Appendix 1 Electronic search strategies

The following databases were searched on OVID using the search strategy shown below:

- Medline 1996–24.5.06
- Amed 1985–7.6.06
- British Nursing Index 1985–7.6.06
- Cinahl 1982–7.6.06
- Embase 1980–7.6.06
- Medline 1966–7.6.06
- HMIC–7.6.06
- PsycINFO (previously PscyhLit) 1985

Search strategy

1 "service delivery".mp
2 limit 1 to (humans and english language)
3 "service organization".mp
4 limit 3 to (humans and english language)
5 "rehabilitation".mp
6 limit 5 to (humans and english language)
7 "neurological rehabilitation".mp
8 limit 7 to (humans and english language)
9 neurological.mp
10 limit 9 to (humans and english language)
11 10 and 6
12 approach.mp
13 limit 12 to (humans and english language)
14 10 and 13
15 specialist.mp or Specialist/
16 limit 15 to (humans and english language)
17 16 and 6
18 multiple sclerosis.mp or Multiple Sclerosis/
19 limit 18 to (humans and english language)
20 Parkinsons.mp or Parkinson Disease/
21 limit 20 to (humans and english language)
22 stroke.mp or Cerebrovascular Accident/
23 limit 22 to (humans and english language)
24 "brain injury".mp or Brain Injuries/
25 limit 24 to (humans and english language)
26 Motor Neuron Disease/ or "motor neurone disease".mp

27 limit 26 to (humans and english language)
28 muscular dystrophy.mp or Muscular Dystrophies/
29 limit 28 to (humans and english language)
30 "spinal cord injury".mp or Spinal Cord Injuries/
31 limit 30 to (humans and english language)
32 Epilepsy/ or epilepsy.mp
33 limit 32 to (humans and english language)
34 "huntington's disease".mp or Huntington Disease/
35 limit 34 to (humans and english language)
36 2 or 4 or 8 or 11 or 14 or 17
37 36 and 19
38 36 and 21
39 36 and 23
40 36 and 25
41 36 and 27
42 36 and 29
43 36 and 31
44 36 and 33
45 36 and 35
46 service model. mp
47 limit 46 to (humans and english language)
48 48 and 19
49 48 and 21
50 48 and 23
51 48 and 25
52 48 and 27
53 48 and 29
54 48 and 31
55 48 and 33
56 48 and 35

The following databases were searched on OVID using the search strategy shown below:

- Cochrane Library:
  - Central Register of Controlled Trials
- Specialised registers following the Cochrane Review Groups:
  - Consumers and Communication
  - Dementia and Cognitive Improvement Group
  - Effective Practice and Organisation of Care Group
  - Epilepsy Group
  - Movement Disorders
  - Multiple Sclerosis Group

Neuromuscular Disease

Stroke Group

- Physiotherapy Evidence Database (PEDro)
- OT Seeker
- Centre for Dissemination & Reviews
- Database of Abstracts of Reviews of Effectiveness (DARE)
- NHS Economic Evaluation Database (NHS EED)
- Health Technology Assessment (HTA)
- National Research Register, MRC Register, CRD

Search terms

- Service delivery
- Service organisation
- Service organization
- Neurological rehabilitation
- Neurological approach
- Specialist rehabilitation
- Service model

Appendix 2 Qualitative review proforma

Paper No: Reviewer's initials:

Full reference of paper:

Guidance notes:

Some columns give multiple choice answers. Please highlight appropriate answer(s) in yellow. NB You may need to add further details in free text below. NB It may be appropriate to highlight more than one answer. Please include page numbers from the paper for all quotes

Type of publication	**Methodology** **Include approach if stated, or clearly inferable**	**Type(s) of data collection used** **Include details such as: Number of interviews; hours observed; hours/sessions recorded; type of documents collected**
a Original qualitative research b Comment by user(s) (e.g. opinion piece, commentary, etc.) c Comment by professional(s) (e.g. opinion piece, commentary etc) d Policy document – government e Policy document – professional body f Policy document – other body – Please give details of the body g Other, please give details	Only for original research: a Grounded theory b Content analysis c Phenomenology d Critical e Empowerment f Ethnographic g Anthropology h Delphi Other, please give details	i Original Research a Observation and fieldnotes b Video/audio recording (naturalistic) c Interview (specify type of interview if stated e.g. vignette/semi-structured/narrative) d Questionnaire/survey e Documents f Other, please give details ii Reviews a Meta analysis b Systematic review c Cochrane review d Unsystematic 'personal' review e Descriptive/ synthesis f Other, please give details iii Policy documents a Literature review b Professional/expert opinion c User views d Other, please give details Please give full details here:

Paper No:

Participants/subjects **Numbers of participants, and descriptive details, such as: conditions; service experience; clinicians; users, carers**	**Type of service/setting(s) involved** **E.g. stroke unit, community rehabilitation service, specialist clinic, etc.**	**Type of intervention provided to participants** **E.g. suicide prevention, counselling, multi-disciplinary (MDT) stroke rehabilitation**	**Stated research question**	**Stated summary of findings** **Include short summary from the abstract and also more detailed findings from text of paper** **Give page numbers**
			For original research and reviews but not policy documents	

Paper No:

Any stated implications for SDO specialist neurorehabilitation	**Reviewer's comments on implications for SDO of specialist neurorehabilitation**	**Stated category(s)** **(from SDO brief)**	**Category(s) relating to SDO themes** **(would expect to pick several for most publications)**	**Any other comments**
		a Model of specialist neurological service b Organisation and delivery of service	a Survey of current services (e.g. across a region) b Proposal, model of service/role/intervention – ie 'what should happen' (*often includes what is wrong with what is provided now) (only highlight where the paper concerns or includes proposals, not just description of current services)	

		c Acceptability of service d Effectiveness of service e Cost-effectiveness of service f Other, please give details	c Expert opinion/commentary – academic/clinician d Expert opinion/commentary user (carer, patient) e Outcome evaluation – primary qualitative research f Observational study – primary qualitative research g Other, please give details	

Appendix 3 Services in the South Central SHA

No	Model	Name of service	Town	Brain Injury	Spinal	Stroke	Prog
1	Specialist inpatient acute unit	Southampton University Hospitals NHS Trust (Southampton General Hospital) SU	Southampton			✓	
2	Non-specialist acute unit						
3	Surgical acute unit						
4	Specialist inpatient rehab unit	Acquired Brain Injury Rehabilitation (H5)	Portsmouth	✓		✓	✓
		Southampton Stroke Service (H6)	Southampton			✓	
		Rayners Hedge (TV14)	Aylesbury	✓		✓	✓
		SRU Victoria House (H8)	Southampton			✓	
		Southampton Rehab Unit (H9)	Southampton	✓	✓	✓	✓
		Portsmouth Rehabilitation Unit (PB/SC/02)	Gosport	✓	✓	✓	✓
		Milton Keynes General NHS Trust SU	Milton Keynes			✓	

		Milford Stroke Unit (New Forest PCT) SU	Milford on sea			✓	
5	Specialist inpatient combined (acute and rehab) unit	Oxford Centre for Enablement (TV4, 5, 11)	Oxford	✓	✓	✓	✓
		Neurorehabilitation Unit, Royal Berks (TV7)	Reading	✓	✓	✓	✓
		National Spinal Injuries Centre (TV9)	Aylesbury		✓		
		International Spinal Injuries and Rehabilitation Centre	Aylesbury	✓	✓	✓	✓
		Oakley Stroke Rehab Unit (H1, 7)	Basingstoke	✓		✓	
		St Mary's Stroke Unit (PB/SC/03)	Newport, Isle of Wight			✓	
		Oxford Radcliffe Hospitals NHS Trust (Oxford Radcliffe Hospitals NHS Trust) SU	Oxford			✓	
		Winchester and Eastleigh Healthcare NHS Trust SU	Winchester			✓	
		Buckinghamshire Hospitals NHS Trust SU	Aylesbury			✓	
		Royal Berkshire & Battle Hospitals NHS Trust SU	Reading			✓	
		East Hampshire Primary Care Trust jointly with Portsmouth Hospitals NHS Trust SU	Isle of Wight			✓	

		Heatherwood & Wexham Park Hospitals SU	Slough			✓	
		Buckinghamshire Hospitals NHS Trust SU	Amersham			✓	
6	Inpatient services						
7	Condition-specific specialist nurse	Specialist Nurse Rare Neuro Conds (TV21)	Reading				✓
8	Condition-specific specialist therapist						
9	Case management						
10	Third sector condition-specific nurse						
11	Third sector condition-specific therapist	MS Society-funded posts	Amersham				✓
		MS Society-funded posts	Aylesbury				✓
		MS Society-funded posts	Newbury				✓
		MS Society-funded posts	Oxford				✓
		MS Society-funded posts	Reading				✓
		MS Society-funded posts	Southampton				✓
		MS Society-funded posts	Milton Keynes				✓
12	Outreach rehabilitation (NHS/PCT) team	MS Team (TV1)	Amersham				✓
13	Outpatient services – statutory sector						
14	Specialist community rehabilitation (NHS/PCT) team	Bletchley Therapy Unit (TV3, 8, 15)	Milton Keynes	✓	✓	✓	✓
		Community Head Injury Service (TV12)	Aylesbury	✓		✓	✓

		Newbury Day Centre (PB/SC/01)	Newbury				✓
		Rayners Hedge (TV14)	Aylesbury	✓	✓	✓	✓
		Snowdon Neuro Rehab Team	Southampton	✓	✓	✓	✓
15	Specialist community rehabilitation – private sector	Rehab Without Walls	Milton Keynes	✓	✓		
		Peartree House Rehabilitation	Southampton	✓			
		Team Medical Solutions	Southampton	✓			
		Cornerstone Service Support	Southampton	✓			
16	New innovative models						
17	Regional specialist centre (driving, communication, assistive devices)	MAVIS	Crowthorne	✓	✓	✓	✓
		ACE centre (Communication)	Oxford	✓	✓	✓	✓
		Mary Marlborough Specialist Disability Service	Oxford	✓	✓	✓	✓
		Communication aid service	Southampton	✓	✓	✓	✓
18	Statutory residential facility for respite or long-term care	St Mary's Rehab Medicine	Isle of Wight	✓			✓
19	Private or third sector residential rehab facilities, respite or long-term care	Peartree House Rehabilitation	Southampton	✓			
		Brain Injury Rehabilitation Trust, Aylesbury	Aylesbury	✓			
		Cornerstone Service Support	Southampton	✓			
		Brunel Unit (SCQ1)	Milton Keynes	✓		✓	✓
20	Multi-disciplinary clinic						

21	Outpatient services – private sector						
22	Specialist outpatient services – statutory sector	Bletchley Therapy Unit (TV3, 8, 15)	Milton Keynes	✓	✓	✓	✓
		Oxford Centre for Enablement (TV4, 5, 11)	Oxford	✓	✓	✓	
		Neurorehabilitation Unit, Royal Berks (TV7)	Reading	✓		✓	✓
		Acquired Brain Injury Rehabilitation (H5)	Portsmouth	✓		✓	✓
		St Mary's Rehab Medicine	Isle of Wight	✓			✓
23	Specialist outpatient services – private sector	ACE Centre Advisory Trust	Oxford	✓			
24	Third sector rehabilitation	Dysphasia Service (TV2)	Appleton			✓	
		Muscular Dystrophy Campaign RCA (TV6)	Oxford				✓
		MS Therapy Centre (TV19)	Reading				✓
		South Bucks Hospice (TV20) (SCQ2)	High Wycombe			✓	✓
		MND Regional Care Advisor (TV13)	Oxford				✓
		Headway (H2)	Portsmouth	✓			
		Brain Injury Rehabilitation Trust, Thomas Edward Mitton House	Milton Keynes	✓			
		Headway branch	Oxford	✓			
		Headway branch	Aylesbury	✓			

Headway branch	Basingstoke	✓		
Headway branch	Milton Keynes	✓		
Headway branch	Marlow	✓		
Headway branch	Southampton	✓		
Headway branch	Henley on Thames	✓		
Headway branch	Isle of Wight	✓		
Stroke Association dysphasia support	Oxford		✓	
Stroke Association dysphasia support	Winchester		✓	
Stroke Association dysphasia support	Basingstoke		✓	
Stroke Association dysphasia support	Portsmouth		✓	
Stroke Association dysphasia support	Blackwater Valley		✓	
Stroke Association family support	Oxford		✓	
MS Therapy Centre	Aylesbury			✓
MS Therapy Centre	Portsmouth			✓
MS Therapy Centre	Oxford			✓

	MNDA regional care centre	Oxford	✓
	MNDA regional care centre	Southampton	✓
	HDA regional care advisory service	Oxford	✓
25 Third sector social, patient and carer support			

TV10 (national voluntary service) and TV22 (Neuro alliance) have not been included on the maps as they are both information services not rehabilitation services.

Appendix 4 Services in the East Midlands SHA

No	Model	Name of service	Town	Brain Injury	Spinal	Stroke	Prog
1	Specialist inpatient acute unit	Neuro Rehab Unit, LRI	Leicester				✓
		Chesterfield Royal Hospital NHS Foundation Trust SU	Chesterfield			✓	
2	Non-specialist acute unit						
3	Surgical acute unit	Neurosurgery, QMC (EM/M/10)	Nottingham	✓	✓	✓	✓
4	Specialist inpatient rehab unit	Kings Lodge (EM/D/2, EM/D/6)	Derby	✓	✓	✓	✓
		Portland College	Mansfield	✓	✓	✓	✓
		Linden Lodge (EM/N/6)	Nottingham	✓	✓	✓	✓
		Neuro Rehab Unit, LRI	Leicester				✓
		Wakerley Lodge, Leicester General	Leicester	✓	✓	✓	✓
		Rehabilitation Medicine Service, Ashby Unit (EM/L/8, EM/L/10)	Lincoln	✓	✓	✓	✓

		Chatsworth Rehab Centre (EM/NN/1)	Mansfield	✓	✓	✓	✓
		United Lincolnshire Hospitals NHS Trust (Louth County Hospital) SU	Louth			✓	
		Sherwood Rehab Unit	Mansfield	✓	✓	✓	✓
5	Specialist inpatient combined (acute and rehab) unit	Neurology Centre, QMC (EM/N/7, EM/N/9)	Nottingham	✓	✓	✓	✓
		Neurology Dept, DRI	Derby				✓
		MS Prescribing Centre	Lincoln	✓	✓	✓	✓
		MS Prescribing Centre	Boston	✓	✓	✓	✓
		MS Prescribing Centre	Brigg	✓	✓	✓	✓
		United Lincs Hospitals (EM/L/9)	Lincoln	✓	✓	✓	✓
		Nottingham University Hospital NHS Trust (Nottingham City Hospital) SU	Nottingham			✓	
		University Hospitals of Leicester NHS Trust SU	Leicester			✓	
		Northampton General Hospital NHS Trust SU	Northampton			✓	
		United Lincolnshire Hospitals NHS Trust (Grantham and District Hospital) SU	Grantham			✓	
		Sherwood Forest Hospitals NHS Trust SU	Mansfield			✓	

		United Lincolnshire Hospitals NHS Trust (Pilgrim Hospital) SU	Boston			✓	
		Derby Hospitals NHS Foundation Trust SU	Derby			✓	
		United Lincolnshire Hospitals NHS Trust (Lincoln County) SU	Lincoln			✓	
		Doncaster & Bassetlaw Hospitals NHS Foundation Trust (Bassetlaw Hospital) SU	Worksop			✓	
		Coalville Community Hospital (EM/LE/COAL/OT)	Coalville	✓		✓	✓
6	Inpatient services	Day Hospital, Bolsover	Bolsover	✓	✓	✓	✓
		Chesterfield Royal Hospital	Chesterfield	✓	✓	✓	✓
		Social Services Derby City	Derby	✓	✓	✓	✓
		Pilgrim Hospital (EM/L/4)	Boston	✓	✓	✓	✓
		Orthoptic Dept, DRI	Derby	✓	✓	✓	✓
		Loughborough Hospital	Loughborough	✓	✓	✓	✓
		Walton Hospital	Chesterfield	✓	✓	✓	✓
7	Condition-specific specialist nurse	Clinical nurse specialist	Derby				✓
		MS nurses, QMC	Nottingham				✓

		Neurology specialist nurse (EM/D/7)	Erewash	✓	✓		✓
		MND nurse, QMC	Nottingham				✓
		Neurosciences nurse	Nottingham	✓	✓	✓	✓
		MS Nurses	Leicester				✓
		MS Nurses	Northampton				✓
		HD nurse (EM/N/13)	Nottingham				✓
		Brain Injury clinical specialist	Chesterfield	✓			
8	Condition-specific specialist therapist	Specialist Therapist (PD Leengate Clinic)	Nottingham				✓
		Specialist Therapist (PD) AHP in Physical Disability, Walton Hospital	Chesterfield				✓
		Neurophysiotherapist, Ripley Hospital	Ripley	✓	✓	✓	✓
		Neuropsychologist NUH	Nottingham	✓	✓	✓	✓
		Neurophysiotherapist, Ilkeston Community Hospital	Ilkeston	✓	✓	✓	✓
9	Case management	N Derby BI Service (EM/ND/1)	Bolsover	✓			
		BI Case Management	Derby	✓			
10	Third sector condition-specific nurse						

11	Third sector condition-specific therapist	MS Society-funded specialists	Leciester				✓
		MS Society-funded specialists	Leciester				✓
		MS Society-funded specialists	Nottingham				✓
12	Outreach rehabilitation (NHS/PCT) team	Social Services Derby City	Derby	✓	✓	✓	✓
		Nottingham Traumatic BI Service (EM/N/4, EM/N/8)	Nottingham	✓			
		TBI Outreach Service (EM/D/1)	Derby	✓			
		Community Outreach Team	Grantham	✓	✓	✓	✓
		St Mary's Hospital	Melton Mowbray	✓	✓	✓	✓
13	Outpatient services – statutory sector	Day Hospital, DRI	Derby	✓	✓	✓	✓
		Day Hospital, Bolsover	Bolsover	✓	✓	✓	✓
		Newholme Hospital	Bakewell	✓	✓	✓	✓
		Claycross Community Hospital	Clay Cross	✓	✓	✓	✓
		Chesterfield Royal Hospital	Chesterfield	✓	✓	✓	✓
		Outpatient service, Ropewalk,	Nottingham	✓	✓	✓	✓
		Day Ward, LRI	Leicester				✓
		Social Services Disability Team (EM/D/8)	Derby	✓	✓	✓	✓

Social Services Disability Team (EM/N/12)	Nottingham	✓	✓	✓	✓
Social Services Disability Team	Swadlincote	✓	✓	✓	✓
Social Services Disability Team	Ripley	✓	✓	✓	✓
Social Services Disability Team	Matlock Bath	✓	✓	✓	✓
Social Services Disability Team	Ilkeston	✓	✓	✓	✓
Social Services Disability Team	Leicester	✓	✓	✓	✓
Social Services Disability Team	Hinckley	✓	✓	✓	✓
Social Services Disability Team	Coalville	✓	✓	✓	✓
Social Services Disability Team	Loughborough	✓	✓	✓	✓
Continence Advisory Service	Brigg				✓
Continence Advisory Service	Grantham				✓
Continence Advisory Service	Lincoln				✓
Continence Advisory Service	Derby				✓
Continence Advisory Service	Mansfield				✓
British Medicine Rehabilitation Team	Brigg	✓	✓	✓	✓
Loughborough Hospital	Loughborough	✓	✓	✓	✓

		Walton Hospital	Chesterfield	✓	✓	✓	✓
		Disability Resource Team	Chesterfield	✓	✓	✓	✓
		Adult Social Care and Health (EM/N/10)	Nottingham	✓	✓	✓	✓
14	Specialist community rehabilitation (NHS/PCT) team	High Peak and Dales Rehabilitation Service (EM/D/9)	Buxton	✓	✓	✓	✓
		Independent Living Team (EM/N/2)	Nottingham	✓	✓	✓	✓
		Intermediate Care Team (EM/N/11)	Nottingham	✓	✓	✓	✓
		County Community Stroke Team	Nottingham			✓	
		City Community Stroke Team	Nottingham			✓	
		Rehab Medicine community Outreach Team (EM/L/5)	Lincoln	✓	✓	✓	✓
		Physical Disability Team	Boston	✓	✓	✓	✓
		Physical Disability Team	Gainsborough	✓	✓	✓	✓
		Physical Disability Team	Grantham	✓	✓	✓	✓
		Physical Disability Team	Horncaslte	✓	✓	✓	✓
		Physical Disability Team (EM/L/3)	Lincoln	✓	✓	✓	✓
		Physical Disability Team	Louth	✓	✓	✓	✓

		Physical Disability Team	Market Rasen	✓	✓	✓	✓
		Physical Disability Team	North Hykeham	✓	✓	✓	✓
		Physical Disability Team	Skegness	✓	✓	✓	✓
		Physical Disability Team	Sleaford	✓	✓	✓	✓
		Physical Disability Team	Spalding	✓	✓	✓	✓
15	Specialist community rehabilitation – private sector	Athena Care Ltd	Leicester	✓	✓	✓	✓
		Berkley Close, St Andrews Hospital	Northampton	✓			
16	New innovative models						
17	Regional specialist centre (driving, communication, assistive devices)	Nottingham Traumatic BI Service (EM/N/4, EM/N/8)	Nottingham	✓			
		Derby Drivability	Derby	✓	✓	✓	✓
		Disablement Services Centre	Leicester	✓	✓	✓	✓
		Communication Aid Centre	Leicester	✓	✓	✓	✓
		Communication Aid Resource Centre	Lincoln	✓	✓	✓	✓
		Communication Aid Resource Centre	Lincoln	✓	✓	✓	✓
18	Statutory residential facility for respite or long-term care						

19	Private or third sector residential rehab facilities, respite or long-term care	Nottingham BI Rehabilitation Centre	Hucknall	✓			
		Christchurch Court	Abington, Northants	✓	✓	✓	✓
		Grafton Manor	Towcester	✓			
		Kemsley Unit, St Andrews Hospital	Northampton	✓			
		BI Rehabilitation Care, Richardson Partnership	Northampton	✓			
		Oakleaf Care	Northampton	✓			
		Matthews Neuro and Rehabilitation Services	Loughborough	✓	✓	✓	✓
		Aspley Neuro Disability Services (EM/N/3)	Nottingham	✓			✓
		White Rose	Nottingham	✓	✓	✓	✓
20	Multi-disciplinary clinic	Neurology Centre, QMC (EM/N/7, EM/N/9)	Nottingham	✓	✓	✓	✓
		Derby City General Hospital (EM/D/3)	Derby	✓	✓	✓	✓
21	Outpatient services – private sector						
22	Specialist outpatient services – statutory sector	Neurology Centre, QMC	Nottingham	✓	✓	✓	✓
		Derby City General Hospital (EM/D/3)	Derby	✓	✓	✓	✓
		Nottingham Traumatic BI Service	Nottingham	✓			
		TBI Outreach Service	Derby	✓			

		Disabled Living Centre	Nottingham	✓	✓	✓	✓
		Portland College	Mansfield	✓	✓	✓	✓
		Cedars Rehabilitation Service (EM/N/5)	Nottingham	✓	✓	✓	✓
		Coalville Community Hospital (EM/LE/COAL/OT)	Coalville	✓		✓	✓
		Leicester BI Team (EM/LE/2)	Leicester	✓			
		MS Prescribing Centre	Lincoln	✓	✓	✓	✓
		MS Prescribing Centre	Boston	✓	✓	✓	✓
		MS Prescribing Centre	Brigg	✓	✓	✓	✓
		Pilgrim Hospital (EM/L/4)	Boston	✓	✓	✓	✓
		Rehabilitation Medicine Service (EM/L/8)	Lincoln	✓	✓	✓	✓
		United Lincs Hospitals (EM/L/9)	Lincoln	✓	✓	✓	✓
		Neuro Outpatient Department	Newark	✓	✓	✓	✓
		Rosehill Business Centre	Derby	✓		✓	✓
		Orthoptic Dept, DRI (PB/EM/01)	Derby	✓	✓	✓	✓
23	Specialist outpatient services – private sector	Neurophysiotherapist	Eggington	✓	✓	✓	✓
		Psychology service	Alfreton	✓		✓	

		Psychology service	Hathersage	✓		
24	Third sector rehabilitation	MS Therapy Centre	Nottingham			✓
		MDC Care Advisor (EM/N/6)	Nottingham			✓
		MS Therapy Centre	Leicester			✓
		MS Therapy Centre	Lincoln			✓
		MNDA Regional Care Centre	Nottingham			✓
		MNDA Regional Care Advisor	Northampton			✓
		HDA Regional Care Advisor	Northampton			✓
		Headway branch	Leicester	✓		
		Headway branch	Nottingham	✓		
		Headway branch	Derby	✓		
		Headway branch	Northampton	✓		
		Headway branch	Wellingborough	✓		
		Headway branch	Lincoln	✓		
		Headway branch	Chesterfield	✓		
		Stroke Association Dysphasia Support	S Derbys		✓	

	Stroke Association Family Support	N Derbys	✓
	Stroke Association Family Support	Leicester	✓
	Stroke Association Family Support	Mansfield	✓

25 Third sector social, patient and carer support

Code 6 or 13 services have not been included on the maps as they are not specialist services.

Appendix 5 Services in the North East SHA

No	Model	Name of service	Town	Brain injury	Spinal	Stroke	Prog
1	Specialist inpatient acute unit						
2	Non-specialist acute unit						
3	Surgical acute unit						
4	Specialist inpatient rehab unit	Neuro rehabilitation units – (Hume) (NEQ1)	Sunderland	✓	✓	✓	✓
		Neuro rehabilitation units - (JC) (NEQ13)	Middlesbrough	✓	✓	✓	✓
		Neuro rehabilitation units - Newcastle General	Newcastle	✓	✓	✓	✓
		Hunters Moor (BI)	Newcastle	✓			
		North Tees and Hartlepool NHS Trust SU (University Hospital of Hartlepool)	Hartlepool	✓		✓	
		North Tees and Hartlepool NHS Trust (North Tees Hospital) SU	Peterlee			✓	

		County Durham and Darlington Acute Hospitals NHS Trust (Darlington Memorial) SU	Darlington			✓	
		Hartside Unit – Neuro Behavioural Unit	Newcastle	✓			✓
		Janie Hepple Unit, Prudhoe Hospital	Prudhoe	✓			
		MND team – James Cook	Middlesbrough				✓
		Neuro Rehab team	Sunderland	✓	✓	✓	✓
		Neuro Rehab wards	N Tyneside	✓	✓	✓	✓
5	Specialist inpatient combined (acute and rehab) unit	Northumbria Healthcare NHS Trust (North Tyneside District General Hospital) SU	North Shields			✓	
		Newcastle upon Tyne Hospitals NHS Trust SU	Newcastle			✓	
		Northumbria Healthcare NHS Trust (Wansbeck General Hospital) SU	Wansbeck			✓	
		Northumbria Healthcare NHS Trust (Hexham General Hospital) SU	Hexham			✓	
		South Tees Hospitals NHS Trust (The James Cook University Hospital) SU	Middlesbrough			✓	
		Gateshead SU (NEQ6)	Gateshead			✓	

		South Tyneside NHS Foundation Trust SU	South Shields		✓
		County Durham and Darlington Acute Hospitals NHS Trust (Bishop Auckland) SU	Bishop Auckland		✓
		City Hospitals Sunderland NHS Foundation Trust SU	Sunderland		✓
		County Durham and Darlington Acute Hospitals NHS Trust (University Hospital North Durham) SU	Durham		✓
		Spinal cord injury unit – (JC) (NEQ12, NEQ17)	Middlesbrough	✓	
6	Inpatient services				
7	Condition-specific specialist nurse	MS nurses	Newcastle		✓
		MS nurses	Middlesbrough		✓
		PD nurses	Middlesbrough		✓
8	Condition-specific specialist therapist				
9	Case management				
10	Third sector condition-specific nurse				
11	Third sector condition-specific therapist	MS Society PT service	Stockton on Tees		✓
		MS Society-funded posts	Durham		✓

		MS Society-funded posts	Sunderland				✓
12	Outreach rehabilitation (NHS/PCT) team	Discharge Stroke Team (St Nicholas)	Newcastle			✓	
13	Outpatient services – statutory sector						
14	Specialist community rehabilitation (NHS/PCT) team	Regional Disability Team, Hunters Moor	Newcastle	✓	✓	✓	✓
		Community MS Team, Hunters Moor	Newcastle				✓
		Northumberland Head Injury Service (NEQ5)	Morpeth	✓			
			Chester le Street	✓	✓	✓	✓
		Neuro rehab community team (NEQ11)	Gateshead	✓			
		Community ABI team (NEQ3)	Gateshead			✓	
		Community Stroke team (NEQ4)	Peterlee (Easington)			✓	
		Community stroke team (NEQ16)	Wallsend	✓	✓	✓	✓
		Wallsend community neuro rehab team					
15	Specialist community rehabilitation – private sector	Neuro Partners (BI comm. Rehab) (NEQ8)	Newcastle	✓			
		Strategic Property Solutions (BI accommodation + comm. rehab)	Newcastle	✓			
		JS Parker and Associates (BI case management + voc rehab)	Newcastle	✓			
		Physio Works (incl SCI rehab)	Newcastle	✓	✓		
		Rehab UK (BI comm + voc rehab)	Newcastle	✓			

16	New innovative models	Neural Pathways (UK) Ltd (NEQ10)	Newcastle	✓		✓	
		MND hub & spoke service (NEQ14) with Carlisle and Whitehaven (CLSP05)	Newcastle				✓
		MND clinic exchange (consultant with MS nurse)	Durhan				✓
			Newcastle				✓
		One-stop nurse-lead BI clinic	Newcastle	✓			
17	Regional specialist centre (driving, communication, assistive devices)	Regional mobility centre - (Hunters Moor)	Newcastle	✓	✓	✓	✓
		Regional environmental controls service - Newcastle (Hunters Moor)	Newcastle	✓	✓	✓	✓
		Regional technical aids centre - (Hunters Moor)	Newcastle	✓	✓	✓	✓
		Regional (Northern) communication aids centre (Communicate) - (Hunters Moor)	Newcastle	✓	✓	✓	✓
		Regional Medical Physics Department (Technical aids) – Newcastle General	Newcastle	✓	✓	✓	✓
18	Statutory residential facility for respite or long-term care						
19	Private or third sector residential rehab facilities, respite or long-term care	Whickham Villa (BI IP rehab)	Newcastle	✓			
		Hawthorns Nursing Home	Peterlee	✓			

20	Multi-disciplinary clinic						
21	Outpatient services – private sector						
22	Specialist outpatient services – statutory sector	Hartside Unit	Newcastle	✓			✓
		Regional Disability Team, Hunters (NEQ2)	Newcastle	✓	✓	✓	✓
		Neuro outpatient Physiotherapists (NEQ15)	Gateshead	✓	✓	✓	✓
23	Specialist outpatient services – private sector						
24	Third sector rehabilitation	MND Care Centre (NEQ14)	Newcastle				✓
		Stroke Association communication aids centre - Dene Centre	Newcastle			✓	
		MS Therapy Centre	Middlesbrough				✓
		Stroke Association dysphasia support	Sunderland			✓	
		Stroke Association dysphasia support	Blyth Valley			✓	
		Stroke Association family support	Gateshead			✓	
		Stroke Association family support	Easington			✓	
		Stroke Association family support	Guisborough			✓	
		Stroke Association family support	Middlesbrough			✓	
		Headway branch	Northumberland	✓			

	Headway branch	Teesside	✓	
	Headway branch	Gateshead	✓	
	BIRT supported housing	Sunderland	✓	
	Muscular Dystrophy Assocation - MDA Care Advisor, Newcastle covers region	Newcastle		✓
	MND Assocation - MND Care Centre coordinator, Royal Victoria Informary	Newcastle		✓
	MND Care Advisors cover Northumberland, Tyne and Wear, Durham, Cleveland,	Newcastle		✓
	Huntingtons Disease Association - regional care advisory service	Newcastle		✓
25	Third sector social, patient and carer support			

Appendix 6 Services in the North West SHA

No	Model	Name of service	Town	Brain Injury	Spinal	Stroke	Prog
1	Specialist inpatient acute unit	Inpatient neuro rehab ward (CLSP03)	Ormskirk	✓	✓	✓	✓
		Morecambe Bay Hospitals NHS Trust (Westmorland General Hospital) SU	Kendal			✓	
2	Non-specialist acute unit						
3	Surgical acute unit						
4	Specialist inpatient rehab unit	Bolton Hospitals NHS Trust SU	Bolton			✓	
		Lancashire Teaching Hospitals NHS Foundation Trust (Chorley and South Ribble) SU	Chorley			✓	
		Morecambe Bay Hospitals NHS Trust (Royal Lancaster Infirmary) SU	Lancaster			✓	
		Isle of Man Department of Health and Social Security SU	Isle of Man			✓	
		Brain Injury Rehabilitation Centre					

			Liverpool	✓			
5	Specialist inpatient combined (acute and rehab) unit	Devonshire Centre for Rehabilitation	Stockport	✓	✓	✓	✓
		Rakehead Rehabilitation Centre	Burnley	✓	✓	✓	✓
		Floyd Unit for Neurological Rehabilitation	Rochdale	✓	✓	✓	✓
		Talyor Rehabilitation, Leigh Infirmary	Leigh	✓	✓	✓	✓
		Clatterbridge Hospitals	Wirral	✓	✓	✓	✓
		Preston Neuro Rehab Unit (CLSP04)	Preston	✓	✓	✓	✓
		Neuro Rehab Unit, West Cumb (CLSP05)	Carlisle	✓		✓	✓
		YDU, Whitehaven (CLSP05)	Whitehaven	✓		✓	✓
		Regional Spinal Injuries Centre (CLSP20)	Southport		✓		
		Walton Centre (CMSP17)	Liverpool	✓		✓	✓
		Central Manchester and Manchester Children's University Hospital NHS Trust SU	Manchester			✓	
		Salford Royal Hospitals NHS Trust SU	Salford			✓	
		Aintree Hospitals NHS Trust SU	Liverpool			✓	
		North Cumbria Acute Hospitals NHS Trust (West Cumberland Hospital) SU	Whitehaven			✓	
		Pennine Acute Hospitals NHS Trust (Rochdale	Rochdale			✓	

Infirmary) SU		
Pennine Acute Hospitals NHS Trust (Fairfield General Hospital) SU	Bury	✓
Royal Liverpool & Broadgreen University Hospitals NHS Trust SU	Liverpool	✓
Pennine Acute Hospitals NHS Trust (Royal Oldham Hospital) SU	Salford	✓
North Cheshire Hospitals NHS Trust (Warrington Hospital) SU	Warrington	✓
South Manchester University Hospitals NHS Trust SU	Manchester	✓
North Cheshire Hospitals NHS Trust (Halton General Hospital) SU	Runcorn	✓
North Cumbria Acute Hospitals NHS Trust (Cumberland Infirmary) SU	Carlisle	✓
Pennine Acute Hospitals NHS Trust (North Manchester General) SU	Manchester	✓
Countess of Chester Hospital NHS Foundation Trust SU	Chester	✓
East Cheshire NHS Trust SU	Macclesfield	✓
Stockport NHS Foundation Trust SU	Stockport	✓

		Wirral Hospital NHS Trust SU	Upton, Wirral	✓	
		Southport and Ormskirk Hospital NHS Trust SU	Southport	✓	
		Wrightington, Wigan and Leigh NHS Trust SU	Wigan	✓	
		Lancashire Teaching Hospitals NHS Foundation Trust SU	Preston	✓	
		Morecambe Bay Hospitals NHS Trust (Furness General Hospital) SU	Barrow in Furness	✓	
		East Lancashire Hospitals NHS Trust (Burnley Health Care NHS Trust) SU	Burnley	✓	
		Mid Cheshire Hospitals NHS Trust SU	Crewe	✓	
		St Helens & Knowsley Hospitals NHS Trust SU	St Helens	✓	
		Blackpool, Fylde & Wyre Hospitals NHS Trust (Blackpool Victoria Hospital) SU	Blackpool	✓	
		East Lancashire Hospitals NHS Trust (Blackburn Hyndburn & Ribble Valley) SU	Blackburn	✓	
6	Inpatient services				
7	Condition-specific specialist nurse	PD Nurse	Liverpool		✓
		PD Nurse	Carlisle		✓

		MS Nurse	Carlisle				✓
8	Condition-specific specialist therapist						
9	Case management						
10	Third sector condition-specific nurse						
11	Third sector condition-specific therapist	MS Society-funded posts	Isle of Man				✓
		MS Society-funded posts	Liverpool				✓
		MS Society-funded posts	Stockport				✓
		MS Society-funded posts	Carlisle				✓
		MS Society physio service	West Cumbria				✓
		MS Society physio service	Liverpool				✓
12	Outreach rehabilitation (NHS/PCT) team						
13	Outpatient services – statutory sector						
14	Specialist community rehabilitation (NHS/PCT) team	Community ABI rehab team (CLSP08)	Chorley	✓			
		Community MS team (CMSP07)	Liverpool				✓
		Warrington ABI Team (CMSP16)	Warrington	✓			
		Community neuro rehab team (CMSP25)	Southport	✓	✓	✓	✓
		South Cheshire ABI Service	Chester	✓			
15	Specialist community rehabilitation – private sector	Susan Pattison Chartered Neurological Physiotherapists Ltd	Bury	✓	✓	✓	✓

		Physio Matters	Oldham	✓			
		JPS Machester Ltd	Manchester	✓	✓		
		Physiotherapy	Manchester	✓	✓	✓	✓
16	New innovative models	MND hub & spoke service (CLSP05) with Newcastle (NEQ14)	Whitehaven				✓
			Carlisle				✓
17	Regional specialist centre (driving, communication, assistive devices)	Driving assessment centre (CLSP18)	Wigan	✓	✓	✓	✓
		ACE Centre-North (communication)	Saddleworth	✓	✓	✓	✓
18	Statutory residential facility for respite or long-term care						
19	Private or third sector residential rehab facilities, respite or long-term care	Priory Highbank Neuro-Rehabilitation Service (CLSP23)	Bury	✓	✓	✓	✓
		Voyage Residential Care Home, Burnley	Burnley	✓			
		Stephenson Unit	Warrington	✓	✓	✓	✓
		David Lewis Centre	Alderley Edge				✓
20	Multi-disciplinary clinic	Movement Disorder Service (CMSP06)	St Helens				✓
21	Outpatient services – private sector	Community PT team (CLSP21)	Bury	✓	✓	✓	
22	Specialist outpatient services – statutory sector	Walton Centre (CMSP17)	Liverpool	✓	✓	✓	✓
		Talyor Rehabilitation, Leigh Infirmary	Leigh	✓	✓	✓	✓
		Brain Injury Rehabilitation Centre	Liverpool	✓			

23	Specialist outpatient services – private sector				
24	Third sector rehabilitation	MND Care Centre (CLVO22)	Preston		✓
		MND Care Centre	Liverpool		✓
		MND Care Centre	Manchester		✓
		MND Care advisor	Cumbria		✓
		MND Care advisor	Lancashire		✓
		MND Care advisor	Cheshire		✓
		Neuromuscular Centre (CMVO09, CMV024)	Winsford		✓
		Brain Injury Rehabilitation Trust, Redford Court	Liverpool	✓	
		Brain Injury Rehabilitation Trust, Redford Court Lodge	Liverpool	✓	
		Brain and Spinal Injuries Centre	Salford	✓	✓
		Headwayhouse	Manchester	✓	
		Headway branch	Workington	✓	
		Headway branch	Burnley	✓	
		Headway branch	Preston	✓	

Headway branch	Salford	✓	
Headway branch	Stockport	✓	
Headway branch	Wirral	✓	
Headway branch	Lancaster	✓	
Headway branch	Carlisle	✓	
Headway branch	Blackburn	✓	
Headway branch	Halton	✓	
Headway branch	Warrington	✓	
Stroke Association dysphasia support	Salford		✓
Stroke Association dysphasia support	Stockport		✓
Stroke Association dysphasia support	South Manchester		✓
Stroke Association dysphasia support	Tameside		✓
Stroke Association dysphasia support	Trafford		✓
Stroke Association dysphasia support	Oldham		✓
Stroke Association dysphasia support	South Cumbria		✓

Stroke Association dysphasia support	Morecambe Bay	✓
Stroke Association dysphasia support	Rochdale	✓
Stroke Association dysphasia support	Blackpool	✓
Stroke Association dysphasia support	Burnley	✓
Stroke Association dysphasia support	Southport	✓
Stroke Association dysphasia support	South Sefton	✓
Stroke Association dysphasia support	St Helens	✓
Stroke Association dysphasia support	Liverpool	✓
Stroke Association dysphasia support	Liverpool	✓
Stroke Association dysphasia support	Wirral	✓
Stroke Association dysphasia support	Wirral	✓
Stroke Association dysphasia support	Halton	✓
Stroke Association dysphasia support	Warrington	✓
Stroke Association dysphasia support	Crewe	✓
Stroke Association dysphasia support	Vale Royal	✓
Stroke Association dysphasia support	Macclesfield	✓

Stroke Association dysphasia support	Chester	✓
Stroke Association family support	Salford	✓
Stroke Association family support	Salford	✓
Stroke Association family support	Bolton	✓
Stroke Association family support	Bolton	✓
Stroke Association family support	Bolton	✓
Stroke Association family support	Blackburn	✓
Stroke Association family support	Blackburn	✓
Stroke Association family support	Chester	✓
Stroke Association family support	Chester	✓
Stroke Association family support	Crewe	✓
Stroke Association family support	Halton	✓
Stroke Association family support	Liverpool	✓
Stroke Association family support	Liverpool	✓
Stroke Association family support	Macclesfield	✓
Stroke Association family support	South Sefton	✓

	Stroke Association family support	St Helens	✓	
	Stroke Association family support	Southport	✓	
	MS Therapy centre	Manchester		✓
	MS Therapy centre	Chester		✓
	HDA care advisor	Manchester		✓
	HDA care advisor	Lancs/Cumbria		✓
	MDC care advisor	Liverpool		✓
25	Third sector social, patient and carer support			

Appendix 7 Details of primary qualitative research papers

Authors	Main aims of study	Research design and method of data collection	Sample	Type of service/setting(s) involved	Type of intervention provided to participants	Category(s) from SDO brief
Low *et al.* (2004)	To explore the impact of two methods of post-hospital stroke rehabilitation (domiciliary or day hospital) on both carers' perceptions of the health services offered and their quality of life	Qualitative methods: Semi structured Interviews with 40 out of 106 informal carers identified from 140 stroke patients taking part in the Dorset Stroke Study (an RCT) I	40 informal carers of patients who were participating in an RCT. Mean age 68.7 yrs. Mainly spouses or partners. Mainly female (72%) Wives the majority (with daughters and daughters in laws acting as the main carer if no spouse available) Mainly non-manual background (63%)	The people the carers were helping were receiving Either . Domiciliary or Day hospital Post-hospital Rehab. As part of an RCT	Day hospital rehabilitation or home based rehabilitation	Commentary user (carer, patient)

Finlayson (2004)	To describe health related concerns and service needs in older people with multiple sclerosis (MS)	Qualitative: Phenomenological approach. In depth interviews. "Issue focussed qualitative analysis" using Atlas software.	27 older adults with MS recruited through support groups	N/A		Effectiveness of service
Scheer *et al.* (2003)	To examine access barriers to primary, specialist and rehabilitative care and their consequences for individuals' health, functioning and well-being and health services' utilisation.	Qualitative: "Thematic coding" using Nvivo (p223) Original Research Interview semi structured Part of national (US) survey of 537 working adults.	30 working age individuals with spinal cord injury, cerebral palsy or MS	Primary, specialist and rehabilitative care	N/A	Organisation and delivery of service Acceptability of service
Warner, *et al.* (2005)	Can you improve the quality of service to people experiencing a relapse of MS?	Qualitative: Action research, Carried out initial audit of treatment times, type of treatment (day or inpatient) and discharge times. Repeated after intervention. Also interviewed patients for their experience.	People experiencing a relapse of MS. 46 in initial audit but no numbers mentioned for follow up.	District general hospital	Relocation to neurology department; develop treatment protocol; specialist nurse telephone helpline and relapse review clinic. More day case management. For original research and reviews but not policy documents	Proposal, model of service/role/intervention Action research

Brown *et al.* (2006)	To investigate whether health and social care services met the needs of patients with MND and their carers. To explore their preferences for service delivery and to compare with services provided locally	Qualitative: Structured interview with patients and carers. Questionnaire to commissioners.	11 patients and 9 family carers living in 3 counties in S. England 17 commissioners from PCTs and social care	NHS and social services for people with motor neurone disease.	N/A	Organisation and delivery of service
Pound *et al.* (1999)	i) Were there any differences in the process of care between the three settings ii) Could these differences be explained by differences in the type of patients admitted to each setting	Qualitative: Non-participant observation of 12 patients in each of the three settings (stroke unit, Elderly care unit and General medical ward)	36 patients in 3 settings	Stroke unit; Elderly care unit; General medical ward	Stroke patients referred to therapists, but no interdisciplinary team meetings	Organisation and delivery of service
Corben and Rosen (2005)	The experience of living with a long-term condition	Qualitative: Interview and Literature review - focus on patients perspectives about self management. 'E-reference group' - members working in policy and service development around	9 people living with different (long-term) conditions Represent ' a range of conditions, ages, ethnic groups and geographical	Not specified	Not specified	Organisation and delivery of service Acceptability of service Effectiveness of service Patient self-management

		long-term conditions	spread'. Long-term conditions from 2–40 years			
Dowswell *et al.* (2000)	To capture details about support provided by the specialist nurses, to gain further insight into the process of care and enhance understanding of the principal problems facing stroke patients and their carers in the first year following stroke' (p161) Also to improve understanding of the process of the intervention for future development of the approach for stroke rehabilitation	Qualitative: Diaries (specialist nurses) review	Specialist nurses providing support in the year following stroke. Comprehensive written records of involvement with all patients and their carers in randomized controlled trial. 101 complete records	Community - patients' own homes	Specialist nurse support - information, advice. Support and monitoring - flexible, individualised approach (p160)	Organisation and delivery of service Effectiveness of service
Neri and Kroll (2003)	Exploration of: 1. Scope and nature of consequences that adults with disabilities perceive	Grounded theory Interview semi structured Telephone interviews	30 participants, with spinal cord injury, cerebral palsy or MS	Difficulties in accessing at least 3/5 health service areas (Primary care, specialist care, rehabilitative	N/A	Organisation and delivery of service Acceptability of service Effectiveness of service Cost-effectiveness of

	as a result of inappropriate access to health care services 2. Variability of consequences by demographic attributes 3. Inter-relatedness and multidimensionality of these consequences			services, mental health, durable medical equipment)		service
von Koch *et al.* (2000b)	To describe the content of a programme involving early hospital discharge and continued rehabilitation at home after stroke	Original Research: Observation and fieldnotes Quantitative and qualitative descriptive study of an intervention within the context of a RCT; Frequency of visits, duration, content.	41 patients post stroke	University Hospital Sweden	Rehabilitation team of six occupational, physical and speech and language therapists	Organisation and delivery of service
Dennis *et al.* (1997)	Contact with a family care worker	Original Research ; RCT, Barthel, Frenchay (patients and carers), GHQ (patients and carers), HADS (patients and carers), Social adjustment scale (patients and carers), mental		Inpatient or outpatient attenders with stroke 210 (187 successfully followed up) for intervention, 207 for control (185 successfully followed up).	"A well-organised stroke service in an Edinburgh teaching hospital" (abstract) – good for them!	Great study but shame that intervention wasn't more effective

		adjustment to stroke scale, patient and carer satisfaction, caregiver hassle scale				
von Koch and Widen Holmqvist (2001)	For original research and reviews but not policy documents "To explore possible differences between a rehabilitation session in the home environment and the hospital, and to study the implementation of the program from the service deliverer's perspective" (Page 123)	Observation and fieldnotes, semi-structured Interviews Medical records consulted	2 therapists observed In 2 different settings (home and hospital) providing rehabilitation as part of a MDT	Patients in the control group received routine rehabilitation (RRG) Stroke unit until discharge and, if required, in the Geriatrics or Rehabilitation departments as inpatients and/or in day-care or Home rehabilitation (HRG)	MDT stroke rehab	c. Acceptability of service d. Effectiveness of service e. Cost-effectiveness of service

Lewinter and Mikkelsen (1995)	For original research and reviews but not policy documents Not specified clearly. Patients interviewed concerning their experience of rehabilitation in an experimental stroke unit.	Interviews coded using successive inductive coding as described by Strauss (Ref 19). Interview - Semi-structured - 45 mins to 2 hours Audio recorded and transcribed. Transcripts examined to see whether people and events were described in a consistent manner; to consider the extent to which there were internal contradictions; and, by triangulation, to compare the information in the interview with other sources, primarily medical chart data and other interviews. Interviews coded using successive inductive coding as described by Strauss (Ref 19).	21 stroke patients First time stroke Stroke would be categorised as severe using McCann's categorization (Ref 16). Ages ranged from 36-77	Kommunehospital's rheumatology department receives patients from the city's hospitals. 8 beds in the wing of the department were set aside for the … Experimental stroke unit	Bobath method of rehabilitation (Ref 1) MDT comprising OTs, PTs, nurses and physicians. Additional personnel called in as needed (e.g., speech therapist, social worker and neuropsychologist)	

Larsson Lund and Tamm (2001)	For original research and reviews but not policy documents The purpose of the study was to describe how a group of mainly elderly disabled persons experienced their rehabilitation over a period of time focusing on their interactions with professionals, relatives and the community.	Approach described as "an inductive approach, to allow the informants to describe their experiences in their own words" (Page 97) Interview (specify type of interview if stated e.g. vignette/semi-structured/narrative) Interviews carried out in the informants' own homes by the first author. Interviews started with an open-ended question in which the informants were asked to describe their experiences from the time of the onset of the illness. Interviews lasted from 1 – 2.5 hours and were tape recorded.	N=15 9 men From North Sweden Mean age 58 yrs (30-84) 9 had a stroke 3 had a SCI 3 other diseases	Participants at home Rehab provided in hospital, at home and in the community.	N/A	Acceptability. Description of 3 rehabilitation themes (or chains) – medical, psychological and social. Some aspects of 'acceptability' are considered, but primarily a description of the participants' response (and adaptation) to disability.

Appendix 8 Details of expert-opinion papers based on high-level, sound-basis guidance

Authors	Type of publication	Type(s) of data collection used	Type of service/setting(s) involved	Type of intervention provided to participants	Stated summary of findings	Any stated implications for SDO specialist neurorehabilitation	Category(from SDO brief
NICE Clinical Guideline 35 (2006)	NICE Clinical Guideline	Policy Documents - NICE Clinical Guideline	N/A	N/A	Key priorities for implementation (p4) Regular access for specialist nursing care Access to physiotherapy Access to occupational therapy Access to speech and language therapy Palliative care	No	Organisatio and deliver service Acceptabilit of service Effectivenes of service
NICE Clinical Guideline 8 (2003)	NICE Clinical Guideline	Policy Documents - NICE Clinical Guideline	N/A	N/A	Key priorities for implementation (p5) 1. Specialised services 2. Rapid diagnosis 3. Seamless Services 4. Responsive Service 5. Sensitive but thorough problem assessment 6. Self referral unit discharge	1. Should be available to everyone with MS when needed 2. Every health commissioning organisation should ensure that all orgs. in local health area agree and publish protocols for sharing and transferring responsibility for,	Model of specialist neurologica service Organisatio and deliver service Acceptabilit of service Effectivenes of service

						and information about, people with MS 3. Information re contact when no longer under treatment or review. Guidance regards when such contact is appropriate	
Multiple Sclerosis Trust (2006)	Overview of role of therapists in delivering the quality requirements of the NSF for long-term conditions	Examples of evidence - based good practice; case studies	Outpatient clinic; Rehabilitation service; Community rehabilitation and support; Vocational rehab; social care services.	MS Specialist Team; self-referral; Emergency and acute management; Inpatient rehabilitation; Community based rehabilitation; Vocational rehabilitation; Social services; Palliative care; Families and carers support	Benefits of specialist therapist skills (p11) 'Hub and Spoke' model (p11)	Proposals (p05) 1. Commissioners should work with service users and specialist therapists to develop service models providing users with access to specialist therapists in community hospitals and multi agency settings. An expansion of suitably qualified therapists will be required to achieve such services 2. All inter disciplinary teams should have specialist therapy input 3. Models of service delivery should fit local need but 'hub &	Organisatio and deliver service Acceptabilit of service Effectivene of service Case Studie

						spoke' fits well for MS. Department of Health risk sharing scheme - development of MS services should be undertaken in conjunction with these centres 4. Specialist therapists - should provide a bridge between health and social care settings 5. Research should be funded further to develop the evidence base for specialist therapy interventions 6. Studies should be commissioned for local populations that model these proposals	
Prime Minister's Strategy Unit (2005)	Policy document - professional body	N/A Professional/expert opinion - Prime Minister's Strategy Group. Representation from DWP, SEU, etc. Early Years Expert Group Independent Living	Not specified		N/A	Not specified - General Department of Health guidelines	N/A

		Expert Group					
National Collaborating Centre for Chronic Conditions (2004)	Policy document - professional body	N/A Systematic review - Titles/abstracts screened for relevance Literature review Professional/expert opinion User views - Study to identify key issues for people with MS in separate document. Key findings summarised in Appendix B of this document (p146)		N/A	From Summary (pxi) Specialist neuro and neuro rehabilitation services 'should be available to every person with MS when they need them' (requirement for appropriate expertise) Rapid diagnosis important Need for 'seamless service' - all organisations should agree and publish protocols for sharing and transferring responsibility for information about people with MS. Responsive service - actively involving service users (pxii)	(pxii) A good service for people with MS would mean a good service to all people with long-term conditions - implications for other services	Model of specialist neurologica service Organisatio and deliver service Acceptabilit of service Effectivenes of service Cost-effectivenes of service

					Advice/Info/availability for self - referral of service user after discharge		
Motor Neurone Disease Association (2003)	Policy document - Motor Neurone Disease Association	Summary of evidence from relevant literature Unsystematic 'personal' review - no evidence of systematic review Literature review - recommendations	Specialist Services	N/A	Importance of early diagnosis (para 2) 1 Importance of co-ordinated specialist services 2 - impact on quality of life for patients with MND if needs not anticipated (para 3) Access to clinical interventions (para 4) 3 Support - needs of informal carers (para 5) 4	Interventions palliative not rehab.	a. Model of specialist neurologica service b.Organisat and deliver service c. Acceptab of service d. Effectivenes of service b. & d. of k importance

Turner-Stokes (2003)	Policy document - professional body	Systematic review, Cochrane review, Other - Pre existing reviews for national stroke and MS guidelines. Literature review, Professional/expert opinion, Users view - representatives of users views Guidelines based on evidence 'so far as resources allow' (p4) Guidelines necessarily rely to a significant degree on expert opinion and consensus - based documents (p5)	Guidelines refer to all these	N/A	Principal themes: pix 1. Coordination and communication between services for ABI 'paramount' 2. Services should be planned in coordinated networks across a geographical area - joint health, social services, liaise with statutory and voluntary services 3. Staffing in rehab and support - adequacy in 'terms of number and experience' 4.Rehab 'should be goal oriented and planned on individual basis'	Improved access to appropriate rehab. services (p6) Long-term nature of some services - need for recognition of	

Department for Work and Pensions (2006)	Policy Document Department for Work and Pension	Policy document Welfare Reform (relevant section chapter 2) Proposals aim to : 1. Increase the number of people who remain in work when they fall sick or become disabled 2. Increase the number leaving benefits and finding employment 3. Better address the needs of all those who need extra help and support (p24)	All health care professionals	N/A	Main relevant proposal: To work more proactively with incapacity benefit claimants with potentially manageable conditions 'balancing their responsibilities to prepare for a return to work with the need to treat them fairly' (p7 - para 23)	None specifically stated, but all health care professionals are expected to engage with and support patients to promote/support policy aims - to improve the 'work-focused' message. (p34-35) Also proposed 'strong links' between GPs, healthcare professionals and direct employment advice	Cost-effectiveness of service Policy document - Cost-effectiveness relates to proposed reduction in incapacity benefit claimants
Department of Health (2000)	Policy Document Department of Health	Context: Response to the Royal Commission on long-term care - 'Set up to examine short and long-term options for a sustainable system of funding long-term care for older people' (at home and in other settings) (p6) To make	Own home; residential setting; supported accommodation	N/A	NHS nursing care free in all settings (p10) Reform of charging arrangements for residential care (p12) Introduction of national care standards commission (p20)	None	Cost-effectiveness of service

		recommendations about cost of care (public/private funding) Also to examine the numbers of people likely to need long-term care, older peoples' expectations and need for cost effectiveness (constraints on public funding) This document represents Government response to 24 recommendations made by the Royal Commission					
Inter-agency Advisory Group on Vocational Rehabilitation after Brain Injury (2004)	Guidelines	Executive summary of document	1. Specialist brain injury vocational rehab; 2. Occupational Health; 3. Jobcentre Plus 4. 'Other' occupational/educational provision	N/A	N/A	Implementation of guidelines: Key recommendation; staff from local brain injury services, Jobcentre Plus, local councils and independent vocational, occupational and educational providers should:	Organisatio and deliver service Effectivene of service Cost- effectivene of service

						● Undertake a joint review of services for people with brain injury - facilitate working together, 'appropriate and timely access' to services and identify gaps in local provision ● Establish ongoing service links - discuss vocational needs of people with brain injuries ● Adopt a joint approach to 1. increasing awareness of vocational needs and 2. 'development of specialist skills training for all providers of vocational assessment and rehabilitation services for people with brain injury' (pviii)	

Department of Health (2005a)	Policy Document	Quality requirements for National Service Framework, with 'evidence-based markers of good practice' (p7)	All settings	N/A	11 quality requirements, for implementation by 2015	Evidence-based markers of good practice QR1 - 'Core' requirement (p19) QR3 - 'Local hospitals admit people transferred from specialist and neuroscience centres to suitable wards or facilities where any necessary ongoing neurological care, supervision or rehabilitation can be appropriately provided Qr3.5 (Expert opinion not evidence based) (p30) QR4 - Improved access to rehabilitation QR4.2 - Seamless transition of care QR4.3 (Research based evidence) (p34) QR5 - Local multidisiplinary rehabilitation and support are provided in the community by professionals with the right skills and	Organisatio and deliver service Acceptabilit of service Effectivenes of service

						experience (include access to specialist neurological evidence, eg neuro-rehabilitation)QR5.2 (Research based evidence) (p38) QR6 - Refer people with neurological conditions who have more complex occupational need to specialist vocational services (QR6.2) (Research based evidence) (p42) QR7 - Assistive technology, work closely with neuro and rehabilitation services QR7.2 (Research based evidence) (p46) QR8 - Care in all settings - appropriately trained nursing, therapy and care staff with experience in managing long-term neurological conditions (Expert opinion) (p50) QR9 - Specialised neurology, rehabilitation and	

						palliative care multidisciplinary teams work together to provide care for people with advanced long-term neuro conditions QR9.1 (Evidence based) - Specialised neurological and community rehabilitation services provide support, advice and training for all staff providing palliative care in the community (QR9.2) (Research based evidence) (p54) QR11 - Specialist neurosciences, rehabilitation and spinal cord injury services are involved in providing advice and training for staff in general hospital and other care setting QR11.4 (Research based evidence) (p61)	
Department of Health (2006a)	Government Policy Document	Document: 'Explains how health and social	All Local Strategic Partnerships, Partnerships Building,		Positive benefits for patients of self care (p7)	None explicit but: Multidisciplinary teams; Use of	Organisatio and deliver service

	Department of Health	care services can support self care through an integrated package consisting of a range of elements at a local level' Includes self care information, self monitoring devices, self care skills education and training and self care support networks (p7)	Expert Patient Programme		Positive benefits to the health service (p8)	information to support self care (for patients and professionals) Partnership building	Acceptabilit of service Effectivenes of service Cost-effectivenes of service
Department of Health (2005b)	Government Policy Document Department of Health	Proposals for reducing dependency where possible; empowering service users, involving in assessment and increasing choice; improving access to services; shift focus of delivery to more proactive and preventative model; supporting carers; social care workforce training and standards	Community	N/A	Key role for Local Authorities and social services. Local Authorities must 'give high priority to the inclusion of all sections of the community and other agencies, including the NHS, recognise their own contribution to the agenda' (p9). Also direct payments, individual budgets, service improvement and delivery, workforce training, performance management, and working with the	None	Organisatio and deliver service Acceptabilit of service Effectivenes of service Cost-effectivenes of service

					voluntary sector (p10-14)		
Department of Health (2002a)	Policy document Specialised services national definition Department of Health	Definition set	Specialist Rehabilitation Services	Nor prescriptive (p1) Definitions set (2nd edition)	Basis for service review	Close integration of services that do exist is necessary to leave as few gaps as possible' (p11)	Organisatio and deliver service Effectivenes of service Commissior - Policy anc Guidance

Appendix 9 Details of expert-opinion papers, clinical and academic

Authors	Aims	Methodology Type(s) of data collection used	Sample	Type of service/setting(s) involved	Type of intervention provided to participants	Category (s) relating to SDO themes
Cadilhac *et al.* (2006)		I assume descriptions were either written up concurrently with the process of development of concept, or retrospectively gathered from records and reflection.	National public health programme in Australia Stroke care experts, state and federal government and consumer representatives (pp111) Staff (n=12) from 4 demonstration hospitals which did have stroke units already Then for feasibility study Two sites in Victoria and two sites in Queensland consulted about perceptions	Integrated stroke model covering geographically spread client base	Developing a model of practice using literature evidence, expert opinion and collection of data from stroke units already up and running Also collect perceptions of facilitators and barriers to an integrated stroke model. Also collect perceptions of facilitators and barriers to an integrated stroke model.	

Das Gupta and Turner-Stokes (2002)	For original research and reviews but not policy documents n/a	Unsystematic 'personal' review; An educational article outlining the principles of management of severe traumatic brain injury (TBI) from a practical clinical viewpoint also includes a brief review of evidence for effectiveness of rehabilitation in severe TBI	TBI	Acute post-acute and long-term rehabilitation and support for TBI	Interdisciplinary team rehabilitation and support	Expert opinion/commentary - academic/clinician
Hale (2004)	Claims p131 to review "current literature on stroke rehabilitation in the community and debates the issue as to whether it is truly community-based or just merely an extension of institutionalised care"	Unsystematic 'personal' review, Descriptive overview of research to date, both trials and qualitative and grey literature on different forms of stroke rehabilitation delivery that is outside hospitals. they raise issues of patient and carer perspectives, as well as effectiveness studies	Context is New Zealand	p132 Discusses the WHO definitions round community based rehabilitation that involves the idea that community based rehabilitation involves community development, social integration for people with disabilities, and delivered through combined efforts of users carers and services in health, education, vocation and social services		Proposal, model of service/not just description of current services Expert opinion/commentary - academic/clinician, review. Outcome evaluation - primary qualitative research

Watson and Quinn (1998)	To describe a model for stroke rehabilitation (holistic, multidisciplinary, integrated) that helps all those involved with stroke rehab to feel more in control of treatment choices and gain a sense of future.	Professional/expert opinion	N/A	Stroke rehabilitation	Multidisciplinary with carers and patients	Proposal, model of service/role/intervention
Mackay *et al.* (1995)	"Reviews the literature and draws on the experience of local innovations in South London to suggest alternative models of care that could be evaluated." p502	Unsystematic 'personal' review	Stroke review authored by people from a number of different clinical backgrounds	Stroke units stroke community rehabilitation	Stroke rehabilitation	Expert opinion/commentary - academic/clinician
Stuart and Zafonte (2004)	Not stated	Description by someone from a Department of Sociology and Anthropology! Observation and fieldnotes; Description of planning, funding	N/A	Statewide program in Florida for individuals with TBI	Case management?	Proposal, model of service/role/intervention Expert opinion/commentary - academic/clinician

		stream, organisation, management of information, etc. No outcome or evaluative information				
Ward *et al.* (2003)	N/A	Professional/expert opinion, Three rehabilitation specialists and someone from social services critically review service provision from their perspective	N/A	Multidisciplinary services for progressive neurological conditions	Multidisciplinary! (includes psychiatry and genetics)	Proposal, model of service/role/intervention Expert opinion/commentary - academic/clinician
Wade (2003)	N/A	a. Professional/expert opinion, Supported by evidence from published literature	N/A	Community rehabilitation services		Expert opinion/commentary - academic/clinician
Holmes (2005)	Tries to illustrate how the 11 QRs from the NSF apply to the support and practical care of people with MND.	Professional/expert opinion, Tries to illustrate how the 11 QRs from the NSF apply to the support and practical care of people with MND. Uses hypothetical cases demonstrating typical problems	N/A	Rehabilitation services for people with MND	N/A	Expert opinion/commentary - academic/clinician

		(eg Dysphagia) to do so.				
Shue (1993)	For original research and reviews but not policy documents Not research but the object of the model is to 'facilitate the return of brain-injured individuals from US rehab facilities to their home communities in Ontario. The purpose of the paper is to describe the collaborative model of service delivery.	N/A	N/A – not participants 10 people with brain injuries were selected to pilot the collaborative model of service delivery.	US rehabilitation facilities	The model described incorporates inpatient rehabilitation, long-term community-based care	Expert opinion/commentary - academic/clinician
Bakheit (1995).	N/A	Unsystematic 'personal' review Descriptive/ synthesis	N/A	An integrated hospital-community model	An integrated hospital-community model	Expert opinion/commentary - academic/clinician
Burke (1995)	"A range of	Unsystematic	N/A	Several models are	Brain injury	Expert

	models of specialised brain injury rehabilitation programmes has evolved. It is the purpose of this review to describe these, and to discuss their relationship with each other" (p736)	'personal' review Descriptive/ synthesis		described and compared, including: • The comprehensive centre • Cognitive rehabilitation • Behaviour rehabilitation • Slow-stream rehabilitation • Coma arousal programme • Acute rehabilitation • Outpatient rehabilitation • Transitional rehabilitation • Vocational rehabilitation • Children's' services	rehabilitation	opinion/commentary - academic/clinician
Department of Health (2003) *NHS Changing Workforce Programme*, 2nd edn	N/A	Grey area - review of services for stroke victims and their carers under NHS Changing Workforce Programme. Examples of education and work across healthcare disciplines and in different contexts (e.g. hospital, community) sharing	Pilot site for NHS Changing Workforce Programme (stroke care)	All healthcare settings: Emergency, hospital, community, voluntary sector Dysphasia and Dysphasia specialist support; Emotional support family support Mental health; Younger stroke patients; Advocacy; Health information and prevention	Specialist stroke services; Community follow up and rehabilitation	Organisation and delivery of service Acceptability of service Effectiveness of service None explicit re cost effectiveness but implications re commissioning tasks/roles and use of specialist staff to inform/train other groups

		expertise				
Barnes and Radermacher (2001)	p244 "This review article summarizes some of the models of community rehabilitation and the evidence for their effectiveness."	a. Unsystematic 'personal' review	Disabled persons in the community across a range of countries	Community rehabilitation	Models reviewed include Multidisciplinary teams in terms of early discharge schemes, hospital at home Care management (p246) The individual therapist in the community (p246) Nursing intervention (p246-7) Other interventions (p247) Notes two other services – referrals facilitator working between primary care and voluntary sector (p247), specialist care attendants on discharge of elderly people from hospital and providing	

					care for two weeks (p247)	
Inman (1999)	"Current research is aimed at teasing apart the aspects of different care models that are most effective, or the evidence for the usefulness of interventions for control of symptoms such as spasticity and pain. This evidence is reviewed and discussed" (Page 25 – Abstract)	Unsystematic literature review – publication dates from 1965-1997). Findings of previous studies, surveys, hospital statistics and/or databases summarised in connection with the following topics: • incidence of SCI (source – hospital stats from Midlands Centre for Spinal Injuries) • impact of early admission on . pressure sores (source – hosp	Spinal Cord Injury Patients (SCI). Sample size variable… As a review of literature.	SCI Units	SCI Unit delivered rehab and * ambulatory devices * neural stimulators * spasticity and pain mgt (intrathecal phenol, medication, electrical stimulation)	Expert opinion and discussion of findings obtained in other studies (i.e., review)

		stats from Univ of Alabama SCI System) • contractures • impairment (source – National SCI database for the USA) • disability • impact of age on outcome • discharge venue • outcome in the community • transport • vocational outcome social relationships				
Johnson and Thompson (1996)	For original research and reviews but not policy documents N/A	N/A Results reported from an earlier audit of 135 admissions – neurorehabilitation unit Patients (Freeman *et al.*, 1995) Number/% admitted from: Nursing/residential home/other rehab unit Acute hospital Home Number/%	N/A	Neurorehabilitaiton unit (National Hospital for Neurology and Neurosurgery)	MDT Neurorehab	x. Expert opinion/commentary - academic/clinician

		discharged to: As above				

Appendix 10 Details of surveys of provision papers

Authors	Aim	Methodology Type(s) of data collection used	Sample	Type of service setting(s) involved	Type of service provision	Category(s) from SDO brief
Deane *et al.* (2003)	to discover information pertaining to 'standard' occupational therapy for Parkinson's disease (PD)	Mixed methods: Postal survey Content analysis and descriptive stats.	Occupational therapists (160) working with people with PD	Outpatient, social services and inpatient settings across the UK	Occupational Therapy for PD, mostly in NHS and some in social services	Organisation and delivery of service
Scheer *et al.* (2003)	To examine access barriers to primary, specialist and rehabilitative care and their consequences for individuals' health, functioning and well-being and health services' utilisation.	Qualitative: Semi-structured Interviews as Part of national (US) survey of 537 working adults. Thematic coding". using Nvivo. Thematic coding" using Nvivo	30 working age individuals with spinal cord injury, cerebral palsy or MS	Primary, specialist and rehabilitative care in the US	primary, specialist and rehabilitative care	Organisation and delivery of service Acceptability of service
Barnes (1997b)	To produce report on the state of neurological rehab in Europe to recommend standards for provision of neuro services for disabled people	Qualitative: Questionnaire Survey of each European member country	Replies received from 18 countries	Neurological rehabilitation services in Europe	N/A	Organisation and delivery of service

Botterell *et al.* (1975)	Review of past experience in order to develop model of care. Most questions applied to acute phase but for rehabilitation: a. What is the course for all patients? b. how successful?	Interview, Questionnaire, available ambulance records, interviews with patients and physicians, review of patients' hospital records. All data entered on to questionnaire. Total hospital costs.	244 injuries	Everything from time of incident (ie ambulance, acute care, rehab	Doesn't describe regional rehabilitation centres	Model of specialist neurological service
O'Connor and Delargy (2006)	To describe a YDU.	Original Research Observation and fieldnotes All patients in one YDU Peamount Hosp, Co. Dublin Review of health records, collection of biographical and demographic details.	42 YDU patients Based in 1 centre. TBI (n=13), Subarachnoid haemorrhage and non-h stroke (n=11) Non-T acquired brain inj (n=7), MS (n=2), Central pontine myelinosis (n=2)	YDU	24 hour care Accommodation provided in 2 single storey buildings Mix of single, double and 4 bed bedrooms Communal areas for dining and recreation Quiet rooms for relaxation or privacy Input from a consultant and registrar in rehab med. General medical staff of Peamount Hosp provide 24 hr care. Physio and recreational therapy also provided.	Model of specialist neurological service: Description of one YDU and the characteristics of the patients
Vaughn and King (2001)	Lots but they were particularly concerned with origin of funding.	Qualitative Telephone Survey of US State Head Injury program Administrators	Contacts for all 20 states administering state programs for individuals	State funded TBI Programs in the US	Examine state funded programs to discover impact on services, and the service delivery system for individuals	Survey of current services (e.g. across a region)

			with TBI		with TBI and their families	
Multiple Sclerosis Trust (2006)	None specified	A report on the role of therapists in the management of MS, Describes the therapists role, proposals for therapy services	N/A	Outpatient clinic; Rehabilitation service; Community rehabilitation and support; Vocational rehab; social care services. UK	MS Specialist Team; self-referral; Emergency and acute management; Inpatient rehabilitation; Community based rehabilitation; Vocational rehabilitation; Social services; Palliative care; Families and carers support	Organisation and delivery of service Acceptability of service Effectiveness of service Case Studies

Appendix 11 Details of descriptive evaluations, audits and surveys

Authors	**Aim**	**Methodology Type(s) of data collection used**	**Sample**	**Type of service/setting(s) involved**	**Type of intervention provided to participants**	**category (s) from SDO brief)**
Sheriff and Chenoweth (2003)	To describe PD research project, difficulties in conducting research, make suggestions for research	Quasi experimental: Pre and post comparison in one group using Questionnaire/survey and "Notes" on Health and functional status, UPDRS* "health questionnaire" , "Carer health questionnaire", "cost-analysis procedures" UPDRS* Unified Parkinson's Disease Rating Scale	25 mid-stage PD and 25 of their carers	Multidisciplinary o/p therapy and education research programme for Parkinson's in the UK	Individualised programmes with multi disciplinary rehab staff. Counselling support for carers Group targeted education and training to include carers	Acceptability of service, Effectiveness of service

Holloway (2006)	To develop and implement the tools for a Care Pathway framework for people with Parkinson's disease (PD) in which the patient and/or the carer are the communications centre, resourced and supported by the professionals to achieve their own integrated package of care. To elicit a simplified system of referral and more effective communication.	Mixed methods: Semi-structured interviews, also collected data on patient characteristics, social circumstances, severity of illness, and recent/current use of services. Also neurologist and Parkinson's disease specialist nurse were interviewed.	Convenience sample of 22 people with PD over 12 months aged 50-84 yrs old, average 10 years since onset 3 mild, 11 mild to mod, 7 mod, 1 mod to severe on Hoehn and Yahr 17 male 5 female	Community care pathway for PD in the UK	Care Pathway approach to management of PD in the community	Model of specialist neurological service Organisation and delivery of service Acceptability of service Effectiveness of service
Rossiter and Thompson (1995)	To trial the use of ICPs in a non-acute setting	Original Research, Documents for 13 integrated care pathways (completed for 13 patients with MS) were inspected.	Integrated care pathways documents completed for 13 patients with MS.	UK Inpatient neurorehabilitation setting – The National Hospital for Neurology and Neurosurgery.	MDT Assessment and short-term Rehabilitation (usually 2-6 weeks)	

Warner *et al.* (2005)	Can you improve the quality of service to people experiencing a relapse of MS?	Qualitative: Action research, Carried out initial audit of treatment times, type of treatment (day or inpatient) and discharge times. Repeated after intervention. Also interviewed patients for their experience.	People experiencing a relapse of MS. 46 in initial audit but no numbers mentioned for follow up.	UK District General Hospital	Relocation to neurology department; develop treatment protocol; specialist nurse telephone helpline and relapse review clinic. More day case management. For original research and reviews but not policy documents	Proposal, model of service/role/intervention Action research
Barnes and Skeil (1996)	"This paper discusses the experience of working within a multidisciplinary neurological clinic in a regional rehabilitation centre." includes number and types of interventions described	Mixed methods: Retrospective survey of aspects of a service and questionnaire to patients on their views and preferences	Demographic data and diagnostic data describing 77 patients newly referred to Hunters Moore rehabilitation centre disability clinic descriptive data on service – problems recorded, type and number of interventions	Patients referred to Hunters Moore (UK) rehabilitation centre disability clinic April 1992- April 1993	Outpatient specialist disability clinic	Organisation and delivery of service, Acceptability of service

			questionnaire data on patients' views and preference for clinic format			
Commission for Healthcare (2006)	To find out what patients who have had a stroke thought about the care they received after leaving hospital	Questionnaire/survey	Follow up survey to 2004 survey of 1700 patients in 51 NHS acute hospital trusts in England. Stroke patients. Current study surveyed participants in 2004 study. 875 completed questionnaires returned - 75% response rate	NHS acute hospital trusts Community rehab service UK	Stroke rehabilitation	Organisation and delivery of service Acceptability of service
Barker (2006)	N/A	Policy document: Professional/expert opinion, user views Includes experiences of 30 stroke survivors and experiences of callers to helpline	Working age stroke survivors	UK	N/A	Model of specialist neurological service Organisation and delivery of service Acceptability of service Effectiveness of service Cost effectiveness of service

Keaton *et al.* (2004)		Qualitative: Friedemann's framework of systematic organisation Original research E-mail questions from care-givers; Responses from nurse specialist and E-rehabilitation team	6 male care-givers; 7 women care-givers. Aged 31-77 Care recipients: 6 men 7 women (p6)	Web based resource	Education and advice	Model of specialist neurological service Organisation and delivery of service Effectiveness of service Cost-effectiveness of service Carer support

Appendix 12 Details of descriptions of services and service innovations

Author(s)	Aims	Research design and method of data collection	Sample	Type of service/setting(s) involved	Type of intervention provided to participants	Category(s) from SDO brief
Moskowitz and Marder (2001)	Clinical characteristics are reviewed in this article, followed by a discussion of therapeutic approaches that are effective in the middle and late stages of Huntington's disease (HD). (NB: there are few published studies on long-term care of patients with HD and none on palliative care.)	Unsystematic 'personal' review 39 references. Summary of findings of previous studies	Late stage Huntington's disease	Nursing home care	Several interventions discussed	

Sheriff and Chenoweth (2003)	Describe PD research project, difficulties in conducting research, make suggestions for research	Pre and post comparison in one group using Questionnaire/survey and "Notes" on Health and functional status, UPDRS* "health questionnaire" , "Carer health questionnaire", "cost-analysis procedures" UPDRS* Unified Parkinson's Disease Rating Scale	25 mid-stage PD and 25 of their carers	Multidisciplinary outpatient therapy and education research programme for Parkinson's	Individualised programmes with md rehab staff. Counselling support for carers Group targeted education and training to include carers	a. Acceptability of service b. Effectiveness of service
Burke *et al*. (2000)	Purpose (p463) To encourage specialist brain injury services to offer extended rehabilitation programmes to patients, even with very severe injuries" p464 to report case study of "a patient who has undergone a long and intensive (and expensive) rehabilitation programme after suffering a severe TBI." to	Descriptive case study, description of clinical case, data collection unclear assume retrospective notes review	One female with severe brain injury	Interdisciplinary Team in a specialist private long-term rehabilitation unit in Australia, Private inpatient hospital, paid for from road accident compensation authority in Australia Intensive and specialist services in: Neuro-Surgery Neurology Physiotherapy Music therapy Psychology Orthopaedic surgery (tendon surgery) Recreation therapy Occupational therapy	Details listed include: Baclofen pump Botox Repeated testing of cog, swallowing, eye tracking, communication Tracheostomy Peg Communication board Elongation of Achilles tendon Mobility rehabilitation Self care rehabilitation Part time integration back	g. Model of specialist neurological service h. Organisation and delivery of service i. Acceptability of service j. Effectiveness of service

	illustrate the outcome			Nursing Outpatient physio, OT and speech therapy Staff to perform video fluoroscopy and similar Surgeon –peg feeding otorhynologist	into school through liaison with school, and presence of an assistant in school Use of computer for communication Speech and breathing exercises Group speech therapy for conversation skills Playing musical instruments Song writing Song listening Augmented communication device Switch device Electric wheelchair Adaptation of home Outpatient therapy programme	

Dowswell *et al.* (2000)	to capture details about support provided by the specialist nurses, to gain further insight into the process of care and enhance understanding of the principal problems facing stroke patients and their carers in the first year following stroke' (p161) Also to improve understanding of the process of the intervention for future development of the approach for stroke rehabilitation	Diaries (specialist nurses)	Specialist nurses providing support in the year following stroke. Comprehensive written records of involvement with all patients and their carers in randomized controlled trial. 101 complete records	Community - patients' own homes	Specialist nurse support - information, advice. Support and monitoring - flexible, individualised approach (p160)	Organisation and delivery of service Effectiveness of service
Hintgen *et al*. (2000)		Descriptive	Community volunteers in a patient focused service delivery system	Inpatient and outpatient neuroscience and trauma programme	Volunteer training in communication; mentoring of volunteers. Volunteers also draw from survivors of traumatic brain injury -	Innovative use of volunteers in rehabilitation

					mentored and trained by experienced staff	
Holloway (2006)	'Care pathway framework' detailed on pp65 three elements: An information pack on social care locally, community health and hosp services, local voluntary groups, PD society, welfare rights info A Care Pathway Folder containing problems and needs forms – list sorts of problems and a likert scale for marking degree of problems and needs, also Clinic Summary forms, and service contact sheets one or more members of clinic staff who	Content analysis	Before and after study, on a convenience sample of 22 people with PD over a 12 month period. semi-structured interviews, collected data on patient characteristics, social circumstances, severity of illness, and recent/current use of services" pp64 some interviews with partner present, some without partner/carer present	22 participants convenience sample – letter sent to those on list for a consultant neurologist's outpatient list 21 of these had a partner participants ranged from 50-84 yrs old (pp64) with PD for average 10 years 3 mild, 11 mild to mod, 7 mod, 1 mod to severe on Hoehn and Yahr 17 male 5 female Also neurologist and Parkinson's disease specialist nurse were interviewed.	Care Pathway approach to management of PD in the community	The model includes some innovative ideas particularly regarding the holding of records and the structuring of information provision and communication between patients carers and services. The idea of the patient and carer as communications centre met with apparently mixed success. With problems particularly in getting service providers to fillin the services recording form, and possibly though this is not explicitly

	use and complete the documentation Premise of the pathway was the idea that the patient and carer are the communications centre.					discussed, difficulty for patients in actually asking service providers to do so. Some elements of the intervention especially the Problems and needs form which was taken along to clinics was particularly well received by professionals and patients, and it would have been hard, quantitatively to identify some of the benefits (e.g. making it easier to raise sensitive issues in clinic, giving doctor information that resulted in him asking medical students to leave without the patient having to ask for this. The model however awaits

						robust evaluation whether quantitative or qualitative.
Keaton *et al.* (2004)		Friedemann's framework of systematic organisation Original research E-mail questions from care-givers; Responses from nurse specialist and E-rehabilitation team	6 male care-givers; 7 women care-givers. Aged 31-77 Care recipients: 6 men 7 women (p6)	Web based resource	Education and advice	Model of specialist neurological service Organisation and delivery of service Effectiveness of service Cost-effectiveness of service Carer support
Kendall *et al.* (2003)	Descriptive review	p1464 states they undertook an "extensive literature review" and they conceptualized and implemented a new model of service in the context of Australian SCI rehabilitation 1008 "This paper discusses the factors influencing development of [a transitional	Spinal cord injury Australia	Transitional rehabilitation	transitional rehabilitation for SCI p1008 "a time-limited, community based service that assists individuals in their home or home-like settings by utilizing a flexible and	a. Model of specialist neurological service

		rehabilitation service for SCI] and the nature of this new service delivery model." no methodology or v clear report of lit review given. Nor methodologically how the model was set up in light of the findings. rather a general discussion of context to the model			client-focussed model of service delivery" designed to facil early discharge from hospital. discussions between team and patient prior to hosp discharge into the transitional rehabilitation programme (p1011) includes writing and signing of a written contract including programme plan and dates for commencing and achieving. (p1012) appointment of a case coordinator (p1012) team work and therapy and equipment related interventions.	

Steiner and Pierce (2002)	N/A	Descriptive - survey element - online feedback	Care-givers of stroke patients	Web based information and support for care-givers of people with stroke	1. Ask a nurse - specialist and rehabilitation team 2. Caretalk - email discussion list 3. Educational information - e.g. nutrition, care-giver stress 4. Links to information about stroke, caring and care-givers (p103)	
La Marche *et al.* (1995)	N/A	N/A	N/A	Interactive Community-based Model (ICBM) of vocational rehabilitation A component of the Southeastern Comprehensive Head Injury Centre (SCHIC) The ICBM is a "criterion-based, five-phase vocational rehabilitation program designed to maximise employment, independence, and quality of life	N/A	Model of specialist neurological service

				through community reintegration of adults with TBI and their families." (Page 81) Phase 1 – Home-based evaluation and treatment Phase 2 – Community and work activities Phase 3 – Work-related activities Phase 4 – Work placement Phase 5 – Maximal vocational performance		
Rossiter and Thompson (1995)	To trial the use of ICPs in a non-acute setting	N/A, Original Research, Documents, 13 integrated care pathways (completed for 13 patients with MS) were inspected. The incidence of variance (ie., occasions when actions departed from the pre-mapped ICP) was noted for each pathway and related to one of 40 codes (these were categorised into 4	The integrated care pathways completed for 13 patients with MS. Age range 23-50yrs Average age 38yrs All the patients had reached the secondary progressive stage of the disease. There was a wide range of duration of the disease from 10 months to 23 years.	Inpatient neurorehabilitation setting – The National Hospital for Neurology and Neurosurgery. Unit staffed by: • Neurologist • SHO • Nurse manager • Clinical specialist nurse • Unit sister • Continence adviser • 18 nurses • 4 OTs • 4 PTs	MDT Assessment and short-term Rehabilitation (usually 2-6 weeks)	

		groups. Categories related to patient'/family carers, internal system, clinician and external systems) Number of short term goals set		• 1.5 SLTs • Neuropsychologist • Part-time SW • Research SpR • Res Therapist		
Kirshblum (2002)		"Clinical benefits derived MSCIS [Model Spinal Cord Injury System Program] funding have been classified into 5 different areas: shift of spinal cord care from individual centres to care from a 'systems approach'; data collection as a stimulus for improved clinical care; service comprehensiveness to improve clinical care; research as a stimulus for improved clinical care; and dissemination of MSCIS research findings for educational purposes and to improve care provided by all SCI	Research and developments at model system centres lead to new standards of care for persons with SCI. The MSCIS program provides the building blocks of knowledge and experience that every SCI centre needs to improve its program.	Methods of data collection are not explained. It is difficult to judge, therefore, how valid, reliable or transferable the authors' recommendations and comments are to the UK, etc. A "centres of excellence" model would seem to have particular benefits when developing and evaluating new interventions for conditions/injuries that are both complex and uncommon (eg SCI). Similarly, visiting,		

		centres, including those not funded by the MSCIS." (Page 339 – Abstract) Service comprehensive model systems are thought to have many benefits: Emergency care – eg improved survival Acute hospitalisation – eg.,decreased secondary medical complications Rehabilitation – eg. Advanced technology capability Outpatient services – eg., improved women health care services Community support groups – eg., improved return to work Lifelong follow-up – eg., decreased rehospitalisations (Page 341 – Table 1)		'out-reach' satellite centres would seem beneficial .ie., to reach more remote clinical areas and those with a relatively low population density (eg., Wales, Scotland)		
O'Connor and Delargy (2003)	The aim of this study was to describe a YDU. (Page – Abstract)	Original Research Observation and fieldnotes All patients in one YDU (of Peamount Hosp, Newcastle, Co. Dublin)	42 YDU patients Based in 1 centre. Mean age 42.5 years (Range 22-61) 30 males All major acute	YDU	24 hour care Accommodation provided in 2 single storey buildings Mix of single,	Description of one YDU and the characteristics of the patients

		Review of health records - biographical details entered into a database Details of past and current treatments noted Physical, cognitive and behavioural status assessed using standard rating scales. Rivermead Mobility Index (15 pt scale) (RMI) Rancho Los Amigos Level of Cognitive Function Scale (Rancho) MMSE Rappaport Disability Rating Scale (DRS) Mobility (RMI) Cognitive Ability (Rancho, MMSE) Overall disability (DRS) Time from onset of disability to YDU Average LOS in the YDU at the time of the survey Estimation of dependency level.	teachings hospitals (MATHs) in the Eastern Regional Health Authority had referred pts to the YDU (do not know which % and based on what criteria) Principal diagnosis: TBI (n=13) Subarachnoid haemorrhage and non-h stroke (n=11) Non-T acquired brain inj (n=7) MS (n=2) Central pontine myelinosis (n=2)		double and 4 bed bedrooms Communal areas for dining and recreation Quiet rooms for relaxation or privacy Input from a consultant and registrar in rehab med. General medical staff of Peamount Hosp provide 24 hr care. Physio and recreational therapy also provided.	

von Koch *et al.* (2000b)	To describe the content of a programme involving early hospital discharge and continued rehabilitation at home after stroke	Original Research: Observation and fieldnotes Quantitative and qualitative descriptive study of an intervention within the context of a RCT; Frequency of visits, duration, content.	41 patients post stroke	University Hospital Sweden	Rehabilitation team of six occupational, physical and speech and language therapists	Organisation and delivery of service
Wahiquist (1984)	Not clear – description of symptoms "During the first year, the objective was to define the scope of health problems for a given population." "In the second year, interventions directed toward a reduction in the principle cause of morbidity were evaluated" (Page 193)	Self-report survey of the clinic population. In addition, Uricult dipslides were distributed to a sample of 9 people to obtain a better understanding of the significance and epidemiology of bacteriuria. i Original Research, survey; 53 people completed survey (full details not supplied – but it included a PULSES profile). Data about hospitalisations gathered, nature of the disability (via Pulses profile), urinary tract infections In addition, a total of 189 Uricult dipslides	Number of participants not clear as reported differently in text/tables 53 people with MS who attended a nurse managed clinic By the end of the second year, the clinic increased in size to 70 people. In a table concerning hospitalization.size of clinic reported to be n=49 in year one and n=63 in year two.	Nurse managed MS clinic	Protocols for the management of urinary symptoms.	Effectiveness of service

		were received. The PULSES Profile assesses 6 variables : P – physical condition U – upper extremity function L – lower extremity function S – sensory and communication abilities E – excretory control S – social support				
Barnes and Skeil (1996)	p39 "this paper discusses the experience of working within a multidisciplinary neurological clinic in a regional rehabilitation centre." includes number and types of interventions described		Original Research, Questionnaire/survey,, mixed methods survey Please give full details here: demographic data and diagnostic data describing patients referred. descriptive data on a particular service – problems recorded, type and number of interventions questionnaire data on patients' views and preference for clinic format 77 patients newly referred demographic, clinical problem, and	Patients referred to Hunters Moore rehabilitation centre disability clinic April 1992- April 1993	Outpatient specialist disability clinic	Organisation and delivery of service, Acceptability of service

			intervention data is reported for all these we are told 80% returned the questionnaire			
Wood and Langton Hewer (1996)	For original research and reviews but not policy documents Purpose of the paper … "To describe the experience of setting up a 16 bed unit for the rehabilitation of non-progressive and progressive neurological disorders". (Page 533)	Review of medical records. Review of medical records – not explained fully, but probably all the records of 318 patients admitted to the Lime Tree Rehabilitation Unit between 5th October 1992-4th October 1994).	Patients – not research participants 318 patients admitted to the Lime Tree Rehab Unit between 5th October, 1992 – 4th October, 1994	Stroke and neurological rehabilitation ward (opened in October 1992) – the Lime Tree Rehabilitation Unit (LTRU). "The aim was to move away from a biomedical model of care towards a biopsychosocial model (ref 17) which concentrated on team work and improving patient and family participation in the rehabilitation process." (Page 533).	Patient centred team-work Optimising independence and 'normality': • Leisure activities (group-based activities in the unit and community eg quizzes, bingo, cooking, shopping trips, picnics) • Ward based computer therapy for patients with aphasia • Group exercises and discussions • Involvement of ex-patients	Description of a service (and its development)

Appendix 13 Details of quantitative papers reporting models of neurological rehabilitation for people with stroke

Paper ID number	Author(s)	Design	Subjects	Setting	Intervention	Outcome measures	Results
B2	Burton and Gibbon (2005)	RCT-single blind	176 stroke discharges	Community, Manchester	Vague-'specialist nurse' vs special care (SC)	NHP, Carer strain, Barthel, Frenchay Activity, Beck 3,12 mnths & carer strain (3 months)	12mnth, NHP 42.6, p=0.012, CS 1.5 p=0.045
B10	Grasel and Biehler (2005)	Quasi-randomised RCT	62 p w stroke & family	Bavaria, Germany	Intense training for discharge transition vs SC	Barthel, FIM, Ashworth, Frenchay arm, TUG, Carers-SF36, Giessen depression, Burden scale	No diff between groups
B6	Dey *et al.* (2005)	RCT	308 stroke admissions	Manchester, UK	inpatient mobile stroke team vs non	mortality, Barthel, NEADL, Frenchay Aphasia, Simple Qs, EuroQol, HADS	No diff
B70	Baskett *et al.* (1999)	RCT	100 stroke discharges from gen hospital	Community North Health, new Zealand	home-based therapy	motor assessment scale, modified barthel, 10 m walking speed, nine-hole peg test	no sig diffs except contact time longer

						grip strength, HAD	
B71	Bautz-Holter *et al.* (2002)	RCT	82	community and gen hosp Norway	early discharge	GHQ (20 questions), Nottm Ext ADL scale. Montgomery Aasberg Depression rating scale, re-admission, place of residence, death	no sig diff except length of stay
B67	Andersen *et al.* (2000)	RCT	155	community, Copenhagen, discharged gen hosp	physician or PT	Scandinavian Stroke Scale, MRC Muscle Strength Assessment, visual fields, Functional Quality of Movement Scale, Mini-Mental State + other cognitive assessments by Waldemar *et al.* 1994 and Anderson & Tranel 1989, Barthel Index	Re-admission rates within 6 months low in intervention group (Dr or PT) than control; effect of intervention (Dr or PT) strongest for patients with prolonged inpatient length of stay
B68	Anderson *et al.* (2000a)	RCT	86	gen hosp& community s Australia	early discharge	SF-36, Nottm Health Profile, MFAD, AAP, GHQ-28, Carer Strain Index, use of	no diff except poor mental health care in intervention

						community services, hospital re-admission, history of falls, place of residence, pt & carer satisfaction with their medical care, rehabilitation and recovery	
B18	Ma *et al.* (2004)	RCT	392 acute ischaemic strokes.	SU vs general ward in China	SU: medical care , rehab therapies, SALT, neuropsych, education components	Barthel, NIHSS, OHS	Greater improvements in BI, NIHSS and OHS were observed. Also fewer complications
B17	Lincoln *et al.* (2004)	RCT	Comm rehab team n-189 vs "ordinary care" n=232.stroke	community	team, unspecified	BI, EADL, GHQ, Euroqol-5D, Satisfaction, knowledge, Carer GHQ, CSI satisfaction, knowledge	No difference except aspect of pt satisfaction (emotional support) and improved carer satis and strain
B24	Ricauda *et al.* (2004)	RCT	120, 60 in home treatment from a geriatric home hospitalisation service (GHHS) or to a general medical ward	S. Giovanni Battista Hospital, Turin, Italy	Home treatment versus hospital treatment	cumulative survival at 6 months, ADL, 7-item functional impairment measure, Canadian Neurological scale, national institutes of health stroke	Mortality was not significantly different in the two groups but depressive scores and admission rates to nursing homes were better/lower in the home-treated elderly patients.

			(GMW)(aged >70)			scale, Geriatric Depression Scale.	
B29	Rudd *et al.* (1997)	RCT	167 received specialist community rehabilitation and 164 continued with conventional hospital and community care.	Two teaching hospitals, London	early discharge vs. conventional policy.	barthel score at 12 months, motoricity index, minimental state examination, Frenchay aphasia screening test, Rivermead ADL scales, HAD scale, 5m walk, NHP, caregiver strain index, patient and carer satisfaction.	Early discharge feasible - no sign differences in clinical outcomes but increase satisfaction with hospital care was found in the community therapy group and th community therapy group also had significantly shorter LOS despite having more impairment
B35	Sulch *et al.* (2002)	RCT integrated care pathway vs conventional multidisciplinary care	acute stroke patients undergoing rehabilitation ICP n= 76 MDT n=76	stroke rehabilitation unit, UK	integrated care pathway	RCP Intercollegiate Stroke Audit Tool	Higher frequency of stroke speci assessments ICP 84% MDT 60% nutritional assessment (ICP 74% MDT 22%) documentation of provision of information (ICP 89% MDT 45%) and early discharge notification to GP (ICP 80% MDT 45%)
B39	von Koch *et al.* (2000a)	RCT rehab at home HRG vs routine rehab (RRG)	stroke patients admitted to SU	community, Sweden	early supported discharge and rehab at home	No. falls, Lindmark Motor Capacity Assessment, timed 10m walk, 9 hole peg test, Barthel, Katz ADL, Frenchay AI, Sickness Impact profile, Sense of Coherence, reinvang Aphasia test	No sig differences in outcome, death or dependency higher in RRG (44%) compared to HRG(24%0 Length of stay shorte mean 29 days RRG, 14 days HR

B44	Drummond *et al.* (2005)	RCT follow-up	46 SU patients and 28 conventional ward patients	Stroke Unit vs Conventional ward	specialised stroke rehab care	Alive, Barthel, Place of residence	Stroke unit patients tended to have better outcome for death, death or disability, death or institutional care
B41	Anderson *et al.* (2000b)	RCT	86 patients 42 home based care, 44 conventional care	Home based care vs conventional care	early supported discharge plus community care	overall economic cost to health care system and patients and carers	Early supported discharge and home based rehab less costly tha conventional care. But not statistically significant.
B46	Evans *et al.* (2002)	RCT	267, 164 large vessel, 103 small vessel	Stroke unit vs stroke team	Stroke unit care vs stroke team care	mortality, institutionalisation, orgozo scale, barthel, Frenchay, mRankin, Euroquol, amount of therapy and time in hospital	Stroke units improve care in patients with large vessel disease Pats with small vessel disease do equally well in either setting.
B43	Donnelly *et al.* (2004)	RCT	59 early discharge and CST vs 54 usual care.	usual inpt care and CST vs usual inpat and outpt care	early discharge and CSt vs usual care	Barthel, NEADL, Short Form 36, QoL, Pt and carer satis. Carer strain and COST	No signif diff between two model Except carers more satisfied and CST option cost less.
B100	Indredavik *et al.* (1997)	RCT 5 year follow up	stroke patients admitted to hospital	community, Norway	stroke unit vs general wards	Survival, Proprtion at home, Barthel	Stroke unit improved survival, increased chances of being at home and produced better functional outcome at 5 years

B101	Indredavik *et al.* (1999)	RCT 10 year follow up	stroke patients admitted to hospital	community, Norway	stroke unit vs general wards	Survival, Proportion at home, Barthel	Stroke unit produced better survival , proportion at home an proportion with Barthel > 60 at 1 years
B98	Indredavik *et al.* (1998)	RCT 5 year follow up	stroke patients admitted to hospital	community, Norway	stroke unit vs general wards	Barthel, Nottingham Health Profile, Frenchay Activities Index, VAS for quality of life	Stroke unit produced better functional outcome (FAI) and quality of life (total NHP and VAS).
B99	Indredavik *et al.* (2000)	RCT	stroke patients discharged from stroke unit	community, Norway	early supported discharge with mobile team vs standard service	early supported discharge with mobile team vs standard service	ESUS patient s were more independent in ADL , more were at home at 6 weeks and they spent sig less time in hospital. N sig differences in proportion at home at 26 weeks or survival.
B95	Holmqvist *et al.* (2000)	RCT rehab at home HRG vs routine rehab	stroke patients admitted to SU	community, Sweden	early supported discharge and rehab at home	Length of stay, Therapy contacts, Resource use, Patient satisfaction	50% reduction in hospitalization HRG
B96	Holmqvist *et al.* (1998)	RCT rehab at home HRG vs routine rehab	stroke patients admitted to SU	community, Sweden	early supported discharge and rehab at home	Frenchay Activities Index, Extended Katz ADL, Barthel, Lindmark Motor Capacity, Nine-hole peg test, Walking speed, Falls, Sickness Impact Profile,	No significant differences in outcome. 50% reduction in hospital stay, 15 days in HRG vs 30 days in RRG

						Length of stay	
B97	Hui *et al.* (1995)	RCT day hospital versus conventional medical management	elderly stroke patients	community, Hong Kong	day hospital versus conventional medical management	Length of stay, Hospital services received, Use of community services, Barthel, Self rated well being scale, Geriatric Depression Scale, Satisfaction with services	Significant difference in Barthel a 3 m in favour of day hospital group. Fewer outpatient visits at months. No significant difference in costs
B103	Juby *et al.* (1996)	RCT stroke unit vs conventional wards	stroke patients admitted to hospital	hospital, UK	SU vs conventional wards (general medical and health careof elderly)	Barthel, Rivermead ADL, Nottingham Extended ADL, Rivermead Motor Assessment, General Health Questionnaire 28, Cognitive and Instrumental Readjustment	SU patients were more independent in ADL and showed better mood and adjustment
B57	Roderick *et al.* (2001)	RCT	140 stroke pts 55+ randomised (66 to dom and 74 day hosp).	community and 5 day hosps	new dom rehab prog v geriatric day hosp.	Primary- Barthel. Secondary- RMI, FAI, SF36, Philadelphia Morale Scale.	No sig diffs seen btw 2 services.

B58	Ronning and Guldvog (1998a)	Quasi RCT. Stroke pts randomised according to first two digits of dob	550 stroke pts60+ randomised (271 SU and 279 gen med)	Su v gen med wards Norway	treatment on su v gm within 24 hrs of stroke	Death, instit, imp/det/died. Sec BI and SSS	Trend for su better
B62	Teng *et al.* (2003)	RCT	114 stroke pts randomised (58 home intervention and 56 usual care)	Canada. Community.	4 week tailored home care of rehab and nursing care v usual care	SF36; costs; Burden Index (carer stress);	Sf36 higher scores in interventio group? Not reported here in detail); Costs higher in usual car (bec of readmissions); better scores for carers in intervention group re stress.
B63	Thorsen *et al.* (2005)	5-year RCT follow-up	54 stroke pts (30 intervention and 24 control)- 5 years after stroke	Sweden.Community follow up.	originally randomised to either home rehab OR routine care	Many!! Eg MMSE, Lindmark, Barthel, Katz EADL, FAI, Sickness Impact Profile	66 alive at 5 yrs (30 interventior and 24 controls actually fu). Mai finding is better EADL results at years in intervention group
B117	Rodgers *et al.* (1997)	randomized controlled trial-pilot	92 stroke pts admitted to hospital in Newcastle area. Not previously in nh. Medically stable with BI 5-19. 46 randomized to early discharge; 46	Newcastle.Hosp v community (early supported discharge).	Early supported discharge home under mdt with rehab 5/7 and home care 7/7 if needed.	WDI, NEADL, oxf handicap, global health status (Dartmouth Co-op). Careres-ghq30	Pilot study therefore looking at feasibility of scheme/assessments/interventic Judged acceptable to roll out.

			to control (routine treatment).				
B118	Rodgers *et al.* (1999)	randomized controlled trial	204 pts (with carers) randomized. Recruited 5-9 days after stroke in hosp; medically stable. Not previously in nh. 121 pts and 107 carers randomized to education programme; 83 pts and 69 carers to control (routine care).	Newcastle. Intervention in day hosp after discharge.	Educ programme for intervention group after discharge in day hospital v routine (control) who also received information and access to hotline.	sf36-perceived health status, NEADL, HAD, oxf handicap, ghq30	Education programme improved and carer knowledge but not perceived health status. Some carers in intervention group wors than controls.
B119	Ronning and Guldvog (1998b)	quasi randomised controlled study. Fu at 12 and 18 months	802 pts with stroke (first or subsequent) admitted to hospital. All 60 plus. Included if seen within 24 hrs. Complicated allocation (which	Norway- follow up in community	Intervention 12-18 months previously treatment in stroke unit or general medical wards.	survival at 12 and 18 months	Improved survival in su pts at both 12 months and 18 months

			changed during study) based on digits of dob. 364 allocated to su and 438 to medical wards.				
B120	Ronning and Guldvog (1998c)	prospected randomized controlled trial (although details of randomization not entirely clear)	Acute stroke pts admitted to hosp from home (not nh or residential) within 24 hrs. 60 or more. Consc on admission. Could tolerate rehab. Scand Stroke Scale (SSS) score of 12-52. 251 pts randomised; 127 to hosp rehab and 124 to community.	Norway. Hosp rehab unit and community rehab.	On discharge from acute stroke unit or gen med ward allocated to either hospital rehabilitation unit or to rehab in community.	Prim outcome at 7 months after stroke- death, place of residence and disability by Barthel. Secondary- SSS, SF36, Barthel for ADL.	Better overall outcome in hosp rehab group for dep or death (p=0.01, OR 0.49 (0.28-0.86) bu not sig if separated. Secondary measures equivocal bt groups.
B51	Kalra (1994)	Randomised control trial	146 stroke patients	General wards versus stroke unit	Allocation to GW versus SU	Barthel	Functional recovery greater and more rapid in SU
B54	Mayo *et al.* (2000)	Randomised control trial	114 stroke patients	Community (Canada)	Home intervention versus usual care	SF-36 Phscl hlth, up-and-go, Barthel, OARS-IADL, RNL, SF-36 MH	Home intervention was better

B127	von Koch *et al.* (2001)	Randomised control trial	83 stroke patients	Community (Sweden)	Early discharge and home rehab versus usual care	Mortality, ADL, function, resource use	No difference on univariate, except for resource use
B132	Walker *et al.* (1999)	Randomised control trial	185 stroke patients	Community	OT versus TAU	EADL, Barthel, GHQ, carer strain, London handicap	OT better
B133	Wolfe *et al.* (2000)	Randomised control trial	43 stroke patients	Community	Rehab team at home versus usual care	Motricity, MMSE, Albert test, FAST, Barthel, HADS, walk, NHP	No overall differences
B134	Young and Forster (1992)	Randomised control trial	124 stroke patients	Community	Day hospital versus home treatment	Barthel, Motor Club, Frenchay activities, NHP	Home slightly more effective
B135	Young and Forster (1993)	Randomised control trial	124 stroke patients	Community	Day hospital versus home treatment	Resource use	Home more cost-effective
B78	Corr and Bayer (1995)	RCT	stroke op's	community	OT	ADL & mood	no effect
B85	Fagerberg *et al.* (2000)	RCT	stroke patients	hospital	integrated stroke service - stroke unit and community	mortality, ADL, impairment	no difference
B108	Lincoln *et al.* (2000)	RCT 5 year follow up	139 adults from original study of 315	Stroke Rehab Unit	Stroke rehab	death, death or disability, death or institutionalisation	Mortality rates improved if randomised to rehab unit

			pats				
B109	Logan *et al.* (1997)	RCT	111patients,53 enhanced ssot vs 58 routine ssot	community	enhanced ssot	EADLl, Barthel, GHQ	Higher EADL scores if enhanced service, also better mood scores of carers at 6 months
C12	Dennis *et al.* (1997)	RCT	417, 210 stroke family care worker, 207 standard care	organised stroke service in Edin teaching hosp	stroke family care worker	barthel, FAI, GHQ, HAD, Pat satisfaction also carer satis, GHQ, HAD FAI.	No sign diff on physical outcome patients tended to be worse in care worker group. Satisfaction high in both pat and carer group for family support worker groups
B104	Kalra *et al.* (2000)	RCT	457, 152 stroke unti, 152 stroke team, 153 dom care	stroke unit, gen ward and home	organisation of stroke services	mortality or institutionalisation	Stroke units are more effective i reducing mortality , institutionalisation and dependence than stroke team or dom care.
B87	Forster and Young (1996)	RCT	240 patients aged 60 or over	Community setting, in Bradford Metropolitan disrict.	Community setting, in Bradford Metropolitan disrict.	Barthel index, Frenchay activities index, Nottingham health profile, . Carers filled in general health questionnaires.	No significant differences for carers in terms of health, social activities, or stress. A subgroup mildly disabled patients with stroke BI15-19) had improved outcomes at 6 and 12 months according to Frenchay activities index.
B89	Gilbertson *et al.* (2000)	RCT	138 stroke patients with definitive discharge plan	2 hospital sites within a UK teaching hospital.	6 week domiciliary occupational therapy or routine follow-up.	Nottingham extended activities of daily living score.	At 8 weeks the NEXDL score was 4. points higher in the intervention group (P=0.08). Fewer patients in the interventio group had poor global outcomes than control at 12 weeks. At 6 months the differences remained

							but were not significant.
B92	Gladman and Lincoln (1994)	6 month to 1 year follow-up of RCT	327 patients mean age 70, 48% women	Nottingham, UK	Home versus hospital rehabilitation post discharge from hospital	Mortality, % in institution, BI, E-ADL, NHP	The health care for the elderly ward domiciliary rehab group ha a significant improvement in tota E-ADL whilst the Stroke unit gro saw significant increases for the hospital based rehab group on total and mobility in E-ADL.
B93	Gladman *et al.* (1993)	RCT	327 patients	Nottingham, uk	Home versus hospital rehabilitation post discharge from hospital	E-ADL and NHP	No differences between groups i E-ADL at 3 or 6 months noe NHP at 6 months.
C8	von Koch *et al.* (2000b)	Description of cohort within RCT	stroke patients admitted to SU	community, Sweden	early supported discharge and rehab at home	duration programme, no visits, focus of visits, total time consumption, face to face contact time, travel time, admin time	Ave. duration programme 14 weeks, mean no visits 12, total time 23h 20 min, Face to face contact 54%
C10	Dennis and Langhorne (1994)	Meta-analysis interpretation	Not stated	stroke unit care	specialised stroke unit care	Interpretation from meta-analysis data	Stroke services need: neurovascular clinics, acute strol area, stroke rehab unit, outpatient, day hosp or dom car for those not admitted, continuir care and support, close links wit Primary Care

C13	Pound *et al.* (1999)	observational study of 3 settings	stroke patients admitted to hospital	3 settings; stroke unit, elderly care unit, general medical ward. London.	None	Non- participant observation by 2 researchers recorded on observation schedule	Many.Su pts spent more time ou of bed and more opp to be indep than pts in other settings.
B8	Early Supported Discharge Trialists (2005)	Systematic review & meta-analysis	14 stroke RCTs	community or hospital	interventions to accelerate discharge	LOS, dependency, mortality, dis destination prove outcome	reduced LOS, institutionalisation long-term dependency
B16	Langhorne *et al.* (2005b)	meta analysis	stroke patients in hospital	hospital	Early supported discharge service	death, dependency, LOS, Bad outcome	ESD reduced death or dependen absolute reduction 6%. 8 days shorter LOS greater satisfaction
B15	Langhorne *et al.* (2000)	meta analysis	stroke patients	community	hospital avoidance service	4 trials. ADL death hospital use perceived health	No difference except trend towards higher (sic) hospital use in intervention. Maybe more expensive.
B14	Kramer *et al.* (2000)	cohort study	stroke patients in residential services for rehab	US rehab units or nursing homes	HMOs vs fee for service - the latter more likely to have specialised rehabilitation, whereas the former tended to be in nursing homes with an implication of a less intense or	improvement in ADL, residential status	ADL similar at 12 months but FF pts more likely to be at home (O 1.8) and HMO pts more likely to be in NHs (OR 2.4)

					no real rehabilitation		
B12	Jorgensen *et al.* (1999)	cohort study	stroke patients	community Denmark	SU vs general ward	survival at 5 years	OR 0.6 for death in SU cohort
B11	Greenberg *et al.* (2004)	retrospective cohort study	stroke patients	hospital OPD	hospital OPD	patient complaints	a variety of complaints were identified
B21	Murray *et al.* (2004)	Survey	50 district and community nurses (representing 24 of thee 41 teams in the area)	District nursing teams in 3 Bradford PCTs	N/A	N/A	Uncertainty of post-discharge stroke care. Identifies types of long-term problems people after stroke experience. Highlights a lack of training/awareness. Need stroke care coordinator role developed.
B22	Outpatient Service Trialists (2003)	Literature review	14 RCTs including 1617 patients.	Community	Therapy based rehabilitation	poor outcome, ADL, NEADL,, FAI, IEADL, STAIR, OARS, NLQ, COPM, IST, NHP, EuroQol, MOS-36, GHQ, GDS, CES-D,barthel, Motricity, 6-minute walk, Rivermead Motor, Fugl-Meyer, mortality, patient mood and QOL,	Therapy based rehabilitation services reduced odds of a poor outcome (peto odds ratio 0.72) and increased personal ADL scor (mean difference 0.14, p=0.02)

						carer mood and QOL, carer/patient satisfaction.	
B26	Rodgers *et al.* (2003)	National postal survey	91 consultant members of the Bristish Association of Stroke Physicians.	Hospital based specialist stroke services , UK	N/A	N/A	The NSF target for hospital-base stroke service is not currently being met in most units.
B28	Rudd *et al.* (2001b)	Retrospective audit	6894 patients from 12 trusts covering 210 trust sites.	England, Wales and Northern Ireland	NA	NA	Proportion of stroke patients spending more than 50% of thei time in a stroke unit varied from 10% to 27%. 30-day mortality varied between 21% AND 33%. Institutionalisation rates varied between 6% and 19% similar to discharge disability & LOS variations
B30	Salter *et al.* (2006)	Retrospective chart review.	435 patients	single specialised inpatient stroke rehabilitation program, Ontario, Canada	N/A	N/A	Those admitted early (within 30 days of admission for first-ever stroke) to stroke rehabilitation had greater functional gains and shorter lengths of stay than thos having delayed admission.
B65	Diez-Tejedor and Fuentes (2001)	cohort	1491 consecutive patients	neurology ward	stroke unit vs stroke team	mean length of hosp stay, systematic and neurological complications, destination at	Stroke unit outcomes better.

						disch, health costs	
B61	Stroke Unit Trialists' Collaboration (1997)	systematic review	All rcts cf inpt stroke care with conventional care. Preliminary analysis of 19 trials with 3249 pts with stroke.	worldwide data	organised inpt care v conventional treatment	death, institutionalisation, dependency.	su care assoc with reduction of death (0.83, 95% CI 0.69-0.98) death or dep (0.69, 0.59-0.82); death or inst (0.75, 0.65-0.87).
B121	Ronning *et al.* (2001)	prospective, controlled trial. Stroke pts randomised according to first two digits of dob to 2 groups	135 pts 60-85 yrs admitted to hosp with acute prim intracranial haem (CT verification) within 24 hrs. 62 to su and 73 to gen med ward (allocation on dob). 14 then excluded (6 su; 8 gmw) as outside time limit for study	Norway. Hospital-Su v gen med ward. Definition of stroke unit very specific.	Specific stroke unit management v gen med ward care based on good medical practice but with no specific stroke m/ment guidelines or mdt.	survival, dest on discharge.	in general, better survival at 30 days and one year for su pts.No diffs destination

B122	Rudd *et al.* (2001a)	National audit. Repeated within 18 months.	5589 stroke pts admitted consecutively btw 1 Jan 1998-31 Mar 1998 AND 5375 btw 1 Aug 1999 and 31 Oct 1999.	157 trusts in England, Wales and N. Ireland.	None	Audit tool was dev by RCP under Intercollegiate Stroke Working Party. Included mortality, los, acc bef and after dis, BI on dis.	Cf btw first round and second; n on su incr 19% to 26%, gm fell 60% to 55% and gen rehab war 14% to 11%. Other standards eg assessment, rehab and dis planning improved but other standards poor eg as of carers needs, cog assessment
B123	Rudd *et al.* (1999)	National audit.	6894 stroke pts admitted consecutively btw 1 Jan 1998 and 31 March 1998.	197 trusts in England, Wales and N. Ireland.	None	Audit tool dev by RCP under Intercollegiate Stroke Working Party.	18% pts on Su for 50% of time. Only 64% of trusts had stroke physician; only 50% had stroke team. 41% of pts contacted by C within 3 days of discharge.
B49	Jorgensen *et al.* (2000)	Geographically controlled trial	1241 consecutive stroke patients	General wards versus stroke unit (Denmark)	Allocation (geographically) to unit	Death, poor outcome (death or discharge to nursing home)	Stroke unit generally favourable
B50	Jorgensen *et al.* (1995)	Geographically controlled trial	1241 consecutive stroke patients	General wards versus stroke unit (Denmark)	Allocation (geographically) to unit	Mortality, discharge to nursing home, length of stay	Stroke unit did better
B52	Langhorne *et al.* (2005a)	Systematic review	Six clinical trials		Mobile stroke teams	Mortality, discharge home, independence	Stroke teams better than conventional care, equivalent to SU
B53	Langhorne and Duncan	Systematic review	Nine clinical trials	Organisation of post acute stroke	Organised care versus an	Mortality, place residence,	Substantial benefit for organised care

	(2001)			care	alternative	dependency, ADL	
B124	Stegmayr *et al.* (1999)	Observational study using routine data	14308 stroke patients	General wards versus stroke units (Sweden)	General ward versus stroke unit	Death, discharge home, Length of stay, ADL	SU show benefit, but less than in trials
B125	Stroke Unit Trialists' Collaboration (2007)	Systematic review	23 clinical trials	Inpatient	Organised inpatient care versus general care	Death, discharge destination, independence	Organised care is better
B131	Walker *et al.* (2004)	Systematic review	8 clinical trials	Community	Community OT versus TAU	ADL, leisure scores	Higher ADL and leisure scores
B79	Dekker *et al.* (1998)	Systematic review	stroke patients	community	DH vs various alternatives	vary according to trial, mainly ADL, mood some cost	neutral trials
B105	Kalra *et al.* (1993)	Controlled study	245 Stroke patients	stroke rehab ward, general medical wards	care as given on allocated unit	mortality, hospital length of stay, therapy time.	Stroke units improve outcome an reduce hosp stay without increasing therapy time.
B107	Kwakkel *et al.* (1997)	Meta -analysis	9 studies, 1051 patients	Inpatient and community studies	intensity of therapeutic intervention	ADL	small but statistically sign intensity effect
B86	Fjaertoft *et al.* (2003)	long-term follow up of an RCT	320 acute stroke patients	one stroke unit, Norway	Extended stroke unit service (mobile stroke team providing comprehensive follow-up)	Modifies Rakin Scale, Barthel index, differences in final residence and length of stay.	56.3% in extended versus 45.0% in ordinary service were independent (RS<=2). No significant difference in BI or fina residence. Patients with moderat to severe stroke benefited from

					versus ordinary stroke service unit service		extended service.
B88	Geddes and Chamberlain (2001)	Prospective, descriptive, quantitative study.	6 community rehabilitation teams and the 1076 patients within these services.	Community - Derby, Sheffield, Newcastle, Worthing, Merton, North Down.	N/A	Annual numbers treated, Barthel index, Mortality, Place of discharge, crude costs.	48.7% patients male, mean age 71, median time between stroke and int. by community service 6 wks, 80.5% pts had been admit. To hospital. BI 15 at start and 18 at end. Median dur. If int. 12 wk At end of int.,86.5%in comm, 4.9% dead, 0.9% hosp., 7.3%Ltcare
B90	Glader *et al.* (2001)	prospective cohort study	8194 patients	Stroke units and general wards,Sweden.	N/A	ADL	Patients treated in stroke units were less likely to be dependent the Adl functions than those in general wards 2 years after the stroke if they had been independent prior to stroke. If living at home prior to stroke the had a lower case-fatality rate.
B91	Gladman *et al.* (1995)	Analysis of two trials	124 in BCST trial and 327 in Domino trial	UK: Bradford and Nottingham,	Home versus hospital rehabilitation post discharge from hospital	Barthel index, able to walk outside, Nottingham Health Profile	Little difference in efficacy between hospital and home base rehabilitation but disability was marginally found to be reduced i the home group. No difference found between those that were frail and those not frail in contradiction to previous results.

B76	Claesson *et al.* (2000)	Cost study	stroke, from previously reported RCT	integrated service (community and hospital)	integrated service stroke unit and community	service costs	no difference in costs between those in this service and control

Appendix 14 Details of papers reporting models of neurological rehabilitation for people with traumatic brain injury

Paper ID number	Author(s)	Design	Subjects	Setting	Intervention	Outcome measures	Results	Model identified
B31	Semlyen *et al.* (1998)	Cohort co-ordinated multidisciplinary rehab at specialist regional rehabilitation unit (HM) vs single discipline approach at local hospitals (OR)	Severe traumatic head injury HM n=33 or n=18	Community, UK	Co-ordinated multidisciplinary specialist rehabilitation	Barthel, FIM, Newcastle Independence Assessment Form Research (NIAF-R), Carer GHQ28	OR better function: to 12 weeks on FIM motor items (t 2.19- 2.60 p = 0.04- 0.02) Up to 6 months on Barthel (z 2.06- 3.21, P0.04 -	MDT
B34	Smith *et al.* (2006)	community rehab service compared to conventional outpatient service	carers of people with acquired brain injury	Community, UK	Community rehab	Family Assessment Device, Family Needs Questionnaire General Health Questionnaire 28 Acceptance and Action Questionnaire	Significant differences on FAD, FNQ and AAQ effect size FAD 0.3, FNQ 0.6, AAQ 0.31. No sig difference on GHQ	Community rehab team
B37	Turner-Stokes *et*	systematic review	acquired brain injury in	N/A	multi-disciplinary rehabilitation	No analysis of outcome	Mild ABI strong evidence	Multi-disciplinary

	al. (2006)		adults of working age				suggested that most patients made a good recovery with provision of appropriate information, without additional specific intervention. moderate to severe ABI there is strong evidence of benefit from formal intervention.	rehabilitation
B64	Buffington and Malec (1997)	Cohort over 2 years	80 adults with traumatic or other acquired brain injury	Regional trauma centre USA	vocational rehab	Vocational outcome scale, satisfaction survey, independent living status, job type, rate of pay, and no of hours worked.	Service effective	Vocational rehab
B113	Ponsford *et al.* (2006)	TBI pts with matched comparison group (recruited retrospectively)	77 TBI pts with moderate to severe TBI matched to 77 controls (retrospective out pt TBI	Australia. Community	cf TBI group receiving community based programme with pts treated as out pts(retrospective).	Structured Outcome Quest (covers ADL, employment, mobility, leisure, communication, emotional state,	No sig. diffs. in ADL performance or employment outcomes. community group had more communication	Community TBI rehab

			pts).			behaviour, cognitive function). Craig Handicap Assessment. Costs of therapy. FU at 2 yrs post injury.	problems and more inappropriate behaviour. Costs need teasing out by Tracey- not sure what they are saying here!	
B114	Ponsford *et al.* (2003)	Cohort of TBI pts and families recruited 2-5 yrs post injury	143 individuals with TBI recruited at clinic 2-5 yrs after injury by invitation to attend fu interview with their physician. Asked to bring family member.	Australia. Follow up of pts in community	None	Many! FAD (family Assessment Device), Leeds self asessment of anxiety and depression quest on cog, beh/emot changes, Criag Handicap (CHART), SIP (Sickness Impact Profile), Anger control quest.	Cf results with data from healthy controls, other TBI individuals, group with medical and group with psychiatric illness (other study data).Essentially group functioning in basic range (?). Anx and dep noted in relatives.	Outpatient follow up clinic
B116	Rice-Oxley and Turner-Stokes (1999)	Non-systematic literature review/ expert opinion	TBI, Stroke	UK and Overseas		NR	NR	Acute units, acute inpatient rehab, post acute rehab (inpatient, community) Vocational

B128	Wade *et al.* (1997)	Randomised control trial	1156 consecutive head injury patients	Outpatient follow-up, UK	Offered appointment or not	Post concussion symptoms, head injury follow-up quest	No overall diff, query benefit for moderate or severe	Specialist early TBI team follow up
B130	Wade *et al.* (1998)	Randomised control trial	314 patients with head injury	Community UK and Overseas	Early intervention by a specialist service versus TAU	Head injury follow-up quest, post concussion symptoms	Less social disability and less severe symptoms	Specialist early TBI team intervention
B77	Cope (1995)	Non-systematic review	TBI	Hospital and community UK and Overseas	many trials reviewed, divided into acute hospital, sub acute community and residential, and specialist vocational	vary according to study, including impairment, activity limitation, participation, resource use and costs	generally concludes that the totality of evidence is favourable, I fear that we need to say rather more than that.	Acute units, acute inpatient rehab, post acute rehab (inpatient, community) Vocational.
B82	Eames *et al.* (1996)	Cohort	mixed brain injury	Rehab unit residential	residential rehab	change in need for professional care	reduction in need from 87% to 55%, with a mean of 11 months LOS	residential rehab unit for severe brain injury
B110	Mackay *et al.* (1992)	Comparison study	38 severe head injury, 21 no formalised TBI programmes, 17 formal TBI programmes.	Formal TBI setting vs. adhoc In US	care as given on unit	discharge to home, cognitive levels, length of stay	formalized programmes had shorter lengths of stay, cognitively higher levels and more discharges to home	specialised TBI facility
B23	Powell *et al.*	RCT	112 (TBI (sustained	East London, UK	outreach sessions in community	Un-modofied Barthel index,	Outreach patients were	community based

	(2002)		between 3 months and 20 yrs previously) patients aged 16-65) - 54 randomised to outreach and 56 to information	outreach team service	settings (mean 2 sessions a week) compared to information on alternative resources.	BICRO-39 scales, FIM+FAM, HADS	significantly more likely to show gains on the BI and BICRO-39 otal score and self-organistation and psychological wellbeing subscales. Magnitude of gains unrelated to time since injury.	rehabilitation for severe TBI
B25	Ricker *et al.* (2002)	Anonymous mail survey	71 individuals who had experienced acquired brain injury, all members of a brain injury association.	Community, USA	N/A	N/A	strong interest in the possibility of accessing a tele-rehabilitation service.	Tele-rehabilitation
A27	Greenwood *et al.* (1994)	Geographically controlled trial	Closed head injury patients	UK Acute care and community	Case management	Impairment, service use	No difference	Acute care and community
B5	de Guise *et al.* (2005)	x-section cohort	348 consecutive admissions TBI	Canada	N/A	Galveston Orientation Amnesia Test, Glasgow coma scale, neurobehavioral	majority frontal & temporal lesions, mean age 40	Inpatient Unit

						rating scale, FIM, Glasgow m		
B45	Edwards *et al.* (2003)	Cohort study - analysis of database	290 patients Discharged from hosp over 5 year period with brain injury	UK	None	Analysis of database. Standardised measures included FIM and Barthel plus descriptive data	Stable case mix over 5 years, improvement in disability and dependency in majority of patients. Ethnic diversity didn't affect functional outcome.	inner city rehabilitation unit for younger people following brain injury

Appendix 15 Details of papers reporting models of neurological rehabilitation for people with spinal cord injury

Paper ID number	Author(s)	Design	Subjects	Setting	Intervention	Outcome measures	Results	Model identified
C3	Kirshblum (2002)	Discussion paper	spinal cord injury	Many	None specifically	None measured	None but 2 papers are cited as providing evidence for benefits of elements of the system	Funding to entire network rather than individual elements in isolation
B80	DeVivo *et al.* (1990)	Cohort study	800 SCI Patients and 99 controls	specialist hospital unit, USA	early vs late referral to unit, thereby looking at effect of the early care in the unit compared to early care elsewhere	mainly length of stay, some "complications" data, some costs	LOS lower in the early referral group, costs about the same (unit cost in early unit higher than alternative)	Early care in spinal cord injury rehab unit VS early care elsewhere
B27	Ronen *et al.* (2004)	Retrospective cohort study	1411, 1117 with non-traumatic spinal cord lesions (NTSCL) and 250 with traumatic	Loewenstein Rehabilitation Hospital Raanana, Israel.	N/A	Length of stay	LOS is within the range of other European countries. Etioloy and severity of SCL were associated with	N/A

			spinal cord lesions (TSCL)				different LOS.	
B33	Smith (2002)	Retrospective cohort comparison	spinal cord injury patients on national database of Spinal Injury Association, UK	community, UK	specialist SCI rehab	Questionnaire on secondary complications Modified FIM CHART Rating of life satisfaction	SIU had lower incidence pressure sores, required less assistance in ADL, better social activities, but no sig difference in life satisfaction	Specialist spinal injuries rehab

Appendix 16 Details of papers relating to models of neurological rehabilitation for people with Parkinson's disease

Paper ID number	Author(s)	Design	Subjects	Setting	Intervention	Outcome measures	Results	Model identified
B102	Jarman *et al.* (2002)	RCT	1859 PD patients on GP register	community, UK	Specialist PD Nurse vs routine GP care	Survival, stand-up test, dot in square test, bone fracture, global health question, PDQ39, Euroquol, healthcare costs	No significant difference in health outcome. Sig difference in scores on global health question in favour of nurses. No increase in patient healthcare costs.	Specialist PD Nurse care
B129	Wade *et al.* (2003)	Randomised control trial	94 patients with PD	Community, UK	Programme of multi-disciplinary rehab and group support	PDQ-39, SF-36, Euroqol-5D, walking, 9holepeg, HADS, UPDRS items	May improve mobility, overall decline in both groups	Multidisciplinary day hospital rehabilitation vs routine care
C7	Trend *et al.* (2002)	Before and after comparison	Parkinson's disease and no cognitive impairment	day care unit in DGH, UK	day hospital 1 day a week for 6 weeks with carers	Hoehn and Yahr stage, Barthel,HAD, Euroquol5d, Emerson and Enderby	Significant improvement in patients over time, no sig improvement in carers	multidisciplinary rehab in day hospital

						measures of voice and articulation, timed 10m walk.		
B48	Gage *et al.* (2006)	Cost - consequences analysis	118 Parkinson's patients attending day hospital	Day hospital for Parkinson's disease patients in UK	Programme of MDT rehab, delivered one day per week for 6 wks. 1:1 interventions and group activities on each occasion	direct and overhead costs of treatment, participant travel. Patient and carer outcomes, social service utilization and satisfaction.	Main costs were day hosp overheads and hosp transport. Improved immediate functional outcome but this was lost over 4 mths, high satisfaction. No carer benefits noted.	Weekly MDT rehab in day hospital

Appendix 17 Details of papers relating to models of neurological rehabilitation for people with multiple sclerosis

Paper ID number	Author(s)	Design	Subjects	Setting	Intervention	Outcome measures	Results	Model identified
B115	Pozzilli *et al.* (2002)	RCT	201 MS pts randomised 2:1 to intervention (133) or control (68). MS clinically defined. Lived in area of study.	Italy.	Home care v control (hospital care). Home care included visits, telephone contact, dedicated phone number for probs. MDT - medics, physio, nurse, sw, psychologist, co ordinator available.	baseline and 1 yr. EDSS, MMSEFIM, mood measure (STAXI, STAI), CDQ- clic dep quest, SF36.Economic evaluation.	Baseline diffs adjusted for in analysis. Essentially no sig diff in outcomes btw groups. Trends to improved qol in home group. Ec evaluation suggested home care made saving.	Home care for MS pts
B55	La Rocca *et al.* (1996)	Randomised control trial	43 MS patients at risk of losing their jobs	Community (United States)	Job retention programme versus normal medical care	Job status	No difference (more about feasibility than effectiveness)	Job retention programme versus normal medical care
B36	Thompson (2000)	Narrative review	people with MS	N/A	neurological rehabilitation	N/A	N/A	neurological rehab for MS
B38	Vickrey *et al.*	Cohort study 3	people with MS having	Community USA	managed care plan (IPA) vs fee-	Symptom management and	few differences in symptom	insurance based

	(2000)	groups	physician visits		for-service (FFS) vs health maintenance organisation (HMO)	information needs	management, trend to more referrals and treatment in FFS group. No difference in access to disease modifying agents. General health and symptoms more often assessed in FFS and IPA systems	

Appendix 18 Details of papers relating to models of neurological rehabilitation for people with epilepsy

Paper ID number	Author(s)	Design	Subjects	Setting	Intervention	Outcome measures	Results	Model identified
C5	Reynders and Baker (2002)	Service review - Questionnaires	16 centres	UK	N/A	N/A	Progress is being made towards meeting the 1991 ILAE recommendations. Areas for development include nationally recognised training for neuropsychologists, developing centres of excellence, assessment of psychological health and quality of life assessment.	N/A
B74	Bradley and Lindsay (2001b)	Systematic review	647 participants with epilepsy	mixed	specialist epilepsy nurse	seizure freq, medication, social % psych function, knowledge, cost of care	no sig diff	specialist epilepsy nurse
B47	Fraser *et al.* (1983)	Cohort study	106 patients attending regional epilepsy centre	epilepsy centre criteria for referral not given	None	Descriptive data collected. No standardised outcome measures	Number of months employed in last 2 years predicts continued employment. Subjects more satisfied with one to one contact than group activities.	Vocational rehab in Epilepsy centre

Appendix 19 Details of papers reporting models of service delivery for more than one neurological condition: mixed

Paper ID number	Author(s)	Design	Subjects	Setting	Intervention	Outcome measures	Results	Model identified
B32	Slade *et al.* (2002)	RCT intensive vs standard rehabilitation	patients admitted to rehab unit E 50 stroke,12 TBI, 18 other C 50 stroke, 14 TBI, 17 other	rehab unit, UK	intensity of OT	Length of stay, Barthel	Significant reduction in length of stay (14 days) with more intensive (67% more therapy) rehabilitation (PT and OT) No significant difference in Barthel score	Intensive rehabilitation
C4	O'Connor and Delargy (2003)	Survey	42 inpatients of YDU in 2001: 13 had TBI, 11 sub arach, 7 "non traumatic acquired brain injury", 2 MS, 2 central pontine myelonolysis, 7 others.	YDU, Ireland	Not an intervention study: none	Specialist nursing interventions (21 in vegetative state, 10 tracheotomies, 20 percutaneous feeding, 30 catheters, 31 needed hoist transfers. Mean Racho Los Amigos Level of Cognitive	See outcomes. Pts were admitted mean 627 days after onset of disability, and stayed for mean 621 days	YDU for selected severely affected cases

						Function scale 18.5 (>15=severe cognitive disability)		
C6	Thorn (2000)	Literature review	13 original papers reviewed (sample sizes of papers ranged from 5 to 80)	neurological rehabilitation nursing in USA, UK and 5 other countries unspecified up to 1998.	N/A	N/A	Research in this area lacks depth and direction such that a sound evidence base cannot be developed at present. This speciality generates little research and what is produced lacks quality.	N/A
B19	McMillan and Ledder (2001)	Survey	40 Comm rehab teams	25 Health authorities, London and SE	community neuro-rehab teams - self defined	staff numbers, workload	40 teams in 15.6 million people, 35 teams surveyed: incomplete coverage, and low rate per head of brain injury when covered	community neuro- rehab teams

B40	Wilson *et al.* (2002)	survey	35 vegetative or minimally responsive	hospitals, Northern Ireland	assessment protocol	GCS, Rancho Los Amigos Scale, Wessex Head Injury matrix	35 patients identified, reported unsatisfactory services, 7/12 in one unit changed 5/12 remained unaltered on RLA scale, 7 improved on WHIM 5 little progress	Survey , no comparison group
B42	Beatty *et al.* (2003)	National survey	800 adults with CP, MS, SCI or Arthritis	Community, USA	None	Access to services from primary care drs, specialist services, rehab services, equip, medication prescriptions	Only half population received the rehab services they needed. Respondents with poorest health and lowest incomes were least likely to receive health services	Access to cares services in chronic conditions.

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