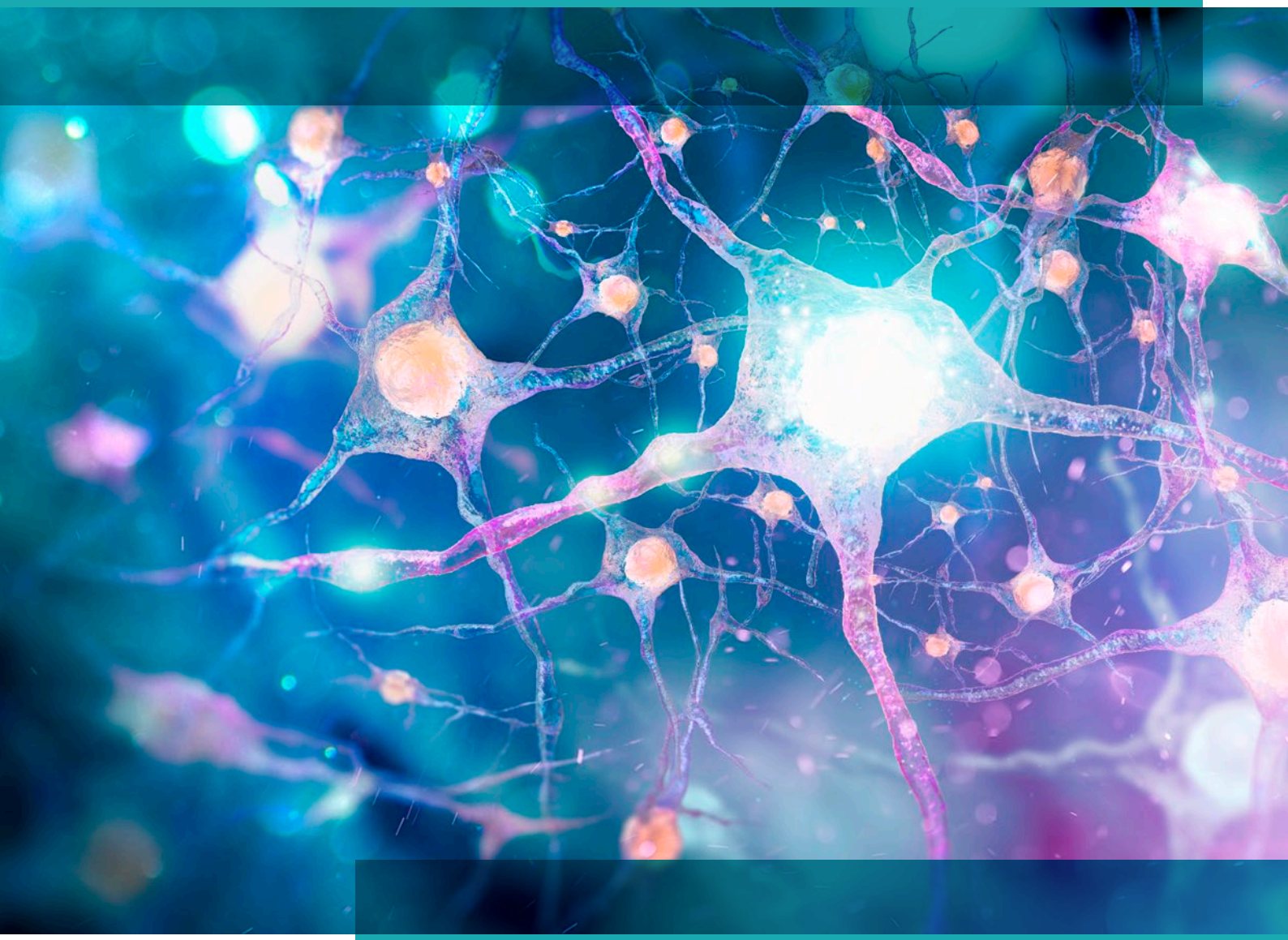
Early Supported Discharge for Stroke 2022-2023 Report



Clinical Design & Innovation
Person-centred, co-ordinated care

ROYAL COLLEGE OF PHYSICIANS OF IRELAND

National Clinical Programme for Stroke

Stroke is the second leading cause of death in middle to higher income countries and the leading cause of acquired adult neurological disability in Ireland.

Report Prepared By:

Ms Ciara Breen, Joint HSCP Lead, HSE National Clinical Programme for Stroke

Ms Sinéad Coleman, Programme Manager, HSE National Clinical Programme for Stroke & Clinical Specialist Physiotherapist St James' Hospital Dublin

Prof Rónán Collins, Clinical Lead, HSE National Clinical Programme for Stroke & Consultant Stroke Physician, Tallaght University Hospital

Ms Fiona Connaughton, Nurse Lead, HSE National Clinical Programme for Stroke

Ms Julie Keane, Joint HSCP Lead, HSE National Clinical Programme for Stroke & Clinical Specialist Speech and Language Therapist, Tallaght University Hospital

Acknowledgements:

This report has been prepared with the co-operation and collaboration of the Early Supported Discharge (ESD) teams around the country.

This report includes the output of teams in eleven sites:

- Beaumont Hospital
- Connolly Hospital Blanchardstown
- Cork University Hospital
- Galway University Hospitals
- Mater Misericordiae University Hospital
- Our Lady of Lourdes Hospital Drogheda
- Sligo University Hospital
- St James's Hospital
- St Vincent's University Hospital
- Tallaght University Hospital
- University Hospital Limerick

For the first time, the chapter on patient outcomes includes data both from local sites and from the Irish National Audit of Stroke. We would like to extend our thanks to Prof Joe Harbison and Ms Joan McCormack for their support in preparation of data for this chapter.

Several organisational partners within the HSE and RCPI have given essential support, for which we extend our thanks, as they have been critical to the successful delivery of this strand of the clinical programme. This includes HSE Clinical Design and Innovation, NCAGL Lead Dr Emer Ahern, the Clinical Advisory Group of the NCP Stroke and the Cardiovascular Policy Unit of the DOH.

Welcome Note

Those of us working in stroke services appreciate all too well just how life-altering a stroke can be – not only for the individuals who experience it, but also for their families and support networks. As many as one in four people will have a stroke in their lifetime, and despite the wonderful advances in stroke prevention and treatment, pathways to support recovery of function and independence remain crucial.

Early, specialised stroke rehabilitation plays a vital role in helping people regain independence and return to their communities. For many, this specialised care and support can be delivered in their own home by an Early Supported Discharge (ESD) service. ESD services have a robust Irish and international evidence base that supports this model of care as part of best practice. Benefits to the person with stroke include an increased likelihood of independence at six months post stroke, a reduced likelihood of needing institutional care such as a nursing home, and improved satisfaction with services due to the support they receive during the transition from hospital to home. Meanwhile, this service model enables people to go home from hospital on average six days earlier, driving much needed bed capacity in our stroke units and value for money for our health system.

This report represents much more than just a review of figures and outcomes from 2022 and 2023 – it's a testament to the dedicated efforts of multidisciplinary teams across the country who work tirelessly to bring person-centred care into people's homes. It reflects the collective progress we've made, as well as the challenges we continue to face, in ensuring that stroke survivors receive the support they need to recover in the most appropriate setting for their needs. By the end of 2023, ESD teams were operational in 11 locations across the country and we now continue to work towards full implementation of ESD as described in the HSE Stroke Strategy 2022-2027 to cover ultimately 21 sites and 90% population coverage.

The journey of implementing ESD services nationally has not been without its obstacles. The onset of the COVID-19 pandemic brought an unprecedented set of difficulties that affected healthcare delivery across all sectors. And yet, despite these pressures, ESD teams demonstrated remarkable adaptability, resilience, and commitment to maintaining continuity of care. Encouraging, many of the positive changes made during the early years of the COVID-19 pandemic were maintained and built upon in 2022 and 2023.

In compiling and reflecting on the data and experiences from these two years, we in the HSE National Clinical Programme for Stroke are heartened to see innovative and tangible improvements in access and quality in both our newer teams and those who have been now established for over a decade. During the reporting period that this document covers, more stroke survivors than ever were able to return home sooner, with structured support from expert teams tailored to their individual recovery goals. There is still work to be done, particularly in expanding access to all eligible patients across every region, as described in the HSE Stroke Strategy 2022-2027, but the groundwork has been laid and the strategy has clearly signposted the future direction.

Above all, this report is about people. It's about the stroke survivors who, with the right supports, take important steps toward rebuilding their lives. It is also about the clinicians who coordinate and deliver complex care with compassion and excellence. And finally, it is about the system we are continuing to develop – one that recognises the profound value of early intervention, integration, and continuity of care in keeping with the vision of Sláintecare.

As you read this report, I hope you will share in the sense of purpose and optimism that fuels our continued commitment to further developing Early Supported Discharge services in Ireland as part of the HSE Stroke Strategy 2022-2027.

Ciara Breen
HSCP Lead

National Clinical Programme for Stroke

Contents

Chapter One: Introduction and Background

Early Supported Discharge (ESD) for stroke is an effective and extensively studied service model which accelerates discharge home after stroke, through the provision of specialised rehabilitation, support, and secondary prevention[1]. In this model, patients are able to return to their own homes to continue their recovery after stroke while co-ordinated, integrated, and specialist care is continued, thus enabling the person with stroke to make a supported transition from the hospital to the community setting at the earliest opportunity.

This model of care has been extensively studied around the world, with findings that people who receive ESD have a reduced risk of long-term dependency and institutionalisation when compared to usual care[1-3]. Superior functional outcomes include improved mobility and greater independence in the ability to perform activities of daily living. The model is highly acceptable to people living with stroke, and those who care for them, and is furthermore in close alignment with the Sláintecare vision for person-centred healthcare[4]. ESD orients services to the community setting where this is suited to the healthcare recipient's needs at the earliest opportunity.

The National Clinical Guideline for Stroke for the UK and Ireland[5], which were published in May 2023, represent the first time that the longstanding close collaboration among British and Irish stroke healthcare communities has yielded shared clinical guidelines covering all areas of stroke prevention, acute care, rehabilitation, and ongoing support. The guidelines clearly and specifically call for ESD to be offered to all suitable patients, for it to be delivered without a delay in care, and for the therapy provided to be delivered at the same intensity and frequency as therapy in the in-patient setting. This is in keeping with the HSE National Stroke Strategy 2022-2027[6] which calls for additional investment in Early Supported Discharge over the lifetime of the strategy.

The HSE National Clinical Programme for Stroke have led the establishment of ESD services in Ireland, with the first teams commencing via NCP Stroke funding in the Mater Misercordiae University Hospital, Tallaght University Hospital, and Galway University Hospital in 2012. By the end of 2023, there were eleven ESD teams, a figure which increased by two over the lifetime of this reporting cycle, with new teams added in Our Lady of Lourdes Hospital and Connolly Hospital in March 2023 and December 2023 respectively. In total, the HSE National Stroke Strategy calls for 21 teams to be established by 2027. The goal as outlined in the strategy was that these teams would in aggregate cover over 90% of stroke units and provide ESD to a predicted 996 people per year. The activity of the existing ESD teams already surpasses projections for this point of the service rollout, reflecting the high demand and clear value the ESD model has in the context of ever-pressured inpatient stroke services. More people than ever are availing of ESD, with over 800 people receiving ESD in 2023 alone.

The chapter profiling the characteristics of people availing of ESD includes data received directly from the ESD teams, and data from the Irish National Audit of Stroke (INAS) for the first time. A consensus has emerged from the literature that ESD is most suited to people with mild to moderate stroke[7]. As the data from INAS delineates, many Irish ESD teams already accept people with a wide range of needs within this bracket. However, further resourcing is required to ensure all teams have a suitable skill mix to manage the ever-increasing complexity in patient needs. The NCP for Stroke aim to bring all existing teams to the recommended staffing levels as described in the HSE Stroke Strategy (i.e. Phase One), and to also commence Phase Two in 2025 having been delayed by one year due to the HSE recruitment pause in 2023 and 2024.

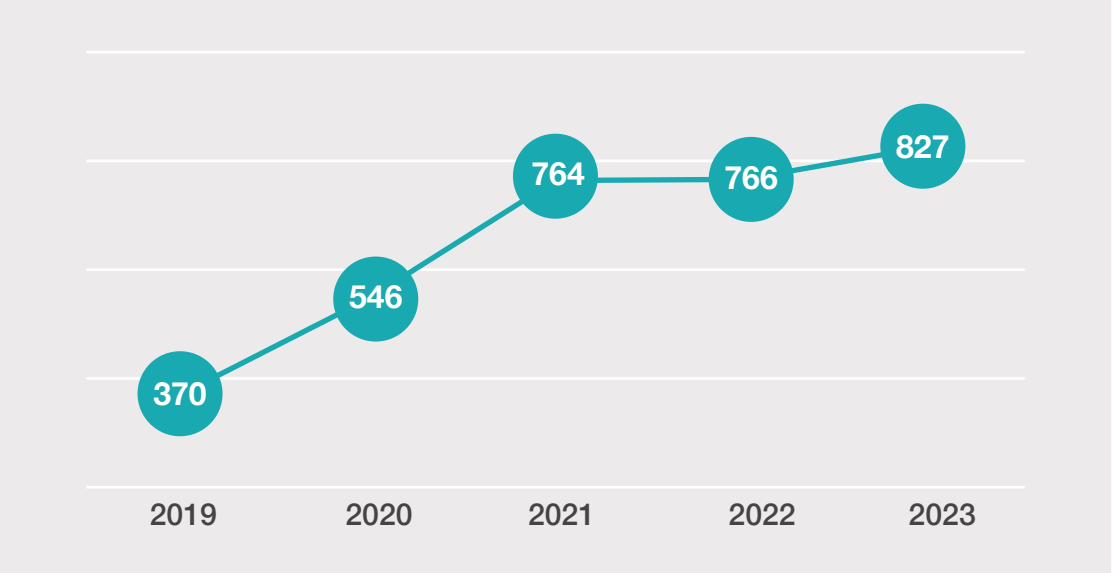
ESD in Ireland is developing into a rich community of practice, incorporating researchers, clinicians, and other stakeholders. The chapter on workforce planning further outlines the progression of this community of practice to include regular meetings, an annual study day, research collaborations and the development of supports for new teams. While recruitment and retention are the responsibility of individual sites, the clinical programme will continue to advocate for resourcing, provide a framework to enable teams to collaborate, and to bring consistency of approach to the delivery of high quality and evidence-based care.

Finally, although ESD services provide important and meaningful interventions at a critical juncture between hospital and home, they are by their nature time limited. The NCP Stroke continue to use opportunities to link with and influence a range of other services in neurorehabilitation, stroke support groups and voluntary agencies, integrated care, and other community services to enable people to build a happy and healthy future after stroke.

Chapter Two: Activity and Trends in Early Supported Discharge

More than 1500 people partook in Early Supported Discharge (ESD) services during 2022 and 2023 combined, with the 827 participants in 2023 representing the highest combined annual ESD activity to date in Ireland. Over the last five years, there has been a steady increase in people receiving ESD. This can be observed in Figure 1 with the number discharged to ESD in 2023 now more than double the number receiving the service in 2019. Given the known positive clinical gains associated with availing of ESD, this ongoing upward trend is very encouraging, and reflects both national investment and the local embedding of ESD within stroke pathways.

Figure 1: Total numbers of people availing of ESD annually



The HSE National Stroke Strategy aims, when fully implemented, to enable at least 20% of stroke patients nationally to be discharged to an ESD service for continuation of stroke specific support and rehabilitation. Based on 2019 HIPE figures at the time of strategy development, this was projected at 996 discharges per year to ESD. As can be seen in Table 1, a number of Irish ESD teams already meet or exceed the projected 20% of discharges. The teams unable to currently deliver greater than 20% of discharges to ESD are those where staff resourcing is very significantly below projected demand given the volume of stroke presentations (e.g. Cork), or where the service had to pause or cease for a period (e.g. St Vincent's who paused while transitioning between temporary and permanent funding for recruitment reasons).

Table 1: Activity per site for 2022 and 2023

Site	2022 (% of stroke discharges)	2023 (% of stroke discharges)
Beaumont Hospital	108 (32%)	80 (22%)
Connolly Hospital Blanchardstown*	Nil (N/A)	13 (4%)
Cork University Hospital	94 (17%)	91 (13%)
Galway University Hospitals	75 (28.8%)	67 (19.8%)
Mater Misercordiae University Hospital	82 (25.4%)	82 (19.2%)
Our Lady of Lourdes, Drogheda**	Nil (N/A)	73 (24%)
Sligo University Hospital	56 (25%)	71 (28.9%)
St James' Hospital	93 (33.6%)	88 (30.5%)
St Vincents University Hospital***	77 (22%)	25 (10.3%)
Tallaght University Hospital	91 (26.3%)	124 (30.9%)
University Hospital Limerick	90 (20%)	113 (23%)
Total	**766**	**827**

* Established in Dec 2023

** Established in March 2023

*** Established on a permanent basis in July 2023

The National Clinical Programme (NCP) for Stroke have traditionally received annual reports from each ESD site once HIPE registers close for the year. From the third quarter of 2024 ESD teams will move to quarterly reporting of activity which will enable more rapid oversight of nationwide trends and enable more responsive problem solving among the NCP Stroke and local sites.

The average number of discharges facilitated per site was 85 in 2022 and 88 in 2023. However, there was a degree of variability in activity across sites arising from some or more of the factors below.

1. Teams functioning without the full complement of team members and WTEs

This was sometimes due to the absence of resourcing for a particular discipline (most commonly Clinical Nurse Specialists, Medical Social Workers and Therapy Assistants). On other occasions it was due to a funded position having fallen vacant due to staff turnover or leave. By late 2023 the impact of the HSE recruitment pause meant that several teams were simultaneously experiencing a reduction in staffing due to vacancies arising within ESD or staff being called upon to divide their work time across ESD and in-patient work.

2. Patients that were clinically suitable but who were out of catchment

This was more an issue in rural areas due to a more dispersed population, and where an adjacent team are not currently available to pick the patient up. The team in Sligo for example identified 18 patients in 2022 and 20 patients in 2023 who were out of their catchment area. They are now piloting an extended catchment area and will evaluate the impact. The NCP stroke also have identified the need for ESD teams in Letterkenny and Castlebar. This situation is replicated across a number of teams and until full implementation of the strategy is complete, will continue to arise. The use of telehealth was noted to be a particular feature of ESD in both 2020 and 2021 (influenced by Covid). Informal discussions at the ESD Network indicate that this is no longer a feature of ESD service delivery in a number of sites. Work will be undertaken in 2025 to identify the barriers to delivery of ESD via telehealth. Better understanding of these factors will enable greater geographic reach as well as increase rehabilitation dosage and intensity. However, it is important to note that due to the characteristics of the client group not all interventions can be delivered successfully via telehealth and that telehealth will not address what are known resourcing shortfalls.

3. Changeover in funding patterns from temporary to permanent funding

This was a welcomed step to secure the sustainability of these teams going forward, but resulted in temporary cessation of the service for a number of months in one site to enable permanent recruitment to occur (e.g. St Vincent's Hospital)

4. Lead-in periods for new ESD teams

New ESD teams were established at Connolly and Drogheda in 2023, and each of those sites required a ramp-up period to recruit team members and to design and develop the relevant supportive teamwork and patient pathways. In both new sites demand is quickly growing, reflecting very evident demand for ESD services.

The Irish National Audit of Stroke (INAS) provided a subset of ESD data for 2022) to the National Clinical Programme following a data request. This information is of very significant value in understanding the characteristics of people who availed of ESD in 2022 and is reported on in this chapter and the next. In relation to activity, 489 ESD cases were identified through INAS in comparison to 766 cases reported by the teams directly to the programme. In terms of activity there is a notable gap between the cases identified through INAS and those identified by the ESD teams themselves. This gap between ESD activity captured by INAS and the actual activity as reported by teams would appear to be due to a number of potential factors including:

- Miscoding of ESD cases in the stroke register as "Discharged Home" rather than "Discharged Home with ESD". Action has collaboratively been taken between INAS, NCP Stroke, ESD teams, and INAS data collectors (primarily Clinical Nurse Specialists) to communicate this potential error and to seek greater attention to correct coding.
- The scope of INAS does not currently extend to patients post their acute hospital care. Discharges from non-acute sites such as in-patient rehabilitation beds to ESD are therefore correctly recorded on INAS as a discharge to a rehabilitation unit. Several ESD teams

accept referrals and actively work to enable discharges from rehabilitation sites to ESD. The facilitation of such discharges increases acute stroke unit bed capacity through optimisation of patient flow from acute stroke to rehabilitation services. In this way, Irish ESD services can be said to enable both “Early” and “Earlier” discharges home. In some sites this may be as much as a third of overall ESD activity.

- Discharges to ESD teams from acute hospitals that are not their base hospital again may not be captured. These transfers out of area represent less than 10% of all ESD activity at present. The NCP Stroke in collaboration with the ESD Network of clinicians have also identified areas of overlapping catchment among the Dublin hospitals. As existing teams move towards being fully resourced in 2025, this will enable better delineation of catchment areas and enable more consistent handovers by standardising the ESD skill mix and capacity.
- ESD teams also accept referrals of in-hospital stroke whereby stroke will not be listed as the patient’s primary diagnosis by HIPE and therefore not always captured in INAS or ESD figures.

From 2025 INAS will report ESD activity per site on a quarterly basis. This should support greater visibility of this important facet of the stroke pathway and it reflects the significant investment being made in this model of care. However, for the reasons outlined above, there will be limitations to the completeness of this data, and ESD teams will need to continue to report activity locally and to the NCP for Stroke.

ESD is a time-limited intervention, with a suggested maximum of eight weeks duration. ESD teams also report on the average duration of time that a person with stroke is active on their ESD service. This time ranges between sites from 20 days to 55 days and may reflect different working practices, e.g. routine reviews by certain staff members at fixed intervals, or differing levels of dependence resulting in a need for greater or less therapeutic input. From Quarter Three 2024 the total number of interventions that a team deliver will be reported upon enabling oversight of whether this reflects differences in scheduling or differences in the intensity of input.

Next steps for ESD Activity and Data

- A working group including INAS, NCP Stroke and ESD team members has been formed by the Joint HSCP Lead with responsibility for Early Supported Discharge. The goals of this group are to review the existing annual dataset, convert it to quarterly data to enable more timely understanding of data trends, and to create a data dictionary to support standardisation of data.
- Ongoing monitoring of cohesion between INAS data and improve accuracy of discharge to ESD coding in acute sites
- Inclusion of ESD as a KPI in the INAS quarterly reports to all acute hospital sites from 2025
- Develop and document an agreed pathway for data governance with NCP team members, NCAGL and CAG

Chapter Three: Patient Outcomes and Experience

Early Supported Discharge (ESD) affords people with stroke an opportunity to return home at an earlier point in their recovery. This is typically to a domestic residence, i.e. the person's own home, in which the person with stroke is better able to access their personal supports, sleep in their own bed, eat the food they enjoy, and begin to re-engage with the day-to-day activities that matter to them. Our ESD services recognise the various nature of domestic settings in our modern society and provide services in a wide variety of homes that includes nursing home, hostel, halting site, and apartment settings. Additionally, where a home setting may be deemed by the ESD team as unsuited to intensive rehabilitation, e.g. for reasons of privacy in a congregated setting, many teams offer options for that patient to attend a nearby healthcare site as an out-patient. The additional of tele-health further expands the flexible means by which ESD teams aim to establish and provide specialist stroke rehabilitation with a focus on individualised care plans.

Patient Characteristics

This section draws from data provided by the Irish National Audit of Stroke (INAS), following a data request from the National Clinical Programme for Stroke pertaining to the 2022 INAS dataset. The pathway to Early Supported Discharge typically originates from the acute setting, but as many as one in three ESD participants may transfer to ESD from a rehabilitation setting instead. The ESD participants coming from rehabilitation settings may have differing characteristics – based on informal feedback from ESD teams these patients would typically be those who may have a more severe initial stroke, or who may need to be at a higher level of independence before discharge to ESD can commence (e.g. those who live alone). Therefore, this section describes the subset of ESD patients who received ESD directly from the acute setting, who are the larger of the two groups.

The following characteristics describe this cohort:

- 90% Ischaemic Stroke, 10% Haemorrhagic Stroke (there appears to be a slightly higher representation of ischaemic stroke in ESD Vs the overall stroke cohort although this differed among sites)
- One in three patients entering ESD were less than 65 years of age, with 45% aged between 65 and 79, and 22% over 80 years of age. All ESD sites accept adults with stroke regardless of age, focusing instead on clinical need and expected benefit. In 2022 the reported age range from sites was 17-99 years of age and the age range was 16-99 in 2023. In both years the ESD team in Limerick reported the greatest proportion of youngest patients and this was also consistent with the 2022 INAS figures which showed 45% of their overall ESD patients being aged under 65.
- 57.5% of the ESD population were Male and this reflects overall stroke incidence. Males were also represented in greater numbers in each age category other than over 80s where there were a greater number of women compared to men.
- The Modified Rankin Score (MRS) is captured at the point of discharge from the acute site. This scale is a global measure of disability arising from stroke. From Table X below, it can be seen that the majority of people being discharged to ESD had Mild Disability as assessed by the MRS.

Table 2: Modified Rankin Scores on discharge

	N	%
No disability (0)	44	9%
Mild disability (1, 2)	315	64%
Moderate to severe disability (3, 4, 5)	128	26%
Died (6)	~	*
Unknown	~	*
Total	**489**	**100%**

- One in four ESD participants had moderate to severe disability, with Tallaght, Galway, and Limerick in particular having more patients in this category when compared with other sites. This could reflect greater confidence among these teams (who are some of the longest established Irish teams) to deliver ESD to people with greater presenting disability. However, it could also reflect variance in the challenges that many teams experience in accessing supports such as equipment and home help that may be needed to facilitate a discharge home for people in this category of greater dependence.
- Notably, one in ten ESD participants had no disability as measured on the mRS. This tool provides a global measure of disability but may miss more subtle issues arising after stroke. This could include for example, fatigue, mood, secondary prevention, or vocational issues, which may not become evident until the person has been discharged home.
- The median hospital LOS of ESD participants was 9 days, which is the same as the overall stroke cohort reported on in INAS. However, differences emerge in relation to the mean LOS as those receiving ESD spent an average of 14 days in hospital compared with 18 for the cohort as a whole.

ESD Outcome Measures

A number of sites report on the use of the UK FIM+FAM to determine patient outcomes following ESD. The UK FIM+FAM is a functional assessment scale typically completed by all team members working with the patient. While a well-established measure, it has been observed in recent years that there are challenges with its routine implementation as a national metric. The tool takes significant time to complete and this competes with delivery of face to face interventions. It has known ceiling effects, particularly with out-patient populations. Sites where the optional Extended ADL scale is used report that this section is the one which shows the greatest level of change but this adds further to the time requirement. Missing data has been evidence in every year since ESD reporting began reflecting the pragmatic challenges with collecting this data. And finally, the UK FIM+FAM does not always capture changes which may have significant impact at the level of the patient but are not areas assessed by the tool, e.g. use of technology, or the provision of equipment to support safety. As a result the NCP Stroke have made the decision to no longer require FIM+FAM data to be returned on every patient and will be actively working with sites in 2024 and 2025 to explore alternatives.

The Mater ESD team are current exploring the utility of the Stroke Impact Scale, the ESD team in Sligo have looked at a continuation of the Modified Rankin, and others are continuing to use the FIM+FAM on a case by case basis. The ESD Data Collection subgroup will be looking at this issue in 2024 and 2025 with a goal to have identified a recommended "basket of measures" which may more responsively capture the breadth of issues arising as people engaging in ESD begin to navigate their life after stroke.

Many of the quality improvement projects and patient pathways that teams are working on to improve reflect the breadth of functional goals that people with ESD voice to ESD team members. These include driving, working in both paid roles and non-paid roles in their community or family, parenting, and more. It is likely that no one tool can completely comprise the personal impact and devastation of stroke, nor the scope and outcome of interventions delivered. However, commonalities exist and the challenge will be to identify suitable tools to capture data for what will soon be over 1000 patients per annum, while simultaneously respecting and validating the individual experience of what matters most.

Patient Satisfaction

Several teams undertook surveys of patient satisfaction regarding their ESD intervention. The feedback is almost uniformly positive, with for example 85% of the recipients of ESD in Beaumont reporting the service as "Excellent", and 100% of their respondents happy to leave hospital with ESD support. 100% of patients of the St James Hospital ESD service reported that they were happy with the ESD service overall, and 98% of patients in Limerick reported that they were happy the rehabilitation was carried out in their home.

Some patient quotes are included here and represent feedback given to the ESD teams in Tallaght and Limerick:

> *"Excellent service. Rehabbing at home makes so much sense. Staff were outstanding. 100%"*
>
> *"The ESD service was a great help to me and my family. They explained everything in plain language"*
>
> *"I think the service is super. Being at home facilitated recovery much better. It also allowed the exercises to be tailored to my own personal needs in my own environment. Well Done"*
>
> *"I found the ESD therapy to be excellent. It helped me get back to full health much quicker than if I was restricted to a bed in the hospital, and the therapists that supported me were first class"*

Transitions of care continue to require some ongoing work, with patients occasionally commenting that they lacked information about ESD prior to hospital discharge. Patients also commented regarding a lack of follow-up services in the community after discharge from ESD.

"Little info provided prior to discharge"

"I was left on my own with no follow up, I didn't know if I was making progress"

"More post stroke services are required"

The MMUH ESD team have been engaged in a research project to develop and refine their patient satisfaction survey to best evaluate the experience of people who receive ESD. The National Clinical programme for Stroke have also engaged with the HSE "Your Voice Matters" team and collaboratively with other members of the ESD Data Subgroup will be working to develop a national tool that will enable newer teams as well as those not currently collecting patient feedback to collect this in the easiest possible way for both participants and team members.

However, the experience of receiving ESD cannot easily be distilled into 8 or 10 questions. Therefore, to conclude this chapter we turn to Mary who received ESD from the Cork team and we join her as she tells her story below:

Mary's Story

My name is Mary and I have suffered two strokes, firstly in 2021 and more recently in 2023. I was admitted for care to Cork University Hospital in 2021, and was discharged after receiving medical and therapy input. On my second admission to the Stroke Unit in 2023, I was very fortunate to be under the care of the dedicated stroke team. This time, the care and the support after the stroke from all the different disciplines within the unit was more polished. Also the follow on care from the staff from each unit and individual was invaluable in making headway in my recovery and getting my life back on track. Then care came and support came via Early Supportive Discharge (ESD), which is a team of stroke specialist therapists that visit you at home after stroke and bring you on even further.

Following on from a stroke is a very scary time. You feel you no longer can cope with day to day activities, and most strongly you feel a huge sense of loss in your identity as an individual. Having supports from the various ESD team members for my ongoing recovery has been invaluable and very reassuring. They also gave great support to my family.

As I write this in early 2024 I am still dependent in many ways on those around me but I am continuing to get stronger and stronger. I have become more independent in my day to day needs including my improvement with my ability to travel alone on public transport and go to shops. I have gained independence in attending the library and using audio books as my reading has been affected. Additionally I have returned in small part to my hobby of sewing and all my activities and hobbies are enabling me to become more and more content in my life. I have gained such strength during ESD by the fun I had while getting back on track, having external supports there and knowing that I am not alone. My writing has improved hugely, it is getting stronger each day. At the start I was unable to write my own name and now I can put together this piece – I am still learning and technology helps me. Reading is improving too.

All these steps are helping me, I look fine but deep down inside I'm not, no one can see that but I have people behind me. I am looking forward to engaging with the next steps in my stroke recovery and meeting new like-minded people who fully understand how I feel. The ESD team linked me in with facilities that are available to myself and my family including those in the HSE, Community Enterprises within the community will enable me to have my identity back. I am much happier in myself knowing that these extra supports are there… TO RECOVER MORE.

Next Steps for Clinical Outcomes and Patient Data

- Ongoing meetings of the ESD Data Collection subgroup to agree clinical outcome measures and pilot same during first half of 2025
- Sharing of patient satisfaction processes among sites via the Data Collection subgroup and also via the ESD Network
- Ongoing collaboration with INAS and Audit co-ordinators to ensure data capture is as accurate as possible in relation to ESD activity.
- Inclusion of HSE Your Voice Matters team for their expertise and as a potential platform for hosting patient feedback

Chapter Four: Workforce/Our People

Critical to the provision of high quality and effective Early Supported Discharge (ESD) services is a specialised and adequately resourced workforce. The HSE National Stroke Strategy 2022-2027[6] (Ref) outlines the staffing requirements for an ESD team in the Irish context, and this is presented below with costings relevant to 2025.

Table 3: Composition and costing of an Early Supported Discharge Team in Ireland in 2025

Grade	Total earnings incl PRSI	Non-pay costs 15% min-point	Total pay and non-pay
Occupational Therapist Senior (1 WTE)	75,043	11,256	86,299
Physiotherapist Senior (1 WTE)	76,027	11,405	87,432
Speech and Language Therapist Senior (1 WTE)	75,214	11,282	86,496
Social Worker-Medical Senior (0.5 WTE)	39,586	5,937	45,523
Clinical Nurse Specialist General (0.5 WTE)	39,586	5,937	45,523
Therapy Assistant (1 WTE)	44,482	6,673	51,155
	€351,934	**€52,791**	**€404,725**

It is estimated, based on Irish and international data[1,2,6] including systematic reviews that those availing of ESD spend six fewer days as an inpatient, on average. The cost savings that are associated with this reduction in length of stay, together with the reduction in dependency and institutionalisation as a result of this care model, make a compelling case for investment in ESD. In 2014, the ESRI completed an economic evaluation of this care model[8], and determined that full roll-out across Ireland would yield net savings of 2 to 7 million euros, based on costings at that time. Furthermore, given continued bed pressures across the system, ESD enables hospitals to release much needed inpatient capacity. This offers the person with mild to moderate disability post-stroke the preferred clinical intervention at the appropriate time-point.

During 2022 no ESD site had the full range of team members as specified in the HSE National Stroke Strategy 2022-2027, with just one site having a full team by the end of 2023 (i.e. OLOLH, Drogheda). The current inconsistency in available resources means that team activity is not entirely comparable or standardised, although all teams continue to work toward the same goal of facilitating an expedited discharge and improved clinical outcomes, through provision of specialised rehabilitation in the community setting. Team activity is dependent on the capacity of teams to accept new patients and furthermore the throughput of those patients can be affected by staffing disparity and skill-mix. The National Clinical Programme for Stroke have a phased plan to address these staffing variances over the lifetime of the HSE National Stroke Strategy[6]. The plans also include the addition of new teams to bring the total across the country to 21.

Workforce Planning

Staff working in ESD teams, overwhelmingly tell us that working with people in their own homes towards their individualised goals is a highly fulfilling and rewarding role. This job satisfaction is well-attested to by Eva Murphy, Senior Occupational Therapist with the Limerick ESD team, who describes her typical working day later in this chapter. Some roles such as Physiotherapy, Occupational Therapy and Speech and Language Therapy, are now very well established, while others such as Medical Social Work and Therapy Assistants are emerging roles for a number of teams. We look forward to further developing collaboration between sites around these roles in the years ahead and this is currently supported through the National ESD Network and annual study days. ESD for Stroke is also a recent specialism for Clinical Nurse Specialists (CNS) in Ireland, and one of the CNS in Early Supported Discharge (Sarah-Jane Byrne in Beaumont) is currently undertaking a work-based PhD to scope and develop the nursing role and pathway within the ESD team[9]. The development of the CNS role will be particularly critical to the successful embedding of secondary prevention within ESD. This research will also explore other aspects of the nursing role in the management of Activities of Daily Living, such as continence management.

Recent Irish research by O'Connor and colleagues[10] examined the implementation of ESD from the perspective of the ESD workforce, highlighting both achievements and challenges. Their findings identified resourcing and recruitment gaps as a barrier to fully realising the potential of ESD within an Irish context. Additionally the study revealed that telehealth was used quite inconsistently among sites, despite evidence supporting its effectiveness and broad acceptability among patients.

In 2025 the NCP Stroke plans to further explore the barriers and enablers of tele-health and tele-rehabilitation. The continued roll-out of ESD teams in rural areas in particular, will require creative use of all service delivery options, to ensure adequate dosage and intensity of rehabilitation input. ESD teams cover a dispersed area typically of up to a 25km radius from the hospital base. This results in significant time spent in travel to and from patient's homes. Telehealth has the potential to release some of the time currently spent in travel to value-added patient care. This needs to be balanced through close attention to the needs of the stroke population. Factors to be considered are digital literacy, individual patient characteristics (e.g. cognitive or language barriers), availability of devices and adequate broadband coverage, as well as the nature of the individualised patient goals that ESD aims to address.

Across the international literature and including Irish research[11-13], people with stroke repeatedly report unmet needs post-discharge. These include returning to work, the impact on relationships and intimacy, secondary prevention education, fatigue management, and signposting to community services. Many of these unmet needs could be supported through telehealth. The ESD team in Cork have engaged in research with UCC in this area and found that telehealth is largely acceptable to people receiving ESD. People with stroke (and their carers where relevant) also reported that telehealth supported better family understanding and involvement in recovery. It also supported a positive sense of routine and predictability to the day. However, this research was conducted with people who had received telehealth during the early phase of the Covid-19 pandemic when many social restrictions were still in place and many participants also expressed that they missed face to face interactions. A blended approach is likely the preferred longer term option for Irish ESD teams. A formal target for each team will be established by the end of 2025 based on focus groups, data analysis, and literature review.

Name:	**Eva Murphy**
Job Title:	**Senior Occupational Therapist (OT)**
Location:	**Early Supported Discharge for Stroke (ESD), University Hospital Limerick**

How did you become interested in the role?

I returned home to Ireland after working in the NHS for 8 years. I was fortunate to then start a position in a rehabilitation hospital in Limerick, which also had stroke-specific rehabilitation beds. From my time there, I developed a real love for stroke rehabilitation and found it hugely rewarding and so interesting. So when the position for a new ESD Stroke OT at UHL came to my attention, I had to go for it, and I haven't regretted it for a minute since.

How does ESD compare to other OT roles you have worked in the past?

Because you are working with people directly in their own homes, ESD for me is the perfect blend of acute stroke OT and community OT, with a really strong rehabilitation focus, which is at the heart of our Occupational Therapy core values. I feel the many other rotations I completed in the UK and my time working on in-patient stroke rehabilitation has given me a wealth of experience to carry through into my ESD role. I love the opportunity ESD allows me to really make a difference for people at a very vulnerable and unsettling time in their lives, and I get to see how my intervention has a positive impact on their lives, their occupational roles and their family's lives.

What is a typical day?

Starting at 8am, I have a busy morning with diary planning, and gathering resources, assessments, and any equipment needed for the patients I have scheduled that day. Then by 9.30/10.00am I am usually out on the road, with patients often scheduled back-to-back. Occasionally I do get time to grab a coffee and eat! A lovely part of the ESD role is that I might have a cup of tea made for me while on my visits! Time is then needed to write note entries on sessions, and to follow up with any onward referrals I need to make. I often wrap up my day, back in the hospital base, with a meeting with either ESD or Stroke team colleagues, and further planning for new patients starting in the ESD service. The best part of my ESD day is that I am usually doing something completely different with each patient, depending on their individual goals and their post-stroke needs. I see on average 4 patients a day, depending on their home location and travel time.

If you had to describe your job in one sentence, what would it be?

Varied, holistic, and greatly satisfying as an Occupational Therapist.

What is the most rewarding part of your job?

Seeing people in their own homes, gaining in post-stroke fatigue management skills, and making real positive gains in people's lives as they try to regain their independence and confidence.

Quality Improvement

All teams are involved in some degree of quality improvement, and the National ESD Network enables sharing of knowledge among teams, particularly via the annual study day. Every team also has a representative on the ESD Data Subgroup which will enable quality improvement at scale over the coming years. This improved standardisation will also lend itself to exploring differences among sites in relation to staffing levels, population health challenges, and more.

During 2022 and 2023 some examples of quality improvement work undertaken includes:

- Development of a pathway for suicidal ideation (Limerick)
- Development of a patient information folder in collaboration with HSE Spark (Drogheda)
- Secured funding via NCP Stroke for Blood Pressure monitors in some sites with a CNS (Beaumont)
- Refining pathways and targeting earlier referrals for CNS and MSW (Beaumont)
- Journal article published on spasticity practice in Ireland (Beaumont)
- Monitoring and improvement of the transition of care from hospital to home and ESD response times (Mater and Limerick)
- Capacity analysis and catchment refinement (Multiple sites)
- Poster and platform presentations at a variety of conferences including the Irish Gerontological Society, the Association of Occupational Therapists of Ireland conference, the UK Stroke Forum and more
- Development of a return to driving pathway (Galway and St James')
- Strengthening links with regional stroke supports groups and organisations (Galway and Cork)
- Development of e-referral and e-discharge systems (Cork)
- Business cases on various sites for team members identified by ESD staff as required for delivery of optimal care, e.g. psychology
- Improved ESD data management via the Dendrite system (Mater)

Workforce Planning and Student Placements

Health and social care students are required to engage in relevant placement experience to meet the requirements of qualification and professional registration. ESD provides a valuable insight into early stroke care, client-centred rehabilitation, integrated care, inter-professional working, and specialist areas of practice, and is therefore a valuable learning setting for students.

Placement experiences have been shown to influence future career decision making across a range of professions and therefore these types of placements are critical to ongoing stroke workforce planning. There are some challenges with regards to placement in ESD, not least the cost of travel for students, and it will be important for the HSE to find ways to support these

types of placement going forward to enable the vision of Sláintecare to be realised through a workforce which is trained, ready, and motivated to deliver integrated care. However, many students have absorbed their own travel costs to avail of the rich learning that ESD offers, and have done so either as a stand-alone placement, or as part of a blended placement between inpatient and ESD settings.

Some sites are exploring avenues around rotations of staff among ESD and Acute Stroke Units, e.g. Clinical Specialists in MMUH. This is an interesting development which supports maintenance of "full pathway" skillsets, enables excellent working relationships among acute sites and ESD teams, and facilitates integrated pathways of care. This also provides valuable insights for inpatient teams, into what people with stroke find most important on discharge. However, staffing deficits, both as a result of vacancies and resourcing gaps, persist across all of our acute stroke units and this may not be a feasible staffing model for many sites until inpatient staffing is addressed.

Education and Professional Development

ESD team members are universally engaged in continuous professional development to meet the needs of the complex and varied rehabilitation, support, and secondary prevention needs presenting in an ESD caseload. The National Clinical Programme of Stroke supports inter-professional learning opportunities specific to ESD via quarterly meetings of the ESD Network. These meetings are run according to the principles of a Community of Practice, using the model of Lave and Wenger[15].

Figure 2: Community of Practice model (Lave & Wenger, 1991)

As well as operational discussions and sharing of successes in service delivery, a structured CPD component forms part of the quarterly ESD Network meetings.

This comprises:

- Online Journal Club (twice per annum)
- Online Invited Speakers (once per annum)
- ESD Study Day (once per annum)

Various ESD team members have delivered a range of in-services and training opportunities on their own sites, conference presentations, lecturing, and writing for publication. Learning support around the needs of the Therapy Assistant roles is also important to enable these roles to deliver at the top of their potential. Therapy Assistants will begin national meetings in 2024 and 2025 to enable commonalities in training to be identified and supported. A number of ESD team members were also able to avail of NSP Stroke funded travel bursaries to the UK Stroke Forum. Various professional groupings are also exploring advanced practice and ESD is ripe with opportunity to build stroke specific advanced practice opportunities for both nurses and HSCPs.

Research

Two ESD team members are completing PhDs in areas linked with ESD – Libby Cunningham (Clinical Specialist OT in the MMUH team) is researching the impact of post-stroke cognitive impairment on working and parenting, while Sarah Jane Byrne (Clinical Nurse Specialist in the Beaumont team) is researching the role of the Clinical Nurse Specialist in ESD.

In addition, a number of sites are involved as collaborators, gatekeepers, or participants in a number of national and international trials including:

- Recruitment for the TAPAS (The Adaptive Physical Activity study in Stroke) trial in UL (Limerick and Galway)
- Collaborators with the iPASTAR research in RCSI looking at the unmet needs among stroke survivors after discharge from both acute services and ESD (Galway and Beaumont)
- Ongoing journal clubs to support dissemination of knowledge and the integration of emerging evidence with practice
- Collaborators with OptiCogs research in UL (Limerick)
- Collaboration with stroke passport research (Cork)

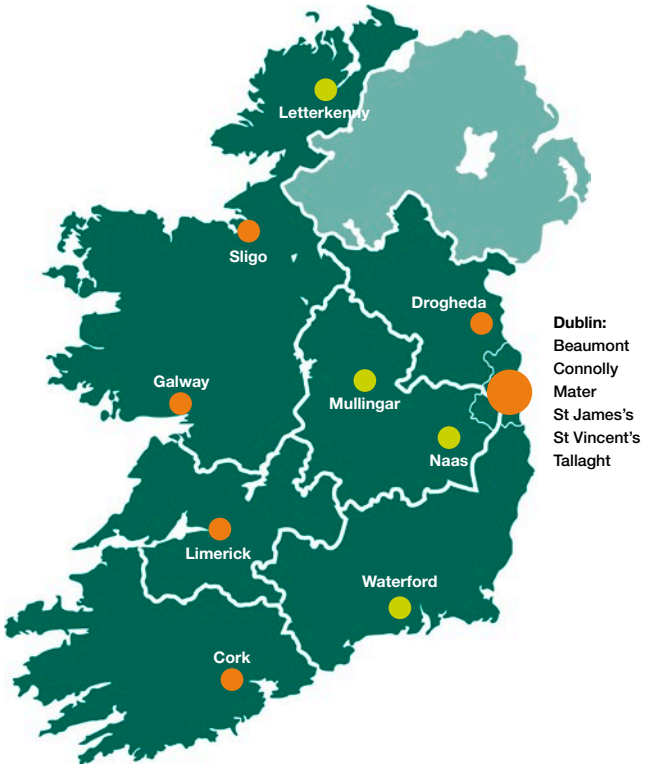
Chapter Five: Future Opportunities and Challenges

Early Supported Discharge (ESD) after Stroke is now available to almost two thirds of the population, albeit still concentrated primarily in larger towns and cities, particularly Dublin. In total, by the end of 2023 there were eleven ESD teams established, serving twelve stroke units as per Figure 3 below.

Figure 3: Locations of current ESD teams

Current ESD Teams	Eircode
University Hospital Galway	H91 YR71
University Hospital Limerick	V94 F858
Sligo University Hospital	F91 H684
Cork University Hospital & Mercy University Hospital	T12 DFK4
Beaumont Hospital	D09V2N0
Tallaght University Hospital	D24 NR0A
Mater Misercordiae University Hospital	D07 R2WY
Connolly Hospital	D15 X40D
St James's Hospital	D08 NHY1
St Vincent's University Hospital	D04 T6F4
Our Lady of Lourdes Hospital Drogheda	A92 VW28

New ESD Teams	
Midland Regional Hospital Mullingar	N91 NA43
Naas General Hospital	W91 AE76
Letterkenny University Hospital	F92 AE81
University Hospital Waterford	X91 ER8E



The HSE National Stroke Strategy provides a roadmap for the further roll out of ESD in Ireland which will include an additional ten sites, four of whom have been identified for funding in 2025 through the HSE National Service Plan. These proposed new ESD teams will be commencing by the end of 2025 at Naas General Hospital, University Hospital Waterford, Letterkenny University Hospital, and Regional Hospital Mullingar, with support given by the National Clinical Programme to establish these teams in keeping with international best practice and through sharing lessons learned in the Irish context.

The remaining sites for ESD roll-out are identified in the HSE Stroke Strategy 2022-2027 as follows:

- Wexford General Hospital*
- University Hospital Kerry
- Letterkenny University Hospital
- Mayo University Hospital
- St Luke's General Hospital, Kilkenny
- Cavan General Hospital*
- Tipperary University Hospital*

* Smaller populations requiring 0.5 ESD team.

The HSE Stroke Strategy working group on Rehabilitation and Restoration to Living developed this roadmap in 2018. As the implementation of the strategy is happening in the context of substantial changes in Irish health systems and structures, concurrent with emerging issues such as workforce challenges, the NCP Stroke work collaboratively with the Clinical Advisory Group, the Regional Health Authorities (RHAs) and other stakeholders to evaluate and re-evaluate priorities on an annual basis. This means that some sites will need to be reprioritised based on changing population needs and stroke throughput as well as changes in local resourcing.

For example, since development of the NSS 2022-2027, Sligo University Hospital who were originally planned for the development of an ESD team in Phase 2 of the strategy implementation were successful in establishing an ESD team via local funding ahead of schedule, due to the positive impact of ESD on both patient outcome and the cost of stroke care. Additionally, some sites originally earmarked for "half" an ESD team are now growing at a very rapid pace due to population health changes (e.g. University Hospital Waterford), and may now require some additional staffing to meet demand. The Irish National Audit of Stroke Care remains a crucial source of information and data for the National Clinical Programme for Stroke to help plan, project, and evaluate resourcing in this area and this is used together with the established strategic direction, the international evidence base, and the detailed data returned by the teams already established to iteratively inform a population-based approach.

Catchment

With an assumption that new teams will be able to serve a geographic region of approximately 20-30km radius dependent on population density, the approximate coverage in Ireland can be modelled as per Figure 4 below.

Figure 4: Model of ESD provision as per HSE Stroke Strategy

(Assumptions: 20km estimated for 0.5WTE teams, 30km radius for rural teams, 20km for Dublin teams)

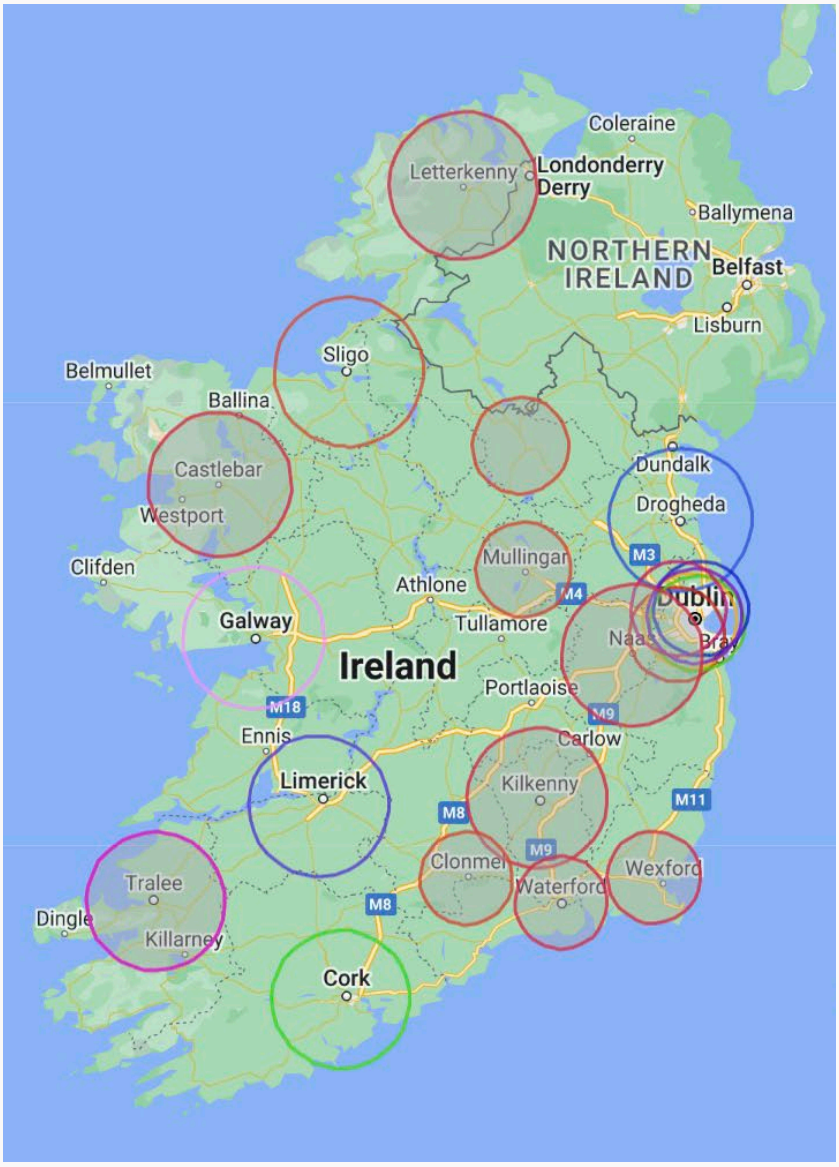
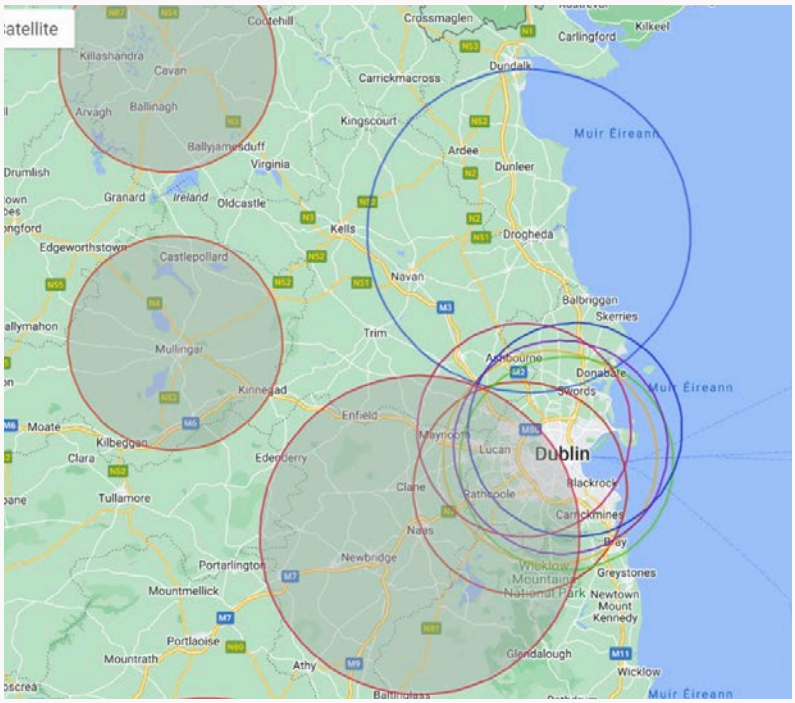


Figure 5: Focus on Dublin area



The growing prevalence of stroke, which has been projected with our ageing population, means that at a population level some new sites will require additional resourcing to meet demand as previously mentioned. In relation to established sites, the Cork ESD team which services both Cork University Hospital and the Mercy Hospital will require additional investment as the largest site in the country admitting stroke. This team are well established and consistently have throughput and activity which is above average, yet the proportion of people receiving ESD remains low. Additional resourcing of this team is required and has been prioritised within the 2025 National Service Plan.

In terms of geographical coverage, teams cover a variety of areas from urban to rural, and with varying degrees of socio-economic challenge. Even when all teams are establishes as per the NSS 2022-2027, we can see from the map that there is also a notably large gap in the geographical coverage in the west midlands extending from south Leitrim in the north to north Tipperary in the south. Some consideration needs to be given to provision of two further teams in future stroke strategies.

Finally, the map uses a relatively crude mechanism of radius from a given site. This is largely consistent with how the teams to date have operated, but does mean that there are considerable overlapping areas in Dublin in particular. With previous disparity in skill mix, size, and team maturity, handovers between teams are not yet commonplace. However, as each team is being resourced fully in 2025 to standardise service delivery, and as the major geographical gaps begin to be filled, greater opportunities will transpire in 2025 and 2026 to establish pathways and processes for handover between teams and to reduce overlapping catchments. This work might be best undertaken by ESD teams which fall within the same RHAs.

Service Design and Delivery

Building on the lessons learned from the development and implementation of the eleven ESD sites to date, a number of enablers have been identified that support successful implementation of ESD. These learnings are highly relevant to new sites, and the NCP Stroke will offer all new sites in 2025 support to develop their operational pathways, and teamwork processes.

The enablers are detailed in the table below:

Table 6: Enablers of Successful ESD Implementation

Key enablers of successful ESD implementation include:	
1. Knowledge within sites regarding the purpose and benefit of ESD.	ESD enables an earlier discharge home after acute stroke, without clinically disadvantaging the person with stroke. In fact, long term functional outcomes in the areas of independence and avoidance of institutionalisation are known to improve with ESD. An awareness of these benefits enables the activation of this pathway at the earliest appropriate time, and provides consistency in approach and communication across the MDT at what is known to be a highly stressful time for people with stroke and their families.
2. Clear governance and operational leadership for new teams with a named clinical and operational lead for each team.	It will typically be the Stroke Lead who provides clinical governance, and a named HSCP Manager who provides operational leadership. Day-to-day co-ordination of the service is typically arranged by the team members themselves using collective leadership, although some sites have a named co-ordinator or co-ordinators, which is a process that works well, and is additionally supported with evidence in the literature.
3. Development of standardised operational policies.	These should include referral processes, a suite of paperwork, catchment areas, communication practices, etc. The National Clinical Programme have templates available for all new sites and this element will be workshopped individually with new sites by the HSCP Lead for the HSE Stroke Programme.
4. The ability to complete core documentation processes remotely/ away from the base hospital is a key enabler of efficiency.	Sites where this is not possible report considerable attrition of value added clinical time to return to base solely for the purpose of documentation. This needs to be a priority for all sites to maximise productivity.
5. The recruitment and retention of experienced and stroke-specialised ESD staff.	In addition to advocating for and securing funding in the HSE Annual Service Plan in accordance with the HSE Stroke Strategy 2022-2027, the National Clinical Programme for Stroke offers support to new sites by facilitating support around the establishment of new teams through workshops and ongoing site support over the initial six months of establishment, and ongoing support through the ESD Network thereafter.

Chapter Six: Summary and Conclusions

The roll-out and delivery of Early Supported Discharge (ESD) in Ireland has continued to progress, with steady and sustained growth in the number of people availing of the service, an expansion in the number of sites delivering ESD, and clear evidence of ongoing improvements in quality.

Further investment will be required across the outstanding period of implementation of the HSE National Stroke Strategy (NSS) 2022-2027 to deliver on the full potential of ESD in Ireland. Complete implementation as envisaged in the NSS will create ESD teams at 90% of all acute stroke units and support greater consistency in service provision by ensuring that each site has access to the recommended range of professional disciplines. These developments will in turn strengthen patient outcomes by enabling appropriate and earlier hospital discharges through the provision of targeted expert support for a number of weeks after discharge. It will also ensure more effective use of healthcare resources by supporting patient flow at a time of ongoing pressure in our healthcare system. The approval for four new ESD teams in 2025, bringing the total number of teams to 15 across 16 sites, marks a significant milestone in this progress. Existing teams are also further strengthened in 2025 through approval of additional posts in areas such as nursing and social work where historical underfunding created gaps.

The establishment and ongoing work of the National ESD Network has provided a central hub of communal expertise and support. This network provides structured opportunities for professional networking, education on ESD-specific topics, an annual study day, and supports clinicians as they work in interprofessional and integrated ways, The network also enables stronger bidirectional relationships between the national programme and frontline teams, creating the structure and relationships to facilitate quality improvement and alignment to the underlying principles of ESD.

As the number of ESD teams grows, the role of data in guiding service development and delivery becomes increasingly important. The NCP for Stroke, in partnership with ESD teams and with representation from the Irish National Audit for Stroke (INAS) is advancing the development of standardized data sets to support evaluation, monitoring and future planning. This work will remain a priority into 2025 and beyond.

During 2022 and 2023 combined, almost 1600 people received ESD services following stroke. These interventions have been examples of intensive, specialised, and personalized care delivered typically within the person's home. ESD stands as a flag bearer for integrated care within Irish stroke services, being both an example of, and a facilitator of integrated care aligned with Sláintecare principles.

In conclusion, significant progress has been achieved in the delivery and expansion of ESD. The approval of four new teams, and additional resourcing of existing teams strengthens ESD capacity and signals clear momentum towards achieving greater national coverage. The focus must now be on continuing this work over the lifetime of the National Stroke Strategy 2022-2027. Continued investment, workforce support, and systematic use of data will be central to making this best-practice service accessible to an even greater number of people with stroke in the years ahead.

References

1. Langhorne P, Baylan S. Early supported discharge services for people with acute stroke. Cochrane Database of Systematic Reviews [Internet]. 2017 Jul 13;7(7). Available from: https://www.cochranelibrary.com/cdsr/doi/10.1002/14651858.CD000443.pub4/full

2. Langhorne P, Taylor G, Murray G, Dennis M, Anderson C, Bautz-Holter E, et al. Early supported discharge services for stroke patients: a meta-analysis of individual patients' data. Lancet. 2005;365(9458):501–6

3. National Institute for Health and Care Excellence. Stroke rehabilitation in adults (update). 2023 Oct. Available from: https://www.nice.org.uk/guidance/ng236/evidence/a1-early-supported-discharge-quantitative-evidence-pdf-13191947678

4. Committee on the Future of Healthcare. Sláintecare Report. 2017. Available from: https://assets.gov.ie/static/documents/the-slaintecare-report.pdf

5. Intercollegiate Stroke Working Party. National Clinical Guideline for Stroke for the UK and Ireland. 2023 May 4. Available at: www.strokeguideline.org

6. Health Service Executive (HSE). National Stroke Strategy 2022-2027. 2022. Available from: https://www.hse.ie/eng/services/publications/clinical-strategy-and-programmes/national-stroke-strategy-2022-2027.pdf

7. Fisher RJ, Gaynor C, Kerr M, Langhorne P, Anderson C, Bautz-Holter E, et al. A Consensus on Stroke. Stroke. 2011 May;42(5):1392–7.

8. Economic and Social Research Institute (ESRI), Irish Heart Foundation (IHF), Royal College of Surgeons Ireland (RCSI). Towards Earlier Discharge, Better Outcomes, Lower Cost: Stroke Rehabilitation in Ireland. 2014.

9. Byrne SJ, Williams DJ, Patton D, Murphy PJ, Horgan F. The emerging role of a Stroke Clinical Nurse Specialist (CNS) in Early Supported Discharged: Developing a pathway for stroke nursing for secondary prevention in the community. A scoping review protocol. HRBopenresearch.org. 2024.

10. Connor EO, Dolan E, Horgan F, Galvin R, Robinson K. Healthcare professionals' experiences of delivering a stroke Early Supported Discharge service – An example from Ireland. Clinical Rehabilitation. 2023 Dec 6;38 (3)

11. Chen T, Zhang B, Deng Y, Fan JC, Zhang L, Song F. Long-term unmet needs after stroke: systematic review of evidence from survey studies. BMJ Open. 2019 May;9(5):e028137.

12. Zawawi NSM, Aziz NA, Fisher R, Ahmad K, Walker MF. The Unmet Needs of Stroke Survivors and Stroke Caregivers: A Systematic Narrative Review. Journal of Stroke and Cerebrovascular Diseases. 2020 Aug;29(8):104875.

13. O'Callaghan G, Fahy M, O'Meara S, Chawke M, Waldron E, Corry M, et al. Transitioning to home and beyond following stroke: a prospective cohort study of outcomes and needs. BMC health services research. 2024 Apr 10;24(1):449.

14. Condon M, Barrett A, O'Regan L, Pope L, Goulding M, Healy L, O'Caoimh R, Hartigan I. Tele-Rehabilitation: Redefining Stroke Early Supported Discharge During the COVID-19 Pandemic. Ir Med J. 2022 Oct;115(9):670.

15. Lave J, Wenger E. Situated learning: Legitimate peripheral participation. Cambridge university press; 1991 Sep 27.

16. National Office of Clinical Audit. Irish National Audit of Stroke National Report 2023. 2025. ISSN 2737-7253

Health Service Executive

Contact details, contact details, contact details, contact details
+353 1 0000000 info@xxx.ie www.hse.ie