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Perspectives of healthcare professionals on the purpose, design and content of a health communication Passport for Stroke

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Abstract

Introduction: The Irish National Stroke Strategy (2022-2027) (Health Service Executive (HSE), 2022) has recommended the introduction of a Stroke Passport. The Stroke Passport aims to streamline the transition from acute care to community care for stroke patients and their family/caregivers. However, the perspectives of Healthcare Professionals (HCPs), on the purpose, design, format, and content of a Stroke Passport are not yet known.

Methods: Focus groups were conducted with HCPs who worked in an acute stroke ward, an Early Supported Discharge (ESD) team, or both. Interview data were analysed using Braun & Clark's (2022) six-step Thematic Analysis framework.

Results: Twenty-two HCPs took part in one of the four focus groups (acute stroke ward n=19, ESD n=3). Four themes and 12 subthemes were generated from the data namely (1) Information provision: Patient Factors, (2) Information provision: External Factors, (3) Benefits and usability of a Stroke Passport and (4) Logistics of Implementation.

Conclusion: The provision of a resource such as a Stroke Passport was considered an asset to patient care. However, greater attention to addressing current gaps in the Irish healthcare system, particularly digital infrastructure, during the transition from hospital to home is required. These findings have international relevance, particularly for nations facing similar barriers to healthcare digitalisation.

Keywords:

Stroke, Information Provision, Stroke Education, Stroke Passport, HCP perspectives, Co-design.

Implications for Rehabilitation

Stroke rehabilitation is often challenged by impairments in mobility, communication, and cognition, requiring accessible and timely information to support recovery.

A Stroke Passport could enhance the rehabilitation experience by centralising personalised information, aiding goal setting, informing secondary prevention and easing the transition from hospital to home.

Successful implementation depends on co-design with stakeholders, strong digital infrastructure, and clear assignment of responsibility for updating the resource post-discharge.

Introduction

Stroke, or a Cerebrovascular Accident (CVA), is the second leading cause of death in middle-to-higher income countries, and the leading cause of acquired adult neurological disability in Ireland. One in four people over the age of 25 years will have a stroke in their lifetime (Feigin et al., 2021).

The impact of stroke depends on the site and size of cerebral lesion(s) and should be considered not only in terms of incidence and mortality rates, but also of associated disability (Walsh et al., 2015). Eighty per cent of stroke survivors experience hemiplegia (paralysis on one side of the body) which may limit their ability to carry out Activities of Daily Living (ADLs) (Langhorne, 2009). Communication disorders post-stroke is common including aphasia (33%- Brady et al., 2016), dysarthria (52%-Mitchell et al., 2021) and apraxia of speech (11%- Flowers et al., 2013). Another significant outcome of stroke can be impact on cognition. A meta-analysis by Sexton et al., (2019) found that within the first-year post-stroke, four in ten patients display a level of cognitive impairment that does not meet the criteria for dementia.

In the United Kingdom (UK) and Ireland, acute stroke services are organised into distinct levels of care. An acute stroke service may consist of either (i) a Comprehensive Stroke Centre (CSC) providing hyperacute, acute, or inpatient rehabilitation including thrombectomy (thrombectomy centre) and neurosurgery or (ii) an Acute Stroke Centre (ASC) providing hyperacute, acute, and inpatient rehabilitation. Stroke Rehabilitation Units (SRUs) provide inpatient rehabilitation only (Intercollegiate Stroke Working Party, 2023). Acute stroke care follows the hyperacute phase, typically within 72 hours of admission, and involves specialist multidisciplinary assessment and treatment in stroke units. The subsequent phase, stroke rehabilitation, is a complex, multidimensional process aimed at restoration of, or adaptation to the loss of, physiological or psychological function (NICE guidelines, 2023). Patients with severe disability benefit most from specialised inpatient rehabilitation, while up to 40% of stroke survivors with mild-to-moderate disability may benefit from Early Supported Discharge (ESD) for stroke services. The ESD model of care aims to facilitate earlier discharge and provides the same intensity of therapy and range of multidisciplinary skills available in the hospital setting (Langhorne et al., 2017).

Discharge from acute care leads to onward referral to rehabilitation hospitals, community services, specialist community neuro-rehabilitation teams, complex rehabilitation units, or, when required, long-term care facilities, depending on stroke severity and local service availability (HSE, 2022; NICE, 2023). In the UK, stroke patients are reviewed on a 6-month schedule (6MRs) (which are commissioned by the Stroke Association in some areas) and on an annual basis (Abrahamson & Wilson, 2019; HSE (2022). Data collection systems differ between countries: in Ireland, the Irish National Audit of Stroke (INAS) captures acute stroke data to inform service development and quality improvement, but post-stroke care is not fully tracked due to lack of access to Individual Health Identifiers (IHI) (National Office of Clinical Audit (NOCA), 2025). In contrast, the UK's Sentinel Stroke National Audit Programme (SSNAP) monitors patients from admission to six months post-discharge, collecting detailed data on rehabilitation services, domiciliary support, voluntary organisations, caregiver support, and vocational therapy (Sentinel Stroke National Audit Programme [SSNAP], 2025). The National Health Service (NHS) Spine provides interoperable data linking over 28,000 IT systems, while in Scotland, the Community Health Index (CHI) enables linkage of patient data across NHS services.

Stroke remains a significant public health issue, yet most strokes are potentially preventable through the identification and control of risk factors (Feigin et al., 2024; O'Donnell et al., 2016). Central to prevention and recovery is stroke-related information provision, which fosters the attitudes and skills needed to reduce stroke-induced disability and mortality (Kang et al., 2019). Despite its critical role, low rates of stroke education are consistently reported worldwide (Finch et al., 2022). Stroke survivors frequently highlight the need for more comprehensive information about their condition, care, and support systems (Lynch et al., 2024; Porat et al., 2019; Sadler et al., 2017). According to Crocker et al., (2021), effective stroke education requires information provision in a range of accessible formats and repeated at multiple timepoints throughout the stroke journey.

The National Clinical Guidelines for Stroke for the United Kingdom and Ireland (2023) recommend that before the transfer from hospital to home setting, the stroke survivor and their family/caregivers should be given information, including personalised written information in an appropriate format about their diagnosis, medication, and management plan. In the Irish context, the National Stroke Strategy 2022-2027 (Health Service Executive (HSE), 2022) has proposed the introduction of a Stroke Passport**,** stating, *"A stroke passport can help to make the transition from acute care to community care as seamless as possible for patients and their*

caregivers. It can form a repository for their personalised information relating to their stroke journey, allowing the patient to keep clear and up-to-date records of treatment and support available throughout their rehabilitation and set goals to help them in "getting their life back" (pg. 59).

The proposed Stroke Passport can be considered a complex intervention as it is characterised by multiple interacting components and the potential need to shift established organisational culture and practices (Skivington et al., 2021). However, there is limited knowledge about the perspectives of HCPs regarding information provision for stroke survivors and their family/caregivers (O' Leary & Kelly, in prep; Kyle et al., 2020; Roy et al., 2015). A cross-sectional survey of HCPs based in the UK and Ireland (n=111) identified the need for a resource capable of bridging the gap between acute and community care, consolidating information from various professions into a single platform (O' Leary & Kelly (in prep)). Overall, the survey respondents advocated for a resource that is digitally accessible while also available in paper format for stroke survivors who may not have the resources, skillset and/or motivation to use technology. Similarly, Roy et al., (2015) conducted a survey to identify education and information needs from the perspectives of HCPs (n=23) and families of patients with stroke (n=19) in New Zealand. Findings suggest that to bridge the gap between actual practice and best practice there is a need for reflection on, and evaluation of, current education provision practices. According to Roy and colleagues (2015), access to appropriate information post-stroke was problematic for most families in both quality and timeliness. This was compounded by the nature of the experience of shock, following the sudden onset and adjusting to a change in family dynamics. The study emphasises that it is essential to communicate effectively with families and recognise that they may have complex needs distinct from those of stroke survivors. Kyle et al., (2020) conducted a qualitative study of HCPs (n=21) working in primary and secondary care stroke services in a single health board area in Scotland to explore factors, including information provision, which influence treatment burden and patient capacity. The single face-to-face interviews explored these factors with Stroke Consultants, Nurses, Physiotherapists, Occupational Therapists, Speech and Language Therapists, Psychologists, GPs, and health-service managers. Barriers and facilitators to the provision of healthcare that minimises treatment burden and maximises patient capacity were reported under five themes: knowledge and awareness (e.g. adequate time and materials for optimal information delivery); healthcare system structure (e.g. care coordination and autonomous working); resources (e.g. availability of ward nurses and

community psychologists); availability of social care (e.g. waiting times for home adaptations or extra social support) and patient complexity (e.g. multimorbidity). The results carry significant implications for the design and implementation of stroke care pathways, highlighting the need to eliminate barriers that hinder HCPs from delivering person-centred care, including sufficient information provision. Therefore, the limited research on HCP perspectives highlights the need for improved information provision for stroke survivors and their families.

Co-design methodology, which is increasingly recognised as best practice in healthcare and healthcare research, seeks to actively engage end-users in developing interventions to enable shared responsibility and power for improved intervention design (Lynch et al., 2024; O' Callaghan et al., 2024). Therefore, prior to implementation of complex interventions, such as the proposed Stroke Passport, it is crucial to establish current practices and understand the perspectives of key stakeholders (Skivington et al., 2021). Failure to acknowledge the needs and requirements of key stakeholders will lead to unpredictable barriers to the development of a Stroke Passport, potentially leading to sub-optimal use. Therefore, this study aimed to:

1. Explore current methods of information currently provided to stroke patients and family/caregivers by HCPs working in acute care and the ESD team.
2. Identify barriers and facilitators to stroke information provision across the care continuum from the perspectives of HCPs.
3. Explore design recommendations for a new resource, known as a Stroke Passport, as outlined in the National Stroke Strategy 2022-2027 (HSE, 2022)

Methods

The reporting of this qualitative study, with a phenomenological approach, adhered to the Consolidated Criteria for Reporting Qualitative Research (COREQ-32) (Tong et al., 2017).

The study took place in a university teaching hospital in Ireland which provides hyperacute, acute, inpatient rehabilitation and an Early Supported Discharge (ESD) for Stroke service.

The study gatekeeper disseminated the details of this study to the acute stroke ward and ESD team using a range of methods, for example, placing research flyers on staff information boards, raising awareness of the study at staff meetings, and emailing staff with

information sheets, consent forms and demographic forms. Ethical approval was granted by the Clinical Research Ethics Committee of the Cork Teaching Hospitals (ECM 4 (q) 28/03/2023 & ECM 3 (ooo) 09/05/2023).

All HCPs currently working in the acute stroke ward or the ESD team in the recruiting hospital were invited to participate, irrespective of age, gender, profession or clinical experience. All participants were provided with an information leaflet which outlined the purpose of the study, risk and benefits and right to withdraw. A consent form was signed by participants prior to participation.

Data collection and analysis

Data was collected via focus groups to explore participants' perceptions of content, delivery and timing of information provision post-stroke and the potential utility of a Stroke Passport. Focus groups are particularly effective for exploring and understanding participants' subjective experiences and perceptions of events (Doria et al., 2018). This multi-perspective approach was chosen to examine similarities and differences in HCP perceptions, thus supporting the integration of suggestions for service improvement (Harrison et al., 2017).

An interview topic guide was developed and informed by a thorough review of the literature and findings from our UK and Ireland survey on current HCP information practices (O' Leary & Kelly, in prep). The main topic areas that were explored were: existing information provision to stroke patients and family/caregivers, Healthcare Professionals' role in information provision, and practicalities of the implementation of the proposed Stroke Passport (See supplementary material).

The first author conducted all focus groups which were audio recorded. Prior to the commencement of each focus group the interviewer read verbatim the overview of the Stroke Passport section of the 'Rehabilitation Pillar' (pg. 59) of the National Stroke Strategy 2022-2027 (HSE, 2022). The interviewer guided and directed the conversation and elicited discussion. Probing questions were asked to encourage participants to extend or elaborate on their responses.

Audio recordings were transcribed verbatim by the first author. All participants were assigned pseudonyms mapping to occupation. Data was analysed using inductive thematic

analysis following Braun and Clarke's (2022) approach. Thematic analysis is a rigorous and flexible approach to qualitative data analysis that can be used across a range of research questions and epistemologies (Braun & Clarke, 2022). The first and third author completed the first three stages of the thematic analysis and independently coded each transcript. Each transcript was read through for a sense of the whole and then coded using six phases of thematic analysis as per Braun and Clarke (2022).

During the initial reading, any patterns or points of interest were noted, and the researchers became familiar with each transcript. Initial codes were produced in an inductive manner, rather than theory-driven, with the intention to capture as many themes as possible that would be refined later in the process. Each transcript was coded and then, two researchers discussed the codes, their meaning and definitions, and any disagreements were resolved through discussion. Once a list of codes was generated from the four transcripts, the researchers collaboratively examined potential themes. Candidate themes and subthemes were identified. Following these initial steps of thematic analysis, the data was reviewed and refined by the research team. During this process, all the coded extracts for each theme were read through to decide whether they fit a coherent pattern. When all themes were considered to represent the coded data, a second level of refinement began. This process involved the first author reviewing the themes in relation to the entire data set and required re-reading the entire data set with two purposes: to see if the themes fit the data set and to identify, and then code, any missing data that was overlooked in earlier coding stages. A thematic map was developed, and the themes and subthemes were defined and further refined (Braun & Clarke, 2022).

Rigour

Study rigour was enhanced using a number of strategies. Confirmability was demonstrated by obtaining data from multiple professions by exploring perspectives of staff working in the acute stroke ward and ESD service. Transferability of the study findings was considered by providing a comprehensive description of the context and participants. In addition, credibility of the findings was enhanced by providing detailed quotes to illustrate each of the thematic analysis themes and subthemes. When performing a qualitative analysis there is always the risk of unconscious bias, such as the researchers' professional background. Therefore, to

facilitate a critical analysis, reflective journals were used by the first author to facilitate reflection into how our subconscious biases, including professional backgrounds, may have influenced interpretation of the codes (Finlay & Gough, 2003). Engaging in reflexive writing enabled recognition of how our own assumption, such as a preference for structured communication, might have shaped interpretation of the data. By revisiting initial impressions, critical assessments of how staff narratives were being coded was enabled and ensured that diverse viewpoints were adequately represented. This process strengthened the rigour of the analysis by fostering transparency and self-awareness (Finlay & Gough, 2003).

Findings

Twenty-two HCPs participated in focus group interviews (n=4) that ranged from 39 to 62 minutes in length (focus group 1: 45 min; focus group 2: 50 min; focus group 3: 62 min; focus group 4: 39 min).

HCPs included one Consultant Geriatrician and Stroke Physician (Cons), one Dietician (Diet), one Medical Social Worker (MSW), one Clinical Neuropsychologist-in-training (Psych), one Pharmacist (Pharm), two Clinical Nurse Specialists (CNS), two Specialist Registrars in stroke (SpR), two Speech and Language Therapists (SLT), four Physiotherapists (PT), three Occupational Therapists (OT) and three Staff Nurses (SN).

Nineteen HCPs worked in the acute stroke ward and three in the ESD for stroke team. Clinical experience amongst participants ranged from <1 year (n=4) to 15+ years (n=4). A description of the participating HCPs is presented in table 1.

Table 1

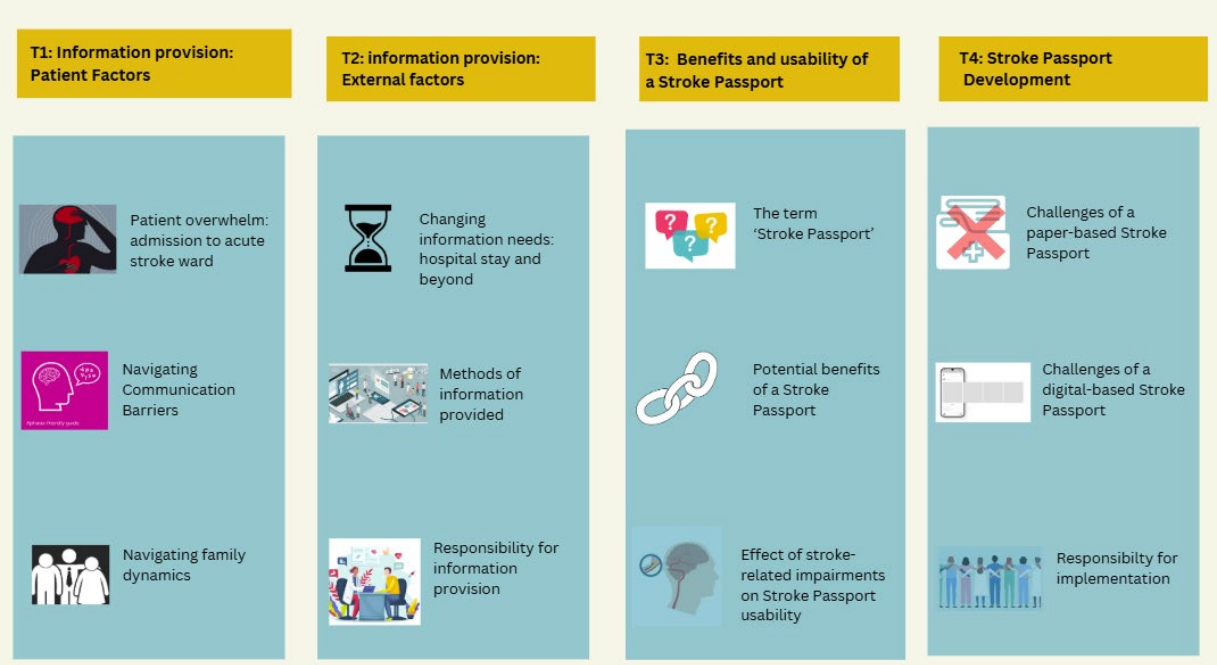
Focus group participant profession and work setting

HCP Participant number	Focus Group	Profession	Work setting
1SN	1	Staff nurse	Acute stroke ward
2SLT	1	Speech and Language Therapist	Acute stroke ward
3Diet	1	Dietician	Acute stroke ward
4OT		Occupational Therapist	Acute stroke ward

5SLTE	1	Speech and Language Therapist	Early Supported Discharge
6PTE	1	Physiotherapist	Early Supported Discharge
7OT	1	Occupational therapist	Acute Stroke ward
8PTE	1	Physiotherapist	Early Supported Discharge
9SN	1	Staff nurse	Acute stroke ward
10SN	1	Staff nurse	Acute stroke ward
11CNS	2	Clinical Nurse Specialist	Acute stroke ward
12SpR	2	SpR in Stroke	Acute stroke ward
13CNS	2	Clinical Nurse Specialist	Acute stroke ward
14PT	2	Physiotherapist	Acute stroke ward
15PT	2	Physiotherapist	Acute stroke ward
16SpR	2	SpR in Stroke	Acute stroke ward
17CNS	3	Clinical Nurse Specialist	Acute stroke ward
18Psych	3	Psychology	Acute stroke ward
19OT	3	Occupational Therapist	Acute stroke ward
20MSW	4	Medical Social Worker	Acute stroke ward
21Pharm	4	Pharmacist	Acute stroke ward
22CONS	4	Consultant Stroke Physician and Geriatrician	Acute stroke ward

Four themes and 12 subthemes were generated from the data namely (1) Information provision: Patient Factors, (2) Information provision: External Factors; (3) Benefits and usability of a Stroke Passport, and (4) Logistics of Implementation (see figure 1). Participant quotes are coded by profession and in the case of the ESD team, work location as denoted by an E (e.g. PTE= physiotherapist who works in the ESD team)

Figure 1- Graphic representation of themes and subthemes



Theme 1 - Information provision: Patient Factors

This theme refers to participants' perspectives on patient factors which impact information provision which is explored across the three subthemes: *Patient overwhelm: Admission to acute stroke ward; Navigating communication barriers* and *Navigating family dynamics.*

Patient overwhelm: admission to acute stroke ward.

HCPs described several factors which may limit a patient's ability to assimilate information provided in an acute setting including medical status, post-stroke impairments and the acute hospital environment.

HCPs reported uncertainty regarding patient ability to process and retain information as outlined by 11CNS *"I don't know how much the patients take in really"* and 21Pharm "*I was going to say from a medication point of view, verbally you would be wondering how much is understood at the time?".*

The issue of information processing was determined to be a twofold challenge. This perspective was discussed by 22Cons when they stated there are *"two challenges from a patient point of view, whether physically can understand it or whether they can emotionally understand it".* Therefore, a component of cognitive processing emphasised by some participants was the emotional aspect of processing this information. This sentiment is also captured by 2SLT

"*patients may not be in a position to take that information in straight away emotionally*". The difficulties in some patients can be *"so subtle in terms of cognitive and emotional side and psychological side*" that they do not realise the difficulties until post-discharge (18Psych).

The setting was considered to be an "*overwhelming environment" (*18Psych) and "*at times bombarding for them [patients]…everything is happening on top of you"* (17CNS). 19OT stated *"it's a lot of overwhelm being in hospital, getting a diagnosis, meeting lots of different team members who all specialise in different areas and have different kinds of areas of expertise and knowledge they want to share".*

HCPs shared how the issue of information overload is exacerbated for individuals with stroke acquired cognitive and communication disorders and considered it a particular challenge for staff to impart information to this cohort of patients. *"I think like cognitive and communication difficulties that our patients have. Their own ability to process and understand the information you're giving them"* (7OT).

Navigating Communication Barriers

HCPs outlined how they make adjustments to accommodate information sharing and intervention for those with acquired cognitive and communication disorders. The SLT was identified as an important member of the team. *"I think the Speech and Language therapist is the key team member in identifying and supporting any challenges to information exchange"* (19OT). According to 15PT, the SLT often works in conjunction with other professions through the medium of *"joint sessions with the Speech and Language Therapists, and they use resources like Talking Mats and things which can help that conversation".*

Other HCPs elaborated on specific strategies they carry out to impart information including *"going at a less complex level*" (17CNS) and presenting information in an *"accessible format"* (2SLT). This included being more likely to *"write information down if someone has a cognitive communication deficit"* (4OT) and a physiotherapist providing *"exercise programmes that are pictorial or sometimes we video the patients so that can be helpful for our patients with communication difficulties"* (15PT). HCPs perceived it as *"way more challenging"* (17CNS) to work with People with Aphasia (PwA).

Adjustments in information provision for PwA were considered to be important due to perceived inequality and potential for misunderstanding in communication exchanges due to their acquired communication impairments as noted by 16SpR *"It's definitely not a fair*

communication exchange if someone has an aphasia you get to say everything you want, and they have to listen to you because they do not get to communicate back with you or clarify information".

A lack of available aphasia accessible materials in the acute stroke setting was reported to be another barrier to communication exchange. SLTs reported providing aphasia accessible material is an important part of their professional scope "*We also have an aphasia friendly discharge pack where you can customise the conversation strategies" (2SLT).* However, the availability of aphasia accessible materials was not extended to other vital areas of care, as reported by 11CNS, "*if you look at the information we give from the Irish Heart Foundation, written leaflets but we do not have aphasia friendly to match"*. As outlined by 19OT aphasia accessible leaflets are not available for *"any of the other investigations we're doing like imaging, CAT scans, MRIs and these will all be foreign to someone who was previously well".* In the cases of PwA, staff may have no option but to improvise "*I'd say what happens in those situations is we or I simplify the information and provide it either verbally or just in a very simple handwritten format rather than anything formal"* (19OT).

Navigating family dynamics

HCPs noted that navigating family dynamics to ensure the reliable transfer of pertinent information about their family member's medical condition can be challenging. Some participants also reported challenges obtaining the patient's consent regarding information transfer in addition to issues of safeguarding of vulnerable adults.

19OT outlined the challenge of *"just keeping everyone in the loop".* One HCP recounted the issue of a breakdown or lack of communication between family members ensuing "*one family member got word, and another does not know what is going on"* (17CNS). Sometimes the focus can be on the patient and "*the family can be sort of lost. Not even intentionally but you know how you're [referring to the family] outside of the bubble here"* (20MSW).

Another HCP also outlined the challenges of working with patients who do not have a strong family or social support system stating "*just like provision for information from us to the patient but sometimes it can be difficult for us the other way around. Like if you've got someone who is very isolated or does not have a family or does not have a social network for us to try and figure out what the baseline is and get information, we may need about the patient" (*2SLT).

HCPs emphasised the importance of patient consent by *"bearing in mind the person's consent ability to share any information*" in the context of some family members who can feel "*quite entitled to information"* (19OT). This perspective is reiterated by 18Psych who shared that they notice *"family members can find it tricky to get the kind of boundaries around information sharing, that can just be tricky because they are so concerned"*. 17CNS outlined the importance of *"safeguarding them [patients] from components where people may be trying to get 'something sorted' for them".* This underscores the responsibility of staff to protect vulnerable adults.

HCPs also discussed the importance of the presence of the family/caregiver in the information dissemination process as sometimes family members can focus more on the practical aspects of rehabilitation "*what you need to go home or what help do they need, or can they fly? [on a plane], can they drive? Those types of questions are very important in your function at home but maybe not as important when you're newly diagnosed with a stroke"* (16SpR).

Theme 2 - Information provision: External Factors

There was consensus among participants that optimal information dissemination in the acute setting is characterised by being individualised and continuous. According to HCPs there are a number of factors which influence the ability to carry out this vision which are reflected in the three subthemes: *Changing information needs: hospital stay and beyond, Methods of information provision,* and *Responsibility for information provision.*

Changing information needs: hospital stay and beyond

HCPs described different information provision practices ranging from to a "*continuing process really as they go through their admission"* (15PT) to "*ebbing and flowing as things arise*" (4OT). From a medical perspective, diagnostic information may gradually emerge over the course of the acute admission. As reported by 12SpR "*we don't have all the information at the start of the admission. We might know you've had a stroke, but we won't know the underlying cause. So, then maybe midway through the admission, we might have gathered more information in terms of medical investigations".* This HCP further outlines that stroke care needs "*to be individualised towards each person and they may not have all the same risk factors for their stroke, underlying aetiology"* (12SpR).

Additionally, the optimal timing for conveying information to patients and family/caregivers may differ across professions. The Medical Social Worker (20MSW) reports how the information they impart is more relevant at the later stage of admission "*It might not be as critical that you're [social work] involved at the very start. You might be instead involved supporting the family or working with them on the journey".* They elaborated how they routinely wait for improvement, in the form of spontaneous recovery, for patients with communication and cognitive impairments before initiating a discussion *"If there is an acquired cognitive/ communication issue…. that can sometimes improve, you might wait a bit longer".*

A particular challenge identified by HCPs who work in the acute setting includes trying to anticipate information needs beyond the acute setting. 18Psych explains the experience of fatigue as an inpatient is very different to when *"you're recovering as an outpatient".* 19OT shares a key challenge for acute stroke clinicians is "*not having all the answers in the acute setting. People want to know what the future look will like. You know what kind of services will I have? How good will my arm get? Will I return to driving? Work? I think that's what we often don't know. Obviously, we would tell people as much as we know. But I think that that can be a challenge. Just not having final information to share".*

Adequate time to provide information thoroughly was also pinpointed as a universal challenge by HCPs as *"to be really thorough with information it takes time"* (19OT) and *"a lot of preparation. It's difficult to have the time or the space or the access to create those bespoke things you would usually do"* (18Psych). As noted by 9SN "*It's always time. You'd like to spend more time but there is no way".*

Methods of information provided

The medium of information provision can vary as captured by 17CNS *"I think it's just a mixture of methods of communicating what a patient needs to know about their stroke".* All HCPs discussed the importance of providing information from quality sources *"I think for written information; we go to sort of trusted organisations that we know specialise in stroke to get stroke specific information to share with families and patients"* (19OT).

Providing information through face-to-face meetings may be initiated based on the parameter of clinical needs. As noted by HCPs, the option to have a meeting is not provided to all patients. 16SpR notes *"sometimes there would be a family meeting ahead of discharge so that it can be spoken at the same time and clarified. That would not always happen" and "Some*

discharges will be potentially more complex than others. There won't be a family meeting for every single patient" (2SLT).

HCPs discussed that the content of information provision is generally discipline specific and accordingly provided by each discipline separately. 16SpR states *"I just think everyone speaks their own role or their own information"* and 20MSW *"I think because each different profession would have different information, they'd have that…would be relevant for them to give and then for each patient with the information it would be sort of different".* Some HCPs also discussed that there are differences within professions on how information is provided and who provides it. 15PT notes that *"This depends hugely on the [professional] themselves. So, a lot of people give written exercise programmes, and some other people don't. So, it is very variable, across everyone I'd say. There is no consistency about who gives an appropriate amount".* Similarly, 12SpR highlights variability in medical discharge summaries, noting that the content and level of detail depend on the seniority of the person writing it and their judgment of what is important, "*It would be a different level as well in terms of seniority. So, the information that is put in depends on the person that is writing it- what they think is important".* This further underscores the inconsistencies in how information is documented and communicated.

Responsibility for information provision.

HCPs reported an absence of formalised structures on how information is provided to patients and family/caregivers. Instead, the process is characterised as more of a nuanced understanding between team members as stated by 19OT "*so there would not be explicit assignment of responsibilities for sharing information. I think it's kind of an understanding, probably within the team, depending on what needs to be communicated that each discipline probably takes a lead on certain things".* Nonetheless, there appeared to be a sentiment that CNSs play a primary role in providing a holistic overview. "*The CNS is usually good at documenting their notes. I feel the clinical nurse specialist does a lot of it*" (7OT). Some participants described the CNS as the *"linkers"* (21Pharm) who attend MDT meetings, *"piece it all together"* (20MSW) and *"educate the patient"* (17CNS). Some participants were unsure whether the CNS has a *"particular checklist to what information they give to people"* (2SLT) leading to the suggestion *"we assume they've done that...they've given all the information but there is nothing formally in place"* (8PTE).

The absence of formalised information sharing mechanisms extends to the discharge summary forms as expressed by 12SpR "*There is no standardised kind of information on discharge or summary either".* One HCP suggested a more standardised accessible discharge summary form would be beneficial to patients. *"And then in terms of like the standardised information that we do give, it is usually a discharge summary, and the patient never gets it. I mean that is how we communicate information about that individual's stroke with the other health care professionals"* (12SpR). 17CNS further supports this point stating *"there's a medical discharge summary which is sent out to a patient's GP, but they are not a friendly document. So, to give it to a patient, a patient will be reading CT reports, MRI reports, ECHO reports will be on it. It is 100% top shelf medical terminology".*

Theme 3 - Benefits and usability of a Stroke Passport

The third theme discusses HCP views on consideration of the following three subthemes: *The term 'Stroke Passport', Potential benefits of a Stroke Passport*, and *Effect of stroke-related impairments on usability*

The term 'Stroke Passport'

The term Stroke Passport used to describe the resource elicited a range of opinions from participants. Some felt it aptly conveyed the importance of the document, with one HCP noting, "*it probably indicates that it is a very important document*" (12SpR), while others had mixed opinions on the term. 17CNS argued that although HCPs may perceive the term positively *"patients might not look in it that way because it could have been that they were fully independent, doing everything themselves, and now they have a totally different life. They are not able to drive, they are not able to return to work, or if they are, it is at a fully different level, and you are giving me this passport?".* 18Psych concurs with this point stating "*I'm never going to travel again. I can't. I've lost that component of my life, and you are giving me a passport?".* For 19OT a passport is associated with *"permission to go somewhere"*, in this case "*what you are getting permission to navigate is our health services, real unconnected health services*" (18Psych). Other HCPs such as 21Pharm stated "*I'm even confused by the term passport".*

Potential Benefits of a 'Stroke Passport'.

The provision of the Stroke Passport was perceived to have several potential benefits including a consolidated central source of information, a source of reinforcement of information provided and a tool to assist in self-management. 3Diet shares *"It is nice to have all the information in one place rather than getting many leaflets".* In terms of a record of a patient's stroke journey, 2SLT notes *"it might help them in terms of adjustment and reflecting on their journey to look at their progress"*. The Stroke Passport may act as a point of "*reassurance*" (11CNS) and this was also discussed by 4OT who stated, "*it would probably be good for before they come back to outpatient clinic and they see the consultant 6-8 weeks after discharge and they have this document, they can have look at before and that helps formulate the questions about the stroke."*

2SLT explains how a well-designed Stroke Passport has the potential to promote self-management stating, "*it might prompt patients to record their progress moving beyond adjustment post-stroke if you are thinking of this being a long-term document towards establishing a healthier lifestyle post-stroke".* Overall, the development of a Stroke Passport was perceived to be a worthwhile endeavour. As highlighted by 11CNS *"It just is an important thing that we need to have. We probably will not get it right at the first time, and that is okay too. That's healthcare. It's always changing, but it is definitely something that is needed".*

There was consensus on the importance of providing an enhanced sense of agency for stroke patients and their family/ caregivers to provide *"continuing care for the patient"* (11CNS) during the transition from hospital to the community. 11CNS further explains "*Sometimes they just leave with nothing, that is it—over. No one cares about them anymore. At least there is a document, and there is the perception that it should be an ongoing review of that document, with continuous care for the patients so they are not abandoned in that way".* Therefore, according to HCPs, the Stroke Passport has the potential to consolidate information, support self-management, and foster continuity of care, reassuring patients and caregivers beyond discharge. It can enhance patient agency, improve communication with providers, and promote long-term recovery.

In terms of content, all HCPs concurred on the importance of accessible individualised information in the Stroke Passport for patients and family/caregivers. As stated by 17CNS *"I think it is very individualised to each patient because you could have someone who comes in*

with a stroke and they are fully back to independence within two weeks and you could have someone who has a stroke, and they have a level of dependency for the rest of their life". The challenge of accommodating for a plethora of individual circumstances is illustrated by 20MSW "*You might have 40-year-old who had a stroke and then they might certification support about returning to work, can you cover every single different scenario of what might be needed?".* From a medication perspective, 21Pharm emphasised the importance of including *"concise information"* on pertinent issues. They elaborate that *"people probably want to know why they are on the medication. So maybe the indications. You know, simple things like what do I do if I miss the dose? Just maybe telling them to mention to the pharmacist that they are on this new medication".*

Effect of stroke-related impairments on usability

HCPs considered the patient perspective and detailed the expected challenges patients may face including independent goal setting. As 6PTE explains *"I can't see patients keeping their new goal or anything. It is a big ask for our patients to goal set even with huge support with the team in here".* HCPs pinpointed issues with added responsibility for patients, *"it is a lot to expect the patient….to get around" (*5SLTE), stakeholder buy-in *"the patient has to be really on board with having ownership of this"* (4OT), and the expectation that family/caregivers would need to be involved for *"a cohort who cannot self-manage and I suppose we would be relying on family. I suppose the barrier would be if they do not have social support"* (7OT). Some HCPs were of the opinion the Stroke Passport would appeal to *"a really conscientious person who updates everything, puts everything into it, bring it with them everywhere* (12SpR).

Other HCPs raised the issue of patient level of health and technology literacy to adequately update the resource independently. A physiotherapist from the ESD team detailed their experience of asking patients for updates following a GP visit. *"Sometimes patients visit their GP, and you will ask, well, how did you get on? What is your blood pressure like? You kind of have to rely on the patient's own medical understanding. Sometimes they pick out bits that are probably, […], they hear high blood pressure, but they do not get the full picture"* (8PTE). 21Pharm discussed health literacy in the context of medication "*they [patients] do not understand there is an interaction".* Other HCPs raised issues with technology literacy as discussed by 2SLT "*I imagine it is something in coming years it will be kind of more by default but at the moment you still would have people who would be less familiar with technology which tends to be our older population".*

Theme 4 - Logistics of Implementation

The final theme concerns participant opinions on the practicalities of implementing the Stroke Passport across the three subthemes: *Challenges of a paper-based Stroke Passport*, *Challenges of a digital Stroke Passport*; and *Responsibility for Implementation.*

Challenges of a paper-based Stroke Passport

HCPs discussed the practicalities of introducing a paper-based Stroke Passport. One HCP focused on the positive aspects of a paper version of the proposed Stroke Passport. 15PT stated "*I think for a lot of people, if the information is there in front of them, they're more likely to read it and use it…. rather than digitally where it is just always in the background".* In contrast, many HCPs explored anticipated issues with a paper-based Stroke Passport, including staff time to update the resource, longevity, volume of data generated, issues with follow-up and security concerns. 6PTE notes that *"paperwork always gets pushed down the list, you know in terms of your daily priorities. I can imagine it would be something you would be scrambling to get done*".

In term of longevity, 21Pharm shares "*You are writing and then you would have legibility issues. How long is it going to last? If it is a paper one, is it going to get wear and tear? Is it going to get water damage? Is somebody going to lose it? What is the longevity of it? Are people going to mind it?".* 4OT shared their perspective on the adverse anticipated impact of a lack of structured follow-up following discharge stating, *"patients discharged from hospital and all this time has been spent developing this [paper version] with the patient and with the team and they go home and then where does it sit in the cupboard? and they forget all about it and nothing is updated".*

Given the extent of personal information included in the paper copy, the potential to misplace this document was considered particularly concerning by some HCPs. *"The concern would be if we're all updating this it has a huge amount of personal information in it related to that individual and at any point it could go missing*" (12SpR). According to 12SpR the type of information contained in this document may be akin to medical notes which are strictly kept on stroke wards.

The anticipated issues of a paper Stroke Passport led participants to the perspective that a digital format with the ability to print for people with low digital literacy, would be more effective as discussed below.

Challenges of a digital Stroke Passport

The overall objective of the proposed Stroke Passport is to provide a standard document which contains patient-specific information and signposting about services, disseminated in the inpatient setting and to be used by both patients and HCPs as patients navigate the care continuum. As envisioned by the participants, a Stroke Passport is a "*transitional document from acute to community, a repository of information, areas to report goals*" (19OT) which "*would track all healthcare professionals that have been in contact with the person"* (14PT). This led participants in the first focus group to question the ability of one initiative to accommodate all the aforementioned goals across the stroke care continuum. As 18Psych states "*The way that it's pitched and like who is it for? Who is it for? Is it for the person or is it for the person to show professionals*?". This point was further expanded by 12SpR who shared *"And who is it more important for? Is it the person who had the stroke or is it more for everyone else?* and 7OT questioned *"Individualised information for themselves or for the people working with them to understand their stroke and how they are functioning?".*

Overall, HCPs concurred that a digital Stroke Passport would *"definitely be ideal"* (18Psych) and elaborated on design implications for a digital Stroke Passport. 19OT shared *"I like the idea of having some sort of link or like electronic tab or QR code or something and all of us having access to it and this is obviously a very big idea"* and 2SLT reflected*, "Ideally, we're talking about something like an elusive electronic patient held record".* The rationale for a digital design was "*anyone can access really from in the community and acute and the patient themselves"* (11CNS).

The complexity of implementing a digital Stroke Passport became apparent when participants discussed the systemic factors which would influence implementation. 16SpR pointed out *"the fact that it is needed shows there is a total disconnect between all services, that there is no online platform where there is shared information back and forth".* Several HCPs highlighted a limited digital infrastructure in the HSE as a key barrier to the introduction of a digital Stroke Passport. *"It is a big sort of digital infrastructure that the Health Service Executive do not have at the moment"* (19OT). 11CNS reported that challenges with existing limited digital

infrastructure already "*from hospital to hospital within the country, putting it into the community is a whole level of challenge out there". Services are so broken down as in there is nearly no integrity at some points like".* Therefore, the establishment of a digital Stroke Passport "*system that all of us can access between acute, community, GP…everyone"* (3Diet) which would require integration between acute and community services for input was viewed as complex. This perspective was noted by 17CNS "*I do not know what is in the community, but I assume there is a totally different ones to what we have, and it is looking at integration of that and ideally [..] your patient having access to it".*

Responsibility for implementation

HCP responses regarding responsibility for implementation and updating of the Stroke Passport in the acute setting and beyond were equivocal suggesting that it is not possible to hold one profession solely responsible. Participants discussed the possibility of a keyworker assuming this responsibility. As stated by 19OT *"The responsibility for completing it. I think it is a very important point because, whose job would that be to make sure that it is up to date before the person leaves, that it continues to be updated. And maybe that is something that key worker might be involved with".* In the acute setting, the CNS was pinpointed as having a crucial role. As stated by 5SLTE "*I do think the CNS has a big role in it too because of their relationship with the person, they have a great knowledge of what caused their stroke in the first place and that is one of the key questions that's being asked by people from anecdotal experience*". However, some participants were unsure of this approach given "*everyone knows their own discipline best*" (16SpR). Some participants suggested that in the community setting, the GP could have a pivotal role to play as expressed by 2SLT "*If there was a soft copy that GP had access to out in the community as well"* and *"I think getting the GPs on board with this would probably be very important*" (8PTE). However, some participants raised concerns about stakeholder buy-in in the community "*How do you get the GP to have responsibility, the public health nurse, some service, private service maybe?"* (11CNS). Overall, HCPs agreed that *"in terms of updating it, it's part of everyone's [role], including the patients*" (11CNS).

The longevity of the digital Stroke Passport was also questioned *"I do not know what the limit is- how long can [it] be followed up and updated" (*13CNS). Issues regarding longevity ranged from a change in medication prescriptions, fragmented community services and resources required to keep a potential project live. As captured by 21Pharm "*You know,*

meds like. Things change, they might be here on certain medications, [..] like things might change so that medication now is old".

The need for investment in longevity of a digital infrastructure was highlighted by 3Diet *"Who is going to do the IT behind this and update the systems and keep that system going as a long-term project? Where is that going to come from in term of IT manpower behind keeping a digitalised system? We can all input if we can access but there is probably a lot more regarding maintenance of that. Where is that going to come from?"*

Discussion

The National Clinical Guidelines for Stroke for the United Kingdom and Ireland (2023) recommend that, prior to hospital discharge, stroke survivors and their family/caregivers should receive information—including personalised written materials in an appropriate format—regarding their diagnosis, medication, and management plan. In the Irish context, the National Stroke Strategy 2022-2027 (HSE, 2022) has proposed the introduction of a Stroke Passport as a vessel for this information. This study explored the perspectives of 22 HCPs working in the acute stroke or Early Support Discharge team, regarding current methods of communication exchange with patients and their family/caregivers, barriers and facilitators to stroke information provision across the care continuum, and recommendations in terms of usability and implementation of a Stroke Passport in the Irish context. The main themes generated from focus group discussions included Information provision: Patient Factors (Theme 1), Information provision: External Factors (Theme 2), Benefits and usability of a Stroke Passport (Theme 3) and Logistics of Implementation (Theme 4).

Information Provision: Patient Factors and External Factors

HCPs in this study identified various barriers which adversely affected optimum information provision and exchange. Davoody et al., (2016) note that patient information processing during an acute stroke event can be a challenge. This was also reflected by HCPs in this current study who voiced uncertainty regarding patient ability to process and retain information in the acute setting, which they termed as an overwhelming environment. Similarly, the issue of information overload was reportedly exacerbated for patients with post-stroke communication and cognitive impairments. As reported in Mitchell et al., (2021), communication impairment affects an estimated 64% of people with stroke in an acute setting

and can lead to barriers to effective communication with hospital staff. A study by Fowler et al., (2024) found that patients with post-stroke cognitive and communication challenges reported experiences of poor interactions with HCPs as particularly distressing, underscoring the need for tailored communication adjustments.

Notably, our current study reflects a similar perspective amongst HCPs, highlighting a shared recognition of the difficulties faced by these patients in navigating healthcare communication. While the availability of aphasia accessible material for patients in the acute setting was reported to be inconsistent by HCPs, many emphasised the need for information to be accessible for people with post-stroke communication impairments. This reflects current literature which reports that accessible written health information is not routinely provided for PwA (Briffa et al., (2022); Rose et al., (2018)).

The importance of written information for consistency and a constant point of reference in communication was emphasised by HCP participants with verbal communication being seen as potentially lacking in this regard. Ayana et al., (2001) highlighted that it is easier to be vague verbally than in writing. Crocker et al., (2021) found that information provided verbally by staff may tend to be overly optimistic, aiming to maintain hope and engagement with rehabilitation, but may also provide insufficient information to prepare people for living with an acquired disability or impending death. Therefore, the provision of appropriate accessible materials related to health and social care are essential, rather than, optional resources for patient care. Furthermore, despite consultations with healthcare teams, there can be a tendency for information to be misinterpreted by family members (Chu & Choi, 2020). Challenges around the navigation of family dynamics to ensure information is adequately shared was raised as a central communication challenge by HCP participants. In particular, concern was raised about the reliability of inter-family communications about pertinent health-related information concerning their family member.

Cameron and Gignac's (2008) *"Timing it right framework"* highlights that patient's initially need foundational information and that questions and concerns about stroke may change over time. For example, in the first few weeks following stroke, patients are more likely to be concerned about the causes of stroke and likelihood of recovery. HCP participants considered that there was no optimal timing for information provision, instead, advocating for repeated opportunities of different formats and varying content throughout the care pathway. In the acute care environment, our findings suggest that the timing of information

dissemination is an ongoing and dynamic process that unfolds over the duration of a patient's admission. Therefore, the opportunity for reinforcement across the stroke care continuum was perceived to be a fundamental facilitator for patient and family/caregiver assimilation of information. Our findings align with previous research, which suggests that information provision should occur at multiple time points and through a mixed-format approach (Finch et al., 2022; Sexton et al., 2024).

Pertaining to the responsibility for information provision, there was consensus that it is a core part of the role of each profession within the bounds of their professional scope. However, some HCPs working in the acute setting commented that this shared responsibility within each profession could lead to a perceived lack of accountability and an obstacle to timely information provision. Heim et al., (2023) reports that this can lead to ambiguity on who should distribute information materials, and where these materials are available from. This can then lead to dissatisfaction regarding a perceived disorganisation in the stroke unit from the perspectives of the family/caregiver (Kristensson & Bjorkdahl, 2020). Some HCPs proposed that information provision is primarily the responsibility of the Clinical Nurse Specialist. According to Byrne et al. (2024), nurses often serve as the central point of contact, playing a critical role in all aspects of stroke patient care, including assessment, diagnosis, and inpatient post-stroke secondary prevention until discharge. As with previous research (Gustafsson, 2008; Kyle et al., 2020), participants in the current study supported the identification of key team member(s) responsible for facilitating and following up on information provision throughout the patient stroke journey. These views align with the widely recognised importance of teamwork in delivering effective care across the stroke pathway (Clarke & Forster, 2015).

Benefits and Usability of a Stroke Passport

In relation to potential benefits of a Stroke Passport, participants outlined how a well-designed Stroke Passport has the potential to promote self-management by empowering patients to take responsibility for their own health and prevent progression of illnesses. Kyle et al. (2020) state that enhancing stroke patients' understanding of their treatment and the services available to them could reduce their treatment burden. However, while knowledge is a necessary factor for induction of changes in lifestyle behaviour, it is not sufficient by itself. As highlighted by Maasland et al., (2011), one also needs motivation and capacity to change. Professionals involved in stroke care highlight the importance of a structured, evidence-based secondary prevention programme that includes education, advice, and support for behaviour

change (Sexton et al., 2024). In this respect, the Stroke Passport proposed in the National Stroke Strategy 2022-2027 (HSE, 2022) would need to be part of a wider paradigm of supports for stroke patients.

In terms of usability, HCPs detailed the potential impact of a range of factors on the usability of a Stroke Passport. Our study results pinpoint issues with added responsibility, stakeholder buy-in, and the expectation that family/caregivers would need to be involved for optimum engagement. Therefore, contrary to the intention of the proposed Stroke Passport, it could result in exacerbation of treatment burden (Kyle et al., 2020). Many patients, particularly those with stroke-related impairments such as memory and communication difficulties, find it challenging to comprehend and apply health information to their own circumstances (Forster et al., 2012).

In terms of perspectives on the term used to describe the resource, some participants perceived that the term ‘Stroke Passport’ is reflective of being a very important resource. However, HCPs in focus groups three and four were equivocal of the term. The data illustrates the significance of contextual sensitivity in terminology choices, in this case healthcare resources for stroke patients. While the term "passport" typically implies positive connotations, its application within the context of post-stroke care navigation introduces complexities. Stroke patients, having undergone a significant life-altering event, often encounter fragmented and disjointed healthcare services. The need to improve communication, information provision and the ease of navigating services post-stroke are consistently identified as issues in studies of stakeholder priorities for stroke care (Griese et al., 2020; Sexton et al., 2024). In this context, the term "passport" as perceived by HCPs in this study may inadvertently imply a requirement for permission to access necessary healthcare provisions, potentially exacerbating feelings of disempowerment and frustration. Consequently, some HCPs perceived a discrepancy between the positive connotations associated with the term and the nuanced reality of stroke patients' experiences within healthcare systems. These findings underscore the importance of co-design with stakeholders and indeed further research in this area.

Logistics of Implementation

The transition from acute to community care is a complex process, involving a shift in responsibility from clinicians to the patient and their family/ caregiver (Gallacher et al., 2013). Sexton et al., (2024) highlight how constraints, such as long waiting lists and increased pressure on staff can contribute to inadequate information provision. HCPs in this study attached

significance to the opportunity of consolidating information from various professions across the care continuum into a single platform with digital access to all stakeholders including stroke patients. This was seen as a way to help bridge the information gap between the acute and community care pathway, thereby accompanying the patient throughout their entire journey. HCPs also noted that it is important to consider other issues including demographic, socio-economic status and cultural factors, familiarity with technology and the need for support to navigate a digital Stroke Passport (patient, family and HCPs). In addition, some HCPs raised the issue of patient level of health literacy to adequately update the resource independently.

Similar to Author 1 & Author 3 (in prep), HCPs raised potential issues with a paper-based Stroke Passport including allocation of staff time to facilitate updating of the resource, issues with legibility of handwriting, accessibility, longevity, volume of data generated, issues with follow-up and security concerns. Anticipated challenges with a paper-based Stroke Passport contributed to HCPs favouring a transition to a digital format with the ability to print for people that are not comfortable with technology. Overall, the HCPs had a preference to adopt digital patient portals which is a centralised platform with access to personal health records, support resources and tools for managing health status. Although there is limited evidence of improved care through digital portals (Wyatt, Lampon & McKevitt, 2020), international trials are exploring their potential for self-management support (Huo et al., 2024; Davoody et al., 2023).

A major barrier to digital projects in Ireland is the protracted implementation of the IHI, despite being legislated for in 2014, and the current absence of a universal Electronic Health Record (EHR) (Walsh et al., 2021). While hospital IT systems are often well developed, care for people in the community requires coordination across services, which is virtually impossible without an adequate Health Information System (HIS) (Walsh et al., 2021). Indeed, Ireland is ranked the lowest of all OECD countries for analytical readiness (OECD, 2023), highlighting an urgent need for investment. The fragmented nature of healthcare financing in Ireland further constrains the development of HIS spanning the whole system. While many EU countries spend 2–3% of their total healthcare budget on HIS and ICT, only 0.85% of Ireland's healthcare budget was allocated, as reported by Walsh et al. (2021) in their ERSI report. However, the Irish government has renewed its emphasis on the investment in HIS, which is a key objective of the Digital for Care 2030 Strategy—Ireland's plan to modernise health and social care through digital innovation (Department of Health, 2024).

Given the anticipated challenges of implementing the Stroke Passport (National Stroke Strategy 2022-2027), a national stroke information package could be a practical alternative. This combined digital and paper-based package should be co-designed with input from all stakeholders (e.g. HCPs, stroke patients and family/caregivers) and would consider health and digital literacy of users, in particular patients and family/ caregivers. Integration of data across several care providers and organisational levels would enhance coordinated care (Skivington et al., 2021). The Australian "My Stroke Journey" (MSJ) model exemplifies this approach, which is integrated into hospital workflows, supported by training for staff, and accompanied by online resources (Stroke Foundation Australia, 2025). In 2023, MSJ reached 77% of stroke patients in Australia, suggesting it is both scalable and impactful. Results from our study draws parallels with an ongoing study in the UK by Huo et al., (2024) who are conducting research to inform design of a portal that will both useful to stroke patients and family/carers with opportunities to generate new data. Furthermore, developments in the realm of Artificial Intelligence (AI) may also hold promise for playing a critical role in narrowing the evidence-practice gap regarding information provision. The integration of Chatbox interaction with language models points to opportunities to request specific and personalised materials to inform rehabilitation and practice (Adikari et al., 2024).

In terms of design implications for future consideration, the complexity of implementing a digital Stroke Passport became apparent when the systemic factors which would influence implementation and sustainability of a digital Stroke Passport were discussed in our focus groups. Issues regarding longevity, such as changes in medication prescriptions, fragmented community services, and the resources required to sustain a potential project, are compounded by the lack of a standardised post-discharge care pathway in Ireland (Fowler et al., 2024; Sexton et al., 2024), leading to significant variation and inconsistency in service provision across the country.

Similar to previous literature (Gustafsson, 2008; Kyle et al., 2020), HCPs in our study had equivocal views regarding responsibility for implementation and updating of the Stroke Passport in the acute setting and beyond. Therefore, the identification of staff who would take responsibility for updating the Stroke Passport was considered a necessary component for successful implementation. These concerns are also noted by Davoody et al., (2023) who state responsibility of a system and technical support need to be considered before implementation of a new system.

Strengths and Limitations

This study recruited from a single hospital site and included HCPs who worked within the acute and ESD service of the stroke care pathway. However, a range of HCP disciples were represented in the focus groups. Two of the four focus groups included three participants, while the other two comprised 10 participants (Group 1) and six participants (Group 2). While limited discussion is a risk of small group size, this was not observed in this study with approximately the same volume and similar content/ideas were discussed across all four focus groups.

Future research would benefit from exploring perspectives from HCPs who work in rural and urban hospitals and community healthcare services and crucially, stroke patients and family/caregivers, to provide a more comprehensive understanding of system barriers and facilitators to stroke care continuity in the community and provide design recommendations for the Stroke Passport.

Conclusions

The development and implementation of a healthcare resource such as the Stroke Passport, as proposed in the National Stroke Strategy 2022-2027 (HSE, 2022), would require organisational and cultural change within the Irish healthcare system, including leadership engagement, workforce training, and system-wide alignment across care pathways. If the intended purpose is not clearly understood by users or embedded within healthcare organisations, the resource risks becoming under-utilised and ineffective.

This study provides critical insights into the barriers and challenges of adopting and sustaining such as a resource from the perspectives of HCPs. Understanding these barriers has revealed opportunities that, if addressed during the design, development, and implementation phases, could support successful implementation.

Our findings offer novel insights into HCP preferences for using digital technologies, which can be further explored in co-design sessions with all stakeholders. These findings have international relevance, particularly for nations facing similar barriers to healthcare digitalisation. In the Irish context, as outlined in the recommendations, there is a clear need to

invest in digital infrastructure and address systemic barriers before introducing innovations such as digitalised healthcare innovations such as the Stroke Passport.

Overall, this study underscores the need for a comprehensive, co-designed plan for stroke information provision, incorporating input from all stakeholders, including HCPs, stroke patients, and family caregivers. Addressing these foundational gaps will create a more supportive framework for digital healthcare implementation.

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List of tables and figures

Figure 1- Graphic representation of themes and subthemes

Table 1- Focus group participant profession and work setting