SSNAP | Sentinel Stroke National Audit Programme

KING'S College LONDON

Sentinel Stroke National Audit Programme (SSNAP)

Post-acute Organisational Audit Report

National Report

England, Wales and Northern Ireland

December 2021

Prepared by

Sentinel Stroke National Audit Programme, King's College London,
on behalf of the Intercollegiate Stroke Working Party

2021

Document purpose	To disseminate the results of the SSNAP 2021 Post-acute Organisational Audit of stroke service providers.
Title	SSNAP 2021 Post-acute Organisational Audit report
Author	On behalf of the Intercollegiate Stroke Working Party
Publication	December 2021
Target audience	Post-acute stroke services, managers, medical directors and trust executives of providers that participated in the 2021 Post-acute Organisational Audit. Health and social care professionals and healthcare management organisations including commissioners. General public and stroke survivors and their carers. NHS England, NHS Wales, Northern Ireland Department of Health, Isle of Man and Jersey.
Description	This is the second Post-acute Organisational Audit report published under the auspices of the Sentinel Stroke National Audit Programme (SSNAP). The report publishes national level findings on the organisation of post-acute stroke services that see at least twenty stroke patients a year. These findings relate to post-acute care organisation, staffing and the pathway at discharge. It reflects the organisation of post-acute stroke services as of **1 April 2021**. Services can use this report to benchmark their performance against national level findings and compare themselves with national standards. This report is addressed to everyone who is interested in post-acute stroke services. It gives a picture of current services, and the style of the report should allow lay people as well as experts to read it and extract relevant information. The report presents key findings and recommendations, a look at the 14 key indicators applied at team level and 3 key indicators applied at ISDN level, followed by other key findings from the organisational audit. A full results portfolio (Excel file), which presents all data items by named services, is also available and should be viewed in context with this report.
Superseded	SSNAP Post-acute Organisational Audit 2015
Related documents	The full results portfolio and appendices can be found here: https://www.strokeaudit.org/results/PostAcute2021/National.aspx
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Foreword

It is a great pleasure to present the findings of the 2021 SSNAP audit of post-acute and rehabilitation services for people with stroke, the first such audit for six years. The priority for most people with stroke, even after allowing for the advances we have seen in acute reperfusion, remains the maximum possible access to specialist rehabilitation to help them recover from the disabling effects of their stroke, for as long as they need it.

This report shows the reality of that expectation being met by stroke services across England, Wales and Northern Ireland in 2021. The impression is of services that vary enormously in the extent to which they can deliver the highly skilled multidisciplinary and seamless rehabilitation that people need. Fewer than half of all in-patient services are providing staffing levels that match the expert recommendations; for community-based teams, it is less than a third. Not all staff are receiving enough training to build and maintain the specialist skills they need. A quarter of services are now providing vocational rehabilitation, despite many not being commissioned to do so, but there is an almost complete absence in Wales. More needs to be done to ensure that post-acute services are as fully involved with quality improvement through national audit as has become the routine expectation for acute providers. Then there are the topics for which change has proved to be difficult over quite some time: psychological support is not available at all in over a third of teams, and for those where it is, the average waiting time of 10 weeks is unchanged from six years ago. The review of people with stroke at 6 months, originally identified as a national policy priority 15 years ago, is for many still not taking place. The sense of abandonment felt by people with stroke and their carers, recently reiterated in the Stroke Association's 2021 'Recoveries at Risk' report of care and rehabilitation during the COVID-19 pandemic (https://www.stroke.org.uk/stroke-recoveries-at-risk-report), still needs to be tackled, as we know it results in declining mental health and wellbeing for many. Plainly put, the planning and provision of stroke services in the UK has too often been service-based, not person-centred.

So there clearly remains a great deal to do to achieve the quality and quantity of post-acute rehabilitation that people with stroke should receive, and the 'green shoots' of the engagement of post-acute teams and the new Integrated Stroke Delivery Networks (ISDNs, in England) with this audit are an encouraging start. The emerging English Integrated Care Systems and their equivalents in the devolved nations urgently need to respond to the challenge of better provision laid out in the ambitious new Integrated Community Stroke Service model (ICSS), recently published by NHS England. Urgent progress is also needed in research so rehabilitation can be guided by knowing what works for people with stroke, and what doesn't. The recent James Lind Alliance Priority-Setting Partnership led by the Stroke Association (https://www.stroke.org.uk/research/priority-setting-partnership) has identified the 'Top 10' areas of uncertainty in stroke rehabilitation that need to be addressed. To do this we need much greater research participation from teams than the current level of below 10%. Overall, the implementation of the **7 Key Recommendations** from this report would greatly improve the lives of many thousands of people with stroke and their families, and at the same time reduce the cost and burden of stroke on the nation – a good old-fashioned 'win-win'. It's time to put the person with stroke and their family at the centre of everything that we do.

I wish to pay tribute to all the teams who have participated in this audit and who are working hard to deliver the best care they can for people with stroke. I also pay tribute to those who have contributed to this report, especially my colleagues Rebecca Fisher and Louise Clark, who have toiled long and hard with the team at SSNAP to render a highly complex dataset into a sharply focussed report with clear messages for the way forward. I commend this report to the stroke community and with you I relish the double-edged challenge/opportunity contained within its pages: **let's make life better for people with stroke**.

Professor Martin James MD FRCP

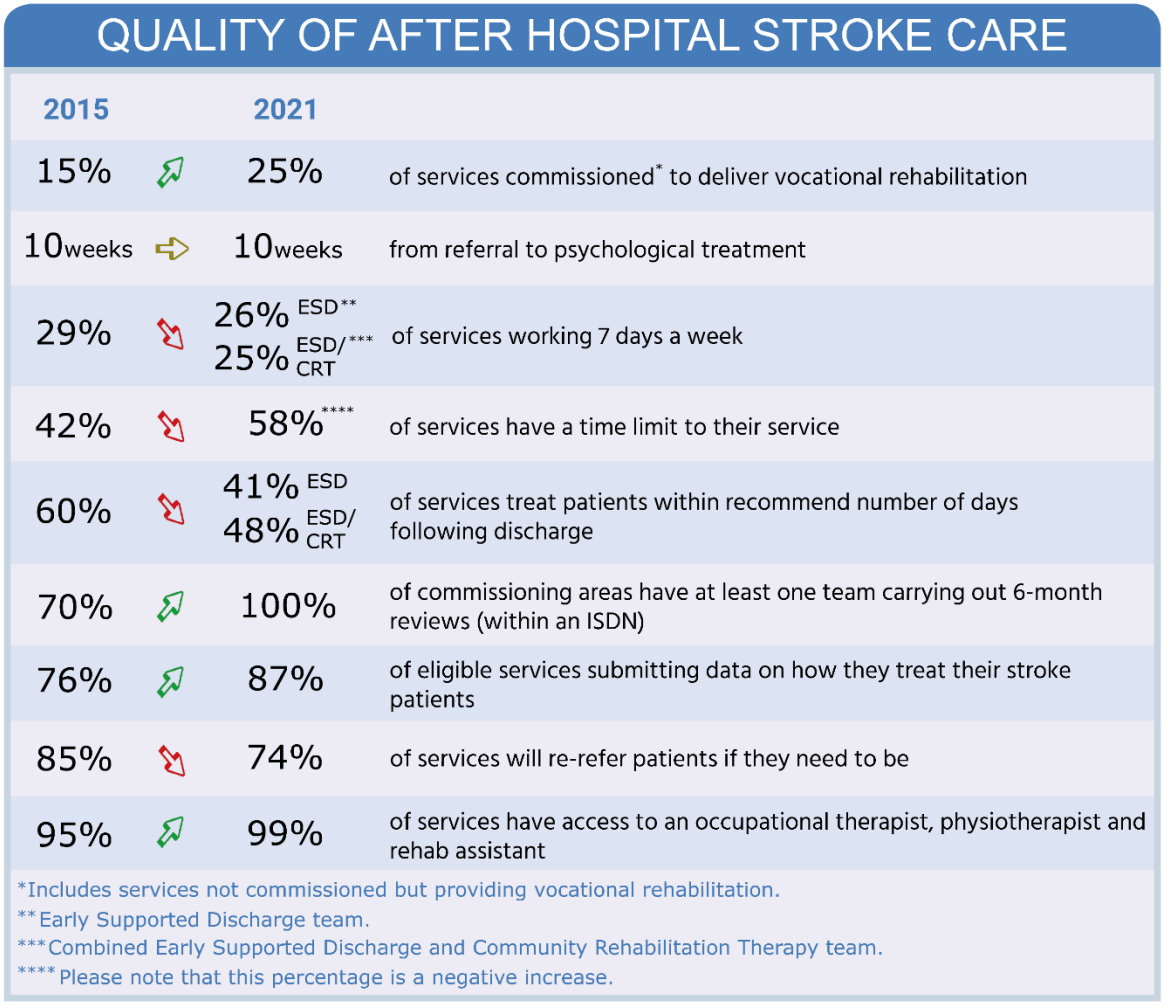
Clinical Director, Sentinel Stroke National Audit Programme, hosted by King's College London

Executive summary

A brief look back to 2015

The SSNAP Post-acute Organisational Audit was last conducted in 2015. During this time there have been significant advances in evidence and policy regarding post-acute rehabilitation. The following figure compares performance between the 2015 and 2021 audits.

Figure 1.1: Comparison between 2015 and 2021 performance



The areas identified as requiring improvement in the 2015 audit remain largely unchanged, with significant improvement still necessary in vocational rehabilitation, timeliness of psychological intervention and 7 day working. These data suggest a worsening position in relation to time limited services, an indicator we would expect to improve as the ICSS model is adopted. The proportion of teams meeting the Early Supported Discharge responsiveness standard of 1 day from discharge to first treatment has decreased from 60% to 41%. This is likely to have been negatively influenced by the COVID-19 pandemic, as teams have expanded criteria and experienced workforce challenges. Performance for combined teams providing Early Supported Discharge is also lower at 48% (34 out of 71 teams). The standard for combined teams was adjusted to a 3-day average time to first contact for combined teams to reflect a standard of 7 days to first contact for the Community Rehabilitation team cohort. Timeliness of intervention for these services is a key feature of their model and therefore a priority for improvement. Importantly however, the proportion of hospital discharges to Early Supported Discharge teams has risen sharply in 2020-21 to 48%. This trend may have resulted in teams being spread more thinly as they have responded to the urgency of getting patients out of hospital.

We acknowledge and commend the increase in post-acute services submitting clinical data to the SSNAP audit and continue to work with teams to build on functionality and comprehensiveness of the post-acute dataset.

An increase in commissioning of 6-month assessment providers is an important advance and is explored more in section 8.

Summary of key findings and recommendations

Here we summarise positive (✓) and negative (✖) findings under key recommendations together with some additional recommendations (→) featured in the report.

Key recommendation 1: All inpatient and community rehabilitation services providing rehabilitation for people with stroke should meet recommended staffing levels with appropriate access to all disciplines required.

✓ Stroke or stroke/neuro specific services are the predominant type of post-acute service provided.

✖ Staffing levels: Less than 50% of inpatient services have the recommended levels of any of the core disciplines.

✓ Staffing levels: The majority of inpatient services (71%) meet recommended nurse staffing levels.

→ Inpatient nursing skill mix: Use of band 4 staff who can autonomously undertake some nursing and rehabilitation tasks and increasing the numbers of nurses above band 7 level could increase workforce capacity.

→ Inpatient medical care: Use of lower grade stroke specialist medical staff for post-acute inpatient teams, supported by advanced or consultant practitioners (nurses or allied health professionals), could be a more efficient use of workforce.

✖ Staffing levels: Fewer than a third of community-based multidisciplinary teams met recommended staffing levels.

✖ Under-represented disciplines: Psychologists, dietitians, orthoptists, social workers and family and carer support workers were all under-represented in hospital and community-based teams.

→ Care homes: Access to Life after Stroke services (such as communication, emotional and peer support) should be improved for patients in care homes.

Key recommendation 2: All community-based services should adopt the Integrated Community Stroke Service model and deliver needs-based rehabilitation 7 days a week starting promptly after discharge.

✖ 7-day services: There is still a predominance of 5-day services in community-based multidisciplinary teams.

✖ Waiting times: Over a third of Community Rehabilitation teams have a waiting time of more than 2 weeks to commence therapy.

✓ Re-referrals: A high proportion of teams (80%+) of each service type (apart from Community Rehabilitation teams) accept re-referrals.

✓ Care homes: High proportions of Early Supported Discharge (ESD), Community Rehabilitation teams (CRT) and Combined ESD/CRT teams provide rehabilitation for patients in care homes.

Key recommendation 3: Effective and specialist multidisciplinary team working should be promoted by all team members and supported by senior managers and leaders.

✓ There is a good breadth of non-medical leadership with a high proportion of teams led by core therapy disciplines.

✖ The lack of designated leadership for Community Rehabilitation teams is likely to impact on the service quality.

✓ Attendance by clinical psychologists at multidisciplinary meetings could be an effective method for psychology staff to provide an educational and consultatory role.

→ Every team requires a designated team leader.

→ Every post-acute service should hold weekly multidisciplinary team meetings attended by all disciplines and should attend acute multidisciplinary team meetings.

Key recommendation 4: Staff, patients and family members should have dedicated (protected time) and access in their workplace and at home to education, information and training relating to stroke care, offered by reputable national bodies.

✖ Carer training: Insufficient training is provided for carers across all service types.

✖ Nurse training: Fewer inpatient nurses than therapists had access to training.

→ Patient information should be adapted appropriately for those with aphasia, cognitive or visual difficulties. Training should be delivered on an individual patient basis, groups, in person or virtually.

→ The Stroke Specific Education Framework (SSEF) (https://stroke-education.org.uk/), should be reviewed for all staff and staff should be released for training (including nurses).

Key recommendation 5: Vocational Rehabilitation should be available for all patients who need it and should be formally commissioned in line with evidence-based recommendations.

✖ The majority (71%) of teams are providing vocational rehabilitation without it being formally commissioned.

→ Eligibility for vocational rehabilitation should be standardised, such as anyone who wishes to return to or take up paid or unpaid work after their stroke.

→ Vocational rehabilitation should be detailed in service specifications, with associated reporting metrics and patient outcome data, to ensure optimal delivery is maintained regardless of provider type.

Key recommendation 6: Six-month reviews should be conducted using a standardised tool and offered to all patients. Reviews should cover stroke secondary prevention, stroke recovery and disability management as well as reviewing unmet clinical and social care needs.

✖ Only half of ISDNs met the 6-month review key indicator.

→ The skill-mix of staff delivering reviews should be considered, such as lower grade staff supported by advanced or consultant practitioners (nurses or allied health professionals) for a more efficient use of workforce.

→ Lack of social worker involvement in 6-month reviews is a missed opportunity.

Key recommendation 7: Services should use process and standardised patient outcome measures to guide clinical delivery and service improvement. This should be as part of participating in SSNAP, their local and regional systems and research.

→ Full participation in the SSNAP clinical audit is vital for data to be representative to drive local and national improvement.

→ Participation in stroke rehabilitation research needs to be prioritised.

✓ A wide range of standardised outcome measures are being used routinely.

→ Use of a common set of outcome measures (including patient reported outcome measures), collected across the stroke care pathway, would enable ISDNs and regions to drive the process of quality improvement in stroke rehabilitation and evaluate services objectively.

Areas requiring further investigation and research

Commissioning and configurations of inpatient services: Inpatient pathways differ across the country with varying access to inpatient rehabilitation and specialist commissioned rehabilitation beds. This needs to be explored more fully to understand the optimal pathway; however, it is likely that configuration of bed-based provision may need to differ according to local population, rurality and configuration of acute and community services. It will be important to amalgamate data with the upcoming SSNAP Acute Organisational Audit to clearly understand what changes there have been in overall bed numbers.

Swallow assessments: Further investigation into the competencies of staff who are trained in swallow assessment is required, as well as the impact on other professionals completing swallow assessments such as speech and language therapists.

Remote delivery of rehabilitation to augment face to face therapy: This should be properly evaluated as a method to increase the intensity of rehabilitation.

Education, information and training: Further exploration is required to understand what resources are used, how information is adapted appropriately for those with aphasia, cognitive or visual difficulties, and whether training is delivered on an individual patient basis, in groups, in person or virtually.

Vocational rehabilitation (VR): Research evidence is required to inform effective and timely delivery of VR, including appropriate dose/schedules, staff resource implications (e.g. occupational therapists) and the interplay with rehabilitation focussed on non-vocational goals.

Introduction

This report presents the results of the Sentinel Stroke National Audit Programme (SSNAP) Post-acute Organisational Audit 2021 (PAOA). It describes the organisation of post-acute stroke care in England, Wales, Northern Ireland, the Isle of Man and Jersey as of 1 April 2021.

A total of 664 post-acute services participated in this audit, of which 591 were in England, 42 in Wales, 28 in Northern Ireland, one in the Isle of Man, one in Jersey and one was from the Stroke Association Connect participating on a national level. Data were collected via a web-based audit proforma, with inbuilt validations to ensure data accuracy. The key performance indicators (see section 1) were devised by the SSNAP team.

Data was collected at service level using a standardised methodology, which is outlined in full in Appendix 1. Two leads were selected for each service with overall responsibility for data quality.

COVID-19

Teams inputted data for this audit between 1 April 2021 and 30 April 2021. The audit applied to data collected between 1 April 2020 and 31 March 2021. If teams had reorganised as a temporary response to the COVID-19 pandemic they were asked to report as per their usual commissioned service. For teams where changes had been made due to the pandemic but there was no intention to revert to their usual service, they were asked to report on their current service structure.

Whilst the aim of this audit was not to directly investigate the impact of the COVID-19 pandemic, we have commented on its impact on service provision in the relevant sections of the report.

Aims of the audit

The aims of the audit were:

- To establish a baseline of current service organisation nationally to compare with processes of care (SSNAP clinical audit) and to monitor changes over time.
- To enable providers to benchmark the quality of the component elements of their service organisation nationally and regionally.
- To provide timely, transparent information to patients, the public and professionals about the quality of stroke care organisation in the post-acute setting locally and nationally.
- To provide commissioners with evidence of the quality of commissioned services and to identify where improvements to services are needed and make recommendations.

Availability of this report in the public domain

Participating services received a national full results portfolio on 1st November 2021. The full results portfolio was made available to the wider NHS, including NHS England and Improvement (NHSEI) and the Care Quality Commission, and Integrated Stroke Delivery Networks (ISDNs in England, NHS Wales (Welsh Government), the Department of Health and Social Services and Public Safety in Northern Ireland) on 11th November 2021. The national report was published December 2021 in line with the transparency agenda subject to HQIP's standard reporting process.

Section 1: Key performance indicators

Key performance indicators (KIs) have been selected to measure performance at a team, service type and ISDN level (England only). Indicators are derived from the National Stroke Service Model description of an Integrated Community Stroke Service (ICSS) **(**https://www.england.nhs.uk/publication/national-stroke-service-model-integrated-stroke-delivery-networks/**)** and the National Clinical Guideline for Stroke (RCP, 2016). Indicators summarise the core principles underpinning evidence-based post-acute stroke rehabilitation. Our ambitions are for these indicators to provide a baseline for all regions to drive local improvement, and nationally to detect improvement over time as the audit is repeated and to demonstrate progress towards the implementation of the ICSS model. Core features of the ICSS model are explored in more detail throughout the body of the report.

How the key performance indicators are calculated can be found in Appendix 6. It should be noted that not all aspects of rehabilitation or quality are covered by these metrics.

Table 1.1: Post-acute team level key performance indicators

KI	Key performance indicator*	Post-acute inpatient teams (n=93)	Community-based multidisciplinary teams*** (n=245)
1.	Team is stroke/neuro specific	**73.1% (68)**	**93.1% (228)**
2.	Team has an appropriate level of staffing for core disciplines**	**12.9% (12)** of services meet KI2 for two points	**0.8% (2)** of services meet KI2 for two points
		1.1% (1) of services meet KI2 for one point	**8.2% (20)** of services meet KI2 for one point
3.	Team has appropriate access to all relevant disciplines	**18.3% (17)**	**16.7% (41)**
4.	Team provides rehabilitation every day**	**9.7% (9)** of services meet KI4 for two points	**10.2% (25)** of services meet KI4 for two points
		12.9% (12) of services meet KI4 for one point	**5.3% (13)** of services meet KI4 for one point
5.	Team includes access to clinical psychology	**55.9% (52)**	**66.9% (164)**
6.	Inpatient nurses are trained in stroke assessment and management	**58.1% (54)**	**N/A**
7.	Team provides rehabilitation to people in care homes	**N/A**	**94.3% (231)**

KI	Key performance indicator*	Post-acute inpatient teams (n=93)	Community-based multidisciplinary teams*** (n=245)
8.	Team regularly attends inpatient MDT meetings	**N/A**	**47.8% (117)**
9.	Team service provision is not time-limited	**N/A**	**42.5% (104)**
10.	Team has at least weekly formal multidisciplinary team meetings with core disciplines in attendance	**60.2% (56)**	**27.4% (67)**
11.	Team offers stroke training for all disciplines	**37.6% (35)**	**22.5% (55)**
12.	Team commences rehabilitation within recommended no. days from discharge	**N/A**	**44.5% (109)**
13.	Team participates in SSNAP clinical audit	**86.0% (80)**	**86.1% (211)**
14.	Team is actively involved in research	**8.6% (8)**	**9.0% (22)**
Median KI score (IQR)		**4/10 (3, 6)**	**6/13 (4, 7)**

*The criterion for each KI can be found in Appendix 6
**This is a multi-level KI which means one or two points can be achieved (see Glossary and Appendix 6 for further information)
***Community-based multidisciplinary teams: Early Supported Discharge (ESD), Community Rehabilitation teams, Combined ESD/CRT

Table 1.1 shows significant variation in performance both regionally and across the stroke pathway. Variation according to service type is explored throughout the report and appears to have an influence on achievement of indicators, particularly staffing levels, 7-day working and timeliness.

Figure 1.2: Post-acute inpatient team total KI performance

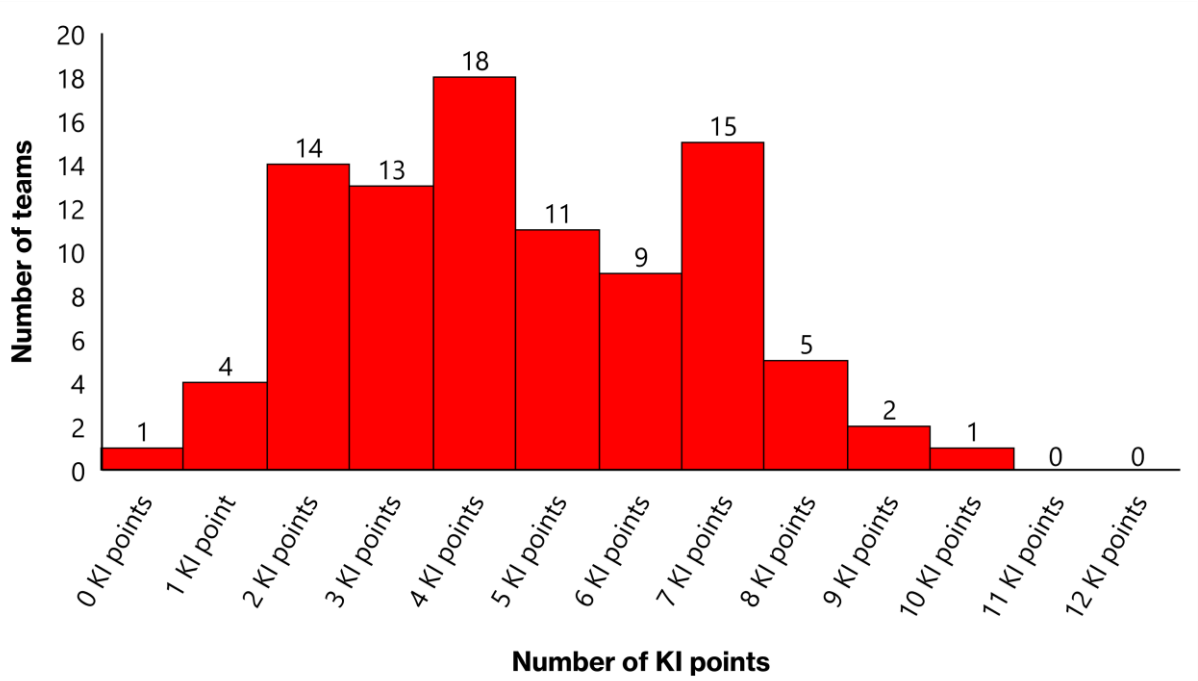
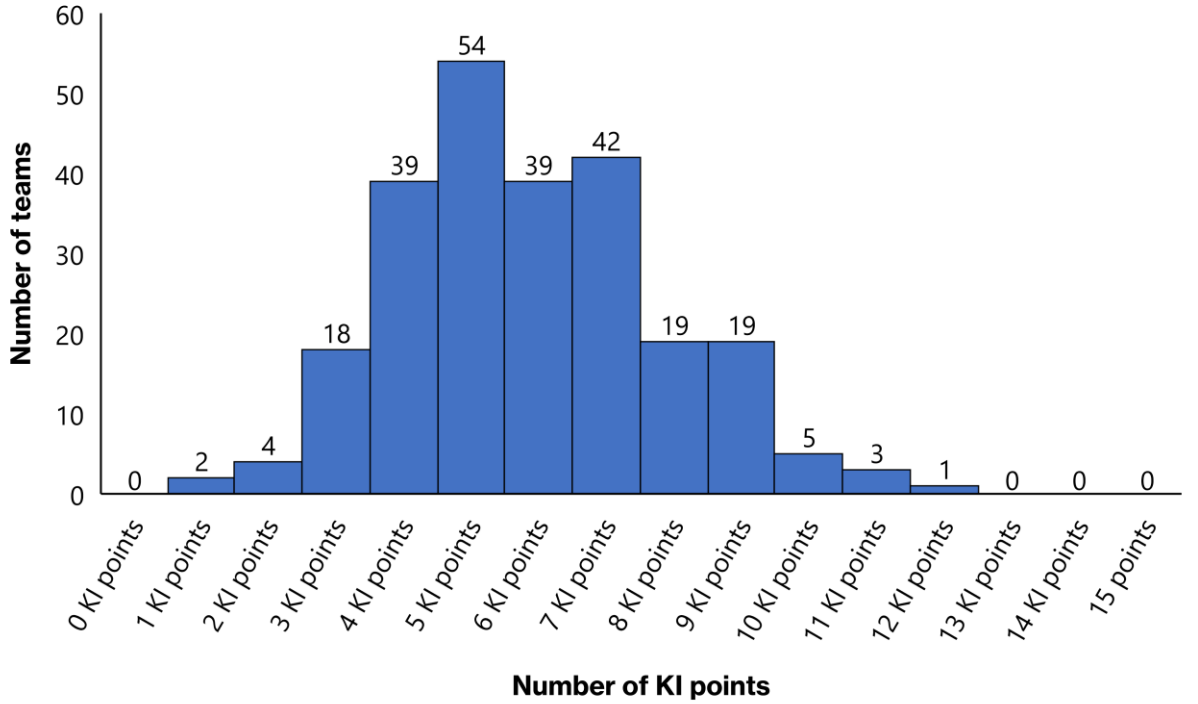


Figure 1.3: Community-based multidisciplinary team* total KI performance

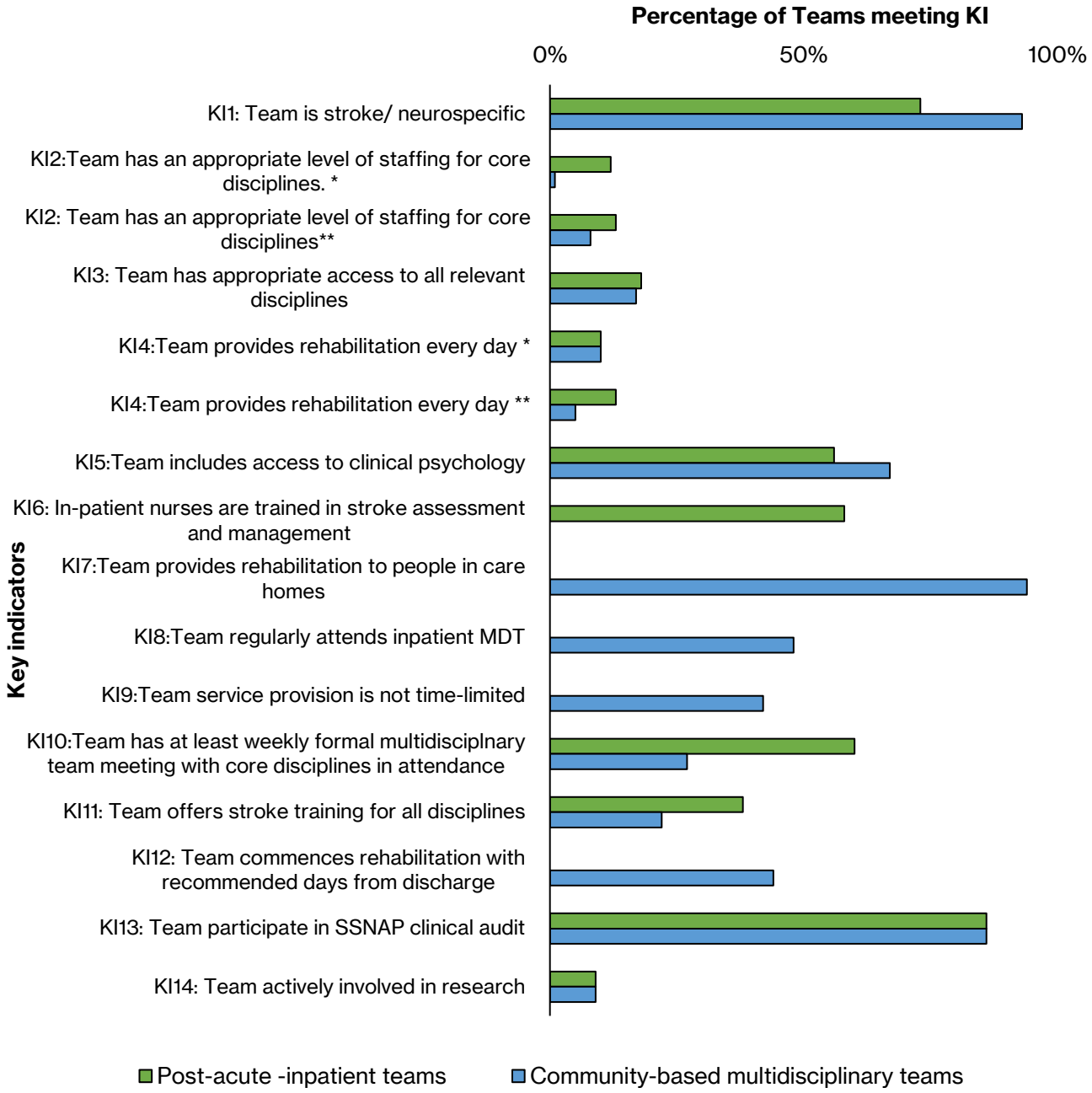


*Community-based multidisciplinary teams include Early Supported Discharge, Community Rehabilitation teams and Combined ESD/CRT.

Median performance for post-acute inpatient teams was 4 key indicator points with 23.6% of teams receiving 7-10 of their relevant key performance indicator points. The median performance for community-based multidisciplinary teams (Early Supported Discharge (ESD), Community Rehabilitation teams (CRT) and Combined ESD/CRT) was 6 key performance indicators points scored. 12.2% of community-based multidisciplinary teams received 75% or more of their relevant key performance indicator points (9-13 KIs).

Overall, 42.9% of all indicators have been met by qualifying teams who have participated in the audit. This supports the clear improvement mandate of the NHSEI stroke plan, identifies key areas of focus and indicates areas of good practice which need to be shared and amplified at pace.

Figure 1.4: Percentage of post-acute inpatient teams and community-based multidisciplinary teams meeting key performance indicators***



*Two points achieved for this KI, **One point achieved for this KI, ***Community-based multidisciplinary teams include Early Supported Discharge teams, Community Rehabilitation teams and Combined ESD/CRT.
Note: Not all KIs are relevant to all service types (KI 7, 8, 9, 12)

It is encouraging to see a high proportion of stroke specificity in services (87.6%) as well as a high proportion of services providing input to those in care homes (94.3%).

Priorities include reducing unwarranted variation; improving staffing levels to be able to deliver high quality, needs-led rehabilitation (KI2, KI9); ensuring access to all necessary disciplines, particularly

psychology (KI3); having access to rehabilitation 7 days a week (KI4); and treatment commencing promptly (KI12).

Many of these indicators were identified as areas requiring improvement in the 2015 audit and whilst there has been some improvement (see executive summary), continued efforts are required to meet these priorities.

Key aspects of effective team working, processes and quality such as formal, regular multidisciplinary team meetings (KI10), training (KI11) and involvement in research (KI13) are described in later sections of the report (sections 5, 6 and 9) and require improvement.

Table 1.2: Integrated Stroke Delivery Network key performance indicators

Key indicator	Integrated Stroke Delivery Networks who meet this key indicator (n=20)
KI15: Access to commissioned vocational rehabilitation	**50% (10/20)**
KI6: Provision of 6-month reviews	**50% (10/20)**
KI7: Provision of formally commissioned support services	**35% (7/20)**

Table 1.2 shows insufficient commissioning of vocational rehabilitation services, 6-month review providers and support services at an ISDN level. Further detail in sections 7 and 8 give a more encouraging picture of the work being carried out in these areas.

Section 2: Participation

This section presents participation data for the 2021 iteration of the Post-acute Organisational Audit. Participation in 2021 is underpinned by a movement towards more integrated services, which is explored more in section 3. For many teams these changes were initiated or accelerated by the COVID-19 pandemic. As the ICSS model is adopted more widely, it is expected this movement will continue over the span of future audits.

Table 2.1: 2021 Post-acute Organisational Audit participation (number of teams responding)

Service type	Count
Post-acute inpatient team	**93**
Early Supported Discharge team	**88**
Community Rehabilitation team	**86**
Combined ESD/CRT	**71**
6-month assessment provider	**78**
Single discipline service	**66**
Other post-acute provider	**182**

2.1 Patient numbers

Services that responded to the audit report a total patient caseload of 112,174 from 1 April 2020 to 31 March 2021. This provides some assurance that findings are likely to be representative of the current clinical picture in the UK and shows a growth in provision and participation from 2015.

Due to the COVID-19 pandemic, teams were asked to indicate changes in patient numbers compared to a usual year. Post-acute inpatient teams and community-based multidisciplinary teams saw an increase in patient numbers (44% and 39% respectively) in comparison to a usual year. This is likely to be due to an increase in rapid discharges from hospital to create acute capacity. In contrast, about a quarter of teams saw a decrease in numbers of patients, representing services having their criteria limited during COVID-19 and a reduction in stroke presentations to many acute services.

Table 2.2: Reported caseload numbers by service type in 2015 and 2021

Service type	2015	2021
Post-acute inpatient teams	**11,713**	**12,898**
Community-based multidisciplinary teams (Early Supported Discharge, Community Rehabilitation team, Combined ESD/CRT)	**57,291**	**68,086**
Outpatient Single discipline service	**9273** **10,388**	**Not collected*** **31,190**
Total	**88,885**	**112,174**
Other post-acute provider	**53,092**	**Not reported****

*Outpatient services reported as a standalone/single discipline service in 2021
**Other post-acute providers from PAOA 2021 not reported as per the 2015 definition.

It is important to acknowledge this is a significantly higher number of patients than feature in the SSNAP clinical audit, where community-based multidisciplinary teams report approximately 30,000 patients a year. This reflects that not all participating teams currently submit data to the clinical audit and that the SSNAP clinical audit features patients up to 6 months after stroke, whereas participating teams included here may be providing services to people at any point post stroke. Caseload numbers may also reflect the same patient being counted more than once as they move through various services, rather than as one continuous patient journey in the SSNAP clinical audit.

2.2 Staff in participating services

Services participating in the audit represent over 6,700 whole-time equivalents (WTE) of staff delivering stroke rehabilitation. This does not include non-clinical staff, such as SSNAP data administrators or staffing for any services who identified as an 'other provider', such as the Stroke Association, who collectively would significantly increase this number. This is comparable with staffing numbers reported in the 2015 audit.

Table 2.3: Total reported WTE and percentage per clinical discipline per service type

Clinical discipline	Post-acute inpatient teams (n=2886.4)	Community-based multidisciplinary teams: ESD, ESD/CRT, CRT (n=3469.8)	6-month assessment providers (n=150.3)	Single discipline service (n=204.3)	Total reported WTE (n=6710.85)
Occupational therapy	**9.3% (267.3)**	**23.2% (803.7)**	**5.8% (8.7)**	**8.7% (17.8)**	**16.4% (1097.5)**
Physiotherapy	**9.8% (283.8)**	**26.8% (928.2)**	**6.9% (10.4)**	**23.9% (48.8)**	**(18.9%) 1271.2**
SLT*	**3.7% (108.2)**	**8.3% (287.4)**	**2.9% (4.4)**	**44.6% (91.2)**	**7.3% (491.2)**
Psychology**	**1.5% (44.1)**	**2.5% (87.8)**	**0.5% (0.8)**	**8.5% (17.4)**	**2.2% (150.1)**
Dietician**	**0.8% (21.9)**	**(0.7%) 25.14**	**0.9% (1.4)**	**0.5% (1.1)**	**0.7% (49.5)**
Social worker**	**0.4% (12.9)**	**0.6% (19.1)**	**0% (0)**	**0% (0)**	**0.5% (32)**
Doctor	**4.8% (139.8)**	**0.1% (4.3)**	**7.8% (11.8)**	**0% (0)**	**2.3% (155.9)**
Nurse	**1694.8 (58.7%)**	**249.3 (7.2%)**	**83.2 (55.3%)**	**0% (0)**	**30.2% (2027.3)**
Rehab Assistant	**10.9% (313.6)**	**30.7% (1064.9)**	**18.1% (2.2)**	**13.7% (28)**	**21.1% (1418.7)**
Family and carer support worker**	**0% (0)**	**0% (0)**	**11.6% (17.5)**	**0% (0)**	**0.3% (17.5)**

*Speech and language therapy
**Under-represented clinical disciplines

Workforce is explored in more detail in section 3. It is clear from these data that some professions (psychology, dietician, social worker and family and carer support worker) remain under-represented in the post-acute pathway; this needs to be addressed.

2.3 Inpatient services

The table below shows the number of inpatient teams participating in the audit this year compared with 2015.

Table 2.4: Number of post-acute inpatient teams and beds

	2015	2021
Number of post-acute inpatient teams participating in the post-acute audit	**116**	**93**
Number of post-acute inpatient beds that can be used by stroke patients	**2,007**	**1,587**

These data suggest a 20.9% reduction in post-acute inpatient team beds since 2015. It will be important to amalgamate data with the upcoming SSNAP Acute Organisational Audit to determine if there truly has been a reduction in overall bed numbers. However, an increasing focus on community-based stroke care, pressures on acute hospitals and the implementation of 'Discharge to Assess' could explain why bed numbers for rehabilitation have reduced. The appropriate bed base needs to be investigated locally, ensuring an adequate inpatient bed base for those requiring intensive rehabilitation to transition to the community safely. This is contingent on appropriately resourced and responsive community-based services and should not be considered in isolation. Size and location of these units should be explored closely to ensure equity of provision, support for hyper acute services and appropriate length of stay is maintained. It is recognised that inpatient pathways differ across the country with varying access to inpatient rehabilitation and specialist commissioned rehabilitation beds. This needs to be explored more fully to understand the optimal pathway; however, it is likely that configuration of bedded provision may need to differ according to local population, rurality, and configuration of acute and community services.

A total of 12 specialist commissioned rehabilitation units participated and are included in the post-acute inpatient team data throughout the report. This compares with 65 units listed by the UK Rehabilitation Outcomes Collaborative (UKROC), excluding children's units and those specialising in cognitive behavioural rehabilitation.

Table 2.5: Participation of specialist commissioned rehabilitation units

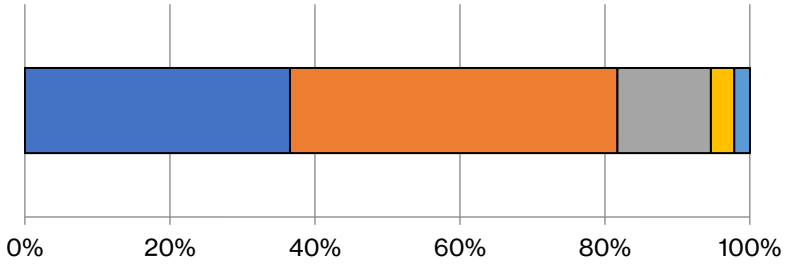
Specialist commissioned rehabilitation unit*	Count
Level 1a Physical disability	**1**
Level 1b Mixed	**3**
Level 2a Supra district	**2**
Level 2b Local	**6**
Total	**12**

*For definitions of service types: http://www.ukroc.org and https://www.bsrm.org.uk/downloads/specialised-neurorehabilitation-service-standards--7-30-4-2015-forweb.pdf

Data for these specialists commissioned units have been reviewed and whilst some units have higher levels of staffing and 7 day working, overall, these data were not deemed to skew the dataset or warrant the data being separated. Data for these units can be viewed and compared by applying filters on the inpatient tab on the online dashboard.

It is recognised that provision of level 1 or 2 inpatient rehabilitation varies across regions; these are an important part of the stroke pathway, delivering rehabilitation to those with complex needs following stroke. Data regarding activity in such units is collected via the UKROC database http://www.ukroc.org.

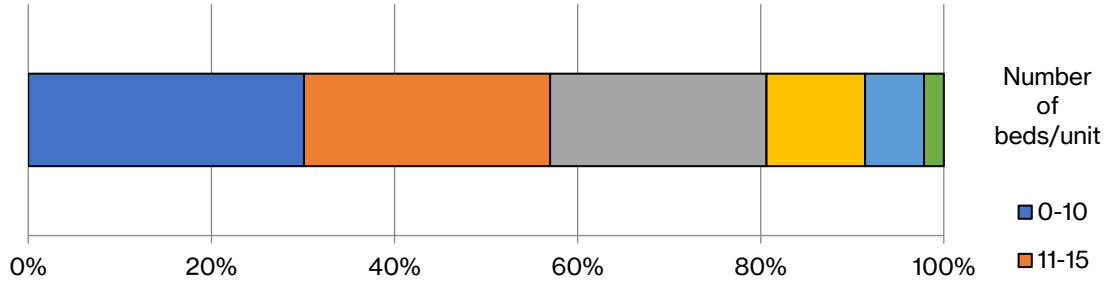
Figure 2.1: Number and proportion of post-acute inpatient teams by service type



	Number of services (n=93)
Acute trust	34
Community trust	42
Acute and community	12
Social enterprise	3
Private provider	2

Most post-acute inpatient beds are provided by a community trust, with a small number provided by social enterprises and private providers. Communication and processes are key to ensure flow and effectiveness. Collaboration between providers across the pathway is essential.

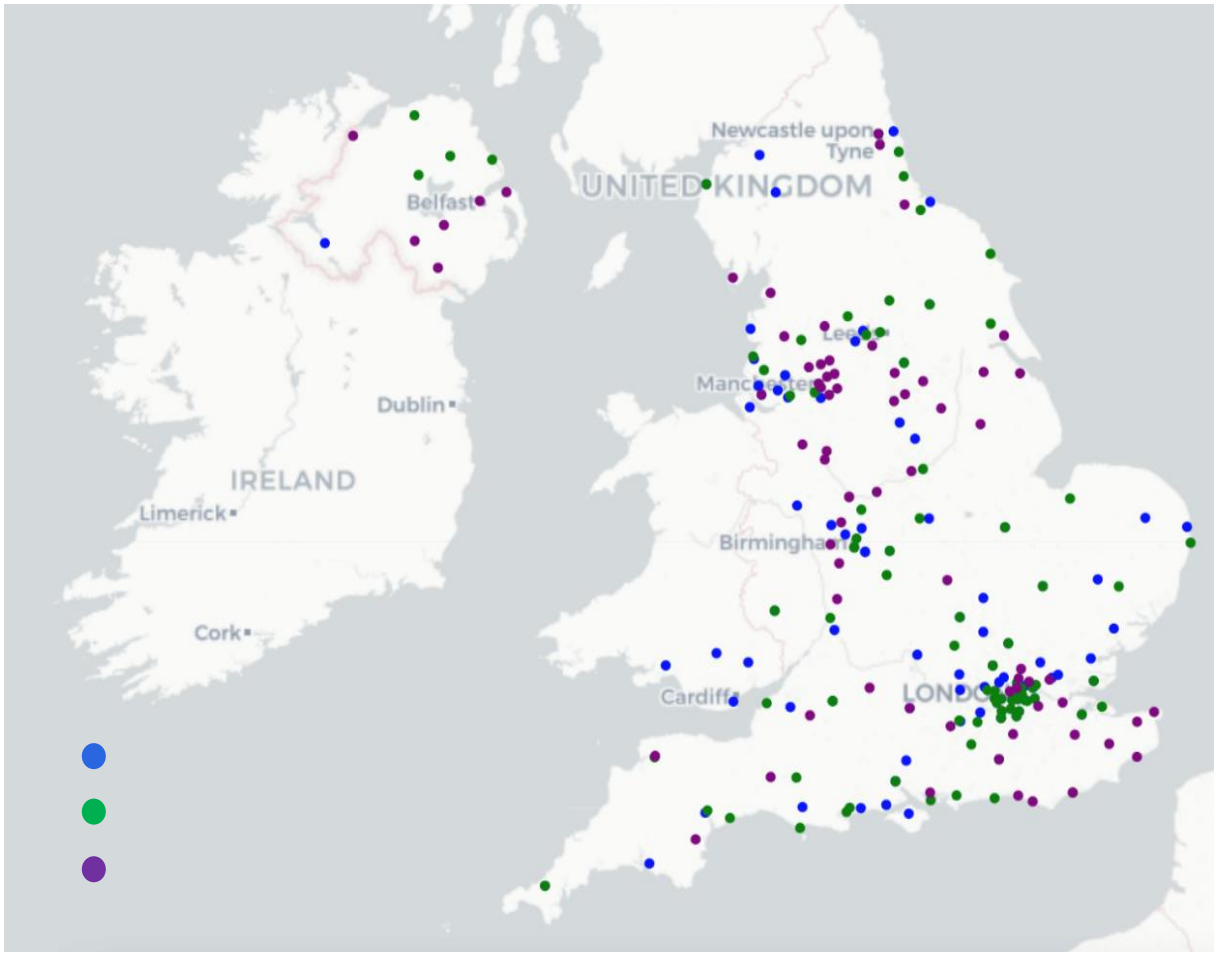
Figure 2.2: Size of post-acute inpatient units by bed numbers



	Number of Services (n=93)
0-10	28
11-15	25
16-20	22
21-30	10
31-50	6
50+	2

The size and location of post-acute inpatient units is of significant interest, particularly in areas where reconfiguration is being considered. Median unit size is 15 beds. There are a reasonable number of units below ten beds. Cost and resource efficiency should be considered for units of this size. Stroke specificity of inpatient provision is described in section 3.

Figure 2.3: Map showing distribution of Early Supported Discharge, Community Rehabilitation teams and Combined ESD/CRT



The map shows a good coverage of teams which is comparable with the 2015 audit, with an increased number of Combined ESD/CRT services (shown in purple). In Northern Ireland more than 50% of teams are Combined ESD/CRT services, compared to Wales with 100% of Early Supported Discharge teams (however it is recognised that the figures may not be accurate as audit participation may have been low in Wales). In England there appears to be a higher proportion of combined teams in the North. Areas such as the Southwest and the East of England continue to have a lower distribution of teams, likely relating to patient population, caseloads, and the geographical area that they operate within. See Appendix 8 for more detailed area-specific maps.

2.4 Other post-acute services

A programme of engagement was undertaken with clinical teams ahead of the audit, to encourage participation from services who traditionally may not have engaged with the SSNAP clinical audit or previous organisational audits. We were keen to represent and acknowledge the broad and wide-ranging network of services that contribute to post-acute stroke care in 2021.

Table 2.6: Services delivered by other post-acute support providers

Service provided	Percentage	Count (n=182)
Information and signposting service	**88.5%**	**161**
Benefit support	**18.1%**	**33**
Patient, family and carer support	**89.6%**	**163**
Communication support	**82.4%**	**150**
Emotional support	**84.1%**	**153**
Exercise and educational service	**12.6%**	**23**
Reablement service	**11.0%**	**20**
Equipment support	**5.5%**	**10**
Peer support service	**34.6%**	**63**
Intermediate care beds	**1.1%**	**2**
Level 1/Level 2/Level 2b neurological rehabilitation unit	**0%**	**0**
Residential facility	**1.7%**	**3**

Table 2.6 shows encouragingly high numbers of formally commissioned emotional support and communication support services exist, alongside information and signposting, and patient and family support. We had created a category in the 'other post-acute providers' section of the audit, but as can be seen in Table 2.6 none of the 12 specialist commissioned rehabilitation units identified themselves in this category. UKROC list 65 specialist commissioned rehabilitation units, many of which will accept patients following stroke. Therefore, there are a significant number (up to 53) are unfortunately not represented in this audit. Gaining a full understanding of the services offered to stroke patients by these units would be helpful in future audits.

Table 2.7: Commissioners of other care providers

Commissioners*	Count (n=182)
Health trust	**154**
Social care authority	**31**
Voluntary sector	**1**
Other	**4**

* Some services can be commissioned by more than one authority.

The majority of other care providers are commissioned by health trusts (Table 2.7). The contribution of the 'other post-acute providers' is significant, and teams make a valuable contribution to stroke rehabilitation at different stages of the pathway.

Section 3: Resources and configurations

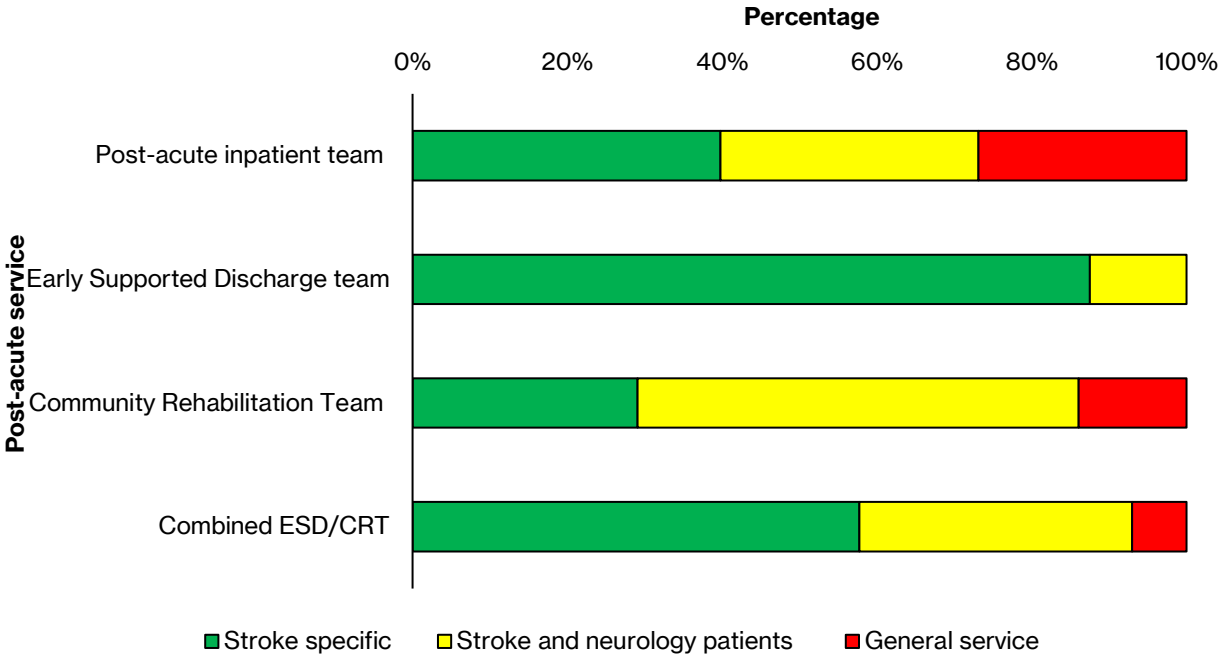
In this section we report on how services are configured and whether appropriate access and numbers of staff are available, benchmarked against the National Stroke Service Model, ICSS model and National Clinical Guideline recommendations.

3.1 Service specificity

Standard: The service is stroke or neurology specific.

Providing treatment to stroke patients either as a stroke only service or as part of a stroke and neurology service is recommended to enable specialist stroke rehabilitation.

Figure 3.1: Post-acute service specificity



It is encouraging to see that only a small percentage of inpatient and Combined ESD/CRT are general services, and that stroke or stroke/neuro specific services are the predominant type of post-acute service provided.

3.2 Service configuration (community-based services)

Standard: The Integrated Community Stroke Service model is adopted.

We set criteria to understand how Combined ESD/CRT team types were organised.

Table 3.1: Combined ESD/CRT rehabilitation teams criteria

Combined ESD/CRT teams (n=71)					
Shared clinical caseload	One management structure	Single point of access/referral route	Flexible staff	No internal re-referral required	No criteria met
91.5% (65)	**90.1% (64)**	**91.5% (65)**	**91.5% (65)**	**71.8% (51)**	**1.4% (1)**

The high percentages of services meeting these criteria, as reported in Table 3.1, shows that for this service type integration has been achieved, reflecting adoption of the ICSS model. Integration of services offers opportunities for a more seamless, needs-based approach for patients. However, it is important that appropriate staff to patient ratios are met to manage caseloads and to offer the intensity of rehabilitation required.

3.3 Caseload (community-based services)

Standard: Services treat predominantly stroke or stroke and neurology patients.

We asked services to report both numbers of stroke patients and numbers of all patients.

Table 3.2: Patients seen by team

Service	**Median number of stroke patients seen (IQR)**	**Median number of all patients seen (IQR)**	**Percentage of stroke patients seen by team's median (IQR)**
Early Supported Discharge team **(n=88)**	**248.5 (150.5, 364.5)**	**293.5 (168.8, 407.0)**	**100 % (100.0, 100.0)**
Community Rehabilitation team **(n=86)**	**157.5 (77.0, 247.5)**	**553.5 (241.3, 906.5)**	**37.3% (17.0, 100.0)**
Combined ESD/CRT **(n=71)**	**341.0 (213.0, 448.5)**	**485.0 (332.5, 796.0)**	**97% (40.1, 100.0)**

Caseload numbers are larger than expected, given the stroke patient numbers featured in the SSNAP clinical audit. This is particularly the case for community-based multidisciplinary teams and when considering all patients treated by services. This likely reflects continued reductions in length of hospital stay and a focus on provision of community-based services.

The percentage of stroke patients treated as part of a larger patient cohort remains high in Combined ESD/CRT teams, suggesting that the stroke specificity of rehabilitation delivered is being maintained. Community Rehabilitation teams treat a lower proportion of stroke patients, and 14% of these teams are generalist services. A move toward the ICSS model would ensure patients receive the specialist rehabilitation they need.

3.4 Multidisciplinary team composition (community-based services)

Standard: The team is multidisciplinary with access to appropriate disciplines.

As recommended in the ICSS model and the National Clinical Guideline for Stroke, it is important that a variety of disciplines are part of the core multidisciplinary team and that access to further disciplines is available where required. As can be seen in the following three figures, a high percentage of Early Supported Discharge services have occupational therapists, physiotherapists, speech and language therapists and rehabilitation assistants as members of the core team as well as access to a range of other core disciplines. This is maintained in Combined ESD/CRT teams.

Figure 3.2: Early Supported Discharge team composition

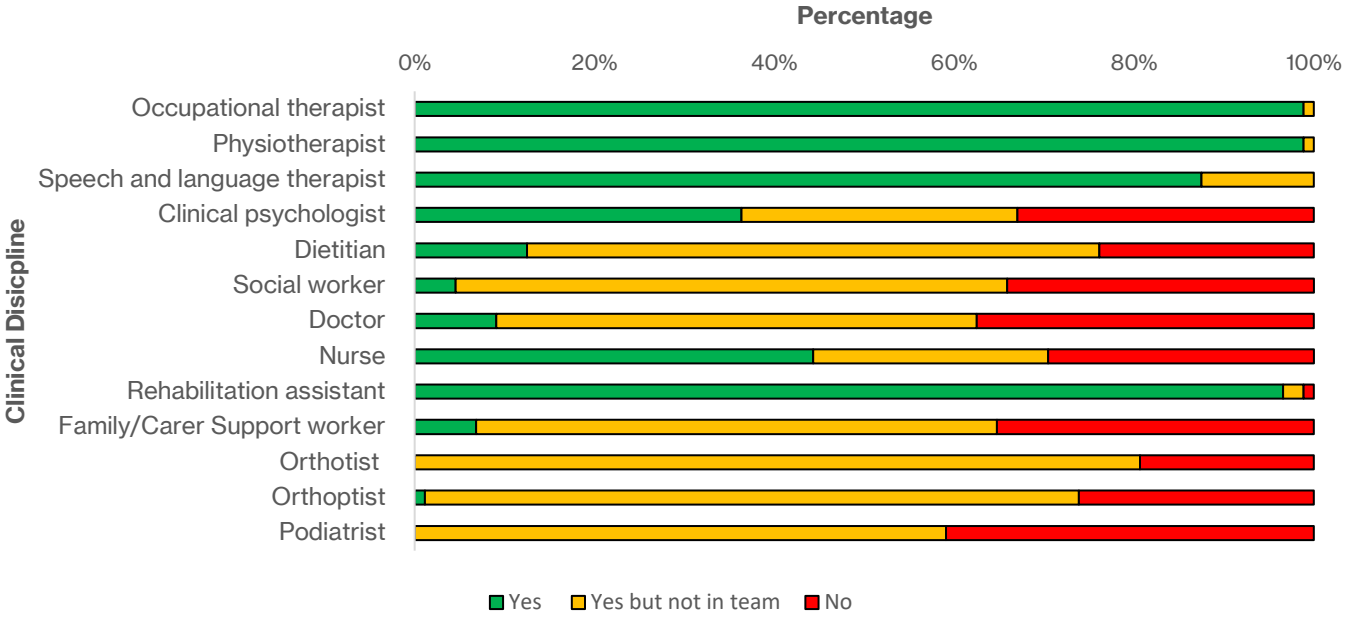


Figure 3.3: Community Rehabilitation team composition

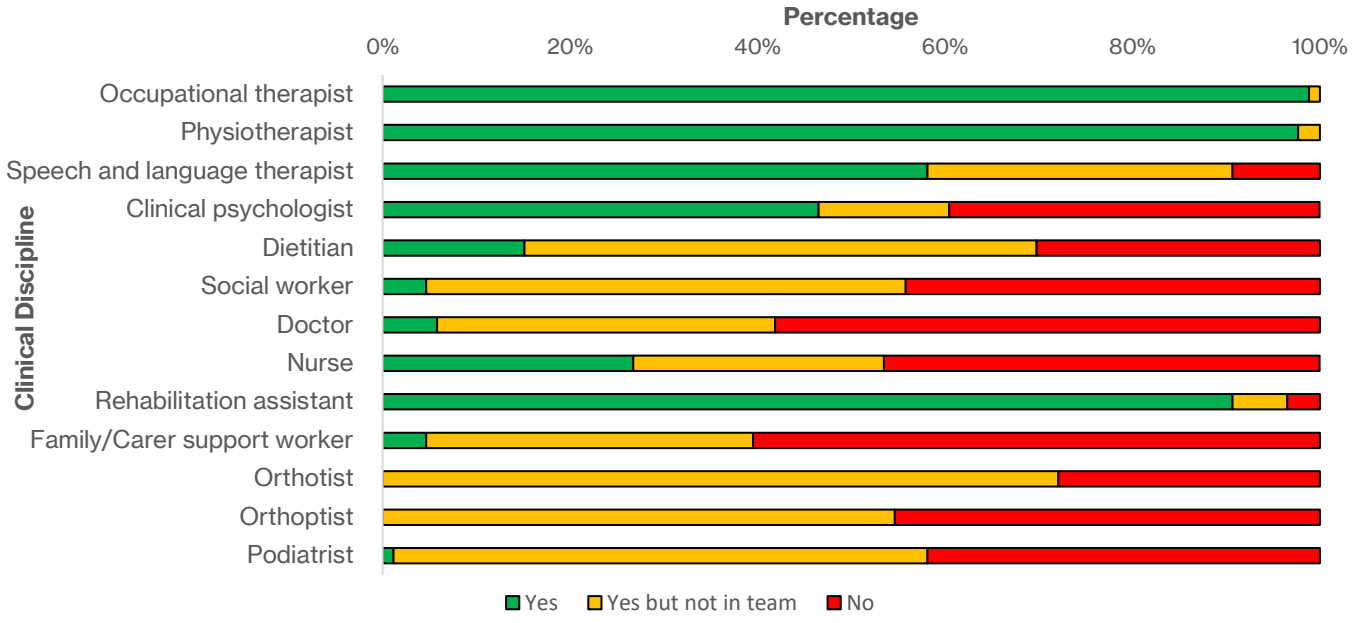
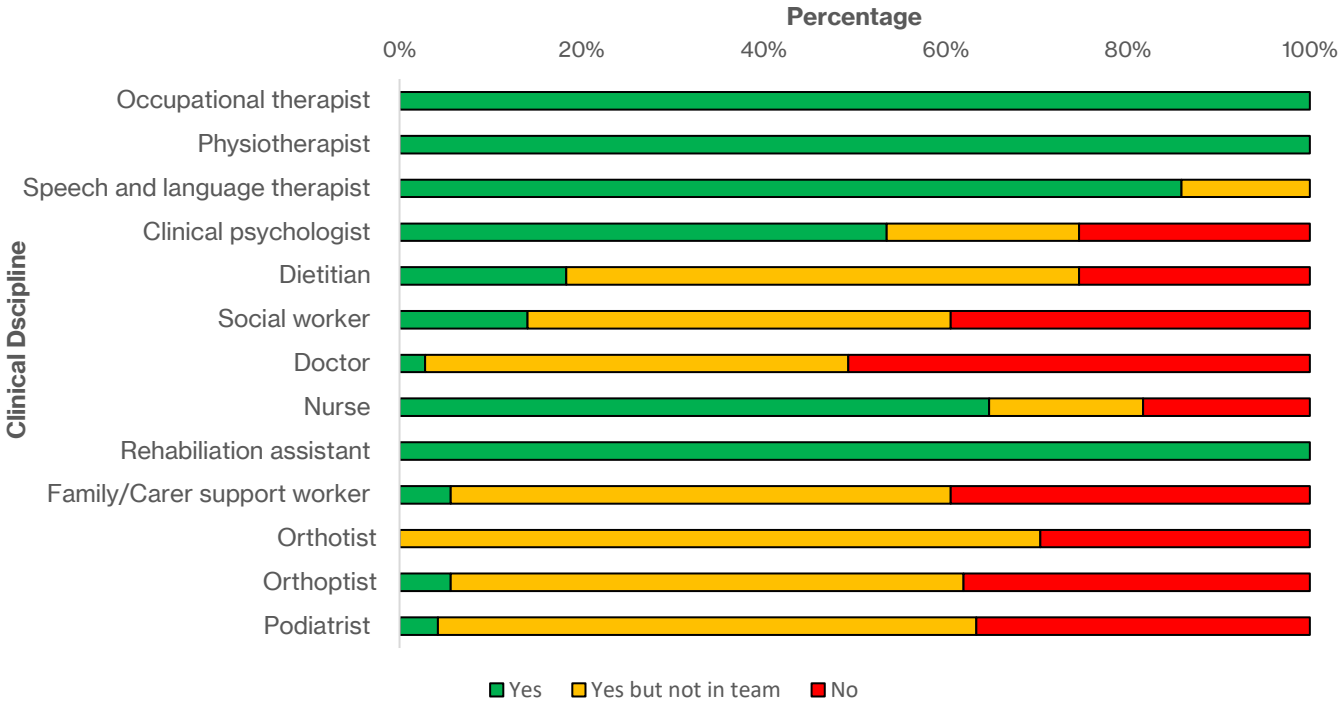


Figure 3.4: Combined ESD/CRT team composition



3.5 Staff and patient ratios (community-based services)

Standard: Services meet resource recommendations in the ICSS model.

We investigated whether services met the recommended ratios of staff and patients.

Table 3.3: Staffing levels: whole time equivalent of staff per 100 patients

Discipline	Recommended level of staffing per 100 patients (whole time equivalent)	Early Supported Discharge teams (n=88) who met this threshold	Community Rehabilitation teams (n=86) who met this threshold	Combined ESD/CRT (n=71) who met this threshold	National median of staffing per 100 patients (whole time equivalent)	Inter-quartile range
Occupational therapist	**1.0**	**34.1% (30)**	**20.9% (18)**	**22.5% (16)**	**0.69**	**0.44-1.02**
Physiotherapist	**1.0**	**37.5% (33)**	**27.9% (24)**	**28.2% (20)**	**0.75**	**0.53-1.1**
Speech and language therapist	**0.4**	**46.6% (41)**	**29.1% (25)**	**33.8% (24)**	**0.38**	**0.25-0.54**

The ICSS model recommends staffing levels per patients for all core disciplines and that the whole service is appropriately resourced. Table 3.3 features data on just the three core disciplines from which part of key indicator 2 was derived (see Appendix 1). This shows that a third or less of services met recommended staffing levels for these disciplines and these levels were more likely

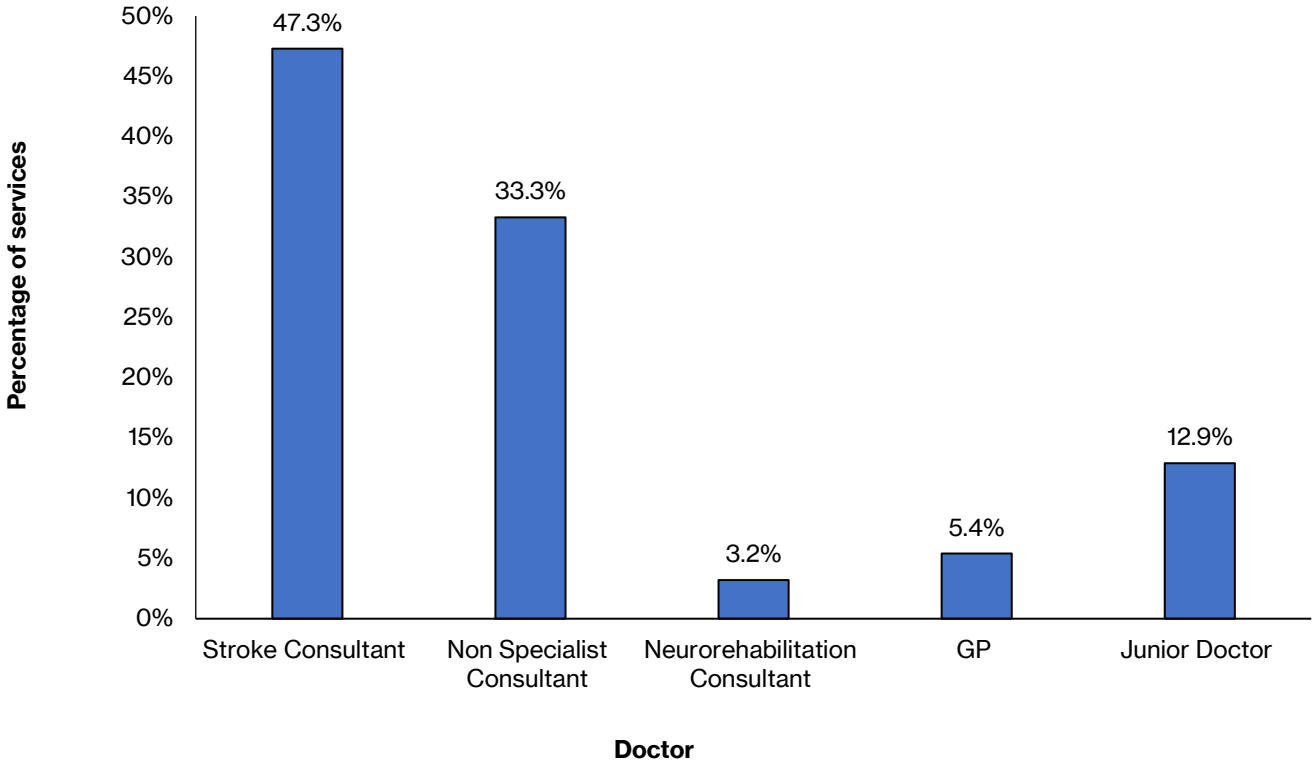
to be met by ESD teams. The national median figures show that services are close to meeting these criteria. These figures suggest that whilst integration of Early Supported Discharge teams and Community Rehabilitation teams offers advantages, appropriate resource is still required to ensure recommended staff to patient ratios are met to manage caseloads and to offer the intensity of rehabilitation required.

3.6 Multidisciplinary team composition (inpatient services)

Standard: The team is multidisciplinary with access to appropriate disciplines.

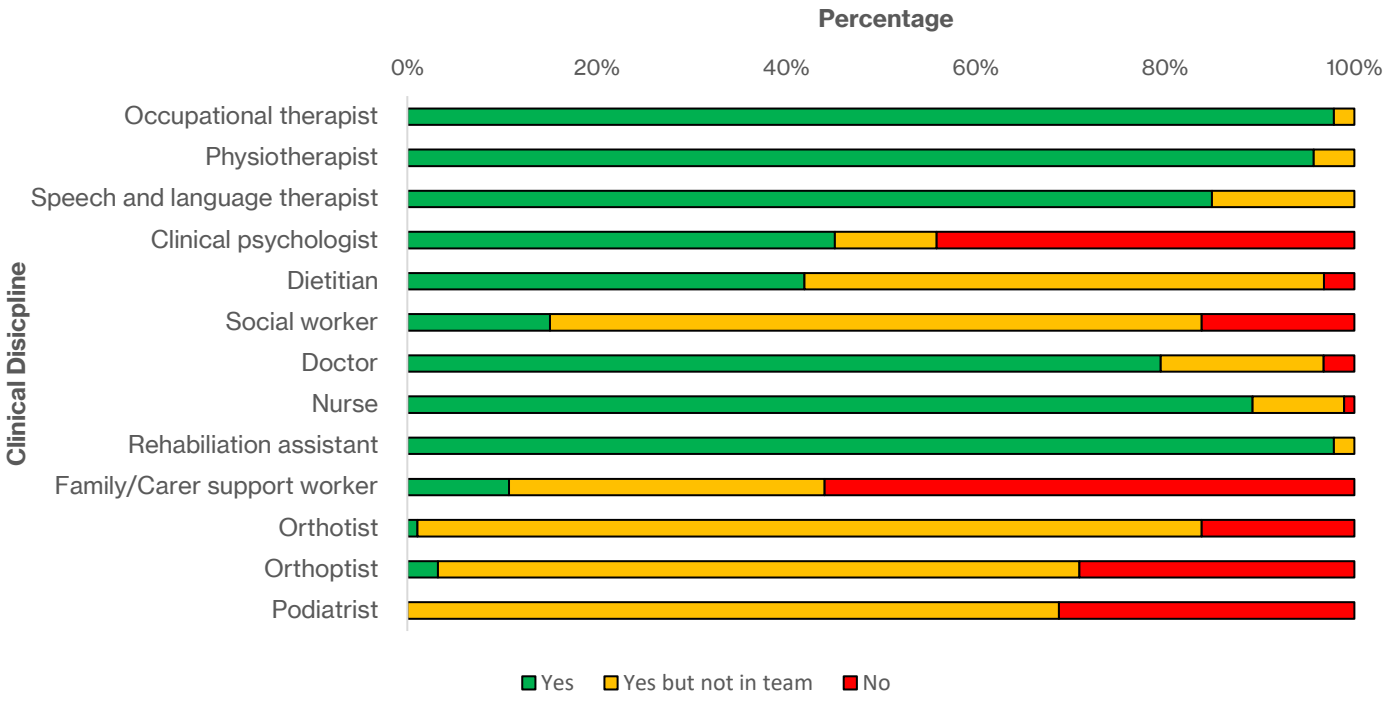
We investigated who provided medical care in post-acute inpatient care settings.

Figure 3.5: Specialty of doctors providing medical care for post-acute inpatient teams



Although 47% of post-acute inpatient services offer care from stroke specialist staff, 51% of services have medical care provided by non-specialists and in total 80% of services are consultant led. Use of lower grade stroke specialist medical staff for post-acute care, supported by advanced or consultant practitioners (nurses or allied health professionals), could be a more efficient use of workforce, releasing stroke physician sessions for management of acute care.

Figure 3.6: Multidisciplinary team composition for post-acute inpatient teams



Like community-based services, it is important for post-acute inpatient services to include a variety of disciplines as part of the core multidisciplinary team, with access to further disciplines where required. A significant number of post-acute inpatient teams (44%) do not have access to clinical psychologists and 29% do not have access to orthoptists. A high percentage of services have access to a social worker.

3.7 Staff and patient ratios (inpatient services)

Standard: The service meets National Clinical Guideline for Stroke recommendations for staffing levels.

We also investigated whether services meet the recommended ratios of staff to patients. Recommended staffing levels have been taken from the National Clinical Guideline for Stroke (RCP, 2016). It should be noted that at the time this was written, staffing recommendations pertained to 5 day working.

Table 3.4: Inpatient staffing levels

Disciplines	Recommended whole time equivalent per 5 beds	Percentage of teams who met the recommended whole time equivalent (n=93)	National median of whole time equivalent per 5 beds	Interquartile range
Occupational therapist	**0.81**	**49.5% (46)**	**0.81**	**0.6-1.08**
Physiotherapist	**0.84**	**47.3% (44)**	**0.84**	**0.67-1.14**

Disciplines	Recommended whole time equivalent per 5 beds	Percentage of teams who met the recommended whole time equivalent (n=93)	National median of whole time equivalent per 5 beds	Interquartile range
Speech and language therapist	**0.4**	**37.6% (35)**	**0.38**	**0.29-0.47**
Clinical psychologist	**0.2**	**21.5% (20)**	**0.18**	**0.13-0.41**
Dietitian	**0.15**	**19.5% (18)**	**0.14**	**0.10-0.17**
	Recommended level per stroke bed	**Percentage of teams who met the recommended level per bed(n=93)**	**National median of whole time equivalent per bed**	**Interquartile range**
Nurse	**1.35**	**71% (66)**	**1.58**	**1.27-2.12**

It is of significance that less than 50% of services have recommended levels of any of the core disciplines, which needs to be addressed Very few individual services meet the recommended level for each of the core disciplines (occupational therapists, physiotherapists and speech and language therapists). The majority of services nearly meet, meet or exceed the recommended nurse staffing levels.

3.8 Nursing skill mix for inpatient services

The table below shows the median skill mix of the nursing workforce in inpatient services. Where the median is used as the average the total may not add up to 100%.

Table 3.5: Nursing skill mix; median percentage of nursing bandings across all post-acute inpatient teams

Nursing band	Median percentage of nursing bandings (n=93)*
Band 1	**0%**
Band 2	**37%**
Band 3	**8%**
Band 4	**0%**
Band 5	**32%**
Band 6	**10%**
Band 7	**4%**
Band 8a	**0%**
Band 8b	**0%**
Band 8c	**0%**

* This table shows an expected high reliance on band 2s and 5s.

Notably there is a lack of band 4 staff, who can autonomously undertake some nursing and rehabilitation tasks, and low numbers of nurses above band 7 level. Section 5 discusses team leadership in more detail and highlights that post-acute rehabilitation beds are well placed for non-medical advanced and consultant practitioner roles, most of which are band 8a and above.

Section 4: Needs-based rehabilitation

As emphasised in the National Stroke Service Model and the Integrated Community Stroke Service model, it is important to provide a seamless stroke care pathway with 7-day working and avoidance of waiting times. Services should be provided based on needs, rather than being time limited.

4.1 Seven day working

Standard: The service delivers rehabilitation 7 days per week.

We asked providers to tell us how many days per week their service was provided.

Table 4.1: Number of days per week service provided

Service type*	<5 days per week	5 days per week	6 days per week	7 days per week
Early Supported Discharge team **(n=88)**	**1.1% (1)**	**64.8% (57)**	**8.0% (7)**	**26.1% (23)**
Community Rehabilitation team **(n=86)**	**1.2% (1)**	**83.7% (72)**	**1.2% (1)**	**14.0% (12)**
Combined ESD/CRT **(n=71)**	**0% (0)**	**53.5% (38)**	**21.1% (15)**	**25.4% (18)**
Single discipline service **(n=66)**	**31.8% (21)**	**66.7% (44)**	**1.5% (1)**	**0% (0)**

*Question only asked of community-based teams.

This table shows there is still a predominance of 5-day services, particularly with regard to Community Rehabilitation teams. Although 25% of combined ESD/CRTs offer a 7-day a week service, the full complement of core disciplines is not available. These issues need to be addressed.

4.2 Waiting times

Standard: First contact and treatment is to be provided within 24 hours for patients receiving Early Supported Discharge.

Table 4.2: Waiting time for treatment

Service type	Median waiting time for treatment (days)
Early Supported Discharge team **(n=88)**	**2**
Community Rehabilitation team **(n=86)**	**14**
Combined ESD/CRT **(n=71)**	**4**
Singe discipline service **(n=66)**	**37.5**

Whilst this table suggests that some patients accessing Early Support Discharge may not be treated within 24 hours, it is positive responsiveness for Combined ESD/CRT is close to the 3-day standard.

The following three figures show the range of waiting times for each service type, with blue bars indicating teams that meet the waiting time to treatment standard, and red bars for those who do not.

Some Early Supported Discharge services have a waiting list of 2 days or more. We would argue that services with a waiting list of over a week, and certainly with a 15-day waiting list, are not Early Supported Discharge services.

Community Rehabilitation teams have a median waiting time of 14 days for treatment, and 37% of services have waiting times of 15 days or over. This emphasises the need for more progress towards implementing the Integrated Community Stroke Service model.

56.7% of community-based multidisciplinary teams reported no change in waiting times as a result of COVID-19. However, 32% reported an increase in time to first intervention.

Figure 4.1: Early Supported Discharge team median waiting times from discharge/referral to treatment

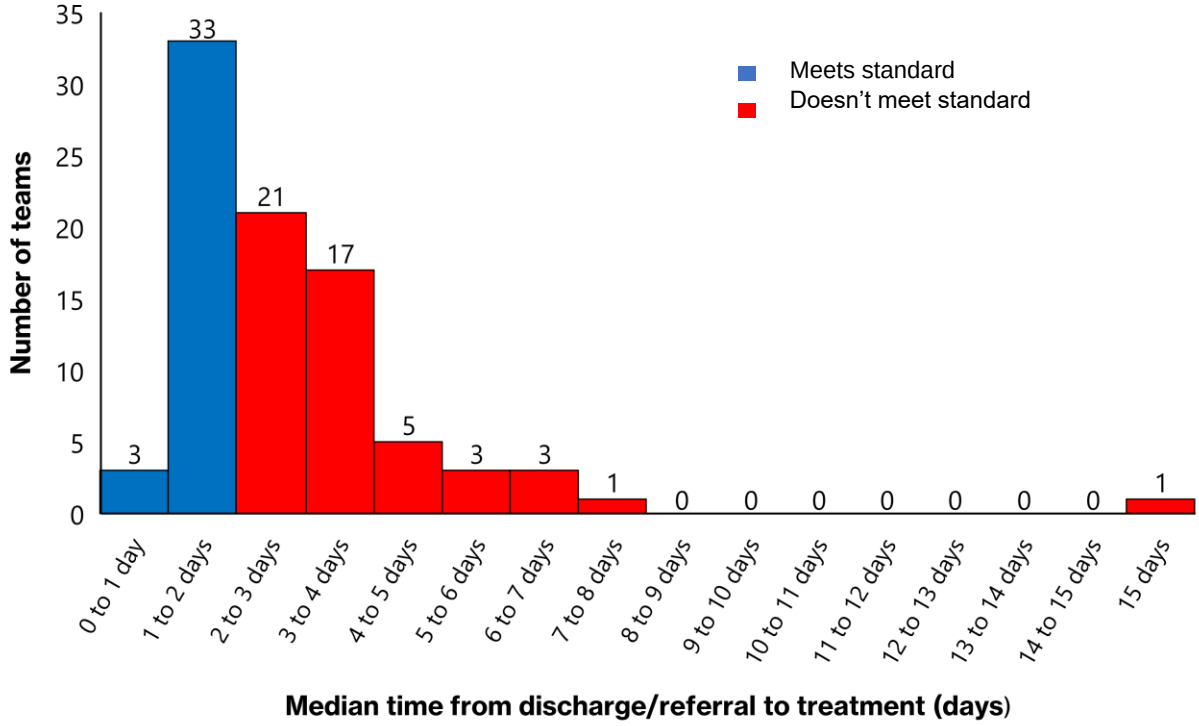


Figure 4.2: Community Rehabilitation team median waiting times from discharge/referral to treatment

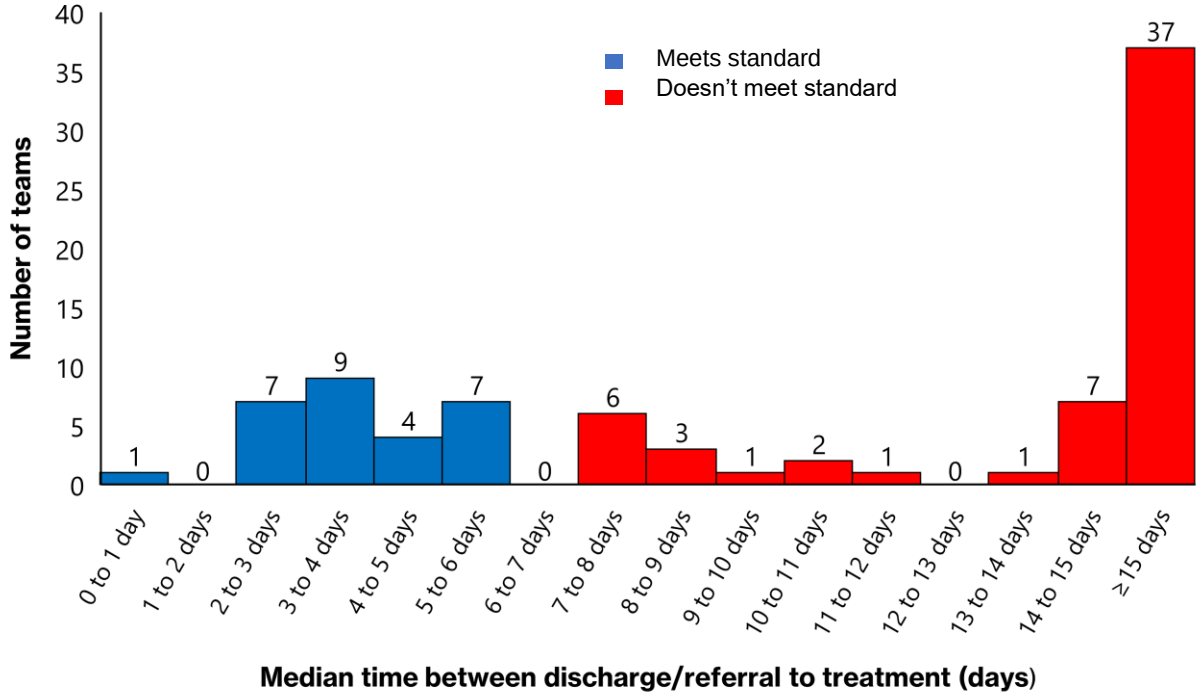
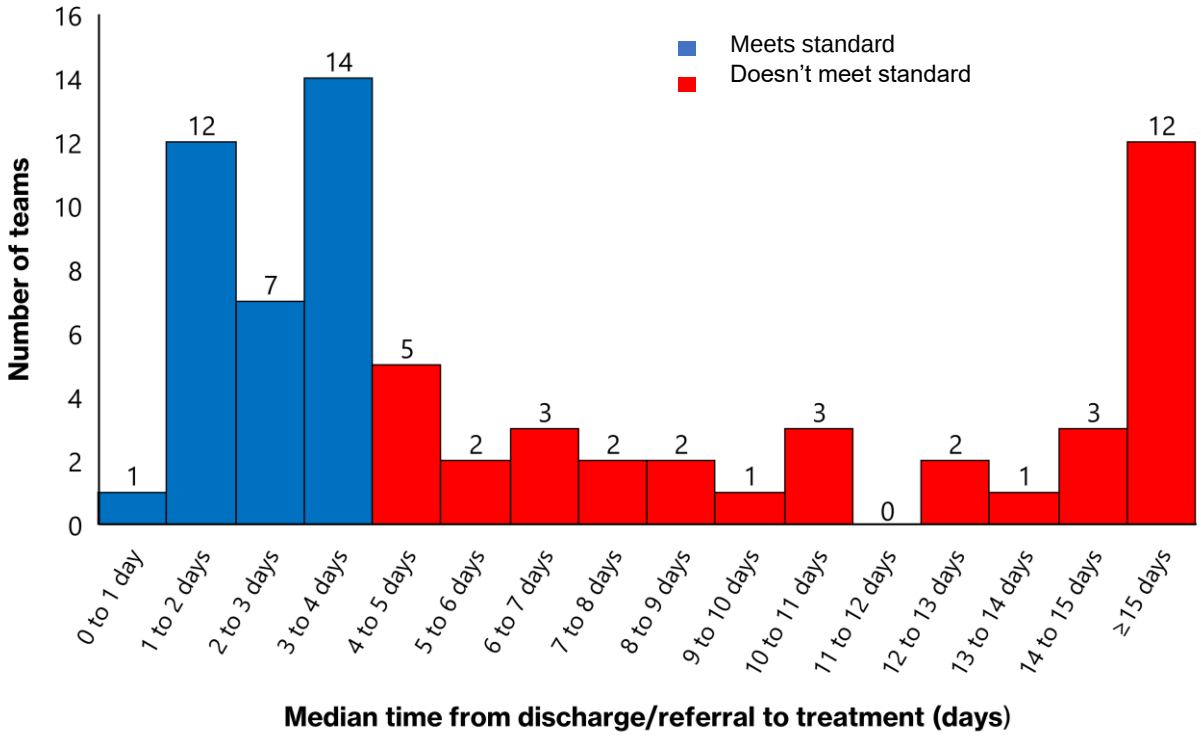


Figure 4.3: Combined ESD/CRT median waiting times from discharge/referral to treatment



4.3 Time limits and re-referrals

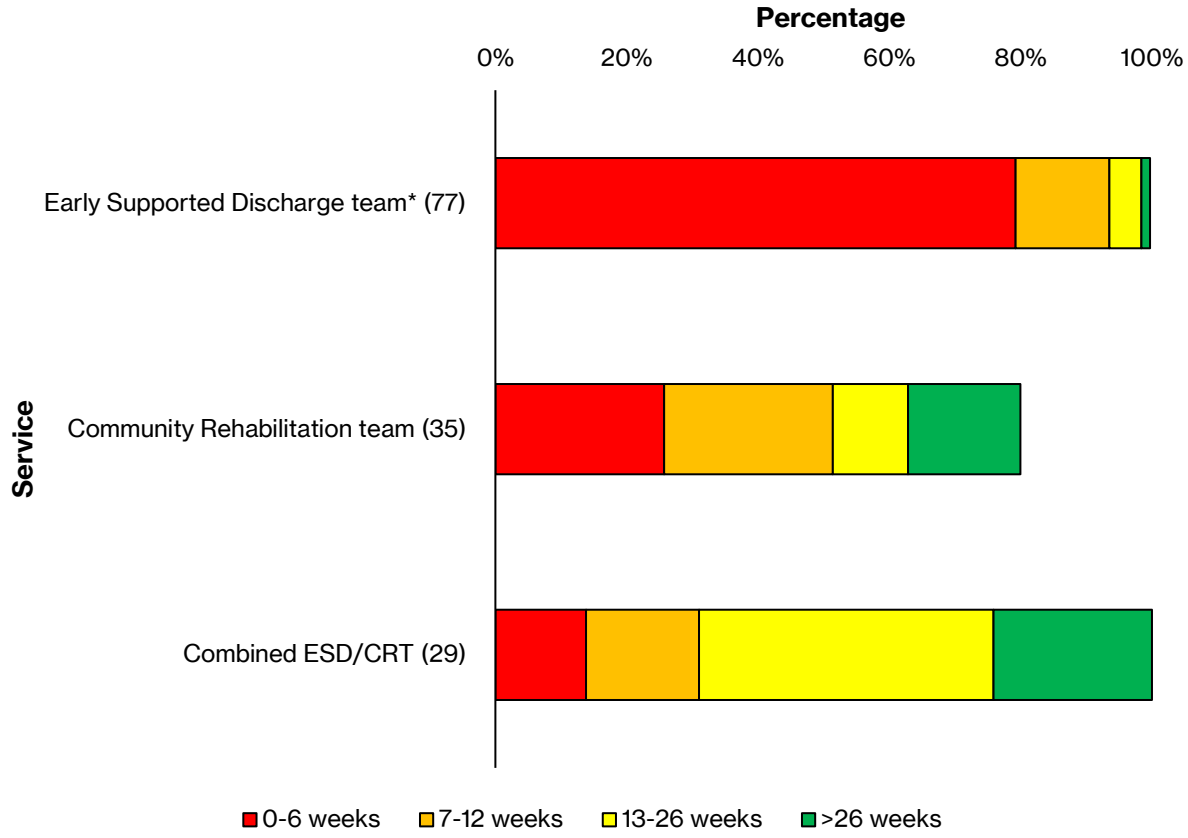
Standard: Rehabilitation is provided for as long as the patient needs it.

We asked whether services had a time limit and were encouraged that 60% of Combined ESD/CRT did not. There is a high percentage of time limited Early Supported Discharge services which is to be expected. However, given the waiting times associated with access to Community Rehabilitation teams, this suggests many patients will be left without access to specialist rehabilitation beyond Early Supported Discharge, which is likely to impede their recovery.

Table 4.3: Time limits of services

Teams without time limit to service		
Service Type	**Percentage**	**Count**
Early Supported Discharge team **(n=88)**	**12.5%**	**11**
Community Rehabilitation team **(n=86)**	**59.3%**	**51**
Combined ESD/CRT (**n=71)**	**59.2%**	**42**
6-month assessment provider **(n=78)**	**76.92**	**60**
Single discipline service **(n=66)**	**83.3%**	**55**

Figure 4.4: Community-based multidisciplinary team time limits (duration by weeks)



*1 Early Supported Discharge team reported a time limit of 6-10 sessions, 5 Community Rehabilitation teams reported a time limit of 6-10 sessions, so therefore are excluded from this graph.

We also investigated the length of time over which services were provided. As expected, most Early Supported Discharge services (79%) operate over a 6 week period. 86% of Combined ESD/CRT teams operate over a longer period. Services need to be provided so that each individual patient has access to specialist rehabilitation over the period that they need it.

We also asked if patients could be re-referred into the service following discharge.

Table 4.4: Re-referral to stroke service

Service type	Percentage	Count
Early Supported Discharge team **(n=88)**	**80.7%**	**71**
Community Rehabilitation team **(n=86)**	**38.4%**	**33**
Combined ESD/CRT **(n=71)**	**85.9%**	**61**
Single discipline service **(n=66)**	**97%**	**64**

A high percentage of teams (80%+) of each service type (apart from Community Rehabilitation teams) accept re-referrals. That the percentage of Community Rehabilitation teams is much lower again suggests that implementation of the ICSS model would enable a more needs-based service to be provided.

4.4 Mode of contact

Delivery of face-to-face therapy was maintained, and adoption of video consultation was overall quite small, despite the challenges posed by the COVID-19 pandemic. Adoption of remote delivery of rehabilitation to augment face to face therapy may offer opportunities to increase intensity of rehabilitation provided; however, this does need to be evaluated further.

Table 4.5: Mode of contact comparison*

Treatment/assessment sessions	Current median percentage (March 2021)	Median percentage one year ago (March 2020)
Face to face (individual)	**80%**	**90%**
Face to face (in groups)	**0%**	**0%**
By video consultation (individual)	**5%**	**0%**
By video consultation (in groups)	**0%**	**0%**
By telephone	**12%**	**5%**

*Estimated by teams, not formally recorded; medians do not add up to 100%

4.5 Treatment of patients in care homes

Standard: Services should be provided to stroke patients in care homes.

Table 4.6: Treatment of patients in care home

Service type	Percentage of services which deliver treatment to patients in care homes	Count
Early Supported Discharge team **(n=88)**	**93.2%**	**82**
Community Rehabilitation team (**n=86)**	**93.2%**	**80**
Combined ESD/CRT **(n=71)**	**97.2%**	**69**
Single discipline service **(n=66)**	**75.8%**	**50**
Other post-acute provider **(n=182)**	**66.5%**	**121**

Notably there are high percentages of Early Supported Discharge, Community Rehabilitation teams and Combined ESD/CRT provide rehabilitation and care for patients in care homes, in line with ICSS model recommendations. Access to other post-acute provider services (66.5%), such as Life after Stroke services (e.g. communication, emotional and peer support) needs to be improved for patients in care homes.

Section 5: Multidisciplinary team working

Standard: Services have good leadership and effective multidisciplinary team working practices to provide optimal evidence-based rehabilitation.

Clinical leadership is known to improve team processes and clinical outcomes.

Figure 5.1: Clinical disciplines which provide leadership*

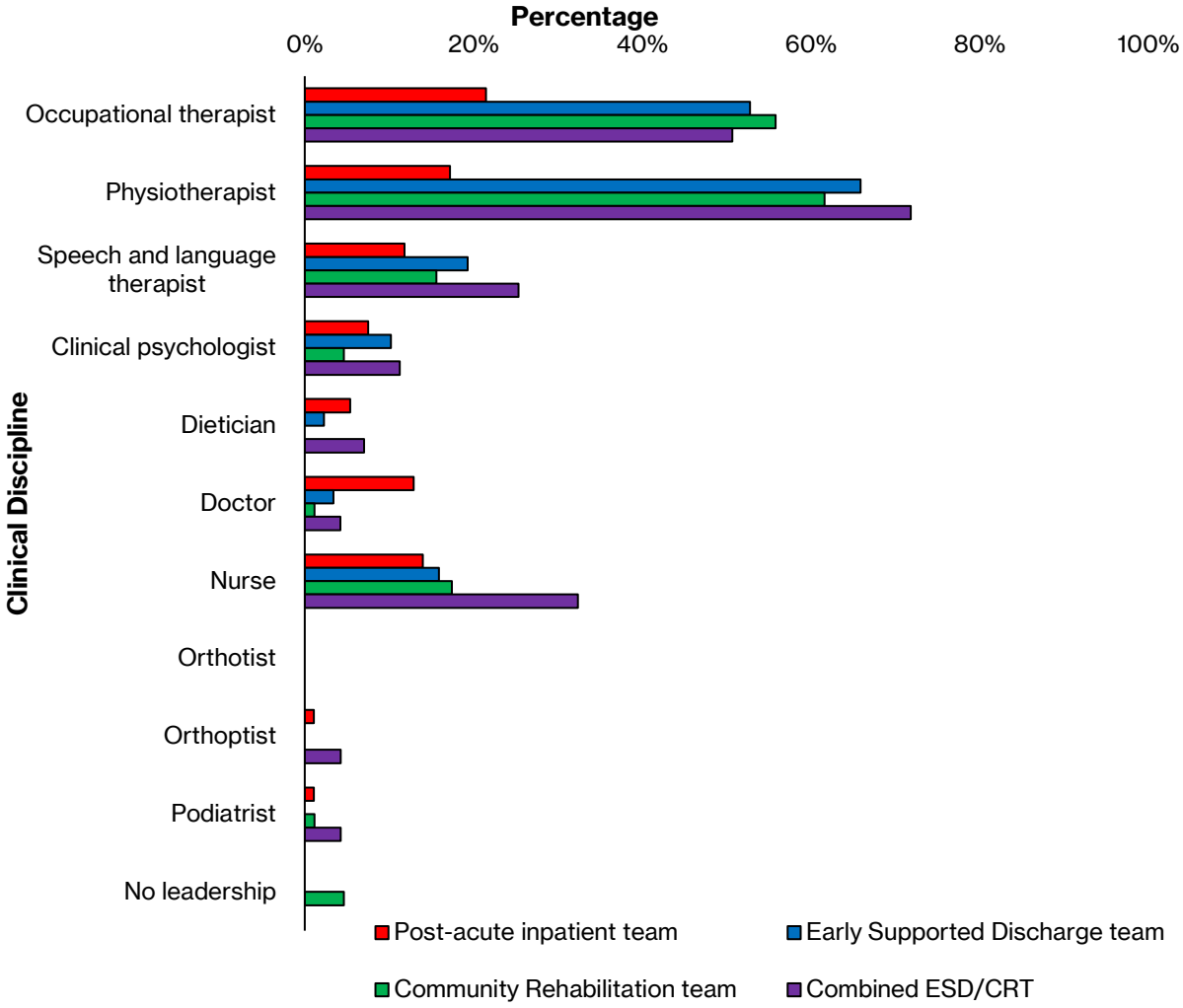
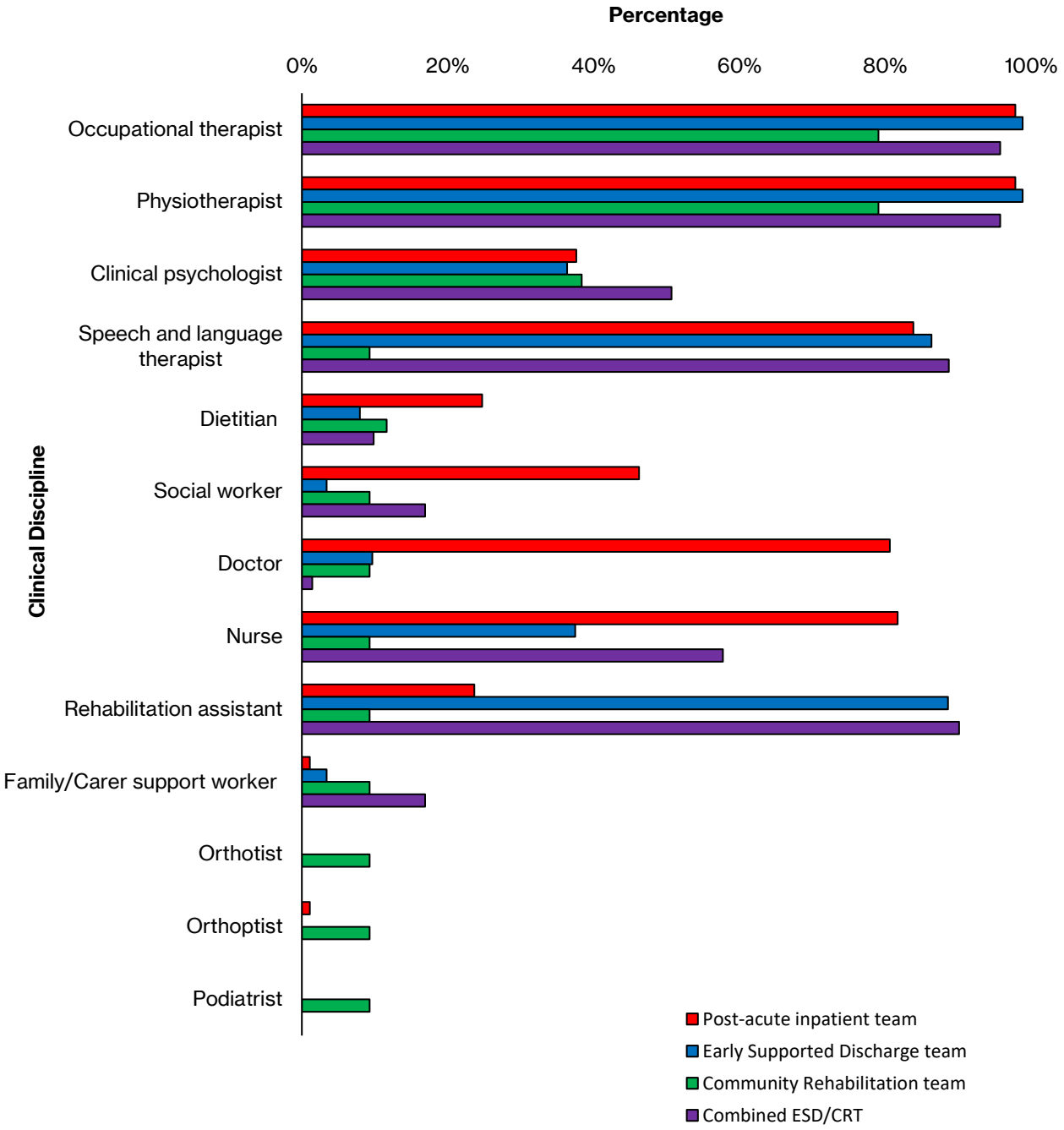


Figure 5.1 shows which disciplines have a leadership role within each service type. Team leadership is varied, with a high percentage of teams being led by the core therapy disciplines. Some Community Rehabilitation teams do not have a designated leader; this is likely to impact on service quality and effectiveness and will be detrimental to multi and interdisciplinary working.

Nurse and allied health professional advanced and consultant roles are well placed in rehabilitation services and assist in meeting the British Association of Stroke Physicians (BASP) recommended consultant sessions for inpatient rehabilitation and ESD teams, especially considering stroke physician workforce challenges.

Figure 5.2: Attendance of clinical disciplines at multidisciplinary meetings



Effective multidisciplinary team meetings require that all core disciplines attend. Figure 5.2 suggests that whereas the majority of services have strong representation from occupational therapy and physiotherapy, representation of other disciplines across service types is varied. Attendance by clinical psychologists at multidisciplinary meetings could be an effective method of psychology staff providing an educational and consulting role to support other members of the community-based multidisciplinary teams to deliver appropriate levels of psychological care as described in the stepped care model. (RCP, 2016)

Section 6: Education, information and training

6.1 Swallow assessment (post-acute inpatient teams)

Standard: Early swallow assessment is required to ensure safe nutrition and hydration, to prevent secondary complications and improve outcomes.

Table 6.1: Registered nurses trained in swallow screening (all post-acute inpatient teams)

Shift	Percentage of registered nurses on duty trained in swallow screening	Count of registered nurses on duty trained in swallow screening	Total number of registered nurses on duty (all post-acute inpatient teams)
Weekday morning shift	**31.7%**	**90**	**284**
Saturday morning shift	**29.1%**	**80**	**275**
Sunday morning shift	**29.5%**	**81**	**275**
Weekday evening shift	**26.7%**	**58**	**217**
Saturday evening shift	**26.7%**	**58**	**217**
Sunday evening shift	**26.7%**	**58**	**217**

Table 6.1 presents data relating to nurses trained in swallow assessment in post-acute inpatient teams. The proportion of nursing staff trained in swallow screening is low. With a mean total of three WTE nursing staff on a weekday shift, this may mean only one nurse is swallow trained, which is limiting. For instance, if they are senior staff, they may have other competing demands; or it is challenging for a single person if multiple admissions require swallow screening. This will contribute significantly to clinical performance regarding early swallow assessment and the associated risks. Further investigation into banding of staff who are trained in swallow assessment is required to better understand the implications of this finding, as well as the impact on other professionals completing swallow assessments such as speech and language therapists.

6.2 Stroke management (post-acute inpatient teams)

Standard: Staff providing care for patients following stroke should be stroke specialist or stroke skilled staff.

Stroke is a complex specialty requiring knowledge and skills across a broad range of domains including stroke presentation, acute management, positioning and manual handling, communication, dysphagia and end of life care.

Table 6.2: Registered nurses on duty trained in stroke management (all post-acute inpatient teams)

Shift	Percentage of registered nurses on duty trained in stroke management	Count of registered nurses on duty trained in stroke management	Number of registered nurses on duty (all post-acute inpatient teams)
Weekday morning shift	**61.3%**	**174**	**284**
Saturday morning shift	**60%**	**165**	**275**

Shift	Percentage of registered nurses on duty trained in stroke management	Count of registered nurses on duty trained in stroke management	Number of registered nurses on duty (all post-acute inpatient teams)
Sunday morning shift	**59.6%**	**164**	**275**
Weekday evening shift	**58.5%**	**127**	**217**
Saturday evening shift	**58.9%**	**128**	**217**
Sunday evening shift	**58.9%**	**128**	**217**

Table 6.2 presents data relating to nurses trained in stroke management in inpatient services. The proportion of staff trained in stroke management does not vary across shifts. Approximately 40% of registered nurses on any given shift have received no stroke management training, contravening stroke unit standards. A number (26/93) of the participating inpatient units are mixed units seeing patients with various conditions. Ward processes such as how staff are distributed across units, multidisciplinary team handovers, joint working, and communication (such as diet and fluid recommendations and mobility signs above beds) may mitigate the impact of staff not being trained in stroke management. Wider access to stroke management training is preferable.

Table 6.3: Training sessions* attended by staff 1st April 2020-31st March 2021

Service Type	Number of training sessions attended by all staff	Number of training sessions attended by nurses	Number of training sessions attended by therapists	Number of training sessions attended by therapy assistants
Post-acute inpatient teams **(n=93)**	**2,467**	**721 (29.2%)**	**1,061 (43.0%)**	**685 (27.8%)**
Early Supported Discharge team **(n=88)**	**717**	**103 (14.1%)**	**420 (58.6%)**	**194 (27.1%)**
Community Rehabilitation team **(n=86)**	**717**	**45 (6.3%)**	**434 (60.5%)**	**238 (33.2%)**
Combined ESD/CRT **(n=71)**	**1,800**	**232 (12.9%)**	**996 (55.3%)**	**572 (31.8%)**
6-month assessment provider **(n=78)**	**571**	**291 (51%)**	**215 (37.7%)**	**65 (11.4%)**
Single discipline service **(n=66)**	**513**	**3 (0.6%)**	**363 (70.8%)**	**147 (28.7%)**

*1 session is approximately equivalent to half a day training.

Regular and relevant training is an important feature for teams; guidance recommends that stroke care is delivered by stroke specialist or stroke skilled staff (RCP, 2016). A total of 6,785 sessions of stroke related training were attended in the year from 1 April 2020 to 31 March 2021. The COVID-19 pandemic will have significantly limited training and how it is delivered and therefore it is a priority that this improves as services return to business as usual. Inpatient nurses attended 29% of all training attended by the post-acute inpatient teams yet make up 58.7% of the post-acute inpatient team's workforce (see section 2). Data suggest that therapy staff are attending significantly more

training than nursing colleagues in the inpatient setting. This can be a cause of contention within multidisciplinary teams. The total number of training sessions attended by nurses was 1,395. Given that 1,694.8 WTE nurses were reported to work within these services (section 2), this equates to 0.8 sessions per WTE nurse in a year. Considering the breadth of stroke rehabilitation, this requires improvement. Efforts should be made to ensure nurses can be released to attend training, whilst ensuring care needs continue to be met. This is equally important for those working predominantly night shifts, who may attend a disproportionately low amount of training.

Distribution of training across staff groups appears to be in line with workforce size (see section 2) in all other service types, including 6-month assessment providers.

Provision of high-quality multidisciplinary in-service training should be prioritised for all service types. ensuring arrangements are made for all team members to attend, as well as external courses and conferences. This is especially important for Community Rehabilitation teams with mixed caseloads, who may not be aware of or able to access specialist training.

The Stroke Specific Education Framework (SSEF) developed by the University of Central Lancashire for NHSEI (https://stroke-education.org.uk), should be reviewed for all staff to ensure training is being provided across all relevant domains of care for each discipline.

6.3 Patient and carer training

Standard: Training should be provided for stroke patients and carers.

Table 6.4: Training for stroke survivors and their carers

Service type	Percentage of services who provide training for patients	Count	Percentage of services who provide training for carers	Count
Post-acute inpatient teams **(n=93)**	**36.6%**	**34**	**24.7%**	**23**
Early Supported Discharge team **(n=88)**	**54.5%**	**48**	**14.8%**	**13**
Community Rehabilitation team **(n=86)**	**82.5%**	**71**	**17.4%**	**15**
Combined ESD/CRT **(n=71)**	**53.5%**	**38**	**18.3%**	**13**
6-month assessment provider **(n=78)**	**61.5%**	**48**	**1.3%**	**1**
Single discipline service **(n=66)**	**24.2%**	**16**	**7.5%**	**5**

Reported levels of training provided for carers are insufficient across all service types. Carer training is an expectation of services as stated in the National Clinical Guideline for Stroke (RCP, 2016). Carer training is likely to improve the discharge experience and should aim to ensure carers are well informed about stroke, patient needs, rehabilitation treatment plans, care arrangements and support options. In particular, inpatient units are not providing training consistently to patients or carers to support the often-daunting transition into the community.

A higher percentage of teams provide training for patients than for carers particularly in the community. Further exploration is required to understand how resources are used, how information is adapted appropriately for those with aphasia, cognitive or visual difficulties, and whether training is delivered on an individual patient basis, in groups, in person or virtually.

Section 7: Vocational rehabilitation

Standard: Vocational rehabilitation should be available for all stroke patients who need it.

Vocational rehabilitation (VR) is defined as a service that supports stroke patients to return and remain in work.

7.1 Vocational rehabilitation providers

Figure 7.1: Location of vocational rehabilitation providers

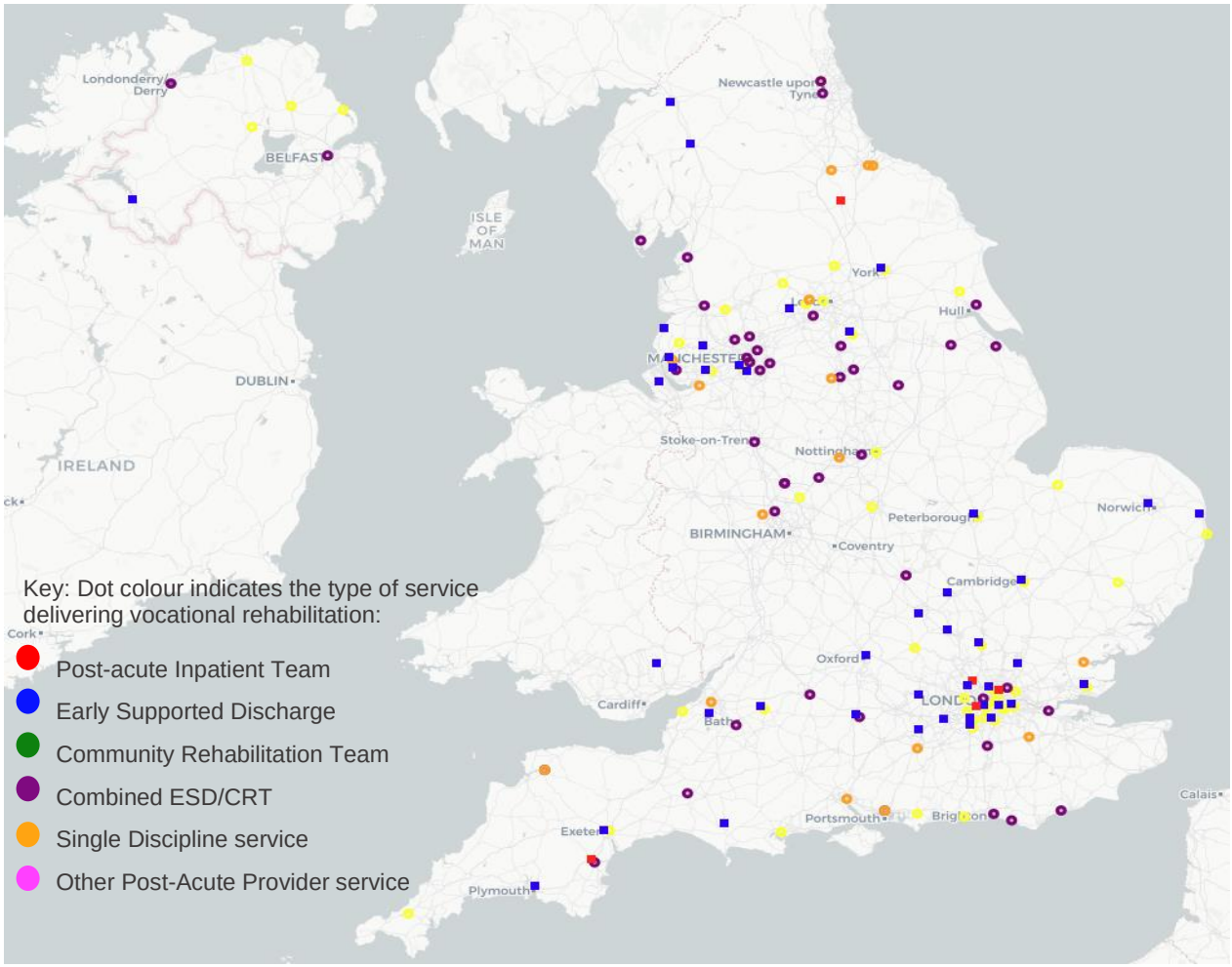


Figure 7.1 displays a good coverage of teams; however, there is a lack of VR services in Wales that needs to be investigated (keeping in mind that it is possible that participation of Welsh organisations in the audit was not representative).

Table 7.1: Achievement of KI15 by English NHS region

NHS region	Number of ISDNs	Number of ISDNs meeting KI15	Percentage
East of England	**2**	**2**	**100%**
London	**1**	**1**	**100%**
Midlands	**3**	**2**	**66%**
North East and Yorkshire	**4**	**2**	**50%**

NHS region	Number of ISDNs	Number of ISDNs meeting KI15	Percentage
North West	**3**	**2**	**66%**
South East	**5**	**1**	**20%**
South West	**2**	**0**	**0%**
Total	**20**	**10**	**50%**

Table 7.1 shows the number of ISDNs within NHS regions that have met KI15, which we have defined as at least 50% of services within the ISDN providing VR. The table demonstrates significant variability in access to VR across ISDNs.

Table 7.2: Number of services providing Vocational rehabilitation

Service type (n=167)	Percentage	Count
Standalone	**18%**	**30**
Early Supported Discharge, Community Rehabilitation team, Combined ESD/CRT	**82%**	**137**

Table 7.2 shows that the majority of VR services are provided by community MDTs, rather than standalone VR services. This demonstrates an increase in VR provision from the previous audit in 2015 and supports the movement towards the ICSS model. Data regarding VR were collected differently than in 2015, so it is not possible to demonstrate if there was a change in service model towards VR being delivered predominantly by community multidisciplinary teams. However, we suspect there was a significant shift, with community teams perhaps picking up the remit of this work in the absence of formally commissioned services.

7.2 Commissioning of vocational rehabilitation

Standard: Vocational rehabilitation should be formally commissioned by either a clinical commissioning group or a Health Board.

Table 7.3: Vocational rehabilitation commissioning (percentage per service type)

Service type	Yes, service commissioned and provided	Service provided but not commissioned	Service not provided but provider has access to VR	No VR available
Post-acute inpatient teams **(n=93)**	**5.4% (5)**	**7.5% (7)**	**63.4% (59)**	**23.7% (22)**
Early Supported Discharge team **(n=88)**	**11.4% (10)**	**37.5% (33)**	**33.0% (29)**	**18.0% (16)**
Community Rehabilitation team **(n=86)**	**14.0% (12)**	**44.1% (38)**	**30.2% (26)**	**11.6% (10)**
Combined ESD/CRT **(n=71)**	**23.9% (17)**	**38.0% (27)**	**22.5% (16)**	**15.5% (11)**
Single discipline service **(n=66)**	**7.6% (5)**	**16.7% (11)**	**37.9% (25)**	**37.9% (25)**

The majority (71%) of teams provide VR without it being formally commissioned. Formal commissioning of VR services has reduced since the 2015 audit from 15% to 7.4% (of all post-acute services participating in the audit). Therefore, formal commissioning remains a significant priority. VR should be detailed in service specifications, with associated reporting metrics and patient outcome data.

The table above shows that around 50% of community-based multidisciplinary teams (Early Supported Discharge, Community Rehabilitation teams and Combined ESD/CRT) provide VR. VR being delivered as an integral part of a holistic rehabilitation plan has notable advantages (such as continuity of staff and treatment; no waiting times following referral onto a separate service). It will be important as the ICSS model is adopted that the issue of provision of VR is addressed.

Efforts should be focussed on ensuring that VR is prioritised; is not diluted by other aspects of rehabilitation programmes; and remains true to the definition of VR whether it is delivered by a specific VR service or as part of a community rehabilitation service (Early Supported Discharge or Combined ESD/CRT).

7.3 Where is vocational rehabilitation delivered?

Table 7.4: Location* in which vocational rehabilitation is delivered (all service types)

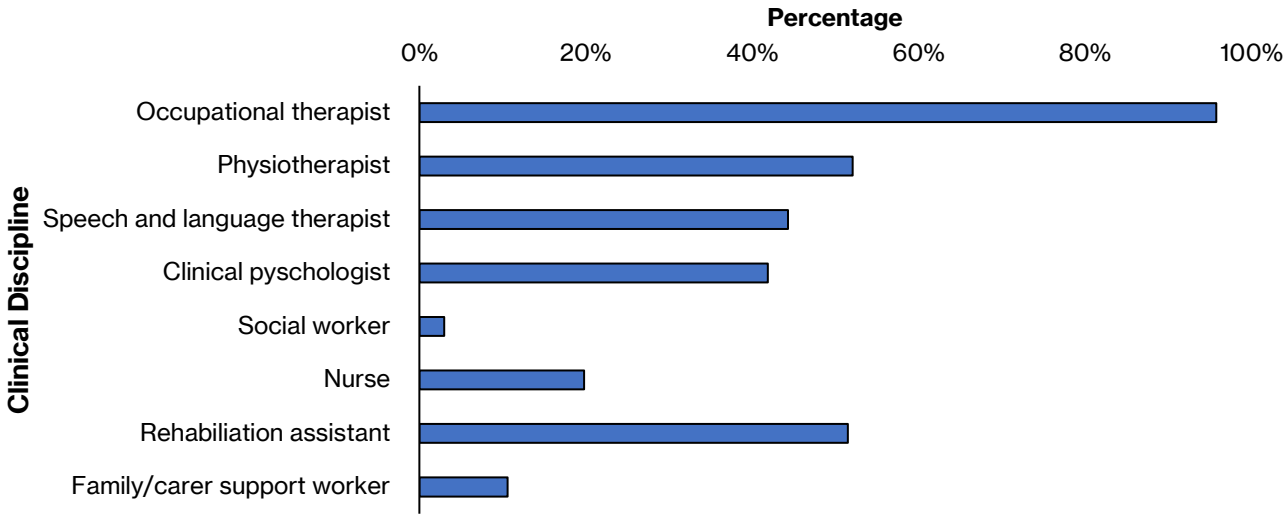
Location	Number of services providing vocational rehabilitation in this location
Acute hospital	**12**
Community hospital	**33**
Doctors' surgery, health centre/ clinic/ community centre	**23**
Leisure centre/ gym	**48**
Patient/ carer/ family member's home	**156**
Care home	**28**
Patient's workplace	**107**

*Teams were able to select more than one location

Appropriately, the majority of VR sessions are delivered in the patient's own home and workplace. Distribution of where VR sessions are delivered does not vary significantly by service type.

7.4 Disciplines carrying out vocational rehabilitation

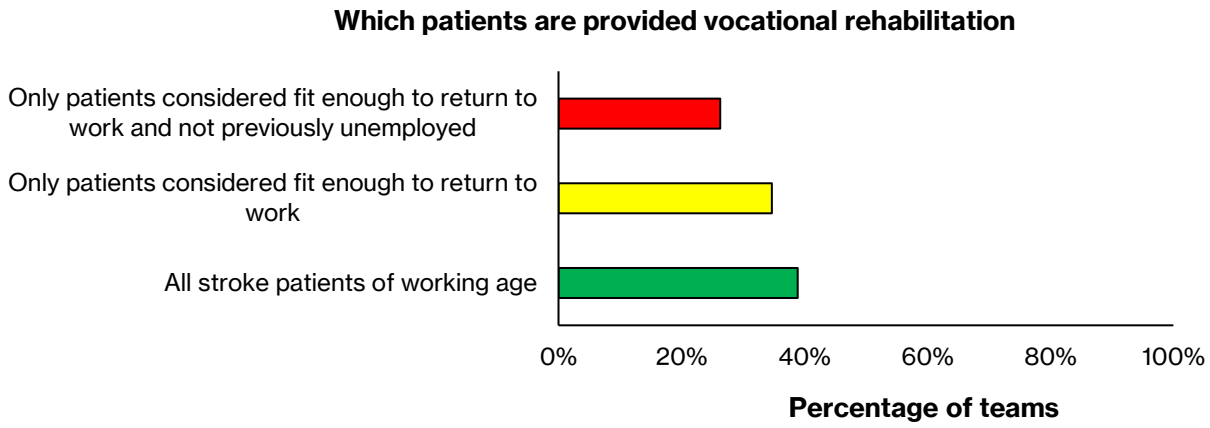
Figure 7.2: Clinical disciplines providing vocational rehabilitation (all service types)



The multidisciplinary team approach to VR demonstrated in Figure 7.2 is recommended and likely reflects the number of community-based multidisciplinary teams which deliver VR. Lack of access to psychology is a limiting factor for VR, as it is across the rest of the pathway. It was observed that higher proportions of inpatient services have psychologists delivering VR. Staff resource implications for VR and particularly for occupational therapy need to be explored to ensure that effective and timely VR can be delivered alongside other aspects of rehabilitation.

7.5 Who is offered vocational rehabilitation?

Figure 7.3: Criteria for vocational rehabilitation services (all service types)



There is variation in who is considered eligible for VR. Standardisation of eligibility criteria would ensure access for those who have a goal to explore commencing or returning to paid or voluntary employment or education. Variability may be explained in part by services which are not commissioned to deliver VR, and which have taken on this remit alongside their primary responsibilities. Formal commissioning with detailed service specifications should address this issue.

7.6 Duration of vocational rehabilitation, by number of sessions

Figure 7.4: Mean number of vocational rehabilitation sessions provided to patients (all service types)

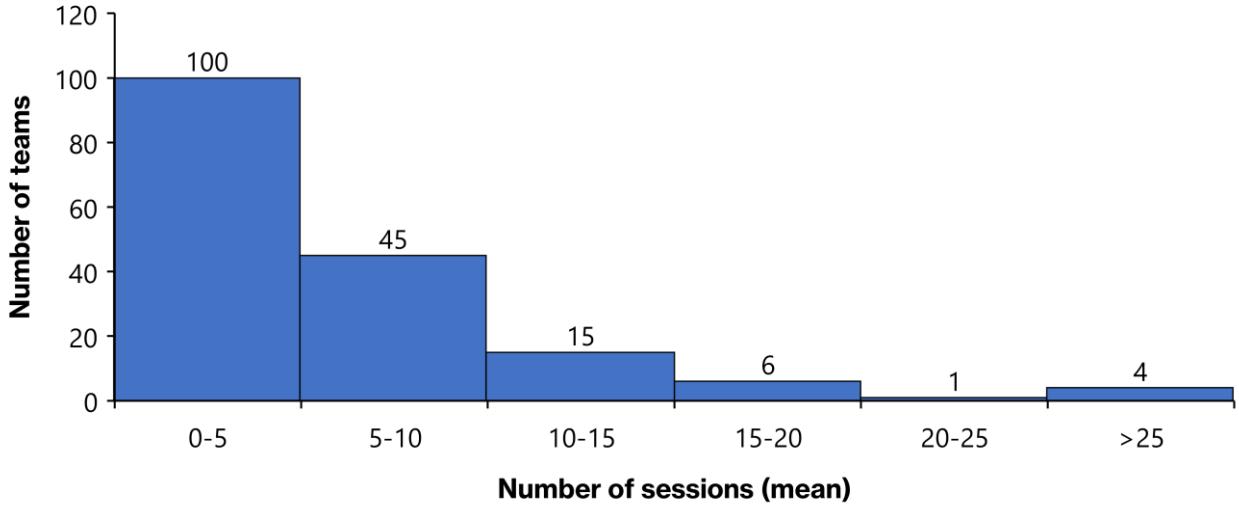


Figure 7.4 above shows that the majority of teams report providing 0-5 sessions per patient. There is no recommended number of sessions as this should be tailored to the individual's needs, workplace and goals. The number of sessions provided may be limited by the proportion of services which have a time limit. VR should not be limited by any constraints of service time limits, as VR may need to start later than other aspects of rehabilitation.

7.7 Frequency of vocational rehabilitation sessions

Figure 7.5: Frequency of vocational rehabilitation sessions provided (all service types)

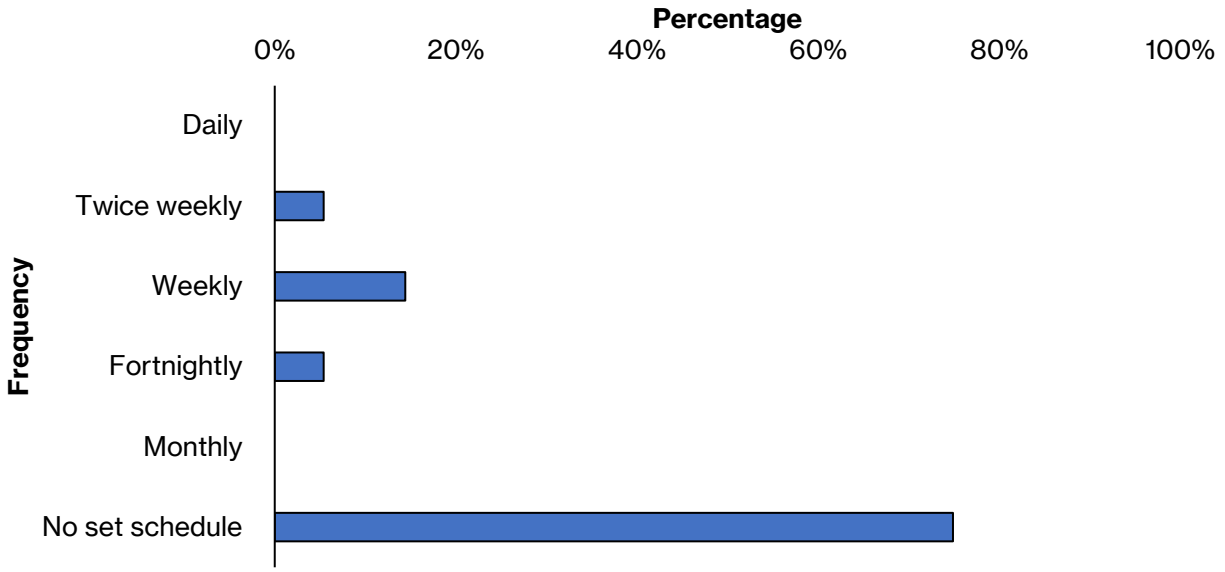


Figure 7.5 shows the majority (74.9%) of services which deliver VR have no set schedule for doing so, suggesting the programme is tailored to the individual. Further investigation into whether VR is being delivered in appropriate doses/schedules is warranted, as well as understanding the interplay between VR and rehabilitation focussed on non-vocational goals also delivered by community-based multidisciplinary teams.

Section 8: Six-month reviews

Standard: Every stroke patient is offered a 6-month review

Reviews at 6-months are an essential part of the stroke patient pathway, ensuring that patients' needs are met, their progress reviewed, and future goals set if further support is needed.

Figure 8.1: Map of location of 6-month assessment providers

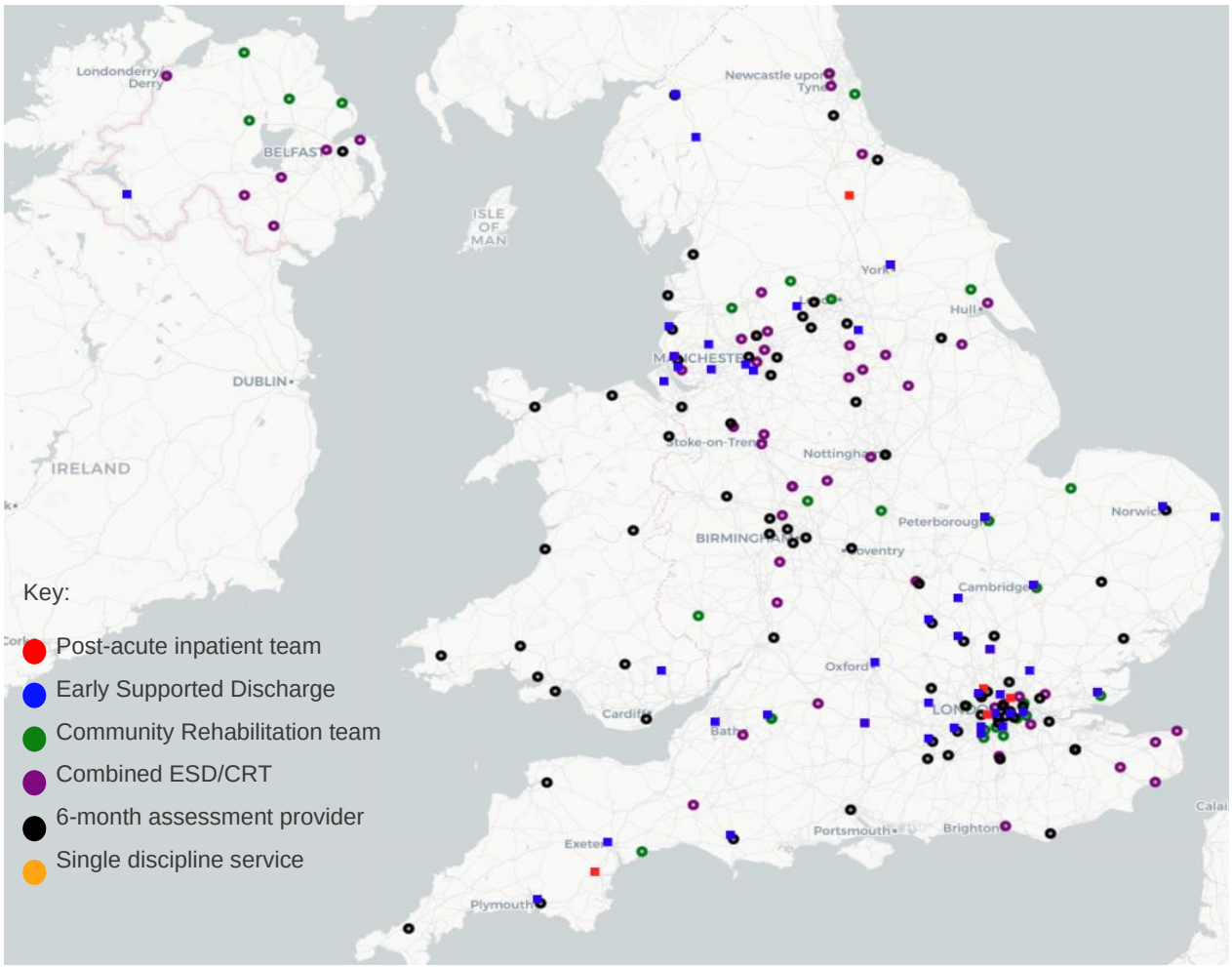


Figure 8.1 shows the location of the different service types providing 6-month reviews across England, Wales and Northern Ireland. Whilst there appears to be quite good coverage across these countries, there are still a number of mainly rural areas where 6-month reviews are not being conducted. Patients are missing out on a vital review of their stroke secondary prevention, stroke recovery and disability management, as well as any unmet clinical and social care needs.

Table 8.1: 6-month review providers

Service type	Percentage of services providing 6-month reviews	Count
Post-acute inpatient team **(n=93)**	**12.9%**	**12**
Early Supported Discharge team **(n=88)**	**33.0%**	**29**

Service type	Percentage of services providing 6-month reviews	Count
Community Rehabilitation teams **(n=86)**	**34.9%**	**30**
Combined ESD/CRT **(n=71)**	**67.6%**	**48**
6-month assessment provider **(n=78)**	**100%**	**78**
Single discipline service **(n=66)**	**1.5%**	**1**

Figure 8.1 and Table 8.1 show that 6-month reviews are provided by a variety of different service types. This presents options for commissioners locally. 18.2% of services returned from 6-month assessment providers were provided by the Stroke Association. Importantly, providers need to use a standardised 6-month review process, which enables a comprehensive review of needs and facilitates appropriate onward referral.

The SSNAP clinical audit collects outcome measures data at 6 months, and it is important that all 6-month review providers participate in this audit. Without such outcome data it is difficult for services and their commissioners to make appropriate clinical service improvements and demonstrate clinical and cost effectiveness.

Table 8.2: Total number of 6-month reviews completed

Service type	Total number of stroke patients seen in 12 months	Total number of reviews completed (over 12 month period)	Median number of reviews competed by each service (over 12 month period)
Post-acute inpatient team **(n=12)**	**2674**	**1422**	**115**
Early Supported Discharge team **(n=29)**	**7373**	**5575**	**139**
Community Rehabilitation team **(n=30)**	**9099**	**4021**	**88**
Combined ESD/CRT **(n=48)**	**16562**	**12534**	**173**
6-month assessment provider **(n=78)**	**28679**	**16873**	**174**
Single discipline service **(n=1)**	**235**	**56**	**56**
All **(n=198)**	**64613**	**40481**	**157**

KI16 is an ISDN level indicator which was deemed to be met if the total number of patients seen for a 6-month review for all teams in an ISDN was at least 50% of the total stroke patients recorded in the SSNAP clinical audit (number of stroke patients at 72 hrs in all routinely admitting hospitals in that ISDN from October 2020 to March 2021, multiplied by 2). Only 50% of ISDNs meet that indicator, suggesting many patients are missing out on being offered a review.

Table 8.2 shows that the total number of stroke patients seen by each service type is higher than the total number of reviews completed. This could mean that not all patients offered a review accepted one. Or it could mean that not all patients associated with that service were offered a review or required a review during the time of interest. It is important that every stroke patient is offered a 6-month review and that processes are in place to ensure that every stroke patient who leaves hospital is followed up.

Figure 8. 2: Clinical disciplines who provide 6-month reviews

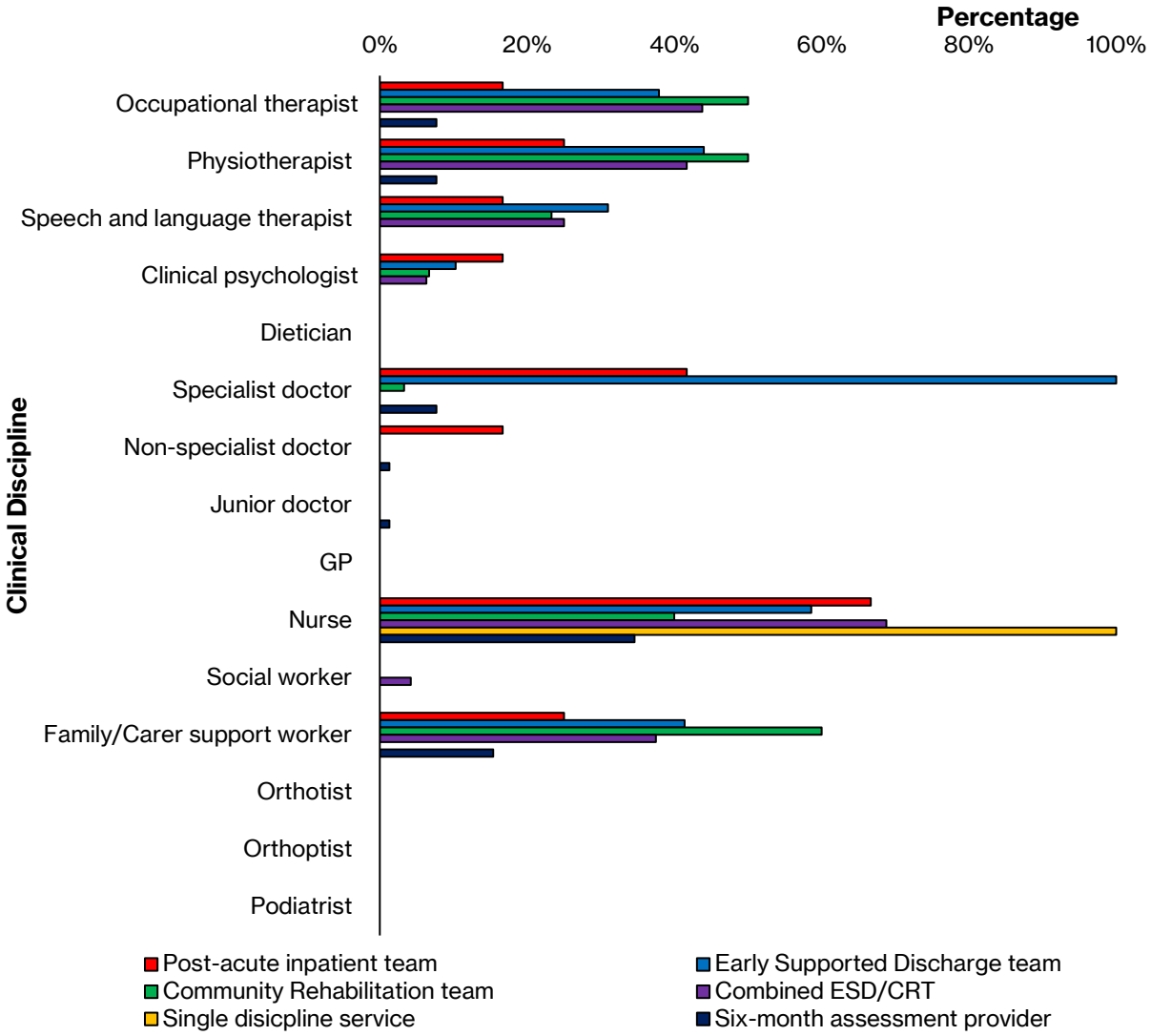


Figure 8.2 shows the different disciplines that conduct or are involved in the 6-month review process and some of this appears related to the setting. It suggests there is multidisciplinary input into a review and also flexibility in who can carry out a review, which should facilitate capacity and tailoring. It might also offer commissioners different options for wider provision of 6-month reviews as well as the opportunity for patients to be seen by the most relevant professional. It is important that people conducting the review have had sufficient training and that a standardised tool is used.

Every Early Supported Discharge team involved specialist doctors in the 6-month review process, which is noteworthy when a significant proportion of teams reported not having a doctor within the team. Use of lower grade staff for reviews, supported by advanced or consultant practitioners (nurse or allied health professional), could be a more efficient use of workforce.

In community rehabilitation services all the core therapy disciplines are involved in delivering 6-month reviews. Social workers have little to no involvement, which may be a missed opportunity to holistically consider the needs of patients and carers.

Section 9: Participation in clinical audit and research, and use of outcome measures

9.1 Audit and research

Standard: Teams participate in clinical audit and research.

Teams indicated whether they were registered with the SSNAP clinical audit. Full participation in the SSNAP clinical audit is vital in order for data to be representative and to drive local and national improvement.

Table 9.1: Participation in SSNAP clinical audit

Service type	Percentage	Count
Post-acute inpatient team **(n=93)**	**86%**	**80**
Early Supported Discharge team **(n=88)**	**98.9%**	**87**
Community Rehabilitation team **(n=86)**	**65.1%**	**56**
Combined ESD/CRT **(n=71)**	**98.6%**	**70**
6-month assessment provider **(n=78)**	**92.3%**	**72**

Table 9.1 shows that high percentages of all service types responded positively, as reflected in 86% of services meeting KI13 (see section 1). There is a lower percentage for Community Rehabilitation teams (likely reflecting generalist services).

Table 9.2: Participation in research

Service type	Total number of patients recruited to research	Median number of patients recruited	Range
Post-acute inpatient team **(n=93)**	**152**	**0**	**0-53**
Early Supported Discharge team **(n=88)**	**155**	**0**	**0-86**
Community Rehabilitation team **(n=86)**	**399**	**0**	**0-394**
Combined ESD/CRT **(n=71)**	**35**	**0**	**0-15**
6-month assessment provider **(n=78)**	**287**	**0**	**0-212**
Single discipline service **(n=66)**	**88**	**0**	**0-22**

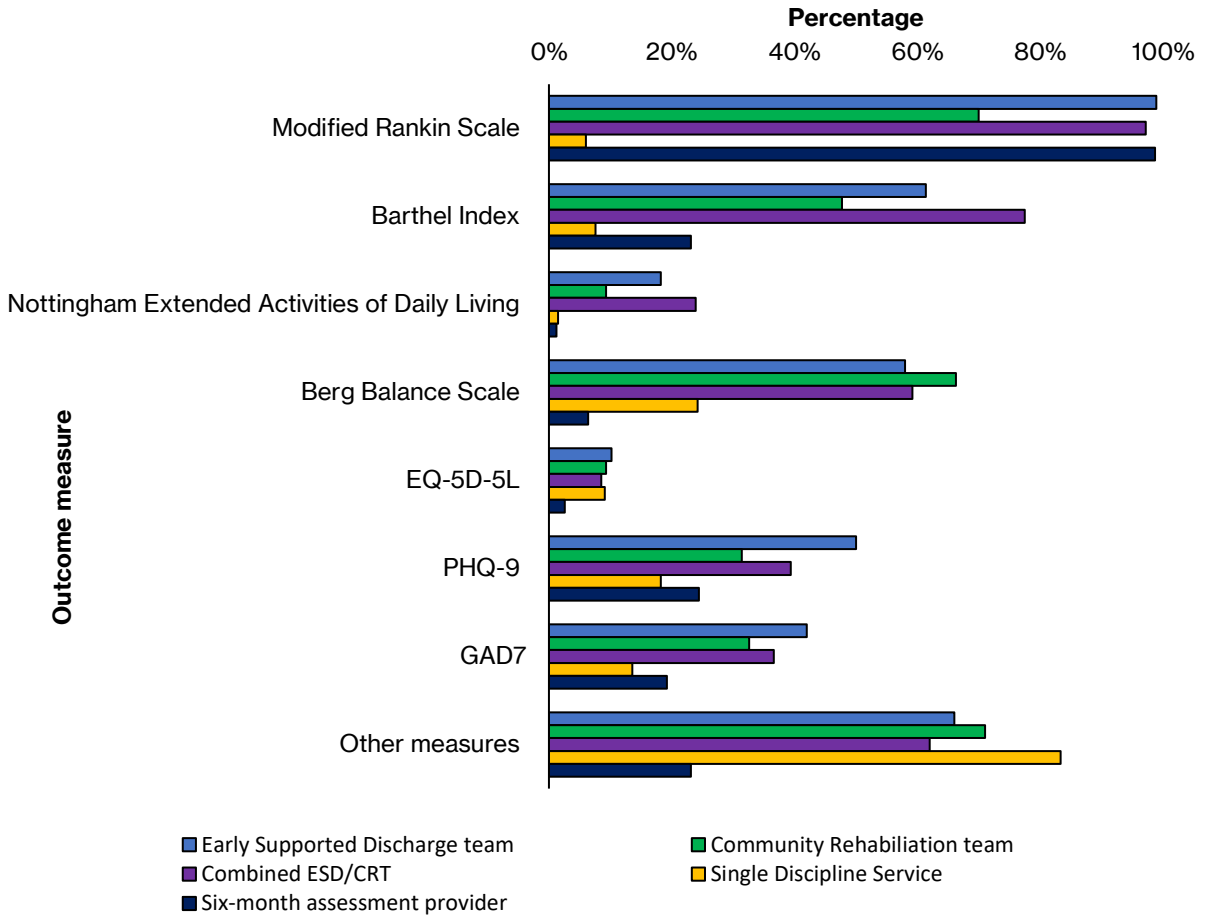
The median number of patients recruited to research studies is zero for all service types, reflecting the fact that very few services participate in research. This was reflected in only 9% of services meeting KI14 (see section 1). We acknowledge that stroke research was significantly affected by the COVID-19 pandemic. It is known that involvement in research correlates highly with improved quality of services and patient outcomes. Participation in stroke rehabilitation research needs to be prioritised.

9.2 Outcome measures

Standard: Teams should use standardised outcome measures to monitor performance.

The use of outcome measures is an important feature of stroke services, demonstrating the clinical and cost effectiveness of rehabilitation, which is crucial in developing services further. It should form part of regular reporting. Ideally, a common set of outcome measures needs to be aligned across and within service types. This would enable ISDNs and regions to collate and review community stroke data that complements what is collected in SSNAP. This should be a focus for ISDNs.

Figure 9.1: Outcome measures collected



It is encouraging to see that a wide range of standardised outcome measures are being routinely used across all service types. Figure 9.1 shows inconsistent use of outcome measures across services, with the modified Rankin Scale most commonly used, perhaps due to this measure being entered into the SSNAP clinical audit. There are some clear differences between measures used by Early Supported Discharge services compared with Combined ESD/CRT services (especially the Barthel index) that require further exploration. Outcome measures are infrequently completed at 6-month reviews and use of EQ5D is low across teams but is expected to increase following its inclusion in the SSNAP clinical audit for 6-month review services from July 2021. Patient reported outcome measures (PROMs) are recommended across pathways, with completion of EQ5D earlier in the pathway allowing the opportunity to detect changes over time when compared with measures completed at 6-month reviews.

Glossary

6-month assessment provider	Providers who only carry out a 6-month outcome assessment of patients. For the purpose of this audit, acute hospitals providing 6-month assessments fall under this. This option excludes ESD, CRT, Combined ESD/CRT and standalone/single discipline services that provide 6-month assessments as part of their service function.
6-month reviews	A review of a stroke patient's progress 6 months after their stroke. This review provides the opportunity to assess whether a patient's needs have been met, to have their progress reviewed and future goals set if further support is needed.
Carer	A person (commonly the patient's spouse, a close relative or friend) who provides ongoing, unpaid support and personal care at home.
Commissioners	Funding bodies of NHS services.
Combined ESD/CRT (ESDCRT)	A team that provides both Early Supported Discharge and Community Rehabilitation services and meets the following criteria: • Shared clinical caseload • One management structure • Single point of access/referral route • Staffing establishment/budget is combined, with staff able to work flexibly across team functions as required • No re-referral to another part of the team (i.e. from ESD to CST).
Community-based multi-disciplinary teams	Used to refer to Early Supported Discharge services (ESD), Community Rehabilitation teams (CRT) and Combined ESD/CRT as a collective.
Community Rehabilitation team/service	A multidisciplinary team that provides rehabilitation for patients in their own home or other community setting (including care homes and nursing homes). This may be following hospital discharge, post ESD rehabilitation or at any point post stroke where rehabilitation needs are identified. The intensity or duration of this service should be determined by patient need.
Designated stroke inpatient unit	This designated unit can be called a 'Stroke Unit' or a 'Stroke Rehabilitation Unit', or be geographically defined beds within a generic ward where stroke patients can receive specialist support and care. This unit may be based on an acute site, but must have designated, ringfenced rehabilitation beds with separate staffing and leadership.
Early Supported Discharge (ESD) team	A coordinated multidisciplinary team intended to facilitate the earlier transfer of care from hospital into the community and providing intensive stroke rehabilitation in the patient's place of residence.
General service	A service which provides care to stroke and patients with other neurological conditions as well as patients with other conditions.
Health Boards	These are administrative units in Wales that plan, secure and deliver healthcare services in their areas. http://www.wales.nhs.uk/nhswalesaboutus/structure

Interquartile range (IQR)	The interquartile range (IQR) is the range between 25th and 75th centile which is equivalent to the middle half of all values.
ISDN	Integrated Stroke Delivery Network.
ISDN level key indicator (KI)	A key indicator applied only at Integrated Stroke Delivery Network level.
Ischaemic stroke	Ischaemic strokes are the most common type of stroke. They occur when a blood clot blocks the flow of blood and oxygen to the brain.
Key performance indicator	A standard used to measure performance.
Long Term Plan	The NHS England Long Term Plan launched in January 2019. It sets out a plan for the NHS to improve patient care and health outcomes in the future. https://www.longtermplan.nhs.uk/wp-content/uploads/2019/08/nhs-long-term-plan-version-1.2.pdf
Median	The median is the middle point of a dataset; half of the values are below this point, and half are above this point.
Multidisciplinary team (MDT)	A team or service which is composed of staff from different healthcare professions with specialist skills and expertise. The members work together to ensure patients receive comprehensive, coordinated treatment.
Multi-level key indicator	KI2 and KI4 are multi-level key indicators, meaning that there are multiple thresholds in order for the KI to be met. If some of the thresholds are partially met, then one point is given. If all the thresholds are met, then two points are given. So, although there are 14 KIs it was possible to score double points for some KIs.
National Clinical Guideline for Stroke (2016)	A national evidence-based guideline for stroke care published by the Intercollegiate Stroke Working Party, fifth edition 2016 https://www.strokeaudit.org/Guideline/Guideline-Home.aspx
Organisational Audit	Audit of the organisation of services, particularly relevant in stroke audit due to the evidence supporting organised stroke services.
Orthotics	Health professionals concerned with the application and manufacture of orthoses, devices which support or correct the function of a limb.
Orthoptics	Health professionals concerned with the evaluation and nonsurgical treatment of visual disorders caused by imbalance of the eye muscles.
Other: Support services	A support service whose primary function is to provide support and/or promote practice for patients, carers and their families. Patient, family and carer support: including information provision and support services for caregivers delivered by health, voluntary sector or social care. Communication support: Primary function is support and practice rather than a targeted SLT programme Emotional support: Primary function is support rather than a formal psychological therapy programme than targeted SLT programme)

Podiatry	A specialism which looks at the diagnosis, medical and surgical treatment of disorders of the foot, ankle and lower extremity.
Post-acute inpatient team	Team which provides bed-based service for patients who continue to need inpatient (hospital) care with consultant review, but this no longer needs to be at an acute level, i.e. they are no longer based in a hyper acute stroke unit and do not require 24hr medical consultant cover. Patients predominantly require rehabilitation support prior to being able to reside in the community. May be provided in step down units such as in community hospitals.
Rehabilitation	The structure necessary for rehabilitation is the existence of a multidisciplinary team of people who can assess and treat most problems commonly faced by their patients. The process of rehabilitation is one of assessment (collecting and interpreting data), setting goals, intervening to provide support (which maintains the status quo) and treatment (which alters something), and then re-assessing to compare the situation after intervention with that aimed for. (Wade DT, 2003)
Secondary prevention	Measures to prevent recurrence of the same illness.
Sentinel Stroke National Audit Programme (SSNAP)	National stroke clinical audit programme funded by NHS England, the Welsh Government and, with some individual projects, other devolved administrations and crown dependencies. In addition to the Post-acute Organisational Audit reported on in this document, SSNAP runs a clinical audit (see below) and carries out a biennial Acute Organisational Audit and various other stroke-related audit activities. SSNAP is now the single source of stroke data for England, Wales and Northern Ireland.
SSNAP clinical audit	A continuous clinical audit prospectively collecting a minimum dataset for every stroke patient in England, Wales and Northern Ireland, covering acute care, rehabilitation, 6-month follow up and outcome measures since December 2012.
Sessions	A term used to describe a junior doctor's time. One session represents half a day.
Standalone/ single discipline service	A standalone service with a specific rehabilitation function or single discipline rehabilitation (e.g. outpatients). These services do not function as a multidisciplinary team and may be clinic or domiciliary based.
Stroke specific	A service which provides care to stroke patients only.
Stroke/neurology specific	A service which provides care to stroke and/or neurological patients only.
Swallow screening	Swallow screening refers to a process which broadly identifies the safety of a patient's ability to swallow. This screening process, which may be performed by any member of the team trained to do this, acts to establish whether the patient requires further formal assessment regarding their ability to swallow (either fluids or solid foods).
Team level KI	Key indicators applied to all relevant teams individually.
Trusts	In the context of the National Health Service (NHS), trusts are organisational units, e.g., hospital trusts, community trusts, primary care trusts or combinations thereof. In this report it usually refers to hospitals.

Vocational rehabilitation

Vocational rehabilitation programmes for people after stroke should include:

- assessment of potential problems in returning to work, based on the work role and demands from both the employee's and employer's perspectives;
- an action plan for how problems may be overcome;
- interventions specifically designed for the individual which may include: vocational counselling and coaching, emotional support, adaptation of the working environment, strategies to compensate for functional limitations in mobility and arm function, and fatigue management;
- clear communication between primary and secondary care teams and including the person with stroke, to aid benefit claims or to support a return to work. RCP National Clinical Guideline for stroke 2016 (p56): https://www.strokeaudit.org/Guideline/Guideline-Home.aspx

Whole time equivalent (WTE)

The whole time equivalent (WTE) of staff is the number of hours staffing disciplines are contracted to work within a typical working week. For example, a WTE number of 1.0 means that the person is a full-time worker (and works e.g. 37.5 hours per week); while a WTE of 0.5 signals that the worker is half-time (and works e.g. 18.75 hours). This should not be confused with the number of individuals, which is the number of people (bodies) a service has to deliver those hours.

References

Intercollegiate Stroke Working Party. *National Clinical Guideline for Stroke*. 5th ed. London, UK: Royal College of Physicians; 2016. (https://www.strokeaudit.org/SupportFiles/Documents/Guidelines/2016-National-Clinical-Guideline-for-Stroke-5t-(1).aspx)

National Stroke Service Model description of an Integrated Community Stroke Service (ICSS). (https://www.england.nhs.uk/publication/national-stroke-service-model-integrated-stroke-delivery-networks/)

British Association of Stroke Physicians. (https://www.basp.org/wp-content/uploads/2019/07/BASP-Stroke-Medicine-Workforce-Requirements-Report-FINAL.pdf)

British Society of Rehabilitation Medicine. Specialised Neurorehabilitation Service Standards 7 30 4 2015-PCATV2-forweb-4-5-16.doc Update 30.4.2015. https://www.bsrm.org.uk/downloads/specialised-neurorehabilitation-service-standards--7-30-4-2015-forweb.pdf

UK Rehabilitation Outcomes Collaborative http://www.ukroc.org

Wade DT, 2003. Community Rehabilitation, or Rehabilitation in the Community, *Disability and Rehabilitation*, no. 15, vol. 25, p 875-881)

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HQIP is led by a consortium of the Academy of Medical Royal Colleges, the Royal College of Nursing, and National Voices. Its aim is to promote quality improvement in patient outcomes, and in particular, to increase the impact that clinical audit, outcome review programmes and registries have on healthcare quality in England and Wales. HQIP holds the contract to commission, manage, and develop the National Clinical Audit and Patient Outcomes Programme (NCAPOP), comprising around 40 projects covering care provided to people with a wide range of medical, surgical and mental health conditions.

The HQIP programme is funded by NHS England, the Welsh Government and, with some individual projects, other devolved administrations and crown dependencies.

https://www.hqip.org.uk/national-programmes/