

Question 41 evidence tables

Question 41: What staffing levels in post-acute care deliver the best outcomes for people with stroke?

NB Any discrepancies between reviewers in evidence quality and comment were discussed at the corresponding evidence review meeting

ESD = early supported discharge, SSNAP = Sentinel Stroke National Audit Programme, FTE = full time equivalent, LOS = length of stay, TC = transitional care, BI = Barthel Index, FIM = functional independence measure, WTE = whole time equivalent, HADS = Hospital anxiety & depression scale, SR = systematic review, MA = meta-analysis, RCT = randomised controlled trial, IPDMA = individual patient data meta-analysis, MDT = multidisciplinary team, PICO = patient/population, intervention, comparison and outcomes, OR = odds ratio, CI = confidence interval, QoL = quality of life, ADL = activities of daily living, OR = odds ratio, RR = relative risk, aOR = adjusted odds ratio, cOR = crude odds ratio, CI = confidence interval, RoB = risk of bias, I2 = heterogeneity statistic.

Ref ID	Source	Setting, design and subjects	Intervention	Outcomes	Results	Evidence quality (SIGN checklist score) and comment
472	NHS England (2022). National service model for an integrated community stroke service. 2022:09-Jun	This document is classified as Guidance and seen as a component of the National Stroke Service model, published by the NHS. It was written by a task/finish group of experts and informed by research evidence, national clinical guidelines and existing service specs.	N/A	The document does reference the need for rehabilitation interventions to be based on goals and 'outcomes', it references one publication (REF ID 477 from this q41 review) but does not specify outcomes which a service may use to measure.	The document provides recommendations of minimum team composition based on 3 publications (REF ID from this document 19, ADD4, 24): Per 100refs/per year: -occupational therapy (1 WTE) -physiotherapy (1 WTE) -speech and language therapy (0.4 WTE) -nurse (0–1.2 WTE; locally at least 1 full time nurse per team) -social worker (0–0.5 WTE; locally at least 0.5 per team) -rehabilitation assistants/assistant practitioner (1 WTE) physician (0.1 WTE)	The document should be considered in the context of guidance based on evidence rather than evidence.

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					-clinical psychologist with expertise in stroke rehabilitation (about 0.2–0.4 WTE).	
473	R. J. Fisher et al. (2021). Effect of stroke early supported discharge on length of hospital stay: Analysis from a national stroke registry. <i>BMJ Open</i> 11:1 e043480	Observational cohort study – with cross sectional and multi cross sectional analysis; investigating impact of ESD on LOS. Analysis of stroke patient data from SSNAP. Includes sites in West Midlands and east of England; and North of England.	Patients receiving ESD	Inpatient LOS	Comparing ESD and non-ESD groups (matched for certain characteristics – overall quality of hospital care and influence of social care provision; and patient factors e.g. age, NIHSS, prestroke ability) showed that those receiving ESD had ~1 day increase in hospital LOS.	N/A
473	R. J. Fisher et al. (2021). Effect of stroke early supported discharge on length of hospital stay: Analysis from a national stroke registry. <i>BMJ Open</i> 11:1 e043480	Observational cohort study to comparing length of hospital stay in real world settings for patients accessing ESD compared with those that did not. Using prospective datasets from SSNAP (1 January 2013–31 December 2016). Two different study designs -multilevel modelling, cross sectional (2015-2016 30,791 patients within 55 hospitals) and repeated cross-sectional (2013–2014 vs 2015–2016; 49,266 patients within 41 hospitals) analyses were undertaken. Setting Hospitals were sampled across a large geographical area of England covering the West and East Midlands, the East of England and the North of	Patients receiving ESD along the patient care pathway.	Primary and Secondary outcome measures: Length of hospital stay. (NB: included two variables a hospital SSNAP rating score and a measure of delayed transfers of care from hospital.)	patients who received ESD on their stroke care pathway spent longer in hospital, compared with those who did not receive ESD. The percentage increase was 15.8% (95% CI 12.3% to 19.4%) for the 2015–2016 cross-sectional analysis and 18.8% (95% CI 13.9% to 24.0%) for the 2013–2014 versus 2015–2016 repeated cross-sectional analysis. On average, the increased length of hospital stay was approximately 1 day. (Patient characteristics -ESD patients were younger, lower modified Rankin at discharge).	The longer-term benefits of accessing ESD need to be investigated further.

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		England. Participants Stroke patients whose data were entered into the SSNAP database by hospital teams.			The large reduction in length of hospital stay overall, since original trials were conducted, may explain why a reduction was not observed.	
474	R. J. Fisher et al. (2020). Effectiveness of Stroke Early Supported Discharge. <i>Circulation: Cardiovascular Quality and Outcomes</i> 13:8 e006395	<p>Observational cohort study to investigate the effectiveness of ESD service models</p> <p>ESD services were sampled across a large geographic area of England. Mixed-method study design and included all ESD services in specific regions of England. West and East Midlands and East of England and North of England -a region with a defined lack of ESD.</p> <p>31 teams (data from 6260) patients. Collected from SSNAP data 1st Jan 2016 to 31st Dec 2016).</p>	<p>ESD service models (derived from Sentinel Stroke National Audit Programme post-acute organizational audit data) were categorized with a 17-item score, reflecting adoption of ESD consensus core components.</p> <p>(Evidence-based criteria based on systematic review and patient level SSNAP data f2f contact: team composition, staff training, team) meetings, service specificity)</p> <p>31 ESD teams.</p>	<p>Historical prospective data from the UK SSNAP (Jan 1st 2016- Dec 31, 2016) measures of ESD effectiveness were “days to ESD” (number of days from hospital to first ESD contact).</p> <p>“Rehabilitation intensity” (total number of treatment days/ total days with ESD) and stroke survivor outcome (modified Rankin scale at ESD discharge).</p> <p>Multilevel modelling.</p>	<p>1 teams (data from 6260 patients) consensus scores varied 5 and 15 (mean (SD) with no team achieving 100% adherence reflecting that a range of ESD models had been adopted.</p> <p>Majority 91.9% patients mild or moderate. 9 % sampled patients classified moderate to severe at ESD discharge. 69% sampled pts were seen after >1day. Median rehab intensity 0.38 treatment days</p> <p>No association with stroke outcome measure by modified Rankin Score (careful interpretation -suggest routine outcome measures ADL, Quality of life measures at longer follow up periods) Core team members meeting whole time equivalent level per 100 patients with stroke and access to a social worker was associated with more responsive ESD service with 97% reduced odds of the ESD team seeing the patient after ≥1 day (95% CI, 61% to 99%).</p>	<p>This study has shown that adopting defined core components of ESD is associated with providing a more responsive and intensive ESD service. This shows that adherence to evidence-based criteria is likely to result in a more effective ESD service as</p>

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474	R. J. Fisher et al. (2020). Effectiveness of Stroke Early Supported Discharge. <i>Circulation: Cardiovascular Quality and Outcomes</i> 13:8 e006395	Observational cohort study of historical prospective SSNAP data. Multilevel modeling was used to investigate relationships between ESD model and process and patient outcomes.	No specific intervention – data was from post acute organizational audit. data collected a part of SSNAP.	ESD effectiveness judged by number of days from hospital discharge to first ESD contact, total number of treatment days/ total days with ESD and stroke survivor outcome measured by the modified Rankin scale at ESD discharge. The service models used by ESD teams were categorized to a 17-item score which reflected the extent of the adoption of ESD consensus core components.	Range of ESD models had been adopted by teams with varying compliance to consensus core components. no significant association between ESD consensus score and the stroke survivor outcome measured by the modified Rankin Scale at ESD discharge. Data from 6260 patients were included (most had mild or moderate stroke (91.9%). 31% seen within one day by ESD. The rehabilitation intensity (total number of treatment days/ total days) was 0.38 for everyday with the ESD team (median). Those services that had closer adherence to the ESD consensus core components were associated with a more responsive ESD service (saw patients more quickly). Also having access to a social worker was associated with more responsive ESD service. Rehab intensity: ESD consensus score was significantly associated with treatment - a 1-unit increase in ESD consensus score increased treatment intensity by 2% (95% CI, 0.3%–4%). Weekly multidisciplinary team meetings and a member of the ESD team attending the acute	+

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					meetings were all positively associated with increased rehabilitation intensity; (8% improvement in rehabilitation intensity).	
475	R. J. Fisher et al. (2016). Is Stroke Early Supported Discharge still effective in practice? A prospective comparative study. <i>Clinical rehabilitation</i> 30:3 268-276	Cohort study with quasi experimental design. Recruitment was patients admitted to two stroke units in Nottinghamshire between November 2010 and February 2012. Patients were screened for inclusion if they had a diagnosis of stroke, transfer independently or with assistance of one, identified rehabilitation goals, medically stable and able and willing to sign informed consent. 293 stroke survivors in total were recruited. 135 participants in ESD group and 158 participants in the non ESD group. 84 care givers were also included from the non ESD group. ESD group accessed either of two ESD services operating in Nottinghamshire. Non ESD group experienced standard practices for discharge and onward referral. Non ESD group were stroke patients that met eligibility criteria but were not referred to or able to access ESD. This included patients who accessed a community stroke rehabilitation team, neurorehabilitation outpatient	ESD or standard practice for discharge and onward referrals.	Primary Outcome measure was Barthel index at baseline, six weeks, six months and twelve months. Secondary measures were the Nottingham Extended Activities of Daily Living Scale, General Health Questionnaire 28 (GHQ-28), Medical Outcomes Study Short Form-36 (SF-36) and the EuroQol Index (EQ5D) and a satisfaction questionnaire. Caregivers completed the GHQ-28, SF-36 and the satisfaction questionnaire.	ESD had a shorter length of hospital stay and reported significantly higher levels of satisfaction with services received. ESD can result in equivalent or better outcomes or mild to moderate stroke patients and their carers. Carers of patients accessing ESD services showed significant improvement in mental health.	+ Good study addressing the benefit of ESD but does not answer the question in relation to staffing levels in post-acute stroke.

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		therapy service and 72 patients who did not receive any services.				
476	R. J. Fisher et al. (2011). A consensus on stroke: early supported discharge. <i>Stroke</i> 42:5 1392-7	3 round Modified Delphi study with 10 ESD trialists. Statements relating to team composition, model of team work, intervention and success were rated. Aimed to reach consensus on key statements. Consensus if >75% agreement.	N/A	N/A	Consensus achieved for 47 out of 56 statements. Agreement/strong agreement of staffing recommendations.	N/A
476	R. J. Fisher et al. (2011). A consensus on stroke: early supported discharge. <i>Stroke</i> 42:5 1392-7	This study used a modified Delphi approach to explore consensus and differences in opinion amongst 9 ESD trialists who had been included in the Cochrane Systematic reviews of 2005, 2007 and the author of the Cochrane review (P.L) Researchers generated statements -Round 1: Trialists indicated statements to be included -Round 2: Level of agreement with statements -Round 3: Review statements lacking consensus.	Consensus headings for statements included: -Team composition -Model of Team Work -Intervention	Consensus set at 75% or above. Combined scores for: -Strongly agree/Agree -Strongly disagree/Disagree	Consensus on staffing 1.0 Physiotherapist Strongly agree 100% 10 1.0 Occupational Therapist Strongly agree 100% 10 0.4 Speech and Language Therapist Agree 100% 10 0-0.5 Social Worker Agree 100% 9 0-1.2 Nurse Agree 89% 9 0.1 Physician Agree 80% 10 0.25 Assistant Agree 70% 10 (not at 75% consensus). 80% agreed for secretary in composition however no WTE provided.	+ Acceptable. No checklist for Modified Delphi approach however the consensus method was well conducted, clearly explained and suitable to explore the primary aim of the authors. Apart from staffing levels, there was consensus on a variety of other factors which were considered integral to successful ESD service.
477	R. J. Fisher et al. (2013). The implementation of evidence-based rehabilitation services for stroke survivors living in the community: the results	Modified Delphi approach with a purposive sample of 26 UK based expert panelists (10 academics, 15 stroke service leads or commissioners and one stroke survivor).	Core team of nine people agreed the framework and scope for the consensus activity. Consensus panel members were asked to indicate their level	Consensus of agreement was determined by over 70%.	Consensus of opinion was obtained on 76 of the 80 statements. Panelists agreed on the need for distinct stroke care pathways and that stroke survivors not eligible for Early	+ Key issue discussed whether a community stroke rehabilitation team should or should not treat stroke patients only.

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	of a Delphi consensus process. <i>Clin Rehabil</i> 27:8 741-9	Participants were selected from a cross section of stroke services and research across England. All statements (eleven) for which consensus had not been reached in round one were circulated again in round two. In round three, six of the statements for which consensus had not been reached in round one and two were slightly reworded. Following round three, final consensus levels for each statement and the median response was calculated.	of agreement with each statement provided. (80 in total).		<p>Supported Discharge but have ongoing rehabilitation needs should only be transferred into the community when they can be supported at their place of residence.</p> <p>Panelists agreed that there is a need for an integrated pathway of stroke care following discharge from hospital and that those responsible for procuring and commissioning community stroke services should be active participants in the design, monitoring and ongoing support of services.</p> <p>Agreed that Early Supported Discharge should be based on clinical need not time and intensity of therapy should be based on clinical need.</p> <p>Staffing was recommended for a community stroke rehabilitation team but some felt that the figures were too low. (table six).</p>	<p>Early supported discharge is a distinct, high intensity intervention, specifically suited for mild to moderate stroke patients that can be offered as part of a community stroke service or by a separate dedicated team.</p> <p>An organised and flexible pathway of stroke specialist rehabilitative care needs is required that spans health and social care.</p>
477	R. J. Fisher et al. (2013). The implementation of evidence-based rehabilitation services for stroke survivors living in the	A Delphi consensus process to establish core components of evidence-based community stroke services in the UK. Involving a core team of nine experts including two academic researchers, a community stroke	Community stroke services	Consensus of opinion >70%	<p>Consensus reached on 76/80 statements</p> <p>Key messages:</p> <ul style="list-style-type: none"> The intensity and length of intervention delivered by stroke specialist teams should 	<p>N/A</p> <p>No SIGN checklist for Delphi consensus studies.</p> <p>Table 6 of the supplementary information gives</p>

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	community: the results of a Delphi consensus process. <i>Clin Rehabil</i> 27:8 741-9	<p>team lead and members of the NHS Stroke Improvement Programme.</p> <p>Core team members conducted a literature review of SLRs and RCTS and policy documents to generate statements about the implementation of community stroke services.</p> <p>A consensus panel of 26 people who were identified as having the ability to respond to statements and as having expert knowledge. Three rounds of consensus process were carried out.</p>			<p>be based on clinical needs tailored to goals and outcomes.</p> <p>An organised and flexible pathway of stroke-specialist rehabilitative care needs to be provided for stroke survivors once they leave hospital, requiring a procurement system that spans health and social care.</p> <p>Supplementary information Table 6: Community Stroke Rehabilitation Team: gives recommended Model of team Recommended FTE. Per 100 new patients/year: Occupational therapy 1.0fte Agree 81 26 Physiotherapy 1.0fte Agree 81 26 Speech & language therapy 0.4fte Agree 73 26 Nursing 0 – 1.2fte Agree 77 26 Social Work 0 – 0.5† Disagree 58 26 Rehabilitation Assistant 0.25fte Disagree 73 26</p>	<p>recommended composition of the service team and whole time equivalents sufficient to manage a notional 100 new patients per year.</p> <p>Consensus was reached on all except FTE. For social worker.</p>
478	E. Jarva et al. (2021). Healthcare professionals' competence in stroke care pathways: A mixed-methods systematic review. <i>Journal of clinical nursing</i> 30:09-Oct 1206-1235	<p>Setting: Various</p> <p>Country: Various x 13</p> <p>Designs: 32 studies 1 x mixed methods 2 x quantitative 29 x qualitative</p> <p>Subjects: Health care professionals</p>	Not applicable; review to identify and describe the competence areas of healthcare professionals working in the stroke patient care pathway and factors influencing these competences.	Not applicable to this question.	Organisation of services, specialisation in stroke care, continuous development and education, family and carer and training in oral care and cognitive rehab identified as factors that influence healthcare professionals' competence.	+ Focus on competence of staff and education and not staffing levels.

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478	E. Jarva et al. (2021). Healthcare professionals' competence in stroke care pathways: A mixed-methods systematic review. <i>Journal of clinical nursing</i> 30:09-Oct 1206-1235	Mixed methods systematic review to identify and describe key areas of competence. Study types = qualitative and nonexperimental observational, peer reviewed original studies 2010-2020. Participants of eligible studies were professionals working in interdisciplinary healthcare teams Studies multi-national	NA – SR to describe competence Phenomena of interest = competence (knowledge, skills, attitudes or values).	N/A	32 studies included: qualitative synthesis n=30, quantitative tabulation n=2 Identified areas of competence for stroke care pathways and factors affecting them. Working with more experienced colleagues and other professionals improved competence and ability to specialise in stroke care.	+ Acceptable. Relates to competence not staffing levels.
479	S. Jee et al. (2022). Early Supported Discharge and Transitional Care Management After Stroke: A Systematic Review and Meta-Analysis. <i>Frontiers in Neurology</i> 13: 755316	SR and MA 20 studies – 19 RCTs and 1 randomised pragmatic trials (RPTs) Stroke and TIA patients	ESD and transitional care (TC) that accelerated discharge vs traditional care Intervention 1: Medical e.g. Drs / Nurses Intervention 2: Rehab visits	ADL: BI, mBI, FIM LOS mRS Mortality Readmission Caregiver strain index	No statistically significant difference between intervention and control.	Interventions very vaguely described as two different interventions.
479	S. Jee et al. (2022). Early Supported Discharge and Transitional Care Management After Stroke: A Systematic Review and Meta-	A Korean systematic review and meta-analysis of ESD and Transitional Care Management after stroke. The research question is Can transitional care including ESD have an impact on functional outcomes,	Transitional care including ESD	Outcomes ADL, mRS, death, Quality of life, readmission rate, total length of hospital stay, care giver burden.	The only significant effect was of less mortality with ESD compared with usual care.	+ Issue of heterogeneity of the interventions. Transitional care (which is from US) seems very different from ESD. The three

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	Analysis. <i>Frontiers in Neurology</i> 13: 755316	readmission, mortality and length of hospital stay after acute CVA? The systematic review included 20 studies published after 1997 with the following inclusion criteria: Population Stroke or transient ischemic attack (TIA) Intervention/comparator- Transitional care or early supported discharge program by hospital professionals/usual care ·Duration of study and follow up: no limitation (38% followed up for >12 months) Studies included were RCTs, ·Randomized pragmatic controlled clinical trial, RPT 17 studies were entered into the meta-analysis.				criteria for transitional care is given as: -contact with the patient within 2 days of discharge -face-to-face follow-up interview/evaluation within 7 or 14 days of discharge depending on the severity of the disease, -non-face-to-face care service according to the patient's needs. Bunching this intervention in with ESD doesn't seem to be very helpful in determining effectiveness.
480	P. Langhorne et al. (2017). Early supported discharge services for people with acute stroke. <i>Cochrane Database of Systematic Reviews</i> 2017:7 CD000443	17 RCTs 2422 participants Recruited from hospital (intervention in the community setting) Average age: 60-80yr BI of 14/20 (IRQ 10-18). A median of 33% patients met criteria for ESD (cf 40% UK stroke survivor population)	Any intervention that aimed to accelerate discharge from hospital with the provision of support in a community setting 3 subgroups: -ESD coordinated & delivered -ESD coordinated discharge but handed over to other services -No ESD	- Primary resource outcome: Length of hospital stay -Primary patient outcome: death or long-term dependency at scheduled follow up. Secondary outcomes 1)Activities of daily living (ADL) score. 2)Extended ADL score. 3)Subjective health status. 4)Mood (mood or depression score).	ESD group showed reductions in the length of hospital stay equivalent to Approx. 6 days (mean diff -5.5; 95% confidence interval (CI) -3 to -8 days; P < 0.0001; moderate-grade evidence) odds ratios for the outcome of death or dependency at the end of scheduled follow-up (available for 2359 participants_ (median 6 months; range 3 to 12) was 0.80 (95% CI 0.67 to 0.95, P = 0.01, moderate-grade evidence)	++ High but intervention was model rather than staffing. Staffing only reported for 7/17 studies that coordinated and delivered ESD. Varied from 2.6-4.6 WTE per 100 pts with a variety of "other" disciplines. Very low nursing and rehab support quota. Studies excluded those with communication / cognitive impairments with average ages 60-80yrs (some cut off at <60

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				<p>5)Carer outcomes (carer mood and subjective health status).</p> <p>6)Patient and carer satisfaction and/or service preference.</p>	<p>which equates to five fewer adverse outcomes per 100 ESD patients.</p> <p>Small improvements were also seen in extended activities of daily living scores (standardised mean difference 0.14, 95% CI 0.03 to 0.25, P = 0.01, low-grade evidence) and satisfaction with services (OR 1.60, 95% CI 1.08 to 2.38, P = 0.02, low-grade evidence).</p> <p>Analysis of the 13 trials where rehab was closer to core ESD (Fisher 2011) more convincing: death (OR 0.78, 95% CI 0.54 to 1.11; P = 0.17), death or institutional care (OR 0.65, 95% CI 0.49 to 0.87; P = 0.003), death or dependency (OR 0.73, 95% CI 0.60 to 0.89; P = 0.002) and reduction in length of stay (MD 6 days; 95% CI 3 to 9; P < 0.0001).</p>	<p>or 80+) & BI 14/20 Not convinced this is reflective of UK stroke survivor population.</p> <p>Unclear if equating post-acute care with ESD.</p> <p>Yet to confirm acknowledging the needs of severely disabled stroke survivors who may have been excluded from traditional ESD but none the less deserve the “best outcomes” also?</p>
480	P. Langhorne et al. (2017). Early supported discharge services for people with acute stroke. <i>Cochrane Database of Systematic Reviews</i> 2017:7 CD000443	<p>Systematic review & Meta-analysis – Update of previous reviews (2001, 2005, 2012). Assessing if ESD services can improve patient recovery and if they are as “acceptable and affordable” as usual care.</p> <p>This review included 17 trials in the quant synthesis (2422 participants). Included RCTs comparing conventional care to</p>	This analysis compared conventional inpatient stroke care with services that promoted early discharge to the community. In relation to Q41, this review categorised services by three types:	<p>Typical ESD staffing was characterised per notional 100 patients per year as: “Typical ESD teams had approximately 3.1 WTE staff (range 2.6 to 4.6) as follows; medical 0.1, nursing (ranged from 0 to 1.2), physiotherapy 1.0, occupational therapy 1.0, speech and language therapy 0.3, assistant 0.4.</p>	<p>Appropriately resourced ESD services with co-ordinated MDT for a selected group of stroke patients can reduce long-term dependency and admission to institutional care as well as reducing the length of hospital stay. Results are inconclusive for services without co-ordinated MDT.</p>	<p>++</p> <p>High Quality. This is a well conducted review with some relevance to question 41.</p> <p>Subgroup analysis 11 is interesting as it investigates ESD service versus conventional care based on MDT coordination for the following outcomes:</p>

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		"alternative services" Only included studies assessing exclusively stroke.	1)Early supported discharge (ESD) team co-ordination and delivery 2)ESD team co-ordination (care handed over to generic com team 3)No ESD team In doing so it provided staffing levels of each service which may glean some insight in relation to Q41	Variable levels of social work (0 to 0.5 WTE) and secretarial support were also available It is assumed that these "typical" staffing levels are considered to be "appropriately resourced" ESD teams. Less information is provided on non MDT based services but it is assumed their staffing is lower		-Death -Death or Institutional care -Death or dependency -LOS LOS is reduced with co-ordinated services
481	P. McElwaine et al. (2017). A comparison of service organisation and guideline compliance between two adjacent European health services. <i>European Stroke Journal</i> 2:3 238-243	The Irish 2015 National Stroke Audit (NSA) from the were compared with the Sentinel Stroke National Audit Programme (SSNAP) in Northern Ireland and the United Kingdom (UK) and then compared with European guidelines.	No formal intervention – comparison of care reported on audits during the same period. In addition there was a chart audit of patients receiving acute stroke care in hospital over two, 3-month periods 1 January 2014 to 31 March 2014 and 1 July 2014 to 30 September 2014.	46 core questions with multiple sub-sections relating to the structure, staffing and operation of the service (chart audit ignored as was acute inpatient care)	874 patients were audited in the ROI (of 6035 total strokes, 14.5%) in 2014 and compared with 74,307 in the UK from SSNAP. Patients have access to early supported discharge (ESD) in 73% of NI sites compared to 15% in ROI, translating to 21% (65/312) of all discharged patients using an ESD service in Northern Ireland versus 5% (41/743) in Republic of Ireland (RR 3.8 (95% CI 2.6–5.5).	N/A
481	P. McElwaine et al. (2017). A comparison of service organisation and guideline compliance between two adjacent European	Stroke services in Republic of Ireland (ROI) compared to UK and Northern Ireland (UK, NI). Comparison of service organisation using data from NSA (ROI) and SSNAP (UK, NI). Study	None- organisational audit data.	Numbers of hospital services with stroke unit (%), size (number of beds) stroke unit, admission directly to stroke unit (%), bed availability per head	78% of ROI hospitals have stroke units, compared to 100% in NI. Some differences between classification of 'acute' and 'combined' units, units in ROI provided	N/A

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	health services. <i>European Stroke Journal</i> 2:3 238-243	at service organisation, not individual participant level.		population, staffing numbers in specialist disciplines (number/bed on weekday mornings).	'substantial' post-acute care/rehabilitation. No. stroke beds 1/12,037 population NI, 1/20,874 UK and 1/30,633 Rol. Both stroke specialist physicians and nurses in all NI sites and 23/27 for each group in Rol. Nursing numbers 2.9/10 beds Rol with 2.3/10 beds NI, 2.4/10 beds UK. Ratio of AHP/10 beds varied, more dieticians and SLT in Rol 0.53 and 1.05 respectively. PT and OT similar in Rol, NI and UK . 44% Rol units had a social worker, 100% in NI and 97% in UK.	
482	S. Neale et al. (2020). Costs and length of stay associated with early supported discharge for moderate and severe stroke survivors: Costs & LOS for ESD. <i>Journal of Stroke and Cerebrovascular Diseases</i> 29:8 104996	Metropolitan public health service – Australia. Two centre cohort – quasi-experimental. (Within larger study) Convenience control group living outside the community service catchment.	Contact and support from an ESD and coordinated discharge with immediate commencement of intensive rehab from a MDT. Assessment and intervention up to 5 day/week.	Length of stay Saved days Service costs	n=41 (treatment group n=28, control =13). No significant differences in demographics between groups. Treatment group spent significantly fewer days in hospital (acute: TG 5 days vs CG 6.2 days, ipx rehab: TG 9 days vs CG 15 days). Control group spent significantly fewer days receiving intensive rehab TG 19.7 days vs CG 12.2 days). Treatment group less expensive on average but not significantly. ESD was \$6,052 AUD per patient vs standard rehabilitation to CG \$12,105	+

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					AUD per patient.	
482	S. Neale et al. (2020). Costs and length of stay associated with early supported discharge for moderate and severe stroke survivors: Costs & LOS for ESD. <i>Journal of Stroke and Cerebrovascular Diseases</i> 29:8 104996	Australian metropolitan public health service. Quasi-experimental design – control group of convenience. Stroke survivors recruited from acute stroke unit and i/p rehab ward.	ESD programme embedded within the community rehab service catchment – contact/support from ESD team, prompt coordinated discharge with rehab from team, assessment/intervention up to 5 days/week from AHPs, added support care/assistance Vs Standard care – care via acute admission and in-patient rehab with usual community rehab services as local follow-up after discharge	Length of stay Saved days ESD therapy offered, administration, interpreter, transport, community service costs ESD number of sessions, length of sessions, travel time, non-clinical time per patient.	44 participants 3 withdrawals ESD treatment group; 28 Standard care; 13 No significant differences in groups for demographics, severity of stroke, hospital readmission, complications, treatment costs (although treatment groups was less expensive generally). Significant differences for length of stay (fewer for treatment group).	+ Acceptable. Limitations because control group was a convenience group and increases chance of bias impacting on study findings. Single-service study. Not possible to verify costs of providing the ESD service. However, ESD results were, at least, comparable in terms of rehab outcomes and did definitely reduce length of hospital stay.
484	L. Rafsten et al. (2019). Gothenburg Very Early Supported Discharge study (GOTVED): A randomised controlled trial investigating anxiety and overall disability in the first year after stroke. <i>BMC Neurology</i> 19:1 277	RCT n=140 Stroke Patients >18, lived within 30 min of hospital, NIHSS 0-16, BI >50 on 2/7 post stroke, MOCA <26	Very ESD (VESD) vs usual care VESD was MDT rehab at home for 1/12 by a physio, OT and nurse. 2-4 visits per week by PT/OT and 1-2 visits by nurse.	HADS-Anxiety subscale mRS Measured at 5/7, 3/12 and 12/12 post stroke	At 3/12: HADS-A lower in intervention group (p=0.05) and mRS lower (p=0.004) At 12/12 HADS-A no stat sig difference (p=0.811)	N/A

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					Sig lower mRS at 3/12(p=0.004), no stat sig difference at 12/12.	