NHS

retrieve

Adult Critical Care Transfer Service

Annual Report 2022/23

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Foreword from the Lead Consultant

Welcome to the Retrieve Adult Critical Care Transfer Service Annual Report 2022/2023. This is our third publication and, once again, the Service and our team have achieved an enormous amount that I am proud to share with you.

In the last year, we received over 1,200 referrals and have transferred more than 660 patients from hospitals across the South West to destinations within and far beyond our region. Retrieve is now part of every day life for those working within the South West Critical Care Network and its impact is reflected in the feedback we receive from colleagues, patients and their relatives. In December, the team were recipients of a national award from the Intensive Care Society, demonstrating the national significance of our service and its achievements.

As we leave the pandemic behind us and look forward, our focus remains on ensuring we deliver the highest quality service whilst identifying areas that we can work with partners to transform patient care and journeys. Retrieve is one of very few Adult Critical Care Transfer Services (ACCTS) reporting performance against the national Quality Indicators. We recognise that these only tell part of the story and in the next year we seek to further understand how our performance affects the service we deliver and how we can continue to improve what we do.

One of the most exciting areas of development in the last year has been the collaborative work we have been doing with partner specialties and Networks across the South West. This has allowed us to identify patients and conditions that require specific interventions and we are using the reach and impact of Retrieve to improve the delivery of these interventions and thus the quality of care the patients receive. We continue to share much of this regional work nationally and are busy with further developments as this report is published.

A year ago I was delighted to confirm that NHS England has confirmed recurrent funding for ACCTS across the country to operate during the daytime. Late in 2022, the Retrieve Leadership Team worked with colleagues in our host Trust, University Hospitals Bristol and Weston NHS Foundation Trust (UHBW), and NHS England South West to develop the case for our service to progress to 24 hour operating. This case helped inform national discussions and has led to the confirmation of recurrent funding of Retrieve for 24/7/365 operating in the 2023/24 financial year. This is a remarkable achievement as we will be able to reach even more patients and continue to improve transfer care for all critically ill patients in our region and beyond.

We are enormously grateful to colleagues in the Division of Surgery and wider UHBW Trust as well as NHS England South West and the South West Critical Care Network (SWCCN) for their continued support in the delivery of Retrieve services.

Our service's success is attributable to the care, attention and passion that each and every member of our team contributes. I want to thank them for continually going above and beyond for our patients, their relatives and our service. It is a privilege to lead such a group of individuals and share their achievements with you. I hope that you find the 2022/2023 Annual Report informative and invite you to get in touch to learn more about Retrieve or to join our team.

Dr Scott Grier
Lead Consultant

About us

Retrieve is one of a network of ACCTS across England. Commissioned by NHS England South West Specialised Commissioning, the service is hosted by UHBW and serves the Acute NHS Trusts within the region.

Critically ill and injured patients frequently require transfer between hospitals to access specialist services and care. We also provide safe transfer from these centres back to a patient's local hospital once they have completed specialist care or when they have become ill far from home. Retrieve's function is to support the referral, triage, coordination and delivery of these transfers in adult (≥16 years) patients.

Twenty-four hours a day, Retrieve operates a single point of contact through which referrals are received by a Duty Consultant who triages, provides clinical advice and determines whether the team is required to undertake the transfer. During daytime hours (08:45-21:00), the service operates two dedicated transfer teams, one in Launceston, Cornwall, covering the Peninsula region and one in Bristol covering the Severn region. Each team consists of a Duty Consultant (all of whom also work within the region in Critical Care and/or Anaesthesia), Transfer Practitioner (all of whom are experienced Critical Care Nurses), driver and dedicated ambulance with specialist critical care transfer equipment and drugs. Outside the hours of the clinical team (21:00-08:45), the Retrieve Overnight Vehicle (ROV) is operational to transport patients and local escorting clinical teams as required. Finally, when Retrieve is unable to undertake a transfer (e.g. the team or ROV are already committed), the service has a unique agreement with South Western Ambulance Service NHS Foundation Trust (SWASFT) that allows our Duty Consultants to request an appropriate priority frontline ambulance for the referring hospital team to undertake the transfer.

Retrieve's objectives

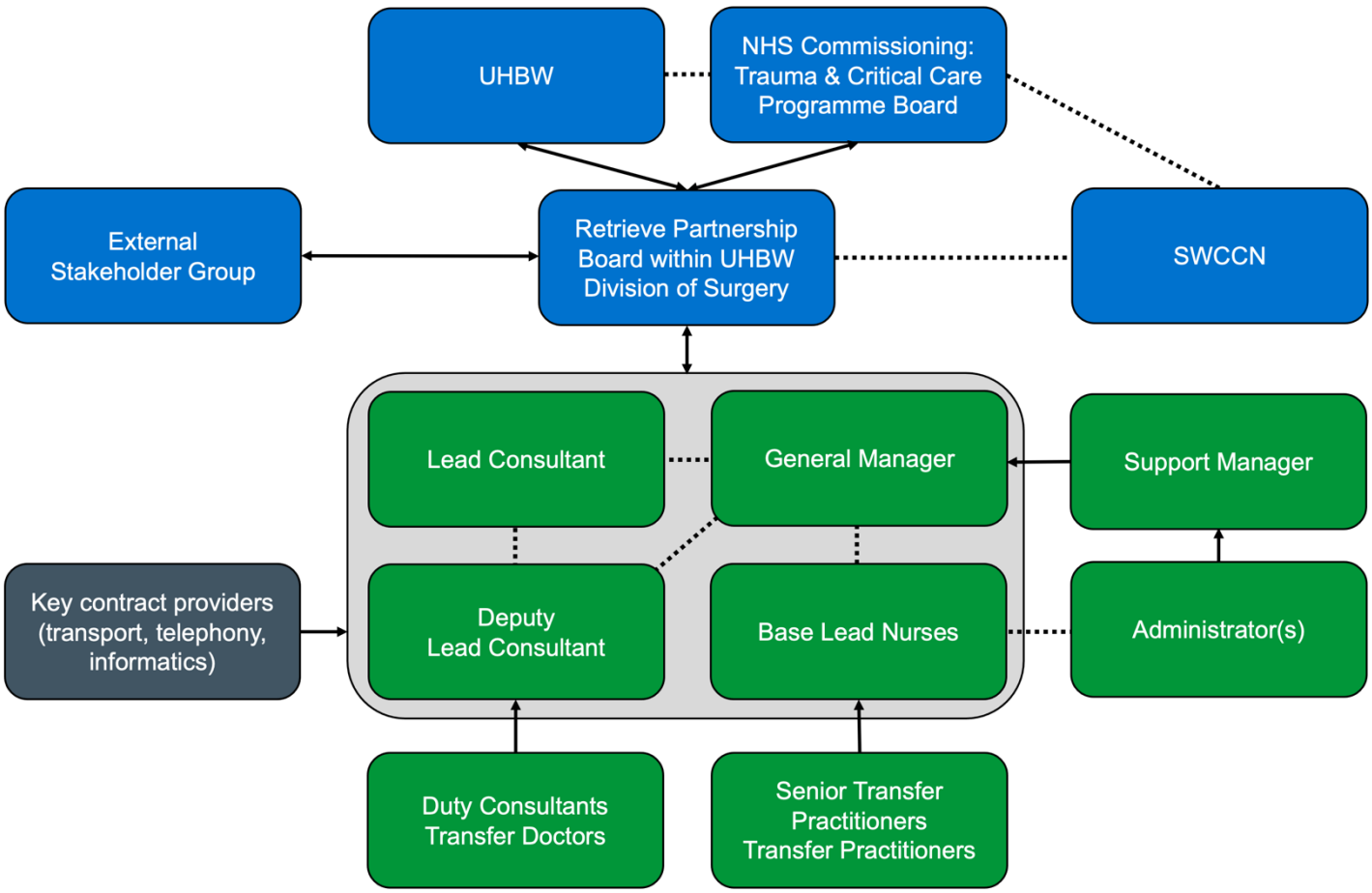
- Support **every** adult critical care transfer referral with **high quality, consultant-delivered decision-support**
- Provide **expert consultant-led transfer care** for every patient throughout their journey
- Ensure **equitable access to our service** across the geography of the South West and across 24 hours
- Ensure that **our patients are at the centre of our service**
- **Capture high quality data** on every referral and transfer and use this to continually improve our service
- **Work collaboratively** with our host Trust, SWCCN, NHS England South West, partner Acute NHS Trusts, specialty networks and SWASFT to ensure the service we provide meets their evolving needs
- **Support** the regional development and delivery of **multi-disciplinary critical care transfer training** to ensure all patients transferred both within and between hospitals benefit from improved care
- **Build upon established relationships with existing South West neonatal and paediatric transfer services**, sharing expertise and seeking to develop innovative ways of delivering our services
- **Work alongside** other ACCTS to continue to **build a national network**.

Governance and accountability

The Retrieve Leadership Team comprises the Lead Consultant, Deputy Lead Consultant, two Base Lead Nurses and General Manager who report into the Retrieve Partnership Board under the Division of Surgery within our host, UHBW. The service is commissioned by NHS England South West, to whom we are ultimately accountable through the quarterly Trauma and Adult Critical Care Network Programme Board.

Retrieve has a close relationship with the SWCCN whose leadership attend our Partnership Board to represent the Network membership and provide expert clinical advice and guidance. The SWCCN also have a peer review role in quality assuring our service, just as they do for critical care units within their footprint.

The diagram below shows the service governance and accountability structure as of 1st April 2023.



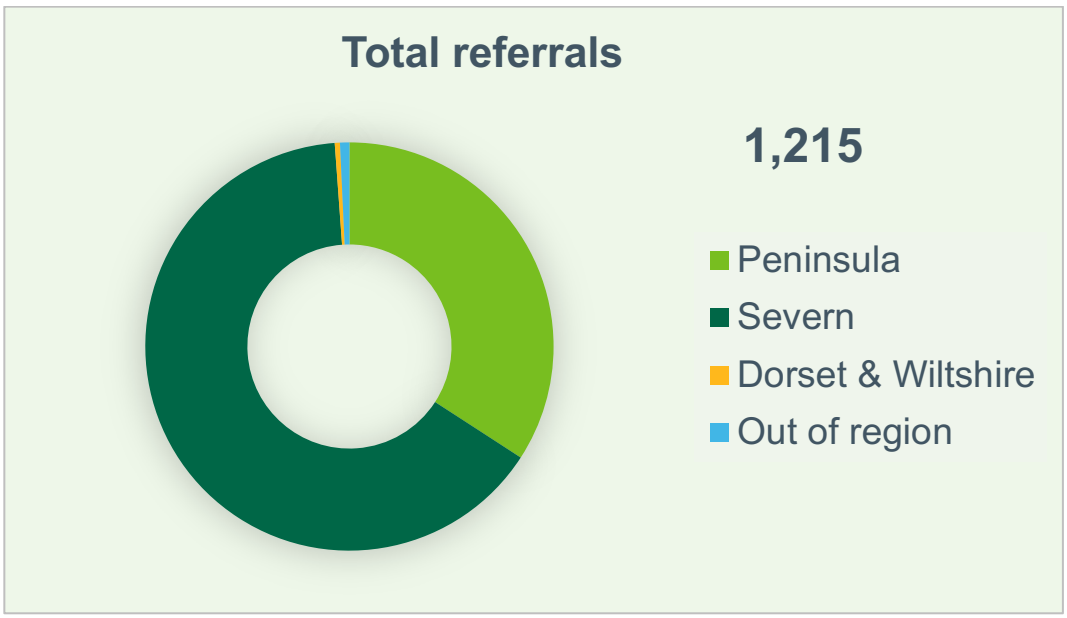
The Retrieve operational and clinical service is underpinned by an extensive library of standard operating procedures (SOPs) to ensure consistency and high-quality care across the region. Many of these have been developed in collaboration with regional specialties and Networks to ensure the needs of their patients are met and that they are improved as pathways evolve. In these cases, documents are approved regionally prior to final UHBW approval and publication.

Operational activity

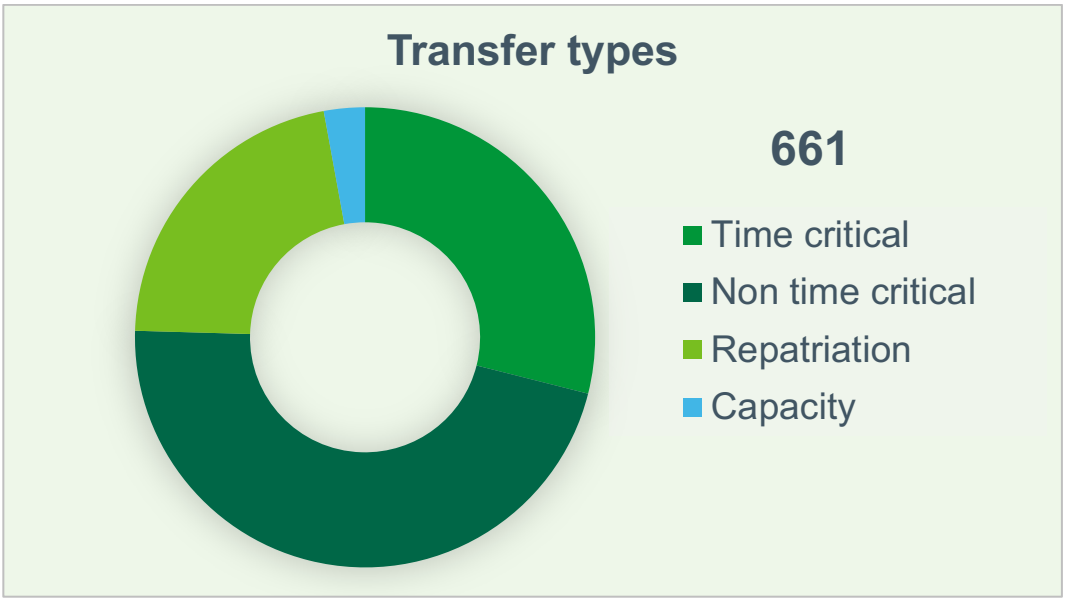
The 2022/2023 financial year has seen close to a 20% increase in referral activity compared to the previous year; 1,215 referrals up from 1,018 in 2021/2022. The number of transfers undertaken by our clinical teams is more stable (661 in comparison to 665). The rise in referral activity in relation to transfers undertaken most likely reflects the service becoming fully embedded in referral management activity for certain pathways which rarely necessitate a critical care transfer, in particular mechanical stroke thrombectomy. Over the past 18 months, this involvement has progressed from the pilot phase in the Severn region, followed by 24/7 Severn services and, now, 12/7 services within the Peninsula. Neurology and stroke medicine now comprise over 10% (67) of transfers undertaken. Nearly a third (21) are stroke mechanical thrombectomy transfers but for every 1 thrombectomy transfer we undertake, we manage close to another 4 referrals of patients who require a paramedic ambulance transfer (78).

The year in review

As in previous years, Retrieve both receives referrals and undertakes transfers in a ratio of 2:1 between the two sub-regions. This reflects the differing population size and number of hospitals within the Peninsula and Severn sub-regions.



A very small minority of referrals come from hospitals outside the Retrieve area. Around half of these represent requests for repatriation of patients into hospitals within the South West (which are the remit of the Adult Critical Care Transfer Service local to the referring hospital and are thus requests for mutual aid). The next most common single type of referral in this group are stroke thrombectomy referrals from hospitals outside the Retrieve operational area, but who are within the catchment areas of the Stroke Thrombectomy centres. We continue to work with colleagues in the Integrated Stroke Delivery Networks to refine and streamline pathways of care to ensure consistency and clarity to referring and receiving hospital colleagues.



Capacity transfers and repatriation

As we would anticipate in the post-pandemic era, capacity transfers have reduced from 9% in 2021/2022 to 3%. Meanwhile, reflecting the ongoing pressures hospital services face in the pandemic recovery phase, repatriation transfers have increased both proportionately (22%, up from 19%) and in absolute terms (143 transfers, up from 124 transfers). As maintaining flow within specialist pathways becomes ever more challenging, we see this reflected in the total proportion and numbers of patients transferred for reasons other than escalation of care; in 2021/2022, repatriation and capacity transfers comprised 20% of transfer activity, whereas this year we have seen this rise to 25%.

Escalation of care

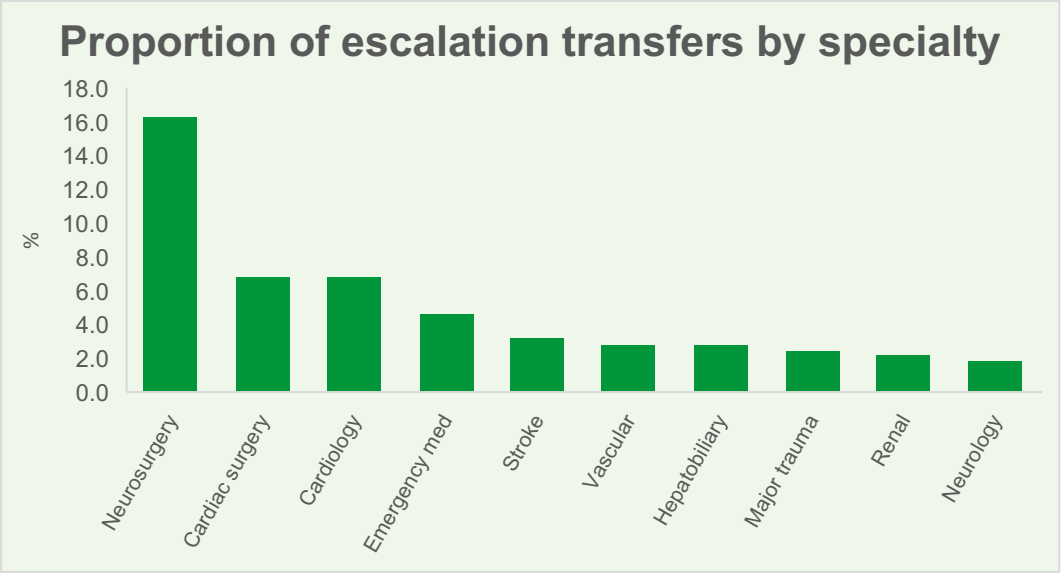
Escalation of care transfers represent the remaining 75%. The proportion of these requiring time critical transfer vs non time critical transfer remains almost identical to previous years at 29% and 46% respectively. Time critical transfers are defined as those concluding in a life-, limb- or sight-saving intervention within 60-minutes of arrival at the destination. Non-time critical escalation transfers are those of patients who require specialist intervention or observation, but not immediately upon arrival to save life or limb.

Time critical

The Retrieve response to time critical and non-time critical escalations of care, from mobilisation time to the duration of time spent in the referring hospital and at the patient bedside is described in the performance and quality section below and further commentary on correct categorisation and patient follow-up is made later in this report.

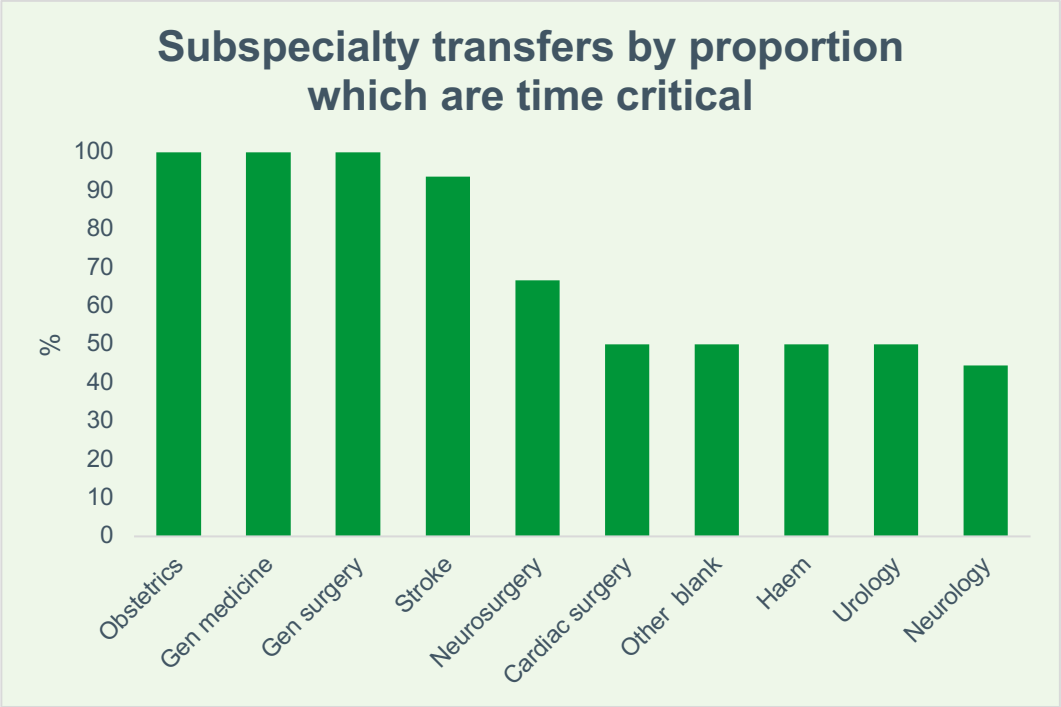
Referral pathway volumes

Retrieve interacts with a comprehensive range of hospital specialties. Previously, our data collection systems have lacked detail and consistency in capturing the exact types of patient pathways which our patients follow, and this has limited the extent to which we can interpret the volume of work we undertake. This is improving, although 44% of all escalation transfers are still categorised simply as “Critical Care” for the receiving specialty. Beyond that, our patients are now clearly categorised into a further twenty-three subspecialty groups. The top ten most common specialty groups (after Critical Care) are illustrated below:



The bulk of escalation transfers are accounted for by neurosurgery which aligns with experiences across Major Trauma Networks and specialist neurosurgical centres. Cardiology and cardiac surgery referrals represent an interesting reflection of the different distribution of services between the two sub-regions of the service. In both sub-regions, an equal number of time-critical escalations were made for cardiac surgery purposes (a fact of some note in isolation, in that this does not demonstrate the typical 2:1 ratio of referral volumes between Severn and Peninsula). Meanwhile, the volume of time-critical cardiology transfers approaches 4:1, rather than 2:1. This reflects a much more centralised coronary angioplasty model in the Severn region. The majority of transfers categorised as “Emergency Medicine” most likely represent Major Trauma patients and, if those categorisations are combined, the total matches those for cardiology and cardiac surgery. Stroke referrals are at fifth.

It is relevant, also, to compare the sub-specialties in terms of what proportion of transfers passing through these pathways do so for time-critical reasons. This allows us to consider that there are perhaps specialties who, while having a smaller volume of patients, justify an extra portion of our attention as the time-criticality for those patients emphasises the need for us to work closely with colleagues to refine effective and efficient referral and transfer pathways. Through this lens, neurosurgery slips to fourth place behind obstetrics, general medicine and general surgery (each with a single transfer, but all being time-critical), and stroke medicine. At the time of publication of this report, work on maternal/obstetric critical care transfers is well-advanced, ensuring these patients are recognised within the scope of ACCTS such as Retrieve, demonstrating the utility of identifying such trends.



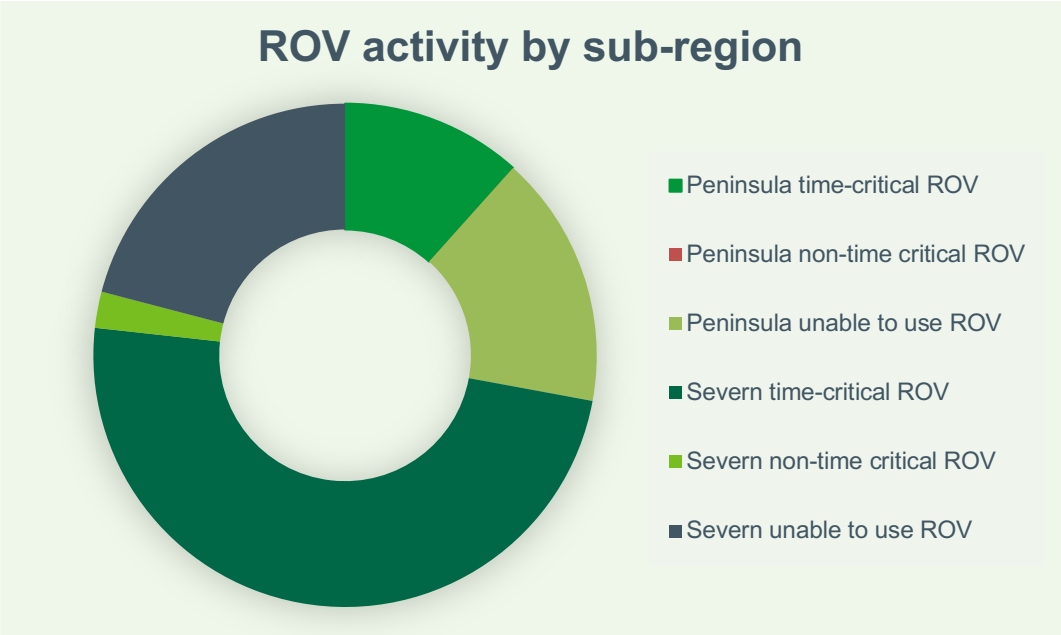
Declined referrals and unmet need

Retrieve currently operates two dedicated transfer teams during the daytime (08:45-21:00) and provides the coordination, triage and clinical advice 24/7. With one team in each sub-region and with the challenges of geography and rurality, especially Peninsula within the South West, there are occasions when the team are unable to undertake a transfer if they are already committed. Similarly, balancing service demand against the safety and welfare of our teams is something the service takes very seriously, so inevitably there are some patients we cannot reach because taking on a referral during the hours of the shift will inevitably lead to a very late shift finish. Of the 661 transfers undertaken, 8.6% (57) resulted in predictably late finishes for our teams, some as late as 4.5 hours beyond the scheduled 21:00 finish. Meanwhile, of the 554 referrals declined, in only 2.7% (15) of cases did our teams do so on the basis of concerns for the resulting length of overrun.

Retrieve Overnight Vehicle (ROV) and paediatric patients

Towards the end of 2022 it became very apparent that the extraordinary pressures facing the NHS were having an acute impact on critical care transfer activity. The extreme pressures on South Western Ambulance Service NHS Foundation Trust (SWASFT) meant that overnight transfers of patients outside Retrieve clinical team hours were facing significant delays, even for time-critical transfers. Working in partnership with NHS England South West and the South West Critical Care Network, a new extension to the Retrieve service was launched in December 2022. The Retrieve Overnight Vehicle (ROV) provides a Retrieve ambulance and driver dedicated to support critical care escalation transfers. While it requires hospitals to provide a team of two clinical escort staff and their own transfer trolley and equipment, it completely disconnects the critical care transfer system from the pressures felt by the ambulance service. The ROV will also repatriate staff and their equipment at the completion of the transfer, unlike an ambulance service transport where staff are often required to make their own way back by taxi. This has a significant reduction in the time staff are away from providing crucial services in their base hospital. The ROV clearly helps us to make inroads into the unmet needs of the existing commissioning model; it is our first step towards 24/7 operations. Since the service started on 5th December

2022 up to financial year end, Retrieve received 79 overnight referrals. Focussing on the 53 which were in scope, 51% (27) were undertaken with the ROV.

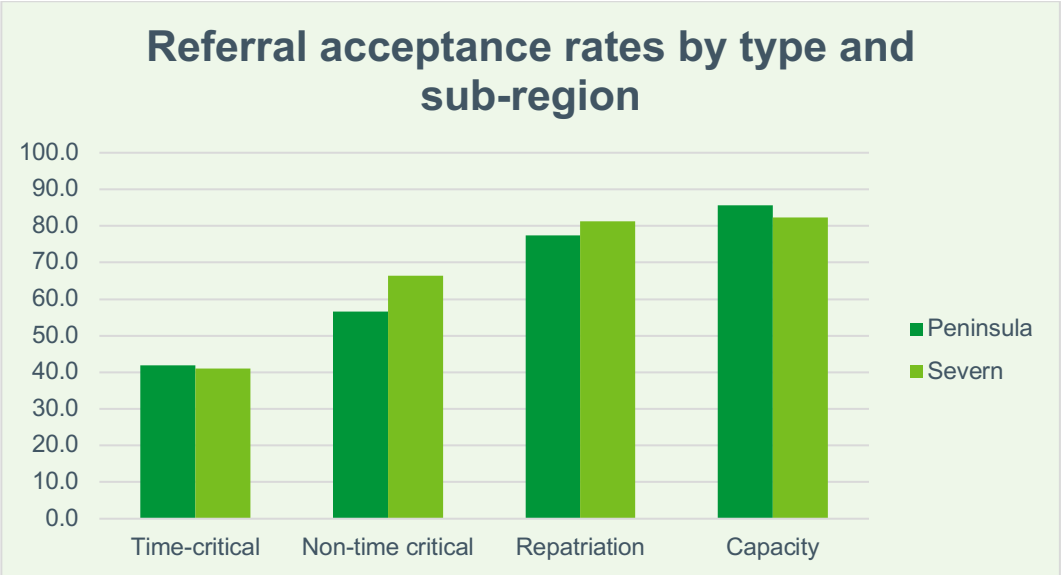


Use of the ROV is restricted to escalation of care transfers but, unlike the daytime commissioned scope, is available for transfer of paediatric time-critical patients when sanctioned by colleagues from the Wales and West Acute Transport for Children (WATCh) service; children were transferred in 3 ROV transfers. The ratio of ROV-appropriate referrals between the two sub-regions demonstrates a slightly wider split compared to daytime activity, at 2.5:1 (31 from Severn vs 12 from Peninsula). What is striking, from the infographic above, is that the number of occasions where the ROV could not be utilised (due to lack of a transfer trolley or sufficient escort staff), is numerically similar; 9 in Severn, 7 in Peninsula. This means 58% of ROV-appropriate referrals are not able to utilise the service in Peninsula compared with 29% in Severn. The common thread in both regions however, is that staffing is more of an issue than trolley availability, being responsible for declining the offer of the ROV in around two thirds of cases where it is offered.

The significance of the task of progressing to 24/7 service provision may well necessitate a staged approach and it is clear from this data that the most impactful initial step will be the addition of a Transfer Practitioner to the ROV. Their presence will largely solve the staffing issue and also allow us to provide a fully equipped ROV with a trolley, thus overcoming both barriers to ROV use.

A total of 551 referrals were declined. In 2021/22, 22% of declined referrals were due to being out of scope. We have seen this more than double this year, to 47%. The reasons for this are certainly multifactorial, but the most easily quantifiable contributor is the success of the mechanical stroke thrombectomy pathway; without those patients who require thrombectomy but not a critical care transfer, the proportion of referrals declined on a basis of scope reduces to 33%. The remainder, we theorise, is accounted for in part by knowledge of the service permeating out into the wider hospital community. We are often called by services who have heard about us from colleagues, but whose patients would not fall within scope – this represents a potential expansion opportunity for services like ours in the future. We must also consider the possibility that we could be over-interpreting our scope and declining an unduly large proportion of referrals. We are happy to report that we have had little, if any, feedback from referring hospitals to that effect. Next year we will be able to report on our

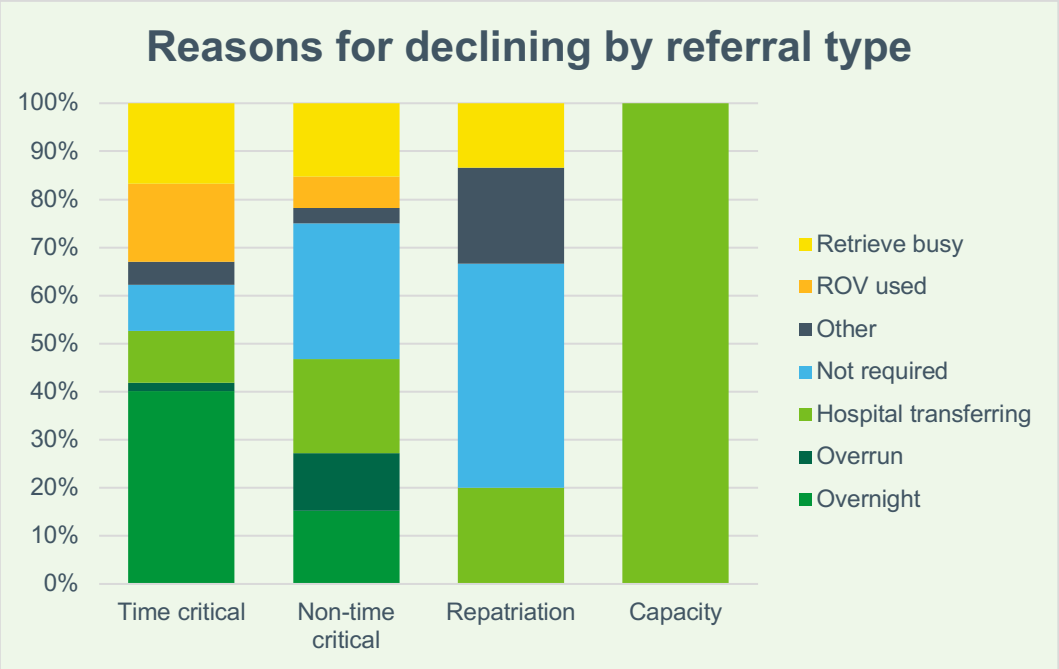
first full year of outreach visits to all of our referring and receiving hospitals. Visits like these will provide an ideal interface to seek feedback on many issues and the improvement opportunities.



The infographic above demonstrates, there is little variation between the two sub-regions in terms of the proportion of referrals accepted when broken down by referral type. Our acceptance rate for repatriation and capacity transfers is predictably higher than for escalation transfers. We typically have more notice of this activity, and completion of these transfers can be deferred if necessary, so accepting and achieving them becomes much more likely.

The reasons for declining referrals beyond considerations of scope (27% of time-critical referrals and 21% of non-time critical referrals) are demonstrated below. The graphic shows the combined proportions across the entire service. The proportions are very similar between the two sub-regions except in two regards.

- The proportion declined by the Severn team due to being committed on another transfer is significantly greater than in Peninsula (8.4% vs 0.0% for time-critical, 3.5% vs 1.6% for non-time critical). Whilst the consideration of a second team may appear to be a straightforward solution, it would need careful consideration and is unlikely to enable us to meet the entirety of this demand as it would be too inefficient to provide two identical teams; in the future it may be that Transfer Practitioner-led transfers allow us to address some of this.
- The proportions of out-of-scope referrals also differ slightly between the two regions, with the Peninsula team receiving almost twice the proportion of out-of-scope referrals for non-time critical and repatriation transfers (29.5% vs 15.6%, and 17.5% vs 10.4% respectively). Whilst we do not fully understand this trend, it may represent better awareness of the service across the wider hospital community in Peninsula and the demands faced on the 999 ambulance service over the last year.



As the chart above demonstrates, for escalation transfers, the overnight referrals are a significant unmet need. However, in Q4 of the year, a proportionate segment of that work is accounted for by uptake of the ROV. This suggests that comprehensive use of the ROV might reasonably be expected to meet the bulk of this demand. A smaller proportion are collectively accounted for by the teams already committed with other referrals (15-18% of declined, in-scope escalation referrals). For a small proportion of these referrals, which occur at the start and end of the shift, as well as those befalling a concern for shift overrun, the availability of overlapping teams in the delivery of a 24/7 model might well be expected to address this need in the future.

A not insignificant proportion of all in-scope, declined referrals were in fact undertaken by the referring hospital. Future 24/7 provision, will likely encourage more consistent reliance upon Retrieve, and hospitals are less likely to undertake the transfers themselves. Nevertheless, there will remain occasions where Retrieve teams are already committed, or cannot reach the patient soon enough, and the service will continue to depend on a small proportion of transfers being delivered by hospitals. It is vital, for that reason, that we continue to build our relationships with our referring hospitals, and contribute in every way possible to provide training and education across the SWCCN, so that we can ensure those patients not transferred by Retrieve still receive high-quality care on every occasion.

Performance and quality

Nationally agreed quality indicators

The NHS England Service Specification for ACCTS includes Quality Indicators for services such as Retrieve. The definitions of these, frequency and method of reporting were agreed in late 2021 by the Retrieve Partnership Board. The service's overall compliance is detailed in Appendix 1 and narrative included below.

Deployment timings and performance

Referrals and transfers are categorised into the four core groups described (time-critical and non-time critical escalations, repatriations, and capacity transfers) and the expected team response times vary across these groups. Response is measured in mobilisation time (time from accepting the transfer to the vehicle moving) and also time at the patient bedside (arrive at bedside to depart bedside). The target times are short for time-critical patients (5 minutes mobilisation, 20 minutes at bedside) and longer for non-time-critical (15 minutes mobilisation, 30 minutes at bedside).

Retrieve adopted the national Quality Indicators and adopted ambitious bedside 'turnaround' times at the launch of the service to place focus on the timeline for patients in whom time is important. Our analysis of our 2022/23 data has been challenging due to the way our electronic patient record system allows us to download data. As a result, we can report the national Quality Indicator performance but not our turnaround times. We anticipate we will be using Version 2 of the software by late 2023 which will eliminate this problem. The 2021/22 data is included in brackets for comparison.

	Escalation of care (time critical)	Escalation of care (non-time critical)
Mobilisation time	69.8% (46.5%) within 5 minutes	61.7% (47.0%) within 15 minutes

The mobilisation times for both time-critical and non-time critical cases have reduced overall with a significant increase in our compliance with the national Quality Indicator metrics. There are a number of reasons for this:

- We have placed focus on the importance of these elements within the team induction package.
- We have published weekly performance in our Team Newsletter.
- We have posters on the walls of our bases with definitions and targets easily accessible.

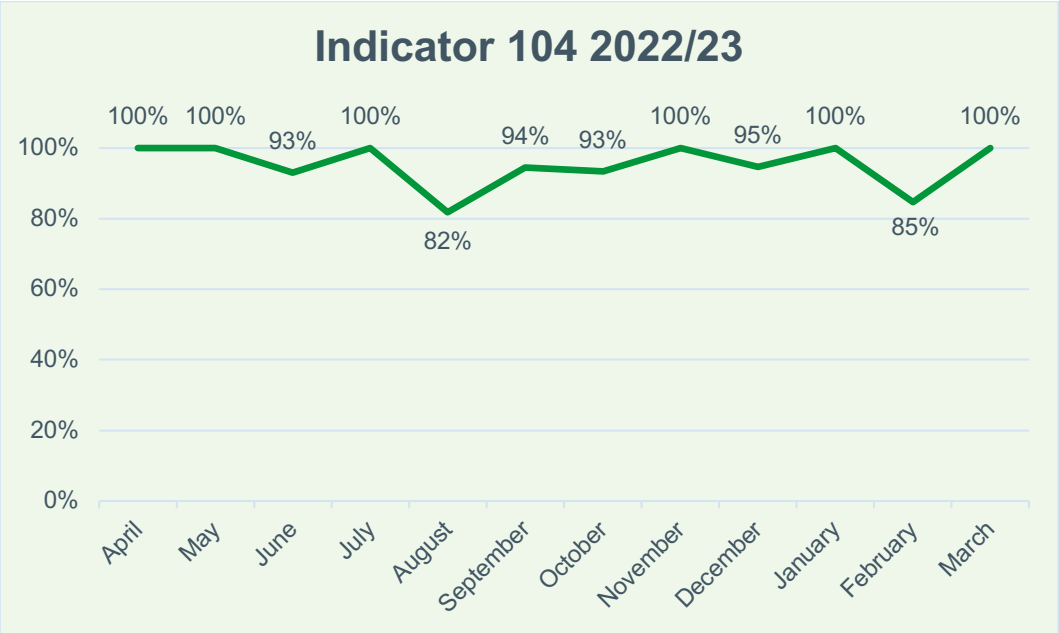
In addition, we have worked hard with individual team members to improve the accuracy of our data, ensure we are correctly defining patients as 'time-critical' or 'non-time critical' and have increased confidence in the times recorded as a result.

Looking ahead to 2023/24, we expect to have a real-time dashboard that will enable us to monitor performance and respond appropriately to changes in it as well as being able to share that data in our next Annual Report.

Pathway timings

Indicator 104 requires us to report on the proportion of time critical patients who reach the specialist centre within 240 minutes of the referral being accepted. The graph on the next page demonstrates that our compliance with this indicator is high. Currently there is no national benchmark on this but we anticipate we will be able to

compare our performance against other ACCTS next year when the national data collection process is operational.



There are a number of confounders when we examine the patient journey from time of onset of illness or injury to arrival in the specialist centre. In many time critical patients, the shorter this time is the better their potential outcome may be (e.g., traumatic brain injury with expanding extradural haematoma where increased time may lead to increased brain injury; post-cardiac arrest patient with myocardial infarction requiring coronary angioplasty where increased time will result in greater myocardial damage). In 2022, we started collecting three data points in addition to those described above. These are:

- Time of onset of illness or injury
- Time of arrival in referring hospital
- Time of acceptance by specialty team in receiving hospital

The intention has been to enable us to identify areas of delay that may be outside the direct influence of the team but that impact on the overall time from onset to definitive care. We anticipate that this work will lead to a change in the national Quality Indicator to reflect this overall time later in 2023. Whilst the dataset is incomplete, there are clear themes:

- Variations in pre-hospital timings occur due to the geography of the region (e.g. rurality of Devon and Cornwall) as well as pressure on the ambulance service.
- Whilst many time-critical patients are identifiable very early (within minutes) of their arrival in the Emergency Department, there are often significant (minutes to hours) delays in referral to Retrieve and acceptance by a specialty team.

This is a complex area as these patients require resuscitation, stabilisation and imaging in this time. However, as a service we are keen to work with Acute Provider NHS Trusts to reduce this time and actively encourage early referrals to Retrieve to reduce the risk of events happening in series rather than parallel. This will continue to be an area of focus during the 2023/24 year as we commence our Roadshow programme, visiting all hospitals in the region.

Patient experience

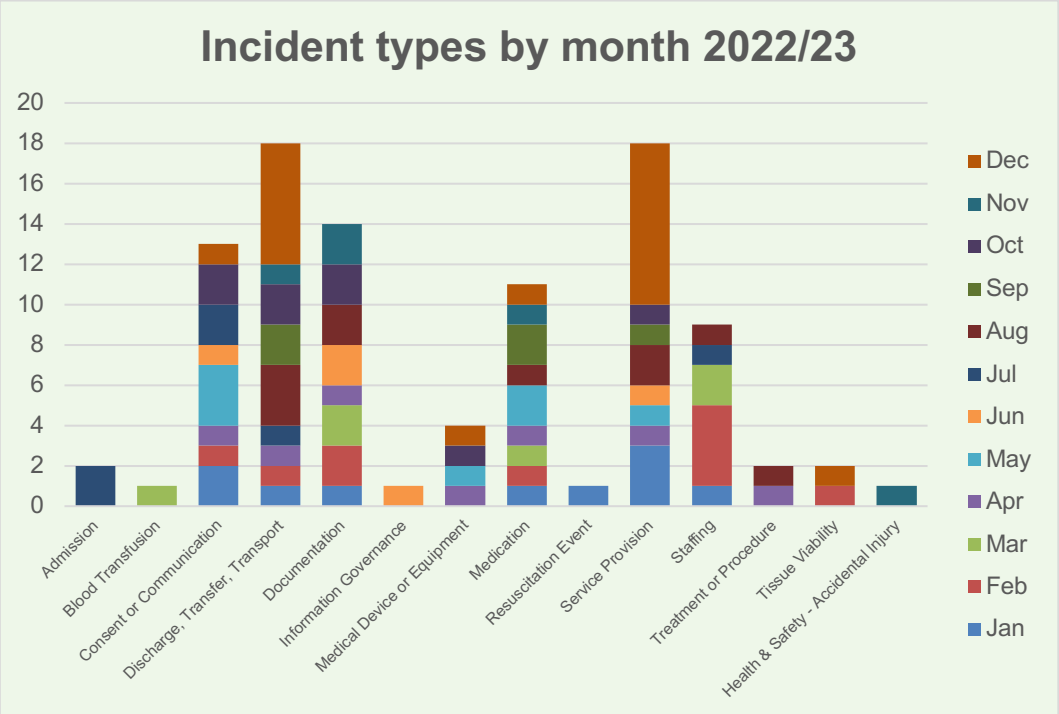
During the 2021/22 year, Retrieve worked with the UHBW Patient Experience team to better understand the needs of our patients and their relatives. A Patient Information Leaflet was created and shared on our website (compliance with QI 201). This has been widely distributed as it is carried by the team and given to all awake patients and any relatives that are present. Feedback is invited from patients and their relatives (see Feedback section below) through our website.

It is very unusual to need to transfer an adult patient's relative with them as most have their own transport and do not need to be in the ambulance where space is at a premium. Retrieve have developed a Standard Operating Procedure (compliance with QI 202) that ensure the safety of the patient, relatives and wider team. Very occasionally, when it is in the best interests of the patient, a relative has been transported alongside them.

Critical and serious incidents

Retrieve incidents are reported through the UHBW Datix system, in line with other clinical services within the Trust and can concern any element of the operational and clinical pathway from referral through transfer to handover and interaction with SWASFT. We have a positive culture of actively reporting incidents and this has allowed us to continually evolve our service to mitigate these.

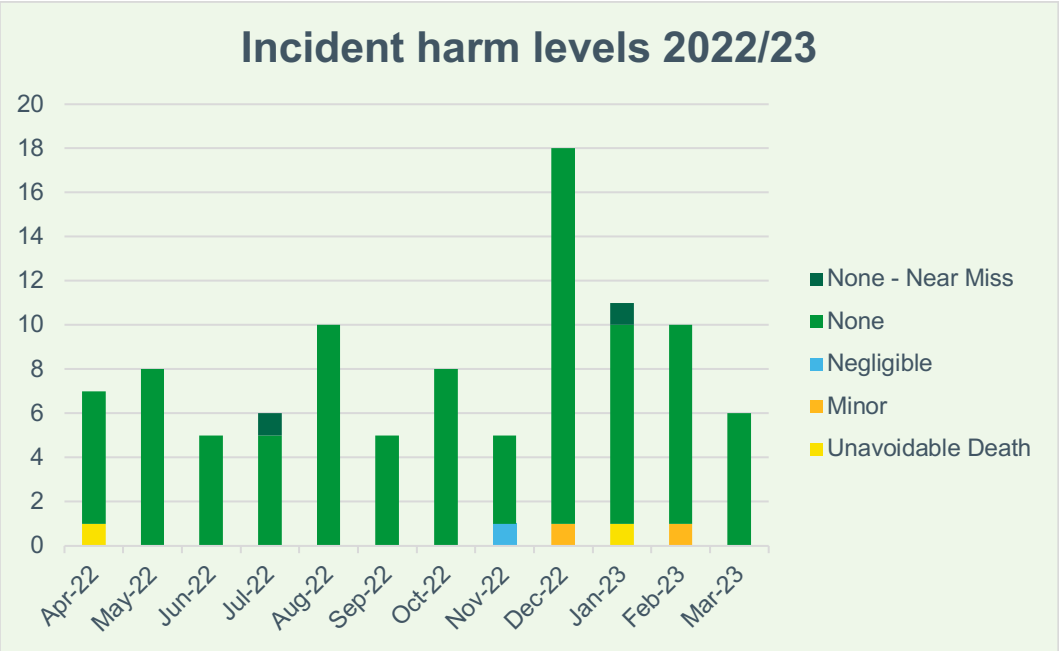
During the 2022/2023 year, 99 incidents were reported and these are summarised by type and month in the graph below. The commonest type of incidents concerned discharge, transfer and transport and service provision. The former largely pertains to delays in patient transfer due to referring hospital paperwork and also incorporates vehicle-related incidents (e.g. tyre puncture). The latter concerns occasions when the service has been deficient due to last minute sickness or other event (see staffing section below).



Compared to 2021/22, the total number of reported incidents has decreased (123 to 99) as has the number directly related to patient care (14 to 6). Whilst the numbers are small, this reflects the continued positive

reporting culture that the service has and the way in which incidents are reported regardless of perceived severity. The reporting has enabled us to identify themes associated with our electronic patient record system and challenges with medication management with remote working that have been successfully mitigated following identification.

In 2022/23, there were 5 incidents associated with harm (4 to patients, 1 injury to a member of staff). For the first time, this includes the deaths of two patients immediately after transfer. Both of these cases have been appropriately investigated and processed through the Retrieve and UHBW Clinical Governance and Patient Safety processes and found to be unavoidable given their pathology. The two other patient-related incidents concern minor pressure related injury which we have mitigated with further training and education.



Clinical governance and case review

As a service, we continue to have a positive approach to clinical governance with daily case review, Leadership Team case review and monthly clinical governance meetings. These meetings, which are run virtually to maximise involvement and attendance across our team, are very well attended and offer us the opportunity to review challenging cases and those which have significant learning points as well as discuss the service, keep the team up-to-date, provide education and present audits, quality improvement and other projects.

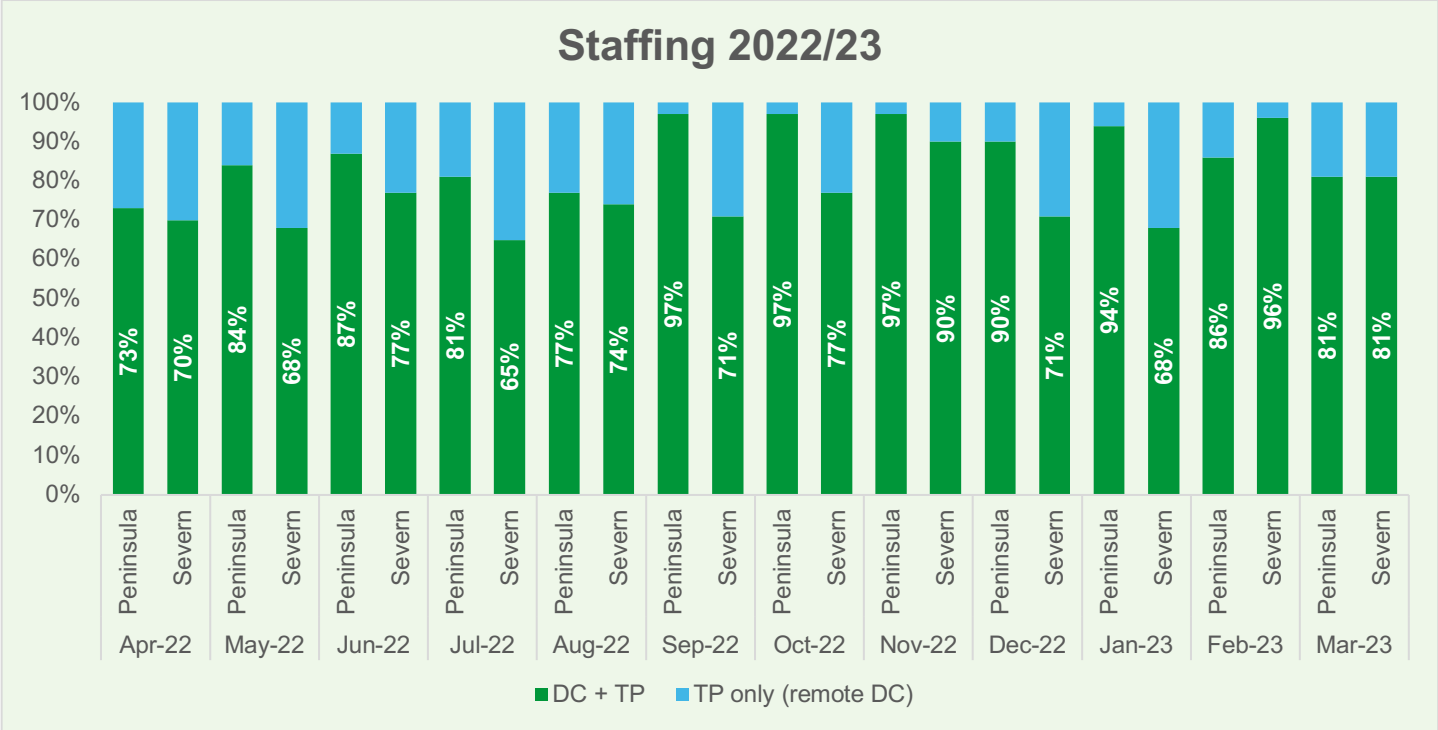
During the 2022/23 year we have advertised for a Clinical Governance Lead Consultant but have yet to appoint to this position.

Staffing

Indicator 303 requires us to provide a full critical care transfer team each operational shift from each base. This consists of a Duty Consultant and Transfer Practitioner. Staffing has been one of the greatest challenges facing our service since launch given the limited pool of appropriately trained and experienced staff in the region as well as the demands placed on this same group due to the pandemic.

At the end of the 2022/23 financial year, the service had 30 Duty Consultants (17 in Peninsula and 13 in Severn) of whom 9 are job planned and 21 are not. Duty Consultant commitments to the service are the same regardless of route of payment and we maintain these different routes to maximise individual's ability to contribute alongside their other work. The service had 11 Transfer Practitioners of whom 9 work approximately 60% of their time with Retrieve and 40% in a Critical Care Unit within the South West, an agreement that has developed over the last 2 years and is seen very positively by both Retrieve and the Units involved as knowledge is shared and experience utilised to improve processes and care within their own units.

In order to monitor compliance with Indicator 303, staffing is reported monthly to the Partnership Board and this is graphically represented below. This demonstrates that our compliance was on average 87% in Peninsula and 76% in Severn, reflecting the numbers of available Duty Consultants. There are complex reasons for this and as the service looks to grow and progress towards 24/7 operating, we will again be working with Critical Care Units and Anaesthesia Departments in the region to look at ways of further expanding our workforce to ensure a resilient and fully-staffed service into the future.



Referral pathways and platforms

Indicator 304 requires Retrieve to have an electronic referral pathway, single point of access telephone number and to provide real-time consultant-led decision making. Whilst we provide the latter two, we have so far chosen not to implement the nationally-procured 'Referapatient' system for electronic referrals owing to the following;

- Referapatient is widely used by specialties across the South West but there is limited to no functionality to combine referrals (e.g. neurosurgery and transfer; neurosurgery and major trauma). This means that the referring clinician has to complete 2 or 3 different forms for the same patient which is inefficient, time wasting and not conducive to effective referral handling.
- A national procurement process will be undertaken for the 2024/25 year and beyond and, as a service, we do not want to implement a system that will then have to change within 12 months.

Therefore, we have chosen to delay adoption of an electronic referral platform until later in the 2023 calendar year. We anticipate we will be fully compliant with QI 304 by the next Annual Report.

Quality Impact Assessment (QIA)

The most recent QIA was performed in April 2023. As Retrieve is a service designed to provide equitable access to all critically ill patients requiring transfer across the South West, there are no areas where impact has been identified as being deficient.

South West Critical Care Network Peer Review follow up

A key element of the NHS England Adult Critical Care Transfer Service Specification is the requirement for all ACCTS such as Retrieve to have formal relationships with their associated Critical Care Operational Delivery Network(s). Retrieve benefit from an excellent relationship with the SWCCN which underpins the service we deliver to critical care patients across the region. As part of the formal relationship, the SWCCN undertook a quality assurance peer review of Retrieve in March 2022, the first of its kind in England.

The Peer Review made eighteen recommendations covering operational, education and quality areas of our service. These were incorporated into the Service Development Plan which is reviewed monthly in our Partnership Board and a gap analysis was performed early in 2023 to assess progress (Appendix 2). We have made excellent progress against these and met with the Network in to review and follow up April 2023.

Audit, quality improvement and research

Whilst much of the focus in the initial phase of Retrieve has been on the strategic delivery of the service, as time and resource have allowed, we are now placing greater and greater emphasis on understanding and utilising our data to evaluate and inform improvement in our practice.

In the past year, we have:

- Created an audit 'recipe book' focusing upon key areas of practice (e.g. monitoring, temperature management, blood transfusion, neuroprotection, spinal injury management, etc) that we have measurable compliance against. This work has led to significant improvements in practice across other Operational Delivery Networks.
- Commenced a rolling audit programme based on the recipe book that involves all Transfer Practitioners with support from Duty Consultants. Audits are presented at the monthly Clinical Governance meetings and recommendations have led to changes in Standard Operating Procedures (SOP) and service approach.
- Shared initial activity through a series of posters at the Intensive Care Society's State of the Art Conference 2022 in Belfast. These were also published in abstract form in the Journal of the Intensive Care Society.
- Commenced a number of quality improvement initiatives focussed on particular areas of practice. For instance, our first Transfer Doctor (a Postgraduate Doctor in Training with the service for several months) helped develop and implement our airway management SOP based on a project undertaken during their time with the service.

We recognise that we have an incredibly powerful dataset collected from over 3,000 referrals and 1,800 transfers. Working alongside colleagues in other ACCTS and the National Critical Care Transfer Leads, we are

progressing plans to support and contribute to a national research and quality improvement group that will focus upon the work of services like Retrieve. We anticipate this will launch in Q2 2023.

Financial report

	Details	Costs
Staffing	Lead and Deputy Lead Consultant	£245,902
	General Manager, Lead Nurses x2, Educators	£304,875
	Pharmacist Support	£15,000
	Administrator x1	£27,884
	Duty Consultants	£716,610
	Transfer Practitioners	£292,234
Operations	Operational base - Bristol	£25,000
	Operational base - Peninsula	£57,073
	Ambulance and driver charges	£390,385
	Telephony and communications	£43,981
	Equipment	£5,350
	Servicing of equipment / Maintenance	£103,820
	Data capture system	£18,277
	Consumables	£50,978
	Drugs	£2,511
	Capital charges	£0
Miscellaneous	Insurance and drug licence	£46,880
	Training, education and engagement	£7,073
Trust overheads	10% of pay and non-pay	£353,075
Total spend 2022/23		**£2,706,908**

The 22/23 spend is standing at £2.7m against a budget of £3.2m. The underspends are in the region of £493K and are mostly relating to non-pay. There is some underspend against the pay budget relating to vacancies both within the administration team and the Duty Consultant line.

The costs for Vehicle and Ambulance are £295K below plan, this is activity related. Consumables and drugs which are equally activity related are £95K below plan. Equipment costs are £24K below plan – minimal spend was required this year due to current equipment still be relatively new. Property costs remains low at £118k below plan as the services remain in “temporary” sites throughout 22/23. Work was undertaken to make the Launceston site more resilient with stable internet and mains power now installed. A suitable unit has been identified and work is progressing to locate the Severn service on a permanent base during 23/24. Capital charges and overheads were below plan due to overall spend being lower than expected.

Service user feedback

Clinicians

Since launch, we have sought feedback from all clinicians interacting with the service. This is invaluable in informing our service development and is shared in our Partnership Board and monthly team Clinical Governance meetings. When specific team members are mentioned, they receive this for their own portfolios and when areas of improvement are highlighted these are taken constructively and addressed. Examples of areas where feedback has helped inform our service include the structure and content of our website and our patient and relative information resources.

In the last year, 95% of the feedback we received was positive and response rates from email invitations remain between 12 and 16% in line with commercially recognised engagement rates that fall between 5 and 30%. Some of the most common comments of recognition and praise are included below.

Patients and their relatives

Whilst a high proportion of our patients are unable to provide feedback themselves, our Patient and Relative Information booklet and website have invited feedback via the use of a QR code. We have received some fantastic feedback this year and are extremely thankful to those who have shared their experiences. For the team, knowing our service is truly making a difference has been inspirational.

"We were delighted that such a service existed to enable a safe transfer. My family were also touched that the team phoned Neuro ICU the next day to check how he was doing. He is now completely back to normal and about to spend Christmas with the family".

"Great service. Extremely professional. A service which is saving lives".

Patient follow up

Since October 2022, Retrieve have been following up all patients referred to the service and subsequently transferred by either the Retrieve team, ROV or local team. This was a recommendation conveyed by the SWCCN Peer Review 2022, and a number of benefits have been realised:

- Patient follow up provides a clinical update on the patient after their transfer.
- It enables us to understand whether patients identified as time critical actually go on to receive time critical interventions.
- We are identifying themes within the transfers conducted using the ROV and by local teams that will ensure we build our 24/7 service appropriately to address areas identified for improvement.

The team have so far followed up over 600 patients and the response from colleagues around the region has been extremely positive and supportive. Receiving hospitals have been complimentary about the care delivered by Retrieve.

In order to minimise the burden on receiving units, we ask a small number of questions, one of which is focussed on whether there is any feedback for Retrieve. In Q2 2023/24, we will analyse the initial output of this follow up work and ask the following questions:

- ***Do time critical transfers, receive a life, limb or sight saving intervention within one hour of arrival at an accepting hospital?***
- ***Did the patient receive the care or intervention intended, as documented within the patient notes?***
- ***Therefore, was the transfer completed appropriately?***
- ***Did any harm come to the patient? Was this a direct result of transfer?***

We will share the outcomes of this in our Roadshow programme and with the SWCCN Board through the SWCCN Transfer Group that meets quarterly.

Key achievements and developments 2022/23

National developments

Since 2020, Retrieve have played a key role in the national development of ACCTS across England and can celebrate the following:

- One of the National Critical Care Transfer Leads is our Lead Consultant.
- Representation in the NHS England ACCTS implementation groups.
- Supported our Base Lead Nurse in leading the authorship of the Health Education England (HEE) Transfer Practitioner Framework which is being rolled out nationally.
- Developed governance, organisational, operational and clinical processes that have been widely shared and adopted in several different regions, many of which are the first of their kind.

As a service and Leadership Team, we are committed to being a key partner in the continued development of ACCTS nationally so that all patients receive high quality, safe and effective transfer care wherever they are.

Transformation and collaborative work with Networks and specialties

One of the key areas of development over the past year has been collaborative work with Networks and specialties whose patients require critical care transfer. Much of this work is being carried out for the first time anywhere in the country. The following are some notable examples.

Stroke patients requiring mechanical thrombectomy

In late 2021, we commenced a pilot project with the West of England and Peninsula Integrated Stroke Delivery Networks and NHS England South West focussed on the transfer of patients requiring mechanical thrombectomy. This has grown and developed so that Retrieve now manage the transfer requests for all mechanical thrombectomy patients once they have been accepted by clinicians in Derriford or Southmead hospitals.

The process has been iterated multiple times in response to learning and feedback and continues to be evaluated. Whilst it has been effective in identifying the higher risk patients who require critical care transfer, it has been seen by some as more burdensome than simply calling 999. This is an excellent example of the journey that the region and Retrieve are on to place more focus on transfer but also highlight the areas that require both innovative and creative solutions.

Subarachnoid haemorrhage

Working with the newly-formed South West Neurosurgical Transformation Group, we have developed and published an SOP concerning the transfer of patients with acute aneurysmal subarachnoid haemorrhage. This clearly identifies the majority of patients as ‘higher risk’ and requiring medical escort based on current evidence and experiences of the neurosurgical and neurocritical care departments in Derriford and Southmead hospitals. Collaboration has led to changes in the responses the neurosurgical departments send through Referapatient, signposting Retrieve, as well as work in educating teams across the region.

Thrombotic thrombocytopenia purpura (TTP)

TTP is a very rare but life-threatening condition. In 2021, NHS England Highly Specialised Commissioning selected UHBW as the host of a South West regional TTP service. Working collaboratively with haematology and critical care colleagues, Retrieve manage the transfer requests for all TTP patients accepted by UHBW from anywhere in the region.

SWASFT Memorandum of Understanding (MOU)

Following 18 months of collaborative work with SWASFT, a unique MOU was signed in late 2022 by Executive colleagues in their organisation and UHBW. This underpins the excellent relationship that Retrieve already have with the organisation and includes agreements focussed on:

- The management of referrals that Retrieve cannot undertake a transfer for (e.g., where a transfer team is already committed, out of hours, etc).
- Collaborative work on improving the identification, triage, and response to time-critical and urgent transfer requests.
- The management of equipment, critical care transfer trolleys and colleagues from referring hospitals to ensure timely access to 999 vehicles and appropriate use of SWASFT resource.
- Major incident response.

During periods of Industrial Action affecting SWASFT in late 2022 and early 2023, Retrieve provided additional transfer resource, working closely with the Medical and Critical Care directorates within SWASFT to ensure that time critical patients received a transfer response despite the limited available resources. This adaptability and willingness to support others was commended by SWASFT. Retrieve has provided feedback to the NHS England Regional Operational Centre (ROC) as a key stakeholder and partner to inform best practice approaches to future industrial action and similar events.

A key role in the region's preparedness and response

Retrieve have played a role in several major events as a critical stakeholder and partner in the past year including significant Business Continuity incidents and a Major Incident. The service has demonstrated a number of attributes which have embedded it as a key element of the region's critical care and transfer preparedness:

- The service has provided significant strategic, tactical and operational knowledge and understanding of patient movements within the region and helped support key clinical decision making.
- The service has excellent relationship with SWASFT and can work dynamically to support their service and response to pressures when experiencing significant demand.
- The Retrieve Major Incident plan was tested and, on the morning of the major incident, we were able to field additional teams and resources within 90 minutes of declaration.

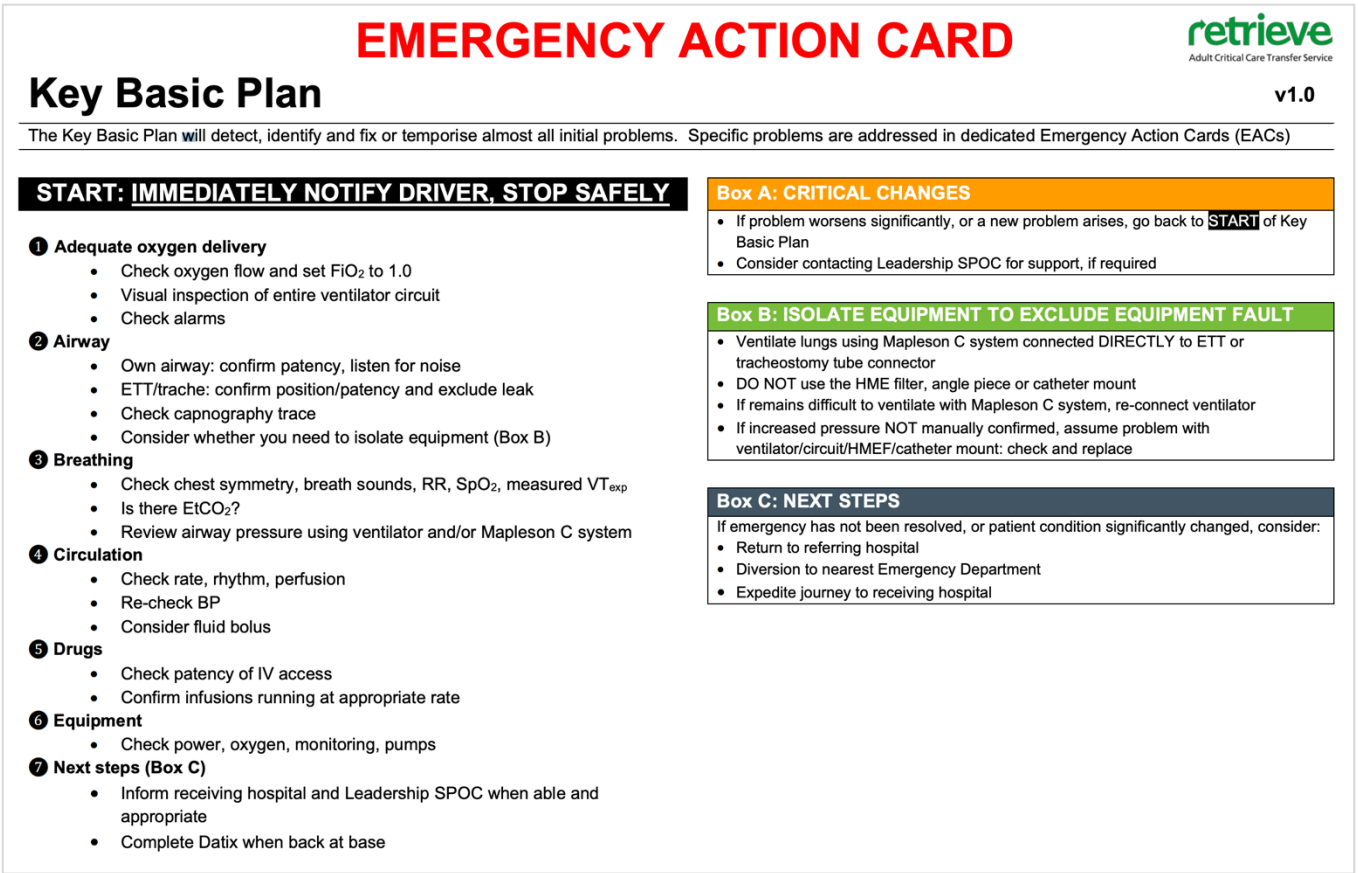
High Consequence Infectious Disease (HCID)

In early 2021, NHS England Emergency Preparedness Response and Resilience (EPRR) and the National Critical Care Transfer Leads identified a deficiency in the provision of transfer care for critically ill patients with an HCID. Over the last year, Retrieve have worked with the National Ambulance Resilience Unit (NARU), SWASFT Hazardous Area Response Team (HART) and the HCID Network to help inform the development of this capability. In the summer of 2022, a small number of Retrieve team members worked with NARU and SWASFT HART to undertake a day's training using HCID Personal Protective Equipment (PPE) and the EpiShuttle transport device. As a result of this, an operational SOP has been developed that has been submitted as part of the national work. Retrieve have been invited to represent ACCTS at a national exercise in London in the summer of 2023.

Emergency Action Cards

As the service has developed, we have placed increased focus on identifying high acuity low occurrence (HALO) events that we must ensure the team are prepared for. In order to support training and for use in the rare situation where a HALO occurs, we have developed a series of Emergency Action Cards (EACs). These were inspired by the highly regarded Association of Anaesthetists Quick Reference Handbook and have been developed with the Association's written permission and in line with Creative Commons Licencing.

The EACs have been carefully designed to be easy to follow, colour coded and utilise clear and concise instructions. They are available to team members on the MyRetrievalService app (see below) and a laminated copy exists in case of device failure. They cover clinical (e.g. cardiac arrest, hypoxia, anaphylaxis) and operational (e.g. vehicle accident, breakdown, gas failure) HALOs. To maximise their utility, they have also been shared on our website as well as with colleagues nationally.



EMERGENCY ACTION CARD

retrieve
Adult Critical Care Transfer Service

Key Basic Plan v1.0

The Key Basic Plan will detect, identify and fix or temporise almost all initial problems. Specific problems are addressed in dedicated Emergency Action Cards (EACs)

START: IMMEDIATELY NOTIFY DRIVER, STOP SAFELY

1. **Adequate oxygen delivery**
   - Check oxygen flow and set FiO_2 to 1.0
   - Visual inspection of entire ventilator circuit
   - Check alarms
2. **Airway**
   - Own airway: confirm patency, listen for noise
   - ETT/trache: confirm position/patency and exclude leak
   - Check capnography trace
   - Consider whether you need to isolate equipment (Box B)
3. **Breathing**
   - Check chest symmetry, breath sounds, RR, SpO_2, measured VT_{exp}
   - Is there $EtCO_2$?
   - Review airway pressure using ventilator and/or Mapleson C system
4. **Circulation**
   - Check rate, rhythm, perfusion
   - Re-check BP
   - Consider fluid bolus
5. **Drugs**
   - Check patency of IV access
   - Confirm infusions running at appropriate rate
6. **Equipment**
   - Check power, oxygen, monitoring, pumps
7. **Next steps (Box C)**
   - Inform receiving hospital and Leadership SPOC when able and appropriate
   - Complete Datix when back at base

Box A: CRITICAL CHANGES

- If problem worsens significantly, or a new problem arises, go back to START of Key Basic Plan
- Consider contacting Leadership SPOC for support, if required

Box B: ISOLATE EQUIPMENT TO EXCLUDE EQUIPMENT FAULT

- Ventilate lungs using Mapleson C system connected DIRECTLY to ETT or tracheostomy tube connector
- DO NOT use the HME filter, angle piece or catheter mount
- If remains difficult to ventilate with Mapleson C system, re-connect ventilator
- If increased pressure NOT manually confirmed, assume problem with ventilator/circuit/HMEF/catheter mount: check and replace

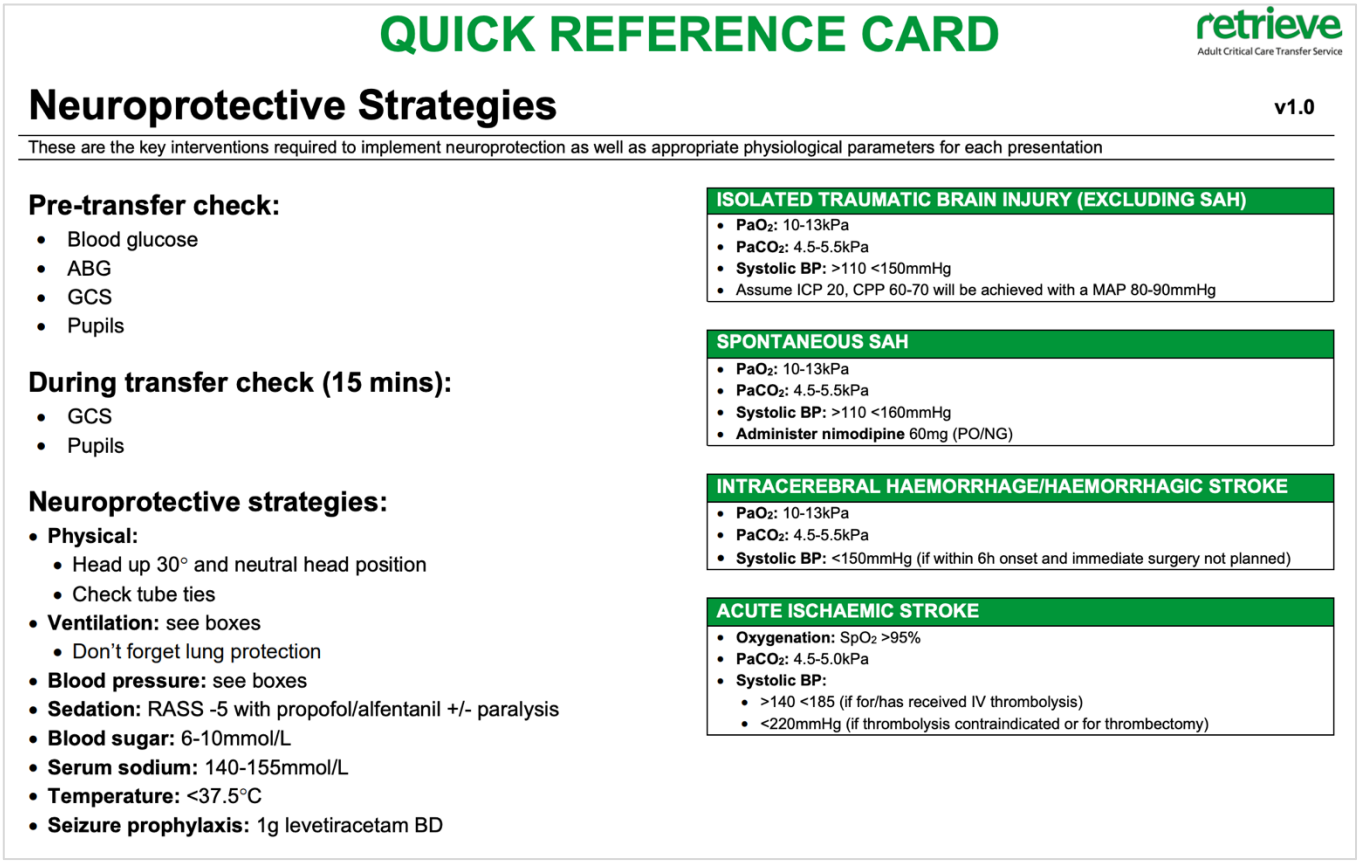
Box C: NEXT STEPS

If emergency has not been resolved, or patient condition significantly changed, consider:

- Return to referring hospital
- Diversion to nearest Emergency Department
- Expedite journey to receiving hospital

Quick Reference Cards

Following the development of EACs, we have also developed a growing series of Quick Reference Cards that are designed to be aide memoires and prompts for the team. They cover a number of areas including neuroprotection, oxygen calculation, common drug infusions and ventilatory strategies. As we develop increasingly complex pathways pf care, more will be developed more of these (e.g. we will be launching a series of QRCs and EACs focussed on maternal critical care and obstetrics later in 2023).



QUICK REFERENCE CARD

retrieve
Adult Critical Care Transfer Service

Neuroprotective Strategies

v1.0

These are the key interventions required to implement neuroprotection as well as appropriate physiological parameters for each presentation

Pre-transfer check:

- Blood glucose
- ABG
- GCS
- Pupils

During transfer check (15 mins):

- GCS
- Pupils

Neuroprotective strategies:

- **Physical:**
  - Head up 30° and neutral head position
  - Check tube ties
- **Ventilation:** see boxes
  - Don't forget lung protection
- **Blood pressure:** see boxes
- **Sedation:** RASS -5 with propofol/alfentanil +/- paralysis
- **Blood sugar:** 6-10mmol/L
- **Serum sodium:** 140-155mmol/L
- **Temperature:** <37.5°C
- **Seizure prophylaxis:** 1g levetiracetam BD

ISOLATED TRAUMATIC BRAIN INJURY (EXCLUDING SAH)

- **PaO_2:** 10-13kPa
- **$PaCO_2$:** 4.5-5.5kPa
- **Systolic BP:** >110 <150mmHg
- Assume ICP 20, CPP 60-70 will be achieved with a MAP 80-90mmHg

SPONTANEOUS SAH

- **PaO_2:** 10-13kPa
- **$PaCO_2$:** 4.5-5.5kPa
- **Systolic BP:** >110 <160mmHg
- **Administer nimodipine** 60mg (PO/NG)

INTRACEREBRAL HAEMORRHAGE/HAEMORRHAGIC STROKE

- **PaO_2:** 10-13kPa
- **$PaCO_2$:** 4.5-5.5kPa
- **Systolic BP:** <150mmHg (if within 6h onset and immediate surgery not planned)

ACUTE ISCHAEMIC STROKE

- **Oxygenation:** SpO_2 >95%
- **$PaCO_2$:** 4.5-5.0kPa
- **Systolic BP:**
  - >140 <185 (if for/has received IV thrombolysis)
  - <220mmHg (if thrombolysis contraindicated or for thrombectomy)

Continuing our digital journey

Since launch, we have been proud to be a 'digital' transfer service. We utilise an electronic database and patient record system and in May 2022 adopted a commercially available mobile app called 'MyRetrievalService' from Eolas Medical which transformed our access to standard operating procedures, checklists and other useful information.

ARC-EMS electronic patient record system

Retrieve's fully electronic patient record, ARCEMS, has enabled the service to capture a wealth of high quality operational and clinical data which is reflected in the information presented about the service in this report. Analysis of this data has provided detail to support further service developments, for example as mentioned earlier, understanding the impact of the provision of an overnight vehicle and the barriers to its full utilisation consequently supporting the evidence for the requirement of ACCTS overnight. Equally it has become evident that there are further areas of data that are required to fully analyse service provision.

In June 2022 the management of ARCEMS was taken over by the Great North Air Ambulance Service (GNAAS) who are currently developing Version 2 of the system. It is great, as experienced users, to have the opportunity to provide feedback to GNAAS during this development phase and they are keen to ensure that the new version fully meets the requirements of an ACCTS service. Version 2 will provide the ability to customise the system interface facilitating the provision of clear and detailed patient information on hand over to the receiving hospital. There should also be better access to reporting directly from the system to support our ongoing analysis and development of the service especially as we move to 24/7 delivery.

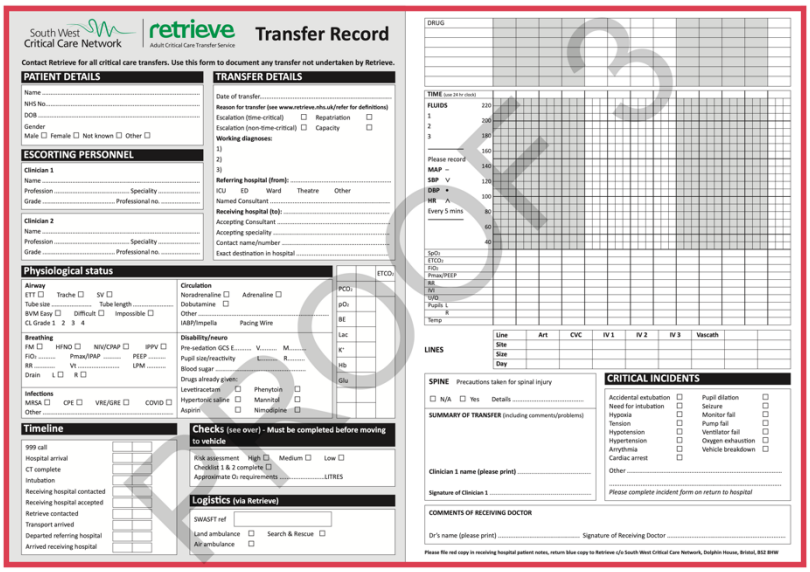
MyRetrievalService (now Eolas Medical) app

Adoption of the mobile app has transformed the availability of information to our team. The app provides us with a single place to access and view checklists, SOPs, training and education material, the weekly newsletter and many other useful resources.

In early 2023 we updated our Hospital Directory and adopted a new format to make better use of the app. This Directory is a key resource for the team when they are visiting less commonly frequented hospitals and areas and has been developed collaboratively with Acute Provider NHS Trusts across the region to ensure information is contemporaneous.

Developing and implementing a new SWCCN Transfer Form

The SWCCN Transfer Form should be completed as a record of every inter-hospital critical care transfer not performed by Retrieve. In 2022, we worked with the SWCCN Transfer Lead and Transfer Group to improve the previous documentation. The form was completely redesigned to make it more user-friendly, reflect the anticipated minimum mandatory data set for ACCTS and provide checklists, calculators and useful clinical and operational information such as telephone numbers and physiological targets.


South West Critical Care Network | retrieve Adult Critical Care Transfer Service

Transfer Record

Contact Retrieve for all critical care transfers. Use this form to document any transfer not undertaken by Retrieve.

PATIENT DETAILS

TRANSFER DETAILS

ESCORTING PERSONNEL

Physiological status

Timeline

Checks (see over) - Must be completed before moving to vehicle

Logistics (via Retrieve)

DRUG

FLUIDS

LINES

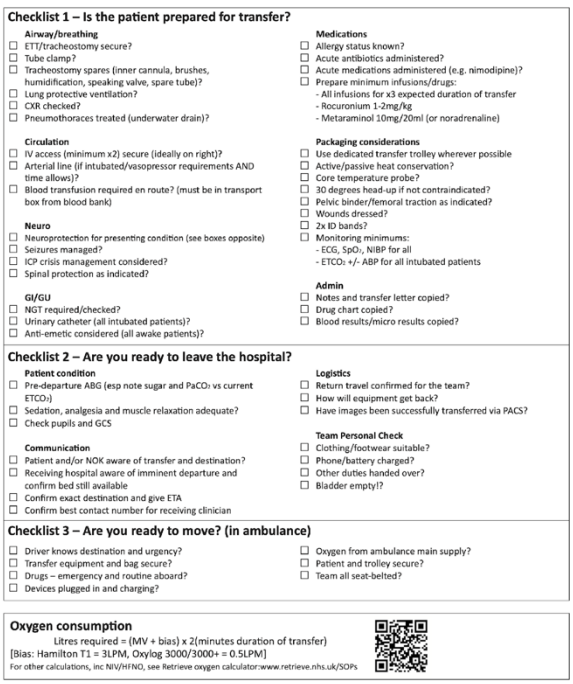
SPINE

CRITICAL INCIDENTS

COMMENTS OF RECEIVING DOCTOR

PROOF

All completed forms are now returned to Retrieve via the SWCCN and an electronic version stored in the Retrieve EPR alongside details of the referral. This allows us to understand a great deal more about the patient journey and to identify areas to focus upon working with the SWCCN.


Checklist 1 – Is the patient prepared for transfer?

Airway/breathing
- ☐ ETT/tracheostomy secure?
- ☐ Tube clamp?
- ☐ Tracheostomy spares (inner cannula, brushes, humidification, speaking valve, spare tube)?
- ☐ Lung protective ventilation?
- ☐ CXR checked?
- ☐ Pneumothoraces treated (underwater drain)?

Circulation
- ☐ IV access (minimum x2) secure (ideally on right)?
- ☐ Arterial line (if intubated/vasopressor requirements AND time allows)?
- ☐ Blood transfusion required en route? (must be in transport box from blood bank)

Neuro
- ☐ Neuroprotection for presenting condition (see boxes opposite)
- ☐ Seizures managed?
- ☐ ICP crisis management considered?
- ☐ Spinal protection as indicated?

GI/GU
- ☐ NGT required/checked?
- ☐ Urinary catheter (all intubated patients)?
- ☐ Anti-emetic considered (all awake patients)?

Medications
- ☐ Allergy status known?
- ☐ Acute antibiotics administered?
- ☐ Acute medications administered (e.g. nimodipine)?
- ☐ Prepare minimum infusions/drugs:
  - All infusions for x3 expected duration of transfer
  - Rocuronium 1-2mg/kg
  - Metaraminol 10mg/20ml (or noradrenaline)

Packaging considerations
- ☐ Use dedicated transfer trolley wherever possible
- ☐ Active/passive heat conservation?
- ☐ Core temperature probe?
- ☐ 30 degrees head-up if not contraindicated?
- ☐ Pelvic binder/femoral traction as indicated?
- ☐ Wounds dressed?
- ☐ 2x ID bands?
- ☐ Monitoring minimums:
  - ECG, SpO_2, NIBP for all
  - $ETCO_2$ +/- ABP for all intubated patients

Admin
- ☐ Notes and transfer letter copied?
- ☐ Drug chart copied?
- ☐ Blood results/micro results copied?

Checklist 2 – Are you ready to leave the hospital?

Patient condition
- ☐ Pre-departure ABG (esp note sugar and $PaCO_2$ vs current $ETCO_2$)
- ☐ Sedation, analgesia and muscle relaxation adequate?
- ☐ Check pupils and GCS

Communication
- ☐ Patient and/or NOK aware of transfer and destination?
- ☐ Receiving hospital aware of imminent departure and confirm bed still available
- ☐ Confirm exact destination and give ETA
- ☐ Confirm best contact number for receiving clinician

Logistics
- ☐ Return travel confirmed for the team?
- ☐ How will equipment get back?
- ☐ Have images been successfully transferred via PACS?

Team Personal Check
- ☐ Clothing/footwear suitable?
- ☐ Phone/battery charged?
- ☐ Other duties handed over?
- ☐ Bladder empty!?

Checklist 3 – Are you ready to move? (in ambulance)
- ☐ Driver knows destination and urgency?
- ☐ Transfer equipment and bag secure?
- ☐ Drugs – emergency and routine aboard?
- ☐ Devices plugged in and charging?
- ☐ Oxygen from ambulance main supply?
- ☐ Patient and trolley secure?
- ☐ Team all seat-belted?

Oxygen consumption

Litres required = (MV + bias) x 2(minutes duration of transfer)

[Bias: Hamilton T1 = 3LPM, Oxylog 3000/3000+ = 0.5LPM]

For other calculations, inc NIV/HFNO, see Retrieve oxygen calculator:www.retrieve.nhs.uk/SOPs

Transfer Risk Assessment Tool

Patient condition	Risk category	Escort requirements
Maintaining airway, FiO_2 <0.4 No inotrope/vasopressor support GCS 14-15 (stable for at least 60 mins) Base deficit 0 to -4 mmol/L Normothermic NEWS2 1-4	Low	Clinical practitioner with appropriate competencies (nurse, ODP, etc)
Maintaining airway, FiO_2 <0.6 Low-dose inotrope/vasopressor support GCS 9-13 (consider intubation) Base deficit -4 to -8 mmol/L Mild hypo-/hyperthermia NEWS2 5-6	Medium	Clinical practitioner with appropriate competencies (nurse, ODP, etc)
Intubated/tracheostomy Invasive ventilation FiO_2 >0.6 CVS unstable/requiring higher dose inotrope/vasopressor Base deficit worse than -8mmol/L NEWS2 ≥7	High	**PLUS** Doctor (ST3/equivalent) or ACCP with advanced airway competencies

NEUROPROTECTIVE STRATEGIES
- **Physical:**
  - Head up 30˚and neutral head position
  - Check tube ties
  - Untape and check pupils every 15 mins
- **Ventilation:**
  - PaO_2 10-13kPa
  - $PaCO_2$ 4.5-5.5kPa
- **Blood pressure:**
  - Assume ICP 20
  - CPP 60-70 will be achieved with a MAP of 80-90mmHg
- **Sedation:** RASS -5
- **Blood sugar:** 6-10mmol/L
- **Serum sodium:** 140-155mmol/L
- **Temperature:** <37.5˚C
- **Seizure prophylaxis:** 1g levetiracetam BD

DRUGS FOR RAISED ICP CRISIS
- **Sedation bolus:**
  - 10-20mg propofol
  - 1-2mg midazolam
- **Analgesia bolus:**
  - 50-100mcg fentanyl
  - 0.5-1mg alfentanil
  - 1-2mg morphine
- **Muscle relaxant bolus:**
  - 50mg atracurium or rocuronium
- **5% sodium chloride:** 3ml/kg

BP MANAGEMENT IN PAEDIATRIC TBI
- Treat with 10ml/kg 0.9% saline/plasmalyte or packed red cells
- $^2/_3$ maintenance fluids of 0.9% saline/plasmalyte/Hartmann's

Age (years)	MAP (mmHg)
<1	>50
1-4	>60
5-11	>70
≥12	>80

Metaraminol: Bolus: 10mcg/kg
Inf: Start at 0.25mcg/kg/min (2.5ml/hr of weight-specific mix)
Noradrenaline (central line): Start at 0.1mcg/kg/min (1ml/hr of weight-specific mix)
www.watch.nhs.uk/drug-sheet/)

	TBI inc. traumatic SAH	ICH/haemorrhagic CVE	Acute ischaemic CVE	Spontaneous SAH
BP (see blue box for paediatrics)	>110 - <150 MAP >90	<150 within first 6hrs and pre-op	>140 - <185 if for/ received thrombolysis <220 if for thrombectomy or if ^{2}lysis contraindicated	>110 - <160
$PaCO_2$	4.5-5.0kPa, brief period of 4.0-4.5kPa if impending herniation suspected			
Oxygenation	>13.0kPa	>13.0kPa	Aim SpO_2 >95%, supplemental O_2 only if <95%	>13.0kPa

Bristol Extra-Corporeal Membrane Oxygenation (ECMO) Service

The Bristol ECMO Service was commissioned by NHS Highly Specialised Commissioning in late 2021 and launched in late 2022. Retrieve has been commissioned to provide the transport element of the ECMO retrieval capability when this launches later in 2023. Over the past year we have been working collaboratively with the ECMO team to develop this capability and share Retrieve's experience and expertise to ensure that all ECMO patients receive high quality transfer care.

Training and education

It has been a busy and exciting year in terms of educational activity for Retrieve. In April 2022, two Senior Transfer Practitioners were appointed, one for each base, with their role being primarily to support training and education within the service. They were joined, in July 2022, by two Consultant Leads in Training and Education, again one for each base, completing the Education Team.

Retrieve considers the ongoing development of the workforce key to the continued delivery of high-quality care for our patients and has always incorporated regular education within the routine of the working day. The introduction of the team has built on this baseline and delivered some key developments in the last year that are described below.

Supporting training within Retrieve

To support the core elements of the service, the education team has formalised the process for ensuring that all members are compliant with mandatory training within UHBW by passporting existing training from their parent Trust.

A standardised induction programme has always been a part of Retrieve but the creation of the education team has facilitated the oversight of the annual review process ensuring that all team members undertake a refresher to remain current in their knowledge of equipment, policies and procedures and provide a self-declaration in confirmation.

To facilitate day-to-day education, which is scheduled each morning, a library of learning materials including scenarios, drills and SOP familiarisation cards have been created and are easily accessible to all team members via the mobile app.

Two team training days were provided in July 2022, one in each region delivering training around stabilisation, intubation and cardiac arrest simulations alongside refresher sessions on the use of transfer equipment. Each region also invited a guest speaker and both events were well received by the team.

An education pathway has been implemented which aims to provide guidance on how a Transfer Practitioner can continue their own professional development within the service, for example completing Quality Improvement projects and audits, poster presentations and presenting at conferences. Retrieve also have a dedicated budget and programme of supporting the team in attending appropriate courses to further enhance their clinical skills and capabilities (e.g. all Transfer Practitioners are funded to attend an Advanced Life Support course).

Roadshows

We understand the importance of engaging and working together with colleagues cross the region. As part of our commissioning priorities, we will undertake a programme of annual Roadshows, visiting each hospital in the region each year. This programme will commence in the summer of 2023 and continue annually.

The Roadshow programme will provide data for the hospital in relation to their use of Retrieve, examples of cases of particular interest and the opportunity for discussions with colleagues around what works well and any improvement that could be achieved through collaborative working both for the hospital organisation and Retrieve respectively.

Simulation training equipment

A significant achievement by the Educational Team has been the successful application for funding from the 2022 Health Education England South West Simulation and Innovation Grant, enabling Retrieve to purchase 2 full-body Laerdal SimMan ALS manikins.

These wireless interactive manikins will enable teams in both regions to train in a realistic simulated environment and undertake critical incident training. This type of training is essential to improve and maintain a safe high-quality service and enable teams to plan and prepare for high acuity low occurrence events (HALO) that require a swift and skilled response.

With Attached Doctors (see below) joining Retrieve in the summer of 2023, the arrival of the manikins will enable the service to develop a training trolley and provide the opportunity for new joiners to practise the safe and appropriate packaging and monitoring of critically ill patients. It also allows them to undertake critical drills with the manikin for common interventions that may be required during transfers.

Postgraduate Doctors in Training (PGiTs)

Following a complex process working with the Schools of Anaesthesia and Intensive Care Medicine in Peninsula and Severn, Retrieve is now approved by the General Medical Council to provide medical training.

We will soon be welcoming Attached Doctors from across the region, delivering short placements in transfer medicine to help achieve transfer requirements as part of the Anaesthesia and Intensive Care Medicine curricula (these are qualified doctors who are training within these specialist fields). A large amount of work has been completed in the background to allow the seamless administration and incorporation of these additional medical staff into our teams and day-to-day activities.

We have also continued to accept Transfer Doctors on longer attachments, for those with a specialist interest in transfer medicine. These are usually for between 3 to 6 months.

UHBW Annual General Meeting

In October 2022, Retrieve's Lead Consultant was invited by the Chair to attend the UHBW public Annual General Meeting and present to the in-person and virtual audience about Retrieve.

This high-profile event allowed Retrieve to convey to the Board and wider Trust colleagues more about the journey Retrieve has been on as well as celebrate our successes and help the wider audience understand the ways in which our service has been influential on a national scale.

National Award

In December 2022, we were delighted to receive our second national award following our win at the BMJ Awards 2021. Retrieve on the 'Impact Award' at the Intensive Care Society Awards 2022 for the influence and effect the service has had on the specialty of critical care and the patients we serve.

The national recognition has had a major positive effect on the team who are extremely proud of the work they do and are pleased to be recognised. At the time of publication of this Annual Report, Retrieve is the only ACCTS in England to have been recognised in these prestigious national awards programmes.

Challenges facing the service

As Retrieve continues to develop, the service has increasingly grown in stability, building upon firm foundations. We maintain a service risk register through UHBW these are the main challenges that are described as major risks.

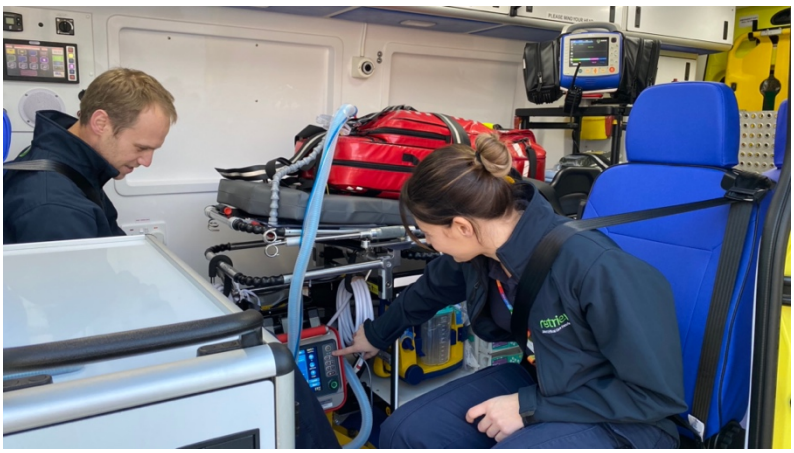
Operational bases and working remotely from our host Trust

Retrieve operates remotely to our host NHS Trust, UHBW, as our operational bases were chosen to most effectively cater for the complex regional geography of the South West. The challenges associated with this continue although effective mitigations are largely effective.

Over the past 18 months we have been working with our sister transfer services SoNAR (South West Neonatal Advice and Retrieval service) and WATCh (Wales and West Acute Transfer for Children service) to identify and procure a long-term combined operational base in Bristol. This will not only provide secure and appropriately customised premises, but will allow the three services to continue to align and work collaboratively driving many efficiencies and realising many transformation opportunities.

Once the Bristol operational base is established, we will move our focus to the Launceston base to procure similar facilities so that we can move out of the current modular building solution that we are using.

Duty Consultant workforce



The Retrieve clinical team consists of a Duty Consultant and a Band 6 Transfer Practitioner. There have been challenges since launch in achieving a full Duty Consultant rota despite ongoing active recruitment.

In order to provide a safe, sustainable and resilient service, we ask each individual to work 2 days and 1 night shift per month (averaged over a quarter). This means that the service requires 15 or more Duty Consultants per operational base. We currently have 30 consultants (17 in Peninsula and 13 in Severn) and have experienced a low level of turnover. However, we continue to have a staffing shortfall and have thus maintained active recruitment through word of mouth and collaboration with regional Critical Care and Anaesthesia departments. Our introduction of job planning in 2021 has been very positively received and in the past year we have more than doubled the proportion of Duty Consultants affiliated with the service via this route (14% to 30%) with the majority of new-joiners taking this option.

We have well-established operational mitigations to ensure the service we offer is as robust as possible even when staffing is a challenge. This includes:

- Cross cover by other base Duty Consultant
- Remote Duty Consultant provision (where an individual cannot work in person but can support the Transfer Practitioner team)
- Doubling up of Transfer Practitioners to minimise solo working

SWOT analysis of Retrieve

As part of the SWCCN quality assurance peer review data report in 2022, we undertook a SWOT analysis of the Retrieve service. We have updated this for this Annual Report to demonstrate the areas that have been addressed (green), are in progress (orange) or remain a challenge/are new (red).

Strengths

- Award winning service
- Nationally recognised across NHS England
- Pioneering. Significant role in shaping ACCTS development nationally
- Regionally respected for using service to drive improvements across specialties, networks and wider South West region (e.g. collaborative work with SWASFT)
- Cohesive leadership
- Support from UHBW Division of Surgery
- Flexible, dynamic, adaptable service provision to meet needs of population we serve and partners
- Clinical team represents most regional hospitals (11/14) and brings broad group of experts with differing interests
- Established, high-performing team of Transfer Practitioners
- Training programme for new staff members evolved with service requirements
- Service structure for 22/23 year established to ensure foundations laid for long-term resilience, service development, and 24/7 operating (includes appointment of Band 7s, consultant leads for training & education / governance)
- Mobile electronic patient record and database system with data on >3,000 referrals and >1,800 transfers

Weaknesses

- Lack of 24/7 funding
- Inequitable service to region daytime vs night-time as no overnight clinical service
- Peninsula subregion has longer transfer times due to geography and road network
- Call handling, referral management process cumbersome, time-consuming and inefficient across region
- Small team size poses risk to service provision (e.g. with sickness) despite additional steps taken to mitigate this
- Incomplete Duty Consultant cover
- Duty Consultants have competing work commitments which can make rota management challenging and limit service provision
- Small pool of dedicated drivers limits resilience

Opportunities

- Leadership Team involved in national workstreams around ACCTS development which will further strengthen Retrieve and future evolution of service
- Collaborative alignment roadmap with NEST and WATCh regional transfer services, supported by NHSE and UHBW
  - Improved operational bases, transport and referral handling across SW critical care transfer services as a result
- Network and specialty engagement to standardise and improve transfer care across the region
  - SWCCN with focus on intra-hospital transfer
  - Neurosurgery
  - Mechanical thrombectomy for stroke
  - Aortic dissection
  - Obstetrics (intra-uterine and maternal critical care transfers)
  - Acute liver failure
- SWCCN Transfer Group workstreams
  - Updates to Network transfer guideline
  - Retrieve to manage transfer paperwork, audit and data collection (in line with NHSE Service Specification)
- Training and Education
  - Medical workforce – work with Schools of Anaesthesia and ICM
  - Transfer training collaborative working with SWCCN, development of regional transfer course and passporting system
- Collaboration with HM Coastguard / Bristow Group on long-distance time critical/urgent transfers by air (particularly Peninsula to London)

Threats

- Funding for 24/7 operations
- Operational bases – lack of permanent locations and infrastructure to support day-to-day working (e.g. internet, electricity, piped water)
- Capacity of service is limited by provision of teams – full capacity unknown and unmet need being monitored
- Reputational harm caused by lack of 24/7 provision, inequity and capacity limitations
- Difficulties in filling Duty Consultant rota
- Reputational harm caused by inadequate staffing
- Remote working to UHBW (accepted risk on Risk Register)
- Long travel times for clinical team members (particularly in Peninsula) as well as long transfer times limit provision of service
- Significant delays to SWASFT provision of Inter-Facility Transfers risks patient and reputational harm

Our future vision

This third Retrieve Annual Report once again demonstrates the phenomenal progress our service has made since launch in November 2020. Whilst we continue to lead the way nationally, we are also clear that our strategic direction is to ensure equitable provision and access to our service whilst also working closely with our stakeholders, partners and service users to ensure we provide the best possible service.

24/7 operating

Following confirmation of recurrent funding, we are now developing and implementing a roadmap towards providing a full Retrieve service from each operational base 24/7/365. We anticipate that this will launch in phases (each phase will be implemented in both bases at the same time) with the first step being the addition of a Transfer Practitioner to our ROV in the final months of 2023. We will actively recruit medical staff including Postgraduate Doctors in Training and Clinical Fellows from around the world to work alongside our existing and growing Duty Consultant group to provide the medical workforce we need for comprehensive 24/7 operations. This will continue into 2024.

External Stakeholder Group

As Retrieve has become a key element of the South West Critical Care Network and a significant contributor to specialty pathways and Networks across the region, we have worked to develop an External Stakeholder Group (ESG) with an independent Chair.

The ESG meets for the first time in the summer of 2023 and invited members from the relevant specialty Networks (Major Trauma, Maternal Medicine, Cardiovascular, Stroke, Burns, etc), the ambulance service and NHS England. Its purpose is to inform the strategic direction of Retrieve, identify areas for improvement and development and ensure we are effectively supported in delivering our ambitions.

Collaborating and aligning with neonatal and paediatric transfer services.

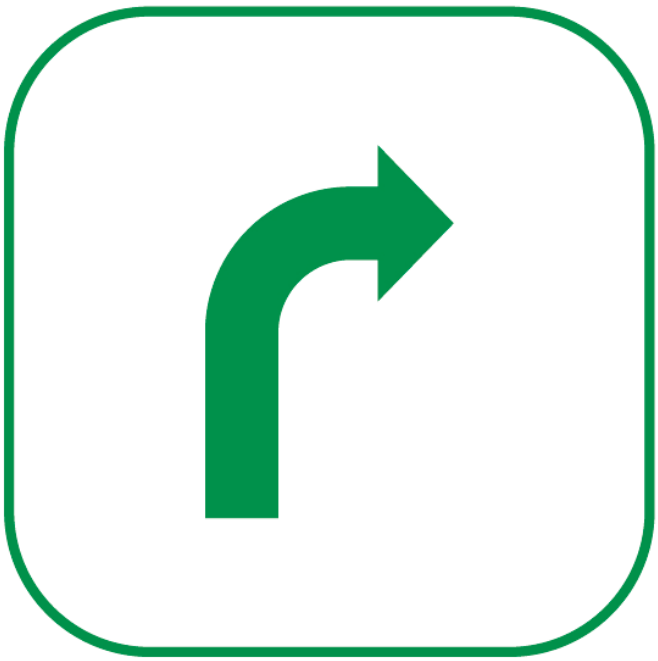
Over the last two years, we have been working collaboratively with our colleagues in the SoNAR and WATCh services, both of which are hosted by UHBW. In the coming year we expect to work ever closer and adopt the following:

- A single operating base in Bristol for the Severn teams
- A single ambulance contract covering SoNAR, WATCh, Retrieve and Bristol ECMO
- A single telephony contract covering the services
- Alignment of resources to ensure that the best services are delivered across neonatal, paediatric and adult critical care patients for the investment provided by NHS England.
- Closer tactical and operational working and exploration of opportunities to further integrate the services.

This is a pioneering development which we anticipate will bring material advances to all three services as well as many positive opportunities for patients, team members and the wider healthcare community.

Continuing to strive for excellence

As a small team, Retrieve is enormously proud of the achievements we have described in this Annual report, the care we have provided to our patients whose journeys have been immeasurably improved by the provision of our service and the transformation work we are involved in and leading. Retrieve remains ambitious and continues to innovate and push the boundaries and we will remain focussed on delivering the best possible transfer care to our patients, our colleagues and our region.



retrieve

Adult Critical Care Transfer Service

Referrals	**0300 030 2222**
Website	**www.retrieve.nhs.uk**
Email	**retrieve.transfer@nhs.net**
Twitter	**@RetrieveSW**

Appendix 1. National Quality Indicators and Retrieve 2022/2023 data

Clinical outcomes

	Indicator	Definition	Frequency	Compliance (21/22 in brackets)
101	Proportion of cases referred to the Adult Critical Care Transfer service that were considered time-critical in terms of escalation of care (these are defined as patients requiring transfer to a specialist centre for immediate (within 1 hour of arrival) life-, limb- or sight-saving intervention).	Total number of referrals categorised as 'Escalation – Time-Critical' in ARCEMS in each calendar month divided by total number of referrals in each calendar month.	Monthly	41.5% (36.8%)
102	Proportion of time critical patients transferred by the commissioned service.	Total number of transfers categorised as 'Escalation – Time-Critical' in ARCEMS in each calendar month divided by total number of referrals categorised as 'Escalation – Time-Critical' in ARCEMS in each calendar month.	Monthly	37.6% (48.8%)
103	Proportion of occasions where the transfer team departs from the transport base within 5 minutes of the clinical decision that transfer is required for a time-critical patient.	For each transfer categorised as 'Escalation – Time-Critical', ARCEMS status update time from 'Accepted' to 'Mobile'. Number ≤5 minutes in each calendar month divided by total number of transfers categorised as 'Escalation – Time-Critical' in ARCEMS in each calendar month.	Monthly	69.8% (46.5%)
104	Proportion of occasions where the transfer team delivers a patient to the destination hospital within 240 minutes (4 hours) of the decision to retrieve a time-critical patient	For each transfer categorised as 'Escalation – Time-Critical', ARCEMS status update time from 'Accepted' to 'Arrive Receiving Hospital'. Number ≤240 minutes in each calendar month divided by total number of transfers categorised as 'Escalation – Time-Critical' in ARCEMS in each calendar month.	Monthly	95.2% (75.9%)
105	Proportion of occasions where transfer team departs from the transport base within 15 minutes of the clinical decision that transfer is required for a non-time-critical escalation of care patient.	For each transfer categorised as 'Escalation – Urgent', ARCEMS status update time from 'Accepted' to 'Mobile'. Number ≤15 minutes in each calendar month divided by total number of transfers categorised as 'Escalation – Urgent' in ARCEMS in each calendar month.	Monthly	61.7% (47.0%)
106	Proportion of cases where a clinical incident was reported.	A clinical incident is a reported DATIX on the UHBW system that pertains to clinical care (patient deterioration, harm, event that affects the patient such as loss of vascular access, accident extubation, etc.) during a particular transfer. Total number of clinical incidents from the DATIX system in a calendar month divided by total number of transfers in a calendar month.	Monthly	0.91% (2.1%)
107	Proportion of patients in whom a completed minimum mandatory dataset was submitted to the national database.	January 2022 – MMDS is not yet published.	Monthly	N/A as national system not yet live

Patient Experience

201	There is written information about the Adult Critical Care Transfer service for relatives and carers.	Annual statement confirming that Retrieve have reviewed and continue to provide access to information for relatives and carers both online and on paper.	Annually	Compliant Available here
202	There is a policy in place regarding transfer of the patient's next-of-kin/carer.	Annual statement confirming that Retrieve have reviewed the 'Transfer of next-of-kin' SOP.	Self-declaration	Compliant

Structure and Process

301	The Adult Critical Care Transfer service has the leadership team as described in the service model.	Annual statement to confirm that Retrieve Leadership Team has at least a Lead Consultant, Service Manager and Lead Practitioner.	Annually	Compliant
302	The service is consultant-led 24/7.	Annual statement to confirm that there has been no break in service where a Duty Consultant was unavailable to the region. Consultant led means at least 1 DC was available (in person or remotely by telephone) across each 24-hour period in the past calendar year.	Annually	Compliant
303	For each operational shift the Adult Critical Care Transfer service has team members as per the service model.	Annual statement to confirm that the Retrieve duty team consists of the following for Level 3 transfers: ● A doctor in Intensive Care Medicine or Anaesthesia with appropriate experience and training to lead transfers ● A practitioner with appropriate experience and training to carry out transfers.	Annually	Partially compliant due to Duty Consultant rota gaps (see Performance and Quality section)
304	There is a communications infrastructure in place as detailed within the service model.	Annual statement to confirm that Retrieve provides: ● Electronic referral pathway ● Single point of access telephone number ● Real-time, consultant-led, joint decision-making involving referring and receiving clinicians, Retrieve and specialty teams.	Annually	Partially compliant No electronic referral pathway; see text
305	There is a Partnership Board that provides accountability for the Adult Critical Care Transfer service.	Annual statement to confirm that Retrieve have a Partnership Board within the Division of Surgery at UHBW.	Annually	Compliant
306	A QIA has been undertaken in the last 12 months to review the impact on the wider service and any services changes/innovations following COVID-19.	Annual statement to confirm.	Annually	Compliant
307	Following the QIA detailed above, please list any patient safety issues within the current service that have been identified.	Annual statement to confirm.	Annually	None
308	There are agreed clinical guidelines as per the service model.	Annual statement to confirm that Retrieve have 'guidelines based on national standards for stabilisation and transfer' of critically ill patients	Annually	Compliant

Appendix 2. SWCCN Peer Review gap analysis: 2023 progress

Operational

1. Continue efforts to locate a permanent base for both the Peninsula and Severn teams	Work progressing on this - engaged with Estates team within UHBW - possible site identified - approvals and budget being sought through business case May 23 - Approval given to proceed with lease of Aztec West unit - meeting arranged with Estates project manager for 17/05/23 June 23 - Formal approval signed off at CPSG - action closed for Severn base - new action added for progress of Severn base and long term requirement for Peninsula base New action required specific to Peninsula base
4. The Retrieve team will be updating their "referring to Retrieve SOP and checklist"	Completed May 2022
6. Seek funding and personnel to run a 24/7 service.	This work is currently being undertaken in preparation for next round of commissioning later this year. Oct 22 - Meeting arranged to look at elements to cost for the 24/7 model - discussions ongoing regarding medical model for 24/7 provision. Nov 22 - costings provided, paper written and sent to Divisional Leadership team for discussion Dec 22 - Paper with NHSE - action closed
7. To update the Retrieve website and referral SOP together with the communications package around the role of Retrieve. Ongoing engagement with critical care units via the SWCCN and some emergency departments.	Completed June 2022
13. Offer enhanced rates for uncovered consultant and transfer practitioner slots to individuals who have already fulfilled their contractual requirements, in an attempt to reduce shifts without a duty consultant or transfer practitioner. The extracontractual work needs to be rewarded competitively against other local NHS premium paid services.	This proposal has been considered by the Retrieve Leadership Team and the Divisional Finance Manager. Although the reasoning behind this is sound and understood it would place a financial pressure on the service. In light of the recent level of recruitment there should be a reduced number of unfilled shifts. The Leadership team is considering a point at which the benefits of implementing this would outweigh the costs - to be reviewed
14. To capture the delays in 999 ambulance acquisition by calling the referring units in the morning to understand the time the crew arrived. In support of this, the SWCCN have a quality improvement lead starting in June 2022 and have volunteered their support.	SWCCN tasked by NHSE South West Specialised Commissioning to capture data regarding delays and feed this upwards. Retrieve are supporting but not leading this work
18. Explore options for charitable donations through engagement of the external stakeholder group	When this is appropriate the combined leadership teams of SONAR (previously NEST), WATCh and Retrieve will approach the UHBW hospital charities

Performance

2. The Retrieve senior team are working on a dashboard to monitor and improve performance against KPIs.	ARC-EMS taken over by GNAAS so will need to review the timeline for this We have removed this from service plan until procurement process with ARC-EMS is complete - then will be put back onto the service plan KPIs are now being reported through the Partnership Board as required and also reviewed regularly by the Leadership team and presented in monthly clinical governance to the team.
3. The SWCCN team recognised the challenges in the stringent KPIs set and, given the robust processes already in place, acknowledge that improvement will require the aggregation of marginal gains rather than a wholesale change in approach. The Retrieve senior team will be initiating a simulation programme to identify opportunity for such gains.	We regularly monitor performance across the service and will continue to make improvements to systems and processes as these are required
Improvement	
5. In recognition that transfer represents only one part of the overall patient journey, suggestions were made at capturing the entire patient journey (e.g. from symptom onset, arrival in ED, referral to Retrieve etc) to identify areas for improvement both within and outside of Retrieve operations.	Work started in collating this information, Data capture commenced in June 2022 and will be further strengthened by the implementation of refer a patient.
8. Reviewing transfers not conducted by Retrieve, accepting that acquiring these data is complex.	On behalf of SWCCN, Retrieve have updated the network transfer document - this has been implemented and is completed for all non Retrieve transfers. A full data set is captured by Retrieve as required by the National Service Specification

9. Encourage BAEMS to provide the agreed quality outcome indices.	On fixed agenda for monthly meetings with BAEMS - is a key feature of future procurement work and service credits will be included in next contract to manage this more effectively
10. Continue to benchmark against the national quality indices	Retrieve continue to lead the development of national quality indicators and will benchmark as standards are defined
11. Follow up patients following transfer to identify areas for quality improvement.	Initial process identified Nov 22 SOP written and put through governance Patient follow-up started
17. Continuing to work towards shared neonatal, paediatric and adult critical care transfer umbrella of services to release efficiency savings, and increase opportunity for learning and safety.	Work is progressing well - currently the three teams are undertaking a single procurement process to implement a single ambulance / driver provider contract from August 2023. The teams are also working collaboratively, seeking to co-locate onto a single operational base in the Severn region (linked to action 1). UHBW have identified Executive support - Dr Stuart Walker Medical Director

Audit

12. Consider additional audit outcome metrics that are clinically relevant and markers of quality transfer	May 22 - List of possible rolling audits collated by the team July 22 - DC within Retrieve agreed to support the implementation of an audit programme within the service Sept 22 - Audit recipe book created and planned audits shared across the team Oct 22 - Rolling audit programme agreed and implemented

Education

16. Actively engage in the SWCCN transfer group. Through that group, contribute to the education and skill retention/acquisition of non-Retrieve staff throughout the network.	Added to service plan 4.6 Scott Grier and David Ashton-Cleary are part of the transfer group - Retrieve Senior Transfer Practitioners also belong to the Education part of this group
15. The SWCCN team will continue to raise concerns over delays in obtaining a 999 ambulance for critically ill patients requiring urgent transfer.	Retrieve continue to engage with the regional NHSE team on this issue. Collaborating with SWCCN to produce more objective data to describe the scale of the problem. Any incidents reported directly to Retrieve are escalated through the Trust incident management process to the CCG. These actions resulted in a Retrieve overnight vehicle being commissioned on a trial basis from Dec 22 - March 23.