National Review of Patient Flow

a journey through the stroke pathway

Arolygiaeth Gofal Iechyd Cymru
Healthcare Inspectorate Wales

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Healthcare Inspectorate Wales (HIW) is the independent inspectorate and regulator of healthcare in Wales

Our purpose

To check that healthcare services are provided in a way which maximises the health and wellbeing of people

Our values

We place people at the heart of what we do. We are:

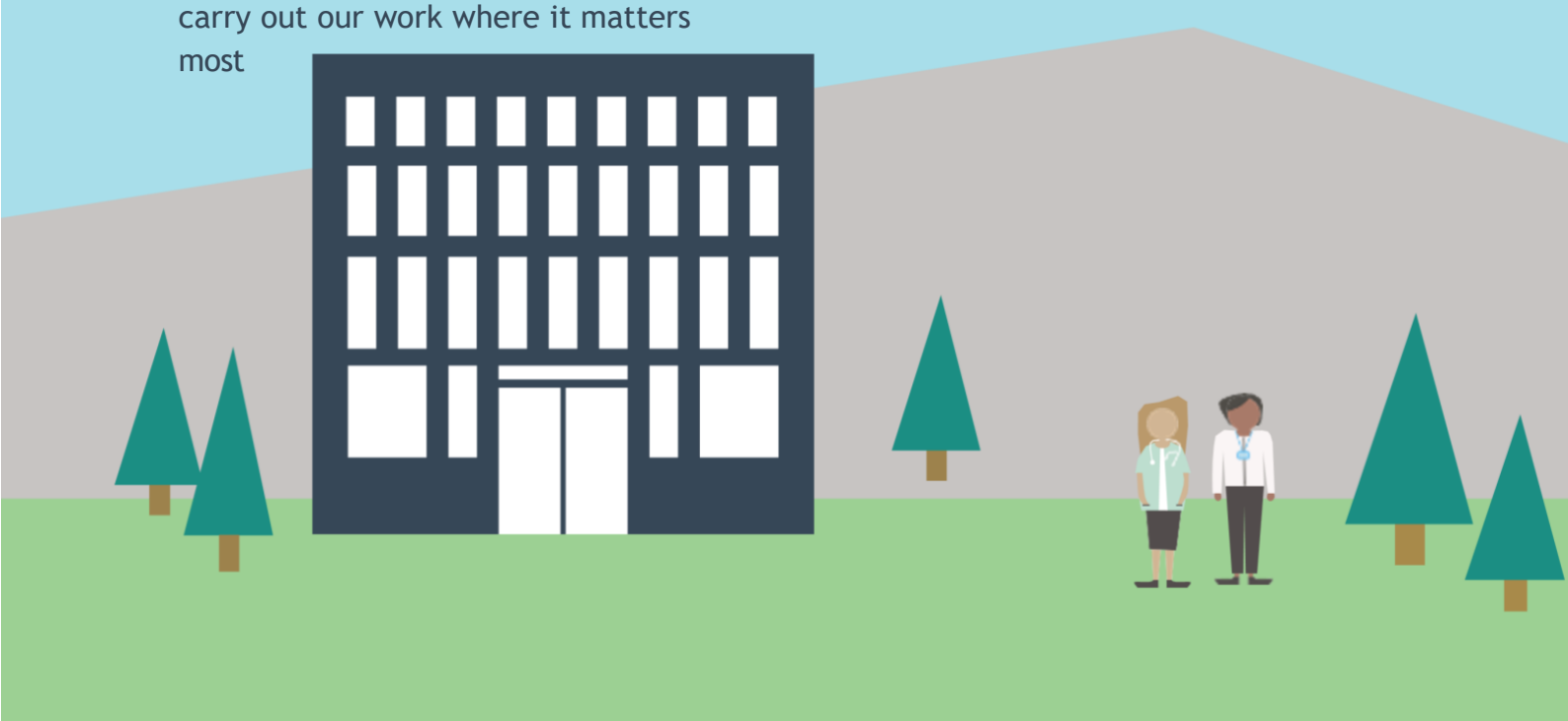
- Independent – we are impartial, deciding what work we do and where we do it
- Objective - we are reasoned, fair and evidence driven
- Decisive - we make clear judgements and take action to improve poor standards and highlight the good practice we find
- Inclusive - we value and encourage equality and diversity through our work
- Proportionate - we are agile and we carry out our work where it matters most

Our goal

To be a trusted voice which influences and drives improvement in healthcare

Our priorities

- We will focus on the quality of healthcare provided to people and communities as they access, use and move between services.
- We will adapt our approach to ensure we are responsive to emerging risks to patient safety
- We will work collaboratively to drive system and service improvement within healthcare
- We will support and develop our workforce to enable them, and the organisation, to deliver our priorities.



Foreword

I am pleased to be publishing this report which presents the findings from our National Review of Patient Flow: a journey through the stroke pathway. The focus of this work was to understand the risks and challenges associated with inefficient patient flow, and what impact this has on patients.

We know from our programme of assurance work that poor patient flow can have a hugely negative impact on the quality of services being provided. This has been a common factor in our inspections of Emergency Departments, and our previous review looking at ambulance handover delays to hospitals.[1] Poor flow can have a detrimental impact on the ability of staff to deliver safe and consistent standards of care and affects the experience and outcomes for patients.

It is fair to say that examples of poor patient flow are well known, and not just cited in the work of HIW. Every one of us is likely to know someone who works in a healthcare service; has been a patient who has encountered this during a hospital stay; or indeed, works in a service area where patient flow is a daily challenge.

What our review has done, however, is to highlight what these challenges mean in reality, to patients and to staff at various points on a journey from hospital admission through to discharge.

The impact of poor patient flow is ultimately felt by patients, who are not always receiving the care and treatment they need in the most timely manner. Delays in treatment can substantially impact the likelihood of developing further complications. This was particularly evident in stroke patients whom we considered as our case study. What is crucial now, is that all aspects of the health and social care system work together as effectively as possible to address poor flow and achieve better outcomes for patients in Wales.

As healthcare services continue to face unprecedented demands, and staff work tirelessly to provide safe and effective care to patients, it is clear that renewed efforts are required from the health and social care sectors, alongside Welsh Government, to tackle the issue of poor patient flow.

[1] Review of patient safety, privacy, dignity and experience whist waiting in ambulances during delayed handover

I am pleased that our work has enabled us to identify areas for improvement, and to highlight areas of good practice. Not just in relation to the stroke pathway, but also for all patients.

I want to take this opportunity to thank staff working within both health and social care sectors who endeavour to provide safe and effective care to people on a daily basis. Their dedication and commitment provide a strong and positive basis upon which to improve.

Alun Jones
Chief Executive

Healthcare Inspectorate Wales

Summary

This report sets out the findings from our National Review of Patient Flow: a journey through the stroke pathway.

The review explored the experiences of people accessing care and treatment for stroke at each stage, from calling an ambulance, transfer to hospital, assessment, inpatient treatment, through to discharge.

Patient flow is the movement of patients through a healthcare system, from the point of admission to the point of discharge. When patient flow is impeded or is inefficient, it has significant repercussions on the quality and safety of patient care.

Our review has highlighted that across Wales, there are significant challenges which are having a negative impact on the efficiency of patient flow, and this means patients are not always receiving the care they need in a timely and appropriate manner. These challenges are wide ranging; the high demand for inpatient hospital beds combined with the complexities with discharging medically fit patients from hospital, leads to the inpatient healthcare system across Wales operating under extreme pressure. This impacts on the delivery of safe and timely care.

Whilst we found a range of initiatives, different models of care, and approaches being taken within health and social care to tackle the problems arising from poor patient flow, these have not sufficiently tackled the problem. Although there is no single solution, our review identifies opportunities for the health and social care systems to make improvements across each stage of the patient pathway, which may help lessen the impact of poor patient flow. The positive initiatives and approaches identified by our review, should be considered across Wales as services attempt to tackle their challenges with poor patient flow.

We specifically examined the journey of patients through the stroke pathway. This was to understand what is being done to mitigate any harm to those awaiting care, as well as to understand how the quality and safety of care is being maintained throughout the stroke pathway.

Demand is exceeding supply in relation to the healthcare system, and during our fieldwork almost all hospitals we visited were under level four ‘extreme pressure’, as highlighted in the National Emergency Pressures Escalation and De-escalation Action Plan[2]. The demand was having a knock-on impact on Welsh Ambulance Services NHS Trust (WAST) and its timely response to emergency calls.

[2] National Emergency Pressures Escalation and De-escalation Action Plan

Despite hospital patient flow teams across Wales working tirelessly 24 hours a day seeking to manage patient flow, we found that patient flow issues were negatively impacting on every stage of stroke care. This was from the point of needing to access healthcare at home, through to discharge from hospital.

A key area requiring improvement identified by our work, relates to the need for healthcare services to engage with people, to better understand the barriers to them accessing or choosing from the range of healthcare services available in Wales. The range of healthcare services includes pharmacies, Minor Injury Units, mental health helplines, online NHS consultations, and the NHS 111 Wales service. Once the barriers are understood, this should in turn be used to influence service design. Ongoing engagement with people about the range of available services may reduce the need for people to attend their GP surgery or attend an Emergency Department (ED) when their health concern is not an emergency.

There were prolonged patient handover delays from ambulances to ED at all hospital sites we visited. These delays were significantly impacting on the ability of WAST to respond to emergency calls in the community and increase the risk to patients requiring emergency treatment and transportation into hospital.

It was positive to find that patients suspected as having had a stroke, were prioritised for ambulance handover, and transferred into ED promptly in line with the stroke pathway. However, we found that achievement of the Welsh Government 15-minute target for handover of stroke patients was challenging. This target aims to ensure that time critical investigations and treatment are undertaken promptly to ensure the best outcome for patients.

Challenges with the demand on EDs meant that some patients waited longer than expected for triage and ongoing assessment or treatment. This is a particular risk for those patients who self-present at an ED and have not had any clinical input prior to their arrival.

We found that the recognition of stroke and its prevention is a key area that needs attention across Wales. More needs to be done by NHS healthcare providers and Public Health Wales (PHW) to educate people about this debilitating condition, to help minimise their risk of developing a stroke, and to seek immediate help if symptoms arise. This is of relevance to certain population groups who are at a greater risk of having a stroke, such as those who smoke, have high blood pressure, high cholesterol, diabetes, are obese, or who excessively consume alcohol[3].

Evidence also suggest that Black and Asian people are at a higher risk of developing a stroke. Health boards and PHW should therefore work closely with these communities to understand the specific issues they face and ensure ongoing engagement with them, in support of better health outcomes.

It was disappointing to find that in 2022, the performance of most acute hospitals in Wales which provide stroke services had deteriorated since 2019.

[3] Causes of Stroke

As highlighted within the UK's Sentinel Stroke National Audit Programme (SSNAP) data, there was an increase from three, to 11 out of 14 acute hospitals who were performing poorly and were categorised as either a D or an E grade (lowest).

However, it is important to note that this period coincided with the global Covid-19 pandemic, and there was an unprecedented demand on hospital beds nationally, which was significantly impacting on patient flow in general, and throughout the stroke pathway.

As highlighted earlier, during our fieldwork almost all hospitals were under level four 'extreme pressure'. To help manage the pressure and patient flow through hospital systems, patient flow meetings were held regularly in all hospitals. They were well attended by the key staff responsible for a patient's journey through hospital. In some health boards, a Hospital Ambulance Liaison Officer (HALO) was also present during patient flow meetings, to discuss the handover delays and plans for longest wait patient handovers. We found this to have a positive impact in managing the issues associated with delayed patient handovers from ambulance crew to ED staff.

Overall, we found that patient flow teams appeared to manage meetings well, and we concluded that they had a strong understanding about which patients needed beds or moves to other wards. This included the oversight of patient specialty outliers in other service groups, such as medical patients cared for in surgical beds and vice versa.

Due to pressure on bed availability, hospitals were not always able to admit patients to the right bed or ward for their treatment. These patient outliers, as they are known, were a consistent finding across Wales. This meant that it was not always possible to move patients, which included stroke patients, to the most appropriate ward or specialty for their care and treatment. It was concerning to find that because of poor patient flow, patients are regularly being treated on a ward that would not usually care for that condition.

Patients who are not allocated to the right bed or ward, can at times experience an increased length of stay. This may lead to other complications, creating additional challenges for care teams and adding to the issue of poor flow. A stroke patient who has been admitted to hospital is likely to have a much better outcome if they are treated on a stroke ward.

During our work, it was positive to find that Improvement Cymru[4], was undertaking a pilot within three acute hospitals supporting teams to improve their patient flow systems. Together with the health boards, they implemented a Real Time Demand Capacity methodology to focus on the flow process. This focuses on discharge and improving flow in small increments.

[4] Improvement Cymru website

Whilst it does not assist with the existing flow issues which relate to social care, it supports patient flow daily, by preparing patients for earlier discharge times on the proposed discharge date. We noted that this pilot was making a positive difference to the flow process and overall management of beds, and it is an approach that should be considered nationally.

We found that in all cases, staff endeavour to achieve a brain scan for a symptomatic stroke patient within an hour of arrival at hospital. However, although infrequent, it was concerning to find in our clinical records review, that some patients were not receiving a brain scan within the one-hour target. In addition, the SSNAP data we reviewed for the period of April to June during 2019, 2021 and 2022, showed that performance had reduced in nine out of 12 sites, with an increased number of patients suspected as having a stroke waiting more than one hour for a brain scan.

Following assessment and a subsequent stroke diagnosis, it was positive to find that overall, the treatment (called thrombolysis) to help dissolve the clot in the brain, was commenced promptly in ED if there were no beds available to administer this on the acute stroke ward. Thrombolysis is used for certain categories of ischaemic stroke diagnosis and must usually be undertaken within 4.5 hours of the known onset times of stroke symptoms. However, within the updated *National Clinical Guideline for Stroke for the United Kingdom and Ireland 2023*[5], this treatment window has now been increased to nine hours in some instances, if there is specific evidence of the potential to salvage brain tissue through CT perfusion imaging[6]. Therefore, it is important that WAST works with health boards and Welsh Government to consider the protocol when sending an ambulance to stroke patients, and the increased treatment window.

An alternative procedure to thrombolysis therapy, is surgery to remove a blood clot which is known as a thrombectomy. Thrombectomy can be effective up to 24 hours from onset time of stroke symptoms and can significantly reduce the severity of disability a stroke can cause. This can result in better patient outcomes than those treated with thrombolysis. The only health board in Wales which provides a thrombectomy service is Cardiff and Vale University Health Board. This service operates Monday to Friday from 9am to 5pm, when expert interventional neuroradiology staff and radiology facilities are available to undertake this treatment.

All other health boards in Wales must refer patients for thrombectomy, either to North Bristol NHS Trust, where the service is available to patients from Wales daily between 8am and midnight, or to the Walton Centre NHS Foundation Trust in Liverpool, which offers a 24/7 service. Given the geographical challenges and the availability of ambulances across Wales due to handover delays, this can have a negative effect on the timely provision of a thrombectomy and is of particular concern when thrombolysis is not clinically appropriate.

[5] National Clinical Guideline for Stroke for UK and Ireland
[6] CT Perfusion – The Walton Centre NHS Foundation Trust

Treating stroke patients with thrombectomy can have better long-term outcomes for people. According to SSNAP data, the annual thrombectomy treatment number between April 2020 and March 2021 within England, Northern Ireland and Wales was 1,763[7].

It is concerning to find that in Wales, only 13 patients received a thrombectomy at the University Hospital of Wales, just 16 patients from other health boards received treatment in North Bristol and only four at the Walton Centre. More needs to be done to provide equitable access to thrombectomy treatment across Wales.

To give a patient the best possible chance of recovery, specialised stroke unit care must be initiated as soon as possible after the onset of stroke symptoms. Due to the range of specialist treatment they provide, acute stroke units can provide care and treatment to reduce long-term brain damage, physical disability, and healthcare costs. It was, therefore, disappointing to find several delayed admissions to acute stroke wards from ED. This was often due to a lack of available beds owing to delayed transfers to rehabilitation wards, or delayed discharges out of hospital impacted by the inability of social care providers to deliver timely social care.

To help mitigate this issue and maintain flow for stroke patients, most stroke wards aim to ring-fence a stroke beds. However, we found these beds are repeatedly used for non-stroke patients across Wales, due to the persistent issues with the demands on ED services. This is a concern since some stroke patients may not receive the most appropriate and timely care for their condition, including timely ongoing treatment needed to help with their recovery.

We considered whether organisations can provide stroke services through the Welsh language active offer, and whether patients were offered the opportunity to communicate through the medium of Welsh. We found that Welsh speakers worked within or were accessible to stroke patients in all health boards. However, this was not easily identifiable, such as staff uniforms promoting the NHS ‘Gwaith Iaith’ badge.

Across Wales, we found inconsistencies with the provision of rehabilitation to people following their stroke. Overall, we found that the health boards with stroke rehabilitation wards provided an environment that facilitated specific multidisciplinary stroke rehabilitation care, although in some hospitals both acute and rehabilitation care were undertaken in the same environment. We also found inconsistencies across Wales in the provision of the 45-minute daily target for physiotherapy, occupational therapy and speech and language therapy. This was attributed to the challenge with recruiting staff into key therapies posts, and the ability to provide timely services on wards that manage both acute and rehabilitation care to stroke patients.

HIW found good collaborative working between the stroke multidisciplinary teams

[7] Annual thrombectomy April 2020 to March 2021

in relation to patient discharge preparation.

However, a key issue which significantly impacts on patient flow and overall patient progress, is the delayed transfer of care and discharge for patients who are medically fit to leave acute care. This can be due to the availability of care home beds or social care and rehabilitation therapies provided within the home.

Unnecessarily long stays in hospital due to delayed discharge can place patients at risk of hospital acquired infections, deconditioning or deterioration whilst awaiting discharge, all of which further impact on flow. The bottleneck at the point of discharge has a knock-on impact on EDs, WAST response times, inpatient care, primary care, planned admissions and overall staff wellbeing.

It is therefore essential that Welsh Government, health boards and social care providers redouble their efforts and work collaboratively to help improve the persistent issues with discharging people from hospital.

To support us with the social care aspects of our review, we utilised the help of Care Inspectorate Wales (CIW)[8]. Through collaboration with CIW and its peer reviewer, we found several factors aligned to social care which also contributed to discharge delays. One issue was frequent delays with social worker allocation causing unnecessary discharge delays for patients who are medically fit to go home. This was identified as an issue in most health boards. Another challenge impacting timely discharge is the ability to provide timely or appropriate domiciliary care packages to people in the community, or the availability of beds in care homes. We found the most significant issue was the recruitment and retention of domiciliary carers, who are needed to provide the social care people need at home. Patients who cannot support themselves at home or who have no other means of care support, cannot be safely discharged. This in turn, increases the flow bottleneck at the hospital 'back door'.

Adding to the complexity of organising packages of care, some hospitals discharge patients to numerous local authorities within their own health board boundary, to local authorities within the boundaries of another health board, or even across the border to England. Sometimes the process in each can be different, adding to the existing challenges, which may include different referral processes or different IT systems. This makes the processes difficult to navigate and more challenging, therefore causing further unnecessary discharge delays and impacting on patient care.

It is evident that staff working within patient flow and stroke services are dedicated to helping patients move through hospital systems. However, our review indicates that health and social care services are not operating as efficiently as they could be. This inefficiency increases the risk of complications arising from delayed discharge and has a significant impact on the overall health and care system in Wales.

[8] Care Inspectorate Wales website

In our report, we have identified various areas that require improvement, and have made recommendations for action to address these issues. We firmly believe that more can and should be done to tackle the problems highlighted by our review.

Context

In our Operational Plan for 2021-22, we committed to a programme of national reviews which considered the risks and challenges facing health services as they continue their response to, and recovery from, the pandemic.

Poor patient flow is one of the biggest challenges facing our healthcare system in Wales. This is caused by severe congestion within our hospital systems. There are ongoing pressures on the ability of healthcare systems to manage patients effectively and with minimal delays, as they move through each stage of care through to discharge or moved onto an appropriate care pathway.

Poor patient flow leads to congestion and overcrowding within our EDs, with patients waiting for admission into bed on the wards. Consequently, this also impacts on delays with patient handover from ambulances into EDs. This is consistent within several findings during previous HIW inspections of EDs across Wales, including Ysbyty Glan Clwyd[9], University Hospital of Wales[10] and Glangwili General Hospital[11] which were undertaken during 2022. In addition, patients in the community must often wait unacceptable lengths of time for an emergency response from WAST and transportation into hospital. This results in increased risks to those patients, as they have not yet been clinically assessed. Poor patient flow frequently impacts negatively on the whole of a patient's journey through the healthcare system.

Our most recent WAST review[12] highlighted how patient handover delays are a consequence of wider systemic patient flow issues through NHS healthcare systems and social care systems. The impact of inadequate bed/trolley availability in EDs is that there are occasions where multiple ambulances are waiting together outside EDs for prolonged periods of time to handover their patients.

[9] HIW Hospital Inspection Report - (Unannounced) - ED, Ysbyty Glan Clwyd - Betsi Cadwaladr University Health - 03, 04 & 05 May 2022

[10] HIW Hospital Inspection Report (Unannounced) Emergency Unit and Assessment Unit, University Hospital of Wales, Cardiff, and Vale University Health Board - Inspection date: 20, 21 and 22 June 2022

[11] HIW Hospital Inspection Report (Unannounced) Emergency Unit and Assessment Unit, University Hospital of Wales, Cardiff and Vale University Health Board, Inspection date: 20, 21 and 22 June 2022

[12] HIW WAST review: Patient Safety, Privacy, Dignity and Experience whilst Waiting in Ambulances

The consequences of poor patient flow are well known nationally and can include:

- Delayed ambulance response times to calls
- Delayed ambulance handover
- Overcrowding in EDs
- Patients admitted as 'outliers' to wards that are not best suited to manage their care, which may mean they have worse clinical outcomes
- Ambulatory care services, clinical decision units, even catheter labs and recovery units may be used with patients waiting for ward admission
- Inpatients are also often moved between different wards to accommodate new patients
- Staff are overstretched, and routine activities slow down dramatically
- Clinical outcomes can be measurably worse, particularly for frail older people, who suffer more harm events and may decondition due to extended periods in hospital beds.

We recognise there are pressures through the stroke pathway to deliver effective person-centred stroke care, which relate to:

- Timely access to effective care, including transfer to hospital, assessment, key diagnostic interventions, thrombolysis[13] and/or thrombectomy
- Timely admission to an acute stroke ward/unit[14] (or other relevant ward), and other acute care requirements
- Timely therapeutic assessments and treatment
- Stroke rehabilitation and preparation for life after stroke
- Discharge with social care pressures, access to required therapies and ensuring the right support.

As a result of these issues, and our intelligence and other data sources, media reports, and the issues identified through our previous ED inspections, and within both our WAST reviews in 2019-20[15] and in 2020-21[16], we decided to undertake a review of patient flow with a focus on the stroke pathway. This is because stroke is a complex condition, and timely assessment, treatment, rehabilitation, and recovery for patients affected by a stroke, requires support from a range of health and social care professionals, with specialist knowledge and skill.

[13] Thrombolysis is a procedure to disperse a blood clot and return the blood supply to the brain. Some people with ischaemic stroke are eligible for thrombolysis which, for most people, needs to be given within 4 ½ hours of stroke symptoms starting.
[14] An acute stroke ward/unit is an area in the hospital that is staffed by a specialist stroke. multidisciplinary team.
[15] HIW local review report of WAST - Assessment of Patient Management Arrangements within Emergency Medical Service Clinical Contact Centres
[16] HIW review report of Welsh Ambulance Services Trust - Patient Safety, Privacy, Dignity and Experience whilst Waiting in Ambulances during delayed handovers

What We Did

Focus of Review

The focus of our patient flow review was to consider the patient journey through the stroke pathway from the point of requesting an ambulance or people self-presenting at ED, through to discharge from hospital or transfer of care to other services.

The pandemic introduced unique and unprecedented pressures on the healthcare system; in view of this, our retrospective review of clinical records considered the time-period from March 2020, through to the time of our fieldwork between March and August 2022.

Throughout our review we explored the experiences of people accessing care and treatment for stroke at each stage of care, from calling for an ambulance, to assessment, inpatient treatment, and through to discharge.

Throughout, we considered the following key questions:

- How are healthcare services ensuring that timely access and treatment is provided to patients on the stroke pathway?
- What steps healthcare services are taking to ensure that safe and effective quality care is provided at each stage of care, minimising the impact of delays?
- What measures are healthcare services taking to ensure that patients are able to be discharged effectively, and safely from hospital services?

When planning our review, we were aware work was (and still is) ongoing to tackle the issue of patient flow, with various approaches and initiatives in progress at a national level.

Scope and methodology

To review the areas detailed above, we requested relevant documents and key information from health boards in Wales and WAST. This helped us to understand the degree of insight each health board has of its strengths and areas for improvement with the processes in place for patient flow on the quality and safety of stroke patients awaiting assessment and treatment. It also helped us to understand what is being done to mitigate any harm to those awaiting care, as well as understand how the quality and safety of care is being maintained throughout the stroke pathway.

We also considered local and national performance data and statistics. The Sentinel Stroke National Audit Programme[17] (SSNAP) aims to improve the quality of stroke care by measuring both the structure and processes of stroke care against evidence-based standards. The SSNAP targets are informed by the *National Clinical Guideline for Stroke for the United Kingdom and Ireland*, and national and local benchmarks. The SSNAP clinical audit collects a minimum dataset for stroke patients in England, Wales, and Northern Ireland in every acute hospital, and follows the pathway through recovery, rehabilitation, and outcomes at the point of six-month assessment. All patients with a stroke admitted to hospital in Wales are included on the SSNAP database, which is used to monitor and audit stroke treatment and outcomes.

Over the course of our review, we undertook interviews with a variety of health board staff across Wales. We developed and shared several staff surveys and a survey of stroke patients, or their family members or carers.

We also completed fieldwork focusing on retrospective case studies and current cases of people travelling through the stroke pathway, which included the period of the Covid-19 pandemic.

Professional staff surveys

We developed and launched a staff questionnaire to obtain views from health board staff involved throughout the stroke pathway and their patient flow within the pathway.

In addition, we designed and distributed a questionnaire to obtain views from staff at WAST to gain their opinion of the flow of stroke patients to and from hospitals.

In conjunction with the Care Inspectorate Wales (CIW) we also developed and distributed two additional questionnaires. These were to obtain the views of staff working in social care and local authority staff on their opinion of the challenges faced in effective discharge of patients from hospital.

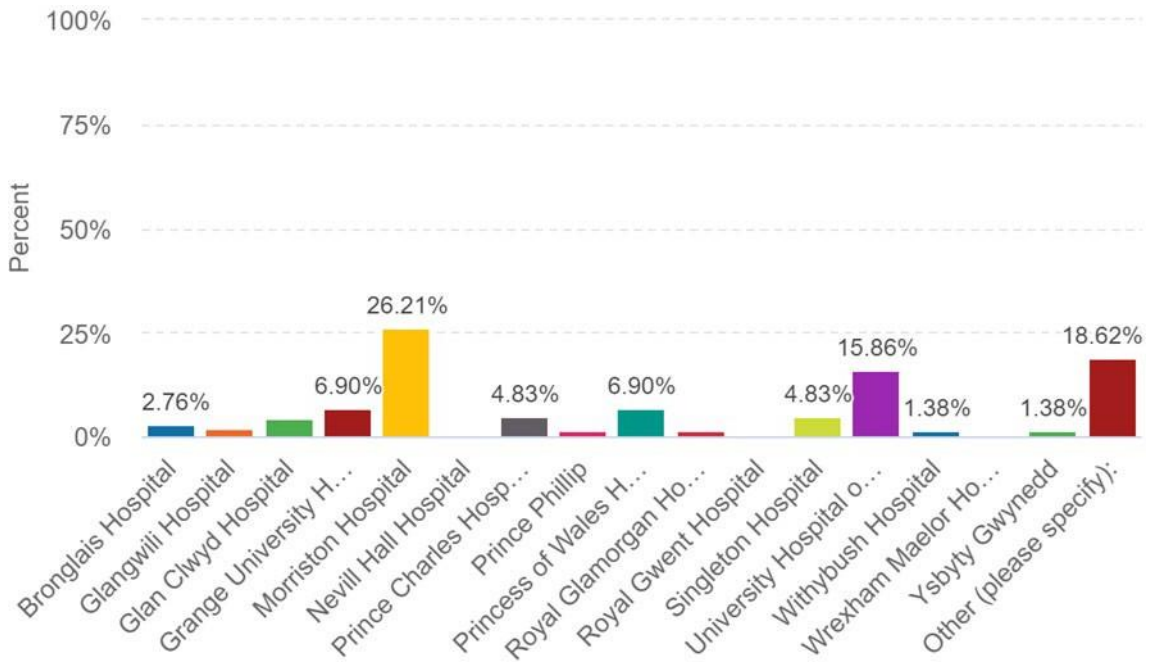
Health board staff survey

We had a total of 146 respondents who fully completed the health board staff survey.

Our survey found 75 respondents worked directly within stroke services, 20 worked within Patient Flow, 32 worked for emergency departments, 13 were senior management, 16 were site/bed management, 6 were discharge staff and the remainder were made up of various other roles.

[17] The Sentinel Stroke National Audit Programme

The respondents worked within the hospitals highlighted in the chart below:



Social Care providers and Local Authority staff surveys

Both Social Services staff and Local Authority staff surveys were emailed to staff for completion in May to July 2022.

We had 26 staff respond to our social care provider survey from 16 of the 22 local authorities in Wales, which includes:

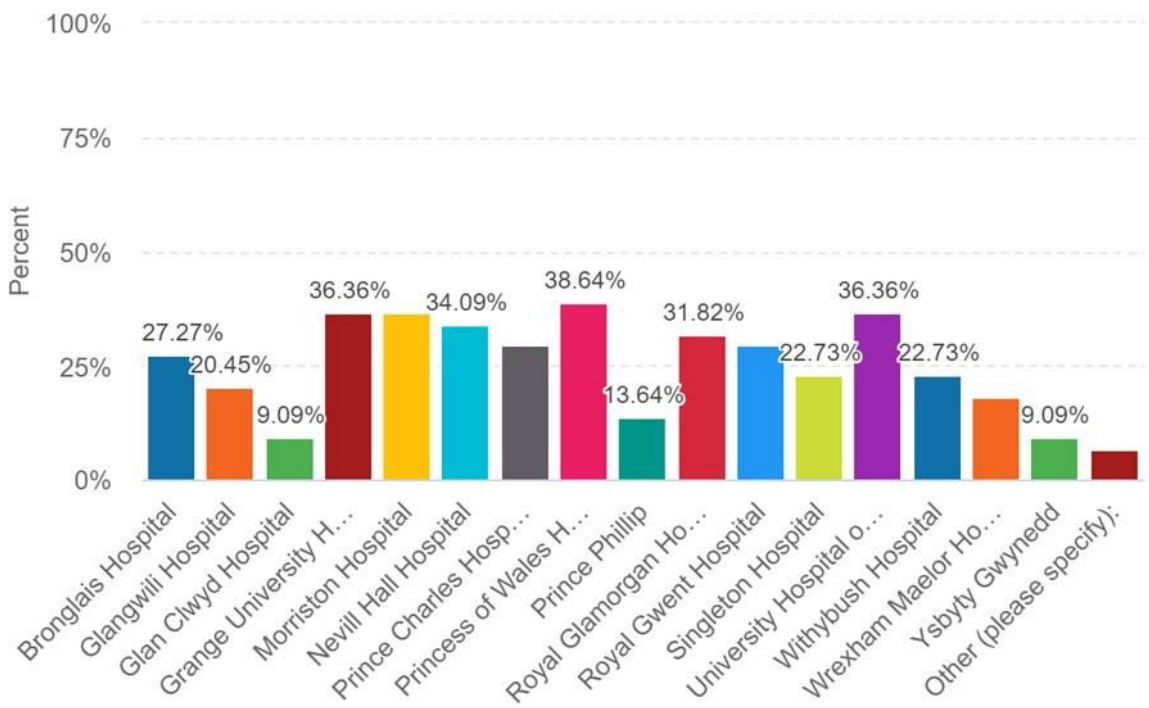
- 7 Registered Managers
- 7 Service Managers
- 6 Care Home Managers
- 3 Responsible Individuals
- 3 Other

Due to the limited number of responses, we have not undertaken a quantitative analysis, however, where applicable, we have considered comments from our qualitative analysis within the report.

WAST staff survey

The survey was emailed to staff for completion in May to October 2022.

We had 44 staff respond to our survey who worked with the following hospitals:



Public survey

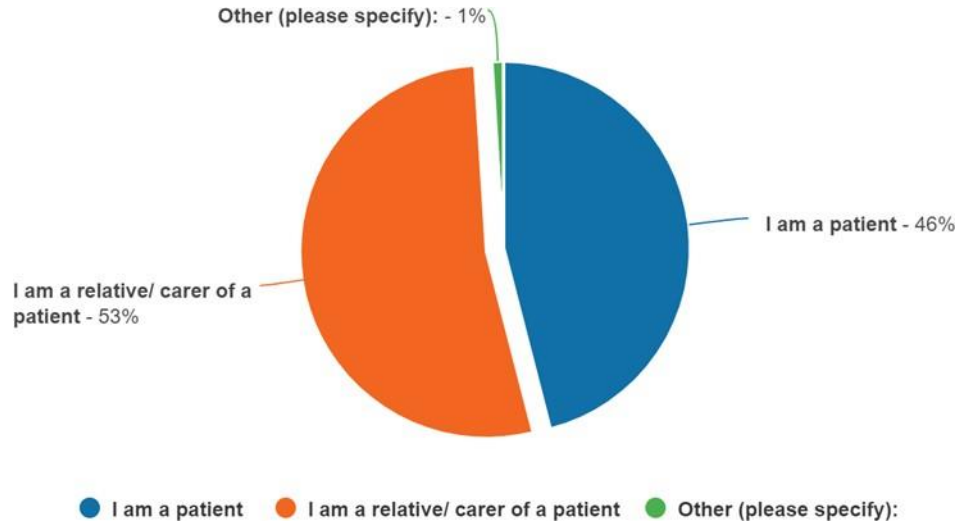
We conducted a survey to capture the views of stroke patients who had used healthcare services, or the views of their family members or carers. The patient questionnaire was designed and distributed by HIW, with the input of the Stroke Association, to obtain views from patients on the quality and safety of care throughout the stroke pathway.

The survey was promoted for completion from May to September 2022.

We received a total of 106 responses to our survey. Some partially completed or skipped some questions, but all 106 responses have been considered as part of this analysis. When asked of their gender identity, 52.5% said they identified as female, 42.5% as male and the remaining preferred not to say.

Only 81 respondents answered our multiple-choice question relating to ethnicity. 61 answered ‘white’, 29 answered ‘Welsh/English/Scottish/Northern Irish/British’, and one person answered ‘Irish’. There were zero responses to all other available options, for example, black, Asian, mixed ethnicity, gypsy/Irish travellers, or other ethnic groups.

The 106 responses were received from patients, carers or relatives, or other:



The 'other' response was a friend of a stroke patient. All respondents were asked to respond to questions on behalf of the patient. There was a good distribution of responses across Wales.

Fieldwork

Currently 12 hospitals across six of the seven health boards provides emergency services for stroke patients. Powys Teaching health board does not provide acute stroke services but accesses services from NHS England and Welsh health boards. All 12 sites listed below provide acute stroke services including thrombolysis treatment for patients with an acute, ischaemic stroke.

- The Grange University Hospital, Cwmbran
- Prince Charles Hospital, Merthyr
- University Hospital of Wales, Cardiff
- Princess of Wales Hospital, Bridgend
- Morriston Hospital, Swansea
- Prince Philip Hospital, Llanelli
- Withybush Hospital, Haverfordwest
- Glangwili Hospital, Carmarthen
- Bronglais Hospital, Aberystwyth
- Ysbyty Gwynedd, Bangor

• Glan Clwyd Hospital, Rhyl

• Wrexham Maelor Hospital, Wrexham

As highlighted above, we attended one acute site within every health board area during the period from March to August 2022. Most of our onsite visits were conducted over three days. Our approach to the fieldwork conducted within Powys Teaching Health Board was reduced to a two-day visit to a rehabilitation ward, given the absence of an acute stroke ward.

Our fieldwork included face to face interviews with ED staff, stroke services staff and patient flow/discharge managers. We were unable to visit all the acute sites providing stroke services within Wales; however, to understand the challenges faced with patient flow through the stroke pathway at every site, interviews were held via Microsoft Teams. We held in the region of 250 interviews with health board staff across Wales.

During our onsite visits, we also attended board rounds, multidisciplinary team meetings (MDT) or equivalent for stroke patients, bed or site management meetings and patient discharge meetings. Where we were unable to attend in person, and for sites we did not carry out fieldwork, these meetings were attended via Microsoft Teams.

Our focus during our fieldwork was on reviewing patient records and key documents within each health board, both on a retrospective review of patient clinical records from 2020 onwards, and the records of patients in hospital travelling through the stroke pathway at the time of our site visits.

The inspection team for each onsite visit consisted of:

- HIW Senior Healthcare Inspector (review lead)
- HIW Healthcare inspector (review support)
- Up to three clinical peer reviewers
- CIW peer reviewer (to interview key staff involved with the discharge of stroke patients from hospitals across Wales).

It was positive to note that during our onsite fieldwork site visits we did not identify any areas of immediate concern for patient safety, and we therefore did not need to implement our immediate assurance process.

In November 2022, we wrote to all health board Chief Executives with a summary of the initial key general findings to date. We did not require any specific action to be taken in response to these findings at that time.

Relevant guidance for patient flow and the stroke pathway

In considering the effectiveness of patient discharge, we looked at whether hospital wards follow the Welsh Government principles of 'SAFER Patient Flow Guidance'[18]. This guidance provides good practice to promote safe and timely discharge, improve patient flow and prevent unnecessary waiting for patients.

Throughout this report, we often refer to the NICE guideline *'Stroke and transient ischaemic attack in over 16s: diagnosis and initial management' (NG128)*[19]. In addition, the *National Clinical Guideline for Stroke for the United Kingdom and Ireland 2023*[20]. We also refer to the NICE *Stroke Rehabilitation in Adults* clinical guideline (CG162)[21]. This relates to stroke rehabilitation for adults and young people aged 16 and over who have had a stroke with continuing impairment, activity limitation or participation restriction.

Welsh language 'active offer'

We considered whether organisations can provide stroke services through the Welsh language active offer, and whether patients were offered the opportunity to communicate through the medium of Welsh.

We found that Welsh speakers worked within or were accessible to stroke patients in all health boards. However, this was not easily identifiable, such as staff uniforms promoting the NHS 'Gwaith Iaith' badge.

Within our staff survey, 22 people said their first language was Welsh, although every questionnaire was completed in English, despite the choice available to complete this in Welsh. Our patient survey identified that eight people speak Welsh, with just one who said they were offered the opportunity to speak Welsh.

In most cases during our clinical records review, we found no evidence or reference to a patient's language choice. However, in one hospital, it was recorded that patients were English speaking only within the records reviewed. We also saw in one patient record, that a patient was asked for their preferred language, as part of the Occupational Therapy cognition test.

[18] Welsh Government SAFER patient flow Guidance
[19] NICE guidance stroke-and-transient-ischaemic-attack-in-over-16s
[20] National Clinical Guideline for Stroke for the UK and Ireland
[21] NICE Stroke rehabilitation in adult's Clinical guideline

What We Found

Patient flow: a journey through the stroke pathway

Poor patient flow is one of the biggest challenges facing our healthcare system in Wales. It is caused by severe congestion within our hospitals, and there are ongoing pressures within health and social care services to manage patient journeys effectively. The challenge within both systems can impact on timely hospital discharges, and often, people do not always receive the right care, at the right time, in the right place, which may impact on their safety.

To explore the complexities of patient flow through the healthcare system, we focussed on a patient journey through the stroke pathway. It is therefore important to highlight the significance of stroke and its prevention first.

What is a stroke?

Stroke is the fourth leading cause of death in Wales and can have a significant long-term impact on survivors. The Stroke Association[22] suggests that currently, there are around 69,000 stroke survivors living in Wales, and NICE[23] suggest around 8,000 people in Wales experience a stroke each year.

As highlighted above, NICE highlights that stroke is a leading cause of death and disability, causing around 38,000 deaths each year in the UK, and in addition, in the UK there are approximately 1.3 million stroke survivors. The number of hospital admissions per year due to stroke is approximately:

- 126,000 in England
- 9900 in Scotland
- 8000 in Wales
- 5000 in Northern Ireland.

There are three different types of strokes, these include:

- **Ischaemic stroke** - caused by a blockage, such as a blood clot, cutting off the blood supply to a part of the brain
- **Haemorrhagic stroke** - caused by bleeding in or around the brain
- **Transient Ischaemic Attack (TIA)** - also known as a mini-stroke – brief blockage in supply of blood to parts of the brain.

It is critical that people know how to spot the signs and symptoms of stroke, and they should call 999 immediately, due to the time critical nature for the treatment.

[22] Stroke Association
[23] NICE - What is the prevalence of stroke and TIA in the UK?

The signs of stroke are highlighted below and are represented as the acronym **'FAST'**:

Face	Has their face fallen on one side? Can they smile?
Arms	Can they raise both their arms and keep them there?
Speech	Is their speech slurred?
Time	Time to call 999!

Stroke prevention

In its 2018 report, *A Healthier Wales: our Plan for Health and Social Care*[24], Welsh Government set out a long-term future vision of a 'whole system approach to health and social care'. It places a greater emphasis on preventing illness, by supporting people to manage their own health and wellbeing, and to enable people to live independently for as long as possible, supported by new technologies and by integrated health and social care services.

As part of our review, we considered what information is available to advise the people of Wales on the risks associated with having a stroke, and its prevention. The Royal College of Physicians[25] estimate that up to 70% of all strokes could be avoided if the risk factors were treated and people adopted healthier lifestyles.

The role of Public Health Wales in stroke awareness and prevention

Public Health Wales NHS Trust (PHW)[26] is the national public health agency in Wales. Through its work, the aim is to protect and improve the health and wellbeing of people and reduce health inequalities across Wales. As highlighted earlier, our review considered patient flow through the stroke pathway. It is, therefore, important to understand what PHW is doing to help prevent people in Wales having a stroke.

We considered how PHW were engaging with people to raise their awareness of the risk factors associated with a stroke, and their understanding of stroke symptoms. Additionally, what the Trust is doing locally or nationally to target certain groups of people who may be at the highest risk of sustaining a stroke. This may include Black and Asian people, and those living with high blood pressure, high cholesterol, diabetes, excessive alcohol intake, smokers, and those with Atrial Fibrillation (AF).

AF is a heart rhythm problem and increases the risk of a stroke due to a risk of blood clots forming in the vascular system (blood stream), which may travel to the brain causing a stroke. The Stroke Association[27] highlights that AF can happen to anyone, including people who are otherwise fit and well. It usually affects adults, and the risk increases with age, but also for people with conditions, such as heart disease, diabetes, obesity, high blood pressure, and in smokers.

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[24] A Healthier Wales (gov.wales)
[25] The Royal College of Physicians
[26] Home - Public Health Wales (nhs.wales)
[27] Stroke Association - Atrial Fibrillation

During our engagement with PHW as part of our fieldwork, we were told that it did not have any current or future campaign plans to raise stroke awareness and its prevention in Wales.

Campaigns to raise awareness for signs of stroke symptoms have previously been promoted in Wales, and the 'Act FAST' message had raised awareness nationally, which demonstrates its importance that the sooner people get medical help, the likelihood is a better outcome for stroke patients. We also found that in 2021, Public Health England, supported by the Stroke Association, relaunched its Act FAST campaign, this was due to data which suggested that people were reluctant to seek help for stroke during the pandemic.

Whilst our interviews with PHW during our fieldwork found that there were no plans for it to promote the 'Act FAST' campaign any time soon, subsequently in April 2023, PHW relaunched its 'Act FAST' campaign across Wales. It is, however, positive to note that information is available to the public on the PHW website in relation to keeping physically well, and includes advice on exercise, diet, alcohol, and smoking.[28]

We asked people in our patient survey for their views on stroke awareness and its prevention. Disappointingly, 62% of respondents said they did not believe they were at risk of having a stroke before it happened, and a further 26% had not considered the possibility of them having a stroke. It is concerning that 85% of respondents had never discussed the risk factors of a stroke with a healthcare professional, prior to this happening to them. Only 10% had discussed it with their GP, and just 5% having discussed this with other health care professionals.

Educating patients

Across Wales, we found that some staff working within stroke services, in collaboration with GP practices, had developed a process to educate people on stroke prevention. Their work includes communicating the risk factors for stroke and preventative measures to help reduce the risks of stroke. The aim is to educate people on healthy diets, exercise, alcohol consumption, smoking cessation, and stress reduction. However, whilst we found this positive practice in some areas of Wales, it was not consistent through all health boards and their localities.

[28] PHW - Keeping Physically Well

It is evident that stroke awareness and its prevention is a key area that needs attention and addressing across Wales. Although our national survey gathered the opinions of just 106 people, it was only 15% who had any discussion with healthcare staff of the potential risk factors associated with stroke, and only 62% were aware of the risks. It is, therefore, essential that healthcare providers across Wales are raising the profile of stroke consistently, of the risk factors and prevention, and PHW have a significant role to play in this.

Awareness of stroke risk among Black and Asian People

In our survey, when we asked respondents about their ethnicity, there were zero responses indicating people were from Black, Asian, or other ethnic groups.

According to the Stroke Association and Different Strokes organisation[29], strokes may happen more often in people who are black or from Asian families. In addition, it is suggested that within these groups, people may need to get checked at an earlier age for diabetes, particularly if they have any risk factors, such as being overweight[30].

In 2021, Different Strokes Organisation launched a national outreach program, to raise awareness of stroke risk amongst Black and Asian communities, and to develop a longer-term plan, to break down barriers preventing Black and Asian stroke survivors from accessing its support services. Through the outreach programme, the organisation found there was lack of awareness of the risk of stroke at all ages, and Black and Asian people were not aware of their increased risk of stroke. They also found limited information available regarding stroke for people from Black or Asian communities, or for people whose first language is not English. Additionally, they found in UK-wide NHS campaigns, there was a limited representation for these communities, such as a lack of images of Black and Asian people, meaning that when they were looking at stroke campaigns, they would not see themselves in the images or the stories shared.

The Different Strokes Organisation has developed an engagement strategy to tackle the issues highlighted above, which plans to support and raise awareness of younger stroke amongst Black and Asian communities in the UK. The equality and diversity statics in Wales for 2018-2020 indicate that 95% of the population described their ethnic group as White, and 5% described themselves as Asian, Black, or as being from mixed or multiple ethnic groups or from another ethnic group[31]. The Different Strokes Organisation alone cannot raise the profile of stroke in Black, Asian and ethnic communities, therefore, health boards, Welsh Government and PHW must make a concerted effort with reaching out to people within these communities through stroke awareness education and campaigns.

Stroke and health inequality

Socio-economic factors also impact on the risk of stroke. Health inequalities disproportionately affect certain communities and socio-economic deprivation is linked to worse health outcomes[31]. Strokes occur more commonly in areas of deprivation, therefore, highlights the inequalities in people's health status[32]. It is therefore important that when engaging with the public on stroke awareness and stroke prevention, health boards, Welsh Government and PHW should ensure they reaches out to people affected negatively by socio-economic factors.

[29] Different Strokes
[30] Stroke Association - What is stroke, are you at risk of stroke
[31] A review of evidence on socio-economic disadvantage and inequalities of outcome (summary)
[32] Stroke: A Public Health Approach, Director of Public Health Annual Report 2018

Recommendation 1:

Health boards should engage with each other, to learn from the good patient education practices taking place across Wales. This could help the shared learning between themselves and with GP practices in their localities, to educate patients of the risks for a stroke, to help reduce the number of strokes across Wales.

Recommendation 2:

Public Health Wales should consider the development and promotion of a national campaign to raise stroke awareness and its prevention in Wales alongside its Act FAST campaign. This should include raising awareness of stroke prevention within black and minority ethnic communities and the impact of health inequalities and socio economic deprivation.

Recommendation 3:

Health boards and PHW should work closely with Black, and minority ethnic communities and people affected by socio economic deprivation, to understand the specific issues they face with their increased risk of stroke and in accessing preventative care and ensure ongoing engagement with them to support better health outcomes.

Stroke management performance in NHS Wales

To demonstrate their performance in managing stroke services, hospital sites in Wales (and the UK), are graded in line with SSNAP data. Each hospital which manages stroke patients is required to regularly submit their performance data to SSNAP. The grade for performance is categorised from A (highest) to E (lowest).

In 2019, just three out of 16 hospitals in Wales who manage stroke patients, received a D or E grade. In 2022, the data reflects an increase to 11 of 14 hospitals who received a D or E score. This is concerning, not only as each hospital is graded in the lower categories, but it also highlights hospital performance has declined significantly across Wales in the past three years. However, it is important to note that this period did coincide with the COVID-19 pandemic.

The extreme and unprecedented demand for hospital beds during the pandemic had a significant impact on flow through healthcare systems, to the extent that field hospitals were implemented to cope with the overwhelming demand for beds. Health and care staff across all roles and services showed huge resilience in the face of unprecedented demands and pressures and adapted quickly with different ways of working to keep themselves and people safe. Staff worked in extremely difficult circumstances to care for people not only with COVID-19, but for others with other healthcare needs.

Despite their best efforts to protect people, tragically, many of those they cared for died, and some staff also had to deal with the loss of colleagues.

What is Patient Flow?

Patient flow is the movement of patients through a healthcare system. It involves the clinical care, physical resources, and the internal processes and systems needed to move patients from the point of admission to the point of discharge.

Within its *Programme for Government 2021-2026*[33], Welsh Government committed to the provision of urgent and emergency care services in the right place, first time. It developed the *Six Goals for Urgent and Emergency Care*[34], which supports the health and social care system in the delivery of the programme for government commitments.

Improvement Cymru[35] is the improvement service for NHS Wales. Its aim is to support the establishment of the best quality health and care system for Wales, so that everyone has access to safe, effective, and efficient care in the right place and at the right time. During our onsite fieldwork, we found that Improvement Cymru was undertaking a pilot in three hospital sites and was supporting teams to improve their patient flow systems. Together with the health boards, they implemented a Real Time Demand Capacity (RTDC) methodology to focus on the process, using improvement methodology. This will be highlighted further, later in the report.

Managing people through the stroke pathway

In 2021, Welsh Government published its 5-year plan[36] to improve the quality of stroke services and outcomes. The new quality statement for stroke, sets out the future vision for stroke services in Wales and was developed with Wales' Stroke Implementation Group.

The Stroke Implementation Group provides guidance to the government and advice to key stakeholders and is developing a delivery plan[37] which is overseen by the National Clinical Lead for stroke in Wales. The plan will outline how services must improve the quality of stroke care and reduce variations in care across Wales. The group will also be supporting health boards to develop a network of comprehensive regional stroke centres, supported by regional operational delivery networks that work across boundaries to improve care, from acute treatment to rehabilitation.

However, to successfully achieve the above, effectively managing patient flow is pivotal.

The Senedd Health and Social Care Committee, undertook an inquiry into hospital discharge and its impact on patient flow through hospitals.

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[33] Welsh Government Programme for government: update | GOV.WALES
[34] Welsh Government - Six Goals for Urgent and Emergency Care - A policy handbook 2021-2026
[35] Improvement Cymru website
[36] New plan for Stroke care announced for Wales | GOV.WALES
[37] This a Service Specification which is being developed by a sub-group of the Stroke Implementation Group, led by the Clinical Lead for Stroke in Wales and comprises clinical, third sector and academic partners

The report[38] was published in June 2022, and highlights several challenges facing the health and social care sectors. The inquiry identified the need to take radical steps to reform health and social care systems and made 22 recommendations for improvement to Welsh Government.

We found that several of the recommendations align with the improvements needed identified as part of our review. Our review highlights that whilst work is ongoing nationally to tackle patient flow, it is not clear how effective these work streams have been to date since the complex issues with patient flow remain unchanged.

How do health boards manage patient flow?

To manage the demand for beds across Welsh hospitals, designated teams within each health board hold regular meetings to address the issues with hospital admissions and discharges.

These meetings are held several times a day, 365 days a year. They are commonly referred to as patient flow, bed management or site management meetings. In addition to these, further regular meetings take place internally with members of the executive team such as the Chief Operating Officer, to consider the movement of patients across hospital sites within health boards. In addition, external meetings are held with other health boards and WAST. These consider the wider impact on flow across health board boundaries and the impact this may have on WAST providing services to people in the community. This will be highlighted later in the report.

For ease, throughout this report, we will refer to the meetings above as 'patient flow' meetings.

Patient flow meetings

During our fieldwork, we attended several patient flow meetings across Wales, and considered how effective they were in managing flow to provide timely, safe, and effective care to patients.

Patient flow meetings were held regularly, at least three times each day across the sites visited as part of our review. They were well attended by the key staff responsible for a patient's journey through hospital, such as patient flow managers, department managers, different MDT members, senior managers, and discharge co-ordinators. The meetings enable everyone to have a collective understanding and a joint ownership of patient risk and safety across the whole hospital site.

In some health boards, a Hospital Ambulance Liaison Officer (HALO) was also present during patient flow meetings, to discuss the ambulance handover delays and plans for longest wait patient handovers.

[38] Welsh Parliament Health and Social Care Committee, into hospital discharge and its impact on patient flow through hospitals

Actions and plans were also discussed on how to off-load certain patients into ED, to release an ambulance from the hospital. In the absence of a HALO, this input was provided by staff from ED.

Ambulance Immediate Release Protocol

To help manage the constant issue found across Wales with ambulance handover delays, in June 2022, WAST in conjunction with NHS Wales, developed its first draft of the *All-Wales Immediate Release Protocol*[39].

When a person calls 999, there is a triage process which is completed by a call handler who enters data into the Medical Priority Dispatch System (MPDS)[40]. The response provided by the caller and data entered in the MPDS, generates a WAST priority code to determine the clinical response required for the patient. The system prioritises the most urgent patients, who are categorised as Red, Amber (1 and 2), and Green. Details of call categories are highlighted on the WAST website[41].

The immediate release protocol outlines the principles and processes for managing the immediate release of ambulances when new calls are categorised as 'Red or Amber 1'. This aims to minimise safety risk for people awaiting an ambulance response in the communities. This is usually invoked when ambulance capacity is reduced, when the time for patient handover at EDs is prolonged. The handover standard is 15 minutes and is considered extended beyond 30 minutes.

Data provided by WAST for the period 1 July 2022 to 5 September 2022, reflects a high volume of Immediate Release Directions (IRDs) being made. The data reflects the pressures that EDs across Wales are experiencing, which results in patient handover delays and patients in the community experiencing long waits for an ambulance response. During this period, a total of 1,900 IRDs were made. Around 30% of these related to 'Red' priority calls and 70% for 'Amber 1'. Whilst a high percentage of IRDs relating to immediately life-threatening incidents were accepted, only 35.5% of the directions between April 2021 to June 2022, received this decision within the 8-minute response target for 'Red' calls. In addition, there remains a high percentage (62%) of declined directions for Amber 1 IRDs, despite the new protocol stating that they must not occur.

Recommendation 4:

Welsh Government, health boards and WAST must work collaboratively, to consider whether the Immediate Release Directions are effective or need improvements, given the high number of declined Immediate Release Directions occurring across Wales.

[39] NHS Wales Immediate Release Protocol
[40] MPDS is a unified system used to dispatch appropriate aid to medical emergencies including systematized caller interrogation and pre-arrival instructions.
[41] How WAST Responds to Emergency 999 Calls

Patient flow dashboard

Each acute hospital site had a patient flow dashboard (commonly known as the 'SitRep' (Situation Report)) displayed within the patient flow meeting rooms. It presents all key details for patient flow throughout the hospital, which was reviewed systematically and was referred to appropriately throughout the meetings. They were used to visualise the key areas requiring discussion, and to help plan timely management of all patients from ambulance handover, the ED and through to the wards (and operating theatres), to patient discharge.

During the patient flow meetings, we found the Chair would consider all aspects of flow systematically through the SitRep. This was from the ED ('the front door'), to discharge or transfer from hospital ('the back door'). In addition, consideration was given to the workforce requirements, such as staffing on the wards or in ED. The escalation status of the hospital was determined within the flow meetings, based on the availability of the beds available, ambulance waits, ED capacity and ability to admit people for key treatment or surgery.

Hospital escalation Status

To establish a hospital escalation status consistently across Wales, Welsh Government, health boards and WAST, jointly approved a National Emergency Pressures Escalation and De-escalation Action Plan[42]. The action plan defines the four main escalation status levels for health boards and WAST. These levels and the triggers are used to determine the appropriate response to escalating and de-escalating emergency pressures, and the actions necessary to protect core services. This is to help provide the best possible level of service with the resources available.

[42] National Emergency Pressures Escalation and De-escalation Action Plan

Levels of Escalation

The table below defines the four main escalation status levels for health boards and WAST.

Level 1 **Level 2** **Level 3**	**Steady State** **Moderate Pressure** **Severe Pressure**	Ensure all standard operating processes are functioning as efficiently as possible to maintain flow. Respond quickly to manage and resolve emerging pressures that have the potential to inhibit flow. Initiate contingencies. Escalate when applicable. Prioritise available capacity to meet immediate pressures. Put contingencies into action to bring pressures back within organisational control. De-escalate when applicable.
Level 4	**Extreme Pressure**	Ensure all contingencies are fully operational to recover the situation. Executive command and control of the situation. De-escalate when applicable.

Throughout our onsite fieldwork, almost all hospitals were at a level four escalation at some point during our visit, which represents extreme pressure on the hospital system overall.

Focus of flow across departments

Overall, we found that patient flow teams appeared to manage meetings well. We witnessed discussions about each ward systematically, which included bed capacity and staffing of each ward and specialty of patients within the ward beds. Concerns were highlighted and discussed appropriately during all meetings we attended, with effective communication regarding the challenges with flow through the hospital system.

Updates were given from each area which includes the following examples:

- Patient handover delays from ambulances including the longest wait and number of ambulances waiting outside ED, and plans for the handover
- Demands and risk within ED, including the number of patients awaiting admission to a ward bed
- Numbers of patients on each ward, such as medical, surgery, paediatric, critical care
- Situation on ringfenced beds, including stroke
- Department staffing and resources
- Infection prevention and control issues
- Number of patients requiring surgery that day
- Total number of patients awaiting discharge or repatriation
- Action required on patients awaiting discharge and repatriation.

Overall, we saw that patient flow teams had a good understanding of which patients needed beds or needed moves to other wards. In addition, they had knowledge of the patients requiring transfer or repatriation to other hospitals or community settings, and discussions took place on transport requirements. This included stroke patients who were deemed appropriate for transfer from acute settings to community rehabilitation wards. It is positive to note that 87% of stroke services staff who responded to our survey said, patient flow staff were involved with the stroke patient's journey throughout their care.

Patient outliers on different specialty wards

We found adequate oversight of patient specialty outliers in other service groups or hospital areas, such as medical patients being cared for in surgical beds and vice versa. Patient outliers was a consistent finding across Wales, due to pressure on the system and the high demand for beds. It was also an issue prior to our review and is frequently evident through HIWs annual inspection process.

It was clearly not always possible to move patients, which included stroke patients, to the most appropriate ward or specialty for their care and treatment due to bed availability. Whilst this is a common occurrence across Wales, it is concerning since patients are regularly being treated on a ward that would not usually care for that specialty. Whilst it was not always possible to place people on the correct ward, staff and flow teams risk assessed the most suitable patient to place to a different specialty ward. Effective management at patient flow meetings can help to ensure this happens effectively.

When considering the stroke pathway, some healthcare staff explained issues with demand and capacity in stroke services, as there were more acute stroke beds available than rehabilitation beds. Consequently, this can have a negative impact on patient flow through stroke services because patients were waiting in acute beds longer than necessary, before being moved to a rehabilitation ward.

We also found in some health boards, wards cared for both acute stroke patients and those in their rehabilitation stage on the same ward. Within one health board, we found patients were placed in an area of a ward which was previously a rehabilitation gym. Whilst this enabled stroke care in the right ward, losing the gym area was impacting on the prompt rehabilitation of all patients. Like this finding, a staff member commented in our survey as below:

'Currently even with good MDT working and effective discharge planning, there is no step-down from acute to help flow. Patients that are no longer having active treatment then increases bed pressures in other areas of the hospital and often these patients still require input from a discharge planning point of view and reduce time spent with acute / rehab patients receiving active treatment. This then means there is increased pressures on staff and reduced available time to meet stroke guidelines and directly having a knock-on effect to patient progression and the time it takes to reach a safe level of discharge with increase length of stay and inhibits flow.'

Bed capacity pressure

We interviewed patient flow staff across Wales, who told us that pressures on the hospital patient flow system had been exacerbated by the pandemic, and the pressure continues to rise. We were told that 'winter pressures' have become an all-year-round issue, with hospitals finding it difficult to recover during the spring and summer months due to demands on the ED and ward beds.

During the winter period, many health conditions, including respiratory diseases such as asthma, can be caused or worsened by cold weather. Those issues along with higher incidences of so-called 'seasonal illnesses, such as flu and norovirus, can mean the NHS often faces much greater pressure during winter, due to demand on healthcare services. This not only impact on hospitals, but also within community services, such as GPs, community nursing teams and pharmacy services.

During our staff interviews, we found other reasons which can affect ED capacity, therefore impacting on patient flow. This includes:

- Difficulties in people accessing primary health care, such as GP appointments, means more people are self-presenting to EDs when they do not require emergency care
- An increased demand on ED services from people needing mental health support, as adequate community support is not available when needed.

Our interviews with patient flow staff, also found consistent problems with the timely discharge of patients. This was an issue across Wales, from both acute and rehabilitation wards, and was negatively impacting on patient flow and overcrowding in ED. This includes:

- Difficulties in admitting patients to a Ward from ED, due to a lack of available ward beds, as wards cannot discharge medically fit people due to social care capacity
- Insufficient capacity for patients who require rehabilitation or intermediate care after their acute phase.

Patient flow - discharge discussions

During the patient flow meetings, the number of patients medically fit for discharge were discussed in all hospitals we visited. Staff told us that on average, approximately one third of patients on a hospital site were fit for discharge.

However, they either had no social worker allocation, set plan or date for a social care package to commence at home, or there was a lack of beds available within nursing or residential homes, if they were unable to return to their previous residence.

We found in some but not all hospitals, that when a patient was likely to be discharged on a given day, an action plan would be developed and discussed at the patient flow meetings with a view to ensure the discharge is fulfilled as planned.

This may include completing timely blood tests, ensuring take home medication was prepared in advance of discharge, and hospital non-emergency patient transport was arranged in a timely manner.

These actions would sometimes be followed up at the next meeting and addressed in subsequent meetings if incomplete. We found examples where such actions were expedited effectively and saw progress had been made by the next meeting, or the patient had been discharged or placed within the hospital's discharge lounge awaiting transport. However, there were some occasions when actions had not been delegated appropriately, which impacted on the timely discharge process.

Recommendation 5:

Health boards must communicate with each other to establish the good practices taking place in some hospitals for the robust management of patient flow. This includes the implementation of effective action plans to manage daily discharges, which remain active throughout the day, and in planning for subsequent days.

Further details relating to the challenges faced for effective discharge of patients, are highlighted later in the report.

Improving flow with Improvement Cymru

As highlighted earlier, during our onsite fieldwork we noted that an Improvement Cymru team was undertaking a pilot to support three acute hospital sites to help manage their patient flow. This was done using a Real Time Demand Capacity (RTDC) methodology. We engaged with the Improvement Cymru team, to gain an understanding of their work and any progress made since the onset of the pilot.

The goal of the RTDC tool is to improve patient flow processes by developing a situational awareness amongst staff teams within hospitals. This is to ensure staff fully understand the demand and capacity, and to establish an appropriate awareness and understanding of the bottlenecks and constraints impacting on flow. This would help structure the planning process to improve flow and to pre-empt or predict demand and capacity, and to manage flow more effectively.

The RTDC methodology focuses on discharge and improving flow in small increments, particularly in the earlier part of the day. Whilst this does not assist with the existing flow issues which relate to social care challenges impacting on discharge, it supports patient flow daily, by preparing patients for earlier discharge times on the proposed discharge date. This can result in earlier availability of ward beds, which allows for a timelier transfer of patients from ED to the wards or minimise delays with theatre list start times. This in turn, impacts positively on the timeliness of patient handovers from ambulances to ED, hence releasing ambulance crews to attend emergency calls within the community, or to repatriate or transfer patients home from hospital when applicable.

The Improvement Cymru team highlighted to us some themes found which contribute to delays in patient discharge. This included transport delays and the timely management of take-home medication. They found that often, take-home medication was not being prescribed and sent to pharmacy until the same morning that the patient is due to be discharged, which adds to unnecessary delays. This is consistent with our findings in our review of *Patient Discharge from Hospital to General Practice*[43].

During the first week of the RTDC project at one hospital, the Improvement Cymru team found significant delays in the undertaking of blood tests and obtaining the results for these in a timely manner. An immediate action to improve this was for the health board to allocate ten priority slots with phlebotomy services to ensure patient blood tests were completed early in a timely manner, for those being discharged that day. This had a positive impact on preventing some delays with discharge.

Recommendation 6:

Health boards must review and consider processes for prescribing take home medication so that these can be obtained from pharmacy more promptly in order to minimise discharge delays. This should include planning well in advance of the scheduled time for discharge (such as the day before).

Recommendation 7:

Health boards should consider the benefits of dedicated discharge phlebotomy slots for managing the necessary blood tests, to assist with effective and timely discharge.

We spoke with several staff from the three pilot sites about their engagement with the Improvement Cymru team. This was to establish what impact the RTDC methodology was having on their patient flow processes. One person said that one of the challenges they identified was the Ward Manager engagement with the RTDC process, and for them to understand how this would benefit their ward flow.

We were told by several patient flow managers that the flow processes currently in place in their hospitals had remained the same for many years, and to help change the process was a significant challenge. This would require strong leadership at both department and flow team level. The flow teams told us that to support the process, templates were developed to capture key information, and they would attend the wards in person to engage with ward managers, to support them in identifying solutions themselves, to help resolve delays in flow issues at a local level.

[43] HIW - Patient Discharge from Hospital to General Practice: Thematic Report 2017-2018.

It was also explained to us that the RTDC methodology allows all departments across hospital sites to take ownership of the safety and risk associated with patient flow, and staff are now more engaged to share resources to help mitigate and balance the risk and safety of flow barriers across the whole hospital site.

As a result of the RTDC pilots, we also observed some positive processes implemented for improving flow discussions and the overall management of beds, which included analysis of bottlenecks and challenges with patient discharge. We heard from staff in one hospital that work was in progress to analyse data of the key flow issues. This was to support predicted planning arrangements to improve the overall flow processes. An example of this includes data analysis of ambulance attendances at the ED, both daily and weekly, to understand and predict potential patterns for demand on the service with the aim to help reduce capacity issues.

We found some disparities across Wales with directorate clinical oversight of patient flow at more senior levels, such as Senior Nurses or Lead Nurses. In some hospitals, senior nurses would be placed on a daily directorate rota for effective senior clinical oversight of patient flow for their directorate, such as one for medicine and one for surgery. They would attend the daily flow meetings, and visit the relevant wards across their directorate frequently, to ensure staff teams were making timely progress to discharge patients, consult with senior nurses from other directorates (rostered to manage flow), challenge medical staff to undertake key tasks where necessary, and help expedite any outstanding patient needs. They would also establish a plan for proposed discharges for the following or subsequent days. However, in some hospitals there was no daily senior nurse/ clinical oversight. We found that where a senior nurse oversight for flow was part of the daily process, the daily ward discharge process and planning for subsequent days was more effective. Any actions and discharges appeared to progress timelier, than hospitals without clinical flow oversight.

Recommendation 8:

Health boards must consider the benefits of Improvement Cymru s Real Time Demand Capacity methodology, and whether this would have a positive impact to implement (or to pilot) within all hospitals to help manage timely patient flow.

Recommendation 9:

Health boards should reflect on their patient flow processes and consider whether improvements can be made with predictive methodology for demand in each of their hospital sites, such as with medical and surgical admissions.

Recommendation 10:

Health boards should consider whether a daily senior nursing/ clinical oversight for each directorate could be implemented to facilitate clinical issues with flow. This may help ensure staff are making timely progress to discharge patients, challenge medical staff to undertake key tasks where necessary, and help expedite any outstanding clinical patient needs. This could also support early planning for patient discharge.

Non-emergency clinical care in the community

To help understand how people can access the most appropriate clinical support, if they have urgent, but not emergency healthcare needs, we considered what supportive measures were in place within the community.

Reducing the burden on GPs and EDs

Signposting people to other resources can help improve patient flow by reducing the burden and pressure on GPs or local EDs. Using other community services where appropriate, may reduce the overcrowding that occurs in EDs, and ensure people are getting the right care, in the right place, first time.

Welsh Government is currently promoting the '*Help Us to Help You*' campaign. This highlights to people that better health starts with them, and educates people on how to access relevant advice, support, or care for their health concern, with any new or existing condition.

The campaign and information on the *'Better Health Starts with You'* webpage[44], highlights the many ways to access healthcare in Wales. This includes using pharmacies, Minor Injury Units (MIUs) and mental health helplines, or using other online NHS consultations, to reduce the need for people to attend their GP surgery, or attending ED when their health concern is not an emergency.

Key messages relating to this campaign include advice on using the *NHS 111 Wales service*[45], which starts as a symptom checker and advises people of what steps to take prior to attending the GP or ED. There is also guidance available on accessing other local services and MIUs, and signposts support for mental health needs. We were told by Welsh Government that the reach and impact of this campaign is being measured at regular intervals; however, no data was provided to us to support this.

WAST also launched its campaign around awareness for the NHS 111 Wales service on their website[46]. It supports the *Help us to Help You* campaign by highlighting the 111-symptom checker. If a person feels their health concern is urgent, they can call 111 and speak with highly trained call handlers who will provide advice over the telephone and can arrange a call back from a clinician if needed. Using NHS 111 Wales first, can reduce pressure on the emergency 999 service and EDs.

The NHS 111 Wales service has now implemented further support for people needing help with their mental health, where they call the usual 111 number and press OPTION 2[47]. The service is available for everyone, 24 hours a day, 7 days a week to ensure those in need of mental health support can access it quickly when they need it most. The number is free to call from a landline or mobile, even to those with no credit on their phone.

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[44] Better Health Starts with You
[45] NHS 111 Wales
[46] NHS 111 Wales: Healthcare advice you can trust - Welsh Ambulance Services NHS Trust
[47] Get Mental Health Support From NHS 111 Wales

When considering the *Help Us to Help You* measures in place across Wales, we explored whether it was having a positive impact on WAST and its ability to manage emergency calls in a more timely and effective way. We interviewed a senior manager within WAST who informed us that despite the promotion of the NHS 111 campaigns in Wales, the Trust continues to have multiple 999 calls for non-life-threatening emergencies. We were also told that the winter of 2022/2023 had been particularly challenging for the service, with a high number of calls, and particularly from patients with respiratory issues. WAST regularly manages the data relating to calls and categories of need.

A key area requiring improvement is for healthcare services to engage with people to better understand the barriers to them accessing, or choosing, from the range of healthcare services available in Wales. Once the barriers are understood, this should in turn be used to influence service design. Ongoing engagement with people about the range of available services may reduce the need for people to attend their GP surgery or attend an Emergency Department (ED) when their health concern is not an emergency.

Recommendation 11:

Welsh Government should consider strengthening its promotion of the *Help Us to Help You* campaign, to ensure people are appropriately educated and understand how to access healthcare in the right place, first time, by guiding them towards the most appropriate care service.

Recommendation 12:

Health boards and WAST should engage with people to better understand the barriers to them accessing, or choosing, from the range of healthcare services available in Wales. Once the barriers are understood, this in turn, could be used to influence service design.

Impact of flow on WAST

WAST patient pathway

We considered the stroke patient's journey through WAST services as the primary frontline service for emergency transport into hospitals across Wales.

In 2015, WAST introduced a framework which replaced the time-based targets for measuring response times of ambulances. The framework is a five step Ambulance Care Pathway, which focuses on the patient journey and is more aligned to the patient outcomes and experiences.

Using the Ambulance Care Pathway framework, we sought to understand how a potential stroke patient is managed from the time of calling 999 for an ambulance, the outcomes they might expect, and the impact of poor flow on WAST's ability to respond to emergency calls.

These include:

Help me to choose

We have already discussed the benefits of people in choosing the most appropriate service for their health concern through NHS 111 Wales. This is to help prevent the need to use the resource of the GP or attend ED. However, when a stroke patient feels it necessary to call 999 for an ambulance, the data available from Stats Wales[48] shows on average, around 1400 stroke related calls can be received by WAST each month.

Answer my call

As highlighted earlier, when a person calls 999, a call handler completes a triage process and enters data into the MPDS. This allows the MPDS to generate a priority code to determine the clinical response required for the patient, as either Red, Amber, or Green.

If a caller is suggesting symptoms of a stroke, the MPDS will prompt the call handler to undertake the 'Act FAST' test. If the patient is conscious and breathing with positive stroke symptoms, and the onset of symptoms are known to be less than five hours, the call is prioritised as 'Amber 1'. If the symptom onset time is over five hours, the call will be prioritised as an 'Amber 2'. This is because the time to treat a clot in the brain must commence within four hours of known onset of symptoms, and to be considered for thrombectomy for symptoms in less than six hours.

Results from our staff survey reflected seven views on call categorisation, and a feeling that stroke callers should be categorised as 'Red' and not 'Amber', if they are to meet the therapeutic timescales for treatment. This is to help ensure a better patient outcome. One comment included:

'From a WAST perspective, strokes are categorised as an Amber 2, when they should be a red, as the quicker we can attend and recognise, the sooner we can get them to hospital'.

In HIWs previous review of WAST[49], the findings recommended that work was required to consider stroke patients as an emergency who need a 'Red' response. This is due to the time critical nature for treatment. WAST, as a commissioned service cannot make this decision to change alone; it is dependent on guidance from NHS Wales, commissioners, and Welsh Government. Discussions and votes at Senedd Cymru on 26 October 2022[50],[51] , confirmed that stroke patients will remain within the 'Amber' category.

[48] StatsWales is the Welsh Government's free-to-use online repository for detailed statistical data for Wales.
[49] Local Review of the Patient Management Arrangements within the Welsh Ambulance Service Trust
[50] Y Senedd - Votes and Proceedings Plenary - 26 October 2022
[51] Y Senedd TV - Plenary 26 October 2022

When a patient is waiting for an ambulance, there is a process in place to monitor a patient's clinical status if necessary. If a call handler has concerns for a patient's well-being, they would 'flag' the call on the MPDS to notify the WAST clinical team that a telephone review is required. Whilst this process is in place, it was concerning to find that over the Christmas period in 2022, there were occasions when over 200 callers awaiting a WAST vehicle response, who needed clinical team's intervention.

Come to see me

The ability of WAST to send a response to a caller is dependent on the resources available at the time. This is often impacted by the number of ambulances waiting outside EDs to handover their patients. We found this was a consistent issue across Wales because of poor flow within hospital sites. WAST call handlers or the clinical team are usually aware of prolonged waits for an ambulance to attend callers in the community. Therefore, guidance with a script is available which staff use to recommend the caller makes their own way to hospital, if it is safe to do so, as opposed to losing time whilst waiting for an ambulance to arrive.

Give me treatment

When WAST staff attend a patient suffering with a stroke, they will undertake a further assessment at the scene, which follows the *Joint Royal Colleges Ambulance Liaison Committee (JRCALC) Clinical Practice Guidelines*[52]. The guidelines identify stroke as a 'time critical' medical emergency and references the time dependency for thrombolysis (clot dissolving treatment). The guidance also states that patients must be transferred to an appropriate hospital as quickly as possible, to commence treatment once the stroke diagnosis is suspected.

Take me to hospital

There are arrangements in place for ambulance crews across Wales to provide pre-alert calls to ED. WAST has guidance in place for clinicians to follow when a stroke has been confirmed during assessment. We were informed that it is the decision of the clinician at the scene of the incident to determine which is the most appropriate hospital to transport a patient, according to their condition (including stroke). On occasion, this may be a hospital across the border, such as for patients living within Powys.

We considered how patients in rural areas would access timely treatment for stroke. We were told that there are challenges with this, and during our fieldwork, we found that work was ongoing in some areas of North Wales and Powys to try to improve transfer arrangements. WAST has been working with healthcare services across the border in England to ensure that arrangements are in place to review and treat stroke patients promptly when required.

Within our staff survey, it was positive to find a good response from WAST staff who felt well equipped to undertake their role with managing a stroke patient.

[52] JRCALC Clinical Practice Guidelines - aace.org.uk

Almost 85% of staff told us in the survey they had received training to support and manage stroke patients, however, only 77% of respondents said they understood the WAST stroke pathway. In addition, we found that only 49% of WAST respondents said they always allocate or take a stroke patient to a specialist stroke unit.

We recognise the challenges faced by WAST in its ability to deliver a timely response to life-threatening emergencies. This is due to increased pressures on the healthcare system overall, with prolonged ambulance handover delays to EDs all over Wales. It is, however, a concern that patients in the community have prolonged waits for ambulance resource, which places them at increased risk of deterioration and harm. This was also found in our two previous WAST reviews.

The impact of this is significant for stroke patients, due to the time critical nature of the investigations and treatment which are required to manage a stroke patient. Any delays to treatment will likely have life-long consequences for people.

We were told of a pilot project which is due to take place within one health board to evaluate a Pre-hospital Video Triage (PVT), which has been successful in several Trusts in England. A structured pre-hospital assessment will take place with WAST and the health board's stroke team while the patient is at home. If it is assessed that the patient is likely to have had a stroke, they will be immediately transferred to hospital and taken directly for a CT scan on arrival, bypassing the ED. In addition, when there is a pre-alert call from WAST to the ED, patients will be pre-registered within the department, which will reduce delays to thrombolysis and thrombectomy. This pilot is due to commence in August 2023.

Recommendation 13:

WAST must ensure that all relevant staff are fully aware of the WAST stroke pathway to minimise risks to patient safety.

WAST initiatives to manage patients in the community instead of hospital

During our WAST interviews, we found that the Trust is exploring a new process with the aim of reducing the number of ambulances being sent to patients by 50%. This, however, will require increased establishments of staff within the clinical desk, advanced paramedic practitioner teams, ambulance paramedics, nurses, midwives, and mental health practitioners.

The response to calls via the clinical desks will be a Multidisciplinary Team (MDT) approach, which will determine how best to respond to patients instead of inappropriately sending an ambulance. The proposed timescales to fully implement this model is three years which will need additional Welsh Government funding.

However, we were informed that funding had not yet been approved for this.

Evidence has been collated which reflects the benefits of having people treated at home via advanced paramedic practitioners.

We were provided with data which outlines the number of patients who have been managed at home or referred to other services, as well as those who are taken to hospital. It reflects that on the occasions where advanced paramedic practitioners have been sent to see patients, as opposed to ambulance paramedics, in the region of 65-70% have been treated at home without the need to go to hospital. Advanced Paramedic Practitioners can administer a greater range of medication than an ambulance paramedic, which means that more patients can be treated at home, and can be referred to ongoing services, such as their GP practice, physiotherapy services, or healthcare clinics, such as for TIA where appropriate.

We were told that the service will need to develop and implement different types of resource to operate, such as an increased number of Advanced Paramedic Practitioners. To implement this type of service, staff need to be supported to develop their skills and knowledge, to enable them to work in these roles.

Early implementation of the new WAST model should have a positive impact on the pressures on our hospital system across Wales by reducing the number of patients being transported to EDs by ambulance. A reduction in the first bottleneck of patient flow at 'the front door' of Welsh hospitals, could lead to a reduction in pressure across the whole hospital system and an improvement in patient flow.

Recommendation 14:

Welsh Government should consider how it can support WAST to develop and implement improvements with its service delivery model, such as increasing the number of advanced paramedic practitioners across Wales, to help reduce the pressure on EDs and improve flow through healthcare systems.

Patient transfer to hospital

We explored the ways in which a patient can arrive at the ED seeking treatment, and this is highlighted below.

Patient arrival at ED

Patients can arrive at EDs in several ways, such as by ambulance, by GP or clinicians through the 111 service, or by referral from other healthcare practitioners, such as district nurses, or by people self-presenting. In our interviews with ED staff across Wales, we were told that people frequently attend ED who do not require emergency care.

There are many occasions where ED staff could redirect patients to alternative care pathways following initial clinical assessment, which would lessen the burden on ED, but also reduce waiting times at ED. The examples provided to us highlighted that people are often turned away from ED to use the services of their MIU, GP, community services, dentistry, and paediatric assessment units. However, some staff said that at times, there is a reluctance by ED staff to re-direct patients elsewhere and away from EDs, as they are risk averse and are not always confident to do so.

Stroke pre-alert calls

The stroke pre-alert call is used to notify ED staff of inbound patients that require immediate attention and is a key component in the stroke care pathway. The call enables the receiving hospital to have the specialist staff available upon the patient's arrival and aims to improve the timeliness of the treatment a patient receives.

We were informed by WAST that they have developed, in partnership with the relevant stroke units across Wales, a standardised pathway to enable the conveyance of a patient to the appropriate hospital first time. The WAST clinician, upon suspecting a diagnosis of stroke, will pre-alert the ED of a hospital with a stroke unit capable of undertaking a scan, and when appropriate undertake thrombolysis treatment.

WAST staff told us that despite the effectiveness of the pre-alert call, issues can arise when hospital services are under extreme pressures due to poor patient flow. This can result in patients being assessed on the ambulance, then receiving their initial investigations and brain scan, and then returned to the ambulance due to pressures on ED services. This was supported by results from our WAST staff survey, which confirmed that a stroke patient is normally pre-alerted to the hospital, but often EDs are full and are unable to accept patients into the department.

During our onsite fieldwork, we found that some patients who were pre alerted or not, still showed signs of being FAST positive on arrival to ED. Some ambulance crew had documented on arrival at ED, that these patients were then a query Transient ischaemic attack (TIA)[53] as opposed to stroke, however, not all symptoms had resolved.

To support the stroke assessment process, NICE guidance for stroke, states that the diagnosis of people admitted to ED with a suspected stroke or TIA, should be established rapidly, by using a validated tool, such as ROSIER (Recognition of Stroke in the Emergency Room). The aim of the ROSIER assessment tool is to enable medical and nursing staff to differentiate patients with stroke and stroke mimics, such as TIA.

Since the use of ROSIER is a recommended tool within NICE guidelines to differentiate Stroke from TIAs, it may be beneficial for WAST to train its paramedic staff in the use of the ROSIER assessment tool, alongside the FAST assessment.

The ROSIER assessment tool is discussed later in the report.

[53] A TIA is a warning sign that you're at increased risk of having a full stroke in the near future. See: Transient ischaemic attack (TIA) - Treatment - NHS (www.nhs.uk)

Recommendation 15:

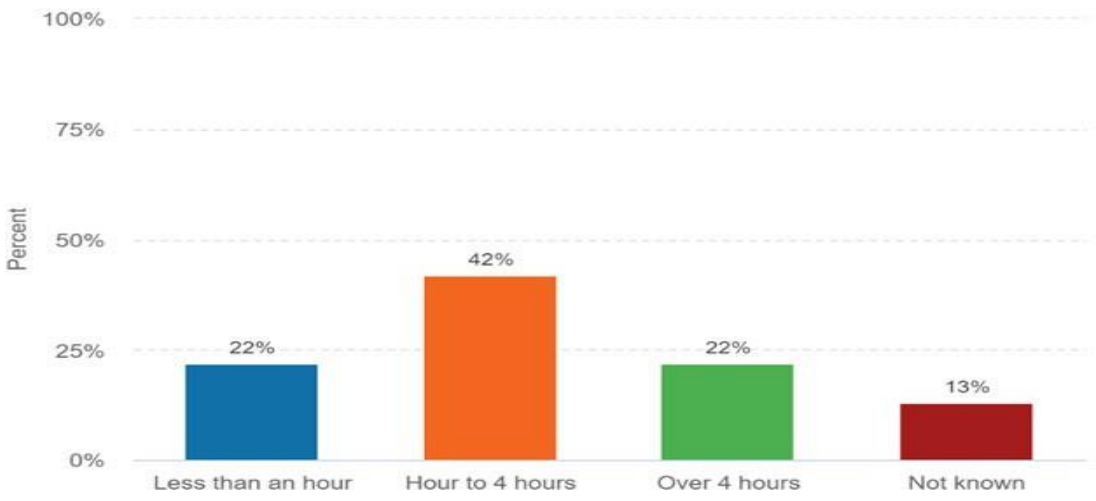
WAST should consider the benefits of training its paramedic staff in the use of the ROSIER stroke assessment tool, to enable staff to differentiate patients with stroke and stroke mimics, such as TIA.

It is positive to note that 94% of ED staff who responded to our survey said they were informed by a pre-alert call from ambulance services if it was a FAST positive patient. This was also supported by our interviews with ED and stroke services staff across Wales.

As highlighted above, we established that stroke patients arrive at EDs in different ways, such as by ambulance, GP referral, or patients who self-present at EDs.

Therefore, there is a risk to some patients of missing their therapeutic window for thrombolysis treatment if there are delays in transfer or receiving timely assessments.

We asked people in our survey how long before arriving at hospital did their stroke symptoms start. The chart below highlights the times reported to us:



The above chart reflects that 64% of patients arrived at hospital within the time critical thrombolysis window.

People self-presenting at hospital

We were told by some patients and staff that due to the timely availability of an ambulance, some people self-present to ED. We were told that this can present risks to a patient if they did not clearly raise their stroke symptoms to the receptionist on arrival to ED, which consequently may impact on their triage and assessment time.

In addition, if a patient self-presents at a hospital that does not treat stroke patients, such as a MIU instead of ED, this may also present a risk for timely treatment.

This is because they may need to be transferred to a hospital that can appropriately scan and treat patients with a stroke. This in turn, may delay the time they have in the therapeutic treatment window of four and a half hours.

We considered the training provided to reception staff to help identify red flag symptoms[54] of stroke, and to prioritise and escalate triage for patients if symptoms are present. We found that in general, most (but not all) reception staff had received training for this. Despite being non-clinical, they still have a vital role to play in the potential identification of stroke patients.

Recommendation 16:

Health boards should seek assurance that their MIUs and ED departments ensure all reception staff have received up to date Act FAST training, and they are competent with this. In addition, that appropriate escalation processes are in place if a receptionist is or is not sure a patient may be suffering with a stroke.

Impact of delayed ambulance handovers for stroke patients

We considered whether ambulance handover delays were having a negative impact on patients along the stroke pathway. In our staff survey, most ED staff said they were familiar with the hospital's handover policy to stroke services, and that the policy was easy to follow and was achievable. Whilst this finding is positive, delays in the ability of ambulance crews to hand over patients to ED staff are frequent and common.

Throughout our onsite fieldwork, we saw ambulances waiting outside EDs across Wales, waiting to handover and offload patients to the departments. Despite this, it was positive to find that patients suspected of having a stroke (and others with life threatening conditions), were prioritised and transferred into the ED promptly in line with the stroke pathway.

Timely assessment and treatment in ED for stroke patients

We observed stroke patients being assessed, investigations were undertaken, and treatment was commenced in a timely manner. We saw staff consider the risks and appropriately mobilise other lower acuity patients throughout the department, to accommodate those confirmed as stroke positive. This was to ensure timely assessment and treatment promptly.

Through our discussions with ED staff, we were told that in the event of no trolley space being available in ED to offload a stroke patient, assessment would take place onboard the ambulance if the appropriate ED staff suspected stroke.

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[54] Red flag symptoms of stroke may include complete paralysis of 1 side of the body, sudden loss or blurring of vision, being or feeling sick, dizziness, confusion, difficulty understanding what others are saying, problems with balance and co-ordination, difficulty swallowing (dysphagia), a sudden and very severe headache resulting in a blinding pain unlike anything experienced before, loss of consciousness.

We were told that whilst stroke patients would always be prioritised for transfer into the departments, there are occasions when this was not possible. In such instances, staff explained that investigations, such as blood tests and a CT scan would still be undertaken, although the patient may return to the ambulance until a decision on commencing treatment is made. This was to help maintain a timely response to the patient's needs. In response to our staff survey, one person said:

'At some hospitals there may be delays with handover, but assessment, and interventions are completed despite trolley or bed availability.'

In contrast to this, it was concerning to find that most respondents to our WAST survey said that ambulance offload delays are negatively impacting stroke patients. Several comments were received which included concerns with delayed response to those waiting in the community, timely offloading of patients to ED, and delayed patient assessment due to the bottlenecks within ED. One comment included:

'There doesn't appear to be any urgency when we pre alert a still FAST+ patient into ED. Or we are asked to take patient back onto vehicle. Not really appropriate when symptoms of a stroke have a good chance of being reversed if treatment is given promptly'.

The findings in our clinical records review were overall positive. Most FAST positive patients were taken into ED within the 15-minute Welsh Government handover target time. However, we did find instances of delays in handover and no investigations had been instigated by ED staff. This is a concern, particularly when stroke treatment is time critical, and delays may have life-long consequences.

Recommendation 17:

WAST and all health boards must work collaboratively to identify a consistent approach to ensure handover of stroke patients is made within the Welsh Government 15 minute target. This is to ensure that time critical investigations and treatment are undertaken promptly.

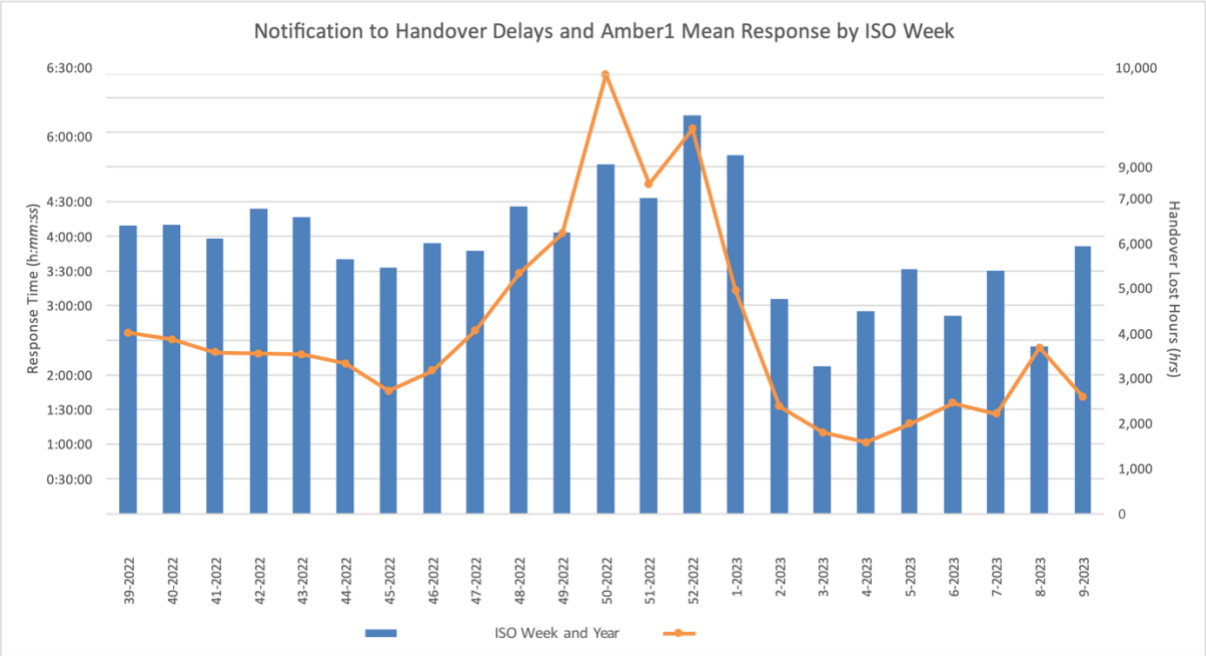
During our staff interviews, we were consistently told about the unprecedented increase in emergency care demand, impacting further on the ability to offload and handover patients from ambulances. Handover delays have been a challenge for WAST for a prolonged period, because of poor flow in hospitals. This has led to the service to re-evaluate its service delivery model, to help improve services, as highlighted earlier in the report, relating to the use of advanced paramedics in the community.

In our report, *Review of Patient Safety, Privacy, Dignity and Experience whilst Waiting in Ambulances during Delayed Handover*, it is highlighted that in December 2020, 11,542 hours of ambulance crew resource was lost due to delays experienced with hospital handover.

We also found the data for this in September 2022 was significantly worse, with around 25,166 lost hours due to handover delays.

This increase is concerning and is attributed to poor patient flow. The flow is impacted further by the ability of hospitals to discharge patients in a timely manner, because of the delays with social worker allocation, availability of social care packages or placements available in care homes.

Data provided by WAST in the chart below, highlights a clear correlation between lost hours due to handover delays, and the Amber 1 response times over a six-month period.



The chart reflects that in week 52 of 2022, 8,835 hours were lost due to handover delays, and the mean time of an Amber 1 category call response (which includes most stroke calls), for that week was 5.33 hours. Given the time critical nature of potential treatment for stroke patients, the delays in the ability of WAST resources to attend patients in the community is of particular concern.

We are aware of the ongoing work nationally to improve handover delays; however, despite this, our review has found that the challenges remain. To address these issues, is not something WAST or a health board can do alone, and collaborative work is required between Welsh Government and key stakeholders in health and social care systems, to analyse the issues in order to make improvements.

Recommendation 18:

Welsh Government should work collaboratively with WAST, health boards and social care providers to evaluate and strengthen the current processes in place to improve flow through health and care systems, with a concerted focus on the analysis of flow, the bottlenecks impeding flow and the issues with achieving timely discharge.

Impact of flow on stroke assessment and admission to hospital

Stroke pathways

We considered whether health boards had a clear process in place for managing patients in ED with a stroke in line with NICE guidance. Overall, we found there are clear stroke pathways in place across Wales which focus on timely assessment, investigation, and ongoing treatment. All health boards follow a similar but not identical pathway when stroke patients are admitted through ED. In general, the pathways include assessment, diagnosis, and treatment for thrombotic or haemorrhagic stroke, and for those where treatment is not a viable option, due to the extent of their stroke.

Timely assessment on arrival at hospital

We highlighted earlier that the incidences of people self-presenting at EDs with a suspected stroke is increasing. This is due to delays with the availability of ambulance resources in the community. This can prove challenging, since EDs are not pre-alerted to the arrival people self-presenting, which may present a risk in the timely assessment or diagnosis of stroke for some people.

During our onsite fieldwork, we found the challenges with the demand on ED, impacted by poor hospital flow, meant that some patients waited longer than expected for triage and ongoing assessment or treatment. Whilst this may not have impacted on FAST positive stroke patients, such delays may pose a risk to self-presenting patients who do not display easily identifiable stroke symptoms.

Stroke team assessment

When FAST positive patients are pre-alerted and arrive at hospital (and within the thrombolysis or thrombectomy treatment window), the relevant stroke team is alerted by an emergency stroke bleep of the imminent arrival of a patient. We found that all acute sites who provide stroke services have the stroke bleep system in place.

We considered the effectiveness of the relevant team response to the emergency stroke bleep. Our staff interviews found that the response to the bleep varied across Wales, according to the time and day, and who is on-call to respond.

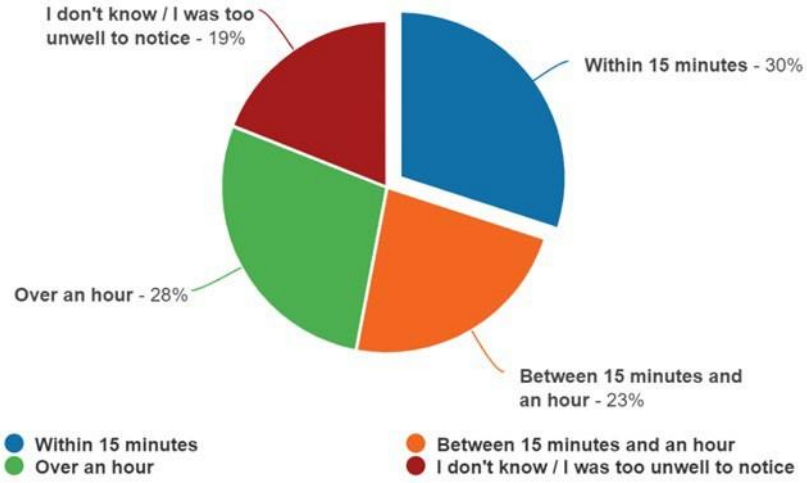
Through the health board self-assessment responses and our interviews with staff, we found that when there is a Clinical Nurse Specialist (CNS) or Advanced Nurse Practitioner (ANP) for stroke available in acute sites across Wales, and their response is generally rapid. They will also facilitate prompt investigations and diagnosis, and the required treatment and plans for patients within the stroke pathway.

We found that during out of hours periods (such as nights or weekends), or in the absence of a Stroke CNS, ED staff and medical teams are alerted by the stroke bleep and arrange investigations and treatment for stroke patients. The medical team responders would also have access to an on-call stroke consultant.

We considered the process for those who self-present at hospital, and we found that the process was the same.

Through our clinical records review, we found positive responses from a designated on-site stroke team for attending ED. However, the timeliness of the bleep response was not always adequate. Some clinical records highlighted that triage and assessments were not always conducted in a timely manner, which may negatively impact on the ability to promptly assess and treat patients. Whilst we could not always identify the reason for this inconsistency, often the medical teams were dealing with other in-hospital medical urgencies and emergencies on the wards.

We asked patients in our public survey how soon they were reviewed by a nurse or doctor following arrival at hospital. It was disappointing to find that over half the patients were not seen within 15 minutes, and 28% of those waited over one hour for assessment. However, it is important to note that for patients who completed the survey, their concept of time during their acute stroke episode may not have been a true reflection of their episode. Our survey findings are highlighted in the chart below:



Within our staff survey, we also found that just 28% of ED staff felt patients were assessed within 15 minutes, 60% said sometimes, and 12% said patients are not assessed in a timely manner. This again is a concern due to the time critical window for stroke patients receiving treatment.

Recommendation 19:

Health boards must ensure that ED staff undertake the triage of patients within the 15 minute target time. Where this has not been possible, it should be clearly documented why not' within the patient's clinical record.

Recommendation 20:

Health boards must ensure that medical staff who carry the bleep for stroke alerts recognise the urgency of both thrombolysis and non thrombolysis stroke calls. A patient may still be symptomatic whilst out of the thrombolysis window but may still be within the thrombectomy time frame. This is particularly important if a tertiary referral centre is relatively close to the ED.

The CNS and ANP for stroke care

It is evident that prompt stroke care is essential for better patient outcomes, and the role of the CNS and ANP is beneficial in facilitating prompt progress through the stroke pathway.

We explored the CNS and ANP role further and found that it not only includes rapid assessment of patients for possible thrombolysis, but CNSs and ANPs also coordinate post-thrombolysis monitoring and acute stroke care. Their role was found to be significant in liaising between ED staff and acute stroke wards to facilitate prompt flow of stroke patients to an appropriate bed on a stroke ward, in line with national targets.

During our interviews, ED staff highlighted the benefits of the Stroke CNS and ANP to attend patients in ED. Staff reported that their presence assisted greatly in providing a prompt expert clinical opinion, and with ensuring stroke patients moved efficiently through the stroke pathway to the acute stroke ward. This also took pressure off the ED nurses and allowed them to focus on other patients requiring urgent clinical attention.

Across Wales, we interviewed staff within EDs and stroke services, and found consistently, that a key barrier to effective and timely stroke care, is the absence of a CNS or ANP for stroke service 24/7. Whilst medical teams have the appropriate knowledge and skills to manage stroke patients, there are occasions when their attendance at ED is delayed whilst they deal with other emergencies across the hospital. Such instances may negatively impact on stroke patients and their ability to be reviewed and treated in a timely manner.

Our interviews found that all hospitals aspire to have a 24/7 CNS for stroke services. However, we found inconsistencies across Wales in the provision of the CNS/ ANP service. The absence of a CNS/ ANP out of hours, such as nights and weekends, may impact negatively on patients due to the commitment of medical teams dealing with issues elsewhere across the hospital.

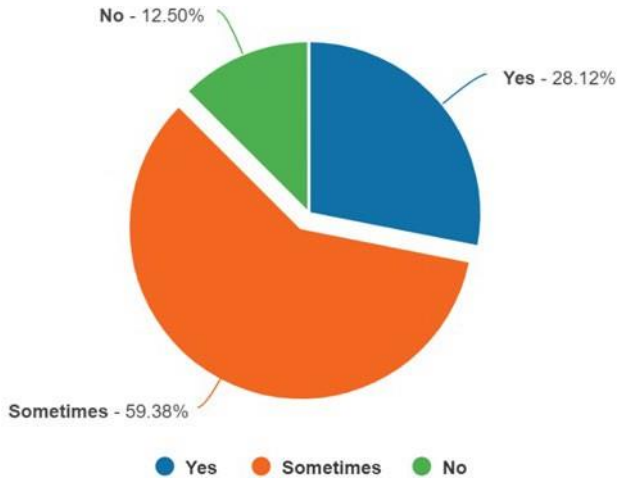
We found that issues with funding for the posts, or challenges in the recruitment for these key roles did not always enable a 24/7 service. Through our communication with the National Allied Health Professionals Lead for Stroke in Wales, it was highlighted that CNS or ANP for Stroke should be resourced to cover as much of the peak periods of stroke presentations to EDs as is possible, particularly during thrombectomy referral and the service availability time periods. It is therefore important that health boards regularly audit their stroke presentation and demand times on the service.

In the absence of a CNS/ ANP, we considered whether stroke patients were reviewed promptly by other stroke team members or medical teams. In our clinical records review, we found that most stroke patients arriving at EDs by ambulance were prioritised appropriately. We also saw evidence of patients who had self-presented at EDs receiving timely and appropriate assessments and investigations. However, we found that patients were not always assessed as promptly and did not progress through the stroke pathway as effectively, in the absence of a Stroke CNS.

Recommendation 21:

Health boards should review the provision of the CNS or ANP stroke specialist service at each acute site and consider how they can maximise their availability throughout the stroke service.

In our survey, we asked staff whether they could assess stroke patients in a timely manner. Their response is highlighted in the chart below:



It is concerning that only 28% said they were able to assess people in a timely manner, and whilst 12.5% said no, the majority (60%) said they sometimes could.

The reasons highlighted to us as barriers to achieving a timely assessment include:

- Staffing issues or staff capacity
- High volume of patients to assess

- Lack of space or trolley bays in ED
- Increase of patients self-presenting at hospital

In response to our staff survey, we received the following comment which highlights the risk with people self-presenting with a stroke:

'Accident and Emergency unit staff need to be trained to pinpoint stroke pathway. Sometimes when patients have been admitted to hospital, they are not able to access the stroke pathway as efficiently as a patient attending the hospital in an Ambulance, this issue needs to be addressed. If all staff received training, it would benefit patients.'

Recommendation 22:

Health boards should ensure that EDs track and monitor all patients arriving at hospital with a suspected stroke (by ambulance and self presenting), to drive improvement on assessment times, so people can commence on the stroke pathway in a timely manner.

Stroke assessment tools

As highlighted earlier, to support the stroke assessment process, NICE guidance for stroke states that the diagnosis of people admitted to ED with a suspected stroke or TIA, should be established rapidly, by using a validated tool, such as ROSIER. This will ensure the prompt diagnosis prior to scan of a potential stroke or TIA.

A key example of the benefits for using the ROSIER tool is; if the stroke call is put out by ED staff to alert the medical team of an imminent arrival, and a triage and ROSIER assessment is undertaken by the ED staff promptly, then a CT scan can be booked by the medical team and the patient can be taken directly to the scanner. This is to help ensure no time is lost in diagnosis, particularly when the ED is full, and ambulances are waiting outside to offload patients. Patients could then be moved directly into a space in ED to receive treatment, or placed back on board the ambulance if thrombolysis or thrombectomy is not indicated, to await the next available space in ED, if admission is needed.

The example above further questions if there is a need for WAST paramedics to be trained in ROSIER assessment as highlighted earlier in the report. This assessment could be undertaken at the scene in the community when a patient is displaying stroke symptoms, which may help with the timeliness of assessment, imaging, diagnosis, and treatment at the receiving hospital.

We found that stroke assessments and interventions were being undertaken by clinicians with appropriate expertise in neurological disability, and nursing and medical staff had the appropriate knowledge, skills, and experience to recognise and manage stroke patients. However, we considered whether an assessment tool, such as ROSIER tool was being used in EDs in all health boards.

Whilst the ROSIER tool was in use across Wales, during our fieldwork, this was not always consistent. Our clinical records review and our staff interviews found inconsistencies in the tools used across Wales. Overall, we found good examples of assessment and the use of appropriate tools, however, in some records we did not find evidence that a tool had been used to support diagnosis or treatment plan.

Recommendation 23:

Health boards must ensure that all relevant staff within EDs are trained and are competent to use the ROSIER assessment tool. In addition, that staff are consistently using a validated tool, such as ROSIER, to enable prompt differentiation with strokes or stroke mimics, such as TIA.

Recommendation 24:

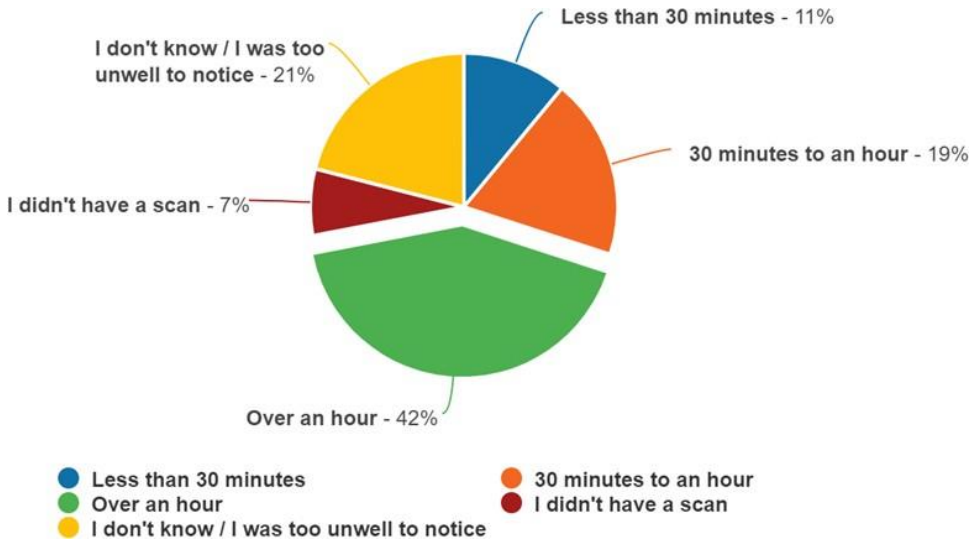
Health boards must ensure that ED staff fully and clearly complete the clinical diagnostic assessment tool for stroke.

Timely imaging

We considered whether patient flow issues through departments impact on timely brain scans. The NICE guidelines for stroke state that specific categories of suspected stroke need to receive a CT scan immediately. That is defined in the guidelines as, ideally the next slot and definitely within 1 hour of arrival at hospital, whichever is sooner. The CT scan will diagnose whether the stroke is due to a clot or a bleed on in the brain and will help determine the required treatment promptly.

In our public survey, we asked peoplehow long they waited before receiving a brain scan after they arrived at hospital. However, it is important to note that for patients who completed the survey, their concept of time during their acute stroke episode may not have been a true reflection of their episode.

Our survey findings are highlighted in the chart below:



On analysis of the survey results, it is concerning to find that 42% of patients felt that they waited over an hour for a scan after they arrived at hospital, which is beyond the recommendations within NICE guidance.

We explored this further through our interviews with staff. We found that staff endeavour to achieve a brain scan for a patient within an hour. We found good working relationships existed between ED and stroke or medical staff and the radiology teams, which supported timely imaging for stroke diagnosis. We also found that scans are reviewed and reported on promptly by relevant radiology staff. In some health board areas, an after-hours radiology service[55] is utilised to provide interpretations of scans and ensure specialist expertise and round-the-clock support. This means that scans are sent electronically to a radiologist to obtain a rapid report of the scan.

We found a positive initiative within one acute site, where the stroke pathway facilitates symptomatic FAST positive patients (identified by ambulance paramedics), by-passing the ED, and being transported directly to the CT scanning department. This is to help mitigate against any delays with handover at ED and enables prompt diagnosis and subsequent treatment as appropriate.

We were told that the advance imaging can be supported by Artificial Intelligence (AI) for stroke imaging. The all-Wales procurement of AI stroke imaging was completed in Dec 21, and it is now in the implementation phase. This will have a positive impact on the prompt identification of patients for thrombectomy and thrombolysis through stroke imaging. Therefore, patients can access the treatment they need in a timely manner.

[55] *Everlight Radiology provide immediate access to radiologists 24/7 and are often replied upon for out of hours service.*

Recommendation 25:

All health boards should consider the prompt implementation of Artificial Intelligence for stroke imaging following the completion of the all Wales procurement which was completed in December 2021.

As highlighted earlier, to support the diagnosis of stroke, consideration should be given to WAST paramedics training in the use of the ROSIER assessment tool for stroke patients. Health boards across Wales in conjunction with WAST, may wish to explore the benefits of direct admission by paramedic to CT scan for FAST positive stroke patients where appropriate.

Through our clinical records review, it was concerning to find that some patients were not consistently receiving a CT scan within the one-hour target. Whilst reasonable explanations were documented in the records for some patients, such as patients not presenting with typical stroke symptoms, other records provided no explanation for the delay.

We also considered SSNAP data of patients scanned within one hour of arrival at hospital. The data reviewed considered the period of April to June 2019, 2021 and 2022. Of the 12 acute sites who now deliver stroke services within Wales, the performance of nine sites dropped between 2019 and 2022 signifying that an increased number of patients waited more than one hour for a brain scan. As highlighted earlier in the report, consideration to the timing of the pandemic must be given when reviewing this data.

Recommendation 26:

Health boards must ensure that the reason for delayed brain imaging is monitored and analysed for possible stroke patients to ensure scans are completed in a timely manner in line with NICE guidance.

Swallow assessment

In line with NICE guidelines, patients with acute stroke should have their swallow screened by an appropriately trained healthcare professional, such as a speech and language therapist or other competently trained healthcare professional on admission or within four hours. If the screen shows signs of difficulty, the swallow should be assessed within 24-72 hours and before the person is given any oral food, fluid, or medication. We considered whether patients received a swallow screen and/or assessment within the timeframe, particularly in the event of a delay in them being transferred from ED to the stroke ward.

During our interviews with ED staff, we were told that rosters aim to ensure there are sufficient staff on duty to complete timely swallow screen and/or assessments within ED, however, this was not always possible due to high turnover of staff at some acute sites, and a high number of bank or agency staff on duty.

Staff in one health board told us that training had recently been completed for ED staff, to help further identify stroke patients and the importance of swallow assessments, which is in line with within the NICE guidance. They told us that this positive action had benefitted patients with timely assessments and demonstrated improvements in their SSNAP data.

Through our clinical records review, it was positive to find that in general, most patients had received a swallow assessment within the four-hour target as recommended by NICE. This included patients who remained in ED awaiting an inpatient bed, and for those who had been transferred to an acute stroke ward.

Impact of flow on prompt stroke treatment

Thrombolysis

People who are diagnosed with an ischaemic stroke and who are eligible for thrombolysis, should usually receive treatment within 4.5 hours of the known onset time of stroke symptoms. However, within the new *National Clinical Guideline for Stroke,* this treatment window has now been increased to nine hours in some instances, if there is specific evidence of the potential to salvage brain tissue through CT perfusion[56]. Therefore, in line with national guidance, treatment can be started between 4.5 and nine hours of known onset of symptoms, or within nine hours of the midpoint of sleep, when they have woken with symptoms[57].

We considered whether issues with flow prevented patients receiving thrombolysis treatment in a timely manner. Our clinical records review found that decision for thrombolysis was done on an individual patient basis, and is influenced by factors, such as pre-existing conditions and the timing of the onset of symptoms. We found the rationale for decisions were recorded in all relevant notes we reviewed, and treatment commenced in an appropriate time.

We found in some records that thrombolysis was not clinically appropriate, and the rationale for this was documented appropriately. However, it was concerning to find that some reasons for this included a delay in obtaining a CT scan, and delays in patients seeking medical assistance following onset of symptoms. Evidence in one of the records reviewed reflected that one patient who lived in a rural area had been significantly disadvantaged due to their travel time to hospital, which resulted in them missing the four-hour thrombolysis window.

We also considered which staff were trained in thrombolysis administration outside of the stroke or medical teams. Across Wales several appropriately trained ED nurses can administer thrombolysis where required, this therefore meant delays for thrombolysis treatment was minimised.

[56] *Perfusion CT is an X ray examination that looks at blood flow and the amount of blood within the brain.*
[57] National Clinical Guideline for Stroke for the United Kingdom and Ireland

When staff were asked whether they felt they have had appropriate training to undertake their role, the majority (72%), agreed they had. For those who disagreed, the following reasons were provided:

'I have had no additional stroke training since starting my role, I have learnt on the job.'

'I have been given the opportunity to take part in training however, due to operational pressures I often do the work in my own time.'

'This is very much caseload dependent and staffing dependent. We have significant staffing issues currently therefore our priorities are mainly clinical.'

When reviewing SSNAP data, we found inconsistencies across Wales in the timeliness of thrombolysis treatment. This is not conducive to equitable treatment to people across Wales.

Recommendation 27:

Health boards and WAST must ensure that all staff associated with potential stroke patients are aware of the updated guidance for thrombolysis treatment window of between 4.5 and nine hours, as highlighted within the *National Clinical Guideline for Stroke* updated in April 2023.

Recommendation 28:

Health boards must ensure that sufficient staff in EDs across Wales are awarded time to train and are assessed as competent to administer thrombolysis treatment.

Recommendation 29:

Health boards must ensure that all possible stroke patients who are clinically appropriate for thrombolysis, receive treatment in a timely manner.

Thrombectomy

An alternative procedure to thrombolysis therapy is surgery to remove a blood clot, which is known as a thrombectomy. In the Stroke Association's publication, *What we think about: Thrombectomy*[58], it highlights evidence demonstrating that thrombectomy treatment can significantly reduce the severity of disability a stroke can cause, therefore can result in better patient outcomes.

When clinically appropriate, the NICE guidance states that a thrombectomy should be offered for people with acute ischaemic stroke as soon as possible, and within six hours of symptom onset.

We considered the provision of thrombectomy treatment across Wales. Only Cardiff and Vale University Health Board provides a thrombectomy service.

[58] What we think about thrombectomy: rebuilding lives after stroke – Stroke Association

The service is available Monday to Friday from 09:00am to 5:00pm, and only when expert interventional neuroradiology staff, and the appropriate radiology facilities are available. The service is provided mainly to people who live within the health board boundary. All other health boards in Wales must refer patients for thrombectomy, either to North Bristol NHS Trust where the service is available to patients in Wales daily 8am-midnight, or to the Walton Centre NHS Foundation Trust which offers a 24/7 thrombectomy service. Given the geographical challenges and the impact of ambulance delays across Wales due to handover delays, this impacts negatively on the ability of some people receiving thrombectomy in a timely manner, particularly when thrombolysis may not be clinically appropriate for them.

According to SSNAP data, the annual thrombectomy treatment number between April 2020 and March 2021 within England, Northern Ireland and Wales was 1,763[59]. It is concerning to find that in Wales, just 13 patients received a thrombectomy at the University Hospital of Wales (for those living in the locality), just 16 patients received treatment in North Bristol and only four patients at the Walton Centre.

This does not appear to be conducive to equitable access to thrombectomy treatment across Wales, and those living within the Cardiff and Vale locality are at an advantage of receiving this type of treatment for stroke to those living in other health boards across Wales.

Our clinical records review found that where appropriate, stroke teams considered thrombectomy treatment for patients, although just one patient was deemed appropriate for the procedure. Whilst it was noted clearly in some records that the patients were not considered suitable for thrombectomy treatment, in several other records there was no evidence to suggest this had even been considered when it is part of the decision-making process for treatment.

Our interviews with stroke clinicians found that there was often consideration of patients who are suitable for thrombectomy, and where referrals have been accepted, there were often challenges with timely ambulance transfers to meet the treatment window target time. This was particularly challenging for cross border transfers, despite inter-hospital transfers for thrombectomy categorised as a 'Red' response by WAST. This may be due to the geographical location of a person, or the availability of an ambulance to transfer the patient in a timely manner.

We recognise that one of the aims within the quality statement for stroke services in Wales as highlighted earlier, is to improve opportunities for patients in Wales to receive thrombectomy treatment and to develop Comprehensive Stroke Centres within a network delivering thrombectomy locally. This is a significant challenge in Wales due to resources across the country and the number of suitably trained people to undertake the procedure. Work to consider this is currently ongoing nationally.

[59] Annual thrombectomy April 2020 to March 2021

Recommendation 30:

Welsh Government must work with the Thrombectomy Wales Oversight Group, the National Clinical Lead for Stroke, and health boards, to consider how timely and equitable access to thrombectomy treatment for stroke can be made, for all relevant people across Wales.

Recommendation 31:

Health boards must ensure clinicians consider the option of thrombectomy treatment where appropriate, and the decision either way (with rationale), should be clearly recorded within the patient's clinical records.

Recommendation 32:

WAST must consider its current response times for patients awaiting interhospital transfers for urgent thrombectomy treatment which are classified as Red . This is to ensure a thrombectomy can be completed within the six hour timescale from the onset of symptoms.

Patient flow to acute stroke wards

During our review, we considered whether people are admitted to an acute stroke ward in a timely manner. NICE Guidance (NG 128)[60] states that hospitals should admit everyone with suspected stroke directly to a specialist acute stroke unit after initial assessment, from either the community, the ED, or outpatient

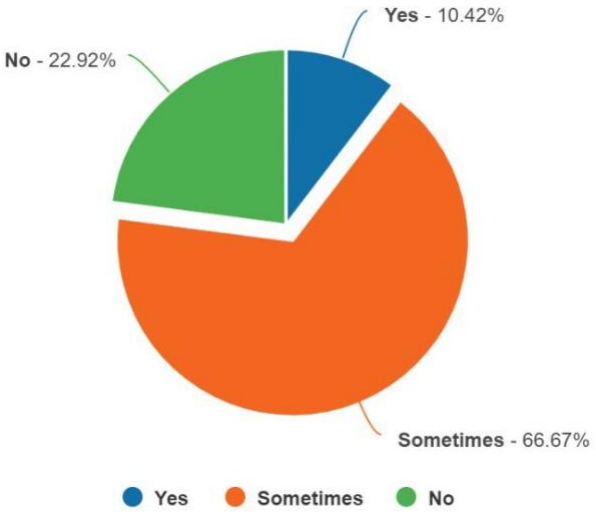
clinics. Acute stroke units can provide care and treatment to reduce long-term brain damage, physical disability, and healthcare costs due to the range of specialist treatments they provide. They are staffed by a specialist stroke multidisciplinary team and should have access to equipment for monitoring and rehabilitating stroke patients.

Acute specialist stroke units are associated with improved patient outcomes. Admission targets to these units should be within four hours of arrival at ED, so specialist treatment can begin as quickly as possible, in line with NICE guidance (NG 128). We found in all stroke pathways across Wales, that admission to a specialist stroke ward/unit, must be within four hours of arrival at ED.

We considered whether issues with poor hospital flow, impacted on the timely admission of people to acute stroke unit in line with NICE guidance. It is concerning to find that just 10% of those who responded to our staff survey said it was possible to transfer patients to a stroke ward when needed, and 23% said no.

[60] NICE guideline [NG128] Published: 01 May 2019 Last updated: 13 April 2022

This is highlighted in the chart below:



This finding was consistent with responses in our staff interviews across Wales, who suggested that poor patient flow within their hospitals prevent patients being transferred to an acute stroke ward in a timely manner.

Our interviews with ED and stroke service staff found, that every effort is made to transfer patients to the acute stroke ward within the four-hour timeframe.

However, they are consistently faced with several challenges in achieving this, which were attributed to patient flow issues.

During our fieldwork, every acute stroke ward across Wales was at full capacity. This resulted in stroke patients either remaining in ED to receive treatment and post treatment care, until a bed became available, or they were being placed as an outlier in another ward.

In our public survey, people told us of delays in their transfer to an acute stroke ward. Comments included:

'Day and a half in A&E before being admitted to ward.'

'Admission to stroke ward not possible, still waiting 13 days after admission when writing this'.

We attended patient flow meetings across Wales and witnessed discussions on how teams tried to accommodate stroke patients on the acute stroke ward. However, due to the system wide flow issues, this was not always possible. We also found in some wards that staff were proactively attempting to receive stroke patients from ED at the earliest opportunity when they had a bed available.

We explored the reason for delays entering the acute stroke ward. Several reasons were provided to us in the staff survey.

These included a lack of bed availability with delayed discharges due to social care issues and outliers of other specialties placed in stroke beds, due to flow issues elsewhere in the hospital. We were also informed that stroke patients who required transfer to a stroke rehabilitation ward cannot be transferred due to capacity there.

Some comments in our survey from staff included:

'Often due to poor discharge flow from patients awaiting care packages and placements beds are not always readily available when a stroke patient has been identified for the pathway.'

'Bed availability on acute and rehab ward becoming an increasing problem due to the inability to step down patients from the ward and into the community. Bed availability is also taken up on stroke units by non-stroke (medical) patients/admissions.'

'Unfortunately, stroke patients are not always prioritised according to the stroke pathway, and when beds are available the decision on who fills stroke beds is not made by the stroke team.'

In our staff survey, we also asked people to comment on how the NHS could improve the service it provides to stroke patients, one respondent commented:

'Immediate availability of access to stroke ward and the specialist patient care this would provide.'

When beds were not available on the acute stroke wards, we considered whether patients were managed safely and effectively in ED. In our clinical records review, we did not find any evidence to suggest delays in transfer to a stroke ward negatively impacted on the safe and effective care to patients.

Ring-fenced stroke beds

We found that each acute site we visited had a policy to 'ring-fence[61]' stroke beds. Whilst policies are in place to ring-fence beds, this is frequently breached due to the high escalation status of the hospital site and due to overall lack of bed availability in other areas.

Staff within stroke services told us they always aim to ring-fence a stroke bed, but it is frequently not possible due to patient flow issues within the whole system, and they are made to use the bed for a different specialty patient. This frequently results in medical outliers (non-stroke patients), being placed in the ringfenced stroke bed, and stroke patients frequently being placed as outliers on other wards.

[61] *A ring fence bed is a method of protecting an acute bed on a stroke ward from use by patients who are not stroke patients.*

This is concerning since this may result in stroke patients not receiving the most appropriate and timely treatment for their condition, and likewise for other specialty patients.

Our staff interviews found that ring-fencing a stroke bed was essential to maintain flow in the stroke pathway. In addition, we asked staff in our survey if they had comments on what could be improved with the flow of patients along the stroke pathway. The most common theme in the feedback related to the need to ring-fence stroke beds for stroke patients. We received 22 comments suggesting the need to maintain a ring-fenced bed.

One comment included:

'We had a ring-fenced bed for a while, but hospital pressures have meant that this is rarely available and so patients need to be moved about to get an appropriate bed on the stroke ward, that can cause delay.'

Delays in accessing stroke beds

We explored the issues around outlying patients on different wards in relation to stroke. The aim was always to transfer patients to a stroke ward as soon as a bed was available. We also found examples that at times, patients may be swapped from other wards to allow for stroke patients to be in the best environment to manage their needs.

Our clinical records review found that patients remained in ED for prolonged periods of time. Some records found overnight delays and instances where patients had remained in ED over 24 hours, prior to their admission to the stroke ward.

Whilst this is not acceptable in the appropriate management of a person within the stroke pathway, it is positive to note that evidence demonstrated that patients received the required care from other specialties, such as therapies staff, in a timely manner.

Despite the continual issues with patient flow to the stroke wards, we found some positive patient experiences for timely transfer. Several clinical records showed that patients had been transferred to the acute stroke ward within the four-hour timeframe. One record highlighted that a patient remained in ED until their condition had stabilised and were transferred to the acute stroke ward within the four-hour timeframe. Other records demonstrated that a bed on the stroke ward was ring fenced for a patient and was not used whilst they received urgent care in ED. Whilst overall, the clinical records were clear and legible, in some records it was not always clear to establish times and dates of transfer of some to the stroke ward.

It is evident from exploring the timely transfer of patient flow to the stroke wards, that there is significant pressure on the whole of the system. Patient flow is a problem across all specialties, and for stroke patients, they are not always placed in right bed in the right place at the right time, due to the high demand on beds.

Recommendation 33:

Health boards must explore the options available to improve the process for prioritising stroke patient admissions to acute stroke wards within the four hour target, to help maximise their clinical outcome.

Recommendation 34:

Ringfenced stroke beds are frequently used for non stroke patients, which may impact on a new stroke admission to ED. Therefore, health boards must explore how a ringfenced stroke bed can be maintained, to help ensure the best outcome for a stroke patient following their arrival at ED.

Impact of flow on stroke rehabilitation

NICE guidance (NG128), states that stroke rehabilitation is essential for better patient outcomes. Ideally, this should be provided within a dedicated stroke inpatient unit, and by a specialist stroke team within the community if required.

Across Wales, we found clear inconsistencies for the provision of rehabilitation to people following their stroke. Some hospitals provide rehabilitation within the acute stroke ward since there is no separate ward available to provide this elsewhere. Other health boards have a dedicated rehabilitation ward within the same hospital site, or stroke rehabilitation may be provided within a different hospital site, such as community hospitals.

Early Supported Discharge

Early Supported Discharge (ESD) is an intervention for adults following a stroke which allows their care to be transferred from an inpatient to a community setting[62]. ESD enables people to continue their rehabilitation therapy at home, with the same intensity that they would receive in hospital. However, this may not always be suitable for everyone following a stroke, or in all circumstances, and the decision to offer ESD is made by the stroke MDT, after discussion with the person and their family or carer if applicable.

The stroke MDT will assess whether ESD is suitable for adults who have had a stroke.

[62] Early Supported Discharge - NICE

The assessment will consider the person's functional, cognitive, and social circumstances, such as the person's ability to transfer from bed to chair independently or with assistance, and whether a safe and secure environment can be provided at home.

When considering the provision of ESD for people following a stroke, we found inconsistencies with the service available across Wales. Not all health boards provide this service and for those that do, there is no standardised format in the provision of ESD. Access to the service across Wales is varied and there is a lot of variation in the service provided in terms of frequency of home visits and intensity of rehabilitation provision).

Our interviews with ESD staff highlighted the significant benefits and positive outcomes for patients who have received ESD. The risks associated with remaining in hospital are minimised, and the psychological impact on patients improves with the ability to be discharged from hospital. We also found that where the service was available, staff reported improvement in patient flow due to savings on patient bed days.

Despite the benefits of ESD, it was disappointing to find inconsistencies across Wales with its provision. When speaking with staff about this, it appears there is a lack of resource or funding available to provide ESD services in some health board areas. This therefore highlights the inconsistencies with equitable access to ESD for people who may benefit from this.

Recommendation 35:

Health boards should consider both the benefits and potential implementation of Early Supported Discharge to patients physical and mental wellbeing, and to hospitals, with earlier discharge improving flow through the stroke pathway.

Stroke rehabilitation wards

Overall, we found that hospitals with stroke rehabilitation wards provide an environment which facilitates multidisciplinary stroke care, such as nursing, medical and therapies treatment. For hospitals that do not have separate rehabilitation wards, our staff survey highlighted several comments which suggested the need for a step down or rehabilitation ward for treatment to assist with the flow of patients from acute stroke wards. One member of staff commented:

'a dedicated rehabilitation area that would allow for proper dignified assessment and rehabilitation to progress people.'

In one health board, the process was ongoing to separate the stroke ward into acute and rehabilitation wards, and it was also introducing the provision of ESD.

The rehabilitation ward was re-located to community hospital sites which were also in the process of introducing ESD for all three sites. The aim is to facilitate the provision of a seven-day therapies service on the rehabilitation ward, with plans to progress to a seven-day therapies provision at the acute site. The purpose is to improve flow for stroke patients from the acute setting to the rehabilitation ward, and to facilitate earlier discharge to the community with the support of ESD.

Another health board was providing a full therapies service over seven days. Whilst this was positive in enabling earlier discharge of patients, staff told us it was having a negative impact on the weekday provision of care, due to the thin spread of stroke speciality staff to cover seven days. Our interviews with Senior Managers found that they were considering the options of increasing the staff establishment; however, recruitment to the site was a challenge, due to complexity with discharge planning. Therefore, a high reliance on regular agency and bank staff was necessary.

We received several comments from therapies staff in our survey in relation to this issue, which included:

'Occupational therapy are involved with patients they are able to assist patients to improve ability with increased level of rehabilitation for each patient however this service is very limited. Services need to be seven-day services.'

Physiotherapy stroke service

We held discussions with staff across Wales regarding the provision of physiotherapy services. It was highlighted that it was not always possible to provide the NICE recommendation for 45-minute daily treatment, which was subsequently highlighted in SSNAP data we reviewed. This was due to the high volume of stroke patients and insufficient capacity within physiotherapy teams.

Our clinical records review found inconsistencies in the provision of the 45-minute daily physiotherapy and occupational therapy across Wales. Our staff interviews found this was attributed to the challenge with recruiting staff and several sites we visited were carrying vacancies within their therapy establishments.

We considered the physiotherapy needs of patients during our clinical records review. In some records, we found evidence of patients being assessed in a timely manner and receiving regular physiotherapy as appropriate. However, in some records the physiotherapy notes were not filed within the clinical records and were kept elsewhere. This prevented us from making a judgement on the provision of the service provided to some patients. When considering other records, some demonstrated delays in referral for physiotherapy assessment, or no evidence of physiotherapy intervention despite referral. We also found examples of stroke patients placed as outliers on other wards with no physiotherapy assessments documented. This highlights the importance of stroke patients being placed on the appropriate stroke wards to prevent any issues with not receiving the required treatment.

We received some comments in our public survey relating to physiotherapy services, which support our records review findings, these included:

'The hospital was short of physiotherapists would have liked physiotherapy on a daily basis but this was not possible. The nurses on the ward were not even allowed to help with simple arm and leg exercises.'

'No physio available cos it was a weekend.'

'Treatment/physio was not frequent enough in hospital which had an effect on recovery as the first few weeks/months are critical. No physio sessions on weekends very frustrating.'

'I was prepared to attend physio gym every day but sadly, the facilities were unavailable on weekends, which makes for a very long day with no activity.'

Occupational therapy for stroke services

When considering the records for occupational therapy input, we found similar issues to that within physiotherapy. We found inconsistencies in the patient records, with some areas demonstrating positive evidence of timely treatment, whilst several records had no documentation completed at all.

Issues were also found at times following discharge, for example, when patients were repatriated to other health boards. Patients are sometimes repatriated from acute care, and the receiving health board has not been informed of the need for referral to other services, such as occupational therapy or physiotherapy.

Therefore, delays in the provision of care are inevitable. This is clearly not appropriate for patients who are reliant on additional timely therapies services.

The issue of insufficient provision of therapies for patients was also reflected by respondents to our patient survey when asked what the NHS could do to improve the service it provides for stroke patients. One comment included:

'More physio and speech and language help [is needed] and for a much longer period.'

Speech and Language Therapy (SALT)

As highlighted earlier, a swallow screen must be completed within four hours of admission to hospital for strike patients. If the assessment identifies that a patient has problems with swallowing safely, they should receive a specialist swallow assessment. This should be undertaken within 24 hours of admission, but no longer that 72 hours, as highlighted within NICE guidelines.

Our review of clinical records reflected that most patients had passed the initial swallow screen. Where patients required a referral to SALT, this had been done within the 72 hours. In addition, there was evidence to support that a plan of care had been prescribed to support the SALT assessment.

We also considered whether patients who were unable to take oral nutrition, fluids or medication received other means of nutrition, such as tube feeding with a nasogastric tube (a small tube inserted through the nostril to the stomach), within 24 hours of admission, unless contraindicated following thrombolysis, in line with NICE guidelines.

It was positive to find that for those who may be compromised nutritionally, relevant patients had been referred to Dietetics and Nutrition teams for a nutritional assessment and were prescribed individualised feeding regimes. In addition, oral medication was reviewed to amend either the formulation or the route of administration.

When reviewing SSNAP data we considered the therapy services across Wales and found variances in the provision of therapies within stroke services for patients. Inadequate therapy services have a negative impact on patient recovery from stroke and also impact on discharge planning and patient flow within stroke services. Therefore, health boards must ensure all therapy services for stroke patients are reviewed to consider how each is meeting the needs of patients in line with national guidelines.

Recommendation 36:

Health boards must review their therapies staffing models to ensure there are sufficient resources and staff in place to adequately manage the rehabilitation and recovery of stroke patients in line with NICE guidance.

Psychology support in stroke services

Patients with stroke may suffer psychologically because of their stroke due to the significant impact it may have on their mental and physical well-being. This may include anger, frustration, depression, and anxiety. In addition, to maintain psychological wellbeing, patients should be able to speak in the language of their choice. It is important that health and social care providers maintain the Welsh language active offer for people in Wales, as highlighted earlier in the report. In addition, providers must maintain the ability to provide a translation service for people in other languages, such as Spanish, Polish, Urdu or Chinese. We found that access to a translation service was available in all health boards.

In line with NICE guidance (NG128), people who have had a stroke should have access to a clinical psychologist with expertise in stroke rehabilitation, and who is part of the core multidisciplinary stroke rehabilitation team.

Soon after a stroke, and where appropriate, patients should receive a psychological assessment to assess whether they are experiencing any early emotional problems which may have a lasting impact.

Their psychological needs may fluctuate along the stroke pathway as they recover from the acute stroke, and the reality of any disabilities may become overwhelming. The psychological support alongside physical rehabilitation, can increase a patient's opportunities to engage with rehabilitation and help maximise the outcomes.

We considered the psychological support provided to stroke survivors across Wales and found this to be inconsistent, as not all health boards provide support in this area. Our review of clinical records highlighted the lack of psychological support to patients within several health boards. This was also highlighted through our interviews with staff. We found that one health board within Wales had recently appointed three psychologists. One for each of its rehabilitation sites, along with three assistants. In addition, the staff discussed the positive work in progress, which offers education and training around the psychological needs of the patient, to all MDT members involved with the patients journey through the stroke pathway.

We interviewed a GP who undertakes weekly ward rounds on a stroke rehabilitation ward in one health board area, which is attended by the MDT members to discuss the progress and needs of stroke patients. They supported the need for psychology input and suggested this service would be beneficial for patients. They highlighted that for stroke patients there may be a need to prescribe anti-depressants to help with their mental well-being, and that complemented by psychology support could improve the rehabilitation process for patients. In addition, having a family member with a stroke can be challenging for families or carers to deal with, and participation in the psychologically and support could also be beneficial for them.

Recommendation 37:

Health boards must consider the need for psychological support for people with stroke, and ensure that adequately trained staff are providing this support to help effectively manage patient recovery.

Overall, we found that therapy services play a key role in the patient's journey through the stroke pathway, and when preparing people for discharge. We found good collaborative working between therapy teams and others within the stroke MDT, however, as highlighted above, further investment may be required in some therapy teams for patient progress, recovery, and overall wellbeing.

In line with the inconsistencies found across Wales, not all stroke services can provide the required timely therapy services to patients. This was for several reasons, such as staff vacancies, the impact of patient flow resulting in different specialty outliers using stroke beds and vice versa and demand exceeding capacity. In addition, the overall environment to conduct therapies on the wards was problematic, relating to facilities and space for timely rehabilitation services.

A holistic approach to therapies is required across Wales, to provide patients with both physical and mental support. This approach would also benefit flow within our hospital system by enabling patients to be discharged timelier and over seven days a week.

Recommendation 38:

Health boards must consider introducing the provision of sufficient seven day therapies services to comply with NICE guidance, to help improve patient flow by supporting a seven day discharge for patients, and to help meet targets as highlighted within SSNAP.

Recommendation 39:

Health boards must ensure that stroke rehabilitation environments are appropriate and are adequate to meet the needs of patients.

The impact of delayed discharge on patient flow

Discharge delays for medically fit patients

As highlighted earlier, in June 2022, the Senedd Health and Social Care Committee published its *Hospital discharge and its impact on patient flow through hospitals inquiry* report[63]. The report highlights that in February 2022, there were 1,081 patients who remained in hospital who were medically fit for discharge.

During our fieldwork, staff told us that around a third of all patients in their health board area were medically fit for discharge. Some patients had remained in hospital for months until an appropriate placement or package of care was available to facilitate a safe discharge. Health boards regularly provide up-to-date numbers to Welsh Government of the medically fit people waiting in hospital beds, for a package of care, to enable them to go home, or a care home placement.

Impact of delayed discharge or Delayed Transfer of Care (DTOC) flow

To support our review in relation to patient discharge, our team included a peer reviewer from Care Inspectorate Wales (CIW), who supported our work through interviewing key staff relating to social care and those involved in the discharge planning process. This assisted our team to gain a sound understanding of the challenges related to the provision of social care.

Our report has already highlighted the challenges with the bottlenecks at the ‘back door’ of the healthcare system with delayed discharge, which impacts on patient flow throughout a hospital. This is felt at the ‘front door’ where EDs are unable to admit patients from ambulances in a timely manner.

[63] Hospital discharge and its impact on patient flow through hospitals

The conclusion to the Senedd's Health and Social Care Committee's inquiry highlights the lack of social care capacity is the biggest contributor to delayed discharges and restricted patient flow through hospitals.

Unnecessary stays in hospital due to delayed discharge of care (or DTOC), can place patients at risk of hospital acquired infections and deconditioning, which can lead to further ongoing care needs following discharge. The bottleneck at the point of discharge can affect Eds, WAST, inpatient care, primary care, planned admissions and staff wellbeing.

To help support the more complex discharges, across Wales, we found teams of staff in post, who had the responsibility for the discharge of patients with complex needs and who, therefore, need detailed planning to implement ongoing support following discharge. This includes patients following a stroke. We will discuss the complexities throughout this section of the report.

Discharging stroke patients

Our review found that most stroke patients have a range of complex needs both physical and cognitive. This may include paralysis of limbs affecting mobility, issues with speech or swallow and cognitive impairment. Therefore, they are more likely to need ongoing packages of care at home, which are often complex to arrange. The resource is not always readily available, which may further delay a patient's discharge.

Our interviews with staff consistently found reports that discharge delays and DTOC can lead to worsening outcomes for patients and can also mean that some revert into an acute bed, and also impacts on their long-term care needs. Our staff survey also found similar, and one comment relating to this included:

'It is not good for patients' wellbeing for them to remain in hospital when they are ready to leave.'

Planning for discharge

We considered how the MDTs across Wales planned and prepared for patient discharges from hospital.

Board rounds

We attended stroke board rounds where discharge planning was central to the discussions that took place. They were led by a dedicated member of staff, and had an MDT approach, highlighting key information about each stroke patient, including diagnosis, admission date, care management plan and expected date of discharge. These meetings were consistent across Wales.

We found in most instances, a summary was made at the end of each patient discussion with the aim to highlight any daily tasks required, and the delegated person and task completion date to help ensure patient progress their journey through the stroke pathway to discharge. This also allowed for the opportunity to discuss any patients who were delayed in their discharge or DTOC.

Overall, we found board rounds were dynamic, constructive, and led to clear actions. However, some lacked effective leadership, direction, and decision-making, which in turn increased a risk to timely flow through the pathway, and out of hospital.

Recommendation 40:

Health boards must review their board rounds within stroke wards to consider their efficiency and effectiveness so that any actions identified and resolved in a timely manner to facilitate a timely patient discharge.

SAFER patient flow guidance[64].

The *SAFER Patient Flow Guidance* was published by Welsh Government, and acts as a key enabler for an overarching good practice guide to improving patient flow.

The guide identifies ten areas of focus to support flow across the unscheduled care patient pathway, and *SAFER* fits into one of these ten areas, relating to transfers of care.

SAFER consists of five elements of best practice which are summarised as:

- **S** – **Senior review** of all patients before midday, informed by a multidisciplinary assessment
- **A** – **All patients** and their families involved in the setting of an Expected Discharge Date (EDD)
- **F** – **Flow of patients** at the earliest opportunity from assessment units to inpatient wards
- **E** – **Early discharge** with at least a third of patients discharged from inpatient wards by midday on their day of discharge
- **R** – **Review** of patients involving MDT, the patients, and their families for those with extended lengths of stay.

We considered whether the sites we visited used any tools to help manage flow at a ward level. During our staff interviews, we were told that wards use the principles of *SAFER Patient Flow,* however, our findings from clinical records did not fully support this. We found inconsistencies in the recording of an EDD, or the rationale of why a date had not been considered, and there were also inconsistencies in the evidence recorded relating to the use of 'Red' and 'Green' days[65]. Our attendance at stroke board rounds also found that the use of the *SAFER principles* was not consistent across Wales.

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[64] SAFER patient flow guidance

[65] *The Red and Green Days approach is an example of using simple rules to help reduce delays for patients by making 'non-value' adding days (from a patient perspective) visible, and a daily topic of conversation for clinical and managerial staff. It works particularly well when it is used across inpatient wards where patients often experience significant periods of time waiting for things to happen in their plan of care.*

It is evident that treating patients promptly with the appropriate care in the right place at the right time, can enable a person to be supported back to their own home in a timely manner. It is pivotal that all staff work together to manage the issues that may arise through a patient's journey, to be effective. Early planning for discharge is essential, and the individual, their family, and healthcare and social care professionals must work together, to achieve a smooth and timely discharge. This, in turn will help facilitate better patient flow through healthcare systems.

Recommendation 41:

Health boards should ensure that staff are utilising the SAFER Patient Flow principles, to promote safe and timely discharge and help improve patient flow.

Multidisciplinary meetings

We considered how well teams work together to support the discharge process for patients. During our fieldwork, we attended several MDT meetings to observe the discharge planning process within the relevant teams. We found the discharge teams help manage the support required for stroke patients, such as arranging and referring patients to appropriate post-discharge services. The teams also consult with services to manage their discharge home from hospital, including packages of social care or transfer of care to other services.

To plan for the discharge of stroke patients from hospital, we found an MDT approach for the continuity of patient care is taken by all health boards. A patient discharge plan is developed on an individualised basis, and includes all patients' needs for their continued rehabilitation and care at home, any community services required to support them, and any equipment or other aids they will need to maintain their care and safety following discharge.

We saw effective communication through all therapy disciplines to manage the flow of a patient through to discharge. In our staff survey, 81% said that there was an effective working relationship between all Allied Health Professions. We found good examples of early planning for discharge, and for ongoing care to facilitate rehabilitation and discharge from hospital. However, there were several prolonged delays in the allocation of social workers to patients, social care packages, and delays in obtaining nursing or residential home placements. This was consistent across Wales.

In line with NICE guidelines, we observed the core multidisciplinary stroke rehabilitation teams discussing individual patients to set and follow-up on goals. The rehabilitation teams consisted of:

- Consultant physicians
- Nurses
- Physiotherapists

- Occupational therapists
- Speech and language therapists
- Rehabilitation assistants
- Pharmacy.

At some MDT meetings clinical psychologists and social workers were also in attendance, however, this varied across Wales. Through discussions with staff, we identified that prior to the COVID-19 pandemic, social workers were present at most MDT meetings to discuss and arrange the social care requirements for stroke patients who were close to the end of their rehabilitation phase and would soon be ready for discharge. Their involvement was described to us as a positive step in enabling a timely discharge. However, during our fieldwork, at most MDT meetings we attended, social workers were not present which added to the challenges of timely discharges.

Within our staff survey, all stroke services healthcare staff who responded, said there are often delays in the discharge process, and 78% said the delays were frequent. We also received comments in our survey from local authority staff, which included:

'Poor communication between ward staff and social care staff appears to be one of the main reason for inadequate /ineffective discharge planning.

'Social Care is often inappropriately blamed as being the cause of delays when in actual fact the delays are frequently as a result of an internal issue on the ward.'

'One of the fundamental things that would see a marked improvement in discharge planning and make it a positive discharge for the patient would be evidence that a person centred/strengths based/outcome focused conversation has actually taken place with the patients themselves and health and social care staff are clear what matters to that individual. This would then help inform discharge planning and make sure we get it right.'

Communication with social care providers

When considering the perspective of staff who work within the social care system, their response to our survey highlighted issues with the communication with hospital teams. This included inaccurate or insufficient information being provided in the referral process. Only five of 17 respondents said they were given the right information about the patient to assist with discharge. Some comments included:

'*Very little information provided, inaccurate most of the time.'*

'Not always given correct information in terms of functional ability and rehabilitation / recovery plans.'

'We rarely get any information unless we go looking for it. We spend hours trying to contact the hospital wards and then are told different information depending on who you speak to. Its patchy and unreliable.

The staff nurses are unaware of their own discharge policy as the LA which health forms they need to complete. They ask the SW to take the lead in most meetings as they are just unsure of the process.'

'Agency nurses used to complete referrals are a massive setback as they do not know the patients well enough.'

The findings in our survey clearly highlight issues with communication between healthcare and social care teams. We also found that the view of local authority and social care staff were generally quite negative in relation to the health board's discharge policy. Just over half the respondents said that the health board had not shared their discharge policy with their teams. Ten of the 16 respondents said the health board policy was not easy to understand, and almost all said the policy wasn't followed in practice. In addition, very few said they had sight of the health board policy.

Social care providers also made comments regarding poor discharge documentation, along with the communication for patient discharge plans. These included:

'Hospital discharges are sent out without paperwork and guidelines.'

'Communication between the hospital staff and the home has been lacking at times and the information received from discharge has been wrong.'

'More effective communications between hospital and us on discharge as at times it's very difficult to get the information required until after they are home.'

In addition, nine of the 17 respondents to our local authority survey said it was not clear what was required from them, to meet the needs on discharge. The comments included:

'As information is often limited, we can only work with the information we are given. When information is missing, we do not see the full scope of needs on discharge. Following admission, we often see a higher level of need, and these are addressed when they are realised.'

These comments were supported by information received as part of our social services provider survey, with one staff member commenting:

'Better information and planning for discharge and more communication both verbal and written, from the ward.'

Our staff survey also found that health board staff reflected similar opinions, with around 50% agreeing that patients are discharged with a written and detailed discharge plan, but with insufficient information available to inform the social care teams to support the discharge process. Staff also suggested that the most common reasons for discharge delays, were challenges from family or carers and community support. Supporting the later comment, in our patient survey, only 55% said they had been included in the discharge planning process.

One respondent told us:

'There were obviously insufficient staff, my mother was left on her own feeling very confused with no one to ask about her treatment. As her next of kin, I was given no information about her post discharge care.'

The findings above, in addition to others throughout this report, highlight the need for collaborative work between health and social care services, to improve working relationships and develop a clear understanding across service teams, as to what each sector is doing to progress a discharge and improve outcomes for patients.

Recommendation 42:

Health boards should work collaboratively with local authorities and social care providers to improve the discharge processes in place. This includes the need for improved communication processes, improving the information provided for a robust referral into social care, and the sharing of and compliance with health board discharge policies.

Allocation of social workers

When patients are medically fit for discharge but have ongoing complex needs, they are referred by healthcare staff to Social Services for social worker allocation. Social workers are required for numerous patients, and their role in discharge is to assess individuals to determine the social needs, and to help achieve a safe discharge plan that is considered the best outcome for the patient. They take into consideration patient views and wishes, and often need to balance complex family dynamics.

When exploring the access to social workers, our interviews with healthcare staff highlighted frequent delays with patient social worker allocation and the required assessments. We were told that social worker vacancies across Wales are negatively impacting on timely allocation to patients. Supporting their reflections, nearly all local authority staff who responded to our survey said they were unable to meet the demands on their time at work, and there aren't enough staff to do their job properly.

To help mitigate against staffing issues, some social care teams use agency staff to bolster the service, particularly in areas where recruitment of social workers is a challenge. However, we were told that the use of social worker agency staff can result in some inconsistencies in the service provided. One local authority staff commented:

'Agency [social worker] staff have no understanding of geography or rurality.'

Through our interview process, some healthcare staff shared their frustrations around the delays in the discharge process. They explained that in some localities, the allocation of a social worker was taking up to three weeks. Once a social worker is allocated, further delays are common with their ability to attend the

hospital to undertake patient assessments.

In addition, once the assessments have been completed, and care plans developed there are challenges in obtaining the social care package in a timely manner. This prolonged process is causing unnecessary discharge delays for several patients and is consistent across most health boards.

Other examples provided to us during interviews noted that once referred to social worker teams, staff would not come to assess the patient until a full referral had been completed. The nursing staff often notify the ward or hospital based social worker that a patient will need some assistance on discharge. However, the nurses were often informed that until the referral is received by fax, they would not commence the process of allocating a social worker.

It is evident through our work, that nursing staff do not always have time to sit and complete a full referral when a patient is ready for assessment, since they have several other patients to care for during their shift, as well as arrange discharges and admissions from ED. Sometimes, the referral cannot be completed until the end of a 12-hour shift, and if this were a Friday, then it would be several days before the social worker team would receive the fax and commence the process from their department. This would unnecessarily prolong the potential discharge of a patient.

In our staff survey, healthcare staff highlighted the challenges they face with the allocation of social workers and eight people made comments in relation to this. One included:

'Long waits for social services and packages of care and inadequate rehabilitation staffing means we can't optimise patients for their best recovery.'

We did, however, find a positive example of good engagement and cross team working with social work teams in one health board area. This was because of excellent relationships between health and social care workers. This enables timely allocation, and assessment of patients to be carried out in some localities, minimising delays with the discharge process for patients.

As highlighted earlier, delayed discharges for patients who are medically fit to leave hospital can impact on some patient's well-being. If they acquire an infection or become deconditioned whilst they are waiting to leave hospital, they may need new or additional treatment. If this does occur, we found that the process for social worker allocation and assessment is stopped if the patient is no longer medically fit for discharge. Consequently, once the patient recovers, the process of allocation and assessment must re-commence, delaying discharge further.

Recommendation 43:

Health Boards and social worker teams must work together to consider and understand the processes in place for social worker assessments and allocation to patients. The reasons for delayed assessment and allocation must also be considered to make improvements in this area.

Recommendation 44:

Welsh Government must consider the process in place for social worker teams and their role in assessment and allocation to patients in hospital, and whether the services across Wales are appropriately funded and managed to support the discharge process from hospital to improve patient flow.

Patient Best Interest Meetings

For patients with more complex needs, and who require a Best Interest Meeting[66] in line with the Mental Capacity Act[67], we considered whether there were delays in arranging these meetings. Consistently across Wales, we found delays in holding a timely meeting on several occasions. This was due to coordinating attendance for all required attendees, which could include MDT members, family members or carers and social work or care home managers. This was also highlighted in our staff interviews, and within our staff survey. One person commented:

'If a patient requires a Best Interest Meeting once clinically optimised, there are delays and difficulties in arranging the meetings to ensure all relevant stakeholders are in attendance.'

Recommendation 45:

Health boards must work collaboratively with social workers and social care providers to ensure that delays in arranging or holding Best Interest Meetings are minimised, to ensure timely and effective hospital discharge for patients to improve flow.

Whole system approach to health and social care

We considered how healthcare and social care teams are working to achieve Welsh Government's long-term future vision of a 'whole system approach to health and social care', as published in its updated plan, *A Healthier Wales: Our plan for health and social care*[68]. The vision outlines a shift over time from the reliance on traditional hospital services providing care to people, to a seamless approach of integrated care, which includes health, local authority and third sector services.

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[66] *Best Interest Meetings take place where a patient lacks mental capacity to make significant decisions for themselves and need others to make those decisions on their behalf.*
[67] *The Mental Capacity Act is designed to protect and empower people who may lack the mental capacity to make their own decisions about their care and treatment.*
[68] A Healthier Wales: Our plan for health and social care

Through our staff interviews across Wales, it is positive to find that several key areas of work are effective in progressing the process of safe patient discharges, which includes stroke patients. As part of this work, some healthcare, social care and third sector teams have been developing new partnerships and implementing new models of 'Home First' and 'Hospital to Home' services in Wales, which is highlighted in the *Home First: The Discharge to Recover then Assess Model (Wales)*[69].

The model highlights the care and support offered to patients, to leave hospital and to receive ongoing assessment and recovery at home, and to limit unnecessary time in hospital settings. Since 2018 the development of Home First and Hospital to Home services and its implementation has been supported by the NHS Wales Delivery Unit, now known as NHS Wales Executive[70].

We found that Home First teams are dedicated in promoting faster discharge from hospital and provide ongoing support to people and can arrange the required packages of care for people who are medically fit for discharge. Welsh Government's long-term objective is for health and social care providers to implement and scale services from a local and regional level to a national level.

Overall, it was positive to hear from staff where the Home First model is effective, and patient discharge can happen more quickly, which in turn assists with the flow of patients through hospital. Our review has identified the benefits of Home First teams, which are making the required difference in line with the set ambition of *A Healthier Wales*. It is therefore important that health and social care teams develop this service to benefit the people who need this across Wales, and to help manage the issues with patient flow through health and social care systems.

Recommendation 46:

Health boards must develop and strengthen Home First services across Wales to benefit the people who need this, and to help manage the issues with patient flow through health and social care systems.

Domiciliary care

During our interviews with discharge teams, across Wales we were told that domiciliary care-packages are difficult to obtain in most health board areas. The most significant issue highlighted, was the recruitment and retention of care workers to provide the social care people need at home. Patients who cannot support themselves at home or who have no other means of care support, cannot be safely discharged. Therefore, increasing the size of the hospital's 'back door' bottleneck.

[69] Home First: The Discharge to Recover then Assess model (Wales)
[70] NHS Wales Executive

We found that social care providers have ongoing pressures heightened since the pandemic which includes, staff sickness, low morale, and exhaustion, which impacts on recruitment and retention. It also important to highlight that the complexity of some individuals who are very frail and need higher levels of social care support, often with two carers, has placed additional pressures on social care agencies in their ability to provide care to new patients leaving hospital.

We found that healthcare staff are fully aware of the demands for domiciliary care agencies and their ability to meet demand and are always in frequent contact with them. We were told that in some health board areas, some families are encouraged to seek private domiciliary care where local authority care provision is not yet available. However, this is not always affordable to some, therefore people remain in hospital unnecessarily, which is contributing to the issues with patient flow.

Within our staff survey, most social care staff said that there were challenges of people accessing services to enable appropriate discharge. The comments included:

'Lack of care providers to meet assessed care and support needs. Lack of carers.'

'Care sector is under huge pressures for staff capacity and poor discharges are a growing issue.'

'Lack of stroke rehab services locally both in patient and community.'

Recommendation 47:

Welsh Government, health boards and local authorities must work collaboratively to consider the options of improving the accessibility to care in the community, such as domiciliary care.

Care home placements

Many patients who have sustained a stroke and others who need ongoing long-term care may need to move in to a nursing or residential home following their discharge from hospital.

Our staff interviews found that some health board staff are required to have difficult conversations with patients and their carers or families, around their care home choices. This can also include their finances and potentially paying for long term care placements. We also heard examples where due to the unavailability of domiciliary care services, patients have no choice but to move into a care home for interim periods.

We were told by healthcare staff that patients are often reluctant to enter care homes, as they want to go to their usual residence and often decline a bed when offered.

Many also decline admission to an interim bed placement for reablement, as they are worried of deteriorating and not being able to go home, or they may be faced with the need to pay high charges when their funded placement ends. In addition, for patients who require long term care home placement, many homes are long distances from their usual home and their family, and they often do not wish to move to these homes. We were told that having these conversations is challenging and can be quite upsetting at times, and most do not have experience or training for managing these difficult conversations.

We found that when people need admission to a care home in Wales, the funding process can be complex. In most cases, the person is financially means tested, and in many instances people in Wales are required to self-fund their bed if they haven more £50,000 in capital and assets. If capital and assets are less than this, then a person will likely be eligible for local authority funding. In addition, when some individuals are assessed as having long-term health needs, they may be eligible for NHS continuing healthcare funding. However, if a person does not qualify for this funding, sometimes they may be eligible for NHS funded nursing care, where the NHS will partially fund the placement, for the nursing element of the fees[71].

In our staff survey, people working within social care or local authorities shared comments with us around care home placements, with one comment including:

We have a long waiting list for both domiciliary care and residential and nursing placements.'

Reablement services

As part of its Deliver Home First[72] model, Welsh Government suggests that the process of discharge from hospital is a key factor for rehabilitation, and that the lack of support an individual receives leading up to discharge and post-discharge will impact the likelihood of them requiring care in the future.

Reablement services provided support to help people regain their independence after illness or disability, and it is usually provided for a relatively short time, such as weeks rather than months. This may include some stroke patients.

We found that the Continuing NHS Healthcare (CHC)[73] teams and complex care teams work well in their aim is to return people home quickly, however, we were told that where reablement care is needed, there have been waits for this service in some health board localities.

Variations in reablement services

There are variations to reablement services across Wales. Some health boards reported having Home First services available from all their sites.

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[71] Care Home Funding in Wales 2023.
[72] Delivering Home First. Hospital to Home Community of practice: key learning and practice examples
[73] *Any adult who has complex needs and as a result might be eligible for Continuing NHS Healthcare*. Continuing NHS Healthcare information booklet for individuals, families, and carers | GOV.WALES

We heard examples from staff, who said the availability of Home First for 10 days rehabilitation had a positive impact on discharging patients home promptly, and the health board approved funding to allow an extension of the daily working hours.

In other health board areas, we found waiting lists for patients to be discharged through the Hospital to Home schemes[74]; however, transition beds are available for up to six weeks, with funding agreed for up to three times a day.

We found that interim placements in care homes were available in some health boards, and patients were encouraged to utilise these when they were fit for discharge, until their home care was ready to start. These beds are funded by the health boards and at no cost to the patient but had a maximum stay of up to six weeks. Patients or their family/ carers were sometimes reluctant to utilise these beds, as they felt it would hinder their ability to return home, and if it they were not able to leave the home after the set period, they would need to pay for them after that time.

During our interviews, staff told us that the provision of interim or reablement beds in the community is often difficult to obtain. Whilst health boards can fund these beds for up to six weeks, they are associated with very high costs. During one interview, we were told that all care home beds were full within their health board and increased significant pressure on the wards to manage patient flow.

Overall, the provision of early supported discharge is inconsistent across Wales with peaks and troughs being reported in these services.

Patient home equipment needs

When patients need equipment or small adjustments made at home to support their discharge, we were informed by staff across Wales that this service generally works well. This was a consistent finding across Wales. These teams, based in the community, aim to provide and install home equipment or make minor adjustments quickly to support patient discharges. Overall, we were told the waiting times for equipment assessments, delivery and/or installation was quite low. However, longer waits were reported for home adaptation which required more complex structural alterations.

Whilst health board staff were positive with this in our interviews, several comments within our staff survey of social care providers were not so positive. These included:

'Users are sent home without the necessary equipment in place and the responsibility and stress then falls on the provider to source this and ensure the safety of the users.'

'The industry is under a lot of pressure but when people are discharged unsafely without equipment, and they end up going back to hospital.'

[74] Delivering Home First - Hospital to Home Community of Practice: key learning and practice examples

'People are discharged without assessing the environment they are returning to. This means that in some instances people return to hospital as they are unable to live independently as they do not have access to the right equipment and services.'

It is concerning to hear the disparities in staff opinions regarding the availability of equipment. Particularly if healthcare staff suggest the service is working well, yet when social care staff attend people's homes, the required equipment is allegedly not in place. We did not visit people's homes as part of our review; therefore, we cannot establish whether the appropriate equipment was provided in line with assessment pre-discharge and whether the needs changed after a patient was home.

Positive aspects in preparing for discharge

Despite the challenges faced by health board staff across Wales for the safe and effective discharge of patients, our staff interviews highlighted several positive findings. These included the following:

- Occupational therapists and physiotherapists are available at all acute sites and as part of community reablement teams. This means that rehabilitation happens quickly and continues at home or in the community, where possible
- Where discharge coordinator posts exist in hospitals, complex discharges are managed effectively
- Partnership working at all levels is particularly good. Senior managers in both health and social care services are well informed of the issues and challenges with discharge and patient flow. Meetings occur daily and weekly which focus on delayed discharges
- Where there is agreement for trusted assessors, assessments and care plans are carried out quickly but there is still a delay in obtaining the necessary service provision
- One health board reported operating an effective Discharge to Recover then Assess model with the aim to assess people in their own environments
- Specialist stroke rehabilitation units, with sufficient beds, and appropriate clinical support, allows people to be discharged from acute settings where appropriate
- Step-down beds are available throughout the county at the 10 Community Hospitals
- Integrated teams work well together with all professionals and the third sector playing a key part. The intermediate care teams in the community aim to keep people at home alleviating the pressure on admissions. The health board has invested in intermediate care to support people to remain at home, virtual wards, use of community hospitals for rehabilitation and GP's operate systems of case management

- There is a strong social work team in some parts of the health board, supported by students and agency staff are used where necessary
- Allocation and assessment of cases is therefore carried out speedily in those areas
- The health board has invested in Discharge Liaison Nurses who are part of the multi-disciplinary team.

Overall, we found that when patients were deemed medically fit for discharge, there were frequent lengthy delays in obtaining packages of care for patients across Wales as a whole, with minimal knowledge in some cases of when these packages could commence.

Where a patient was awaiting a placement in a nursing or residential home, we found dates were often set for transfer out, or plans were in place to cover the interim period elsewhere in reablement beds, before the placement was available, however, this was not consistent across Wales due to bed availability.

Discharge or repatriation to several localities

An additional challenge faced by several health boards is the need to discharge to several local authority areas, and the requirements in each can be different.

Whilst overall, relationships with different local authorities were described as good, we were told there are different referral routes, processes, and IT systems in place, which can make the processes difficult to navigate and more complex at times, delaying the discharge process unnecessarily. We were also informed some local authorities receive people to their homes from NHS Trusts in England, or from other health boards, where discharge processes may be different again from the usual discharging health board. This often makes discharge communication more complex and challenging.

The day of discharge

To help facilitate daily discharges, we considered whether the hospitals we visited had a discharge lounge. A discharge lounge can help improve flow on a daily basis, as patients who are due to be discharged that day can be moved to the lounge to await transport home, or to await medication from pharmacy to take home. This can free up ward beds earlier in the day, which will help with flow across the hospital.

We found that most sites had a discharge lounge. Some lounges had flexible spaces which could be adapted according to demand and patient requirements, such as for a chair or bed. Access to the discharge lounge also varied across Wales, with some open from 8am to 6pm or 8pm, Monday to Friday with no weekend provision.

Our clinical record review found that some discharges took place late afternoon or in the evening. However, in some records reviewed, it was not clear what time of day the patient left the ward, or whether they went to a discharge lounge or other means. Therefore, it was not clear whether the wards had formally completed the timing of discharge process on the electronic patient system, therefore making them appear that they were still in the ward bed. This would make it difficult for patient flow managers to know when the bed is available (or not), which is important particularly when EDs are full, and beds are needed.

We recognise that use of the discharge lounge and accelerated discharge processes may not be clinically appropriate for all stroke patients, particularly those with complex needs, such as physical or cognitive impairments. Staff told us that some stroke wards use their day room for patients to wait for their discharge to help improve the flow through stroke services.

Recommendation 48:

Health boards must consider their discharge lounge services and whether they are utilised efficiently and effectively to support timely discharge to improve patient flow.

Recommendation 49:

Health boards must identify the hospital sites that do not have a discharge lounge service and consider the positive benefits on patient flow of implementing this service.

Recommendation 50:

Health boards must assure themselves that ward staff are promptly declaring a fully completed patient discharge within the electronic patient systems once they have left the ward. This is to enable patient flow managers to see that a bed as become available, to help manage timely patient flow.

Conclusion

It is clear from our findings that the healthcare system across Wales is frequently operating under extreme pressure, with hospitals regularly operating at the highest level of escalation. Poor patient flow is a fundamental issue causing this pressure, and our review has brought to the surface the negative impact this can, and is, having on all patients, not just those on the stroke pathway.

Whilst we have reflected in our review an intention and ambition to tackle this problem, as well as examples of good practice that have made a positive impact in alleviating flow problems, more needs to be done. It is clear that no single solution exists to solve poor flow, rather a range of approaches are required in combination to release the pressures on the health and social care system.

These solutions range from doing more to help inform and educate the public about the choices they make when accessing healthcare services, spreading the positive learning that exists from flow management initiatives within acute hospital settings, and strengthening collaboration and processes around discharge from hospitals between the health and social care sector in particular.

This review used stroke to understand the impact and dynamic nature of flow, and overall, our view is that the stroke pathway is operating effectively to some extent. People receive timely assessment, imaging, and thrombolysis treatment where appropriate. However, access to thrombectomy and the ability to progress people through their recovery and rehabilitation phase, following their stroke, is inconsistent across Wales and needs attention.

Poor patient flow is undoubtedly having a detrimental impact on aspects of the stroke pathway. We have seen the lack of timely packages of domiciliary care, and the availability of community hospital beds or care home beds, resulting in patients remaining in hospital much longer than is necessary. This can lead to patients become deconditioned with a risk that they are no longer medically fit for discharge and require further treatment.

Blockages in the discharge process can cause challenges and pressures across hospital beds, and lead to overcrowded EDs, causing significant issues in the ability of WAST to respond to patients who need emergency care in the community in a timely manner.

It is clear there is an unprecedented pressure across the whole of the health and social care systems in Wales, which has been intensified by the Covid-19 pandemic, however, this pressure is continuing to prevail. Staff are working tirelessly to help manage the flow through hospitals and out to the community. However, despite their best efforts, for a variety of reasons outlined in this report, including demand and system weaknesses this is not leading to a significant improvement in the overall position. Tackling the issue of flow is a multi-faceted challenge that needs the health and social care system, along with Welsh Government, to come together and ensure all is being done to address the issues highlighted by our review.

What Next?

We expect the health boards, Welsh Government, WAST, PHW and Local Authorities to carefully consider the findings from this review and act upon the 48 recommendations set out within the report and listed within Appendix A.

We hope this review will be used to help health boards to improve flow, by encouraging health board teams to collaborate with each other in relation to good practice and innovative practice. In addition, that this work can be a catalyst for improved relationships between health and social care teams.

All relevant stakeholders highlighted within this report are required to submit an improvement plan in response to the review's recommendations. This is to ensure that the matters raised by our review are being addressed.

The findings highlighted in our report, and the responses that we receive, will support HIW in considering whether to undertake further, local or national work.

Appendix A

Recommendations

As a result of the findings from this review, we have made the following recommendations in the table below.

	Recommendations
1	Health boards should engage with each other, to learn from the good patient education practices taking place across Wales. This could help the shared learning with themselves and with GP practices in their localities, to educate patients of the risks for a stroke, to help reduce the number of strokes across Wales.
2	Public Health Wales should consider the development and promotion of a national campaign to raise stroke awareness and its prevention in Wales alongside its Act FAST campaign. This should include raising awareness of stroke prevention within black and minority ethnic communities and the impact of health inequalities and socio-economic deprivation.
3	Health boards and PHW should work closely with Black, and minority ethnic communities and people affected by socio-economic deprivation, to understand the specific issues they face with their increased risk of stroke and in accessing preventative care and ensure ongoing engagement with them to support better health outcomes.
4	Welsh Government, health boards and WAST must work collaboratively, to consider whether the Immediate Release Directions are effective or need improvements, given the high number of declined Immediate Release Directions occurring across Wales.
5	Health boards must communicate with each other to establish the good practices taking in place in some hospitals for the robust management of patient flow. This includes the implementation of effective action plans to manage daily discharges, which remain active throughout the day, and in planning for subsequent days.
6	Health boards must review and consider timelier processes of prescribing take home medication and obtaining this promptly from pharmacy to minimise discharge delays. This should include planning well in advance of the scheduled time for discharge (such as the day before).
7	Health boards should consider the benefits of dedicated ‘discharge phlebotomy slots’ for managing the necessary blood tests, to assist with effective and timelier discharge.
8	Health boards must consider the benefits of Improvement Cymru’s Real Time Demand Capacity methodology, and whether this would have a positive impact to implement (or to pilot) within all hospitals to help manage timelier patient flow.
9	Health boards should reflect on their patient flow processes and consider whether improvements can be made with predictive methodology for

	demand in each of their hospital sites, such as with medical and surgical admissions.
10	Health boards should consider whether a daily senior nursing/ clinical oversight for each directorate could be implemented to facilitate clinical issues with flow. This may help ensure staff are making timely progress to discharge patients, challenge medical staff to undertake key tasks where necessary, and help expedite any outstanding clinical patient needs. In addition, to commence planning for patient discharge on subsequent days.
11	Welsh Government should consider strengthening its promotion of the *Help Us to Help You* campaign, to ensure people are appropriately educated and understand how to access healthcare in the right place, first time, by guiding them towards the most appropriate care service.
12	Health boards and WAST should engage with people to better understand the barriers to them accessing, or choosing, from the range of healthcare services available in Wales. Once the barriers are understood, this in turn, could be used to influence service design.
13	WAST must ensure that all relevant staff are fully aware of the WAST stroke pathway to minimise risks to patient safety.
14	Welsh Government should consider how it can support WAST to develop and implement improvements with its service delivery model, such as increasing the number of advanced paramedic practitioners across Wales, to help reduce the pressure on EDs and improve flow through healthcare systems.
15	WAST should consider the benefits of training its paramedic staff in the use of the ROSIER stroke assessment tool, to enable staff to differentiate patients with stroke and stroke mimics, such as TIA.
16	Health boards should seek assurance that their MIUs and ED departments ensure all reception staff have received up to date Act FAST training, and they are competent with this. In addition, that appropriate escalation process is in place if a receptionist is or is not sure a patient may be suffering with a stroke.
17	WAST and all health boards must work collaboratively to identify a consistent approach to ensure handover of stroke patients is made within the Welsh Government 15-minute target. This is to ensure that time critical investigations and treatment are undertaken promptly.
18	Welsh Government should work collaboratively with WAST, health boards and social care providers to evaluate and strengthen the current processes in place to improve flow through health and care systems, with a concerted focus on the analysis of flow, the bottlenecks impeding flow and the issues with achieving timely discharge.
19	Health boards must ensure that ED staff undertake the triage of patients within the 15-minute target time. Where this has not been possible, it should be clearly documented 'why not' within the patient's clinical record.
20	Health boards must ensure that medical staff who carry the bleep for stroke alerts recognise the urgency of both thrombolysis and non-thrombolysis stroke calls. A patient may still be symptomatic whilst out of the thrombolysis window but may still be within the thrombectomy time

	frame. This is particularly important if a referral tertiary centre is relatively close to the ED.
21	Health boards should review the provision of the CNS or ANP stroke specialist service at each acute site and consider how they can maximise their availability throughout the stroke service.
22	Health boards should ensure that EDs track and monitor all patients arriving at hospital with a suspected stroke (by ambulance and self-presenting), to drive improvement on assessment times, so people can commence on the stroke pathway in a timely manner.
23	Health boards must ensure that all relevant staff within EDs are trained and are competent to use the ROSIER assessment tool. In addition, that staff are consistently using a validated tool, such as ROSIER, to enable prompt differentiation with strokes or stroke mimics, such as TIA.
24	Health boards must ensure that ED staff fully and clearly complete the clinical diagnostic assessment tool for stroke.
25	All health boards should consider the prompt implementation of Artificial Intelligence for stroke imaging following the completion of the all-Wales procurement which was completed in December 2021.
26	Health boards must ensure that the reason for delayed brain imaging is monitored and analysed for possible stroke patients to ensure scans are completed in a timely manner in line with NICE guidance.
27	Health boards and WAST must ensure that all staff associated with potential stroke patients are aware of the updated guidance for thrombolysis treatment window of between 4.5 and nine hours, as highlighted within the *National Clinical Guideline for Stroke* updated in April 2023.
28	Health boards must ensure that sufficient staff in EDs across Wales are awarded time to train and are assessed as competent to administer thrombolysis treatment.
29	Health boards must ensure that all possible stroke patients who are clinically appropriate for thrombolysis, receive treatment in a timely manner.
30	Welsh Government must work with the Thrombectomy Wales Oversight Group, the National Clinical Lead for Stroke, and health boards, to consider how timely and equitable access to thrombectomy treatment for stroke can be made, for all relevant people across Wales.
31	Health boards must ensure clinicians consider the option of thrombectomy treatment where appropriate, and the decision either way (with rationale), should be clearly recorded within the patient's clinical records.
32	WAST must consider its current response times for patients awaiting interhospital transfers for urgent thrombectomy treatment which are classified as 'Red'. This is to ensure a thrombectomy can be completed within the six-hour timescale from the onset of symptoms
33	Health boards must explore the options available to improve the process for prioritising stroke patient admissions to acute stroke wards within the four-hour target, to help maximise their clinical outcome.

34	Ringfenced stroke beds are frequently used for non-stroke patients, which may impact on a new stroke admission to ED. Therefore, health boards must explore how a ringfenced stroke bed can be maintained, to help ensure the best outcome for a stroke patient following their arrival at ED.
35	Health boards should consider both the benefits and potential implementation of Early Supported Discharge to patients' physical and mental wellbeing, and to the hospitals, with earlier discharge therefore improving flow through the stroke pathway.
36	Health boards must review their therapies staffing models to ensure there are sufficient resources and staff in place to adequately manage the rehabilitation and recovery of stroke patients in line with NICE guidance.
37	Health boards must consider the need for psychological support for people with stroke, and that adequately trained staff can provide this support to help effectively manage patient recovery.
38	Health boards must consider introducing the provision of sufficient seven-day therapies services to comply with NICE guidance, to help improve patient flow by supporting a seven-day discharge for patients, and to help meet targets as highlighted within SSNAP.
39	Health boards must ensure that stroke rehabilitation environments are appropriate and are adequate to meet the needs of patients.
40	Health boards must review their board rounds within stroke wards to consider their efficiency and effectiveness so that any actions identified and resolved in a timely manner to facilitate a timely patient discharge.
41	Health boards should ensure that staff are utilising the SAFER Patient Flow principles, to promote safe and timely discharge and help improve patient flow.
42	Health boards should work collaboratively with local authorities and social care providers to improve the discharge processes in place. This includes the need for improved communication processes, improving the information provided for a robust referral into social care, and the sharing of and compliance with health board discharge policies.
43	Health Boards must work collaboratively with social worker teams to consider and understand the processes in place for social worker assessments and allocation to patients. The reasons for delayed assessment and allocation must also be considered to make improvements in this area.
44	Welsh Government must consider the process in place for social work teams and their role in assessment and allocation to patients in hospital, and whether the services across Wales are appropriately funded and managed to support the discharge process from hospital to improve patient flow.
45	Health boards must work collaboratively with social workers and social care providers to ensure that delays in arranging or holding Best Interest Meetings are minimised, to ensure timely and effective hospital discharge for patients to improve flow.
46	Health boards must develop and strengthen Home First services across Wales to benefit the people who need this across Wales, and to help manage the issues with patient flow through health and social care systems.

47	Welsh Government, health boards and local authorities must work collaboratively to consider the options of improving the accessibility to care in the community, such as domiciliary care.
48	Health boards must consider their discharge lounge services and whether they are utilised efficiently and effectively to support timely discharge to improve patient flow.
49	Health board must identify the hospital sites that do not have a discharge lounge service and should consider the benefits of implementing this service on improving patient flow.
50	Health boards must assure themselves that ward staff are promptly declaring a fully completed patient discharge within the electronic patient systems once they have left the ward. This is to enable patient flow managers to see that a bed as become available, to help manage timely patient flow.

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