Evidence and recommendations

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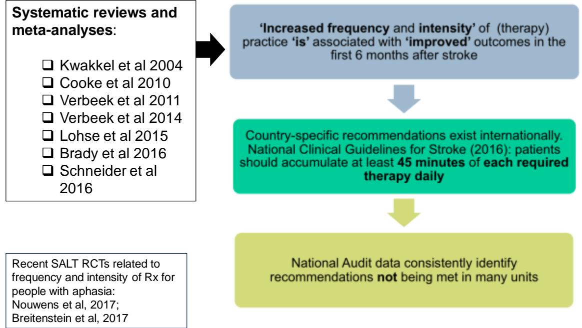
Systematic reviews and meta-analyses:

- Kwakkel et al 2004
- Cooke et al 2010
- Verbeek et al 2011
- Verbeek et al 2014
- Lohse et al 2015
- Brady et al 2016
- Schneider et al 2016



Recent SALT RCTs related to frequency and intensity of Rx for people with aphasia:
Nouwens et al, 2017;
Breitenstein et al, 2017

Our study question

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Why do some inpatient stroke survivors not receive the recommended frequency and intensity of active therapy?

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Led the ReAcT study team: Louisa Burton, Lianne Brkic and Katie Grenfell

Working with:
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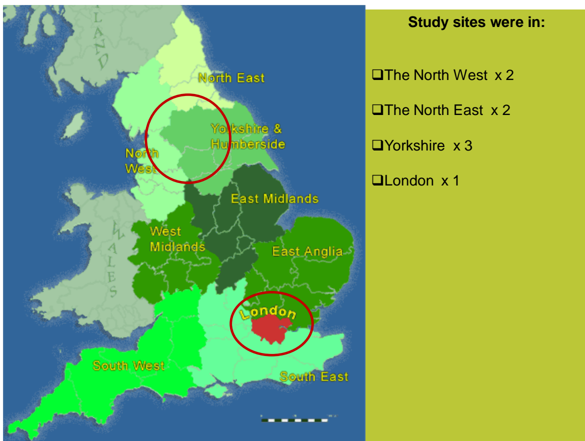

Study sites were in:

- The North West x 2
- The North East x 2
- Yorkshire x 3
- London x 1

The ReAcT study: methods and sites

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Ethnographic case study research: 8 stroke units in England.

Data collection:
- Modified process mapping
- Ethnographic observations (~1000 hours)
- Patient specific observations (n=434)
- Documentary analysis of 75 individual therapy records
- Semi-structured interviews (staff, patients/carers)

Data analysis:
- Framework approach
- Descriptive quantitative analysis

Stroke unit characteristics

Unit	Bed numbers	Bed types	Audit Rating
1	67 (5 wards)	HASU & mixed	D,D,D
2	28	Rehab	C,C,E
3	29	Mixed	B,A,D
4	26	Mixed	C,C,E
5	68 (3 wards)	HASU & mixed	B,D,E
6	24	Rehab	B,C,E
7	24	HASU/ Acute	A,A,A
8	36 (2 wards)	HASU & mixed	A,A,A

SSNAP rating: A= first class service to E: Substantial improvement required.

Participants (N = 323)

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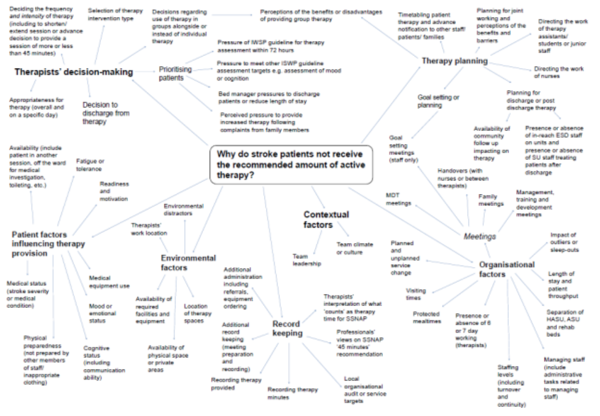
Patients
- **N = 77**
- 44% male
- **54% had communication impairment**
- Mean:
  - age = 69.4y
  - NIHSS = 10.2
  - LOS = 33.2 days
- **49 interviewed**

Carers
- **N = 53**
- 38% male
- **50 interviewed**

Staff
- **N = 197**
- 16% male
- Mean age = 35.6y
- **Staff groups:**
  - PT = 71
  - OT = 50
  - SLT = 43
  - Other = 31
- **131 interviewed**



Findings: Seven major and interrelated factors

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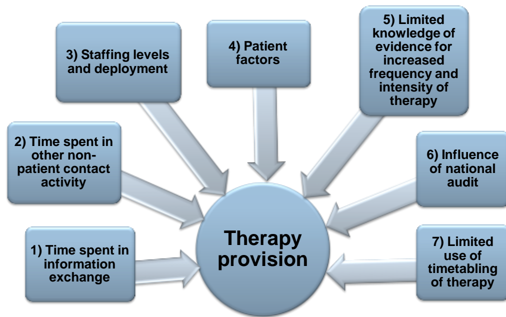

Factor 1: Time spent in information exchange activities

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Minimum time spent per individual staff member in information exchange activities (between staff = handovers, board rounds, MDT and other meetings)

Unit	1	2	3	4	5	6	7	8
Beds	67	28	29	26	68	24	24	36
Hours spent by each staff member	8.6	2.9	2.85	4.6	3.8	4.9	1.3	3.83
	↓ Therapy minutes						↑ Therapy minutes	

Range 1.3 to 8.6 hours

Therapists' comments re 'handovers' (Factor 1: information exchange)

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"**Because it's all mainly like medical stuff** that gets handed over, I know they do ask [….] discharge questions but **I'm not sure if everybody should go on handover**, [or] if everybody is needed." Band 5 OT Mixed Unit

"**There's often nothing new to report** because nothing's happened and **sometimes that does seem a waste of time** to sit there and hear the same thing as the day before." Band 8 Stroke Co-ordinator Rehab Unit

SALTs attended nurse led handover only in Units 2 and 8 but described similar (SALT) office information exchanges where not attending unit handovers.

Factor 2: Time spent in other non-patient contact activity

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- **Time available** for therapy further **eroded by**:
  - protected mealtimes
  - writing up therapy records
  - national audit data entry
- **In 6 of 8 units**: therapists worked traditional 'office' hours 08.00/08.30 - 16.00/16.30
  But **therapy provision only** ~0930-1200 and ~1300-1530
- **Actual time** available to provide therapy was <**5 hours** per therapist/assistant **per day** in some units

Factor 3: Staffing levels and external audit ratings for therapy provision

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Unit Beds Audit rating	1 67 D,D,D	2 28 C,C,E	3 29 B,A,D	4 26 C,C,E	5 68 B,D,E	6 24 B,C,D	7 24 A,A,A	8 36 A,A,A	BASP (2014) Recommendation for therapists numbers
PTs per 5 beds	0.45	0.63	0.52	0.38	0.57	0.73	1.17	0.9	1.0 per 5 beds
OTs per 5 beds	0.4	0.5	0.41	0.38	0.66	0.6	1.21	0.76	1.0 per 5 beds
SLTs per 7 beds	0.28	0.3	0.36	0.13 plus dysphagia	0.31	0.18 plus dysphagia	0.79	0.63	1.0 per 7 beds

Staffing level recommendations revised in RCP Guidelines 2016. Now at (per 5 beds in acute units) PT 0.84, OT 0.81, SALT 0.40. Same argument applies using these figures

Factor 4: Patient factors

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http://rockthestroke.com/wp-content/uploads/2014/02/Drew-Podgorski-stroke-survivor-Rock-the-Stroke1.jpg

- Clinical instability (usually time-limited)
- Concurrent medical illness
- Fatigue and individual 'tolerance' of therapy (often) varied across a day and between days (and persisted for many)

But:

✓ Planned therapy was usually adapted and provided

X Problems with patient readiness and availability were common

Factor 5: Therapists' limited knowledge of the evidence underpinning the recommendation

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- ❑ **Limited knowledge** of the evidence that **'more therapy, more frequently'** is **associated with 'better outcomes'** influenced **planning and delivery** of patients' therapy
- ❑ **The 'number'** rather than knowledge of the evidence shaped therapists behaviour, and was more commonly discussed by therapists
- ❑ **Stroke unit staff** typically **referred to the '45' minutes** of therapy recommendation as **a 'SSNAP target'**, rather than as a recommendation from the IWSP (2012) or from NICE (2013)

45

Therapists' comments: the evidence for frequency and intensity.

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I don't see how you can ever set a standard, I think your standard has got to be that the patient has whatever therapy is appropriate and that is not going to be the same every day. [……] We've got to get out of this habit that just because a patient needs physio that the more they have, the better it is, that's, it's completely wrong thinking, that just because something is good if you have more of it than that's even better, that's wrong thinking, we don't apply that to anything else so why do we apply it to physio? Senior PT, Unit 5:

Therapists' comments on the frequency and intensity recommendation

In some ways it's an odd figure to come up with. Why not an hour? Why not 30 minutes? Why not 40 minutes? Why 45? I don't know how 45 was arrived at. But it's something to aim at I suppose.

Is it achievable? If you class it purely as face-to-face contact, if every patient required and could tolerate 45 minutes of face-to-face therapy we'd never achieve it with the current staffing levels, room availability and the logistics of getting people to somewhere quiet in a timely fashion (SALT Band 7, HASU/Acute unit).

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Therapists' comments on the frequency and intensity recommendation

the reason that it came to say this 45 minutes doesn't always fit with my, our model of working 'cos it's not specific to OT necessarily where it came from is it, some of the evidence that they're basing on is a very physio-orientated situation, rather than this type of ward, rehab people going in and out on visits. Middle grade OT, Unit 2.

Factor 6: The influence of external audit

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- Recognition of the contribution the national audit had made in improving stroke services
- But, quantifying therapy provision is different to determining whether a CT scan was completed within one hour of arrival at the ED
- Therapists across sites were uncertain about what should and should not be recorded as therapy in the audit
- Negative shaping of many therapists' behaviour evident.
- Focus was often on increasing recorded therapy minutes to improve performance ratings, rather than on providing more patients with more therapy, more frequently.

Session length: observations vs therapy records

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434 therapy **sessions** were **observed** across 8 sites.

Time was **recorded for** SSNAP for **364** sessions

- On average, sessions recorded by therapists were 5.5 minutes longer than observed (t=-8.75, df=363, p<0.01)

- However, **accuracy of recording varied across sites and professions**
  - SLTs recorded on average 30 minutes per session, while observed length was 19 minutes (N=44)
  - Group sessions (all therapies) presented particular difficulties with therapists recording 57 minutes on average, compared to an observed mean of 47 minutes (N=43)

Requires further exploration but underlines variability in interpretation/understanding of what should be recorded as therapy for SSNAP

Factor 7: Limited use of patient timetabling/scheduling

Where these were in use:

- Nurses used timetables to ensure patients were **prepared for therapy**
- Other staff planned treatment around timetabled sessions, ensuring patients were **available**
- Some evidence of increased availability of **room space and resources** for therapy

"If they are asking [the care staff] to go back to bed, **they'll actually check** to make sure they're not due any therapy in 10 minutes before they put them back in." Band 6 RN, Rehab Unit

"Otherwise you **clash with another therapist** when you want to see them and you waste time." Band 6 PT, HASU/Acute

Core messages from the ReAcT study

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What factors can be changed?

- ✓ The **structure** and **organisation** of the working day
- ✓ The therapist resource and **how this is utilised**
- ✓ How the **whole stroke unit team works**
- ✓ Therapists' **understanding of the evidence** behind the guideline recommendation

Doing things differently

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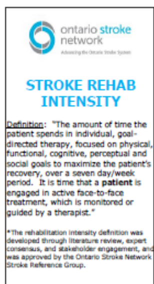
Two units demonstrated progression towards more patient-centred approaches through whole service re-organisation

- Unit 7 reviewed and substantially reduced **time each therapist spent in non-patient contact** activity
- Unit 7 increased available therapist time through **extending the working day**, staggering start and finish and lunch times
- Units 7 & 8 **simplified and standardised** audit data recording and data entry
- Units 7 & 8 successfully **used national audit performance data in business cases** for targeted staffing increases (SLT)

Clarifying what counts for SSNAP, a Canadian example

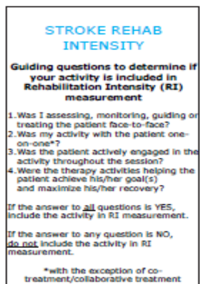


ontario stroke network

STROKE REHAB INTENSITY

Definition: "The amount of time the patient spends in individual, goal-directed therapy, focused on physical, functional, cognitive, perceptual and social goals to maximize the patient's recovery, over a seven day/week period. It is time that a **patient** is engaged in active face-to-face treatment, which is monitored or guided by a therapist."

*The rehabilitation intensity definition was developed through literature review, expert consensus, and stakeholder engagement, and was approved by the Ontario Stroke Network Stroke Reference Group.



STROKE REHAB INTENSITY

Guiding questions to determine if your activity is included in Rehabilitation Intensity (RI) measurement

1. Was I assessing, monitoring, guiding or treating the patient face-to-face?
2. Was my activity with the patient one-on-one*?
3. Was the patient actively engaged in the activity throughout the session?
4. Were the therapy activities helping the patient achieve his/her goal(s) and maximize his/her recovery?

If the answer to all questions is YES, include the activity in RI measurement.

If the answer to any question is NO, do not include the activity in RI measurement.

*with the exception of co-treatment/collaborative treatment

https://www.corhealthontario.ca/resources-for-healthcare-planners-&-providers/stroke-general/qbp/health-system-level-tools-&-guidelines/acute

Addressing the knowledge deficit- A Canadian example

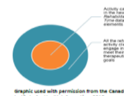
Every Minute Counts: Rehab Intensity Update

July 2015

Myth Busting

Myth #1: With rehab intensity implementation, group therapy and other adjunct therapies are considered less important.

Answer: False. Stroke best practice notes that therapy should occur within a complex stimulating environment. Groups and other therapies are an important part of this.



Graphic used with permission from the Canadian Institute for Health Information, 2013.

Myth #2: Rehab intensity time is only recorded for OT, PT, S-LP and their assistants, making other disciplines such as nursing and recreational therapy not as important for a stroke patient's recovery.

Answer : False. Stroke best practice indicates that core team members should include nurses, social work and dietitians and that additional team members ideally include recreation therapists, psychologists, vocational or educational therapists.

Myth #3: Rehab intensity is only for those who can tolerate a lot of therapy

Answer: False. A common therapy goal is to increase tolerance and work towards desired rehab intensity to maximize recovery. Try to think creatively, for example:

- Provide shorter treatments at higher frequency for patients with lower tolerance
- Provide therapy at patient's bedside instead of in the gym
- Suggest follow-up on underlying medical reasons for fatigue or low participation

SSNAP: summary 'what counts as therapy cards (2017)

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Royal College of Physicians | Sentinel Stroke National Audit Programme (SSNAP)

What therapy activity should be included on SSNAP?

Therapy includes:

- assessment and goal-directed therapy (i.e. towards goals that have been set and agreed by the team)
- either individual or group therapy
- home visits where the patient is present
- training patients and carers
- speech and language therapy refers to communication therapy and swallowing therapy

Therapy does not include:

- time spent for the therapist to travel to and from the patient
- time spent documenting patient therapy
- environmental visits
- multidisciplinary team meetings
- case conferences
- case reviews

Royal College of Physicians | Sentinel Stroke National Audit Programme (SSNAP)

Guiding questions to determine if therapy should be included on SSNAP:

1. Was the patient considered to require therapy at any point during their inpatient stay?
2. Was the activity with the patient face – to – face?
3. Was the activity working towards agreed goals?
4. Was the activity provided by either a therapist or rehabilitation assistant under supervision?

If the answer to all questions is YES then the therapy data should be inputted to the proformas and included in SSNAP.

If the answer to any questions is NO then the activity should not be inputted to the proformas and it will not be included in SSNAP.

If you are still uncertain whether therapy should be included, please contact the SSNAP helpdesk

ssnap@rcplondon.ac.uk

From the Guide to SSNAP therapy data available at https://ssnap.zendesk.com/hc/en-us/articles/115002378689-Introduction

Conclusions

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- ❑ Work organisational **NOT** patient-related factors were the major determinants influencing the frequency and intensity of therapy provided in the study sites
- ❑ Established working practices and professional cultures can be resistant to change **BUT** these can be addressed through:
  - ❑ Patient-focused work re-organisation
  - ❑ Staff development using service quality improvement methods
- ❑ **A shift in therapists' thinking and practice** towards patient-centred rather than therapist-centred working in (many) UK stroke units is required

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Main results paper:
Clarke,D,J.; Burton,L.J.; Tyson,S., Rodgers,H., Drummond,A., Palmer,., Hoffman,A., PrescottM., Tyrrell, P., Brkic, L., Grenfell,K., Forster,A. Why do stroke survivors not receive recommended amounts of active therapy? Findings from the ReAcT study, a mixed-methods case-study evaluation in eight stroke units. Clinical Rehabilitation 1–14. 2018 DOI: 10.1177/0269215518765329

Clarke, DJ, Tyson, S, Rodgers, H, et al. (2015). Why do patients with stroke not receive the recommended amount of active therapy (ReAcT)? Study protocol for a multisite case study investigation. *BMJ Open, 5*, e008443 doi:10.1136/bmjopen-2015-008443

Mind the Gap: The Third Stroke Sentinel National Audit Programme Annual Report (2016)
https://www.strokeaudit.org/AnnualReport/Case-Studies/Provide-more-therapy.aspx
(Includes ReAcT case study)

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- ❑ Guide to SSNAP therapy data: https://ssnap.zendesk.com/hc/en-us/articles/115002378689-Introduction
- ❑ Breitenstein, C, Grewe, T, Floel, A, et al Intensive speech and language therapy in patients with chronic aphasia after stroke: a randomised, open-label, blinded-endpoint, controlled trial in a health-care setting. The Lancet, Volume 389, Issue 10078, 15–21 April 2017, Pages 1528-1538
- ❑ Nouwens, F. de Lau, L, Visch-Brink, E, et al Efficacy of early cognitive-linguistic treatment for aphasia due to stroke: A randomised controlled trial (Rotterdam Aphasia Therapy Study-3) European Stroke Journal. 2017, Vol. 2(2) 126–136 DOI: 10.1177/2396987317698327