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**Background**

The Countess of Chester Hospital is a modern, comprehensive district general hospital with excellent pathology and radiology support, including CT and MRI scanners. It is sited on an attractive campus on the northern edge of Chester, with two other Trusts, as well as other facilities including a modern day nursery.

The Countess of Chester Hospital serves a population of approximately 250,000 including the City of Chester itself, with a population of 78,000, Ellesmere Port and Neston, the south west part of the Wirral peninsula, rural communities to the south and east of the City, and an area of North Wales. The Trust also serves the population of North Cheshire from the Runcorn, Halton and Frodsham areas. Western Cheshire Primary Care Trust (CCG) and Flintshire Local Health Board, representing patients from North Wales, are responsible for commissioning services for the Trust’s catchment population.

The Trust is accredited at CNST Level 3 and has achieved three star (Department of Health) performance ratings for every year since 2001. The Trust achieved Foundation Trust status in April 2004.

The Countess of Chester Hospital was opened in 1983 and occupies a single site with 530 beds, providing a comprehensive variety of medical, surgical, obstetric and paediatric services. Psychiatric services are provided on site by the Cheshire and Wirral Partnership NHS Trust.

There is a recently extended Accident & Emergency Department, an Intensive Care Unit and separate High Dependency Unit, 10 bedded Coronary Care Unit, Cardiac Catheter Suite, 4 bedded Respiratory Support Unit with NIV facilities, 28 bedded Acute Stroke Unit (with 24/7 thrombolysis), the Jubilee Day Surgical Centre and an out-patient Renal Dialysis Unit.

The trust has recently been chosen to provide the South Mersey Regional Vascular Unit (SMART) and has also won the tender to become a regional Bariatric Surgery Centre.
The need for the development and provision of co-ordinated stroke services was recognised by the Trust in 2005, and led to the appointment of a Stroke Coordinator and Geriatrician with a specific stroke interest in stroke, in the first half of that year.

The appointments were rapidly followed by the provision of 6 dedicated beds (Acute Stroke Assessment Area) to facilitate prompt transfer of stroke patients from AED or MAU, thereby allowing early assessment and management.

Internal re-organisation on this unit lead to the development of a ‘Stroke Physician of the Week’ model of delivering consultant input, allowing for improved continuity of care and further enhancing the multidisciplinary ethos being developed in stroke services.

The ensuing years have seen the development of stroke specific pathways and guidelines and an expansion in monitoring capabilities for patients admitted to the unit.

In 2007 thrombolysis for acute stroke was introduced, initially on a limited basis, and subsequent investment and development has enabled this service to be extended 24/7, facilitated by the provision of telemedicine and consultant expansion.

Further re-organisation of the service has occurred in June 2013, with the consolidation of stroke care onto a 28 bedded combined stroke unit.

The service admits approximately 450 strokes / year and thrombolysis 8% which is comparable with the national average.

A daily rapid access TIA service is available offering a ‘one-stop’ service for diagnosis, investigation and treatment. Currently 65% of high risk patients are seen within 24hrs.

The unit has developed a reputation for promoting research and training. As a prominent member of the North West Stroke Research Network, the unit is participating in 5 current trials, with a further 3 in development.
The unit is staffed by 4 wte consultants;

Dr K Chatterjee
Dr S Haider
Dr T Webster
Dr Nallasivan

The thrombolysis rota is 1 in 5 and is supported by an acute physician – Dr Tapas Chakraborty

The consultants are supported by 1 wte Stroke Coordinator, 1 wte Research Nurse and 1 wte Research Assistant.
Introduction

Cheshire and Merseyside Strategic Clinical Networks (Cardiac and Stroke Network) have introduced a peer support visiting scheme, the purpose of which is to explore and share good practice, among all the stroke units, within the Network.

The visiting team included medical consultants from Stroke, and Radiology, Physiotherapists, Occupational Therapists, Speech and Language Therapists, representative from the Stroke Association, Stroke Specialist Nurses, Managers from a variety of specialty areas and an Advanced Paramedic. The day comprised an introductory meeting with members of the Executive Team and Stroke Clinical Lead, followed by visits to all the component parts of the stroke service.

All members of the visiting team felt the visit had gone very well, and enjoyed it immensely. We were very impressed with the team work and very obvious commitment of all the people we met, to develop and deliver the highest quality services for stroke patients. The following report is based on the meetings the team had with the various departments, and their subsequent feedback. The majority of findings were presented to the Trust, on the day of the visit. We hope this report helps the Countess of Chester Hospital to continue to develop their stroke services.

National Sentinel Audit Results

The National Sentinel Audit was a bi-annual event, that involved all Trusts in the country, contributing data on their stroke services. The data set allows for benchmarking against the standards set out in the Royal College of Physicians Stroke Management Guidelines, and against other Trusts, regionally and nationally.

The audit was in 2 parts; an audit of the organisation and an audit of process. The process audit was conducted by a retrospective review of the case notes of the first 60 consecutive admissions with stroke from April 2010.

Below is a summary table of the Sentinel audit results for 2010, for the Network Trusts, with the organisational scores as of 2010. The 2012 organisational audit results were released in December 2012 and each Trust has hopefully analysed their own results.

The organisational score for the Countess of Chester in 2012 was 63.5 which placed the Trust in the lower quartile of the national table. This position has slipped from the 2010 middle range position.
## National Sentinel Audit Results

### National Results

<table>
<thead>
<tr>
<th>Trust Name (Site Name)</th>
<th>Number of cases in the audit</th>
<th>Screening for swallowing disorders within 24 hrs after admission</th>
<th>Brain scan within 24hrs of stroke</th>
<th>Physiotherapy assessment within 72 hrs of admission</th>
<th>Occupational therapy assessment within 4 days of admission</th>
<th>Patient weighed during admission</th>
<th>Patient mood assessed during admission</th>
<th>Rehabilitation goals agreed by discharge</th>
<th>Rehabilitation goals agreed within 5 days</th>
<th>Aspirin or clopidogrel by 48hrs after stroke</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aintree University Hospitals NHS Foundation Trust</td>
<td>60</td>
<td>98</td>
<td>73</td>
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<tr>
<td>Southport &amp; Ormskirk Hospital NHS Trust</td>
<td>60</td>
<td>82</td>
<td>59</td>
<td>98</td>
<td>100</td>
<td>87</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>87</td>
</tr>
<tr>
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<td>59</td>
<td>100</td>
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<td>81</td>
<td>83</td>
<td>75</td>
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<td>95</td>
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<td>100</td>
<td>100</td>
<td>89</td>
</tr>
</tbody>
</table>
Table 1B is a continuation of Table 1A. The overall position is calculated from the total process score from each site. This is an aggregated score across all domains with the top 25% of scores represented by the ✓ symbol, the middle half designated by the ◆ diamond and the bottom 25% designated with the ✗ symbol. * a high score denotes less good patient care.

<table>
<thead>
<tr>
<th>National Results</th>
<th>60%</th>
<th>86%</th>
<th>57*</th>
<th>36%</th>
<th>80%</th>
<th>38%</th>
<th>17%</th>
<th>32%</th>
<th>16%</th>
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</thead>
</table>

**Table 1B**

<table>
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<tr>
<th>Trust Name (Site Name)</th>
<th>Patient spent at least 90% of stay on stroke unit</th>
<th>Swallow assessment within 72 hours</th>
<th>Patient initially admitted to a general assessment unit*</th>
<th>Patient initially admitted to a stroke unit</th>
<th>Diagnosis discussed with patient</th>
<th>Admitted to stroke unit within 4 hours</th>
<th>Received all key 9 indicators in 2008</th>
<th>Received all key 9 indicators in 2010</th>
<th>Received all Key 12 indicators in 2010</th>
<th>Overall position in 2008</th>
<th>Overall position in 2010</th>
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<tbody>
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<td>Aintree University Hospitals NHS Foundation Trust</td>
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<td>53</td>
<td>96</td>
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<td>✓</td>
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<tr>
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<tr>
<td>East Cheshire NHS Trust</td>
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<td>86</td>
<td>30</td>
<td>65</td>
<td>92</td>
<td>62</td>
<td>6</td>
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<td>42</td>
<td>52</td>
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<td>40</td>
<td>97</td>
<td>42</td>
<td>10</td>
<td>52</td>
<td>29</td>
<td>◆</td>
<td>✓</td>
</tr>
<tr>
<td>Royal Liverpool &amp; Broadgreen University Hospitals NHS Trust</td>
<td>74</td>
<td>91</td>
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<td>3</td>
<td>100</td>
<td>46</td>
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</tr>
<tr>
<td>Southport &amp; Ormskirk Hospital NHS Trust</td>
<td>57</td>
<td>83</td>
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<tr>
<td>Wirral University Teaching Hospital NHS Foundation Trust</td>
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<td>48</td>
<td>54</td>
<td>20</td>
<td>✓</td>
<td>✓</td>
</tr>
</tbody>
</table>
The process audit can be summarised by analysing the ‘nine key performance indicators’. In the 2012, the Countess of Chester experienced a fall into the lower quartile. There are often several reasons for such an adjustment and hopefully the stroke team have begun to analyse and redress this. Development of the integrated stroke unit may help improve the organisational scores.

We have maintained the above format for the report to allow for consistency with reports generated by previous visits, for this round of peer support visits. The central data collection has now changed to SSNAP, which utilises different data sets and is beginning to produce a comparative reports. There are recognised ‘teething’ problems with the SSNAP system and hence the reports need to be analysed with caution.

The Countess of Chester has traditionally monitored stroke performance utilising the Advancing Quality (AQ) parameters.
Using AQ data for June 2013;

The composite process score was 89.43%
The appropriate care score was 73.68%
Both scores had seen improvement throughout 2013
Overview of the Countess of Chester Stroke Pathway

All patients with suspected acute stroke are admitted through the A&E Department. The North West Ambulance Service will often perform a FAST assessment on patients attended to, for suspected stroke. The A&E Department at the Countess is alerted for FAST positive patients, at which point the A&E triage nurse will contact the Stroke Coordinator and Stroke Consultant on-call to inform them of a standby situation for potential thrombolysis.

The Stroke Coordinator is available Monday-Friday between the hours of 0800-1600 hours and works in a coordinated manner with the A&E team to facilitate the initial assessment and investigation i.e. urgent CT scanning and assess patients’ suitability for thrombolysis.

A senior doctor in A&E is available for assessment of stroke patients and ROSIER scores are completed for such patients. Relevant thrombolysis is initiated in A&E.

The aim is to transfer all patients to the Integrated Stroke Unit within 4 hours of admission. Consultants provide the thrombolysis service 24/7 on a 1 in 5 rota. Out-of-hours thrombolysis is facilitated by the use of telemedicine.

All patients are reviewed by a consultant within 24 hours of admission to the Integrated Stroke Unit which has 6 acute assessment beds, 2 of which are ring fenced. Patients remain on the Integrated Stroke Unit for the duration of their inpatient stay and receive multidisciplinary input.

An early supported discharge service is available as a pilot and currently this is augmented by community rehabilitation services, which provides rehabilitation for patients until their specific rehabilitation goals have been obtained.

Patients with stroke and TIA are reviewed in clinic at 6 weeks

TIA Services

The Countess offers a 7 day TIA service receiving referrals from GPs, A&E and other specialties, such as ophthalmology and acute medicine. The referral is via a specific proforma (SPOT) which is being developed in conjunction with Primary Care.

This is a ‘one stop’ service that enables diagnosis, investigation and management to be completed at a single consultation, where necessary MRI scanning is available to aid diagnosis. Within working hours the service operator in the CRV department and at weekends, 2 slots are available for high risk TIA patients seen on the Integrated Stroke Unit.

The aim is to see high risk patients determined on the basis of an ABCD2 score within 24 hours and currently this is accomplished 65% of the time. Lower risk patients are seen within 7 days.

There is close integrated working with the vascular surgeons which is needed for rapid access to carotid endarterectomy.
A&E Department

The visiting team were:

Sue McGorry – Quality and Safety Manager, Cheshire, Warrington and Wirral Area Team
Roger Jones – Advanced Paramedic, North West Ambulance Service
Lynn Evans – Matron for Stroke Services, Royal Liverpool & Broadgreen Hospitals

All the visitors were made to feel welcome by the A&E staff and found their interaction enjoyable and informative.

The A&E Department is the admission point for patients with a suspected stroke. Patients are triaged by a senior A&E nurse who immediately contacts the Stroke Coordinator who helps facilitate the admission process. This service is available weekdays only between the hours of 0800-1600 hours. A close working relationship has developed between the A&E Department and the Stroke Team, which aids in the initial assessment and management, and facilitates rapid egress from the A&E Department in order to try to achieve the 4 hour transfer target from arrival to A&E, to arrival on the Integrated Stroke Unit. A senior A&E doctor is available to initially review all strokes and perform a ROSIER assessment, which again enhances the diagnostic certainty for stroke and helps ensure appropriate referrals to the stroke team. This intensity of service is offered to all patients who present with suspected stroke and the A&E team are very aware that it is important to take ownership of this initial part of the process, as rapid assessment and investigation are essential, particularly when considering patients eligible for thrombolysis.

The A&E triage nurses receive a pre-alert from North West Ambulance Service for FAST positive patients and the Stroke Team are then alerted for standby for potential thrombolysis. Rapid scanning is available from the A&E Department and thrombolysis is initiated where appropriate. The team are aware that this is a time sensitive treatment and enormous effort is generated to reduce the door-to-needle time, which are currently in the region of 50-60 minutes.

Out-of-hours and at weekends the thrombolysis service is facilitated by the use of telemedicine and the A&E middle grades are an integral component of this service and are available to administer the thrombolysis following the telemedicine consultation. However, it is noted there is only 1 telemedicine cart, with no back-up in case of technical failures. The system is old and slow and may add to delays in ‘door-to-needle’ times. The system is expensive to replace but this aspect will have to be factored into future service reviews.

In common with other Network A&E departments there are rising attendees with the attendant problem of surges in patient numbers, particularly in early and late evening. This clearly has an impact on the assessment of stroke patients as there are competing priorities within the A&E Department. The impact of this will adversely affect 4 hour access times and leads to increased usage of EAU as a decanting area for patients, which is clearly not desirable. The 4 hour time window has also been impacted upon by the development of the Integrated Stroke Unit, which geographically is some distance from the A&E Department, and this has led to increased transit times with the attendant decrease in performance.

The role of the Stroke Coordinator is clearly seen to be of major benefit to the A&E department in coordinating the initial management of stroke. However, this is a limited service and difficulties can arise out-of-hours or when the Stroke Coordinator is on annual leave. Although ward staff do try to compensate for this, this is not quite the same close working relationship and
ideally the number of available stroke coordinators or stroke specialist nurses would be increased to provide more complete round the clock access and liaison.

The SSNAP data collection commences when patients arrive in A&E and completion of this dataset can be problematic, again exacerbated by the limited availability of the Stroke Coordinator.

Training and education are essential provision for high quality care and it is widely acknowledged and appreciated that the system in A&E affords excellent training opportunities for A&E SpRs and junior medical staff in general. Training is provided by the Stroke Team in terms of the MedStat course which enhances the training opportunities available.

All in all there is a determined effort within the A&E Department and stroke services to develop the most effective and efficient pathway for the initial stroke presentation and to facilitate transfer into the Integrated Stroke Unit. In view of the recent redevelopments and the ongoing capacity issues, review of the initial pathway would be warranted to help the service continue to develop high quality care.
Imaging & Vascular

The visiting team were:

Sue McGorry – Quality and Safety Manager, Cheshire, Warrington and Wirral Area Team
Roger Jones – Advanced Paramedic, North West Ambulance Service
Lynn Evans – Matron for Stroke Services, Royal Liverpool & Broadgreen Hospitals

All the visitors were made to feel welcome by the Radiology staff and found their interaction enjoyable and informative.

Support from the Radiology Department is essential for the management of stroke and TIA. It was apparent to the visiting team that there are strong, close, personal working relations between the stroke team and Radiology Department.

The increase in demand for imaging in general is placing considerable strains on Network radiology departments and Chester Radiology Department is determined to meet that challenge and maintain access times.

There are currently two CT scanners available and one MRI scanner but recent IT glitches have limited the effective use of the MRI scanner in particular. Inpatient MRI scanning is available at weekends on a limited basis. CT scans are available 24/7 and the access to CT has been tremendously facilitated by presence of a resident radiographer rather than an on-call system.

Access to carotid dopplers occur reliably Mon-Fri as part of the ‘one-stop’ TIA clinic. Dopplers are not available at weekends but carotid imaging may occur using CTA for selected patients, with reports generated by the on-call SpR.

The Radiology Department has a consultant led service and aims for real time scanning reports, although out-of-hours does prove problematic. There is a close collaboration with A&E, in terms of expediting referrals and requests to maintain the one hour access target for head CT, in particular for patients who require thrombolysis.

Currently the door-to-needle time is in the region of 40-50 minutes but the pathway can be relatively patchy. Problems also arise out of hours, with image uploading difficulties on the laptops used as part of the telemedicine system. It is therefore essential that a weekly stroke specific review meeting, which analyses breaches, includes a member of the radiology department for closer team collaboration. The situation may be improved in January 2014 when a new MRI scanner comes online.

Clearly as the demands from the stroke services increase, coupled with increasing demand generally and also the added workload generated by the re-organised vascular surgery, services will need to be monitored as unless there are clear pathways and priorities the competing interest will not ensure effective utilisation of resources.
The visiting team were:

Dr Val Gott – Associate Specialist Stroke, Wirral University Teaching Hospital
Dr Raj Kumar – Clinical Lead for Stroke, Aintree University Teaching Hospital
Janet Sumner – Directorate Manager, St Helens and Knowsley Teaching Hospitals

The visitors were made to feel welcome by the staff of the Integrated Stroke Unit and found their interaction enjoyable and informative.

Inpatient stroke services were re-organised in June with the development of an Integrated Stroke Unit offering combined hyper acute, acute and rehabilitation services. This is a 28 bedded unit with 6 assessment beds in a mixed gender bay, supplemented by the availability of 2 side rooms for acute assessments when necessary. Two beds are ‘ring fenced’ to facilitate direct admissions from A&E, particularly where thrombolysis is required. This is an important step in maintaining the principle of direct admission to the Stroke Unit and also trying to meet the 4 hour access target.

Out of hours allocation of the beds is via the bed management team and it is therefore vital to ensure strict agreement that stroke unit beds are used appropriately. Although it is perceived that access to the stroke beds is efficient, it is currently estimated that 20-25% of beds are occupied by non-stroke patients. These are usually transferred off the unit, when appropriate, following review by the Stroke Physician of the Week.

The crucial role of the Stroke Coordinator in facilitating this initial part of the patient journey was again highlighted and although this service is only available between the hours of 0800-1600, Monday-Friday, approximately 70% of the admissions are seen by the coordinator. The role is also vital for identifying and tracking overnight admissions, the initial data entry for SSNAP and AQ and the filtering of referrals which are discussed with the Stroke Physician of the Week.

The majority of strokes are accommodated on the unit with between 2-5% of strokes accommodated elsewhere in the organisation. Clearly the dependency on one person for such a vital, intensive and varied role is a weakness and this is highlighted out-of-hours and at weekends and for periods of annual leave.

The creation of the Stroke Physician of the Week has been welcomed and provides for continuity of care, rapid patient assessment, the availability of consultants to attend A&E when needed and the ability to provide consistent leadership on the unit during that week. The Stroke Physician of the Week is also available to assess high risk TIAs and has no routine clinic commitments during that week.

To assist patient flow, board rounds occur 4 days / week, with a full MDT weekly. This is led by the Stroke Physician of the Week, who will review all 28 patients. Goal setting is not necessarily a component of this meeting, but does occur within 5 days of patient admission, but by whom is unclear. This may lead to different priorities and emphasis of care and the effectiveness of the process will need to be reviewed. The MDT is attended by a Social Worker, which helps with complex discharge arrangements.

On such units, as within the rest of the Network, the high throughput and high intensity of patient care creates a heavy workload especially for the nursing staff and the unit is fortunate in having
strong nursing leadership and highly trained and committed Band 5 staff nurses. All trained nurses are involved in thrombolysis monitoring. To compensate for the lack of out-of-hours Stroke Coordinator, there Band 6 nurses are available on every shift and these will provide some of the Stroke Coordinator role out-of-hours, in terms of facilitating the transfer of patients from A&E to the unit. The team spirit has been enhanced by the staff being ‘ring fenced’ so they are not diverted to other wards in times of general medical unit shortage. However, the concern with the experienced band 5s is a lack of career development and there would therefore seem to be an ideal pool of talent to develop into stroke specialist nurses which could provide more complete 24 hour cover and alleviate the pressure on the Stroke Coordinator.

Although there are well trained and organised senior staff there is perceived to be a lack of ‘hands on’ manpower and an expansion of nurses, particularly of the health care assistant grade, would be necessary to facilitate more intense 7 day working, as nurse led therapy is also a vital component of successful stroke unit care.

There is a strong education and training philosophy on the unit with all nurses having induction to the unit and training days arranged with the Stroke Coordinator and the therapists, which again enhances the integrated multidisciplinary team ethos.

Swallowing assessments are performed by the unit nurses and also by nurses in A&E but it is unclear by whom they have been trained. As throughout the rest of the Network, psychology services are lacking with screening performed by the occupational therapist predominantly and where necessary referral to liaison psychiatry occurs.

Some of the facilities on the ward need attention. The 6 bed mixed bay assessment area needs reviewing in light of current practices and recommendations for single sex areas, particularly as there are no discreet toilet facilities for the acute bay. It has been noticed since moving to the unit that there has been an increase in falls and there has been some concerns regarding the completion of necessary assessments, such as nutritional scores, pressure scores and the prescription of Aspirin. These may be teething problems as a result of moving to the new unit, but a review of care processes and ensuring adherence to current guidelines would be warranted.

Patients with stroke are reviewed in clinic at 6 weeks. It is unclear whether longer follow up is available and if so, by whom. It is recommended that stroke patients are reviewed at 6 months to assess function and adequate secondary prevention. This is also an area for stroke nurse development as such follow up arrangements can be nurse led.

The effectiveness of the unit is difficult to judge at the moment as specific data, in terms of transfer times, weights, length of stay, 90% stay, etc., are not yet available for any meaningful comparisons with the previous structure.

The unit is supported by a limited ESD service and can access step-down beds in Chester General Hospital but there has always been concern regarding patients on the Welsh side of the border with regard to discharge as there is no ESD support, although there is the possibility of accessing beds in Deeside Hospital, which is a GP run unit.

On the whole the unit is well motivated and very keen to develop and deliver high quality stroke services. The recent challenge of combining services into a single ward has had some teething problems but clearly has the potential to deliver efficient and effective care.
Therapies

The visiting team were:

Alison Seiler – Speech and Language Therapist, Mid Cheshire Hospitals
Marie Florian – Occupational Therapist – Knowsley CVD Community Stroke Team
Sarah McCann – Senior Physiotherapist – Aintree University Hospital

All the visitors were made to feel welcome by the therapists and found their interaction enjoyable and informative. The therapists interviewed represented physiotherapy, occupational therapy, and speech and language therapy.

To function effectively, particularly an integrated unit, it is essential there is close interaction between the multidisciplinary team. It was immediately clear to the visiting team that there is a committed specialist therapy team who works in close collaboration with the nursing staff and medical staff. This collaboration is enhanced by the daily board rounds which facilitate day-to-day planning of patient activity, thereby enhancing the efficiency and effectiveness of the unit.

Again a vital component of this integrated working is the Stroke Coordinator who liaises closely with the therapy team, as well as other members of the unit and the organisation. The implementation of a fortnightly therapy occupational group to prioritise areas of need and monitor activity is a welcome development, again enhancing the efficiency of the service and ensuring effective utilisation of resource. This has been further improved by the recent introduction of consultant allocation for rehab patients, ensuring continuity of care and effective discharge planning.

There is a blanket referral system in operation for OT and physiotherapy who often perform joint assessments in an attempt to fulfil the requirements of early access to therapy and 45 minutes of treatment a day. There is a good computer based system for entering such data and trying to comply with the SSNAP requirements, although the concentration of AQ data has detrimental effects, in terms of accurately recording goal setting outcomes and also the effect of bank holidays on AQ statistics.

The lack of psychology is compensated for by cognitive assessments performed by occupational therapists and subsequent referral to psychiatric liaison where necessary.

Currently this is a 5 day service and there is a major challenge to extend this to 7 day services due to a lack of available therapists and review of manpower and skill mix is warranted.

The change to the integrated unit has had a detrimental effect on therapy facilities and it is a major challenge to maintain the focus on a rehabilitation centred service. The facilities are not ideal with lack of accommodation, in terms of office space, ill equipped OT kitchen facilities and a lack of an ADL assessment suite. Facilities in the patients’ day room also need reviewing in order to maximize the use of this vital space and encourage socialisation.

The strong education and training philosophy is maintained in the therapy department and joint training with the Stroke Coordinator and nursing staff help develop general unit skills and ensure that the rehabilitation ethos is maintained.

There is close links with the early supported discharge team but both this team and the
community based therapy team cover a large geographical area and this, plus the lack of such services in Flintshire can impact the length of stay on the unit.

To facilitate discharge planning there are early meetings with families to discuss goals and longer term discharge.
Research

The visiting team were:

Clare Hiles – Deputy Head of Operations North West, Stroke Association
Wendy O’Connor – Quality Improvement Lead CVD, Cheshire and Merseyside Strategic Clinical Networks

The visitors were made welcome by the Research Team and found their interaction informative and enjoyable.

Since the appointment of a stroke specific consultant in 2005 there has always been a strong interest and commitment to research and the unit has a proud track record in participation in multi-centre trials as part of the North West Research Network.

Currently the research effort benefits from the provision of a whole time nurse who is available Monday-Friday, 0900-1700, and a dedicated R&D admin assistant to encourage recruitment and participation in trials.

The strong team ethos, in terms of research, enables suitable patients to be identified during MDT meetings and specific bi-weekly R&D MDTs. The research posts are externally funded and therefore in this era of financial constraint there is uncertainty regarding the long term viability of such posts and this will clearly be dependent on the income generated from the research activities, both commercial and non-commercial.

Due to the limited capacity of the research nurse, then it is likely that patients may slip through the ‘trial net’ during her periods of absence and therefore the possibility of the experienced band 5s taking a more active role in research and trial patient identification may be warranted to enhance their own personal development. As there are very good links with Chester University such developments may well occur through liaison with them and the promotion of higher qualifications.

It is important that the team remember to engage the CCGs in their research plans, as clearly continuity of care, in terms of medicines management and research, will be important.

The post of CVD Clinical Lead research position within the CLRN is available and clearly this will be a position that Dr Chatterjee, who has been leading the successful research, may consider as part of his development.
Early Supported Discharge

The visiting team were:

Alison Seiler – Speech and Language Therapist, Mid Cheshire Hospitals
Marie Florian – Occupational Therapist – Knowsley CVD Community Stroke Team
Sarah McCann – Senior Physiotherapist – Aintree University Hospital

The visitors were made welcome by the Early Supported Discharge Team and found their interaction informative and enjoyable.

The Early Supported Discharge Team began as a pilot commencing in October 2012 and although predominantly serving the Countess of Chester, also referrals from Wirral Hospitals for those patients who have local GPs. The team comprises of speech and language therapy, occupational therapy, physiotherapy, support workers and is fortunate in having stroke specialist nursing input. The move to the integrated stroke unit has led to an increasing number of referrals to ESD, which is essential to maintain patient flow and efficiency through the unit. The therapy team participate in the daily board rounds and therefore offer a seamless transfer of care, particularly for physiotherapy and occupational therapy.

There is very good leadership within the team and a strong focus on integrated working and patient experience. Although there does not appear to be any stroke specific social workers, the team are able to provide social care for about 50% of discharges which maximises the community rehabilitation potential. This is also enhanced by the general community team, which despite not being stroke specific, is able to see patients for as long as is needed.

The team has demonstrated its impact so far with positive patient experience and a saving of 1894 bed days in the first 6 months. Not surprisingly the need for the service is growing exponentially, and may have been exacerbated by the relative reduction in beds on the integrated stroke unit.

The team provides services to a large geographic area, which impacts on the amount of therapy time that can be devoted to patients and at present the recommended 45 mins of therapy is aspirational. However, the team manage to comply with NICE recommendations for follow up within the first 72 hours post discharge.

The lack of step down community capabilities, in terms of intermediate care or transitional beds, again puts pressure on the services, in terms of increased referrals and increasing demand to keep people in their own home, which is clearly beneficial to the patient.

Although the ESD team have speech and language therapy, which is beneficial for the immediate post discharge of patients, there is a 3 month wait for community speech and language therapy for those patients who do not fit ESD criteria.

The team has close links with the Stroke Association, which is necessary for advice and carer support and also links with the acquired brain injury team to compensate for lack of stroke specific psychology services.

It is clear that demand for early supported discharge and community based rehabilitation will increase and it is therefore essential that not only is the funding secured for the ESD team on a
permanent basis but there is strategic planning and development of this team, ensuring adequate numbers and skill mix, which will be necessary, not only to maintain throughput through the integrated stroke unit but also to work towards a 7 day provision of services and more sustained consistent access for the necessary rehabilitation of patients.
TIA Services

The visiting team were:

Dr Val Gott – Associate Specialist Stroke, Wirral University Teaching Hospital
Dr Raj Kumar – Clinical Lead for Stroke, Aintree University Teaching Hospital
Janet Sumner – Directorate Manager, St Helens and Knowsley Teaching Hospitals

The visitors were made welcome by the representatives of the TIA service and found their interaction informative and enjoyable.

The TIA services offer 7 day assessment of people with TIA aiming to provide a one stop service whereby diagnosis, investigations and management can be initiated. The service is more robust Monday-Friday with a more limited service at weekends offering 2 slots on a Saturday and Sunday, mainly for high risk patients and these are accommodated on the stroke unit.

There is a robust referral pathway receiving referrals from GP, A&E and occasionally MAU and other specialities, such as ophthalmology. Monday-Friday between the hours of 0800-1600 the referrals are processed by the Stroke Coordinator. Out-of-hours GPs ring the bleep holder, which is often the bed manager, who will arrange for patients to be seen the next day on the ward. There are no dopplers available at weekends but occasionally CT angiography can be used in lieu of a doppler.

There is close working relationship between the vascular surgeons and the stroke consultants and those eligible patients for endarterectomy can be assessed and operated on within the week of review in the vascular clinic. However, the inconsistent imaging can cause delay in this referral process.

For relevant patients with atrial fibrillation there is ambulatory anticoagulation services. However, this is not available at weekends and can lead to admissions during this period to commence anticoagulation. Generally the number of patients admitted with TIA is small.

The data collection and therefore the effectiveness of the TIA clinic are again dependent on the Stroke Coordinator and his dataset and there can be difficulty in accurately recording the timing of referral and therefore assessing the responsiveness to 24 hour access.

At present the Stroke Coordinator is not involved in the clinics as clearly his time does not allow for this, but trainees are now attending clinics and will see some new patients and follow ups.

The Stroke Consultants, who are involved in emergency clinics, will also see TIA patients in that setting and occasionally in other ‘speciality clinics’, particularly when patients are low risk.

The Stroke Coordinator provides educational sessions with GPs to enhance the community awareness of the importance of TIAs.

There was a concern during the visit that there was a delay in prescription of essential medication which is clearly important for reducing stroke risk but we were assured on the day that the pathway and protocols ensure that appropriate medication is given on first contact, either by GP or A&E.
To enhance and demonstrate the effectiveness of the service provided, it is essential that the data collection is made more consistent and therefore reflects the amount of effort being provided to deliver effective services.
Family Support and Social Care

The visiting team were:

Clare Hiles – Dept Head of Operations North West, Stroke Association
Wendy O’Connor – Quality Improvement Lead CVD, Cheshire and Merseyside Strategic Clinical Networks

The visitors were made welcome by the representatives of family support and social care and found their interaction informative and enjoyable.

The Stroke Association is an integral component of the stroke services and is essential in providing patients and family support, both in hospital and also in the community with which they have extensive well established links.

The patients are referred to the Stroke Association when they are medically fit and each patient and family receive a comprehensive information pack. Again, it is mentioned that the Stroke Coordinator has an essential role in these wider aspects of stroke care and there is good liaison working with the Stroke Association.

The effectiveness of the service was judged in a recent Friends and Family Survey when 100% were very likely to recommend the services to other friends and family. It is also appreciated that Stroke Association drop in sessions that are provided on a weekly basis are very beneficial and very valued by patient and carers alike.

Although there is weekly presence of a social worker for the MDT, the lack of a stroke specific social worker is perceived to be problematic when arranging complex discharges and accessing community step-down facilities, which are in short supply. This can potentially lead to delays in discharge or over burdening of a hard pressed ESD team.

Finance of contracts are affecting the Stroke Association and there seems to be uncertainty regarding the longevity of the Stroke Association personnel.

There are also concerns that there is a postcode lottery in terms of equitable access to social care and Stroke Association services because of the boundary between Western Cheshire and Flintshire. Closer working relations and streamlining budgets may be able to influence this situation at a local level, but suspect this is not a stroke specific problem.
Recommendations

1. Integrated Stroke Unit
   - needs time to establish the unit and assess performance after this period of stabilisation
   - review current pathways to ensure they are compatible with this service configuration

2. Early Supported Discharge
   - need to secure permanent funding for scheme
   - strategic development of service to ensure appropriate skill mix, geographical cover and 7 day service
   - closer integration with social services and community rehabilitation teams

3. Explore Capacity Management
   - developing 7 day service, imaging, therapy, ESD
   - review staffing levels and skill mix on integrated stroke unit
   - develop longer term review clinics
   - need to review and develop current psychology provision

4. Develop Stroke Specialist Nurses
   - reduce pressure and dependency on stroke co-ordinator
   - experienced pool of band 5 staff nurses ready for development

5. Data
   - review current data collection and ensure maximal utilisation of results to inform future service requirements and development particularly regarding the service reconfiguration and the SSNAP requirements
   - monitor impact of integrated stroke unit

6. Financial
   - secure long term, recurrent funding for ESD, research and Stroke Association
Summary

The visit to the stroke services at the Countess of Chester, NHS Foundation Trust was undertaken as part of a series of peer support visits conducted by the Cheshire and Merseyside Strategic Clinical Networks.

The Stroke Team is clearly well-motivated and enthusiastic, with a strong desire to develop, improve and extend the range of services provided. This strong commitment and ambition needs to be harnessed by the Trust, to aid the strategic, integrated development of stroke services, in partnership with Clinical Commissioning Groups.

The current reconfiguration of services is clearly work in progress and the expected benefits in terms of efficiency, access and improved performance needs a longer unit gestation time before they are fully realised. The depth of the service is developing with strong leadership evident in the different components on the multi-disciplinary team, all determined to work towards the common goal of improved stroke care. The current availability of a pool of experienced personnel allows for potentially exciting and crucial developments of new roles which will certainly enhance the service. The demonstrable benefits of ESD need to be harnessed in sound financial investment to enable the continuing development of comprehensive stroke care.

The visiting team was very impressed with the dedication, enthusiasm and commitment of the stroke team and would like to thank all those who participated and were willing to share good practice.

We hope you find this report of benefit in the continuing development of the Countess of Chester stroke services.
## Appendix 1
**Peer Support Visiting Team**

<table>
<thead>
<tr>
<th>Position</th>
<th>Name</th>
<th>Organization</th>
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<tbody>
<tr>
<td>Associate Specialist Stroke</td>
<td>Dr Val Gott</td>
<td>Wirral University teaching Hospital NHS FT Trust</td>
</tr>
<tr>
<td>Advanced Paramedic</td>
<td>Roger Jones</td>
<td>NWAS</td>
</tr>
<tr>
<td>Deputy Head of Operations, NW</td>
<td>Clare Hiles</td>
<td>Stroke Association</td>
</tr>
<tr>
<td>Occupational Therapist/Coordinator</td>
<td>Marie Florian</td>
<td>Knowsley Community Stroke Team</td>
</tr>
<tr>
<td>Directorate Manager</td>
<td>Janet Sumner</td>
<td>St Helens &amp; Knowsley NHS Trust</td>
</tr>
<tr>
<td>Quality &amp; Safety Manager</td>
<td>Sue McGorry</td>
<td>Cheshire, Warrington &amp; Wirral Area Team</td>
</tr>
<tr>
<td>Clinical Lead for Stroke</td>
<td>Dr Raj Kumar</td>
<td>Aintree University Hospital NHS FT Trust</td>
</tr>
<tr>
<td>Quality Improvement Lead CVD</td>
<td>Wendy O'Connor</td>
<td>Cheshire and Merseyside Strategic Clinical Networks</td>
</tr>
<tr>
<td>Speech &amp; Language Therapist</td>
<td>Alison Seiler</td>
<td>Mid Cheshire Hospitals NHS FT Trust</td>
</tr>
<tr>
<td>Senior Physiotherapist</td>
<td>Sarah McCann</td>
<td>Aintree University Hospital NHS FT Trust</td>
</tr>
<tr>
<td>Matron for Stroke Services</td>
<td>Lynn Evans</td>
<td>Aintree University Hospital NHS FT Trust</td>
</tr>
</tbody>
</table>
## Appendix 2
Peer Support Hosting Departments

<table>
<thead>
<tr>
<th>Hosting Departments</th>
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<tbody>
<tr>
<td><strong>A&amp;E</strong></td>
</tr>
<tr>
<td>Jo Windsor - Matron</td>
</tr>
<tr>
<td>Dr Gopal Pureti</td>
</tr>
<tr>
<td><strong>Imaging and Radiology</strong></td>
</tr>
<tr>
<td>Linda Williams – Radiology Services Manager</td>
</tr>
<tr>
<td><strong>Combined Stroke Unit - Acute and Rehabilitation</strong></td>
</tr>
<tr>
<td>Sharon Parker – Unit Manager</td>
</tr>
<tr>
<td>Dr Tim Webster - Clinical Lead for Elderly Medicine - Consultant Physician – Geriatric and Stroke</td>
</tr>
<tr>
<td><strong>Therapies</strong></td>
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<tr>
<td>Alex Holroyd – Rehabilitation Team Leader</td>
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<tr>
<td><strong>Early Supportive Discharge</strong></td>
</tr>
<tr>
<td>Kellyann Lea – ESD Team Co-ordinator</td>
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<tr>
<td><strong>Stroke Research</strong></td>
</tr>
<tr>
<td>Dr Kausik Chatterjee – Clinical Director</td>
</tr>
<tr>
<td><strong>Stroke Association/Family Support/Communication Support</strong></td>
</tr>
<tr>
<td>Jeanette Lunt – Assistant Regional Manager, Stroke Association</td>
</tr>
<tr>
<td>Tom Taylor – Stroke Coordinator</td>
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<tr>
<td><strong>TIA Service</strong></td>
</tr>
<tr>
<td>Dr Syed Haider – Consultant Physician – Geriatric and Stroke Medicine</td>
</tr>
</tbody>
</table>