Vocational Rehabilitation supporting a return to work: lessons from stroke

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Outline

- Background – What's the problem
  - Research Findings
    - **Return to Work After Stroke**
      - What we did, what we found and for whom
      - An Early Stroke Specialist VR model
    - **Implementation – RTW OT Pilot**
      - What was valued (Patients)
      - What we learned
    - **How does this translate to other conditions?**
Background

• A quarter of strokes occur in working age adults; less than half resume work (Daniel et al 2009, Stroke Association 2006, 2015)

• Huge economic Impact -
  • Societal costs £8.9 billion pa (Omer Saka et al 2008)
  • Productivity loss £1.5 billion (£841m benefits)
    • Expected to increase ~ survival, ageing workforce (Arauz, 2013)

• 41% (range 0-85%) of people with ABI in work at 1 and 2 years (Van Velzen et al. 2009)

• If not RTW within 2 years, unlikely ever to do so (Johnson 1987; 1998; Kendall et al. 2006; van Velzen et al. 2009).

• Unmet needs – 52% loss or reduction in work; 18% loss of income McKevitt et al 2010

• No national employers compensation scheme
• No direct link between Health and Social Security systems
Background

- Rehabilitation fails to address work needs
  - Patchy UK provision
    - ~10 people pa seen by community teams (Playford et al 2011)
    - 37% PCTs address stroke survivors work needs (CQC 2011)
    - Acts as a barrier (Lock et al 2011)

- Lack of evidence to support effectiveness or cost effectiveness of VR for stroke (Baldwin and Brusco 2011)

- Only one randomised controlled trial (n=94) (Ntseia et al 2015)
  Workplace (job retention) intervention PT and OT
  3 months 27% intervention in work Vs 12% controls.
  6 months 60% intervention in work Vs 20% controls.


- Further evidence base for the nature, duration and effectiveness of complex rehabilitation (Kalra and Walker, 2009)
Government Priority

- Getting disabled people off benefits and back to work is high on the UK Government agenda


- Local and national policy supports the establishment of vocational rehabilitation (VR) services


- Recognised role for the NHS as VR provider


- Partnership working between NHS health care professionals and employment related services

Work as a health outcome

“Early intervention for those who develop a health condition should be provided by healthcare professionals who increasingly see retention in or return to work as a key outcome in the treatment and care of working age people”.

Black, 2008
Black and Frost 2011

- Work is a Health Outcome - The NHS Outcomes Framework 2015/16
What happens in routine stroke rehabilitation services?

- Most rehab (and follow-up) has ended by 6 months

- Many people fall into service gaps and their needs are not met


- The lack of a sanctioned VR pathway—people with milder stroke fall through the net and receive little or no support.

  Sinclair et al (2014)
Mapping VR for LTNC in England: Summary of findings

- Most services see few people with LTNC for VR - <10 per year.
- Only 20% of services see clients at the point of diagnosis - most intervene when difficulties identified.
- >50% of services have a waiting time of >1 month
- Wide range of HC professionals involved in delivery but mainly OT’s (77%) and Psychologists (61%)
- 30% of HCP respondents had never received any training in VR

Vocational Rehabilitation: a process whereby those disadvantaged by illness or disability can access, maintain or return to employment

(Tyerman and Meehan, 2004)

Helping people
- Access work
- Return to work
- Remain in work (job retention)
- Maintain work (job maintenance)
- Progress in their careers
- Relinquish work
Cognitive
- Insight
- Judgement
- Attention
- Memory
- Problem solving

Psychological
- Anxiety
- Depression
- Confidence

Physical
- Loss of movement/mobility
- Coordination
- Sensory loss
- Speech impairment
- Hearing loss
- Fatigue

Environmental Factors

Personal Factors

CONTEXT

E.g. beliefs and attitudes
Confidence, Experience

Family support
Employer beliefs
Access to rehab
Indicators for return to work after stroke

Being able to walk (O.R.=3.98)
White collar worker (O.R.=2.99)
Preserved cognitive capacity (O.R.=2.64)

Lindstrom et al 2009, Kauranen et al 2012

No attention dysfunction or aphasia (HR 2.0 and HR 3.0) predictors of 18 months work outcomes

Why work?

Fulfils basic needs
- financial,
- psychological
- emotional well-being
- self esteem
- social status
- sense of achievement
- Independence
- freedom
- security

‘He who seeks rest finds boredom. He who seeks work finds rest’.

Dylan Thomas

- Repeal of Retirement Age Provisions, 2011
- Good Work is good for Health, Burton and Kendall
Indicators for return to work after stroke

- Perceived importance of work (OR 5.10)
- Not perceiving themselves as a burden on others (OR 3.33)
- Support from others (OR 3.66)
- Retaining the ability to run a short distance (OR 2.77)
- Higher socioeconomic codes (OR 2.12)

External support from others and a positive attitude to return to work more important than independence in PADL and cognitive factors

Lindstrom et al, 2009
Can Early Stroke Specific Vocational Rehabilitation (SSVR) be delivered and measured? A Feasibility Trial

Kate Radford

4 Stage Project

1. Interview and observational study of current provision

2. Intervention development (Case Studies, Lit review and Expert Panel)

3. Feasibility trial with economic analysis

4. Qualitative interviews with stroke survivors, employers and commissioners to explore usefulness, acceptability and implementation issues
Aim

- To determine what exists, where and how stroke survivors work needs are currently met

- To identify barriers to work return within existing provision

(So that we could develop an intervention to bridge gaps and return stroke survivors to work)

Soft Systems Analysis: Summary points

- No sanctioned VR pathway - access relies on brokered provision and knowledge of the health care system

- **People with visible needs got most - milder strokes and hidden disabilities missed** early after stroke

- VR not seen as ‘core health business’

- **Employers and patients wanted** HCPs with stroke expertise

- Existing services fail to meet stroke survivors work needs
  - Allow people to fall out of work
  - Issues in their ability to cross boundaries
  - Meet some needs at the expense of others

Radford et al, JHSRP, 2013, 18 (2S) 30-38.
Aim

- Test the feasibility of delivering OT-led Early Stroke-Specific Vocational Rehabilitation (ESSVR) and measuring its effects and cost-effectiveness in a pilot randomised controlled trial (RCT)
Method

Stroke survivors recruited from acute and rehab stroke units

OT-led stroke-specific vocational rehabilitation (ESSVR)

Usual Care (UC)

Postal follow-up; 3, 6 and 12 months
Inclusion Criteria

• Confirmed stroke diagnosis

• Aged 16+

• In paid/voluntary work, education, >1 hour per week

Exclusion Criteria

• Not intending to RTW

• Unable to give informed consent
Primary Outcome

• Return to work: yes/no

Secondary Outcomes

• Mood; Hospital Anxiety and Depression Scale
• Work Productivity; Work Productivity and Impairment Questionnaire and Work Limitations Questionnaire
• Social Participation; Sydney Psychosocial Reintegration Scale
• Activities of Daily Living; Nottingham Extended Activities of Daily Living
• Health Status; EQ5D
• Resource Use; Bespoke Questionnaire
Wider VR Team

GP
- DWP Services:
  - Access to work
  - DEA
  - Job coach
  - Employment adviser

Workplace Services:
- Occupational Health Adviser
- Occupational Health Physician
- Human Resources
- Ergonomist

Third Sector:
- Voluntary job brokers
- Welfare rights adviser
- Disability rights adviser

Acute Stroke Unit

Rehabilitation Services (hospital and out-patient)

Stroke Physician

Stroke Specialist

Vocational Rehab Case co-ordinator

PATIENT & FAMILY

Employer

Liaison

Work/ education

Community Stroke Services

0-12 months
ESSVR Intervention

Case coordination model; Fadyl and McPherson, 2009

- Assessing stroke impact on patient and their role as worker/student

- Educating patients/families/employers about stroke and impact on work/education

- Strategies to lessen stroke impact e.g. pacing to manage fatigue

- Work preparation i.e. establishing routines increasing activity to increase stamina, concentration and confidence; practicing work skills

- Liaison with employers/ tutors to plan and monitor a phased return to work.

(BSRM, Tyerman and Meehan, 2010 Grant et al., 2012, Grant et al., 2014 – in press)
Early Stroke Specific VR - assumptions

- Returning to work doesn’t mean returning to the same job with the same responsibilities.
  - Same employer - Same, modified or different job
  - New employer - Same, modified or different job

- Therapist’s role - match stroke survivor’s abilities to the demands of the job

- Returning to an existing job (work retention) is easier than new work or re-training after stroke - Process demands early & effective engagement with employers

HEALTH SERVICES ARE WELL PLACED TO DO THIS
Results: Participants

Excluded (n=973)
Not stroke (40% n=389)
Retired or below working age (75% n=729)
Unemployed (2.9% n=28)

1098 admitted to acute stroke ward

124 screened

78 excluded

33 failed to meet inclusion criteria
40 declined
5 other reasons

Randomisation

ESSVR = 23
UC = 23
<table>
<thead>
<tr>
<th>Characteristic</th>
<th>ESSVR (n=23)</th>
<th>Control (n=23)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender; n (%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>17 (73.9%)</td>
<td>19 (82.6%)</td>
</tr>
<tr>
<td>Female</td>
<td>6 (26.1%)</td>
<td>4 (17.4%)</td>
</tr>
<tr>
<td>Age</td>
<td></td>
<td></td>
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<tr>
<td>Mean (SD)</td>
<td>58.3 (12.7)</td>
<td>53.8 (12.6)</td>
</tr>
<tr>
<td>Range</td>
<td>24-78</td>
<td>18-77</td>
</tr>
<tr>
<td>LOS</td>
<td></td>
<td></td>
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<tr>
<td>Mean days (SD)</td>
<td>19.6 (21.6)</td>
<td>27.1 (26.9)</td>
</tr>
<tr>
<td>SOC</td>
<td></td>
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</tr>
<tr>
<td>Non-Professional</td>
<td>4 (17.4%)</td>
<td>12 (52.2%)</td>
</tr>
<tr>
<td>Professional</td>
<td>19 (82.6%)</td>
<td>11 (47.8%)</td>
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</table>
Stroke severity

NIHSS; Stroke Severity (%)

- Minor
- Moderate
- Moderate/Severe
- Severe
- Missing

- SSVR
- Control

Nottingham Extended Activities of Daily Living; Median Score

- 3m
- 6m
- 12m

- SSVR
- Control

Functional ability
Feasibility

Questionnaire Response Rates (%)

- SSVR
- Control

3m | 6m | 12m
Primary Outcome

Participants in Work (%)

- SSVR
- Control

- 0
- 20
- 40
- 60
- 80
- 100

- 3m
- 6m
- 12m
Self-reported Productivity Loss

% Productivity Loss

- **SSVR**
- **Control**

Work Limitations Questionnaire
## Time taken to return to work

<table>
<thead>
<tr>
<th>Days to return to work</th>
<th>Number</th>
<th>Mean</th>
<th>Median</th>
<th>Range</th>
<th>SD</th>
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<tbody>
<tr>
<td>Intervention group</td>
<td>17</td>
<td>94.88</td>
<td>59.00</td>
<td>7-227</td>
<td>77.41</td>
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<tr>
<td>Control group</td>
<td>14</td>
<td>85.57</td>
<td>82.50</td>
<td>8-190</td>
<td>62.12</td>
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</tbody>
</table>
**Income & Benefits Status**

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**Average Annual Income (£)**

- **SSVR**
- **Control**

- **Baseline:** 4000
- **3m:** 9000
- **6m:** 14000
- **12m:** 19000

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**Number claiming state benefits**

- **Intervention**
- **Control**
- **Missing**

- **Baseline:** 2
- **3m:** 4
- **6m:** 18
- **12m:** 8

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Collaboration for Leadership in Applied Health Research and Care for Nottinghamshire, Derbyshire and Lincolnshire
Pilot 12 month - cost effectiveness analysis

<table>
<thead>
<tr>
<th>Mean costs per person</th>
<th>ESSVR group</th>
<th>Control group</th>
<th>Mean difference per person</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health costs</td>
<td>£8,157</td>
<td>£9,359</td>
<td>-£1,203</td>
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<tr>
<td>Society costs</td>
<td>£14,370</td>
<td>£16,257</td>
<td>-£1,887</td>
</tr>
</tbody>
</table>
Discussion

• **Primary outcome**: More intervention participants were in work at 12m and more returned to their pre-stroke working hours.

• **Secondary outcome measures**: Little variation between the two groups.

• **Feasibility**:
  - ESSVR was acceptable, good compliance (1 dropout)
  - Reasonable response rate 73.9%
  - ESSVR can be effectively delivered and measured using standardised and bespoke questionnaires.
Conclusion

ESSVR is a job retention model - may potentially influence RTW rates in people with mild and moderate stroke **BUT**

- Larger trial needed to demonstrate effect
- Different model for severe stroke and those who require re-training

- **Mechanism for success?**
  - *Co-location* – the ability to cross service boundaries and ‘create a team’ involving Health (NHS), Employment services, private and charitable sectors.
Giving the right people, the right support at the right time.
Nottingham CityCare Partnership
‘Return to Work OT Pilot’ Evaluation
Radford K, Edmans J, Hooban K, Terry J (in preparation)

Findings:
• Pre Development: 11 patients seen for help with RTW by Community Stroke Team during preceding year - 2 RTW
• Following Implementation of ESSVR in-reach Model: 24 patients seen in 6 months, 18/24 (71%) discharged RTW, 2 retired, one on mat leave, 3 did not return (2 due to alcohol, 1 of whom died)
• Different demographic group – mostly mild and moderate stroke (as per trial), seen within a mean 21 days post stroke.
• Many would not have been seen by existing Community Stroke Services
• Needing help with RTW not sufficient criterion for CST input

‘It might have been one of the goals, it would have been very unlikely that somebody would have been referred just for that’ [CST service provider].
Most Valued

Discuss options

Being able to talk things through...and ‘working out strategies of how I could cope and get back to work and ‘what if’ scenarios’.

Employer communication

‘..any writing report or action could be linked with the return, talking to managers. Or being present at meetings, that was valuable as well’.

Signposting & referral

‘Been there for me, to talk to the bosses and that and, kept, to try and keep me cool whenever I was getting angry about it’.

Having someone to call on

I valued most her offer, you know, because, just, just knowing that someone was offering to help and someone could actually intervene for me was valuable. And also, it was valuable to know that there was a service available for me. Because I didn’t know where to go from there, if you know what I mean, after the stroke, I knew I’d have to go back to work but I didn’t know where to start?’
WHAT WE LEARNED

- Early identification and intervention for people who are working at stroke onset is important in preventing job loss.
- Support with a return to work typically occurs late in the stroke pathway and many people who could benefit from support do not receive timely help, risking job loss.
- Stroke survivors want stroke specialist input
- Employers want to communicate with health teams
- Existing impairment driven referral criteria for community stroke services may prevent timely support being offered to stroke survivors and could contribute to job loss.
- Implementing ESSVR requires additional resource (0.6 wte) and training
Key Features

- Ability to provide *timely, individually tailored support*.
- People with stroke need intervention *‘early’, ‘later’* and services that can *‘respond’* in a crisis and to changing needs over time.
- *In-reach* to identify people with sudden onset conditions early.
- *Condition (stroke) specific knowledge and VR Knowledge*
- *Go into the workplace*
- Liaison isn’t enough. Need pathways for *partnership working* with DWP, Indep and 3rd sector services to prevent people falling through service and sector gaps.
Screening for Return to Work after Stroke

**STROKE**

Ask the work question

**STROKE WARD**

- Working at stroke onset
- Not Working/ intending to return
- Not Working at stroke onset/not intending to return

**Stroke Specialist Vocational Assessment**

RTW OT in ESD/Community Stroke/Community Neuro Team

- Identified work needs
- Identified work & rehab needs Not Working at onset
- Identified work & rehab needs Working at onset

**WORK SPECIALIST**

Service

DWP or Health Provider

**VR SPECIALIST**

Service

e.g. Aylesbury

**STROKE SPECIALIST**

Vocational Rehabilitation

RTW OT

e.g. CST

Continue Stroke Pathway
How does this translate?

- Factors that affect stroke survivors’ ability to work, apply to most long-term health conditions
  - Disease related factors, e.g. fatigue, incontinence, falls, cognitive difficulties, depression, pain
  - Disability related factors e.g. impaired mobility, sensation, dexterity, loss of confidence
  - Environmental factors e.g. employer attitudes, the work environment, attitudes and behaviours of healthcare professionals, family, travel to work.
  - Personal factors, e.g. beliefs and values, financial issues, education, gender

- People’s needs will be highly individualised depending on where in disease trajectory/severity BUT personal, social and employment factors will determine NATURE/LEVEL of VR
Cancer models

Thinking Positively about work: A model of work support and vocational rehabilitation for people with cancer, Eva et al, 2012
Take home messages

- A return to work should be an integral part of rehabilitation but VR not always seen as the job of Health.
- **People with stroke need the right support at the right time** – *Early intervention* to prevent job loss. Different model *Later, and Responsive to changing needs.*
- Parallels between stroke and other long term conditions
- **Services need to develop** to meet work needs of people with long term conditions.
- Health services need to develop mechanisms for cross sector working and communicating with employers
- **Factors influencing a successful RTW are not limited to disease or injury** - personal, environmental and contextual factors are fundamental to employment success.
- Need for RCT’s of vocational rehabilitation with process evaluation to inform implementation
Thank you

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Levels of Stroke Vocational Rehabilitation

- Vocational Rehabilitation Specialist Service
  - e.g. ‘Working Out’ Aylesbury

- Stroke Specialist Rehab plus Vocational Rehabilitation
  - e.g. RTW OT in COMMUNITY STROKE or COMMUNITY NEURO TEAM

- VR Assessment, Signposting and Information Pack
  - EARLY SUPPORTED DISCHARGE

- Work Status and Rehab Needs Identified
  - STROKE WARD
<table>
<thead>
<tr>
<th></th>
<th>Stroke</th>
<th>TBI</th>
<th>Cancer</th>
<th>Neurological (PD, MS, Migraine, Epilepsy)</th>
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<tbody>
<tr>
<td>Pain</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
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<tr>
<td>Fatigue</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Depression/anxiety</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
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<tr>
<td>Cognitive impairment</td>
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<tr>
<td>Loss of confidence</td>
<td>✔</td>
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<td>Poor mobility</td>
<td>✔</td>
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<tr>
<td>Impaired vision</td>
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<td>✔</td>
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</tr>
<tr>
<td>Sensory Loss</td>
<td>✔</td>
<td>✔</td>
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</table>

Factors affecting ability to work, for people with long-term health conditions