A cluster randomised controlled trial of an occupational therapy intervention for residents with stroke-related disabilities living in UK care homes (OTCH)

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Acknowledgements
The interaction between neurology, rehabilitation and palliative care services

Turner-Stokes et al, 2008, Clinical Medicine, Vol 8, No 2
Outline

1. OTCH methodology (in brief)
2. Noteworthy results from OTCH
3. Future objectives: integrated care for care home residents
References plus Video Abstract (10mins)
How do residents spend their days?

- Walking with assistance: 1.7%
- Walking without assistance: 0.3%
- Standing: 1.0%
- Sitting (eyes open or closed): 97.0%

Health risks associated with inactivity

Prevalence of complications for severe stroke-related disability

• Contractures (60%)
• Pain (55%)
• Depression (50%)
• Pressure sores (22%)

OTCH Objective:

- Reduce health risks caused by inactivity
- Maintain functional capacity to engage with personal Activities of Daily Living (ADLs)
- Assess whether the benefit of OT for stroke survivors translates to a care home setting
OTCH Design

- Pragmatic, parallel-group, cluster randomised controlled trial with economic evaluation.
- Randomisation: Care home level (after baseline)
- Duration: 12 month follow-up
- Setting: 228 care homes across England and Wales
- Participants: All residents with a history of stroke, not receiving end-of-life care
- Control group: Usual care
OTCH Intervention

- 3-month intervention to maintain mobility & self-care independence (e.g. dressing, feeding, grooming, toilet use)
- Employed a patient-centred goal-setting approach
- Treatment regimen developed using consensus professional opinion
- Staff training was a key component.

Sackley et al. 2004. Journal of OT, 67(3). Description of the RCT Intervention
OTCH Outcome Measures

• Primary: Barthel Index of Activities of Daily Living
  @ 3 months [0-20 scale]
• Secondary: Barthel scores @ 6 and 12 months
  Rivermead Mobility Index (@ 3,6,12 months)
  Geriatric Depression Scale-15 (@ 3,6,12 months)
• Economic: £ / QALY gain
OTCH Results (n=1042)

- Treatment group: n=568 from 114 care homes
- Control group: n=474 from 114 care homes
- Mean age: 83 years, 64% female
- Median length of stay prior to randomisation: 2.35 years
- Primary outcome @ 3 months: Neutral

Adjusted mean difference Barthel score = 0.19 points higher in the OT arm [95% CI –0.33 to 0.70, p = 0.48]
OTCH Results (2)

- Secondary outcome measures at all time-points: Neutral
- Occupational therapy was not cost-effective compared with usual care
OTCH findings

• Efficacy for a routine OT intervention to maintain levels of functional activity for all care home residents with stroke-related disabilities was not observed.

• Individual referrals within a care home setting may be of benefit for residents with lower levels of impairment.
Baseline Characteristics

• >70% were graded as severe or very severe on the Barthel Index indicating high support needs

• >70% were graded as having significant cognitive impairment on the Mini-Mental State Examination
The relationship between baseline RMI scores and baseline BI scores ($n=1012$). BI 0–20, 20 signifying maximum ability; RMI 0–15, 15 signifying maximum ability.
Barthel Index of Activities of Daily Living severity ratings at all end points across both treatment arms.
Incidence of death

- Of the 1042 participants, 313 (30%) died during the 12-month trial period
- This compares with incidence of death in the OPERA phase III trial of 241 (23%) during a 12-month trial period
- OPERA also resulted in neutral findings
Trajectories to death in care homes

1. Anticipated dying: recognised as approaching end of life
2. Unexpected dying: illness that led to death within days
3. Uncertain dying: unwell but not clearly close to death
4. Unpredictable dying: an acute, unexpected lethal event

(Barclay et al, 2014, British Journal of General Practice)
Barthel score prior to death

<table>
<thead>
<tr>
<th></th>
<th>Occupational therapy</th>
<th>Control (n=152)</th>
<th>Overall (n=313)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean (sd)</td>
<td>4.1 (4.5)</td>
<td>4.0 (4.8)</td>
<td>4.1 (4.6)</td>
</tr>
<tr>
<td>Median [IQR]</td>
<td>3 [1 to 6]</td>
<td>2 [1 to 5.5]</td>
<td>2 [1 to 6]</td>
</tr>
<tr>
<td>range</td>
<td>0 to 19</td>
<td>0 to 20</td>
<td>0 to 20</td>
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Are we expecting too much?

• Functional & Cognitive impairment may have limited capacity to engage/learn during therapy.

• OTCH data: a realistic portrayal of the functional status of UK care home residents

• Residents should be encouraged to participate in activities, but residents need to be assessed for ‘rehab potential’

• Cognitive capacity: predictor of response to rehabilitation
Future research directions for this population

• Aim to bridge the gap between Rehabilitation & Palliative care

• OTCH residents: Unresponsive to Rehab - Ineligible for EoL care
  ...and yet....30% died within 12 months...lost in the margins

• Aim to reduce health complications caused by inactivity and increase well-being in the period approaching the end of life

• Which ADLs are most critical to perceived dignity & well-being?
Challenges ahead – the need for TRAINING

• Oliver et al (2016): ‘pressing need’ to consider the role of palliative care in the management of neurological disease but evidence is limited

• How do care teams discuss palliative needs with residents with profound dysphasia or cognitive dysfunction? (Turner Stokes)

• How can the environment be adapted to help maintain perceived dignity during ADLs and increase enablement?

• What constitutes an enabling environment in care homes?
The need for further integration

The interaction between neurology, rehabilitation and palliative care services

Turner-Stokes et al, 2008, Clinical Medicine Vol 8 No 2
Thank you for your attention

Contact details for further information

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**Figure 4** Subgroup analysis: comparison of BI at 3 months. Participant numbers for age and MMSE reflect data missing at baseline.