused at activities of daily living or motor control.
- Many occupational therapists considered intervention for certain impairments to be not applicable but failed to give the reason for this.

Table 33: Intervention

No	Question	Yes	No	No, but	Not applicable	Missing	Applicability (%)	Compliance (%)
22	Is there written evidence of intervention, based on the occupational therapy assessment and goals set, in the occupational therapy record?	76	10	2	5	4	92.47	88.37
23	Does the intervention include:							
	a) Lifestyle?	37	39	1	12	8	85.39	48.68
	b) Needs of younger stroke survivors?	11	21	1	56	8	35.96	34.38
	c) Positioning and support?	31	23	1	34	8	60.67	57.41
	d) Visual disturbance? (Word version only n=22)	8	5	1	6	2	65.00	61.54
	e) Mood disturbance?	27	31	1	30	8	65.17	46.55
	f) Spatial awareness?	24	24	1	40	8	53.93	50.00
	g) Memory?	34	28	1	26	8	69.66	54.84
	h) Attention?	43	22	1	23	8	73.03	66.15
	i) Praxis?	27	21	1	40	8	53.93	56.25
	j) Executive function?	35	26	1	27	8	68.54	57.38
	k) Motor control?	56	13	1	19	8	77.53	81.16
	l) Orthotics?	12	21	1	55	8	37.08	36.36
	m) Management of spasticity?	13	22	1	53	8	39.33	37.14
	n) Sensory disturbance?	22	31	1	35	8	59.55	41.51
	o) Shoulder pain?	13	23	1	52	8	40.45	36.11
	p) Activities of daily living?	78	5	1	5	8	93.26	93.98

Information Giving

(n=97; Table 34)

- There was poor evidence of information being given regarding explanation of the provision of equipment, advice about the fitting and care of equipment or a contact number of the occupational therapist.

- Many occupational therapists considered provision of equipment to be not applicable but failed to give the reason for this.
- Occupational therapists participated in team meetings and worked with other team members.

Table 34: Information Giving

No	Question	Yes	No	No, but	Not applicable	Missing	Applicability (%)	Compliance (%)
24	Is there written evidence of the information and explanation concerning occupational therapy which was provided to the stroke survivor and family / carers?	51	40	1	1	4	97.85	56.04
25	Is there written evidence that advice was given to stroke survivors and family / carers regarding the use, fitting and care of equipment?	27	21	1	44	4	51.61	56.25
26	If equipment was provided, is there written evidence that stroke survivors / family / carers were given the contact number of the occupational therapist?	16	33	1	43	4	52.69	32.65
27	Is there evidence, in the occupational therapy or multidisciplinary record, of occupational therapist participation in team meetings?	68	19	2	4	4	93.55	78.16
28	Is there evidence that the occupational therapist worked with other team members in contributing to the goals of the stroke survivor and their family / carer?	78	10	1	4	4	94.62	88.64

Discharge from hospital

(n=97; Table 35)

(This may or may not coincide with discharge from occupational therapy)

- Hospital discharge summaries did not address goals set or achieved or whether driving regulations information had been given or whether equipment had been supplied.
- There was little evidence of plans for review by occupational therapists following discharge.
- There was no evidence that the continuing usefulness of equipment provided was assessed at six months.
- Many occupational therapists considered certain aspects of the hospital discharge summary to be not applicable but failed to give the reason for this.

Table 35: Discharge from hospital

No	Question	Yes	No	No, but	Not applicable	Missing	Applicability (%)	Compliance (%)
29	Is there a discharge summary?	63	24	5	1	4	93.55	72.41
30	Does the discharge summary include:							
	a) Present level of self-care, work and leisure?	44	34	1	7	11	90.70	56.41
	b) Interventions?	46	31	2	7	11	89.53	59.74
	c) Whether goals have been achieved?	22	54	3	7	11	88.37	28.95
	d) Equipment supplied?	26	30	3	27	11	65.12	46.43
	e) Driving regulations information given?	6	51	3	26	11	66.28	10.53
	f) Referral to other voluntary or statutory organisations?	39	31	4	12	11	81.40	55.71
	g) Plans for review?	31	39	3	13	11	81.40	44.29
31	Is there evidence that a review appointment was made in line with local policy?	19	39	27	7	5	63.04	32.76
32	If equipment was provided: is there evidence that its continuing usefulness was assessed at six months?		45	3	45	4	48.39	0.00

Discharge from occupational therapy

(n=97; Table 36)

- Occupational therapy discharge summaries did not address goals set or achieved, whether driving regulations information had been given or plans for review.
- There was little evidence that information had been given regarding accessing the occupational therapy service in the future.
- Many occupational therapists considered certain aspects of the occupational therapy discharge summary to be not applicable but failed to give the reason for this.

Table 36: Discharge from occupational therapy

No	Question	Yes	No	No, but	Not applicable	Missing	Applicability (%)	Compliance (%)
33	Is there a discharge summary?	46	21	18	1	11	77.91	68.66
34	Does the discharge summary include:							
	a) Present level of disability in self-care, work and leisure?	42	15	1	17	22	76.00	73.68
	b) Interventions?	34	20	3	18	22	72.00	62.96
	c) Whether goals have been achieved?	18	34	3	20	22	69.33	34.62
	d) Equipment supplied?	29	14	2	30	22	57.33	67.44
	e) Driving regulations information given?	4	34	2	35	22	50.67	10.53
	f) Referral to other voluntary or statutory organisations?	33	12	2	28	22	60.00	73.33
	g) Plans for review?	11	33	5	24	24	60.27	25.00
35	Is there written evidence that information was given regarding access to the occupational therapy service in the future?	21	47	7	11	11	79.07	30.88

Outcome Measures

(n=97; Table 37)

- Outcome of interventions were recorded in the case note but few occupational therapists used reliable and valid outcome measures.
- Some occupational therapists considered the use of outcome measures to be not applicable but failed to give the reason for this.

Table 37: Outcome Measures

No	Question	Yes	No	No, but	Not applicable	Missing	Applicability (%)	Compliance (%)
36	Is there evidence that the outcome of interventions were recorded in the occupational therapy record?	72	10	2	2	11	95.35	87.80
37	Is there evidence that a measure that is recognised to be reliable and valid was used to record outcome?	31	46	2	6	12	90.59	40.26
38	What measures were used to record outcome? Please include a list Barthel (21), Modified Barthel (2), Edmans ADL (1), Nottingham Ext ADL (1), MMSE (1), MEAMS (1), Perceptual Screen (3), LOTCA-G (1), Moberg (1), Manual Muscle Testing (3), Stroke Drivers (1)							

Participation in Research

(n=97; Table 38)

- Only one stroke survivor was participating in a research project.
- Some occupational therapists considered participation in research to be not applicable but failed to give the reason for this.

Table 38: Participation in Research

No	Question	Yes	No	No, but	Not applicable	Missing	Applicability (%)	Compliance (%)
39	Is the stroke survivor in a rehabilitation research project where they gave written consent / assent?	1	75	1	9	11	88.37	1.32
40	Which research projects is the stroke survivor taking part in on the day this form is completed? Please include a list <i>No answers were given</i>							

DISCUSSION

- Although audit question 11 stated “either an occupational therapy record or an agreed multidisciplinary record”, some occupational therapists responded to later questions with “*no, but in MDT notes*”. The instructions therefore need to clarify that the whole audit should be conducted using occupational therapy notes or multi-disciplinary notes, according to which are used in the each site.
- It was obvious from the number of missing responses that the instructions need to emphasis that all questions need to be answered.
- Similarly, although there was a response “*no, but... please give reason*”, many occupational therapists chose to record responses as “*not applicable*” despite this not being a response option. Occupational therapists failed to give a reason explaining why the response was not applicable. Again, the instructions need to emphasis that questions should be answered using only the responses offered and reasons must be given for all “*no, but... please give reason*” responses.
- It is acknowledged that if an assessment did not indicate problems to be treated, the corresponding intervention question would not be applicable but this response should have been given as e.g. “*no, but the assessment did not indicate that intervention was required*”
- If an impairment was not assessed, it is not clear whether intervention was required.

Evaluation Points (specific to the occupational therapy audit)

- Some participants considered there to be too many questions in the audit and felt that some were duplicated. Two sections were duplicated (discharge from hospital and discharge from occupational therapy) intentionally to allow for units where these two events occurred at different points along the stroke survivor’s rehabilitation journey.
- Some participants considered that some questions were not relevant to their service but this is inevitable due to the diversity of types of rehabilitation units.

THE WAY FORWARD

- Occupational therapy audit tool to be revised:
 - Split organisational and clinical audits and improve the help notes for each
 - Ensure excel and word versions of the audit are identical
 - Split questions 30a and 34a as they both ask three questions in one
- Revised tools to be available on college websites.
- Develop a multidisciplinary audit tool.

PHYSIOTHERAPY SERVICES

This audit was checked for currency in line with the following documents: Core Standards of Physiotherapy Practice (CSP 2005); and Service Standards (CSP 2005); Standards of Physiotherapy Practice and Service Standards for physiotherapy with older people (AGILE 2004).

Of the 30 Trusts selected from the RCP database, 29 trusts agreed to take part. These Trusts included 35 clinical sites. 35 organisational audits and 140 case notes were completed for physiotherapy.

PHYSIOTHERAPY RESULTS

ORGANISATIONAL AUDIT PHYSIOTHERAPY

35 proformas were analysed (Table 39).

- 60 % of stroke units had a written service level agreement.
- Stroke patients were being looked after by experienced specialist physiotherapists.
- Physiotherapists maintained their knowledge by continuing professional development.
- 43 % of physiotherapists participate in research.
- 9 % of physiotherapists were unaware of the national audit findings related to their unit; 23 % had not been involved in team discussions to implement audit findings.
- There were 3 questions related to staffing levels. These have been omitted from the table as they required a separate calculation in relation to the number of beds; original questions can be found in Appendix 5. The mean number of beds was 21.85 beds (range: 8-44 beds). The mean number of physiotherapy staff including therapists and assistants was 1.71 FTE for 10 beds (range: 0.55-3.7 FTE per 10 beds).

Table 39: Service organisation

	Yes (%)	No (%)
1. Is there a written service agreement with information on?	60	40
a. access	60	40
b. staffing	57	43
c. location of service provision	63	37
d. response times	69	42
e. local standards of practice	60	40
2. Is there a senior physiotherapist available for consultation?	97	3
3 Is the senior physiotherapist qualified at least 5 years?	97	2.9
4. Does the senior physiotherapist have 3 years experience in rehabilitation including stroke care?	89	11
5. Do physiotherapists from your stroke unit participate in research?	43	57
6. Does the senior physiotherapist have evidence of continuing professional development related to stroke care?	97	3

	Yes (%)	No (%)
7. Do the other physiotherapy staff on your stroke unit have evidence of continuing professional development related to stroke care?	100	0
8. Are in house training sessions in specialist stroke care provided to physiotherapy staff working on your stroke unit?	97	3
9. Are you familiar with the findings of the NSAS related to your trust?	91	9
10. Have you been involved in any team meetings in your trust regarding the implementation of the NSAS?	77	23

CASE NOTE AUDIT PHYSIOTHERAPY

140 proformas were analysed.

Referral and Assessment (Table 40)

- 85 % of stroke patients were assessed within the agreed time frame of 72 hours.
- Recommended information recorded in the database was poor; information on the home environment was recorded in 61 % of cases, however pre-stroke mobility was only recorded for 50% of stroke patients. The problems according to the patient were only recorded in 50% of cases with the problems identified according to the carer recorded in only 18 %.
- Initial assessments included most aspects recommended with lower % recorded for respiratory function (54 %)

Table 40: Referral and Assessment

	Yes %	No %	No But %	Missing %
14. If the patient was newly diagnosed, was the patient assessed within 72 hours?	85	9	6	1
15. If the patient was seen as an outpatient, was the patient seen within 15 days?	2	0	10	98
16. Is there a written database (record)?	92	3	4	1
17. Does the database contain information on the following?				
a) home environment	61	7	29	4
b) pre-stroke mobility indoors	71	4	22	2
c) pre-stroke mobility outdoors	50	22	25	3
d) the problems (according to the patient)	50	22	25	3
e) the problems (according to the carer)	18	44	30	9

	<i>Yes %</i>	<i>No %</i>	<i>No But %</i>	<i>Missing %</i>
18. Is there a written assessment?	95	1	1	2
19. Does it contain information on:				
a) respiratory function	54	27	16	3
b) posture	87	7	3	3
c) postural control (balance)	88	6	3	3
d) abnormal tone	84	12	1	2
e) volitional movement	93	4	1	2
f) sensory disturbances	84	11	3	2
g) perceptual disturbances	66	19	13	3
h) visual disturbances	60	28	9	3
i) gait	79	9	11	2
j) functional activities	83	8	6	3

Treatment Planning & Treatment (Table 41)

- Goals relating to the assessment were documented in 61 % of cases but only 44 % of goals had a time set for achievement.
- 69 % of patients were involved in the treatment plan, but carer involvement was low at 26 %.
- 69 % of stroke patients received an appropriate level of physiotherapy input.
- Actions to prevent common complications were taken in less than 55 % of patients, except for the area of falls prevention (74 %). Frequency of complications was generally low varying from 1 % for pressure areas to 12 % for shoulder pain.

Table 41: Treatment Planning & Treatment

	<i>Yes %</i>	<i>No %</i>	<i>No But %</i>	<i>Missing %</i>
20. Is there a problem list, which is linked to the database in point 16?	73	21	4	1
21. Is there written evidence of goals?	61	14	24	1
22. Do the goals have a time or date set for achievement?	44	31	18	7
23. Is there evidence of a patient-centred treatment plan to achieve the goals?	69	21	6	4
24. Is there evidence that carers were involved in the above treatment plan?	26	49	20	5
25. Did the patient receive physiotherapy input to the level specified in the local policy agreement?	69	9	11	10
26. Did the patient continue outpatient physiotherapy following discharge from the acute setting?	29	28	41	1

	<i>Yes %</i>	<i>No %</i>	<i>No But %</i>	<i>Missing %</i>
27. Is there evidence that actions were taken to prevent:				
a) shoulder pain	54	29	14	2
b) contractures	53	31	14	2
c) falls	74	20	6	1
d) chest infection	55	24	19	1
e) pressure areas	53	29	17	1
f) DVT	51	32	14	2
28. Did the patient experience any of the following complications?				
a) shoulder pain	12	86	1	1
b) contractures	3	96	1	1
c) falls	7	21	1	1
d) chest infection	11	87	1	1
e) pressure areas	1	98	1	1
f) DVT	1	97	1	1

Patient and Carer involvement (Table 41)

Questions about carers are not applicable for all patients. The actual % recorded are presented in the tables, where appropriate, applicability has been calculated as follows:

Calculation of applicability: Exclude any missing responses

Applicability = (number of yes responses + number of no responses) divided by (number of yes responses + number of no responses + number of no, but responses) x 100

- Only 67 % of carers (where applicable) were contacted within the recommended time frame.
- 73 % of patients were given information and explanation of physiotherapy, whereas this only occurred in 39 % of carers (where applicable).
- Where applicable, only 38 % of these carers attended sessions for advice on moving and handling; 49 % were taught skills to care for their relative at home, and 42 % were advised on the proper use of equipment.

Table 41: Patient and Carer involvement

	<i>Yes %</i>	<i>No %</i>	<i>No But %</i>	<i>Missing %</i>
29. Was contact with the carer established within 2 weeks of the initial assessment?	43	21	31	5
30. Is there evidence that information and an explanation concerning physiotherapy was provided to the patient?	63	24	12	1
31. Is there evidence that information and an explanation concerning physiotherapy was provided to the carer?	26	40	29	5

	<i>Yes %</i>	<i>No %</i>	<i>No But %</i>	<i>Missing %</i>
32. Is there evidence that the carer attended sessions for advice/instruction in moving and handling?	19	30	46	6
33. Is there evidence that the skills required to care for the patient at home were taught?	17	18	59	6
34. Is there evidence that the carer was advised on the proper use and care of the equipment?	16	22	54	9

Teamwork (Table 42)

- Physiotherapists had a high level of participation in team work.

Table 42: Teamwork

	<i>Yes %</i>	<i>No %</i>	<i>No But %</i>	<i>Missing %</i>
35. Is there evidence of participation in team meetings throughout the episode of care?	76	19	4	1
36. Is there evidence that the physiotherapist works with other team members in patient management?	84	11	4	1

Outcome Measurement (Table 43)

- The questions on outcome generated a higher level of missing data than other questions. No frequently used measures could be identified. Therapists used a range of standardised tools: the Oxford Scale for muscle strength, the 9 Hole PEG test, STREAM, the Modified Ashworth Scale for tone, the Modified Rivermead Mobility Index, the Motor Assessment Score, the Berg Balance Score, the Elderly Mobility Score, the Sodrings scale and a 10 meter walk.
- The use of standardised measures remains unacceptably low. A standardised measure of disability was only recorded in 46 % of cases (where applicable) on admission, and in 25 % of cases (where applicable) upon discharge.

Table 43: Outcome Measurement

	<i>Yes %</i>	<i>No %</i>	<i>No But %</i>	<i>Missing %</i>
37. Is a standardised measure of impairment recorded?				
a) on initial assessment	43	29	16	12
b) on discharge	24	47	14	15

	<i>Yes %</i>	<i>No %</i>	<i>No But %</i>	<i>Missing %</i>
38. Is a standardised measure of disability recorded?				
a) on initial assessment	35	41	6	18
b) on discharge	20	54	7	20

Discharge and review (Table 44)

- 35 % of cases did not have a discharge summary.
- Key aspects of care were not recorded in these discharge summaries, in applicable cases exercises and advice given to the patient was only recorded for 38 % of patients, and 15 % of carers.
- Physiotherapists only planned to review 46 % of applicable cases following discharges. Only 31 % of applicable cases were reviewed at 6 months

Table 44: Discharge and review

	<i>Yes %</i>	<i>No %</i>	<i>No But %</i>	<i>Missing %</i>
39. Is there a discharge summary?	49	35	11	4
40. Does the discharge summary record the following?				
a) the effectiveness of the intervention	41	31	7	21
b) whether goals have been achieved	31	39	7	22
c) exercises and advice given to the patient	27	44	7	21
d) exercises and advice given to the carer	9	54	9	26
e) equipment supplied	20	41	14	26
f) plans for review	31	36	10	24
41. Was a review appointment made for 6 months following discharge?	11	26	54	9

DISCUSSION

There is evidence that stroke patients are cared for by expert, specialist physiotherapists with an interest in partaking in continuing professional development and that a high number of patients, 86%, were assessed within the given time frame. Physiotherapists had a high level of participation in team working. Key areas for further development are: collaboration with patients and carers, outcome measurement, and follow up post discharge.

Collaboration with Patient and Carers

The results indicate that the involvement of carers at an early stage in identifying problems, treatment planning and goal setting is an area of practice that should be developed. Of further concern is that pre-stroke mobility was recorded in only 50% of cases and the documentation of problems identified with the patient was also low at 50%, Involvement of carers in both identifying problems and treatment planning were also low, as was contact made with carers. Less than 50% were taught skills

for home care and equipment use and less than 40% were advised on moving and handling. The audit would suggest that involvement of carers in all aspects of physiotherapy could improve. This could be improved by joint working of assessments and treatments with other therapists including Occupational therapists and Speech Therapists. The NSAS (2006) reflects there has been a small improvement with this since NSAS (2004).

Outcome Measures

A wide variety of standardised tools were used for outcome measurement, but the regularity of use remains unacceptably low, as does the number of physiotherapists involved in active research. Physiotherapists should be encouraged to use outcome measures routinely. This will become increasingly relevant to commissioners, as well as being an area of good practice.

Discharge Summary

Discharge summaries should be more structured to meet the needs of the carer. It may be helpful to develop a multidisciplinary discharge summary.

Six Month Review

Weaknesses in documenting key aspects of care on discharge were exposed and less than one third of patients were reviewed by the physiotherapy service audited at six months. The low uptake in six-month reviews may be due to the lack of resources to fulfill this area of good practice. Resources tend to be focused on the acute episode to facilitate early supported discharge from hospital.

THE WAY FORWARD

The physiotherapy audit tool has been revised:

- The number of questions has been reduced.
- A number of questions have been re-worded.
- No buts have been clarified.

The revised tool will be available on the CSP, ACPIN and AGILE web sites.

SPEECH AND LANGUAGE THERAPY SERVICES

BACKGROUND

The Speech and Language Therapy Stroke audit tool was updated from Communicating Quality 2 (Royal College of Speech and Language Therapists 1996) and Clinical Guidelines produced by the Royal College of Speech and Language Therapists.

Of the 30 Trusts selected from the RCP database, 26 agreed to take part. Two Trusts declined to participate and two did not reply. The data presented here represents 25 of the Trusts as one withdrew before data collection.

SPEECH AND LANGUAGE THERAPY RESULTS

ORGANISATIONAL AUDIT SPEECH AND LANGUAGE THERAPY

25 proformas were analysed.

The organisational audit of the Speech and Language Therapy (SLT) Service covered staffing and skill mix, participation in stroke-related education, service type and assessment processes and type. The data from one Trust had to be excluded for this part of the audit because it was inconsistent and so the organisational audit results include 24 of the Trusts.

Staffing and Skill Mix

Sixty seven percent of Trusts had a SLT stroke specialist post and four percent (one site) had a SLT stroke consultant post (Table 45). The two Trusts that recorded 'no but' had both provided qualifying comments; in one the post was vacant and in the other the post-holder was on long term sick. Therefore the actual figure for the number of Trusts with a specialist SLT post for stroke is 18/24.

Twelve Trusts, who had either a stroke specialist or consultant SLT, recorded that the SLT spent more than 50 % of their time working with stroke. Of the Trusts who did not have specialist or consultant SLT, four had a SLT who spent more than 50% of their time working with stroke.

Five Trusts were holding vacancies for staff involved with delivering care to stroke patients at the time of the audit. This may have affected the response to the amount of time spent working with stroke depending on whether the respondents included the time covered by the vacant post or not.

Table 45: Staffing and Skill Mix

	Yes	No	No but	Missing Data
1. Does the service have a stroke specialist SLT post?	67% (n=16)	25% (n=6)	8% (n=2)	
2. Does the service have a stroke consultant SLT post?	4% (n=1)	96% (n=23)		
4. Does the SLT service (at time of audit) have any vacancies in the staff who deliver care to stroke patients?	21% (n=5)	71% (n=17)		8% (n=2)

Stroke-related Education activities

There was a good response to stroke related education activities with 88% responding that their SLTs attended stroke-related special interest groups, 88% attended stroke-related courses, 63% participated in research and for 17% of Trusts (four sites) a SLT lead the research (Table 46). Half of the respondents also participated in local stroke networks. We did not define research in the help notes and so do not know whether this was interpreted in its widest sense, for example including audit, internal projects, non-funded studies, or was interpreted as only including funded research.

Table 46: Stroke-related Education activities

	Yes	No	No but	Missing Data
5. Do SLT's within your stroke services attend stroke-related SIGs?	88% (n=21)	4% (n=1)	4% (n=1)	8% (n=2)
6. Do SLT's within your stroke services attend stroke-related short courses?	88% (n=21)	4% (n=1)		8% (n=2)
7. Do SLT's within your stroke services attend stroke-related formal higher education?	25% (n=6)	63% (n=15)	4% (n=1)	8% (n=2)
8. Do SLT's within your stroke services participate in stroke-relevant research?	63% (n=15)	29% (n=7)	8% (n=2)	
9. Do SLT's within your stroke services lead on stroke-relevant research?	17% (n=4)	83% (n=20)		
10. Are SLT's within your stroke services involved with local research networks?	50% (n=12)	46% (n=11)	4% (n=1)	

Service Organisation

Twenty three out of twenty four Trusts said that they aimed to meet the response times in line with the RCSLT timescales (CQ2 edition; Table 47). In hindsight, this was a poorly worded question because all services should be aiming to meet the response times but this does not tell us that they are.

We asked what services were provided by the SLT service and the corresponding whole time equivalent figures. Not surprisingly the answers were hugely varied. However the median values were:

Inpatient service (including acute and rehabilitation care) = 9.5 (range = 2-12)

Outpatient service = 2 (range = 0.3-6.0)

Community/domiciliary service = 4 (range = 0.5-7)

Thirty three percent of Trusts had an early supported discharge scheme, but the question was ambiguous because we asked, in the same question, if the scheme existed and if a SLT was part of it. We are assuming that those who answered ‘yes’ to this question have a SLT in the scheme. The four sites who recorded a ‘no but’ commented that it was not appropriate as there was no early supported scheme in their area.

There was a good response to the existence of prioritisation procedures for SLT, but more Trusts had a system in place for inpatients than outpatients/community. This may reflect the increased dysphagia caseload within inpatients and the need to prioritise response to large referral numbers.

Nearly all the Trusts had local care pathways for stroke in place (96%).

Table 47: Service Organisation

	Yes	No	No but	Missing Data
11. Does the service aim to meet response times with RCSLT agreed timescales?	96% (n=23)			4% (n=1)
13. If there is an early supported discharge scheme, are SLTs part of this?	33% (n=8)	46% (n=11)	17% (n=4)	4% (n=1)
14. Is there a locally agreed prioritisation system based on clinical need for inpatients?	83% (n=20)	13% (n=3)	4% (n=1)	
15. Is there a locally agreed prioritisation system based on clinical need for community and outpatients?	71% (n=17)	21% (n=5)	4% (n=1)	4% (n=1)
16. Are SLTs involved in developing local care pathways for stroke?	96% (n=23)	4% (n=1)		

Assessment

Many Trusts are using screening protocols for assessing swallowing by a non-SLT professional and in this pilot 88% of Trusts said they used one (Table 48). We were interested to see if screening protocols were also used for assessing communication by a non-SLT professional and in comparison only two sites said that they used one.

We asked if a swallowing screen was used whether it covered fluids only, solids only or fluids and solids. Nine sites covered fluids only in their screening tool and 11 sites covered both fluids and solids.

We also asked for a list of the five most used formal assessments for language and motor-speech disorders. Twenty one language assessments were listed. The top five most used language assessments of these 21 were (in descending order):

1. PALPA
2. Boston Naming Test
3. TROG
4. Mount Wilga
5. Pyramids and Palm Trees.

In contrast only four motor-speech assessments were listed reflecting the vast difference in the number of available assessments for language compared with speech. The four most used formal assessments for motor-speech disorders were (again in descending order):

1. Frenchay Dysarthria Assessment
2. Robertson Dysarthria Assessment
3. Apraxia Battery for Adults
4. Dabul Apraxia Assessment.

Eighty three percent of Trusts had access to videofluoroscopy compared with 42% having access to FEES. This may reflect the fact that videofluoroscopy is a more established procedure compared with FEES. Five out of nine sites had a waiting time for FEES of 48 hours to five days, 3 sites wait longer than 5 days and one site had a waiting time of 24-48 hours. Twelve out of nineteen sites wait longer than 5 days for videofluoroscopy, with 5 sites waiting 48 hours to 5 days and two sites having access between 24 and 48 hours.

Table 48: Assessment

	Yes	No	No but	Missing Data
17. Is there an agreed protocol for screening a communication problem by another professional other than a SLT using an agreed tool?	8% (n=2)	92% (n=22)		
18. Is there an agreed protocol for screening a swallowing problem by another professional other than a SLT using an agreed tool?	88% (n=21)	12% (n=3)		
22. Is FEES available for stroke patients?	42% (n=10)	58% (n=14)		
24. Is Videofluoroscopy available for stroke patients?	83% (n=20)	4% (n=1)		13% (n=3)

CLINICAL CASE NOTE AUDIT SPEECH AND LANGUAGE THERAPY

130 proformas were analysed.

The data presented represents 130 case notes (one Trust submitted data on ten cases). The clinical audit covered referral and assessment, intervention, evaluation, outcomes and discharge.

Referral and Assessment

There was a high response rate for documenting the date of referral and most patients were seen within the agreed response waiting time (88%; Table 49). A 'no but' could be recorded if the patient was unavailable, unconscious or unwell. We asked if clients were made aware of the prioritisation system where appropriate i.e. in outpatients or community, and only 10% of patients were made aware of this. Forty three percent answered 'no but' in many cases because the patient was an inpatient where it is more difficult to inform all referrals of the prioritisation system.

Table 49: Referral and Assessment

	Yes	No	No but	Missing data
26. Is the date of referral documented?	95% (n=124)	3% (n=4)	2% (n=2)	
27. Does the referral response time fall within RCSLT agreed timescales?	88% (n=115)	9% (n=12)	1% (n=1)	2% (n=2)
28. Is there written evidence that the client has been made aware of the prioritisation system where appropriate (e.g. outreach/ outpatients)?	10% (n=13)	45% (n=58)	43% (n=56)	2% (n=3)

Screening of communication

The organisational audit showed that few Trusts had a screening protocol for other professionals to use to assess communication, therefore it is not surprising that only 13% patients were screened using an agreed tool (Table 50). For about a third of patients there was no documentation to show that all areas of communication had been screened and for just over a third there was no evidence that pre-morbid skills had been discovered. Those that answered 'no but' covered patients who were unconscious, refused to participate, or did not have a communication problem. However there was a good response for carrying out formal and informal assessment for communication (85%).

Table 50: Screening of communication

	Yes	No	No but	Missing data
29. Is there written evidence for screening of a communication problem by another professional other than an SLT using the agreed tool?	13% (n=17)	68% (n=88)	18% (n=23)	1% (n=2)
30. Is there written evidence of screening of all areas of communication?	55% (n=72)	39% (n=50)	5% (n=7)	1% (n=1)
31. Is there written entry of the outcome of the case history taking discussion regarding premorbid communication function with the client/carers/family?	45% (n=59)	41% (n=53)	13% (n=17)	1% (n=1)
32. Is there written evidence of formal and informal assessments of the client's communication skills by a SLT?	85% (n=110)	8% (n=10)	8% (n=10)	

Screening of swallowing

There was evidence to show that in 41% of cases a professional other than a SLT had screened for dysphagia, which seems low even taking into account the 'no buts' (15%) i.e. patient unconscious, died or refused to participate (Table 51). This could reflect a difficulty of engaging other staff to take on this role. In two thirds of cases the referral to SLT was appropriate but there was a small, though not very small, number of patients referred who were not appropriate. This could indicate a training need for non-SLT staff.

There was much less evidence that the patients' premorbid swallowing ability had been discussed compared with premorbid communication skills (31% compared with 45% respectively). This could be because many of the dysphagic patients were inpatients where liaising with the family may not happen regularly and length of stay is short. However, as seen below, there was good evidence that assessment results were communicated to the patient and carer (71%) and with a proportion not able to because there was no carer and/or the patient had severe communication problems ('no buts' = 10%). This suggests that premorbid ability is not routinely discussed.

Table 51: Screening of swallowing

	Yes	No	No but	Missing data
33. Is there written evidence of screening of a swallowing problem by another professional other than an SLT using the agree tool?	41% (n=54)	42% (n=55)	15% (n=19)	2% (n=2)
34. Is there written evidence of appropriate referral on to SLT?	62% (n=80)	17% (n=22)	20% (n=26)	1% (n=2)
35. Is there written entry of the outcome of the case history taking discussion regarding pre-morbid swallowing function with the client/carers/family?	31% (n=40)	34% (n=44)	31% (n=41)	4% (n=5)
36. Is there written evidence of formal and informal assessments of the client's swallowing abilities by a SLT?	72% (n=93)	4% (n=6)	21% (n=27)	3% (n=4)

Team working

Communication with the multidisciplinary team was high (88%) and a written summary of the assessment results was recorded in 94% of cases, although as this is crucial for explaining the management strategy it could be expected that this figure should have been 100% (Table 52).

Table 52: Team Working

	Yes	No	No but	Missing data
37. Is there written evidence that assessment results were communicated by the SLT to the client and carers?	71% (n=92)	18% (n=24)	10% (n=13)	1% (n=1)
38. Is there written evidence that assessment results were communicated to the MDT?	88% (n=115)	9% (n=12)	2% (n=2)	1% (n=1)
39. Is there written evidence of a summary of the assessment results?	94% (n=122)	5% (n=7)		1% (n=1)

Intervention

Documentation of the intervention plan was good (81%), but perhaps would have been expected to be higher, with two thirds of cases including SLT goals (68%; Table 53). There was less evidence for the expected frequency or duration of intervention but the management plan for review was fairly

high (71%). Few patients had their management plan agreed with them (39%), even taking into account the ‘no but’ responses (i.e. patient unconscious or had very severe communication/cognitive problems), and even fewer patients were given options to consider regarding treatment (17%). There was greater liaison with the MDT (65%) than with carers (40%).

Table 53: Intervention

	Yes	No	No but	Missing data
40. Is there written SLT management plan specifying type of intervention?	81% (n=105)	11% (n=14)	7% (n=9)	1% (n=2)
41. Is there written SLT management plan specifying frequency of intervention?	47% (n=61)	42% (n=54)	10% (n=13)	1% (n=2)
42. Is there written SLT management plan specifying duration of intervention?	19% (n=25)	63% (n=82)	15% (n=19)	3% (n=4)
43. Is there written SLT management plan specifying goals of intervention?	68% (n=88)	20% (n=26)	10% (n=13)	2% (n=3)
44. Is there written SLT management plan specifying review arrangements?	71% (n=93)	17% (n=22)	10% (n=13)	2% (n=2)
45. Is there written evidence that the management plan has been discussed and agreed with the client?	39% (n=51)	40% (n=52)	18% (n=23)	3% (n=4)
46. Is there written evidence that different options for intervention were discussed with the client?	17% (n=22)	55% (n=72)	25% (n=32)	3% (n=4)
47. Is there written evidence that the management plan has been discussed with the carer(s)?	40% (n=52)	39% (n=51)	18% (n=23)	3% (n=4)
48. Is there written evidence of regular SLT liaison with MDT e.g. attendance at MDT meetings, or similar forum?	65% (n=85)	19% (n=24)	12% (n=16)	4% (n=5)

Evaluation

A small number of cases were not evaluated at the end of the episode of care (19%) although several comments were written in the ‘no but’ section indicating that the episode of care had not finished (Table 54). Only 45% of cases showed evidence that both impairment and psychosocial issues had been evaluated. This does not mean that both areas had not been addressed during intervention but that there was no evaluation of the outcome. Few therapists were using recognised outcome measures, particularly to measure swallowing. The FIM/FAM was used slightly more than the other assessments listed. Poor use of recognised tools may reflect a lack of time to utilise formal outcome measures in the acute stay, lack of awareness that these outcome tools exist, or an uneasiness that they are not sensitive measures.

There was very good compliance regarding completing notes according to local policy (90%). Just under half of the patients had the outcome of their intervention discussed with them and just over a third of carers did. However the numbers were reversed in terms of who received a written report of the outcome. Only a small number of cases (12%) who were transferred had no evidence of a telephone or written transfer to ensure ongoing care.

Table 54: Evaluation

	Yes	No	No but	Missing data
49. Is evaluation documented at the end of the previously defined treatment programme or block of treatment (episode of care)?	61% (n=79)	19% (n=25)	16% (n=21)	4% (n=5)
50. Is evaluation based on measures related to impairment and psychosocial issues?	45% (n=59)	35% (n=45)	15% (n=20)	5% (n=6)
51. Is there written evidence of the use of an appropriate outcome tool measure when evaluating communication intervention such as: a) FIM/FAM communication	5% (n=6)	79% (n=103)	10% (n=13)	6% (n=8)
51b) Aus-TOMS	4% (n=5)	81% (n=105)	9% (n=12)	6% (n=8)
51c) Other outcome measure	5% (n=6)	49% (n=64)	8% (n=10)	38% (n=50)
52. Is there written evidence of the use of an appropriate outcome tool measure when evaluating dysphagia intervention such as : a) FIM/FAM swallow	5% (n=6)	77% (n=100)	13% (n=18)	5% (n=6)
52b) Swal-Qual Scale		81% (n=105)	13% (n=17)	6% (n=8)
52c) Aus-TOMS swallowing	2% (n=3)	79% (n=102)	13% (n=17)	6% (n=8)
53. Are results, conclusions and recommendations clearly documented, consistent with local policy e.g. SLT notes, joint records?	90% (n=107)	4% (n=5)	1% (n=1)	5% (n=7)
54. Is there written evidence of discussion of evaluation/outcome with the client?	50% (n=65)	28% (n=37)	15% (n=19)	7% (n=9)
55. Is there written evidence of discussion of evaluation/outcome with the carer?	39% (n=51)	40% (n=52)	14% (n=18)	7% (n=9)
56. Is there evidence that the client received a written report?	21% (n=27)	50% (n=65)	24% (n=31)	5% (n=7)
57. Is there written evidence of written and /or telephone transfer of information to ensure ongoing care for the client (e.g. to GP, other SLT, intermediate care team)?	54% (n=70)	12% (n=16)	31% (n=40)	3% (n=4)

Discharge

Not all patients had been discharged in this audit, but if the ‘yes’ and ‘no’ responses only are taken into consideration, 40/66 patients (60%) and 27/60 carers (45%) had discharge from SLT discussed with them, which is perhaps rather low (Table 55). There was even less evidence of the patient’s or the carer’s response to discharge and a greater number of professionals (41%) received a discharge report than the patient did (27%). In only 9% of cases was it documented that the patient was given information on voluntary services, although a large number of ‘no buts’ was recorded.

Table 55: Discharge

	Yes	No	No but	Missing data
58. Is there written evidence that the criteria for discharge was discussed with the client prior to discharge?	31% (n=40)	20% (n=26)	35% (n=46)	14% (n=18)
59. Is there written evidence that the criteria for discharge was discussed with the carer prior to discharge?	21% (n=27)	25% (n=33)	35% (n=46)	19% (n=24)
60. Is the response of the client to discharge documented?	18.5% (n=24)	33% (n=43)	30% (n=39)	18.5% (n=24)
61. Is the response of the carer to discharge documented?	12% (n=16)	32% (n=41)	38% (n=49)	18% (n=24)
62. Is there written evidence of the provision of information about voluntary and statutory support agencies?	9% (n=12)	41% (n=53)	32% (n=42)	18% (n=23)
63. Is there written evidence that the client/carers was given a named SLT contact on discharge?	29% (n=38)	18.5% (n=24)	34% (n=44)	18.5% (n=24)
64. Was a timely written discharge report (or summary report in medical notes for inpatients) provided to the client?	27% (n=35)	24% (n=31)	30% (n=39)	19% (n=25)
65. Was a timely/written discharge report provided to other professionals where appropriate?	41% (n=53)	11% (n=14)	30% (n=39)	18% (n=24)

DISCUSSION

There was a lot of missing data in the clinical audit (i.e. questions not answered at all) which may have been due to ambiguous or incomplete help notes, difficulties completing the excel spreadsheet, uncertainty how to answer, or simply missing the question. However it does affect the results as it is difficult to know how to treat this lack of information. Sometimes missing data is interpreted as a 'no' response but this would have changed the results quite significantly in some cases and we did not feel that this was a true representation of the information we received. Consequently we have chosen to record the data as missing.

It was encouraging to see in the sample that a good percentage of SLTs were working at a specialist level with stroke (67%) and a large proportion of respondents participated in research (63%). Many accessed stroke-related courses and had links with a stroke research network.

Many services had an agreed tool that other professionals could use to screen swallowing problems but this was not the case for communication difficulties. This may be an area to take forward for training purposes as using an agreed protocol would heighten awareness for professionals to refer people with communication problems as well as those with dysphagia.

This pilot audit suggests that clinicians were better at liaising with the multidisciplinary team than with the client and/or carers about a range of issues, which is not indicative of patient-centred care. However the participants commented that the selection of only 5 patient case notes did affect the quality of response in that many of these patients were too poorly or died during the process of data collection, thereby the therapists were not always able to demonstrate a comprehensive therapeutic approach.

SECTION THREE MULTIPROFESSIONAL PERFORMANCE ACROSS DOMAINS

The total number of questions and number of questions per domain varied considerably across professions (Table 56). Feedback from participants across professions identified that the number of audit questions needed to be reduced. It would be beneficial to agree within the multidisciplinary team which are the essential questions, and one way forward would be to consider developing a common organisational audit that can be used across professions.

Within the organisational audit, it is suggested that questions on team working and assessment and intervention be removed as these types of questions are more appropriately placed within the clinical case note audit, as the clinical case notes actually identify that team work, assessment and intervention has taken place with regard to individual patients.

Within the clinical case note audit, all professions have considered the varied number of questions within each domain across professions, following multidisciplinary discussion, all professions have revised and reduced their questions in the revised proformas.

Table 56: Number of proforma questions across professions

	Dietetics	Nursing	OT	PT	SLT
Questions					
Organisational Audit	20	16	9	13	26
Scope of service	1	2	3	1	9
Staff expertise	2	1	3	3	2
Staffing levels	-	3	1	3	2
Research	1	1	2	2	3
CPD	-	2	-	2	3
Strategy/Guidelines/Audit	-	4	-	2	-
Team working	4	3	-	-	-
Assessment & intervention	12	0	-	-	7
Clinical Audit	24	19	31	27	40
Referral/ assessment/ planning	17	4	5	6	10
Management/Treatment/ intervention	3	4	8	9	5
Patient/carer involvement	2	5	4	6	14
Team work	1	1	2	2	3
Outcomes	-	1	3	2	6
Discharge/ transfer of care/ review	1	4	7	3	2
Research	-	-	2	-	-

The following tables identify common questions across professions in the domains of service organisation, screening and assessment, collaboration with patients and carers, team work and transfer of care.

Direct comparisons of responses across professions highlight which key areas within each profession require further development. These common indicators can provide a good starting point for team discussion to improve standards of care within each stroke service. There are interesting differences in terminology and reporting between professions to be explored.

Within each table, the responses are presented in %; the number in brackets within each column refers to the corresponding question within each profession's proforma.

Service Organisation

Staff expertise, education and research	Nursing	Nutrition & Dietetics	OT	PT	SLT
Specialist staff	59% (2.1)	42% (2)	90% (2)	97% (2)	67% (1)
Appropriate stroke experience	59% (2.1)	42% (2)	85% (4)	88.6% (4)	not asked
CPD	50% (3.2)	not asked	not asked	97% (9)	88% (5 & 6)
Participation in research	61% (3.8)	23% (4)	5% (8)	43% (8)	63% (8)
Service level agreement	not relevant	not asked	25% (1)	60% (1)	not asked

Clinical Case Note Audit

Screening, Assessment & Outcome	Nursing	Nutrition & Dietetics	OT	PT	SLT
Appropriate screening tools	88% (3.5)	54% (21)	not asked	not asked	85% (32-comm.) 72% (36-swallow)
Goal setting	62% (6.20)	68% (30)	70% (16)	61% (21)	68% (43)
Assessment within time frames	not asked	89% (22)	86% (10)	85% (14)	88% (27)
Valid & reliable outcome tools	not asked	not asked	40% (37)	46% (38a;admission) 25% (38b:discharge)	5% (51)

Communication with patients & carers	Nursing	Nutrition & Dietetics	OT	PT	SLT
Contact with carer within time frames	68 % (4.1)	not asked	67 % (13a)	43% (29)	not asked
Problems/concerns from pt perspective	not asked	not asked	62% (12h)	69% (17d)	not asked
Problem/perspective from carer perspective	not asked	not asked	59 % (13b)	29% (17e)	45% (31:communication) 31% (35: swallowing)
Explanation & Information to patient	not asked	26% (31)	56% (24)	73% (30)	39 % (45)
Explanation & Information to carer	not asked	26% (31)	56% (24)	39% (31)	40 % (47)
Teaching carer skills required for patient discharge e.g. moving & handling	not asked	not asked	56% (25)	49% (33)	not asked

Team work	Nursing	Nutrition & Dietetics	OT	PT	SLT
Meetings and/or Case conferences	not asked	20% (7)	78% (27)	76% (35)	65% (48)

Transfer of Care	Nursing	Nutrition & Dietetics	OT	PT	SLT
Named contact	53% (9.3)	not asked	69% (96)	Not asked	29% (63)
Plan for transfer of care	84% (9.1)	84% (18)	73% (34f)	Not asked	54% 957)
Discharge report	not asked	14% (33)	67% (33)	49% (39)	27% (64)
Plans for review	70% (10.1)	not asked	25 % (34g)	46% (40f)	not asked
Review at 6 months	? Follow up clinics	not asked	33% (31)	31% (41)	not asked

EVALUATION OF THE AUDIT PROCESS

Each participating site was sent a questionnaire to evaluate the audit process. A total of 93 responses were received. The following table shows a breakdown of the response rate for each profession:

Discipline	Total number of responses
Nursing	12
Speech & Language Therapy	10
Physiotherapy	21
Occupational Therapy	9
Nutrition & Dietetics	18
<i>Total</i>	80

The results from the questionnaire indicated that:

- Most participants found it easy to identify relevant patients.
- Most participants preferred the Excel version to the paper version of the audit; however many participants had difficulties using the Excel sheet.
- More than 50% of participants found the audit time-consuming; many sites found it difficult to collect data on 5 patients; case note retrieval was an issue especially when relevant information was contained in the medical notes rather than the profession specific notes.
- Most participants found the help notes useful.
- More attention needed to be devoted to no buts for some questions.
- The majority of professions identified that there were far too many questions, therefore the number of questions needed to be reduced for each profession.

Lessons Learned

- The methodology required clarification. The selection of patients was identified as the first five admissions to the Stroke Unit after 1st February. This led to some confusion as not all patients were referred to all disciplines. Some of the notes identified were difficult to access in a timely fashion, as they were sent on to community teams.
- The organisational audit had common themes across the professions.
- One site code per location should be allocated at the commencement of the audit and used by all professions.
- The specific discipline “help notes” needed further explanation and clarification.
- The audit tools required simplification of the wording and “no buts” column
- Excel can not be recommended for wide scale use for a national level audit; it proved very time consuming to clean the data and much of the data had to be re-entered into SPSS for analysis. The ideal scenario would be to develop a web-based proforma for completion which would be centrally coordinated by a single audit coordinator across professions. This would require considerable funding resource. There are pros and cons for either format. Using Excel reduces the data entry and analysis requirements for national comparisons, however it can be

very easily inadvertently manipulated, therefore further piloting would be required before making any firm recommendations.

- The support of a central coordinator and site-specific coordinator would be advantageous to enhance communication. The entire group experienced these common difficulties experienced by phone in getting past the hospital switchboard and contacting the appropriate person; by emails being undeliverable; and by chasing audits of non-responders.
- Completion of data sets and disruption to deadlines were experienced by all disciplines.

SUMMARY

This pilot audit is the first stage towards the first ever national profession-specific stroke audit. This work has enabled revision of documentation and recognition of difficulties and problems within the audit process; these will need to be addressed before full-scale national audit can take place.

This national pilot has demonstrated a number of different areas of strength, across all disciplines. However, not all health care professionals are fully compliant with national standards; detailed investigation may provide an indication of patterns of good practice and areas for improvement, plus support for further work in these areas, including further exploration of underpinning reasons.

Profession-specific audit can target areas for focus of activities and, like the generic audit, may prove an essential tool for raising clinical care standards. A future aim would be the development and use of a single, common organisational audit tool across the professions followed by separate disciplinary clinical audits. The inclusion of other professions, such as social work and clinical psychology, is an area for further development.

This feasibility audit has tested the procedure for multi-disciplinary, profession-specific audit. Trial of the procedure has enabled revision of documentation and recognition of difficulties and problems within the audit process, which will need to be addressed before national audit takes place.

The ideal would be to develop a web-based proforma. This would support standardisation of data entry and remove issues of data delivery. Ideally, all professions would use a single common organisational audit tool; this remains an aspiration. For maximal efficiency, a national audit would be centrally coordinated by a single audit coordinator across professions. Such a vision will require funding.

Organisations may wish to implement local profession-specific audits and revised audit tools can be found on the professional organisations' websites. For the future, it is recommended that these profession-specific audits be used locally alongside the National Sentinel Audit of Stroke, to give a more complete picture of service provision. The ultimate aim of this project would be to conduct a national profession-specific audit, to enable professional teams, departments and trusts detailed benchmarking of the quality of their stroke services compared to national standards; to provide detail to support practice development and evaluation of the progress of implementation of the National Clinical Guidelines for Stroke.

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APPENDIX 1: PARTICIPATING TRUSTS

We are grateful to all the clinicians within the following trusts who generously gave their time in piloting the audit tools for this first ever national profession-specific audit.

Altnagelvin Hospitals Health & Social Services Trust
Barnet & Chase Farm Hospitals NHS Trust
Basildon & Thurrock Univ Hosp NHS Foundation Trust
Blackpool, Fylde & Wyre Hospitals NHS Trust
Bromley Hospitals NHS Trust
Doncaster & Bassetlaw Hosps NHS Foundation Trust
East Cheshire NHS Trust
East Kent Hospitals NHS Trust
East Sussex Hospitals NHS Trust
Guy's & St Thomas' NHS Foundation Trust
Hereford Hospitals NHS Trust
James Paget Healthcare NHS Trust
Mid Yorkshire Hospitals NHS Trust
Morecambe Bay Hospitals NHS Trust
Newham University Hospital NHS Trust
North Cumbria Acute Hospitals NHS Trust
North Middlesex University Hospital NHS Trust
Northern Lincolnshire & Goole Hospitals NHS Trust
Peterborough & Stamford Hosps NHS Foundation Trust
Powys Local Health Board
Queen's Medical Centre Nottingham University Hospital NHS Trust
Royal Cornwall Hospitals Trust
Salford Royal Hospitals NHS Trust
Sandwell & West Birmingham Hospitals NHS Trust
Scarborough & NE Yorks Health Care NHS Trust
Sperrin Lakeland Health & Social Care NHS Trust
The Dudley Group of Hospitals NHS Trust
The North West London Hospitals NHS Trust
The Pennine Acute Hospitals NHS Trust
Worthing & Southlands Hospitals NHS Trust

APPENDIX 2: NURSING PROFORMA (REVISED VERSION APRIL 2007)

Service Organisation

Standard	Criteria	Audit Question	Yes	No
1. Registered nursing staff are full participants in the overall multi-disciplinary assessment, planning and review of care programmes for stroke patients.	Nursing staff have standing membership and participate in regular team meetings, e.g. patient review meetings, case conferences, stroke team meetings.	1.1. Do nursing staff participate in a) patient review meetings b) case conferences c) stroke team meetings.	[]	[]
	[If unit does not have dedicated staff allocated, use No but].	1.2 How many whole time equivalent nursing staff do you have altogether for registered nursing staff in your: a) Acute Stroke Unit b) Rehabilitation Stroke Unit c) Combined Stroke Unit d) Stroke Service (not ward based) PLEASE GIVE NUMBER(S)	Wte []	No But []
	[If unit does not have dedicated staff allocated, use No but].	1.3 How many whole time equivalent nursing staff do you have altogether for unregistered nursing staff in your: a) Acute Stroke Unit b) Rehabilitation Stroke Unit c) Combined Stroke Unit d) Stroke Service (not ward based) PLEASE GIVE NUMBER(S)	Wte []	No But []

Standard	Criteria	Audit Question	Yes	No
	Nursing staff are fully informed about all aspects of multi-disciplinary assessment, planning and review of care programmes for stroke patients.	1.4 Do nurses contribute to a single multidisciplinary set of patient notes?	[]	[]
		1.5 Do nurses have access to information about other team members' interventions?	[]	[]
2. Appropriately qualified and experienced stroke nurses are available to support stroke nursing care throughout the 24hr period.	A Senior Nurse fitting the defined criteria (see below) is on duty over every 24hr period. (Criteria: Senior nurses available for consultation at least five years with three years experience in a nursing specialty relevant to the care of stroke patients).	2.1 Is there a Senior Nurse on each shift? a) Acute Stroke Unit b) Rehabilitation Stroke Unit c) Combined Stroke Unit	[] [] []	[] [] []
		2.2 Is there a policy/protocol in place which outlines who to contact for specialist advice, e.g. stroke consultant, consultant nurse, stroke specialist nurse?	[]	[]

Standard	Criteria	Audit Question	Yes	No
3a. All nursing staff are supported and enabled to develop specialist stroke nursing skills, including a comprehensive understanding of stroke management generally.		3.1 Do you have a specialist stroke moving and handling and positioning programme, which can be accessed by nurses?	[]	[]

Standard	Criteria	Audit Question	Yes	No
	All nursing staff participate in a minimum of two formal education sessions relevant to the care of stroke patients each year.	3.2 Have all nursing staff participated in at least two formal education sessions relevant to the care of stroke patients within the previous 12 months	[]	[]
		3.3 Are senior nurses involved in providing education for:		
		non-registered staff	[]	[]
		pre registration nurses	[]	[]
		post-registration nursing courses	[]	[]
		inter/ cross disciplinary teaching	[]	[]
Standard	Criteria	Audit Question	Number	No But
3b Nurse staffing levels support implementation of specialist stroke nursing practice.	There is currently no definitive information or criteria available for this.	3.4 How many nurses are usually rostered to work on the following shift:		
	(If 12hr shifts are worked, count as both Early and Late shifts)	Acute Stroke Unit		
		Early	[]	[]
		Late	[]	[]
		Night	[]	[]
	[If unit does not have dedicated staff allocated, use No but].	Rehabilitation Stroke Unit		
		Early	[]	[]
		Late	[]	[]
		Night	[]	[]
		Combined Stroke Unit		
		Early	[]	[]
		Late	[]	[]
		Night	[]	[]

Standard	Criteria	Audit Question	Yes	No	
3c Specialist stroke nursing practice and practice development is underpinned by best available, accessible research evidence.	Protocols, policies and guidelines are available to provide evidence-based guidance for practice.	3.5 Are there written protocols for:			
		a self medication programme	[]	[]	
		moving and handling	[]	[]	
		promotion of continence/ management of incontinence			
		dysphagia	[]	[]	
		nutrition management	[]	[]	
		naso-gastric feeding	[]	[]	
		Other (please specify)	[]	[]	
			[]	[]	
Standard	Criteria	Audit Question	Yes	No	No but
	Stroke services are developed in line with recommendations and practices recognised as associated with improved patient outcomes and/ or patient preference.	3.6 Clinic facilities			
		Is there a specific stroke nurse follow-up clinic for patients leaving:			
		Acute Stroke Unit	[]	[]	[]
		Stroke Rehabilitation Unit	[]	[]	[]
		Combined Stroke Unit	[]	[]	[]
	Other wards	[]	[]	[]	
		Other nurse-led service, please specify:	[]	[]	[]
		3.7 Early supported discharge			
	[If no ESD scheme, use No but].	If there is an early supported discharge scheme, are nurses part of this?	[]	[]	[]
		3.8 Research			
[If no research / no Local Stroke Research Network, use No but].	Do nurses within your stroke services participate in research?	[]	[]		
	Do nurses within your stroke services lead on stroke-relevant research?	[]	[]		
	Are nurses within your stroke services involved with local stroke research networks	[]	[]		
	3.9 Stroke strategy development at a local level				
	Is there nursing representation at the level at which local stroke services and strategies are planned/ developed?	[]	[]		
	If yes, give job title of this person.				

NURSING PROFORMA CASENOTE AUDIT

Case Audit ID

(Respect patient confidentiality, please use an audit ID number that can only be traced to the client by the audit team). Audit ID []

Date of Birth: []/[]/[] (dd/mm/yyyy) Gender: Male [] Female []

1. If acute care for this patient is not being audited because they were initially admitted elsewhere tick this box []

Site code of collaborating hospital: [] Date of transfer to your Stroke Unit: [/ /] (dd/mm/yyyy)

STROKE ONSET AND HOSPITAL STAY

2. Date and time of stroke: [/] HH (24 hr clock) [/ /] dd /mm/yyyy

3. Date and time of admission: [/] HH (24 hr clock) [/ /] dd /mm/yyyy

Age at admission: []

4. Did patient die whilst still an inpatient? Yes [] No [] If yes, Date of death: [/ /] (dd/mm/yyyy)

Time from stroke (or date of admission if not available) to death: [] days

IF NO, At the time of audit is the patient

a. still in hospital for initial episode [] b. been discharged []

5. Date of discharge: [/ /] (dd/mm/yyyy). Length of stay to discharge alive: [] days

6. Was the patient alive at 30 days after stroke? Yes [] No [] Don't know []

7. Was the patient treated in a Stroke Unit at any time during their stay? Yes [] No []

8. Date of admission to stroke unit [/ /] (dd/mm/yyyy)

9. Date of discharge from stroke unit [/ /] (dd/mm/yyyy)

Process of Care

Standard	Criteria	Audit Question	Yes	No	No but
4. Patients receive detailed holistic initial nursing assessment of their physical, psychological and social status and care needs.	Detailed initial and continuing nursing assessment of patients' physical, psychological and social status and care needs are documented	4.1. Is there evidence of initial screening/ assessment within 24 hours of admission to the hospital of:			
	[Only use the No but option where the question is not appropriate to the patient].	a) Swallowing ability?	[]	[]	[]
		b) Nutritional status/ risk?	[]	[]	[]
		c) Nausea and vomiting?	[]	[]	[]
		d) Pain?	[]	[]	[]
		e) Stroke severity e.g. SSS, NIH?	[]	[]	[]
		f) Neurological status, e.g. Glasgow Coma Score?	[]	[]	[]
		g) Blood pressure?	[]	[]	[]
		h) Pulse – rate and rhythm?	[]	[]	[]
		i) Temperature?	[]	[]	[]
		j) Respiration?	[]	[]	[]
		k) Oxygen saturation?	[]	[]	[]
		l) Need for anti-embolic stockings?	[]	[]	[]
		m) Blood sugar?	[]	[]	[]
		n) Tissue viability/ pressure damage risk?	[]	[]	[]
		o) Communication?	[]	[]	[]
		p) Continence?	[]	[]	[]
		q) Moving and handling?	[]	[]	[]
		r) Sensory impairment?	[]	[]	[]
		s) Social situation?	[]	[]	[]
		t) Carer support?	[]	[]	[]
		u) Falls risk?	[]	[]	[]
		v) Other, please specify	[]	[]	[]

Standard	Criteria	Audit Question	Yes	No	No but
5. Nursing care is planned to take account of patients' identified needs.	Patient problems/ potential problems amenable to nursing intervention are identified and a plan of appropriate nursing actions to be taken is documented	5.1 Is there a care plan?	[]	[]	[]
[Only use the No but option where the question is not appropriate to the patient].		5.2 Do the documented problems in the care plan take account of assessed:			
		a) Physiological needs? e.g. vital signs	[]	[]	[]
		b) Psychological needs? e.g. mood anxiety, depression	[]	[]	[]
		c) Social needs? e.g. benefits, finances, pets	[]	[]	[]
		d) Cultural considerations?	[]	[]	[]
		e) Lifestyle needs? e.g. smoking, exercise, alcohol	[]	[]	[]
		f) Medication management	[]	[]	[]
		g) Carer/ family needs	[]	[]	[]
		5.3 Is there documented evidence of intermittent physiological monitoring?	[]	[]	[]
		5.4 Is there documented evidence of continuous physiological monitoring?	[]	[]	[]
5.5 Is there documented evidence of neurological monitoring?	[]	[]	[]		
		What assessment/ tool is used for neurological monitoring?			

Standard	Criteria	Audit Question	Yes	No	No but
		5.6 Does the care plan include nursing actions to prevent post-stroke complications:			
	[Only use the No but option where the question is not appropriate to the patient].	a) Pressure damage / sores?	[]	[]	[]
		b) Deep vein thrombosis?	[]	[]	[]
		c) Chest infection/ aspiration?	[]	[]	[]
		d) Constipation?	[]	[]	[]
		e) Incontinence?	[]	[]	[]
		f) Urinary tract infection?	[]	[]	[]
		g) Malnutrition?	[]	[]	[]
		h) Dehydration?	[]	[]	[]
		i) Flexion contractures?	[]	[]	[]
		j) Immobility?	[]	[]	[]
		k) Pain?	[]	[]	[]
		l) Depression?	[]	[]	[]
		m) Hypo/ hypertension?	[]	[]	[]
		n) Falls (risk or actual)?	[]	[]	[]
		o) Other – please specify	[]	[]	[]
6. There is a consistent and collaborative approach to the stroke patient between nurses and other members of the team.	There is a documented evidence of information sharing and collaboration between nurses and other members of the team in relation to care planning and delivery.	6.1a Is there evidence of multidisciplinary goal setting?	[]	[]	
		6.1b Is there evidence of nursing involvement in multidisciplinary goal setting?	[]	[]	
		6.2 Is there evidence of the nursing team involving patients in their goal setting?	[]	[]	[]
		6.3 Is there evidence of assessment of carers' needs prior to stroke patients' discharge?	[]	[]	[]

Standard	Criteria	Audit Question	Yes	No	No but
7. Patients' individual stroke risk factors are assessed & appropriate plans for secondary prevention interventions made & implemented.	Secondary prevention nursing measures are documented and implemented according to individual need. [Only use the No but option where the question is not appropriate to the patient].	7.1 Are physiological observations (e.g. BP, temperature) documented at least to the minimum of your local service protocol? If no, please identify areas of omission.	[]	[]	[]
		7.2 Is there evidence that the patient has been given information about their medication management prior to discharge?	[]	[]	[]
		7.3 Is there evidence that the patient has been assessed safe to dispense their own medications prior to discharge?	[]	[]	[]
8: Patient progress is evaluated on the target dates specified in the nursing goals (or rehabilitation goals).	Patient progress is evaluated and documented on the target dates specified in the nursing or rehabilitation goals	8.1 Is patient progress evaluated and documented on the target dates specified in the nursing or rehabilitation goals?	[]	[]	[]
9. Patients and carers are enabled to participate in decision-making regarding plans for the future.	It is documented that patients and carers have participated in decision-making regarding plans for the future	9.1 Is there a comprehensive plan for transfer of care? Eg written plan, check list, etc.	[]	[]	[]
		9.2 Is there documented evidence of the patient receiving information about arrangements for transfer of care?	[]	[]	[]
		9.3 Is there documented evidence of the patient receiving information concerning a contact point for the future?	[]	[]	[]
		9.4 Is there documented evidence of the carer receiving information about arrangements for	[]	[]	[]

Standard	Criteria	Audit Question	Yes	No	No but
10. After transfer of care from secondary care services, follow-up with a stroke specialist is available to all patients.	All patients discharged from secondary care are documented as offered/seen by a stroke specialist following transfer of care.	transfer of care? (Carer could be a family member/significant other/NOK). 10.1 Is there evidence that arrangements have been made for the patient to be seen by a stroke specialist post transfer of care?	[]	[]	[]

APPENDIX 3: NUTRITION & DIETETICS PROFORMA

Nutrition and Dietetics Stroke Audit

British Dietetic Association 2006

Organisational Audit Proforma

Section One

Site Code

Please tick the appropriate column for Yes or No

Audit Question	Yes	No
Provision of Nutrition & Dietetic Service		
D1. Is there a written service level agreement for nutrition and dietetic services to stroke patients? If yes, which area (s) does it cover (tick all that apply) a) Acute services b) Rehabilitation c) Community		
D2. Does a dietitian with specialist knowledge and experience of stroke provide the dietetic service to stroke patients? If you answered 'No' to question D2 : D3. Is there a senior Dietitian with experience of stroke patients available for consultation? If you answered 'Yes' to question D2 D4. Does this Dietitian participate in research relating to stroke?		
Team Working		
D5. Are regular multidisciplinary educational update sessions held for all staff to promote understanding of each others roles and needs of stroke patients? If yes, how frequently are they held? (tick one option) Weekly? Fortnightly? Monthly?		
D6. Does the Dietitian contribute to a single multidisciplinary set of patient notes?		
D7. Does the Dietitian attend multidisciplinary patient review meetings: Weekly? Fortnightly? Monthly? Less than once a month Never		
D8. Does the Dietitian attend case conferences?		

D9. Are stroke patients and their carers routinely given information that outlines the scope of the dietetic service?

Nutritional Screening

D10. Is there a nutritional screening tool with guidelines on when to refer to a dietitian, completed by appropriately trained staff, in place for stroke patients?

D11. **If yes to D10.** Are there recommendations that nutritional screening should be completed within 48hours of admission?

D12. Is there a protocol in place for the development of a nutrition care plan based on the outcome of the nutrition screening tool?

D13. Are educational sessions held regularly for the use of this tool and nutritional care planning?

D14. Is there a protocol recommending that patients are weighed on admission and at regular intervals during their stay?

Dysphagia Management

D15. Is a choice of foods with agreed specified consistency between Speech & Language Therapists and dietitians available to patients with dysphagia?

D16. Are there guidelines recommending all patients who require a modified consistency diet are referred to the dietitian?

D17. Are there guidelines that recommend that the need for enteral feeding tubes are reviewed on a regular basis?

Discharge Planning

D18. Does the department policy include the provision of follow up:
When required?
At the most appropriate location for the patient?

D19. Is there a leaflet available for patients on secondary prevention dietary advice after TIA / stroke?

D20. Have relevant staff been trained on secondary prevention dietary advice?

Nutrition and Dietetics Stroke Audit

British Dietetic Association 2006

Case Note Audit Proforma

Thank you for taking the time to complete this audit. Please complete all questions unless redirected because some do not apply.

Site Code Patient ID

(Remember to respect patient confidentiality, use a special audit ID number that can only be traced to the client by the audit team)

Date of Birth __ / __ / __

Process of Care

Audit Question	Yes	No	No, but....
D21. Has a validated nutritional screening tool been fully completed for the patient?	()	()	()
D22. If the answer to D22 is 'yes', was the nutritional screening tool completed within 48 hours of admission?			
D23. Is there evidence that the initial assessment by the dietitian has been completed and documented within the agreed local timescale?			
D24. Was the initial assessment carried out by a i) stroke specialist dietitian? ii) other dietitian iii) elderly care dietitian			
D25. Does the initial assessment include: (Answer 'No, but' if this information is contained within a multidisciplinary record) n) Initial weight if Yes is it - actual weight - estimated weight o) Height or surrogate height p) Initial BMI q) Weight history / usual weight r) Target weight s) Diet history (answer 'No, but..' if patient is unconscious) t) Able to self feed or not (No, but...if patient NBM)			

- u) Bowels noted i.e. diarrhoea / constipation
- v) Skin integrity
- w) Estimation of nutritional requirements
- x) Awareness of neurological deficits
- y) Social situation recorded
- z) Is the date of stroke and / or admission to hospital recorded

D26. Has the patient been weighed weekly during their hospital stay? (*Answer 'No, but.....if patient is unable to be weighed'*)

D27. Is there evidence of a documented nutritional care plan in medical / multidisciplinary notes?

D28. Is there evidence this care plan has been shared with the multidisciplinary team at a multidisciplinary team meeting

D29. Is there evidence that multidisciplinary meetings were attended by the dietitian?

D30. Have nutritional goals / nutritional action plan been set with a review date?

D31. Is there written evidence that the patient and / or their carers have been educated on their nutritional needs? (*No, but ...if not appropriate, or patient died*)

D32. Is it documented that written guidelines have been provided to the patient and / or their carer? (*No, But... if it was not appropriate to provide written guidelines or patient died*)

D33. Is a nutrition and dietetic summary written for the multidisciplinary discharge report?

PROFESSION SPECIFIC STROKE AUDIT - OCCUPATIONAL THERAPY

Department: **Date:**

Completed by:

NO	QUESTION	YES	NO	NO, BUT Please give reason
SERVICE STRUCTURE				
1	Is there a written service agreement?			
2	Is the occupational therapy stroke service under the overall supervision of an appropriately qualified occupational therapist?			
3	Has the lead supervising occupational therapist been qualified at least five years?			
4	Does the lead supervising occupational therapist have two years experience in stroke rehabilitation?			
5	Are stroke survivors and families / carers routinely given information which outlines the scope of the local occupational therapy stroke service e.g. via leaflet?			
6	Does the information contain the name and contact telephone number of the stroke survivor's occupational therapist?			
7	Is there written evidence of a formal link between the occupational therapy stroke service and local relevant statutory and voluntary bodies i.e. contracts or minutes of regular meetings?			
8	How many occupational therapy staff (wte) within the stroke service, are currently involved in any research projects?	Please give number		
9	How many different research projects (where consent or assent have been gained) are the occupational therapy staff within the stroke service taking part in on the day this form is completed?	Please give number		
Please list				

NO	QUESTION	YES	NO	NO, BUT Please give reason
PROCESS OF CARE				
Assessment				
10	Is there evidence that the stroke survivor was interviewed within the agreed time frame?			
11	Is there a case record (either an occupational therapy record or an agreed multidisciplinary record)?			
12	Does the case record contain information on the following:			
	a) Home situation (physical environment)?			
	b) Home situation (socio-cultural)?			
	c) Previous level of self-care?			
	d) Previous employment?			
	e) Previous domestic responsibilities			
	f) Previous leisure activities?			
	g) Previous driving status?			
	h) Concerns of the stroke survivor?			
	i) Medical history?			
13	Is there written evidence that:			
	a) The family / carer were contacted within seven days of initial contact with the stroke survivor?			
	b) There was discussion on the concerns of the family / carer?			
14	Is there written evidence of assessment in the occupational therapy record?			
15	Does the assessment include:			
	a) Lifestyle?			
	b) Needs of younger stroke survivors?			
	c) Positioning and support?			
	d) Visual disturbance?			
	e) Mood disturbance?			
	f) Spatial awareness?			
	g) Memory?			
	h) Attention?			
	i) Praxis?			
	j) Executive function?			
	k) Motor control?			
	l) Orthotics?			
	m) Management of spasticity?			
	n) Sensory disturbance?			
	o) Shoulder pain?			
	p) Activities of daily living?			
Goal Setting and Intervention				
16	Is there written evidence of goals in the occupational therapy record?			
17	Do the goals relate directly to the results of assessment?			
18	Do the goals have a time or date set for achievement and review?			
19	Is there evidence of stroke survivor / family / carer collaboration in agreeing goals?			

NO	QUESTION	YES	NO	NO, BUT Please give reason
20	Is there evidence of an intervention plan to achieve the goals?			
21	Is there a record of goals achieved?			
22	Is there written evidence of intervention, based on the occupational therapy assessment and goals set, in the occupational therapy record?			
23	Does the intervention include:			
	a) Lifestyle?			
	b) Needs of younger stroke survivors?			
	c) Positioning and support?			
	d) Visual disturbance?			
	e) Mood disturbance?			
	f) Spatial awareness?			
	g) Memory?			
	h) Attention?			
	i) Praxis?			
	j) Executive function?			
	k) Motor control?			
	l) Orthotics?			
	m) Management of spasticity?			
n) Sensory disturbance?				
o) Shoulder pain?				
p) Activities of daily living?				
24	Is there written evidence of the information and explanation concerning occupational therapy which was provided to the stroke survivor and family / carers?			
25	Is there written evidence that advice was given to stroke survivors and family / carers regarding the use, fitting and care of equipment?			
26	If equipment was provided, is there written evidence that stroke survivors / family / carers were given the contact number of the occupational therapist?			
27	Is there evidence, in the occupational therapy or multidisciplinary record, of occupational therapist participation in team meetings?			
28	Is there evidence that the occupational therapist worked with other team members in contributing to the goals of the stroke survivor and their family / carer?			
Discharge from hospital (This may or may not coincide with discharge from occupational therapy)				
29	Is there a discharge summary?			
30	Does the discharge summary include:			
	a) Present level of self-care, work and leisure?			
	b) Interventions?			
	c) Whether goals have been achieved?			
	d) Equipment supplied?			
	e) Driving regulations information given?			
	f) Referral to other voluntary or statutory organisations?			
	g) Plans for review?			

NO	QUESTION	YES	NO	NO, BUT Please give reason
31	Is there evidence that a review appointment was made in line with local policy?			
32	If equipment was provided: is there evidence that its continuing usefulness was assessed at six months?			
Discharge from OT				
33	Is there a discharge summary?			
34	Does the discharge summary include: a) Present level of disability in self-care, work and leisure? b) Interventions? c) Whether goals have been achieved? d) Equipment supplied? e) Driving regulations information given? f) Referral to other voluntary or statutory organisations? g) Plans for review?			
35	Is there written evidence that information was given regarding access to the occupational therapy service in the future?			
36	Is there evidence that the outcome of interventions were recorded in the occupational therapy record?			
37	Is there evidence that a measure that is recognised to be reliable and valid was used to record outcome?			
38	What measures were used to record outcome?			
Please include a list				
39	Is the stroke survivor in a rehabilitation research project where they gave written consent / assent?			
40	Which research projects is the stroke survivor taking part in on the day this form is completed?			
Please include a list				

APPENDIX 5: PHYSIOTHERAPY AUDIT PROFORMA

Physiotherapy Service Organisational Proforma

Audit Question	Answer	
SERVICE ORGANISATION	Yes	No
<p>1. Is there a written service agreement with information on?</p> <p>a. access b. staffing c. location of service provision d. response times e. local standards of practice</p>		
<p>2. Is there a senior physiotherapist available for consultation?</p>		
<p>3. Is the senior physiotherapist qualified at least 5 years?</p> <p>4. Does the senior physiotherapist have 3 years experience in rehabilitation including stroke care?</p>		
<p>5. How many FTE physiotherapists are working on your stroke unit?</p> <p>6. How many FTE physiotherapy assistants are working on your stroke unit?</p> <p>7. How many beds do you have on your stroke unit?</p>		
<p>8. Do physiotherapists from your stroke unit participate in research?</p> <p>8i) If your answer is yes to question 7, how many physiotherapy staff within your stroke service, are currently involved in research?</p>		
<p>9. Does the senior physiotherapist have evidence of continuing professional development related to stroke care?</p> <p>10. Do the other physiotherapy staff on your stroke unit have evidence of continuing professional development related to stroke care?</p> <p>11. Are in house training sessions in specialist stroke care provided to physiotherapy staff working on your stroke unit?</p> <p>12. Are you familiar with the findings of the NSAS related to your trust?</p> <p>13. Have you been involved in any team meetings in your trust regarding the implementation of the NSAS?</p>		

PHYSIOTHERAPY SERVICE CLINICAL STROKE AUDIT PROFORMA

Audit Question	Response		
	Yes	No	No but
REFERRAL AND ASSESSMENT			
<p>14. If the patient was newly diagnosed, was the patient assessed within 72 hours?</p> <p><i>Answer “No but...” if the patient died.</i></p>			
<p>15. If the patient was seen as an outpatient, was the patient seen within 15 days?</p>			
<p>16. Is there a written database (record)?</p> <p>17. Does the database contain information on the following?</p> <p>f) home environment g) pre-stroke mobility indoors h) pre-stroke mobility outdoors i) the problems (according to the patient) j) the problems (according to the carer)</p> <p><i>Answer “No but...” if this information is contained in a multidisciplinary record.</i></p>			
<p>18. Is there a written assessment?</p> <p>19. Does it contain information on:</p> <p>a) respiratory function b) posture c) postural control (balance) d) abnormal tone e) volitional movement f) sensory disturbances g) perceptual disturbances h) visual disturbances i) gait j) functional activities</p>			
TREATMENT	Yes	No	No but
<p>20. Is there a problem list, which is linked to the database in point 16?</p>			
<p>21. Is there written evidence of goals?</p> <p><i>Answer “No but ...” if only multidisciplinary goals are set.</i></p>			
<p>22. Do the goals have a time or date set for achievement?</p> <p><i>Answer “No but ...” if only multidisciplinary goals are set.</i></p>			

TREATMENT	Yes	No	No but
<p>23. Is there evidence of a patient-centred treatment plan to achieve the goals?</p> <p>24. Is there evidence that carers were involved in the above treatment plan?</p> <p>25. Did the patient receive physiotherapy input to the level specified in the local policy agreement?</p> <p>26. Did the patient continue outpatient physiotherapy following discharge from the acute setting? <i>Answer "No but ..." if patient died, or moved outside catchment area.</i></p>			
TREATMENT	Yes	No	No but
<p>27. Is there evidence that actions were taken to prevent:</p> <ul style="list-style-type: none"> a) shoulder pain b) contractures c) falls d) chest infection e) pressure areas f) DVT <p>28. Did the patient experience any of the following complications?</p> <ul style="list-style-type: none"> a) shoulder pain b) contractures c) falls d) chest infection e) pressure areas f) DVT 			

PATIENT AND CARER INVOLVEMENT	Yes	No	No but
<p>29. Was contact with the carer established within 2 weeks of the initial assessment? <i>Answer “No, but ... “if: no carer involved</i></p>			
<p>30. Is there evidence that information and an explanation concerning physiotherapy was provided to the patient? <i>Answer “No, but ... “if patient unconscious throughout or died or severe receptive and cognitive difficulties</i></p>			
<p>31. Is there evidence that information and an explanation concerning physiotherapy was provided to the carer? <i>Answer “No, but ... “if: no carer involved</i></p>			
<p>32. Is there evidence that the carer attended sessions for advice/instruction in moving and handling? <i>Answer “No, but ... “if: no carer involved or patient is independently mobile</i></p>			
<p>33. Is there evidence that the skills required to care for the patient at home were taught? <i>Answer “No, but ... “if patient died, was discharged to institutional care, was self caring by discharge or it is documented that the carer is not participating in the patient’s care.</i></p>			
<p>34. Is there evidence that the carer was advised on the proper use and care of the equipment? <i>Answer “No, but ... “if: no carer involved or patient does not need equipment</i></p>			
TEAMWORK	Yes	No	No but
<p>35. Is there evidence of participation in team meetings throughout the episode of care?</p>			
<p>36. Is there evidence that the physiotherapist works with other team members in patient management?</p>			
OUTCOME MEASUREMENT	Yes	No	No but
<p>37. Is a standardised measure of impairment recorded? a) on initial assessment b) on discharge <i>Answer “No, but ... “if: the chosen indicator combines impairment and disability; or the patient died</i></p>			
<p>37 i) If yes, what measures were used? Please include a list.</p>			

OUTCOME MEASUREMENT	Yes	No	No but
<p>38. Is a standardised measure of disability recorded? a) on initial assessment b) on discharge</p> <p>38 i) If yes, what measures were used? Please include a list.</p>			
DISCHARGE AND REVIEW			
<p>39. Is there a discharge summary?</p> <p>40. Does the discharge summary record the following? a) the effectiveness of the intervention b) whether goals have been achieved c) exercises and advice given to the patient d) exercises and advice given to the carer e) equipment supplied f) plans for review</p>			
<p>41. Was a review appointment made for 6 months following discharge?</p> <p><i>Answer “No but..” if the patient can self refer if experiencing problems</i></p>			

APPENDIX 6: SPEECH & LANGUAGE THERAPY PROFORMA

SLT Profession Specific Audit of Stroke Care

Organisation of Care Audit – Part 1. (Fill in one only per hospital / service)

SLT Staffing & Skill Mix	Yes	No	No But	If Yes (WTE)
1. Does the service have a stroke specialist SLT therapist post?				
2. Does the service have a stroke consultant SLT therapist post?				
3. If no to either or both of the above, does the SLT(s) providing the care to stroke patients do so for a significant proportion of each week (more than 50% of their time)				
4. Does the SLT service (at the time of audit) have any vacancies in the staff who deliver care to stroke patients				
5. Do SLT's within your stroke services attend stroke related SIG's?				
6. Do SLT's within your stroke services attend stroke related short-courses?				
7. Do SLT's within your stroke services attend stroke related formal higher education?				
SLT Participation in Research				
8. Do SLT's within your stroke services participate in stroke-relevant research?				
9. Do SLT's within your stroke services lead on stroke-relevant research?				
10. Are SLT's within your stroke services involved with local stroke research networks?				
Overall Service Organisation				
11. Does the service aim to meet response times with RCSLT agreed timescales?				
Does the service provide the following / please estimate the number of sessions available for stroke:				
12a An inpatient stroke service inclusive of acute & inpatient rehabilitative care:				
12b An outpatient service				
12c A community / domiciliary service:				
13. If there is an early supported discharge scheme, are SLT's part of this?				
14. Is there a locally agreed prioritisation system based on clinical need for inpatients?				
15. Is there a locally agreed prioritisation system based on clinical need for community and outpatients?				
16. Are SLT's involved in developing local care				

pathways for stroke?				
Screening	Yes	No	No But	If Yes (WTE)
17. Is there an agreed protocol for screening of a communication problem by another professional other than an SLT using an agreed tool?				
18. Is there an agreed protocol for screening of a swallowing problem by another professional other than an SLT using an agreed tool?				
If yes, does the swallowing screening tool cover (please tick what is appropriate):				
19a Fluid only				
19b Solid food only				
19c Fluid & solid food				
Assessment				
20. Please list the 5 most frequently used formalised assessment tools used for an assessment of acquired language disorders in this service				
1.				
2.				
3.				
4.				
5.				
21. Please list the 5 most frequently used formalised assessment tools used for the assessment of acquired motor-speech disorders in this service.				
1.				
2.				
3.				
4.				
5.				
Are the following instrumental oro-pharyngeal dysphagia assessment available for stroke patients?				
22. FEES				
If yes, what is the current average waiting time for patients deemed appropriate for this assessment? (Please tick the most common waiting time)				
23a 24-48 hrs				
23b 48 hrs – 5 working days				
23c Longer than 5 working days				

	Yes	No	No But	If Yes (WTE)
24. VFS				
If yes, what is the current average waiting time for patients deemed appropriate for this assessment? (Please tick the most common waiting time)				
25a 24-28 hrs				
25b 48 hrs – 5 working days				
25c Longer than 5 working days				

SLT Profession Specific Audit of Stroke Care

Process of Care Audit – Part 2. (Fill in one per patient – minimum of 5 in total)

	Yes	No	No But	If Yes (WTE)
Case Audit Identity code:				
Date of Birth				
Specify the service location of the patient at time of audit (Tick only one)				
Inpatient				
Outpatient				
Community				
Referral and assessment				
26. Is the date of referral documented?				
27. Does the referral response time fall within RCSLT agreed timescales?				
28. Is there written evidence that the client has been made aware of the prioritisation system where appropriate (eg outreach/outpatients)?				
29. Is there written evidence for screening of a communication problem by another professional other than an SLT using the agreed tool?				
30. Is there written evidence of screening of all areas of communication?				
31. Is there written entry of the outcome of the case history taking discussion regarding pre-morbid communication function with the client/cares/family.				
32. Is there written evidence of formal and informal assessments of the client's communication skills by a SLT?				
33. Is there written evidence of screening of a swallowing problem by another professional other than an SLT using the agree tool?				
34. Is there written evidence of appropriate referral on to SLT?				

	Yes	No	No But	If Yes (WTE)
35. Is there written entry of the outcome of the case history taking discussion regarding pre-morbid swallowing function with the client/carers/family.				
36. Is there written evidence of formal and informal assessments of the client's swallowing abilities by a SLT?				
37. Is there written evidence that assessment results were communicated by the SLT to the client and carers?				
38. Is there written evidence that assessment results were communicated to the MDT?				
39. Is there written evidence of a summary of the assessment results?				

Intervention	Yes	No	No But	If Yes (WTE)
40. Is there written SLT management plan specifying type of intervention?				
41. Is there written SLT management plan specifying frequency of intervention?				
42. Is there written SLT management plan specifying duration of intervention?				
43. Is there written SLT management plan specifying goals of intervention?				
44. Is there written SLT management plan specifying review arrangements?				
45. Is there written evidence that the management plan has been discussed and agreed with the client?				
46. Is there written evidence that different options for intervention were discussed with the client?				
47. Is there written evidence that the management plan has been discussed with the carer(s)?				
48. Is there written evidence of regular SLT liaison with MDT eg attendance at MDT meetings, or similar forum?				
Evaluation and Outcome				
49. Is evaluation documented at the end of the previously defined treatment programme or block of treatment (episode of care)?				
50. Is evaluation based on measures related to impairment and psychosocial issues?				
51. Is there written evidence of the use of an appropriate outcome tool measure when evaluating communication intervention such as:				
51a FIM/FAM communication				
51b Aus-TOMS communication				
51c Other (please list)				

52. Is there written evidence of the use of an appropriate outcome tool measure when evaluating dysphagia intervention such as:				
52a FIM/FAM swallow scale				
52b Swal-Qual scale				
52c Aus-TOMS swallowing				
52d Other (Please list)				
53. Are results, conclusions and recommendations clearly documented, consistent with local policy e.g. SLT notes, joint records?				
54. Is there written evidence of discussion of evaluation/outcome with the client?				
55. Is there written evidence of discussion of evaluation/outcome with the carer?				
56. Is there evidence that the client received a written report?				
57. Is there written evidence of written and /or telephone transfer of information to ensure ongoing care for the client (e.g. to GP, other SLT, intermediate care team)?				

Discharge	Yes	No	No But	If Yes (WTE)
58. Is there written evidence that the criteria for discharge was discussed with the client prior to discharge?				
59. Is there written evidence that the criteria for discharge was discussed with the carer prior to discharge?				
60. Is the response of the client to discharge documented?				
61. Is the response of the carer to discharge documented?				
62. Is there written evidence of the provision of information about voluntary and statutory support agencies?				
63. Is there written evidence that the client/carers was given a named SLT contact on discharge?				
64. Was a timely written discharge report (or summary report in medical notes for inpatients) provided to the client?				
65. Was a timely/written discharge report provided to other professionals where appropriate?				