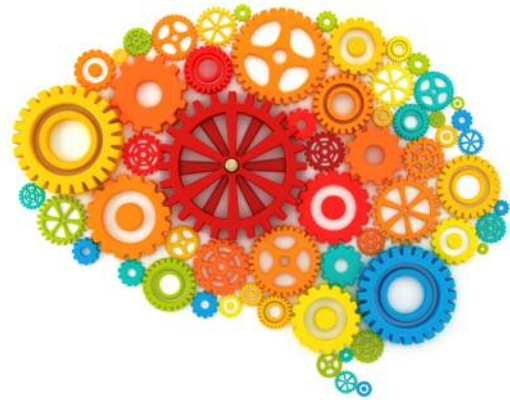




MIND THE GAP



WAYS TO
ENHANCE
THERAPY
PROVISION IN
STROKE
REHABILITATION

Acknowledgements

Authors:

Jill Lockhart, National Improvement Lead,
NHS Improvement - Stroke

Ina James, Team Leader Physiotherapist, Stroke
Services, York Hospitals NHS Foundation Trust

Gail Linstead, Stroke Service Improvement
Manager, North of England Cardiovascular
Network

With considerable thanks to the NHS Improvement - Stroke Increasing Access to Therapy National Project Teams:

Sheffield Teaching Hospitals NHS Foundation
Trust, Stroke Therapy Service

Sheffield Primary Care Trust Speech and
Language Therapy Service into Sheffield
Teaching Hospitals NHS Foundation Trust

The Stroke Unit at St Thomas' Hospital, Guys
and St Thomas' NHS Foundation Trust

Newton Abbot Hospital Teign Ward and
Torbay and Southern Devon Care Trust Stroke
Therapy Team and Community Neurology
Service Team, South Devon

NHS Camden - stroke REDs team

The community stroke team in Blackburn
with Darwen, part of Lancashire Care NHS
Foundation Trust

South Tyneside NHS Foundation Trust
Physiotherapy Stroke Team

Stroke Rehabilitation Unit, St Bartholomew's
Hospital, Rochester, Kent, Medway
Community Healthcare

Chesterfield Royal Hospital NHS Foundation
Trust Acute Stroke Unit Team

With additional thanks for their support, contributions and comments to:

Professor A Rudd, Stroke Physician, Guy's and
St Thomas' Hospital

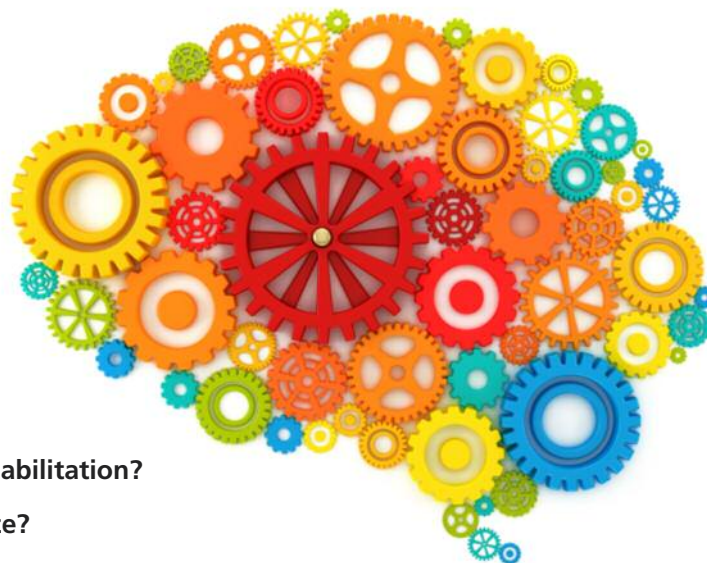
Professor V Pomeroy, Professor of
Neurorehabilitation, University of East Anglia

National rehabilitation projects 2009-10
Therapy Teams from Medway Healthcare and
York NHS Foundation Trust

Brighton Paradza, Senior Clinical Specialist
Physiotherapist, Cardiothoracic Acute
Services, The James Cook University Hospital

Fiona Lunn, Nurse Consultant Stroke and the
Stroke Team at University Hospital of North
Staffordshire NHS Trust

Contents



4	Foreword
5	Executive summary
6	Introduction
8	National guidelines
10	Who can deliver more rehabilitation?
14	When - a seven day service?
17	How long - getting more out of the whole week?
22	Where can more therapy make a difference?
24	How - bridging the gap?
28	Conclusions
30	References
31	Case studies
32	NHS Camden – stroke REDs Improving access to 45 minutes of therapy for stroke patients
36	The community stroke team in Blackburn with Darwen, part of Lancashire Care NHS Foundation Trust Retrospective evaluation of therapy need and provision
37	Medway Community Healthcare Stroke Rehabilitation Unit, St Bartholomew’s Hospital, Rochester, Kent Improving access to 45 minutes of therapy for stroke patients
39	South Tyneside NHS Foundation Trust Increased stroke physiotherapy provision on stroke wards
40	Sheffield Teaching Hospitals NHS Foundation Trust Implementing seven day occupational and physiotherapy services for stroke
42	Sheffield Primary Care Trust and Sheffield Teaching Hospitals NHS Foundation Trust Sheffield stroke unit seven day working pilot for speech and language therapy
43	Chesterfield Royal Hospital NHS Foundation Trust Developing a seven day physiotherapy service on the acute stroke unit
44	Newton Abbot Hospital stroke unit with Torbay and Southern Devon Care Trust South Devon Stroke Services: Seven day working and 45 minutes of therapies
46	Guys and St Thomas’ NHS Foundation Trust Seven day service: Weekend rehabilitation support worker model
48	Stoke-on-Trent: University Hospital of North Staffordshire NHS Trust
49	Stakeholders

Foreword

One thing we have learnt from implementation of the National Stroke Strategy is that the NHS cannot be a Monday to Friday service any more for people who have had a stroke. The faster you act, the more of the person you save is the mantra for the medical emergency response, and increasingly, we are seeing this is what is needed for therapy services too.



The NICE Quality Standards for Stroke gives therapists a standard to work to for the first time. This report gives you lots of ideas and methods to get started to make those standards a reality. It's going to require hard work and soul searching to think carefully about what you do now and what can be changed and improved. I urge you to embrace this as a way to describe what you do and ensure it is valued by everyone.

In a stroke team, rehabilitation is everyone's business. The teams featured in this report have learnt to share skills and to make rehabilitation the basis of the patient's day.

And that's the key message. We must make sure the service works to meet the needs of the patient, not the other way around.

Professor Sir Roger Boyle CBE



Executive summary

It is accepted that rehabilitation is an essential part of the management and treatment for stroke survivors -

“Rehabilitation after stroke works. Specialist co-ordinated rehabilitation, started early after stroke and provided with sufficient intensity, reduces mortality and long-term disability.”

National Stroke Strategy 2007

There is much diversity across the shape, content and delivery of rehabilitation and therapy services across England and this presents a challenge for both service improvement and research.

This project explored some of the different models adopted by therapy services to deliver more therapy/ rehabilitation in the context of major change within the NHS nationally and locally.

This publication discusses their effect on patients, services and organisations, provides some useful learning to inform the debate with further detail about 45 minutes, process and outcomes and asks further questions for therapy services to consider.

The commonly emerging themes were how important it is to understand existing services fully by using accurate data and relevant data analysis, that managing human dimensions is paramount with making such huge cultural changes within therapy services and the need to continue optimising workforce combinations and work collectively along the pathway is essential to delivering effective responsive and timely services.



All patients can have a rest day if it is appropriate, but it doesn't always need to be Saturday or Sunday for every patient. Seven day therapy services enable equity of access and the opportunity for patients to begin their treatment as early as possible. They support swifter multidisciplinary team engagement and speedier progress, thereby capitalising on other improvements to the front part of the stroke pathway. Meanwhile, seven day community stroke services can have more influence on hospital length of stay than weekend therapy inpatient services.

Access to, and delivery of, 45 minutes therapy, improved when seven day services were available and following demand and capacity activity analysis across the pathway. This improvement brought different benefits reflecting the service needs, patient stage of recovery and their goals. All models received very positive qualitative feedback from patients regardless of who delivered it.

Well organised and structured additional therapy services, delivered over more days of the week impact positively on patients and therapy delivery (frequency and intensity) across the whole week.

This work has, arguably, only scratched the surface of the issue of therapy availability, yet hopefully, provides useful ideas and insights. Project teams have shown the benefit of applying systematic service improvement analyses to their functioning, processes and patient outcomes. To support further development, more scientific research in this area is also crucial. It is worth noting that improved and efficient services create an environment in which research can be better facilitated and enabled, and an effective research culture within clinical services enhances their ability to care for their patients.

Introduction

There are many policy drivers for this project including the National Stroke Strategy (1), Royal College of Physicians (RCP) National Clinical Guidelines for Stroke (2), National Institute for Clinical Excellence (NICE) quality standards for stroke (3), and Care Quality Commission (CQC) report on stroke services (4).

In addition, the requirement to improve quality and productivity to ensure services continue to meet demand within existing resources requires all services to review and maximise the use of their workforce. Therapy stroke services are facing increasing pressure as research suggests that their services deliver poorer outcomes, yet are better resourced than some European counterparts. (14) There is increasing pressure from commissioners to demonstrate the added value of specialist services, in comparison with generic ones.

This can be viewed by therapists as a challenge to their services, or as an opportunity to examine practice objectively and pragmatically, gain a fuller understanding of how they can improve patient contact time and deliver higher quality rehabilitation across the stroke pathway. This would enhance the significant changes that have already taken place in stroke care and positively embrace the culture change required to deliver a responsive, flexible, timely and relevant therapy service for stroke survivors.



National standards set out the expectations; however, services are struggling to work out how to implement them. This publication summarises some practical service delivery solutions and the ways in which these “Mind the Gap”.

Process of the projects

Aim

The aim of this work was to:

- Look at the impact of different models that stroke services are using to increase access to therapy and rehabilitation
- Understand how to affect delivery of national quality standards, guidelines and aspirations for stroke services
- See if there were any changes to treatment intensity or frequency, length of stay and other outcomes.

Project teams also wanted to understand more clearly which patients receive most therapy and why this happens. The projects did not aim to examine the questions around ad hoc or formalised organisation of therapy services, whether more therapy improved clinical functional outcomes, or the nature of the clinical approaches and modalities used.

Methodology

There were two project streams:

- 1. Delivering 45 minutes of therapy**
- 2. Providing a seven day service.**

There were nine project sites who participated in the project from both hospital and community environments.

Each site provided information on:

- **Population**
- **Numbers of stroke patients referred**
- **Type of service**
- **Bed numbers (if applicable)**
- **Staffing**
- **Length of stay and/or functional outcomes.**

Each site also collected data on approximately 30 patients. The samples were not comparable and are only a snapshot of each site. Only one site managed to collect data before and after a change in service delivery took place. The data included some or all of the following:

- Admission to treatment
- Frequency of treatment (i.e. how often or on how many days therapy was given)
- Intensity of treatment (how long the treatment session was for)
- Therapist opinion on frequency and intensity required
- Reason for 45 minutes of therapy not being received
- Staff, patient and carer satisfaction.

This publication builds on the learning from project sites in the national rehabilitation projects 2009-10 (25) by further work with the nine project sites involved in delivering seven day or 45 minutes of therapy services. It is not presented as scientific research, but service improvement work, with measurement and comment accordingly.

Observations are included from other sites across stroke and wider therapy services in England, and stroke therapy services in USA, Canada and New Zealand. The publication includes some of the research evidence and the results of a consultation with a wide range of relevant stakeholders.

Project teams

The organisations taking part in the projects were as follows:

- **Sheffield therapy** team, from the Sheffield Teaching Hospitals NHS Foundation Trust
- **Sheffield speech and language therapy**, from the Sheffield Primary Care Trust speech and language service into Sheffield Teaching Hospitals NHS Foundation Trust
- The stroke unit at **St Thomas' Hospital**, Guys and St Thomas' NHS Foundation Trust

- **South Devon** - A combined team of therapists on the stroke rehabilitation unit at Newton Abbot Hospital, and community neurology service
- The **NHS Camden - stroke REDs** team
- Community stroke team in **Blackburn with Darwen**, part of Lancashire Care NHS Foundation Trust
- **South Tyneside** NHS Foundation Trust physiotherapy stroke team
- **Medway Community Healthcare**, the staff on the stroke rehabilitation unit at St Bartholomew's Hospital, Rochester, Kent
- **Chesterfield Royal Hospital** NHS Foundation Trust acute stroke unit team.

For ease of reading, teams will be referred to by the emboldened titles above in the rest of the document.

National guidelines

NATIONAL STROKE STRATEGY - DEPARTMENT OF HEALTH

“People who have had strokes access high-quality rehabilitation and, with their carer, receive support from stroke-skilled services as soon as possible after they have a stroke, available in hospital, immediately after transfer from hospital and for as long as they need it.” (*Quality Marker 10: High quality specialist rehabilitation*)

“Survival is strongly associated with processes of care... such as early mobilisation, early feeding and measures to prevent aspiration. Speech and language therapists, physiotherapists, occupational therapists and dietitians have specific contributions to make in delivering these particular aspects of care. The probable explanation for higher survival and lower institutionalisation rates (on stroke units) are the significant differences in both multidisciplinary team working – such as early assessment, goal setting and discharge planning.” (*Quality Marker 9: Treatment*)

“Existing staffing numbers and skill mix profiles are insufficient to deliver the required input in stroke care pathways. Workforce review is therefore needed, along with a workforce plan that defines the care pathway, lists the functions at each stage and the competencies required to perform the functions, and then ensures training is put in place to support staff to acquire the competencies. “ It recommends that services “consider new and more flexible roles (i.e. expanding roles across professional boundaries)” (*Quality Marker 18: Leadership and skills*)

QUALITY STANDARDS FOR STROKE - NICE

Quality Standard - 5

Patients with stroke are assessed and managed by stroke nursing staff and at least one member of the specialist rehabilitation team within 24 hours of admission to hospital, and by all relevant members of the specialist rehabilitation team within 72 hours, with documented multidisciplinary goals agreed within five days.

Quality Standard - 6

Patients who need ongoing inpatient rehabilitation after completion of their acute diagnosis and treatment are treated in a specialist stroke rehabilitation unit.

Quality Standard - 7

Patients with stroke are offered a minimum of 45 minutes of each active therapy that is required, for a minimum of five days a week, at a level that enables the patient to meet their rehabilitation goals for as long as they are continuing to benefit from the therapy and are able to tolerate it.

Quality Standard -10

All patients discharged from hospital who have residual stroke-related problems are followed up within 72 hours by specialist stroke rehabilitation services for assessment and ongoing management.

NATIONAL CLINICAL GUIDELINE FOR STROKE, THIRD EDITION – ROYAL COLLEGE OF PHYSICIANS

- A) Patients should undergo as much therapy appropriate to their needs as they are willing and able to tolerate and in the early stages they should receive a minimum of 45 minutes daily of each therapy that is required.
- B) The team should promote the practice of skills gained in therapy into the patient's daily routine in a consistent manner and patients should be enabled and encouraged to practice that activity as much as possible.
- C) Therapy assistants may facilitate practice but should work under the guidance of a qualified therapist.

Further assessments can and should be undertaken later, and this set of recommendations focuses on those that are important in the first 48 hours; to identify major impairments that may not be obvious but that may have an influence on early management, guide prognosis and draw attention to immediate rehabilitation needs.

“All patients with any impairment at 24 hours should receive a full multidisciplinary assessment using an agreed procedure or protocol within five working days, and this should be documented in the notes”.

Who can deliver more rehabilitation?

Flexibility and creativity about staffing may be needed to deliver improved rehabilitation for stroke patients. This section describes the different approaches the projects took, and the impact.

What the evidence says

The NICE quality standards define therapy services as physiotherapy, occupational therapy, and speech and language therapy. Individual patients may require treatment from other professionals such as clinical psychologists and dieticians. They are relevant to all environments across the pathway. (3) Royal College of Physician (RCP) Guidelines state that therapy assistants may facilitate the practice but should work under the guidance of the qualified therapist. (2)

Practice outside the UK

In the US, state-funded Medicare requires specifically physiotherapy, occupational therapy, and speech and language therapy are delivered, but services such as psychology are not included. Therapy services can be supported by rehabilitation technicians for administrative who support work and are not directly involved in the provision of therapy services. Qualified occupational therapy assistants and physical therapy assistants may provide therapy services directly to patients under the appropriate supervision of licensed therapists, and families are very engaged.

What the stakeholders say

The general consensus from the stakeholders is that rehabilitation assistants are a cost effective way of ensuring that patients get a robust rehabilitation package, and may be essential to meeting both 45 minutes and seven day therapy provision. However services need to have mechanisms in place to ensure that these assistants have suitable supervision and support to maintain the competencies required to follow professionally developed plans effectively.

Other time consuming tasks such as completing outcome measures, delivering equipment and some administrative tasks could be delegated to rehabilitation assistants to free up qualified therapists' time.

The stakeholders also suggest that to achieve both the access to seven day services and 45 minutes of therapy, teams should take a more integrated approach to rehabilitation. Therapists should increase involvement with the patient and the wider team, and where appropriate should include nursing staff and the family in promoting a continuous rehabilitation culture. This can also support the patient towards self-management in the longer term.

KEY MESSAGES

- A flexible and creative approach to rostering can gain support from a wider pool of appropriate staff to keep additional services sustainable and enhance clinical skills for therapists
- Weekend services that include acute and community staff can assist with a smoother transfer of care experience for patient and carers
- Additional rehabilitation provided by a therapy team has more impact meeting required standards than when it is delivered by suitably trained nurses
- Stroke skilled support workers can assist therapy services with achieving 45 minute therapy sessions and seven day services and are integral to achieving the NICE quality standards
- Joint working with nurses has a positive effect on cohesion and compliance and can be achieved in addition to direct therapeutic clinical contact time

Project findings

The stroke unit at **St Thomas' Hospital** offers an additional weekend rehabilitation service that is provided by rehabilitation support workers who work as healthcare assistants during the week. The content and structure of the weekend programme is selected by the therapists from an 'options menu'.

Whilst the 20 minute sessions the rehabilitation support workers provide do not meet the NICE quality standards or RCP guidelines specifically, they do demonstrate a proactive multidisciplinary approach to rehabilitation, and support workforce flexibility. Patients have a greater number of rehabilitation contacts during admission, but not therapy direct contacts. Therapists feel that patients who use this service maintain better 'carry over' for Monday than those who do not.

The **South Tyneside** physiotherapy stroke team provided a weekend service for the stroke unit, by recruiting an additional band 5 physiotherapist and band 4 technical instructor to work five days comprising three during the week and two at the weekend. They solved the recruitment challenge by including the post within the existing band 5 rotation scheme, and gradually rolled out the changes in contracts with each new member of staff.

To ensure competence, supervision and support the band 5 therapist can liaise with the on call therapy team at weekends, and is supported during the rest of the week from within the stroke team. The stroke team act pragmatically and flexibly when there is a vacant post to provide a six day service from within the existing staff.

Since the inception of the project, many more patients have received 45 minutes of physiotherapy, and therapy has been provided at the weekend.

This model enables the service to meet the NICE quality standards 5 and 6, the National Stroke Strategy and the RCP guidelines for physiotherapy. Their admission to assessment time improved from 52% within 72 hours (2008) to 93%.

The **South Devon** team on the stroke rehabilitation unit at Newton Abbot Hospital reallocated existing funding for the band 5 physiotherapy post to fund three band 3 rehabilitation support assistants and four hours of a band 6 occupational therapist or physiotherapist for Saturday. The additional rehabilitation support assistants are rostered from Saturday to Tuesday, and the qualified staff from a rota of stroke skilled therapists from the team and community service.

Their new model demonstrated an improvement in admission to treatment time, with 100% of patients being assessed within 72 hours compared to 80% in 2008. All appropriate patients were able to access 45 minute treatment sessions compared to 92% in 2008. Feedback from patients and carers was already very good, but had highlighted a wish for more therapy opportunities.

Staff felt that communication between hospital and community services, and appreciation of the transfer process for patients, improved. It also meant that weekend staff had a reasonable frequency of shifts to maintain their work-life balance, and enabled community therapists to keep their acute rehabilitation skills up to date.

Percentage of patients seen for 45 minutes of therapy before and after the changes in South Tyneside

Before introduction of project (week days)	Since August 2009 (week days)	Since August 2009 (weekends)	Since Aug 2009 average daily (seven day)
33.8%	75.6%	68%	68%

The benefits for the patients, service and carers with the new model outweighed the disadvantages of the loss of a band 5 rotational post on the service.

In Sheffield Teaching Hospitals NHS Foundation Trust the occupational therapy and physiotherapy services, moved from five to seven day services as part of a major change across therapy teams. The stroke service included an 'away team' comprising therapists from neurosciences, spinal injuries and neuro-rehabilitation services and a 'home team' comprising staff from the stroke team.

It was felt that although there were commonalities of clinical skills, the transposition of staff into a different geographical location, with unfamiliar equipment, protocols, documentation and profiles, required considerably more adjustment and settling in time than had been anticipated. With up to 28 staff within therapy services working on a weekend a robust support system was required which included the rostering of a duty manager for therapy services at weekends to support staff and deal with any staffing problems.

Before the seven day service, physiotherapy and occupational therapy were able to provide access to 45 minutes of therapy for 76% of the time, on average, for appropriate patients. Post implementation this increased to 92% for physiotherapy and 91% for occupational therapy. NICE quality standards 5 and 6 were achieved. The recommendations of the National Stroke Strategy around vital signs and early access to therapy, 45 minute sessions and delivery of RCP clinical guidelines improved.

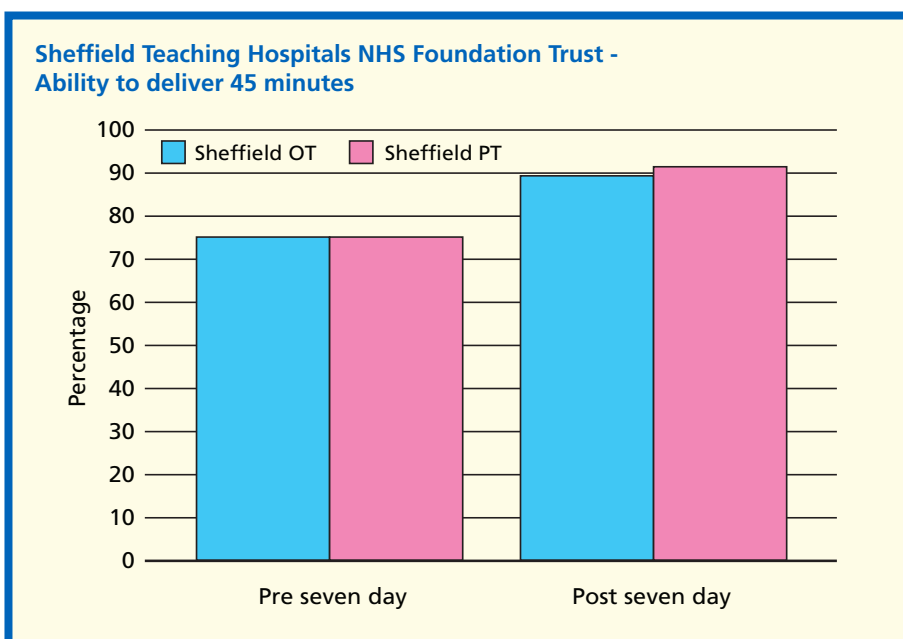
In **Blackburn with Darwen**, the community stroke team have established support links with a pool of rehabilitation support workers and intermediate care support staff which enables them to provide 45 minutes of therapy, daily and for as long as needed to meet NICE quality standards. Their data showed that most of the 45 minute sessions were delivered by the rehabilitation assistants with varied support from qualified therapists.

Summary

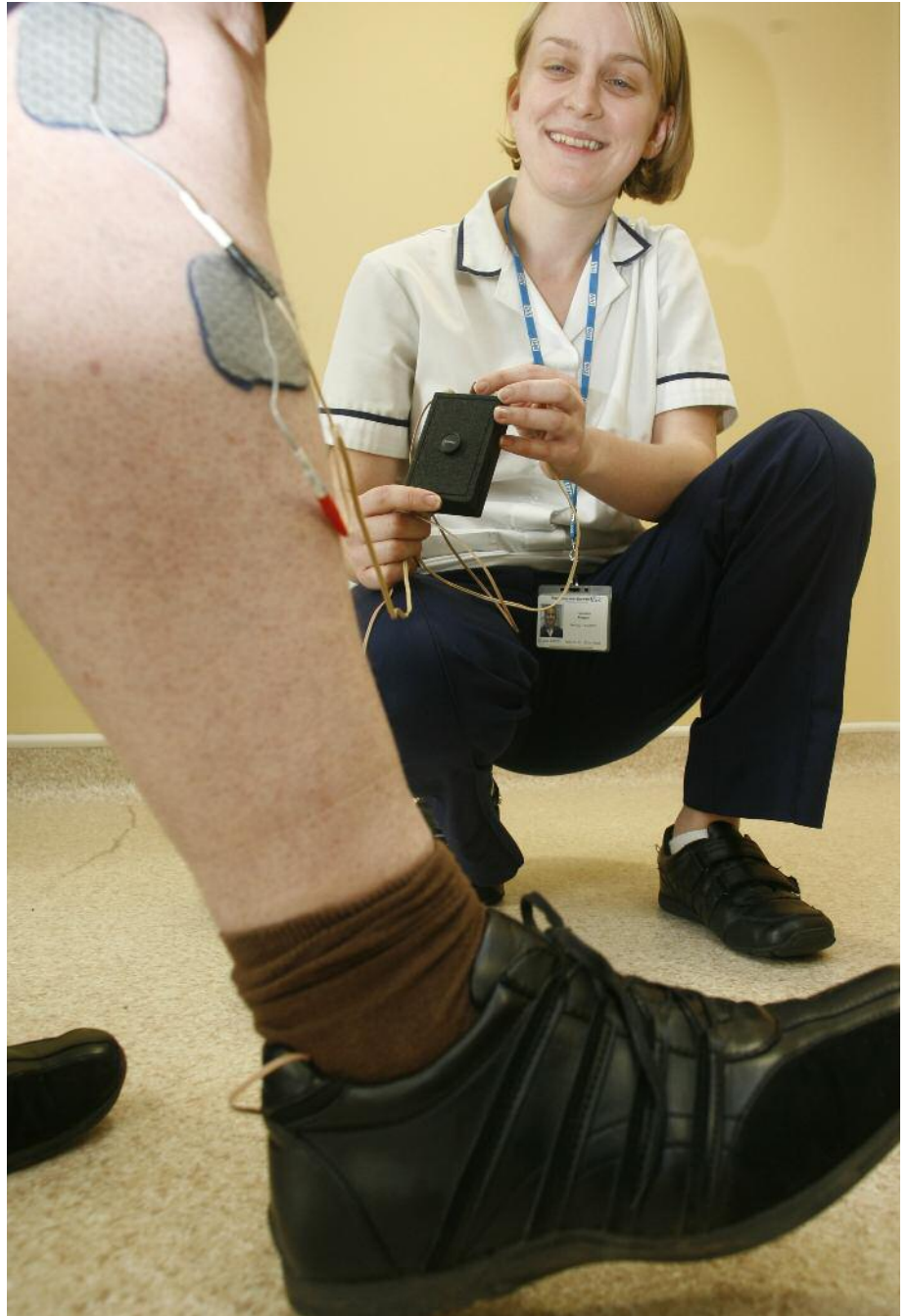
All the models demonstrated higher patient and carer satisfaction, but only those that included additional qualified staff were able to impact on assessment time and the NICE quality standards. Traditional concerns around using band 5 therapists and sufficient supervision at weekends were avoided by the **South Tyneside** model and in **South Devon** the loss of the band 5 was outweighed by the gains. No model impacted negatively on recruitment, supervision, retention of staff, or length of stay.

Assistant support staff, backed up by competency based education, can enable therapy services to improve assessment time, and 45 minute therapy sessions, more readily than healthcare assistants (**Blackburn with Darwen** community stroke team). This is because of their contribution within the team across seven days. Healthcare assistants can bring different benefits, such as a greater understanding of the rehabilitation process when delivering nursing care. (**St Thomas' Hospital**).

The **Sheffield therapy** team project demonstrated the challenges faced when taking therapy staff with common core neurology skills into a different environment and the need to support and manage this carefully. In **South Devon** a creative and inclusive approach to rostering meant weekend staff had the reasonable frequency of shifts to maintain a work/life balance and enabled community therapists to keep their acute rehabilitation skills up to date.



Where teams instigated specific joint working, there were initial reservations from some therapy staff that their skills would be diluted. However, it was found to have positive effects not only on the patients and nursing staff directly, but on compliance with therapy timetabling, as therapists still had time to undertake their specific and highly complex therapy work. Joint working may improve communication; by working in tandem, information is passed on and there is less time wasted. In addition, there is greater consistency with handling and moving patients, an area often highlighted as a concern by patients.



When - a seven day service?

This section looks at the frequency of rehabilitation required to meet NICE quality standard 7 to offer therapy input 'for a minimum of five days a week'; and the potential alternatives for delivery of additional services.

What the evidence says

Studies in US rehabilitation centres found that factors such as function at admission, length of stay and intensity of therapy collectively contributed to greater functional gains, but length of stay and intensity of therapy alone did not always [Chen et al] (20)

A single study found moderate evidence that the same therapies delivered more intensively, over a shorter period of time, resulted in faster recovery and earlier discharge from hospital [Teasell et al] (5).

A trial conducted in Japan compared outcomes for stroke patients admitted to a conventional stroke rehabilitation programme five days per week and patients admitted to a programme seven days per week. The intensity and frequency of treatment varied between the programmes and patients were encouraged to remain active outside of the structured sessions. Additional weekend therapy resulted in significant improvements in FIM¹ scores as well as a reduction in length of stay. [Sonoda et al] (21) [Teasell] (5).

Practice outside the UK

In the US, state funded Medicare services adopt the 'three hour rule' - three hours a day of physiotherapy, occupational therapy and speech and language therapy five to six days a week. The staffing ratio is 7:1 patient: therapist each day, supplemented with administrative rehabilitation technicians.

In addition to this there are one to two hours daily of occupational therapy or physiotherapy group sessions and weekly speech and cognitive group therapy sessions.

In Canada, the requirement is for a minimum of one hour of direct therapy for each relevant core therapy, for a minimum of five days a week based on individual need and tolerance. (10)

What the stakeholders say

Access to therapy, and therapy assessments, should be consistent and continuous within rehabilitation settings across seven days. In turn, patients are more likely to respond better to therapy, avoiding a loss of momentum over a weekend and therapists could have more capacity to offer 45 minutes of therapy. Some stakeholders felt that patients need to have a day of rest and reflection, and they agreed that patients risk losing out if this happens on a week day and no weekend service is available.

KEY MESSAGES

- Weekend therapy services impact on service delivery across the whole week positively
- Seven day services can have greater impact than six day services
- Additional days of therapy services have a positive effect on admission to treatment times and 45 minutes of therapy
- Seven day therapy services enable patients to begin their treatment as early as possible
- Seven day community stroke services can influence hospital length of stay and vital signs positively and more significantly than single therapy weekend inpatient services
- Patients and carers welcome additional rehabilitation opportunities at weekends

¹The Functional Independence Measure (FIM) scale assesses physical and cognitive disability, focussing on level of disability, the burden of care.

Project findings

In **South Devon**, the additional service over the weekend enabled patients to have an increase in number of sessions. This also impacted positively on the team's ability to deliver 45 minute sessions. Patients' length of stay was already improving and could not solely be attributed to the additional weekend service.

For the **South Tyneside** team, the seven day physiotherapy service assessed all patients within 24 hours and delivered 45 minute sessions where appropriate, although length of stay was not significantly altered. The team agreed that to do that a similar service from occupational therapy would be needed.

The **Sheffield speech and language therapy** team piloted Saturday morning working over three months on the acute stroke unit. The service was provided by band 6 and 7 speech and language therapists, from a roster of paid volunteers. In the pilot they found, from a small sample size, that 80% of patients referred to speech and language therapy were seen within 24 hours, 25% of patients required daily speech and language therapy at some point in their stay, but not consistently across their whole inpatient spell, and more than 50% required 45 minutes on some days.

Qualitative data indicated that all speech and language therapists involved in the pilot felt that they had impacted positively on patients by having this service, and 50% felt happy to be working at a weekend. The team noted that there seemed to be more clinical need for dysphagia assessment than dysphasia treatment.

In the **Sheffield therapy** team, funds were provided for seven day working across orthopaedics, stroke, 'front of door' and respiratory services. The additional service for stroke comprised an occupational therapist, a physiotherapist and two assistants who took their time back from existing services in the week.

At the weekend patients were prioritised according to four criteria:

1. To facilitate discharge
2. Eligibility for existing ESD
3. New patients
4. Other rehabilitation patients

The team noted that the effect of seven day working within stroke seemed to be stronger for facilitating discharge. Their data showed a positive impact on admission to assessment times from 62 hrs (occupational therapy) and 47.4 hours (physiotherapy) pre change, to 25.6 hours for occupational therapy and 30.4 hours for physiotherapy post change.

In **Chesterfield Royal Hospital**, the seven day physiotherapy service on the acute stroke unit found that although they did not reduce length of stay significantly, there was a gradual process of setting discharges for earlier in the week than before. They commented on an improved feel to Mondays due to the reduced pressure to catch up with the backlog from the weekend.

Blackburn with Darwen community stroke team and **NHS Camden - stroke REDs** community stroke teams both operate through a multidisciplinary 'in reach' model and provide occupational therapy, physiotherapy, speech and language therapy five days a week and 'enabling care' (rehabilitation support through suitably trained social care staff) seven days a week. They meet NICE quality standards 7 and 10, the RCP guidelines and quality marker 10 (rehabilitation) quality marker 12 (transfer of care and health and social care joint working) and quality marker 19 (workforce) of the National Stroke Strategy. **NHS Camden - stroke REDs** data showed a significant contribution to reducing length of stay in the acute hospital, now down to 10 days, and demonstrated to local organisations the contribution of comprehensive and responsive community stroke services to resolution of acute challenges.

Summary

The project teams reported that the biggest impact of a seven day service was on admission to treatment time and the ability to provide an equitable service. Once this had occurred, they found that the whole working week began to change too, and therapists could offer more contact time.

Services across seven days moved closer to achieving the NICE quality standard than six day services. Findings of teams from **Medway Community Healthcare** and York Hospital NHS Foundation Trust in the national projects 2009 - 2010 who delivered a six day therapy service improved admission to treatment time, but could not achieve 100% (25). Seven day services in **South Tyneside** and **Chesterfield Royal Hospital** achieved this standard. This is likely to be due to a removal of the weekend backlog of outstanding assessments on Mondays, freeing up more time each day to allocate for direct treatment and the effect of a seven day presence on communication between the multidisciplinary team, and with patients and carers. Models that used existing therapy staff differently or over more hours in the week found more opportunities to deliver a greater proportion of 45 minute sessions and for joint working than in five days.

The findings of the projects show that, once established, the culture of a seven day service facilitates more timely decision making. (**Chesterfield Royal Hospital**) It has the potential to shorten length of stay

through whole pathway change, when all services operate across seven days. Single professional changes, in one part of the pathway only, are unlikely to have a significant impact on length of stay or cost benefits for an organisation. (**South Tyneside**). However, they do have a positive effect on satisfaction levels, speedier access to assessment and frequency and intensity of sessions for those patients who can tolerate it.

Patients also value opportunities for more therapy across the pathway. Therapy services may consider developing seven day services as a first step towards achieving 45 minute therapy sessions, because of its impact on intensity as well as frequency.

However, any opportunity to enhance rehabilitation, by weekend sessions from suitably trained healthcare assistants (**St Thomas' Hospital**) or, by joint working (**Medway Community Healthcare** and **South Devon**) or by having an additional presence (**Sheffield speech and language therapy**) can bring benefit; either for multidisciplinary team cohesion, mutual support, and education or simply improving communication and reducing the need for additional documentation.



How long - getting more out of the whole week?

This section deals with the intensity of a patient's therapy, meeting the NICE quality standard of 45 minutes.

What the evidence says

There is evidence to show that higher intensities of treatment can impact significantly on outcomes, activities for daily living and reduce impairments. [Langhorne et al] (7) [Kwakkel et al] (11) Patients may not benefit equally, which makes specific guidance about intensity of rehabilitation therapy harder to provide. [Duncan et al] (9). Many therapists express concern about how many patients can tolerate 45 minutes of therapy. However, physiotherapists have been shown to overestimate the duration of therapy, and that intensity of treatment is also dependent on the ability and the willingness on the part of the patient. [Teasell et al] (5).

Greater benefit may be achieved if high-intensity therapies are provided in the early stages of rehabilitation. [Teasell et al] (5).

There is not conclusive evidence that more intensive speech and language therapy is better than less intensive therapy, although for patients who can tolerate it, more intensive therapy appears to result in improved outcomes. [Teasell et al] (5). On average, positive studies provided a total of 98.4 hours of therapy while negative studies provided a total of 43.6 hours of therapy.

For example, one survey observed that a significant treatment effect was achieved among studies which provided a mean of 8.8 hours of therapy per week for 11.2 weeks compared to trials that only provided approximately two hours per week for 22.9 weeks. [Bhogal et al] (24). One study that looked into the benefits of aphasia therapy reported problems with patients' tolerance of intensive therapy. However, patients who received an average of 1.6 hours of therapy per week had significantly higher scores than those who received only 0.57 hours of therapy. [Bakheit et al] (23).

Practice outside the UK

Canadian guidelines state that "Patients should receive the intensity and duration of clinically relevant therapy defined in their individualised rehabilitation plan and appropriate to their needs and tolerance levels."

In the US, a patient must be able to safely tolerate the level of rehabilitation therapy programme provided in an inpatient rehabilitation unit. The intensity of therapy provided must further the patient's progress in meeting goals, rather than setting the patient back by overtaxing them. Publicly funded stroke rehabilitation facilities do not receive payment unless they provide at least three hours a day of therapy, 55 minutes of one-on-one therapy sessions with physiotherapy, occupational therapy and speech and language therapy. If the patient is unable to tolerate this, then it should be given in two 30 minute sessions. (6)

What the stakeholders say

Stakeholders indicated that therapy should be available to patients as early as possible once they are medically stable, and commented that psychology should be included because if problems are left unattended, they can become worse over time. Some suggested that if in the early stages some patients are unable to tolerate a single 45 minutes session, services can deliver multiple shorter sessions over the course of one day.

If two therapy staff are involved in a joint session and are working on different aspects of therapy, and the session is goal directed, then this can be counted as two sessions.

Stakeholders don't yet agree what constitutes 45 minutes of 'contact' time. For the first time therapists have been given a treatment time (intensity) guide of 45 minutes but need to maintain a level of flexibility within this to accommodate patient individual needs. Some therapeutic interventions, such as psychology, may not fit well with a rigid time frame. Some academic stakeholders commented that services should be offering 'up to' 45 minutes. However, other front line stakeholders felt that anything less than 45 minutes might be limiting and therefore less effective. This may be due to the differences in definition of what counts towards '45 minutes of therapy' and the debate around direct/non-direct therapy.

KEY MESSAGES

- Patients do not all benefit equally from access to 45 minute therapy sessions
- In the community, patients with more severe disability improved most with access to 45 minute therapy sessions
- Patients' need for, and tolerance of, 45 minutes can fluctuate, so services need to be sufficiently flexible and responsive to meet this
- Joint working with nurses has a positive effect on cohesion and compliance and can be achieved in addition to direct therapeutic clinical contact time
- Multiple 45 minute episodes by individual disciplines during a day may be difficult for a patient to manage; combined, goal orientated visits work
- Staff may need to collect data to challenge their own assumptions about why services are not being provided, to be sure it is because patients cannot tolerate it, and not because of the ability of the service to provide it
- Services that operated over seven days had more success in meeting the 45 minute guideline

Some people have started to refer to the amount of time a patient has for therapy as the 'dose', to start to formalise the requirement for a set amount of therapy time to be available per patient, per day.

Stakeholders felt that access to both 45 minutes of each therapy and seven day services should reduce length of stay through faster completion of assessments, more time for discharge planning, faster improvements in mobility, activities of daily living, and patients managing at home more quickly.

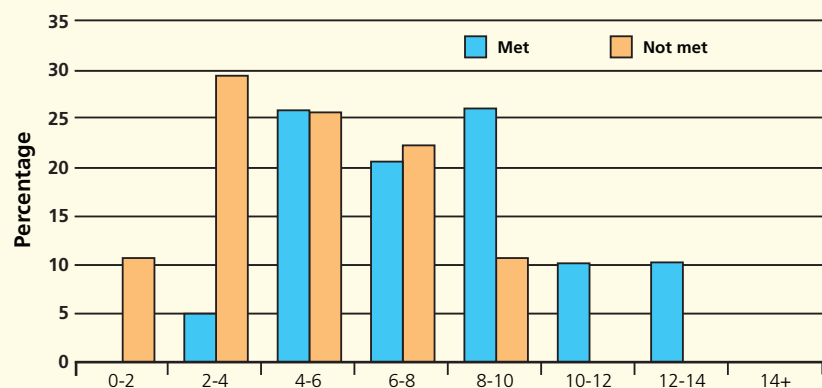
Project findings

NHS Camden - stroke REDs agreed local definitions and clarified contact and non contact activities for their service and the team reviewed data for 91 patients across six weeks of rehabilitation, comparing the intensity of therapy received using valid clinical outcome measures. The data showed that patients with lowest Barthel scores had the greatest need of, and benefited most, from access to

therapy, yet the same patient group had least success as recorded by the goal attainment scale. They recommend that therapy services should adopt a menu of outcomes, to inform service development.

Using the NICE clinical standard of 45 minutes of therapy per day, five days a week, each patient should get 990 minutes of therapy over the six weeks they are with the team. The team found 17.5% of patients achieved the required amount of therapy from physiotherapy, 21.5% from occupational therapy and 11.1% from speech and language therapy. Those patients who received 990 minutes of occupational therapy and physiotherapy had an average increase in their Barthel scores of 6.4 points, compared to an average increase of 3.4 points by those who didn't and an average increase in their Nottingham Extended Activities of Daily Living (NEADL) scores of 12 points, compared to 10 points for those who didn't.

NHS Camden - stroke REDs - 45 minutes - impact on Barthel score points gained



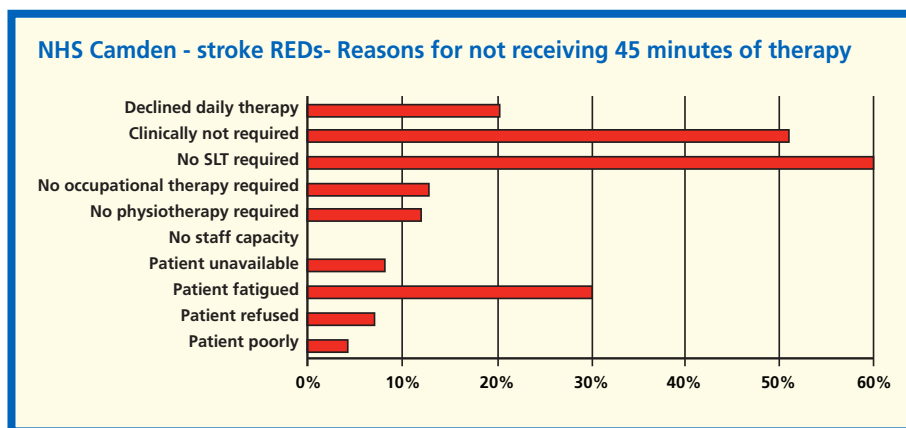
There is a significant difference with the Barthel outcome measures, when compared with the sample of patients who get least therapy in terms of time (intensity) and number of visits (frequency). At the start of intervention the Barthel for this group with most amount of therapy is lower. This suggests that people, who received the most therapy in terms of intensity, were functioning at a lower level, based on the Barthel (average score of 11.8)

Regarding progress and change in the Barthel scores, this group of patients made significantly larger gains (average of 6.3) when compared to those who received the least amount of therapy.

The team make joint decisions with the patient about what level of intensity is appropriate for them. They collected data to determine the reasons why 45 minutes of therapy was or was not achieved for each patient. Thirty percent of patients reported fatigue as a major factor affecting ability to participate in an intensive therapy programme at home. For many patients there were multiple reasons why 45 minutes of therapy was not achieved.

Blackburn with Darwen community stroke team focuses on meeting patient need rather than just early discharge for people in both hospital and community through four pathways of support.

1. High functioning – home with core team support only
2. Lower functioning but manageable at home – home with community stroke team (CST) therapists and domiciliary rehab team support



‘Continuing to benefit’ and ‘able to tolerate’ should be defined jointly by both patient/carer and MDT.

‘Therapy time’ is anything related to person focussed rehabilitation facilitated by a specialist stroke practitioner and evaluated using clinical outcome measures.

NHS Camden - stroke REDs

3. Non-manageable at home – residential intermediate care bed with CST therapist support
4. Residential/nursing care – CST core team visit on discharge to check correct patient management.

They defined therapy for their service locally, and analysed a database of 20 patients to determine which patients needed or benefited from 45 minute sessions, and from which therapies, and examined the range from each therapy and the service.

They found that not all patients needed 45 minutes of therapy each day, and that the need varied greatly. Patients with moderate to severe levels of disability (pathways two to four) needed a level of support

ranging from 14 – 49 days of 45 minutes of therapy, two to three times each day, over seven days. Patients on pathway one with mild and minimal disability required much less intensive therapy. People in care homes may need 45 minute sessions of therapy each day to improve a particular task.

On the whole, there were more 45 minutes of therapy contacts from rehabilitation assistants with varied input from therapists. Patients with moderate to total dependency (Barthel) received most input from support workers and intermediate care support staff, enabling the community stroke team to provide 45 minutes of therapy daily for as long as needed.

Local definition of therapy

Any assessment or treatment provided by the qualified therapist from the community stroke team (CST) including physiotherapy, occupational therapy or speech and language therapy.

Any therapy intervention which is part of the programme set by CST qualified staff and carried out by our rehabilitation support workers, on one of our pathways.

Blackburn with Darwen community stroke team

Blackburn with Darwen community stroke team - retrospective data on therapy need and provision

	Average length of stay in service	Range	Average days 45 minutes therapy from core stroke team	Range	Average other 45 minutes days from support service	Range
Pathway 1	131	22 - 265	50	1 -149		
Pathway 2	175	110-243	68	52-97	43	40 -49
Pathway 3	141	84 -195	42	41-69	29	14 -42
Pathway 4	220	43 - 574	86	9-225	38	38

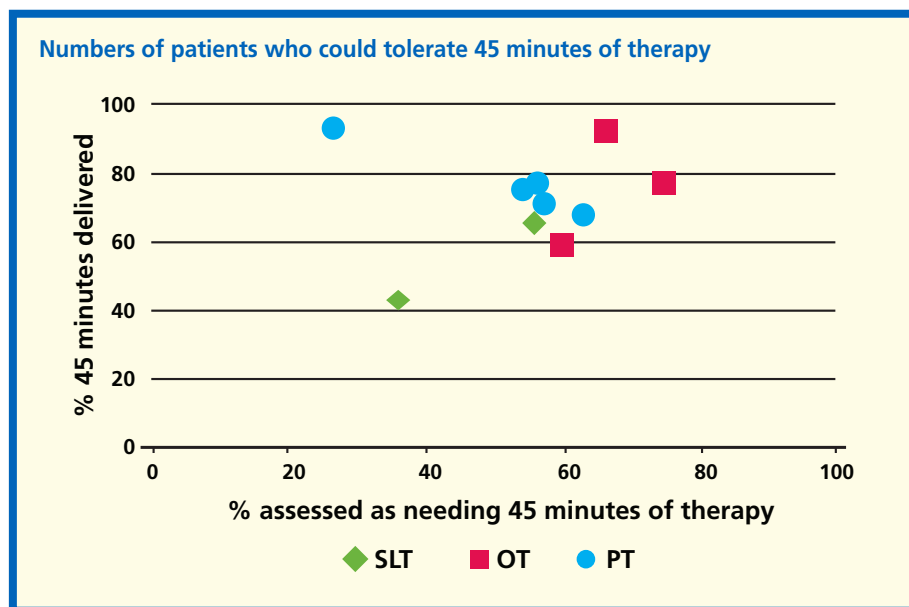
The **Sheffield speech and language therapy** team initially questioned whether 45 minutes would be right for each patient and whether their service needed to be more flexible to deliver it. The project enabled them to identify that 25% of patients required daily speech and language therapy intervention and over 50% needed 45 minutes on certain days. The pilot was not long enough to demonstrate whether daily availability of speech and language therapy could impact on adverse effects for patients, e.g. incidence of aspiration pneumonia, but staff found that being available on a Saturday had a positive effect on patients.

The **South Devon** team, as part of a demand and capacity exercise, showed that they had only small numbers of patients who could tolerate 45 minutes of each active therapy for five days a week and that they had a surprising number of refusals due to fatigue.

The issue of judging whether a patient continues to benefit and/or is able to tolerate remains a subjective assessment on the part of the therapists. The scatter plot, taken from data from the projects, shows the percentage of patients thought to benefit from or tolerate 45 minutes

against the percentage that received 45 minutes per therapy group across all project teams.

Those who were assessed as needing 45 minutes of therapy, tended to get it when the services were increased. Within the therapies, speech and language therapy is suggested as the area where it is hardest to meet assessed need.



Seven day working enabled the work to be more equitably spread across a week, which meant there were more opportunities to achieve 45 minute therapy sessions (**Chesterfield Royal Hospital, South Tyneside, and South Devon**).

Some of the teams' initial preoccupation with attempting to define the detail around 45 minutes issues translated into attention to methods of changing the shape of their service, and the ways in which they worked, so that they could deliver:

- More hands on treatment each day
- A flexible response to patient need
- More opportunities for therapy in a variety of forms.

Focussing more on improving service delivery may better enable therapy services to provide a service that meets national guidelines and be able to offer the right therapy at the right time, for the right reasons to the right patients as and when they can tolerate it and need it.

The project findings demonstrated that 'therapy' relates to allied health professions, including assistants, but that any opportunity to enhance rehabilitation, either by weekend sessions from suitably trained healthcare assistants (**St Thomas' Hospital**), by joint working (**Medway Community Healthcare and South Devon**) or by having an additional presence (**Sheffield speech and language therapy**) can bring benefit.

Summary

The project teams' findings mirrored international guidance around tolerance and therapy. **NHS Camden - stroke REDs** and **Blackburn with Darwen** community stroke team data allowed detailed analysis of allocation and uptake of the 45 minute sessions. It supported the research findings that one size does not fit all and of the complexities created by organisations and priorities.

Their pragmatic approach based on thorough assessment, good multidisciplinary team communication, shared skills and competencies, involving the patient and carers and SMART (Specific, Measurable, Attainable, Relevant and Timely) multidisciplinary team goals enabled them to avoid unnecessary 45 minute sessions without compromising outcome and preventing fatigue for people at home. This information is also valuable to inform the commissioning services, and developing resources.

In the community, patients with more severe disability improved most with access to 45 minute therapy sessions.

Where therapy services collected data for when a 45 minute treatment session occurred, and if not, why not, it offered them valuable insight into their reasoning processes and fixed assumptions that may be derived from practice or working to prioritisation protocols. Some teams at each stage of rehabilitation reported that more patients could tolerate 45 minutes if it was available and the data showed that where it was not possible to deliver it, it was often due to the service organisation. This suggests that services might learn from undertaking demand and capacity exercises and reviewing their practice and processes, before making changes in staffing, or requesting additional resources, endorsed by the findings of **Medway Community Healthcare**.

Where can more therapy make a difference?

Projects were drawn from across the stroke pathway and demonstrated that seven day services had a benefit in all settings.

What the evidence says

The Collaborative Evaluation in Stroke across Europe (CERISE) studies conclude that whilst there is evidence for the positive effect of intensive task-specific exercise on the functional recovery of stroke patients, stroke rehabilitation units in the UK are not organised to optimise the amount of therapy given to patients. Included within this are aspects of environment and culture, organisational priorities, different healthcare systems with their different barriers and incentives to change, case mix and admission criteria. [Putman et al] (13,15)

However, it may also be worth noting that although in international comparisons, UK stroke units had the lowest therapy contact time and best staffing, they also had rehabilitation units with the least exclusion criteria and decisions about therapy for patients were more often made by clinicians.

What the stakeholders say

Stakeholders felt that seven day services should be available across the pathway from hyperacute to early supported discharge teams in the community, where patients continue to benefit.

Project findings

The **Chesterfield Royal Hospital** team provided a seven day physiotherapy service on an acute stroke unit. Data showed improvements in NICE quality standards 5 and 6 and the RCP guidelines for physiotherapy assessment times. There was no significant effect on length of stay, but some individual reductions, which suggested planning discharges earlier in the week was having an effect.

The **South Tyneside, Medway, South Devon** and **Sheffield therapy** teams delivered their additional service on a stroke rehabilitation unit. The **South Tyneside** unit is now able to achieve the NICE quality standards 5, 6 and 7 and RCP guidelines for physiotherapy and have identified that the next stage is to develop the occupational therapy service. In **South Devon** and **Medway Community Healthcare**, the teams are working to identify how to improve the service further to be able to offer additional opportunities for therapy, by reviewing their use of non contact time, and developing sustainable group work.

The **Sheffield therapy** team reflected on the experience and their data and identified some questions for further discussion locally about organisation and distribution of therapy resources along the stroke pathway.

Patient feedback in the **Sheffield speech and language therapy** project indicated that during the acute stage of the pathway they want to receive a seven day service, but are less keen when they are back at home as they welcome a break at weekends.

KEY MESSAGES

- Patients can benefit from access to seven day therapy services in all settings across the pathway
- The benefits and opportunities from seven day therapy services vary along the pathway, reflecting the different needs of the patient
- Individual requirements for 45 minutes of therapy can vary during the course of their journey along the pathway, not just depending on their medical status, but also on their goals
- Therapy support workers can assist with successful delivery of 45 minutes and a seven day service at all stages

The **Blackburn with Darwen** and **NHS Camden - stroke REDs** community teams both have robust data collection systems. This supports extensive analysis which enables them to identify the effect of 45 minutes of therapy on clinical and service outcomes. This has resulted in improved multidisciplinary team goal setting, predicting outcomes and devising effective packages of intervention on an individual basis, maximising the use of their skill mix. They are both able to demonstrate a positive financial impact on the acute service through reducing length of stay, and for social care by reducing final packages of care. **Blackburn with Darwen** community stroke team (2010) reduced final packages of care per week by 240 hours of care/week, equating to £93,600 savings per year.



Summary

The project teams crossed the pathway from hyperacute stroke unit to community teams, and in all cases they made a difference.

However, in each setting, additional services brought other, slightly different gains too, reflecting the stage of recovery and different needs of the patients from each environment.

In **South Devon** and **Medway Community Healthcare**, the teams had developed joint working with nursing staff and were considering group work. This is probably more viable and sustainable on a stroke rehabilitation unit than in an acute stroke unit where the focus was more on developing an equitable service across the week, and facilitating speedier and smoother transfer on (**Chesterfield Royal Hospital, South Tyneside** and **Sheffield therapy**).

In the community, therapists were able to look at resolving the challenge of overloading the patients with excessive visits through developing shared competencies and multiskilled staff delivering goal orientated sessions (**NHS Camden - stroke REDs** and **Blackburn with Darwen** community stroke team).

Feedback from carers, and other staff was positive regardless of location.

Seven day therapy services have a value in all settings across the pathway; specifically to deliver equity of access to assessment and, where these exist, the project teams found a positive effect on direct contact time and 45 minutes of therapy.

How - bridging the gap?

“The gap”- themes from the research

Collaborative Evaluation in Stroke across Europe (CERISE) studies have shown that stroke patients in the UK spend much less time engaged in therapy than in European rehabilitation units. Findings for the UK suggest one hour a day, compared with three in Switzerland. In all centres, physiotherapy comprised nearly 40% of therapeutic time, but occupational therapy comprised 20% - 30%, except in the UK unit where it was 11.6%. In the UK, 35% of therapy time consisted of nursing care. After correction for case-mix, overall therapy time in the UK unit was significantly less than the other countries, and the differences in therapy time were not attributable to differences in staffing. [De Witt] (14) (16) (17)

In a more recent study, therapy staffing levels were comparable with existing literature, yet there was wide unexplained variation in contact time with the patient. Seventy five percent of patients received less than an hour of therapy, and 25% less than half an hour of any therapy each day. The lowest levels of therapy input were from speech and language therapists, with only 25% of patients having any contact with a therapist, and a median contact time of 30 minutes. [Rudd et al] (19)

Part of the CERISE study explored the relationship between the content of therapy and the level of patient motor impairment, expecting the content of therapy to differ in patients with different levels of motor impairment. They found significant differences in duration of physiotherapy and occupational therapy sessions and



some significant difference in content. They refer to the ‘black box’ of challenges around understanding and measuring what therapists do; such as lack of reporting the detailed characteristics of the interventions, the complexity and diversity of interventions and the potential range of different approaches used, along with the practice adopted by therapists of reliance on clinical experience rather than on theoretical frameworks, and the overlap and blurring associated with joint working. [De Witt] (12)

One possibility for increasing contact time is through group work. Recent studies have also shown that the efficiency of limited therapeutic resources can be increased by using circuit training programmes in which a group of patients is allowed to practice at different workstations at the same time, under the supervision of a therapist. [Kwakkel et al] (8)

However, stakeholders and some therapy services reported challenges embedding group work within stroke unit routines for various reasons, including lack of time, staff availability to transport patients and difficulty gaining sustained nursing support.

Develop a seven day rehabilitation culture

Project teams in the community (**NHS Camden - stroke REDs** and **Blackburn with Darwen** community stroke team) and on stroke rehabilitation units (**South Devon** and **Medway Community Healthcare**) have undertaken work specifically to develop their rehabilitation culture.

KEY MESSAGES

- Develop a rehabilitation culture in your team
- Visit a successful site prior to making change to improve understanding and support for the process locally
- Consider a single management system for nursing and therapy which can improve line management consistency, provide better coordination and enhance stroke specialist clinical governance
- Involve and include staff and establish good communication processes
- Be prepared for staff objections and manage these through good communication processes
- Understand the team's true demand and real capacity to improve understanding, planning and control of the work, enabling more therapy time to be offered.

The **Medway Community Healthcare** team felt that the therapy culture should form the basis of the patient's day. One way of achieving this was by partnering members of the nursing and therapy staff during morning washing and dressing, and at lunchtimes. This integrated approach also meant moving the therapy team to a base on the stroke rehabilitation unit alongside the nursing staff.

Project teams in **South Devon, Medway Community Healthcare** and **Sheffield therapy** services changed the start time for therapists to enable them to work more inclusively with nursing staff, and more effectively support the patients' routine, fostering the rehabilitation culture.

Whilst not part of the original NHS Improvement - Stroke project, the team from the stroke service in Stoke-on-Trent undertook their own change programme, addressing many of the areas of interest to those looking to enhance access to therapy.

The stroke service in the **United Hospital of North Staffordshire (UHNS)** redesigned their services along the lines of the Trondheim model in Norway following a visit to the unit. (26) They have a rehabilitation ward with joint working between nurses and therapists, with joint ward rounds and assessments. All the patient activities have a rehabilitation focus and treatment is goal orientated rather than process orientated. Some tasks remain nursing tasks, and the therapists contribute towards these.

To achieve this they reviewed therapist and nursing roles on the unit to promote blurring of boundaries, focusing on the needs of the patient with family participation. Therapists now work solely on the stroke unit and are managed by the stroke unit manager. They have introduced new roles that do not have profession related titles, but are focused on rehabilitation. All staff work shifts, nurses 24 hours and therapists seven days, with band 2 staff alternating therapy and nursing rotas.

Understand the data

Both **Blackburn with Darwen** and **NHS Camden - stroke REDs** community stroke teams have established comprehensive databases which enabled them to thoroughly understand their services and outcomes, especially around access to and delivery of 45 minute therapy sessions. Their systems work alongside, and in addition to, local databases which have limited ability to provide useful qualitative and quantitative information about therapy services. The initial additional effort required for data entry is outweighed by the benefits derived from comprehensive analysis of a person's progress through a pathway or service.

Manage the human dimensions

The **Sheffield therapy** project team was part of a bigger initiative delivering a seven day therapy service across five clinical domains, with 26 staff to cover the weekend stroke service. It involved a major consultation process including meetings with stewards and human resources staff to ensure clarity and equitable decision making. Communication systems were put in place, including a reference group with a collection of staff across all grades and all areas, which proved to be a good barometer for staff experience and gave the manager opportunities for regular and direct contact.

Staff fed back comments during the process that were reviewed immediately. Actions were planned and communicated to the teams through the team leads, then published so that everybody was aware of the responses made. Training and in-service training sessions were provided as issues and concerns were raised.

The short time frame for implementation prevented the delivery of the thorough training plan that had been envisaged, but orientations were provided, including tours of the unit, clinical information and opportunities to ask questions and for shadowing.

A duty manager worked each weekend to support the 26 staff across two sites. This enabled staff to have on the spot support, and showed a management commitment to weekend working. Some duty managers also contributed to the clinical workload at the weekend. This was a valuable learning experience to help understand and manage the process of change and support staff but did have cost implications. Possible alternatives are to provide an on-call phone support, or to allocate the responsibility of a site lead to a band 7 or band 6 member of staff working at the weekend.

Challenges and solutions in Sheffield Teaching Hospitals NHS Foundation Trust

Moving and handling: non stroke-skilled staff need time to develop confidence and familiarity with the handling procedures, protocols and issues for stroke.

Data collection and paperwork: simplify administration and measurement. Be clear about data collection systems and how the service will be evaluated.

Variation in assistants' skills: capitalise on the enthusiasm and good will of those working most frequently in the service, and be prepared to support peripatetic and part-time staff.

Time and rosters for staff: establish a consistent start-time for occupational therapy to better support nursing staff, enabling longer term flexibility and consistency across all staff. Do this in stages, over the longer term.

Staff engagement: Proper consultation is essential. It is particularly important to focus on the benefits for the patients.

St Thomas' Hospital team needed to ensure that the rehabilitation support workers could be supported with the complexities of a dual role at weekends, and recognised their perceptions of split loyalties as part of both the rehabilitation and nursing staff. Initially all staff were trained, but with turnover and staff migration, a gap emerged. This was managed by taking a shared responsibility approach within the multidisciplinary team, through incorporating the rehabilitation skills into the competency documents for all nursing and health care assistant staff. They gained the sign up to the concept from the team, adopting a different uniform for rehabilitation support workers at weekends and devolving responsibility to the band 6 nurse for supervision and support for the rehabilitation support workers during their shifts.

Analyse your workforce and design for the future

The **NHS Camden - stroke REDs** service carried out a demand and capacity exercise to develop a realistic and appropriate business case for an early supported discharge service, which suggested a ratio of patient contact and non-contact time of 50:50. By using this ratio, supported by other crucial data, they could accurately identify the correct skill mix of staff and the model required.

Medway Community Healthcare

undertook a demand and capacity exercise on the stroke rehabilitation unit. Challenges they faced were getting the staff to appreciate the concept of 'true demand', and understanding that the basic premise behind the data collection was that all patients should get 45 minutes of each therapy daily. By carrying out the exercise the team were able to



re-examine their service objectively and find time within the schedule to allow the occupational therapist to run a weekly carer clinic. They were also able to introduce therapy timetables on the ward with improved compliance and support from the nursing staff. The insights they gained from the exercise were so useful that it has been rolled out across their entire stroke pathway.

The **South Devon** team completed a demand and capacity exercise and as a result implemented group sessions in the gym three times a week, timetabled to coincide with maximum staff availability. They have allocated a senior member of staff on each day with dedicated time to update 'the big pieces of paperwork', including discharge summaries, overview assessments and the continuing healthcare screens. The remaining staff can continue with the clinical work, confident that the paperwork is under control.

Conclusions

Why do therapy services need to 'mind the gap'?

Stroke is a 24 hour condition and therefore requires a 24 hour pathway with supporting services and processes to deliver it, seven days a week. It is what patients want, even if they are not able to use it every day. Therapy services that operate only across five days can, at times, create a backlog for patients and deliver inequality of care.

Research, national clinical guidelines and the National Stroke Strategy agree that therapy delivered at the right time, by the right people and in sufficient quantities makes a difference.

In the future, there will be increasing emphasis on quality outcomes and this will shape the commissioning of therapy services. In a climate of tighter fiscal scrutiny, therapy services will need to be able to demonstrate that they can deliver better value and productivity. This can only be achieved by understanding what they deliver now, their capacity, eliminating areas of inefficiency and ineffectiveness and improving multidisciplinary working.

Where to start

Initially, some project teams thought that most patients would not tolerate and/or require seven days of treatment, or would not be able to tolerate 45 minute therapy sessions. However, collecting data about what was offered to patients, and the reasons they declined it, showed that although not every patient could tolerate 45 minutes or seven day therapy, it was sometimes difficult to separate out patient choice or clinical need from what the service was able to deliver, or constraints imposed by established working practices.

Developing therapy services across seven days improves equity of access to therapy

Understanding resources and how they are allocated is a prerequisite to making changes to meet the national standards

Successful and sustainable service change requires effective management of staff

Any increase in access has an impact on quality outcomes

Not all patients need therapy seven days a week, but all services need to be available seven days

Increasing access to therapy and rehabilitation are not the same thing

This demonstrated the importance of understanding how teams use existing resources, and how they are allocated. Project teams undertook demand and capacity exercises to examine where therapists were spending their time, and to identify opportunities to increase contact time with patients. Not only will such exercises support therapy services with how to define appropriate staffing levels for new models and services, but will make business cases significantly more convincing to commissioners.

Any service change requires effective management of the people involved, especially where professionals are looking at their accepted practice, changing working hours and involve the blurring of boundaries between professions. Teams found communication and management support were key. Teams also endorsed the importance of clear goal-orientated multidisciplinary working, and shared competencies, in helping them to deliver the right interventions from the right staff at the right time.

Changing services

Each of the project teams was, to varying degrees, able to provide additional therapy or rehabilitation opportunities, and found a variety of impacts on the existing service.

They found that therapy support workers could assist with successful delivery of the 45 minute therapy standard and seven day service at all stages along the pathway.

Those that offered more days of therapy changed the content and structure for the remaining days, particularly Mondays, and staff felt positive about their experiences of weekend working. All patients can have a rest day, but it doesn't need to be on a Saturday or a Sunday or the same day for every patient.

Flexible services are essential to be able to meet an individual's requirement for 45 minutes of therapy, as this can vary during the course of their journey along the pathway, not just depending on their medical status, but also on their goals.

Outcomes

- Developing services across seven days enables equity of access and opportunity
- Patients can benefit from access to seven day therapy services in all settings across the pathway
- Any additional opportunity for rehabilitation is welcomed positively by patients, whether from therapists, nurses or both
- Seven day therapy services enable patients to have earlier assessment, begin their treatment sooner, and support swifter multidisciplinary engagement and speedier improvement
- Weekend therapy services impact on service delivery and access to 45 minute sessions across the whole week positively
- Seven day community stroke services can have more influence on hospital length of stay than weekend therapy inpatient services alone.

Where next?

This report is the result of the hard work of eight project teams over a relatively short period of time, building on the learning from previous years of project work. More work needs to be done to be clearer about the impact or effect on clinical outcomes from daily treatment and 45 minute therapy sessions, and what structures need to be in place to deliver therapy. Therefore, there are some key questions services should consider as they use this report to implement changes to their own services:

1. Does spreading seven days work over seven days, instead of prioritising it into five, offer therapy services the chance to better understand the daily 'demand' and look further into how they use their resources to meet this differently or better?
2. Why does Saturday and Sunday working feel so much better? Is it related to the experience of spending the majority of this time in direct patient contact and supporting family and carers? What does this suggest about working practices during the 'normal' working week?
3. Is there a link between being able to offer services across more days (frequency) and for 45 minutes (intensity)?

Recommendations for further work

This is an area where further work is needed, from both service improvement and research perspectives. Improved and efficient services create an environment in which research can be better facilitated and enabled, and an effective research culture within clinical services enhances their ability to care for their patients.

Service improvement

Project teams have shown the benefit of applying systematic service improvement analyses to their functioning, processes and patient outcomes. Demand and capacity studies reveal much about the manner in which services work, and identify aspects for improvement in several domains including staff satisfaction, patient outcomes, service efficiency and service delivery. This can be done on a background of attention to the 'human dimensions' of change when improving services, and allied to a thorough understanding of patient perspectives and preferences.

Research

Therapy intensity and frequency is an area that would benefit from increased research scrutiny. Key questions that, if answered through rigorous and robust research, improve the ability of therapy services to meet patient need include:

- The impact and effect of 45 minute sessions and seven day treatment on specific clinical therapy outcomes
- Guidance around the percentage of clinical contact time in relation to grade and banding of therapy staff.

This project findings endorse the recommendations in the *Top Ten Priorities for Stroke Service Research* around 'optimum delivery' (frequency, duration, timing); and 'optimum structure' (service provision and economic benefits). (27)

References

1. The National Stroke Strategy, Department of Health, December 2007.
2. National clinical guidelines for stroke, 3rd edition, Royal College of Physicians, July 2008.
3. NICE Quality Standards for Stroke, National Institute for Clinical Excellence, July 2010.
4. Supporting life after stroke; review of services for people who have had a stroke and their carers, Care Quality Commission, January 2011.
5. Teasell RW, Foley NC, Salter K, Bhogal SK, Jutai J, Speechley MR. Evidence-Based Review of Stroke Rehabilitation (11th edition). Canadian Stroke Network; 2008.
6. Pauline M. Franko and Danna D. Mullins. Defining groups, three hour rule and PTA treatment, US Guidelines.
7. Langhorne P, Wagenaar R, Partridge C. Physiotherapy after stroke: more is better? *Physiother Res Int* 1996; 1:75-88.
8. Kwakkel G, Wagenaar RC, Koelman TW, Lankhorst GJ, Koetsier JC. Effects of intensity of rehabilitation after stroke. A research synthesis. *Stroke*. 1997 Aug; 28(8):1550-6.
9. Duncan PW, Lai SM. Stroke recovery. *Topics Stroke Rehabil* 1997; 4(17):51-58.
10. Patrice Lindsay BScN PhD, Mark Bayley MD, Chelsea Hellings BScH, Michael Hill MSc MD, Elizabeth Woodbury BCom MHA, Stephen Phillips MBBS: Canadian Best Practice Recommendations for Stroke Care (2008).
11. Kwakkel G, Magnus R. Intensity of practice after stroke: More is better *The Netherlands Schweizer Archiv fur neurologie und psychiatri* 2009; 160(7):295-8
12. De Wit I, Putman K, Lincoln N, Baert I, Berman P, Beyens H, Bogaerts K, Brinkmann N, Connell L, Dejaeger E, De Weerd W, Jenni W, Lesaffre E, Leys M, Louck F, Schuback B, Schupp W, Smith B and Hilde Feys. Stroke rehabilitation in Europe; what do Physiotherapists and Occupational Therapists Actually do. *Stroke* published online Apr 27, 2006.
13. Putman K, De Wit L, Schupp W, Beyens H, Dejaeger E, De Weerd W, Feys H, Jenni W, Louckx F, and Leys M on behalf of the CERISE-study. Inpatient stroke rehabilitation: a comparative study of admission criteria to stroke rehabilitation units in four European centres. *J Rehabil Med* 2007; 39:21-26.
14. Liesbet De Wit et Al. Motor and Functional Recovery After Stroke: A comparison of 4 European Rehabilitation Centers *Stroke* 2007; 38; 2101-2107;
15. Putman K and De Wit L. European Comparison of Stroke Rehabilitation Topics in Stroke Rehabilitation. Jan- Feb 2009.
16. De Wit L, Putman K, Schuback B, Komarek A, Angst F, Baert I, et al. Motor and functional recovery after stroke: a comparison of four European rehabilitation centers. *Stroke* 2001; 38(7):2101-7.
17. De Wit L, Putman K, Dejaeger E, et al. Use of time by stroke patients: a comparison of four European rehabilitation centers. *Stroke* 2005; 36:1977-1983.
18. De Weerd W, Selz B, Nuyens G, et al. Time use of stroke patients in an intensive rehabilitation unit: a comparison between a Belgian and a Swiss setting. *Disabil Rehabil* 2000; 22:181-186
19. Rudd A, Jenkinson D, Grant R and Hoffman A. Staffing levels and patient dependence in English stroke units. *Clinical Medicine* Vol 9 No 2 April 2009.
20. Chen CC, Heinemann AW, Granger CV, Linn RT. Functional gains and therapy intensity during subacute rehabilitation: a study of 20 facilities. *Arch Phys Med Rehabil* 2002; 83(11):1514-23.
21. Sonoda S, Saitoh E, Nagai S, Kawakita M, Kanada Y. Full-time integrated treatment program, a new system for stroke rehabilitation in Japan: comparison with conventional rehabilitation. *Am J Phys Med Rehabil*. 2004; 83(2):88-93.
22. Kwakkel G, van Peppen R, Wagenaar R, Wood Dauphinee S, Richards C, Ashburn A, Miller K, Lincoln N, Partridge C, Wellwood I and Langhorne P. Effects of Augmented Exercise Therapy Time After Stroke A Meta-Analysis. *Stroke*. 2004 Nov; 35(11):2529-39.
23. Bakheit AM, Shaw S, Barrett L, et al. A prospective, randomized, parallel group, controlled study of the effect of intensity of speech and language therapy on early recovery from post stroke aphasia. *Clin Rehabil* 2007; 21:885-894.
24. Bhogal SK, Teasell R, Speechley M. Intensity of aphasia therapy, impact on recovery. *Stroke* 2003;34:987-993.
25. Going up a gear: practical steps to improve stroke care, NHS Improvement, June 2010
26. Indredavik B, Bakke F, Slordahl SA, Rokseth R, Haeril. Treatment in a combined acute and rehabilitation unit. Which aspects are the most important? *Stroke* 1999;30:907 - 923
27. Prof C. Wolfe, Dr A. Rudd, Dr C. McKeivitt Dr P. Heuschmann, Prof L. Kalra. (King's College London) Top Ten Priorities for Stroke Services Research. A summary of an analysis of Research for the National Stroke Strategy. For Department of Health. 19 December 2008.

CASE STUDIES

NHS Camden – stroke REDs

Improving access to 45 minutes of therapy for stroke patients

Aims

To evaluate the Healthcare for London guidance (RC7) for early supported discharge intensity as per the service level agreement against actual service provision. To use this data to guide practice, and to attempt to define the terms in the NICE quality standard 7 (QS7) ‘continuing to benefit’ and ‘able to tolerate’ based on the service users.

Objectives

1. To analyse what does and what does not constitute ‘therapy time’ within the service.
2. To provide regarding duration of therapy (frequency and intensity) for 100 patients who had completed six weeks of rehabilitation within the service.
3. To compare the duration and intensity of therapy received with valid clinical outcome measures including goal attainment.
4. To compare clinical outcomes with the amount of therapy received for a small sample of patients who had the least therapy input in terms of time, and also in terms of number of visits.
5. To compare clinical outcomes with the amount of therapy received for a small sample of patients who had the most therapy in terms of time and also in terms of number of visits.
6. To determine reasons why 45 minutes of therapy provision is, or is not achieved.
7. To identify any barriers to NICE QS7 implementation in the service and any client groups with whom this standard may not always apply to in practice.

Monday - Friday	Saturday - Sunday
Team Coordinator 1 Band 8 whole time equivalent (wte)	
Occupational Therapists 1 Band 7, 1 Band 6	
Physiotherapists 1 Band 7, 1 Band 6	
Speech and Language Therapist 0.5 Band 7	
Nurse 1 Band 7	
Psychologist 0.5 wte	
Dietician 0.2 wte	
Social Worker 0.5 wte	
Rehabilitation Assistant 1 Band 3	
Enabling Carers As required	Enabling Carers As required

RC7	Percentage of appropriate patients receiving five sessions per week within the first two weeks (ESD), and/or three sessions per week for the first four weeks (non-ESD/postESD) - of occupational therapist, physiotherapy and speech and language therapists. (Weeks start when treatment starts; ongoing to enable patients to meet goals).	90%	70%
------------	---	------------	------------

Findings

Intensity

- the team were able to provide the required intensity of therapy from a staffing capacity perspective; however, it was not always possible for every patient to receive this. The service aims to provide all patients with at least 45 minutes of daily therapy on working days; however analysis of

data showed that the decisions made were based on individual patients goals and ability to participate in rehabilitation through a joint decision making process between patient and therapists to agree the appropriate level on input

Model specifics

The NHS Camden stroke reach early discharge scheme (NHS Camden - stroke REDs) was developed from a fully functional community rehabilitation team, Camden REACH, that offered a stroke pathway. NHS Camden - stroke REDs accept patients from acute and inpatient stroke units, that are suitable for ESD and assists in identifying patients requiring further inpatient stroke rehabilitation.

It operates through a multidisciplinary in reach model and provides therapy (occupational therapy, physiotherapy and speech and language therapy) five days a week, enabling care seven days a week. The team also includes psychological, nursing, dietetic and social work service provision, but for the purpose of this project only the three core therapies were evaluated.

The service level agreement recommends that during a six week period of rehabilitation, a person could receive 22 sessions of each individual therapy, including use of rehabilitation assistant's interventions. Length of stay is limited to six weeks, but this service has reduced inpatient length of stay in local acute trusts to 10 days.

45 minutes – RC7 standard for each patient is to receive 22 sessions, of 45 minutes over six weeks. Data showed that 17.5% of clients achieved the required amount of therapy from physiotherapy, 21.5% from occupational therapy and 11.1% from speech and language therapy.

Frequency – The service should provide five days contact per week for the first two weeks and a minimum of three days for weeks 3-6.

Healthcare for London Guidance - Only 2.5% of patients received the RC7 level of physiotherapy, and both occupational and speech and language therapy recommendations were not met for any patient. This was based on numbers of visits required. There is a process of joint clinical decision between the client and therapists, regarding the level of intensity that is appropriate on an individual basis. At times up to 30% of patients reported that fatigue was a major factor affecting ability to participate in an intensive therapy programme at home.

- Findings showed that, in order to make this clinical judgement it was at first essential to attempt to try to provide 45 minutes intensity
- The team were unsure whether 45 minutes of therapy is sometimes too much or too little when attempting to quantify or set a standard to encompass all three professional groups and advocate for further work, research and analysis in this area.

Therapy contact time – inclusions

- Time spent with therapists on the day of discharge once the patient is home (education, transfer practice, home environment and equipment assessment)
- All therapy specific face to face assessments and interventions

- Time spent carrying out specific outcome measures: COPM (Canadian Occupational Performance Measure), UL (upper limb) outcomes
- Goal setting with patient present
- Stroke education sessions with therapists
- Telephone calls where therapist specific advice is given
- If two therapists from one discipline are required for a session, it is counted as one therapy session
- Therapy carried out by a student, if a therapist (same discipline) is not present
- Sessions with rehabilitation assistant on behalf of therapists, if therapist from the same discipline is not present
- If it is a joint session by two or more disciplines, therapy time is counted for both disciplines i.e. 45 minutes times two
- Carer/family education relevant to patient's care/rehabilitation needs delivered by therapist.

Not therapy time

- The time spent on the hospital ward on the day of discharge
- Assessment on the hospital ward
- Time spent on the following outcome measures: SAQOL (stroke aphasia quality of life), NeADL (Nottingham extended activities of daily living)
- Telephone calls for purposes other than therapist specific advice e.g. making appointments
- Access visits, installation of equipment prior to patient going home
- Discussion about a patient during multidisciplinary team meetings
- Time patient spends with enabling carers
- Time patient spends with psychologist, nurse, social worker, or dietician.

Comparing the duration and intensity of therapy received with goal attainment

Percentage of clients who met quality standard of 45 minutes	Percentage of clients who met equivalent total minutes of therapy
Occupational therapist = 0%, Speech and language therapist = 0%, Physiotherapist = 2.5%	Occupational therapist = 21.5%, Speech and language therapist = 11.1%, Physiotherapist = 17.5%

The findings demonstrate the variability in the patient group regarding the duration of individual sessions a) tolerated, b) deemed to be of continued clinical benefit, jointly agreed between the therapist and client, and c) duration appropriate for different tasks, e.g. more than 45 minutes to undertake an outdoor mobility session to do shopping.

Despite these relatively low percentages, 87.41% of goals set across all 91 patients were achieved. This clearly shows that, for the majority of the patients, 45 minutes of daily therapy is not required to achieve all rehabilitation goals.

The team considered QS7 in terms of the phrases 'continuing to benefit' and 'able to tolerate' and felt that if they were to include all those patients who were either judged to be not continuing to benefit or not able to tolerate, the percentage of the clients who met the standard would be significantly higher (see discussion on reasons why 45 minutes was not achieved).

Comparing clinical outcomes with the amount of therapy received for a small sample of clients which had the least therapy input in terms of time (intensity) and number of visits ≥ 45 minutes (frequency)

Lowest number of visits – average number of therapy visits = 9.3 (in a six week period).

Barthel	COPM P	COPM S	N eADL
1.9	3.5	3.1	12.2

Least amount of therapy time spent - average number of therapy minutes = 643 (in a six week period).

Barthel	COPM P	COPM S	N eADL
1.7	2.6	2.6	10.9

For this group of clients it appears that there is a significant difference with Barthel and goal attainment scale (GAS) outcome measures when compared with the sample of people who get most therapy in terms of time (intensity) and number of visits (frequency). At the start of intervention, the Barthel score for the group with least amount of therapy is higher, (average score of 17 p=0.03) suggesting that the patients who do not receive the same therapy (intensity and frequency) are the more functionally able. This patient group makes significantly smaller progress gains (average of 1.8 p=0.002) compared with the patients that receive more therapy. This group of patients achieved 100% of their goals set using GAS.

There were no significant differences in terms of the Canadian Occupational Performance Measure - Satisfaction (COPM S), Canadian Occupational Performance Measure Performance (COPM P) and Nottingham extended activities of daily living (NeADL). On average those for whom the criteria were met improved 12 points (for others the average improvement was 10 points).

Most amount of therapy time spent – average number of therapy minutes = 2413 (in a six week period).

Barthel	COPM P	COPM S	N eADL
6.3	2.8	3.1	14.6

Highest number of visits – average number of therapy visits = 35.1 (in a six week period).

Barthel	COPM P	COPM S	N eADL
6.3	3.0	3.4	11.6

For this group of patients, there is a significant difference with regards to the Barthel and GAS outcome measures, when compared to the sample of people who get least therapy (frequency and intensity). Patients who received the most therapy (intensity) were functioning at lower level, based on the Barthel (average score of 11.8 p=0.02) at the point of transfer into the service. In terms of progress and change, this group made significantly larger gains (average of 6.3 p=0.005) when compared to those who received the least amount of therapy. In terms of goals set, they achieved 80% of goals set using GAS.

There were no significant differences in terms of the COPM satisfaction, COPM performance and NeADL.

Identifying the barriers to NICE QS7 implementation and patient groups with whom this standard may not apply

There were two groups; those with lower Barthel scores, (indicating moderate functional impairment) and those with higher Barthel scores, (indicating a more mild functional impairment) for whom 45 minutes may not always be applicable.

The team found that patients with mild functional impairments (higher Barthel scores) returned to their life roles sooner, and were more self directed with activities of daily living/therapy. Many of them reached the jointly agreed decision (based on goal attainment and improvements in clinical outcomes) to no longer benefit clinically from daily therapy; leading the team to hypothesise that once back in their home environment, this patient group have more opportunities to engage in task specific practice. The team have also found that because they are more independent, they are busier, which in turn reduced their availability for appointments.

Those with lower Barthel scores tend to require more therapist guidance and were more likely to need skilled physical assistance or supervision to enable them to practice and progress functional tasks/exercise. Therefore, daily face to face therapy was often of greater clinical benefit with this group.

Some patients experienced high levels of fatigue. This symptom affected 30% of the patients and had an impact on their ability to participate in therapy. Many of these patients required shorter sessions.

There were some patients who declined daily therapy at home as a personal preference.

Patients who require input from multiple members of the multidisciplinary team may not always be able to tolerate daily sessions from every discipline, necessitating prioritisation of sessions (this should be guided by patient-centred goals).

In cases of complex health needs, e.g. dual diagnosis, multiple medical appointments or hospital admissions, some patients could not be available for daily therapy.

Reflective comments

Would it be more appropriate for NICE quality standards to measure patient outcomes based on clinical outcome measures/goal attainment/other forms of evidence based practice, rather than specify intensity of treatment based on time?

Contact

Mirek Skrypak

Stroke REDS, Navigator and REDS Co-ordinator, NHS Central and North West London NHS Foundation Trust, Camden Provider Services.

Email: m.skrypak@nhs.net

The community stroke team in Blackburn with Darwen, part of Lancashire Care NHS Foundation Trust

Retrospective evaluation of therapy need and provision

Background

The community stroke team (CST) began in 2007, on a background of an absence of any multidisciplinary team community rehabilitation service for stroke survivors, limited provision of equipment, long waiting lists and length of stay in the acute trusts, substantial care packages on transfer to the community, and a limited, physiotherapy only service into care homes. Since 2007, the team has rapidly evolved into a successful and comprehensive service, linked with local community services and building strong links with social care.

The team decided to review and evaluate their service against the 45 minute quality standard and using their extensive data base, tried to better understand which patients received most therapy, and the outcomes.

Population: 162,000
Team: Community stroke team
Referrals: 280 per year

Contact

Tracy Walker

Clinical Specialist Occupational Therapist, Clinical Lead Stroke, Stroke Service, Lancashire Care NHS Foundation Trust
 Email: tracy.walker@lancashirecare.nhs.uk

Monday - Friday	Saturday - Sunday
Community Stroke Team Lead 1 Band 8	
Occupational Therapists 1 Band 7, 1 Band 6	
Physiotherapists 1 Band 7, 1 Band 6	
Speech and Language Therapist 1 wte	
Nurse 0.5 wte	
Psychologist	
Assistant Practitioner 0.2 Band 4	
Rehabilitation Assistants 4 Band 3	
Enabling Carers As required	Enabling Carers As required

Model specifics

The community stroke team provide a comprehensive service including ESD, for new and existing stroke patients.

It reaches into hospital within 24 hours of referral and coordinates early discharge home for all patients, regardless of destination, and provides a responsive assessment in the community for as long as needed. The enabling care workers have stroke specific skills and are from the wider intermediate care and social care teams.

Data collection

Review of 20 sets of consecutive patient data.

Length of stay

Not time limited in the service. The team have reduced in patient length of stay locally from 31 days in 2005 to 21 days in 2009, with a corresponding steady reduction in length of stay within the community spell. There has been a reduction of length of stay across the whole pathway with improvement of patient outcomes and reductions in final packages of care.

45 minutes

- Not all stroke survivors referred for community stroke rehabilitation needed 45 minutes of therapy each day
- Patient therapy need varied greatly with length of stay, depending on dependency levels
- There was a trend of greater number of 45 minute therapy contacts from rehabilitation assistants with varied input from occupational therapist/physiotherapist/speech and language therapist depending on patient needs post stroke
- The patients with moderate to total dependence (Barthel score) required intensive 45 minutes of therapy daily post discharge
- Mild and minimal dependency patients required less intense therapy.

Medway Community Healthcare Stroke Rehabilitation Unit, St Bartholomew's Hospital, Rochester, Kent

Improving access to 45 minutes of therapy for stroke patients

Population: 275, 000
Unit: 15 bedded stroke rehabilitation unit
Referrals: Approximately 80 per year

Aims

- To investigate ways to increase the amount of face to face therapy time with patients, within current resources
- Establish new ways of working on a stroke rehabilitation unit
- Promote integrated working.

The pilot project looked at increasing therapy contact time in line with the NICE Quality Standards; specifically around team working but also formed part of bigger overall work to improve working practices on the unit. This included occupational therapy/physiotherapy/speech and language therapy and nursing staff all based on the stroke rehabilitation unit.

Measurement

The team started to use the Northwick Park dependency measure and goal attainment scale as outcome measures when the changes were introduced.

Monday - Friday	Saturday - Sunday
Stroke Services Manager (Clinical Lead) 1 Band 8a (across whole stroke pathway)	
Advanced Practitioner 1 Band 7 (across whole stroke pathway)	
Occupational Therapist 1 Band 7	
Physiotherapists 1.6 Band 6, 0.5 Band 5	
Speech and Language Therapists 0.6 Band 6, 0.2 Band 5	
Care Manager 0.5 wte	
Rehabilitation Assistants 2 Band 3, 1 apprentice	
Nurses (Day Shift) 1 Band 7, 2 Band 2/3, 1 Band 5, 2 Band 2/3	Nurses (Day Shift) 2 Band 2/3, 1 Band 5, 2 Band 2/3
Nurses (Night Shift) 1 Band 5, 2 Band 2/3	Nurses (Night Shift) 1 Band 5, 2 Band 2/3

Data collection

Sample n=4 pre change; n=11 during change; n=6 after change.

Length of stay

Service changes have not been implemented for enough time to measure this.

45 minutes

Within the sample size (although small) there was already a trend of increased therapy delivery across physiotherapy, occupational therapy and speech and language therapy.

RCP guidelines/NICE quality standards

Moving the therapy staff onto the stroke rehabilitation unit, providing an integrated approach to therapy and initiating group therapy sessions are all improving the access to 45 minutes of therapy on at least five days of the week.

Comments

Qualitative staff feedback was very positive with all staff in favour of the changes to working practices, all staff feeling that they were working better as a team. A spot check Care Quality Commission (CQC) visit happened during the project and the feedback praised the integrated working on the unit and recommended that the other wards at St Bartholomew's Hospital should adopt the model being used.

Challenges

- Low morale
- Limited funding opportunities
- Commissioners having different priorities, i.e. implementation of a 7/7 TIA service
- Problems collecting and analysing data
- Development of a business case
- Speech and language therapy staff with different line management did not form part of these changes other than to assist in the data collection and in facilitating the social communication group. Otherwise they continued with their normal working practices and did not change their base.

Key learning

- Ensure buy in from a senior manager /top level manager in the organisation
- Keep all staff involved and updated on a regular basis e.g. newsletter etc.
- Keep on top of things daily.

What we would have done differently

- Carry out a demand and capacity exercise before the changes rather than during
- Plan and introduce the changes over a longer period of time
- Involve people at the top of organisation earlier in the process.

Next steps

Medway Community Health are producing a report to inform the executive team about the current level of provision of therapy on the unit in comparison with that required. It will include information to show both the effect of innovative ways of working on delivering quality standards, and why the service is unable to deliver 100% of therapy required.

Service specifications are being reviewed and the report can support a clear rationale around the resources required to meet future measures, such as 45 minutes of therapy and seven day working.

Contact

Trudie France

Consultant Practitioner – Stroke,
Medway Community Health
Email: trudie.france@nhs.net

South Tyneside NHS Foundation Trust

Increased stroke physiotherapy provision on stroke wards

Population: 155,000
Unit: 20 bedded acute and rehabilitation stroke unit
Referrals: 300 per year

Background

Historically, there was no provision for access to specialist rehabilitation therapy at weekends. Previous service user feedback had identified this to be a significant gap in stroke service provision.

The aims of the project were to provide a service in line with RCP guidelines, to meet the rehabilitation quality markers of the National Stroke Strategy and comply with NICE recommendations on frequency of treatment for stroke patients.

The pilot ran for a year, until August 2010, with the extra staff working three days during the week and at weekends on the stroke unit. The three week days enhanced the existing service with access to training and support from senior staff.

Challenges and solutions

Challenges

- Retention of staff, particularly band 5
- Cost
- Change in working practices for current staff.

Potential solutions

- Build seven day and flexible working patterns in contracts to support sustainability
- Share the outcomes and feedback to staff
- Promote the benefits and opportunities for flexible working patterns
- Adopt flexibility with staffing and skill mixing to support annual leave, study time and, ideally, one weekend off a month
- Implement a two month notice period required for band 5 entering the general rotation

Monday - Friday	Saturday - Sunday
Physiotherapists 0.8 Band 7, 0.6 Band 5 and 0.5 Band 2	Physiotherapist 0.4 Band 5
Technical Instructors 1.5 Band 4	Technical Instructor 0.4 Band 4

Data collection

Sample n=32 consecutive patients.

Length of stay

10 days.

45 minutes

75% of appropriate patients received 45 minutes of therapy.

Frequency

Patients were seen a mean seven days out of mean of 10 days length of stay.

RCP Guidelines/NICE quality standards

100% compliance across physiotherapy for seven day service which has improved access to 45 minutes of therapy.

Comments

The quantitative data shows ongoing improvement and is supported by patient feedback. For staff there was cessation of the Monday morning syndrome. Funding for the project has now been made substantive.

- Agree secondment to current post until recruitment is completed to prevent gaps in service.

Next steps

A significant gap has been identified in the lack of qualified occupational therapy at weekends. It has been recommended that funding should be sought for qualified occupational therapy weekend provision.

How has the improvement benefited staff, patients and carers?

"Over the bank holiday weekend I did not receive any therapy for four days"

"I feel the therapy was good but the ward needed more staff to cope with demand"

Patient quotes from the satisfaction questionnaire 2009 pre pilot

"Physiotherapy in hospital excellent"

"Not enough occupational therapy"

Patient quotes from the satisfaction questionnaire 2010

Contact

Heather Hunter

Team Leader Physiotherapist.
 South Tyneside NHS Foundation Trust
 Email: heather.hunter@stft.nhs.uk

Sheffield Teaching Hospitals NHS Foundation Trust

Implementing seven day occupational and physiotherapy services for stroke

Population: 547,000
Unit: 76 beds across hyperacute, acute and rehabilitation
Referrals: 1,000 per year

Background

The service was delivered to patients throughout the pathway that met the agreed criteria; the funding for the project was targeted at hyperacute stroke unit (HASU).

Key objectives

- To ensure that essential services can be available to patients when they are needed
- To improve the quality of patients' experience and the timeliness of intervention
- To ensure working arrangements are in place to support consistent delivery of essential developing services
- To explore in more detail a range of models of additional therapy and examine their different effects across a spectrum of specific outcomes.

Data collection

- Admission to referral, referral to first contact, first contact to therapy complete, and date of last intervention, admission to treatment length of stay total, and length of stay until therapy complete date.

Key outcomes

The roster system implementing seven day working was the logical way to deliver a service within the given time scales and initiate contracted seven day working in an equitable way across therapy services. However, overwhelming feedback from all areas suggests weekend working is delivered more effectively and efficiently by the home team members who are familiar with local systems and processes and the current clinical case load. Future recruitment strategies will be directed at developing capability to sustain a seven day service within the home team by the following methods:

Monday - Friday	Saturday - Sunday
Therapy Lead 1 Band 7	
Occupational Therapists 1.6 Band 7, 1.6 Band 6, 3 Band 5	Occupational Therapists 1 Band 5/6/7
Physiotherapists 1.6 Band 7, 2 Band 6, 3 Band 5	Physiotherapists 1 Band 5/6/7
Generic Technical Instructor and Assistant 1.6 Band 3, 1.8 Band 2	Assistants 2 Band 2/3

Model specifics

The service moved from a five day, Monday to Friday, working week to a five day working week which may include a day at the weekend or bank holiday: Weekend and bank holiday pay enhancements apply. Staff work a one in four weekend rota on the stroke wards. The rota is made up from a pool of staff working in specialist rehabilitation (brain injury and spinal injury), neurosciences (neurology and neurosurgery), neuro rehab and stroke. Payback days are taken from within the individual therapist's directorate/division, which may not be stroke. The seven day service was provided across the inpatient care pathway from the HASU to the acute rehabilitation ward.

Samples for the occupational therapy/physiotherapy data sets were different so not comparable.

Length of stay

Analysis of length of stay in connection to the introduction of a seven day service was inconclusive. This is because at the same time the stroke service had a major reconfiguration as two stroke services on separate hospital sites were integrated into one, with a creation of an HASU.

Data collection

Sample pre change n=20 for occupational therapy and physiotherapy; post change n=30 for occupational therapy and physiotherapy. Samples for the occupational therapy/physiotherapy data sets were different so not comparable.

45 minutes

Pre seven day service physiotherapy and occupational therapy were able to provide access to 45 minutes of therapy for 76% of the time, on average, for appropriate patients. Post implementation this increased to 92% for physiotherapy and 91% for occupational therapy.

Admission to assessment time (ATT)

Pre seven day service, occupational therapy was 62 hours and physiotherapy was 47.4 hours; post implementation occupational therapy = 25.6 hours, physiotherapy = 30.4 hours.

- All vacancies for new staff based permanently within teams who deliver a seven day service will be advertised and recruited with a regular working pattern which will include weekends
- All staff currently employed will be given an opportunity to work at the weekend as part of their normal contracted week if they wish to do so
- Review of working patterns for rotational staff and increasing recruitment of division based staff to increase the stability of rosters
- Resources will be moved permanently into teams to support this process

- Patients with a shorter than average length of stay were seen by physiotherapy for the majority of their stay
- Those who were in longer were seen for a smaller percentage of their time in hospital. This may have been due to medical issues, cognitive or behavioural impairments or waits for other services
- The 90% vital sign for patients spending 90% of their time on a stroke unit is achieved.

Contact

Natalie Jones

Manager – Neurology,
Sheffield Teaching Hospitals NHS
Foundation Trust
Email: natalie.jones@sth.nhs.uk

Sheffield Primary Care Trust and Sheffield Teaching Hospitals NHS Foundation Trust

Sheffield stroke unit seven day working pilot for speech and language therapy

Population: 547,000
Unit: 79 beds across hyperacute, acute and rehabilitation
Referrals: 1,000 per year

Monday - Friday

Speech and Language Therapists
2.2 Qualified SLTs Bands 5, 6 and 7

Therapy Assistants
1.6 Band 2

Saturday - Sunday

Speech and Language Therapists
0.1 Qualified SLT (Sat am only)

Aims

- To assess local clinical need and gather the views of patients, carers and staff to inform long-term planning
- To establish whether speech and language therapists working Saturday mornings reduced referral to treatment time, improved access to speech and language therapy (SLT) and enhanced the patient experience.

Challenges

- Securing adequate funding to increase the service. One option is to extend the existing service over the whole week and evaluate the impact on the patients during the week
- Recruitment of staff could be problematic; experienced SLTs with a post graduate dysphagia qualification are in short supply
- This pilot was undertaken at short notice and it was not possible to collect all the baseline data. It also included two bank holidays when the service was provided on Monday rather than Saturday morning.

Key learning

- Identify the right data for collection and don't underestimate the challenges associated with collection
- The impact of seven day working may differ if the whole multidisciplinary team are involved.

Future plans

Review the data and discuss how to deliver a SLT service over the weekends, in consultation with staff and patients.

Model specifics

A pilot service involving speech and language therapy service on Saturday mornings was provided for 12 weeks. The roster was staffed by volunteers, with funding for overtime agreed with the trust and comprised speech and language therapists from acute ward teams in addition to the stroke team. Staff completed an induction to familiarise them with procedures. All staff were competent with dysphagia management and communication skills. New referrals were seen along with existing patients who had been prioritised for a Saturday morning session by the stroke unit speech and language therapist. On-call was not included as it was felt that this was unlikely to meet the clinical need, as dysphagia screening is already provided for patients.

Data collection

Sample n=21.

45 minutes

25% of patients required daily speech and language therapy intervention and over 50% needed 45 minutes on certain days.

Admission to assessment time (ATT)

80% of patients were assessed within 24 hours, 55% within 72 hours. Only one patient from the total (20) was first assessed on a Saturday. The referral to treatment time was therefore reduced for 5% of the sample.

Frequency

Patients were seen a mean three days out of mean of 15 days stay.

Comments

The qualitative effects are still being evaluated through a patient questionnaire. The speech and language therapists felt that there was a positive effect on the duration of nil by mouth episodes for some patients but did not collect data for this. The clinical need appeared to be predominantly for dysphagia assessments, and qualified staff intervention. As the sample size was small, any conclusions must be cautiously drawn. Patients were seen for assessment within the 24 hour standard, but had to wait longer for treatment. The incidence of patients who had pneumonia during their admission was higher than the national average, with 20% of the sample experiencing pneumonia during their admission (13% from 2010 sentinel audit). However, this cohort were more likely to have dysphagia as they had all been referred to speech and language therapy compared to the sentinel audit cohort who had not all been referred to speech and language therapy.

All the staff felt that there was a positive effect on patient care and that they received a greater amount of intervention during the pilot.

Contact

Erica Bradley

SLT Adult Coordinator, Sheffield Teaching Hospitals NHS Foundation Trust
Email: erica.bradley@sth.nhs.uk

Chesterfield Royal Hospital NHS Foundation Trust

Developing a seven day physiotherapy service on the acute stroke unit

Population: 250,000
Unit: 14 bedded acute stroke unit
Referrals: 700 per year, 450 -500 stroke

Background

- No baseline data had been collected before starting the seven day service
- A seven day service is only being provided on the acute unit, whilst the rehabilitation unit has a five day therapy service
- Challenges around assuring the optimum number of staff with the requisite skill level are available for the rotas were resolved by recruiting existing part time staff who requested extra work to the roster.

Key learning from this work

- Be very clear about any data requirements before engaging in project work. Identify what data you need and how to measure it when identifying how your service has impacted on an organisation (e.g. unlikely to have major effect on length of stay)
- Ensure sufficient lead in time to collect appropriate baseline data for comparison
- Promote the service and make sure people are aware of any project work and share plans and outcomes. It is essential to have a team that recognises the value of the service and are consequently committed to it
- Have contingencies in mind to ensure a sustainable service when the unexpected occurs
- Have a flexible attitude when planning rotas.

How has the improvement benefited staff, patients and carers?

It has been a positive experience with good feedback from all. Staff satisfaction is high.

Monday - Friday	Saturday - Sunday
Occupational Therapists 1 Band 6, 0.6 Band 5	
Physiotherapists 1 Band 7, 2.7 Band 6, 1 Band 5 and 1 Band 2	Physiotherapists 1 Band 6/7, 1 Band 2
Speech and Language Therapist 1 Band 6	

Model specifics

Physiotherapists plan and prioritise the weekend work. Staff work on a roster, with additional staff from the 'bank' list within physiotherapy. All have stroke skills. The service merged with the rehabilitation service in April 2011, with a total of 36 beds; there was an increase in funding to staff it proportionately. The stroke service is part of a wider neuro team that also includes neuro patients on other wards and outpatients. A seven day physiotherapy service was commissioned from April 2010 and implemented in October 2010.

Data collection

Sample n=30

Length of stay

No significant impact with the seven day service. It was felt that a similar occupational therapy service would be required to facilitate this effect. However, the team can now plan for discharges earlier in week.

Admission to assessment time (ATT)

100% for admission to assessment time (ATT).

Frequency

Patients were seen a mean six days out of mean of 11 days stay.

RCP guidelines/NICE quality standards

Meeting RCP at 100% for ATT. Compliance with seven day service delivery for physiotherapy

Future plans

The stroke services are currently undergoing a service review, including consideration of a similar occupational therapy weekend service and there are plans for an early supported discharge team.

Contact

Victoria Oscroft

Senior Physiotherapist,
 Chesterfield Royal Hospital NHS
 Foundation Trust

Email:

victoria.oscroft@chesterfieldroyal.nhs.uk

Newton Abbot Hospital stroke unit with Torbay and Southern Devon Care Trust

South Devon Stroke Services: Seven day working and 45 minutes of therapies

Unit: 15 bedded stroke rehabilitation unit
Referrals: Approximately 250 per year

Background

Newton Abbot Stroke Unit (Teign ward) provides post-acute rehabilitation as part of a common pathway for stroke across South Devon. The unit accepts patients who are medically stable and are, on average, seven days post stroke. It provides inpatient care prior to supported discharge into the community. Over the last six years that the unit has been running, throughput and length of stay have continued to decrease and bed occupancy averages 96%. The service had already undertaken much background and preparatory work prior to the NHS Improvement - Stroke project.

Baseline position

The team collected baseline information across a range of aspects including therapists' opinion on whether patients required 45 minutes of therapy every day, a user satisfaction questionnaire in 2008 and review of previous audit data (2010).

- 33% of patients rate their overall care as 'excellent'. 58% of patients rate their overall care as 'very good'. 9% of patients rate their overall care as 'good'. (National figures: 33% excellent; 36% v good; 18% good; 8% fair; 3% poor and 1% very poor.)
- Admission to assessment time was 80% within 24 hours (but some wait up to 96 hours).

Monday - Friday	Saturday - Sunday
Consultant Therapist 1 Band 8 (across whole stroke pathway)	
Occupational Therapists 1 Band 7, 1 Band 6	Occupational Therapists 0.2 Band 6/7 (Sat alternate weeks)
Physiotherapists 1 Band 7, 1 Band 6	Physiotherapists 0.2 Band 6/7 (Sat alternate weeks)
Speech and Language Therapists 0.55 Band 8b, 0.4 Band 6	
Rehabilitation Support Workers 1.8 Band 3	Rehabilitation Support Workers 1.2 Band 3

Model specifics

The team reallocated existing funding for a band 5 post, to fund three band 3 rehabilitation support assistants (RSA).

Qualified staff were rostered to provide the Saturday service supplemented with stroke skilled staff from the community team.

Data collection

Sample n=30 each from occupational therapy and physiotherapy.

Length of stay

Reduced from 21 days (2008) to 17 days (2010) not attributable to this work.

45 minutes

Both therapies were able to provide access to 45 minutes of therapy for 100% for physiotherapy and 87% for occupational therapy for appropriate patients.

Admission to assessment time (ATT)

46 hours for occupational therapy and 23 hours for physiotherapy.

Frequency

Physiotherapy patients were seen a mean 11 days out of mean of 22 days stay. Patients needing occupational therapy were seen a mean seven days out of mean of 22 days stay.

RCP guidelines/NICE quality standards

100% of patients received a cognitive assessment, 80% a mood assessment, and 100% had rehabilitation goals agreed with their input. Compliant with seven days services for physiotherapy and occupational therapy.

Comments

Staff questionnaire and review showed a recognition of the positive impact on patient's care. Feedback from staff included that they valued the consistency provided by rehabilitation support workers, and felt more confident to progress treatment plans in a more timely fashion. Generally, staff felt that there was some impact on personal life but counterbalanced by low frequency of commitment, and 100% agreed to continue supporting the service.

Actions

1. Reviewed skill mix of occupational and physiotherapies and developed rehabilitation support worker (RSW) role to improve access to therapy and practice on the stroke rehabilitation unit. Through reallocation of the existing funding for the band 5 posts, were able to fund three band 3 rehabilitation support workers across seven days (Saturday to Tuesday - 7.5 hours) plus band 6/7 therapist (four hours Saturday and bank holidays).
2. Included speech and language therapists in the discussions, although there were no plans for them to participate at this stage.
3. Agreed the outcome measures, including ATT, care maps regarding therapies delivered and length of stay.

Implemented the change

Rehabilitation support workers began in October 2010, working Monday to Friday for induction and orientation before the weekend service started formally in November 2010. Specialist community physiotherapy staff were also included in the qualified staff Saturday rota to allow an outreach service into the community for newly discharged patients or community patients that may require weekend input. This meant qualified staff working a 1:12 weekend pattern. Support workers would also be required to outreach into the community if necessary.

Key outcomes

45 minute treatment sessions;
2008 = 92%. 2010 = 100%.
Admission to treatment time;
2008 = 80%. 2010 = 100%.

- Potential now to see community patients also at weekends
- Opportunity for community staff to join rota and keep up to date with acute work

- Positive carry over/continuity of rehabilitation support worker interventions from the weekend to Monday
- Very positive carer satisfaction about the improvement in access/frequency of therapy
- Improved staff confidence around progressing treatment programmes in a more timely fashion
- Increase in Friday discharges as patients could be followed up over the weekend at their discharge destination
- Positive feedback from community team regarding consistency provided by rehabilitation support workers.

NICE standards/RCP guidelines

100% of 45 minute sessions for appropriate patients were achieved with physiotherapy and 87% for occupational therapy. 100% of appropriate patients received a cognitive assessment, 80% a mood assessment and 100% had rehabilitation goals agreed with the patients.

Top tips

Collection of data is massively time consuming and it is important to understand why you are collecting it. There has been a lot of debate about the 45 minute standard and how patients are assessed as being suitable for this. The workshop provided locally by NHS Improvement - Stroke team following the national meetings looking specifically at capacity and demand has helped to clarify this although work is still ongoing.

Next stages

- Liaise with human resources department to support long term sustainability of the changes
- Collect larger sample size and greater data collection
- If bed number increases, the team will review need for band 5.

A demand and capacity exercise has already started and data has been collected for patients over a two week period during which the staff activity was also measured using tools from the productive hospital boxed set (NHS Institute for Innovation and Improvement). It is hoped that from this, consensus will be reached on the best times for patients to receive their therapy in whatever format (including groups) and for staff to do their paperwork, meet with relatives, attend meetings etc.

Contact

Kathryn Bamforth

Clinical Specialist Physiotherapist,
Torbay and Southern Devon Care Trust
Email: kathryn.bamforth@nhs.net

Guys and St Thomas' NHS Foundation Trust

Seven day service: Weekend rehabilitation support worker model

Population: HASU -1,000,000, Stroke Unit - 250,000
Unit: 29 bedded combined hyperacute and rehabilitation unit
Referrals: HASU - 700-800 and 250-300 for stroke unit

Aims

- Increase rehabilitation activities for patients over weekends and bank holidays
- Train existing ward healthcare assistant staff to carry out prescribed rehabilitation activities on the weekends
- With achievement of above, create an ongoing rehabilitation ethos on the stroke unit.

Challenges and solutions

Staffing

Challenge: To ensure healthcare assistant jobs were not given to these staff by ward nursing staff when doing rehabilitation duties on the weekend.

Solution: The posts were designed to be super numerate. Band 6 nurses agreed the parameters, and the rehabilitation workers, regularly feedback and wear a different uniform at weekends.

Pay

Challenge: There was some concern initially that staff could perceive this new work as having 'increased responsibility' and therefore a higher banding and pay scale.

Solution: This was resolved by aligning the role into the key skills framework and ward competencies, emphasising that no new skills were being used, only a change to allocation of time.

Monday - Friday	Saturday - Sunday
Occupational Therapists 1 Band 8, 1 Band 7, 1 Band 6, 1 Band 5, 0.5 Band 3	
Physiotherapists 0.5 Band 8, 1 Band 7, 2 Band 6, 1 Band 5, 0.5 Band 3	
Speech and Language Therapists 1 Band 8, 1 Band 7, 0.5 Band 6 (vac supported by SLTA)	
	Rehabilitation Support Workers 0.4 Band 2/3 (HCA)

Model specifics

The rehabilitation support worker (RSW) delivers a prescribed series of exercises at the weekend, selected by the occupational therapist, physiotherapist and speech and language therapist during the week, under the supervision of a band 6 nurse.

Data collection

Sample n=30 for occupational therapy, physiotherapy and speech and language therapy (sample not consecutive, in order to include patients who had physiotherapy, occupational therapy, and speech and language therapy).

Length of stay

The sample selected for data collection were those patients identified as needing two to three core therapies, therefore a comment on length of stay cannot be made.

45 minutes

The rehabilitation support worker sessions are 20 minutes, therefore do not meet the 45 minutes standard.

Admission to assessment time (ATT)

This model does not influence ATT.

Frequency

Mean days that patients were seen by speech and language therapist was three days, physiotherapist was eight days and occupational therapist was six days over an average length of stay of 18.5 days.

RCP guidelines/NICE quality standards

Meeting the spirit of the RCP guidelines by offering rehabilitation over seven days.

Comments

The total number of rehabilitation contacts for the patient is increased with this model, but not those delivered by qualified therapy staff. Patients value the service, and there is a stronger rehabilitation ethos during their normal duties.

Competencies and line supervision

Challenge: Training provided by therapists, but still managed by nursing team. There was concern that line management and responsibility may be compromised.

Solution: Competencies now included in relevant nursing documentation and band 6 nurses are expected to have core skills in rehabilitation and responsibility to supervise rehabilitation support workers at weekends.

Documentation

Challenge: A solution for documenting the input and outcome of rehabilitation activities on the weekends was required as healthcare assistant staff do not document directly into the patient record at the trust.

Solution: Standardised, simple activity sheets with 'tick box' system of feedback were designed and are used effectively. These are reviewed by therapists and filed in the patient record.

Training

Challenge: How to deliver training for all eligible healthcare assistants, including updating skills and maintaining this.

Solution: All appropriate staff were rostered to attend an initial whole-day didactic and practical training. Each rehabilitation support worker was supervised directly by a therapist to ensure their first working weekend was successful and any problems identified. Ongoing contact and discussion are encouraged in the week if staff have questions or problems. Refresher training is scheduled yearly. New recruits will be put through a similar training.

Top tips

The importance of having whole multidisciplinary teams on board from the beginning.

- **Therapists** to agree on consistent structure of the exercises/training etc.
- **Nurses** to support the rehabilitation support workers to fulfil their role
- **Rehabilitation support workers** to be willing to participate and open to new ways of working.

Key outcomes

This service has been running for four years and was not introduced to support seven day or 45 minute therapy standards. It delivers an increased number of rehabilitation contacts (but not therapy contacts).

Feedback from patient and staff shows that patients value having weekend input and the rehabilitation support workers enjoy the work and have stronger rehabilitation ethos during their normal duties. This model has also helped to improve nursing awareness of rehabilitative concepts and implementation of strategies as part of everyday nursing.

Contact

Claire Edmonds

Specialist Physiotherapist,
Guys and St Thomas' NHS
Foundation Trust.

Email: claire.edmonds@gstt.nhs.uk

Stoke-on-Trent: University Hospital of North Staffordshire NHS Trust

This service was not part of the cohort of project teams. However, they kindly allowed us to visit their stroke service and share their learning and data from several years of improvement. They have a well established and sustained seven day therapy service for stroke patients.

History

Stroke service in Stoke consisted of two combined stroke units offering 39 beds for a population of 500,000 (tertiary population of three million) within a deprived area with poor cardiovascular health, until 2008. The units were managed by two different trusts (combined Health Care NHS Trust and University Hospital North Staffordshire (UHNS) with differing ward cultures, work practices, management styles, staffing establishments and role developments.

Therapy cover was not always available as the therapists were not solely allocated to the units and A&E was situated on a different site to the stroke units.

An opportunity to evaluate the delivery of care on the stroke units arose from the transfer of the ward to within the operational management of United Hospital of North Staffordshire, and the move of both wards to one site with access to A&E.

Service redesign

A radical overhaul of the existing service was needed. The proposed service model was based on that delivered in Trondheim, Norway, which the team visited to understand their model for the stroke unit.

This comprised: an acute medical treatment programme with systematic observation and examination; early and intensive stimulation and mobilisation; all underpinned by an integrated team approach focused on patient goals. Fiona Lunn (Nurse Stroke Consultant)

Action points

- Medical stroke guidelines were reviewed and updated
- Acute monitoring guidelines were reviewed and updated
- Access to an early supported discharge team, which visits the ward daily, do home visits and take patients home
- Review of therapist and nursing roles to promote blurring of boundaries, and focus on patient need
- Therapists work solely on the stroke unit and are managed by the stroke unit manager
- Assessments are jointly done by nurse and therapist
- Rehabilitation is functional and task orientated
- Introduction of new roles without titles that are focused on rehabilitation (e.g. band 3 rehabilitation roles)
- Shift work for nurses 24/7 and therapists over seven days
- Early mobilisation as principle practice on the unit was established
- Evidence base for management of clinical symptoms (e.g. urinary incontinence) was reviewed
- Nutritional pathway was put in place
- There was an increased clinical focus for the stroke specialist nurse
- Ward managers operate in a supernumerary capacity
- Band 2 staff work alternate therapy and nursing rotas
- Provision of an enriched environment to focus on stimulation, motivation, psychological support and training in groups
- Discharge planning implemented from day one
- Review of housekeeper, discharge liaison and ward clerk roles
- Training modules are being developed to meet the different needs of the staff working in stroke. There are links with Keele University and University of North Staffordshire, and there is support from the cardiovascular network

and John Cliffe (Deputy Director of Strategy and Planning) worked closely together with help from Professor Roffe (Professor in Stroke Medicine) to put together the stroke service redesign.

Operational improvements

There are two rotas, for nursing and therapy (occupational therapy and physiotherapy). The therapy rota covers seven days, running two shifts: 7.20-3.20 and 10.00-6.00. Nursing assistants alternate between both rotas to give them opportunities for developing skills across nursing and therapy.

The philosophy and principle of the ward is on rehabilitation with joint working from nursing and therapists from admission, therapy and nursing

ward rounds and joint assessments. All the patient activities have a rehabilitation focus, with treatment being goal orientated rather than process orientated (i.e. 45 minutes). Some tasks remain nursing tasks, and the therapists contribute towards these. Families are engaged early to participate in the rehabilitation tasks.

Contact

Fiona Lunn

Nurse Consultant Acute Stroke, University Hospitals of North Staffordshire NHS Trust
Email: fiona.lunn@uhns.nhs.uk

Stakeholders

Organisations and individuals who provided their opinions around the guidance and therapy services,

1. Those who responded to our questionnaire

- **Dr Jane Barton**
Consultant Clinical Psychologist, Nether Edge Hospital, Sheffield
- **Michael Carpenter**
Care Quality Commission
- **Association of Chartered Physiotherapists interested in Neurology**
- **Dawn Good**
National Stroke Nursing Forum
- **Dr Cherry Kilbride**
Royal College of Physicians, Intercollegiate Working Party
- **Professor Michael Barnes**
British Society of Rehabilitation Medicine
- **Lorna Leyword and Joe Korner**
Stroke Association
- **The Consultant Nurse and Allied Health Professionals in Stroke Group**
- **Julian Coombes**
Associate Director of Rehabilitation, Florida Hospitals
- **Dr Mark Bayley**
Medical Director of the Neuro Rehabilitation Programme, Toronto
- **National rehabilitation project teams 2009 -10**
York Hospital NHS FoundationTrust
Medway Community Healthcare

2. The seven day working workshop group

- **Sue Varley**
Service Improvement Lead, Dorset Cardiac and Stroke Network
- **Dr Andrew Bateman** PhD. MCSP
Affiliated Lecturer, Department of Psychiatry, University of Cambridge and Manager of Cambridgeshire Community Neurorehabilitation Service
- **Sally-Anne Richardson**
Team Leader Occupational Therapy, York Hospital NHS Foundation Trust
- **Trudie France**
Consultant Practitioner, Medway Community Healthcare
- **Chris Gedge**
Specialist Stroke Practitioner, Medway Community Healthcare
- **Elizabeth Bennett**
Stroke Project Manager, Anglia Heart and Stroke Network
- **Fiona Jenkins**
Stroke Services Manager, Medway Community Healthcare.
- **David Broomhead**
Physiotherapy Service Manager, North Lincolnshire and Goole NHS Foundation Trust
- **Michelle Graham**
Programme Manager for the Stroke Collaborative, National Leadership and Innovation Agency for Healthcare (NLIAH), Wales
- **Jan Mathew**
Clinical Specialist Physiotherapist, Northampton General Hospital and PCT
- **Carol Halton**
Therapy Manager, South Tees Hospitals NHS Foundation Trust
- **John Mallett**
Modern Matron, Norfolk Community Health and Care
- **Debbie Levine**
Senior Occupational Therapist, Aintree Hospital NHS Trust
- **Patricia Elmore**
Senior Physiotherapist, Aintree Hospital NHS Trust
- **Pam Mortimer**
Associate Director, Commissioning, North East Essex



NHS Improvement

NHS Improvement's strength and expertise lies in practical service improvement. It has over a decade of experience in clinical patient pathway redesign in cancer, diagnostics, heart, lung and stroke and demonstrates some of the most leading edge improvement work in England which supports improved patient experience and outcomes.

Working closely with the Department of Health, trusts, clinical networks, other health sector partners, professional bodies and charities, over the past year it has tested, implemented, sustained and spread quantifiable improvements with over 250 sites across the country as well as providing an improvement tool to over 1,000 GP practices.

NHS Improvement

3rd Floor | St John's House | East Street | Leicester | LE1 6NB
Telephone: 0116 222 5184 | Fax: 0116 222 5101

www.improvement.nhs.uk



Delivering tomorrow's
improvement agenda
for the NHS

