ReAcT: Why do stroke patients not receive the recommended amount of active therapy?
ReAcT study

**Funding:** NIHR RfPB Programme.
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**Sponsor:** Bradford Teaching Hospitals NHS Foundation Trust.

**Academic partners:**
- University of Newcastle
- University of Manchester
- University of Nottingham
- University of Sheffield
ReAcT Study Team

Chief Investigator: Dr David Clarke, University of Leeds

Co-Investigators:
• Professor Anne Forster (Leeds)
• Professor Helen Rodgers (Newcastle)
• Professor Sarah Tyson (Manchester)
• Professor Avril Drummond (Nottingham)
• Dr Rebecca Palmer (Sheffield)
• Mr Matthew Prescott (Bradford Teaching Hospitals)

Expert Advisory Group: 12 members
Patients with stroke should be offered a minimum of 45 minutes of each appropriate therapy that is required, for a minimum of 5 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.

Level of evidence – consensus
What underpins these recommendations?

Optimum intensity of rehabilitation is thought to be dependent on:

- frequency (number of repetitions)
- duration (number of minutes per day)

- The patient is part of the equation, a key challenge is to determine: which patients can cope with and will benefit most from intensive practice. Work is on-going re developing predictive models. (Kwakkel & Kollen 2013)
Such (international) recommendations are not routinely achieved

How do we know?

- Collaborative Evaluation of Rehabilitation In Stroke across Europe (CERISE) studies (2005-7): English SU-Percentage of time engaged in therapeutic activities by Physiotherapists (46%) and Occupational Therapists (33%). German SU = 66% and 63%. (Observational study 4 in units- Putman et al 2006)

Is it just the UK?

- Canadian study (Foley et al 2012): Mean of 37 minutes of active therapy per day (OT & PT) (1 unit- 6 months data).
- Netherlands Study (Otterman et al 2012): Mean of 22 minutes of physiotherapy per weekday (national survey 91/96 units responded)

- National Sentinel Stroke Audit (SINAP)
### Domain 5: Occupational Therapy

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<tbody>
<tr>
<td>Proportion of patients reported as requiring occupational therapy</td>
<td>78.5%</td>
<td>79.7%</td>
<td>81.2%</td>
<td>80.1%</td>
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<tr>
<td>Median number of minutes per day on which occupational therapy is received</td>
<td>38.8mins</td>
<td>40mins</td>
<td>40mins</td>
<td>40mins</td>
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<tr>
<td>Median % of days as an inpatient on which occupational therapy is received</td>
<td>45.1%</td>
<td>46.8%</td>
<td>45.3%</td>
<td>44%</td>
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<tr>
<td>Proxy for NICE Quality Standard Statement 7: % of the minutes of occupational therapy required (according to NICE QS-S7) which were delivered</td>
<td>53.4%</td>
<td>58%</td>
<td>57.2%</td>
<td>54.9%</td>
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### Domain 6: Physiotherapy

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<tbody>
<tr>
<td>Proportion of patients reported as requiring physiotherapy</td>
<td>82.7%</td>
<td>84.2%</td>
<td>86.2%</td>
<td>84.7%</td>
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<tr>
<td>Median number of minutes per day on which physiotherapy is received</td>
<td>30.6mins</td>
<td>30mins</td>
<td>31.9mins</td>
<td>32.1mins</td>
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<tr>
<td>Median % of days as an inpatient on which physiotherapy is received</td>
<td>53.5%</td>
<td>56.1%</td>
<td>55.4%</td>
<td>53.6%</td>
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<tr>
<td>Proxy for NICE Quality Standard Statement 7: % of the minutes of physiotherapy required (according to NICE QS-S7) which were delivered</td>
<td>49.6%</td>
<td>51.9%</td>
<td>55.8%</td>
<td>53.4%</td>
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## Domain 7: Speech and Language Therapy

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<tbody>
<tr>
<td>Proportion of patients reported as requiring speech and language therapy</td>
<td>44.3%</td>
<td>45.8%</td>
<td>47.8%</td>
<td>48%</td>
</tr>
<tr>
<td>Median number of minutes per day on which speech and language therapy is received</td>
<td>30mins</td>
<td>30mins</td>
<td>30mins</td>
<td>30mins</td>
</tr>
<tr>
<td>Median % of days as an inpatient on which speech and language therapy is received</td>
<td>27%</td>
<td>28.8%</td>
<td>27.9%</td>
<td>26.6%</td>
</tr>
<tr>
<td>Proxy for NICE Quality Standard Statement 7: % of the minutes of speech and language therapy required (according to NICE QS-S7) which were delivered</td>
<td>22.3%</td>
<td>24.6%</td>
<td>25%</td>
<td>23.9%</td>
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</table>
ReAcT: Why do stroke patients not receive the recommended amount of active therapy?

Qualitative multiple case study design

Aim:
Develop an in-depth understanding of post-stroke therapy provision, including how the recommendation of forty-five minutes of each relevant therapy a day, is interpreted and implemented by therapists, and experienced by patients and their carers in stroke units.
ReAcT: Why do stroke patients not receive the recommended amount of active therapy?

Objectives:
1) Identify and explore current practice in a minimum of six stroke units which are divergent in the level of therapy provision reported in the Sentinel Stroke National Audit Programme;

2) Explore the decision making of stroke unit professionals relating to therapy provision to stroke survivors;

3) Describe the amount and content of therapy provided to individual patients using the broad categorisations developed by Langhorne et al (2009), Brady et al (2012), and Legg & Drummond et al (2007);

4) Understand the contexts, facilitators, and barriers to providing and receiving therapy in an in-patient stroke unit from the perspective of therapists, patients and stroke service managers;

5) Explore the experience of providing and receiving therapy from the perspective of therapists, patients and carers, and patients and carers, stroke unit staff and stroke service managers;
ReAcT: Research methods

Understanding what makes it easier or more difficult to deliver the recommended amount of therapy

- Process Mapping
- Observation and documentary analysis
- Interviews
Units selected using July-September 2013 SSNAP data

<table>
<thead>
<tr>
<th>Site</th>
<th>July –September overall rating (SSNAP)</th>
<th>Regional comparison July-September</th>
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<tbody>
<tr>
<td>North East Site 1</td>
<td>BBC</td>
<td>High-CAB</td>
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<td></td>
<td></td>
<td>Low- EDE</td>
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<tr>
<td>North East Site 2</td>
<td>CDE</td>
<td></td>
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<tr>
<td>North West Site 1</td>
<td>CDE</td>
<td>High- BCE</td>
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<tr>
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<td></td>
<td>Low- EEE</td>
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<tr>
<td>North West Site 2</td>
<td>DEE</td>
<td></td>
</tr>
<tr>
<td>Yorkshire Site 1</td>
<td>BCD</td>
<td>High- BCD</td>
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<tr>
<td></td>
<td></td>
<td>Low- EDE</td>
</tr>
<tr>
<td>Yorkshire Site 2</td>
<td>EDE</td>
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Recruitment

- 15 therapists per unit (n=90)
- PT, OT, SALT, assistants, managers
- Interview after observations completed in each unit.

- 10 patients and carers per unit (n=60)
- Mild, moderate and severe stroke (NIHSS, mRS)
- ‘Follow’ and observe therapy sessions
- Documentary analysis at discharge
- Interview 4-6 weeks after discharge
Process Mapping

• In first 2 weeks of observational period
• 1-1.5 hour meeting with therapists
• Map the perceived patient therapy journey
• Identify constraints, barriers and facilitators
• Use as baseline to plan subsequent observations and as comparator with field note and individual patient therapy observations
Observations

- 6 sites
- 3 months in each unit
- 3-4 days per week

Two areas of focus
i) Organisational context, MDT and therapists’ working practices (ethnographic field notes)
ii) Therapy sessions (structured schedule)
Interviews

• Semi-structured
• Digitally recorded
• Topic guide informed by existing literature and observational and documentary analysis data

Data analysis

• Framework approach
• Use of NVivo 10 for data management
Timelines/Activity

• September 2014-February 2015
  – Observations, documentary analysis and interviews in first 3 stroke units

• April 2015-September 2015
  – Observations, documentary analysis and interviews in the second 3 stroke units
  – Option for additional site observations

• November 2015-July 2016
  – Developing and consulting on recommendations using expert seminars and a consensus conference
  – Followed by report writing, conference presentation and publication
Output

• Primary: Recommendations and guidance developed to inform strategies to optimise therapy provision for inpatients after stroke.
  – May take the form of a toolkit

• Secondary: Identify and share good practices and identify how barriers to effective therapy provision can be addressed in the real world of stroke unit practice.
References

- Legg L, Drummond A, Langhorne P. Occupational therapy for patients with problems in activities of daily living after stroke.