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Public Board Meeting		27 September 2023 Item 13
THIS PAPER IS FOR DISCUSSION		
SCOTSTAR UPDATE		
Lead Director Author	Stephen Massetti, Director of National Operations Kenneth Mitchell, General Manager, ScotSTAR	
Action required	The update is presented to the Board for discussion.	
Key points	This report provides a high level summary of work in progress and ongoing challenges to rationalise, improve and excel in how we deliver our mission.	
Timing	As agreed by the Board, an update will be provided on a six monthly basis	
Associated Corporate Risk Identification	ID 4638 – wider system changes and pressures	
Link to Corporate Ambitions	We will Innovate to continually improve our care and enhance the resilience and sustainability of our services Provide the people of Scotland with compassionate, safe and effective care, where and when they need it.	
Link to NHS Scotland's Quality Ambitions	Efficient and effective use of resources to provide safe and effective care to patients.	
Benefit to Patients	to provide specialist care and transport to patients whenever, and wherever they need it.	
Equality and Diversity	Not applicable to this update.	



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SCOTTISH AMBULANCE SERVICE BOARD

SCOTSTAR UPDATE

KENNETH MITCHELL, GENERAL MANAGER, SCOTSTAR

1. Introduction

The purpose of this report is to provide a comprehensive overview of ScotSTAR performance over the past 12 months. Within this report we present activity undertaken by each ScotSTAR team in support of the overall ScotSTAR service deliverable: to provide specialist care and transport to patients whenever, and wherever they need it. Throughout this report we aim to provide insight into our achievements, challenges and future plans.

2. ScotSTAR Overview

ScotSTAR comprises four individual services and sub-teams - Air Ambulance (AA), the National Paediatric Retrieval Team (NPRT), the Emergency Medical Retrieval Service (EMRS), and the Scottish Neonatal Transfer Team (SNTS), and this report highlights areas where work is being progressed.

Our business support team is integral to the functioning of the service, and a number of operational and clinical governance groups oversee work by all ScotSTAR sub-teams. Clinical Leads who are senior consultants from each team are essential to overseeing the specialist clinical work and to manage medical staff. The ScotSTAR leadership team involves Clinical Leads, Heads of Service, General Manager, and Associate Medical Director with input from the business support team and HR.

In recent months ScotSTAR has been going through a process of setting development priorities, loosely theming these as either driving clinical excellence, working toward a

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sustainable and resilient service, or addressing 'unfinished business'. Workstreams within these themes have been prioritised according to the highest service risks, according to the Service's 2030 strategic objectives, NHS Scotland strategies and initiatives, and available resources. Resulting 2023/24 priorities are described in the annual ScotSTAR local delivery plan.

2.1 Emergency Medical Retrieval Service (EMRS)

Service. The Emergency Medical Retrieval Service comprises two regional teams (West and North) which between them provide national cover for primary pre-hospital critical care at the scene of accident or illness, and secondary retrieval of critically ill adults presenting to healthcare facilities in remote and rural locations. Based out of ScotSTAR bases in Glasgow and Aberdeen they deploy to primary incidents most commonly using response vehicles but are co-located with the ScotSTAR Air Ambulance teams and aviation assets allowing timely aeromedical deployment to both primary and secondary taskings. EMRS work closely with Air Ambulance team paramedics, and support them in acquiring an enhanced set of skills in order to work in a complementary way with the critical care team. EMRS teams offer an advice service to remote and rural healthcare practitioners, advising on clinical management, and supporting transport decisions in partnership with those clinicians. Furthermore, EMRS is an integral part of the Service's response to major incidents and mass casualty events, providing capacity for both on-scene critical care and filling key advisory roles in support of the Service's incident commanders, at tactical and operational levels.

Activity. The past 12 months have been a busy period for EMRS, as illustrated within the activity summary below. This increase in clinical activity has been focused within the primary retrieval aspect of the team's work and this has been pronounced over the summer months. It is felt that this increase is multifactorial in nature but the most significantly related to the transition of the Trauma Desk to the Critical Care Desk (CCD). Since the CCD became operational there has been an increase in the sensitivity and specificity of the tasking of pre-hospital critical care teams - the number of taskings has been increasing while there has been a decrease in the number of 'stand-downs' or cancelled jobs and it is broadly felt that the incidents the teams are being tasked to remain appropriate. This increase in activity has been absorbed within our current capacity with no detrimental effects on other areas of the team's workload, such as secondary retrievals, and this will continue to be monitored.

Staffing. Staffing within EMRS is currently in a good position and operational cover is being maintained at both the North and West bases.

Reprocurement. There has been a significant amount of input by the EMRS Operational/Clinical team to the Air Ambulance Reprocurement Project over the past 12

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months and this work will continue until the completion of the project and transition to the new contract provider.

Education and Training. Routine clinical education and training has continued over the past year with a rolling programme of activities including clinical governance meetings, daily training sessions, topic teaching, simulation of the week, case-based review meetings, journal club and mortality meetings.

Other CPD activity has included:

- Major Incident Training
- Incident Response and Command Training
- Pre-hospital Paediatrics Study Day
- Surgical Skills Course (thoracotomy, hysterotomy, canthotomy, thoracostomy)
- Hi-fidelity simulated scenario day
- 'Performance Under Pressure' Course
- Inter-professional Simulation Project (IPSP)

With the exception of the IPSP and IRAC each of these were organised internally, led by EMRS Advanced Retrieval Practitioners, Consultants and training grade doctors.

Outreach Visits. Outreach visits by EMRS to remote and rural centres have continued throughout this year with most of our referring centres receiving an in-person visit by the team to provide training and education sessions, feedback and review of clinical cases retrieved from the centre and the opportunity to build liaison links.

Retrieval Week 2023. At the end of May 2023, EMRS team members led the annual diet of the Diploma of Retrieval and Transfer Medicine, the two-day specialty exam which the service developed in conjunction with the Royal College of Surgeons of Edinburgh. Following the exam, the team also delivered the 'Retrieval 2023' conference which saw speakers and delegates from all over the world congregate in Glasgow for a two-day event.

East/South-East Scotland Critical Care Team Provision. The teams currently providing the pre-hospital Critical Care Team response within the East and South-East of Scotland (Tayside Trauma Team and Medic One) have highlighted to the Scottish Trauma Network that their current model of operation (whereby senior clinicians leave busy Emergency Departments to provide a response to pre-hospital incidents) is increasingly fragile and likely to become unsustainable. The Scottish Trauma Network has therefore commissioned work to begin to outline the necessary business case to present to the Scottish Government to address this issue. EMRS have been heavily

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involved in the discussions and work to date and will continue to be involved as this work progresses to a full business case.

Channel 4 Documentary. The past year has seen the filming and airing of the second series of the Channel 4 documentary 'Rescue: Extreme Medics' which highlighted the work of EMRS within the Scottish Trauma Network.

Award Nomination. EMRS has been nominated for a Scotland's Champions Awards within the 'Military & Emergency Services' and team members have been invited to attend the awards dinner next month in Glasgow.

2.2 Scottish Neonatal Transport Service (SNTS)

Service. The Scottish Neonatal Transport Team comprises three regional teams, West, North, and East/South-East based in Glasgow, Aberdeen, and Edinburgh respectively. The West team operates 24/7 availability 365 days a year, and the North and East/South-East teams provide weekday daytime cover with weekend and overnight cover being divided between them. The teams respond to referrals for neonatal transport which may be of any acuity from well babies returning to their local unit after a period of neonatal specialist care, to the most critically ill babies requiring multiple stabilising interventions before being moved by the team to tertiary neonatal units.

Best Start. The focus of the SNTS during this period has been preparing to fully implement and support the recommendations from the review of the service which was established to address recommendation 59 of the national strategy, 'The Best Start: A Five-Year Forward Plan for Maternity and Neonatal Care in Scotland' (20th January 2017). The review was incomplete in terms of workforce and demand modelling, but we have been working to address this. Now that the final announcement regarding level 3 neonatal units has been made, this releases us to complete this aspect of the review, write formal plans and develop any necessary business case to support the new national service model.

Remote and Rural/ Referring Units. Continued use of the pathway to standardise any contact and transfer of neonates delivered in Community Midwife Units (CMUs) who require additional care which is implemented across all CMUs within NHS Scotland. This provides operational guidance for the transfer of a newborn infant from a CMU to neonatal / maternity services, underpinned by agreed common principles. The SNTS has also contributed to a related pathway for patients with 'Extreme Obstetric Emergencies', which through the involvement of key logistical and clinical personnel from the first phone call should ensure that time-critical transfers from CMUs are arranged expeditiously and as safely as possible.

Continuation of training and education to remote and rural units. This is in collaboration between ScotSTAR, the Scottish Multidisciplinary Maternity Development Programme (SMMDP) and local stakeholders.

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Online Referral Tool. Adoption of a new online referral tool for all elective workload for all units across NHS Scotland allows for the Neonatal teams to better plan workload but also to ensure that babies are transferred to the most appropriate care setting as efficiently as possible, to be achieved with minimal impact on service delivery.

Education and Training

- One-team working culture developed – unifying of processes and procedures in conjunction with standardisation of all equipment utilised within the SNTS which develops consistency across teams, encourages an inclusive culture whereby all employees feel part of a national team, and enhances service flexibility and resilience.
- Structured programmes – for nursing staff and Advanced Neonatal Nurse Practitioners (ANNPs) to recognize skill progression. These are evidence based and in line with national frameworks.
- Competency framework developed - to cultivate a simple, easily accessible and monitored framework of core and specific competencies that individuals complete to demonstrate the maintenance of basic and core skills as part of an overall clinical governance framework.
- Development and trial of Practice Educator role to provide a cohesive approach to all training and education undertaken within the SNTS.

Workforce. A review of the SNTS was concluded and provisional recommendations were made with regards to defining the structure and locations of the teams, and the cover provided by the service nationally. However, it was felt that a final decision regarding the structure and locations of the teams could not be made without the final conclusions from the Best Start review. The new model of neonatal intensive care has now been recommended by the Best Start report with the three specialist intensive care neonatal units for babies born at highest risk based in Aberdeen, Edinburgh, and Glasgow. This will now allow the SNTS to conclude this final part of their review and press ahead with implementation, supported by business case as necessary.

The SNTS have been facing staffing challenges within their middle-grade rota during this period. These challenges include: -

- Loss of experienced staff to retirement.
- Change in the service model to a middle grade rota staffed by Advanced Neonatal Nurse Practitioners (ANNP) and not doctors.
- Difficulty recruiting.
- Change to the University courses available within Scotland to allow ANNPs to be trained.

To address these issues the following measures have been put in place: -

- Appointment of clinical fellow from August 2023 to August 2024

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- Review of the ANNP role.
- Successful recruitment into ANNP role.
- New ANNP training provider identified.
- ANNP training course commenced and about to be complete for 1 member of staff.
- Plan for future training roles.

2.3 National Paediatric Retrieval Team (NPRT)

Service. Before coming under the auspices of the Service, the ScotSTAR National Paediatric Retrieval Team evolved from a retrieval function previously provided out of the two paediatric intensive care units (PICUs) in the country. The NPRT continues to provide a transport service primarily to critically ill children requiring secondary transfer to one of the PICUs, either Glasgow or Edinburgh. The NPRT offer advice to referring sites supporting management and transfer decision making.

Workforce and Resilience. The NPRT is a single national team serving the whole country. Only one clinical team is operational at any one time, and this presents a challenge to service resilience in the face of high or concurrent demand, as well as vulnerability to staffing challenges. Baseline demand does not justify more than one team, and regardless there is a limited pool of specialist clinicians in Scotland to recruit to the team.

To meet this challenge the NPRT has evolved into a three-tier staffing model comprising Consultant, Advanced Nurse Practitioners (ANP) or training grade doctors, and paediatric nurse. This allows flexible deployment with either supervision or direct care by consultants (guided by clinical acuity) and allows consultants to adopt a coordinating role in the face of concurrent demand.

This evolution is ongoing and challenging: Training of ANPs requires partnership between NPRT and the PICU in Glasgow; training grade doctors coming from both higher specialist training rotations and through standalone clinical fellow posts, with variable and unpredictable uptake. Furthermore, consultants are drawn from a small national pool who also work on high intensity rosters in their base PICUs and Emergency Departments, leading to turnover - creating and maintaining a sustainable NPRT work pattern for consultants is crucial to retaining this element of our workforce.

Recent challenges the team have been facing include:

- Two permanent consultants leaving resulting in vacancies. No suitable candidates for the recent clinical fellow vacancy.
- Glasgow PICU is unable to support joint recruitment and training of ANPs in 23/24 due to funding issues.
- Challenges with paediatric anaesthetic cover in Royal Aberdeen Childrens Hospital, which may impact demand in particular over the winter.
- Unable to recruit a clinical fellow from August 2023.

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As a result, there is an ongoing risk of gaps in cover for the NPRT as well as risk to team morale and staff retention. In response the following actions are in place which are effective in mitigating the risk, and which aim to reduce the risk in future: -

- Arrangement for consultants to offer remote locum ('overtime') cover with or without commitment to respond operationally.
- Agreement with PICUs to act in advisory capacity if NPRT consultant unable to respond to a referral.
- Development of a ScotSTAR guideline to standardize the response to NPRT unavailability (for this and any other reason), and arrangements which include cross-cover from other ScotSTAR teams where clinically safe and appropriate.
- Lobby for development of capacity for the Service to sponsor overseas applicants to fellows' posts.
- Ongoing ANP training in previously established training posts.
- Develop more robust induction and onboarding arrangements for locum consultants.
- Progress an internal review the service resourcing and model to address these challenges better in medium and long term.
- Recruitment to consultant vacancies with close and flexible working with territorial health boards to support tailored and jointly funded consultant job plans ensuring opportunities are given to suitable qualified candidates.
- Ongoing clinical fellow recruitment, aiming to plan 12-18 months ahead.

Trauma - 'Single Point of Contact'. The NPRT continues to trial (without funding) being the national single point of contact (SPOC) for inter-hospital trauma paediatric trauma referrals with the Scottish Trauma Network (STN). The NPRT advises and bears responsibility for transport decision making, including deploying as a team where required.

Liaison visits and training. Members of the NPRT visit remote and rural sites and deliver educational sessions on paediatric care, as well as feedback on referrals.

Onboarding/induction and HR. The NPRT is leading on work to standardize and streamline onboarding, induction, currency and payroll arrangements for permanent, and fixed-term full and part time ScotSTAR medical staff.

2.4 Air Ambulance (AA)

Service. The ScotSTAR Air Ambulance team comprises a paramedic workforce who undertake the specialist aeromedical transfer of patients and the operation of the Service's air assets. AA paramedics are technical crew members (TCM) for the aircraft, with additional training to support safe aviation operations. AA teams are stationed with each of the Service's rotary and fixed-wing aircraft as well as the helicopters operated by

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Scotland's Charity Air Ambulance (SCAA), in Inverness (SAS), Aberdeen (SAS and SCAA), Perth (SCAA), and Glasgow (SAS). AA paramedics transfer patients to and from remote and rural locations and provide the Helicopter Emergency Medical Service (HEMS) response. Where patients are critically ill or otherwise require specialist team input, AA paramedics support each of the other ScotSTAR teams so as to match necessary clinical skills to the patient's need. AA paramedics working with ScotSTAR teams thus need to have an extended clinical role in addition to their TCM skillset. The Air Ambulance aviation contract is a high-value commercial arrangement which requires close management, and this is undertaken by AA and ScotSTAR operational managers.

Air Ambulance Re-procurement Project. The current Air Ambulance aviation contract requires to be re-procured with the new contract commencing from late 2025. The ScotSTAR and air ambulance operational and leadership teams have continued to support the Air Ambulance Re-procurement (AAR) project team over the last 12 months, providing input through our User Requirements Workstream Group.

Air Ambulance Paramedic Critical Care Competency Framework. Paramedics employed by the Service's Air Ambulance Division work alongside the critical care teams of ScotSTAR on both primary (HEMS missions) and secondary (retrieval of critically unwell patients from isolated rural care facilities) missions. Since the introduction of the ScotSTAR service, the role of the Air Ambulance paramedic has begun to evolve as they work alongside the critical care teams, particularly at emergency calls, where the delegation of responsibility for certain tasks supports efficiency and reduces on scene times, particularly at more complex or multi-casualty incidents.

To support this, a new competency framework is being developed which will ensure the governance, standardisation, audit, evaluation, and maintenance of safe, effective clinical practice and support the development of paramedics interested in pursuing Advanced Practice roles within ScotSTAR or the wider ambulance service.

Air Ambulance Efficiency Project. Air ambulance demand and costs have increased over recent years resulting in high overspends. There is no single root cause for this, but factors are thought to include service wide demand causing increased reliance on air assets, loss of access to European based satellite navigation system reducing weather capability for Service assets, reduced ferry services, reduced access to scheduled flights, health board remote and rural challenges, increased dependence on HM Coastguard support, and increasing cost of aviation fuel.

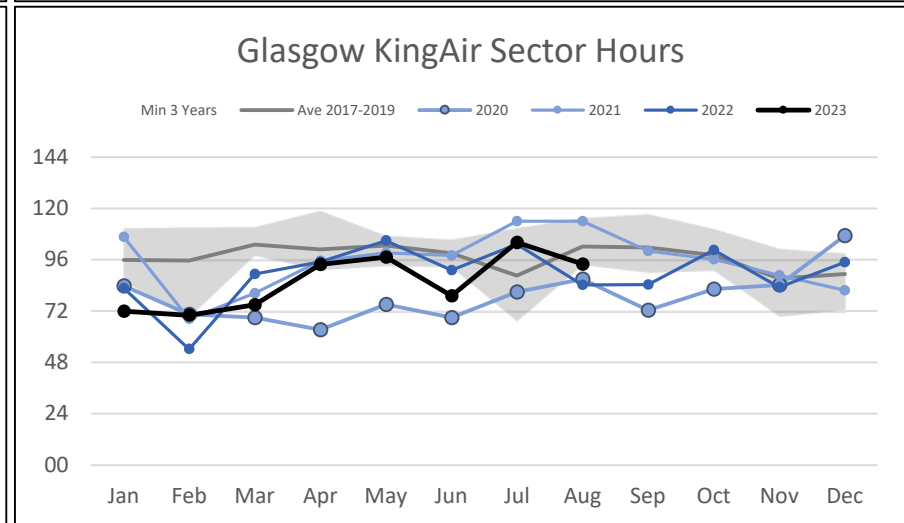
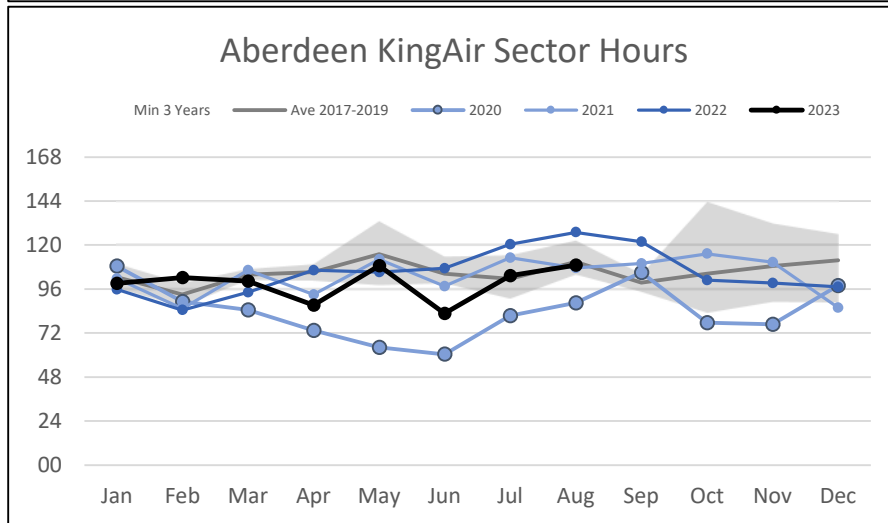
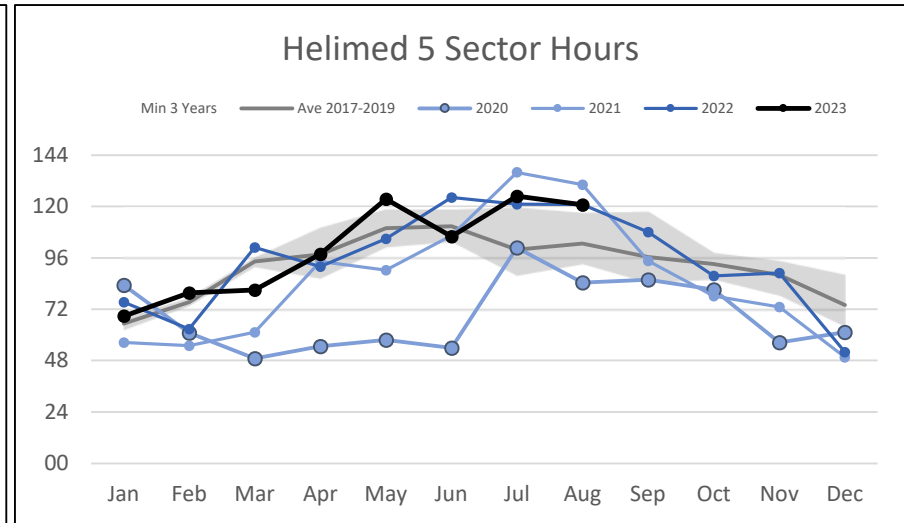
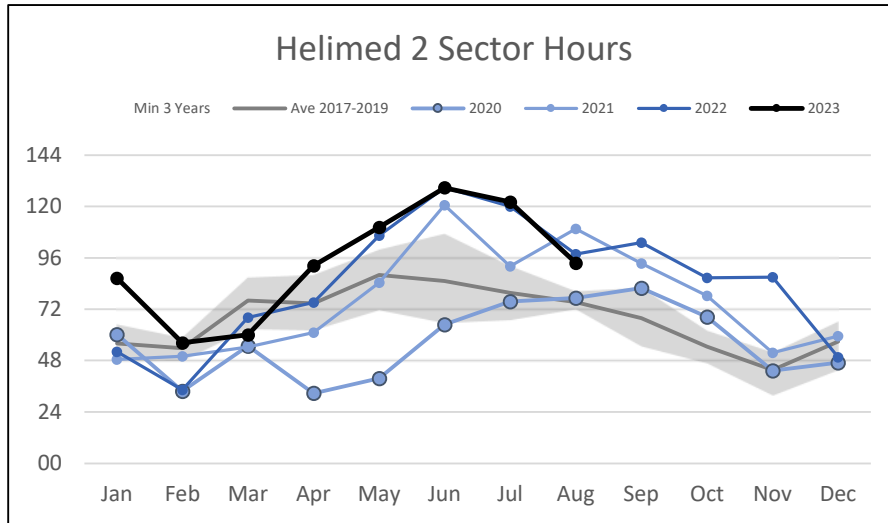
The project is to enable a review of air ambulance and ScotSTAR triaging, of tasking of air assets, and to identify and implement improvements to ensure appropriate and efficient use of the service.

The project scope includes: -

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- Full end-to-end process review of triaging, tasking and co-ordination for Air Ambulance, HEMS missions, transfer requests and missions carried out with support from the ScotSTAR transport and retrieval teams.
- Operating procedures for rural and remote GPs/Clinicians requesting air support (this includes the process for considering alternative transport – ferry services, scheduled flights and road support).
- A review of road ambulance resource availability in remote and rural areas.
- All Territorial Health Boards in Scotland – planning and communication.
- Charging model for UK cross-border transfers.
- Repatriation of patients.
- Telemedicine pilot that will support enhanced clinical triage prior to mission activation.

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3. Activity & Performance





The summary data was extracted from the EMRS Recording System, the BadgerNet system for Neonatal and Paediatrics data and the SAS Data Warehouse for Air Ambulance data. Period covers from September 2022 to August 2023.

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3.1 Adult Retrieval Activity

Department	Operational Data	Sep 20 to Aug 21	Sep 21 to Aug 22	Sep 22 to Aug 23	year most recent	Yearly Changes
EMRS	Primary Missions Completed	808	935	1268	35.6%	
	Secondary Transfers Completed	295	341	359	5.3%	
	Advice Calls	654	666	762	14.4%	
	North Primary Missions Completed	165	203	286	40.9%	
	North Secondary Transfers Completed	123	118	136	15.3%	
	North Advice Calls	116	118	166	40.7%	
	West Primary Missions Completed	640	730	972	33.2%	
	West Secondary Transfers Completed	171	220	220	0.0%	
	West Advice Calls	538	548	596	8.8%	

3.2 Neonatal Activity

Department	Operational Data	Sep 20 to Aug 21	Sep 21 to Aug 22	Sep 22 to Aug 23	year most recent	Yearly Changes
Neonatal	North Team Transfers Completed	153	175	127	-27.4%	
	South East Transfers Completed	364	311	318	2.3%	
	West Team Transfers Completed	580	544	506	-7.0%	
	Total Transfers Completed	1097	1032	951	-7.8%	

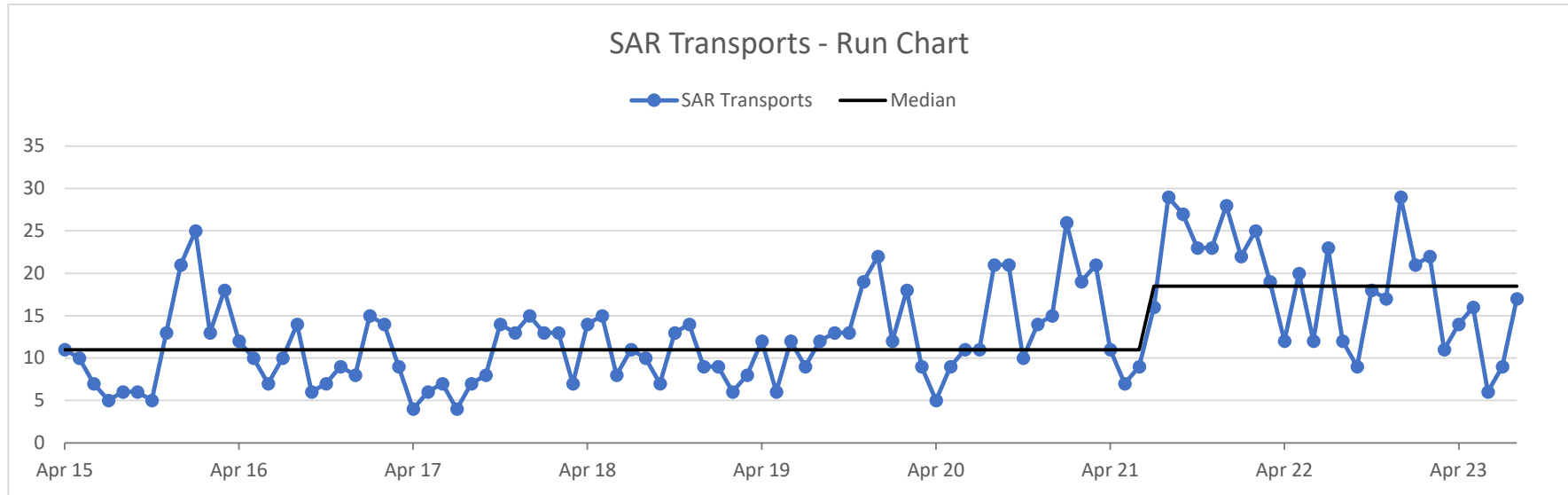
3.3 Paediatric Activity

Department	Operational Data	Sep 20 to Aug 21	Sep 21 to Aug 22	Sep 22 to Aug 23	year most recent	Yearly Changes
Paediatric	Road Transfers Completed	153	233	194	-16.7%	
	Air Transfers Completed	84	74	96	29.7%	
	Total Transfers Completed	237	307	290	-5.5%	
	Advice Calls	#N/A	433	487	12.5%	

3.4 Air Ambulance Activity

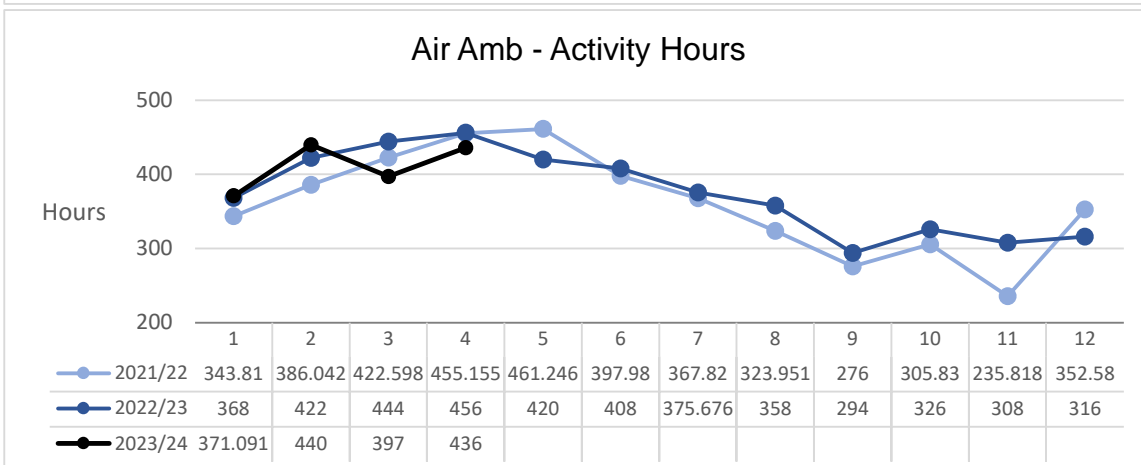
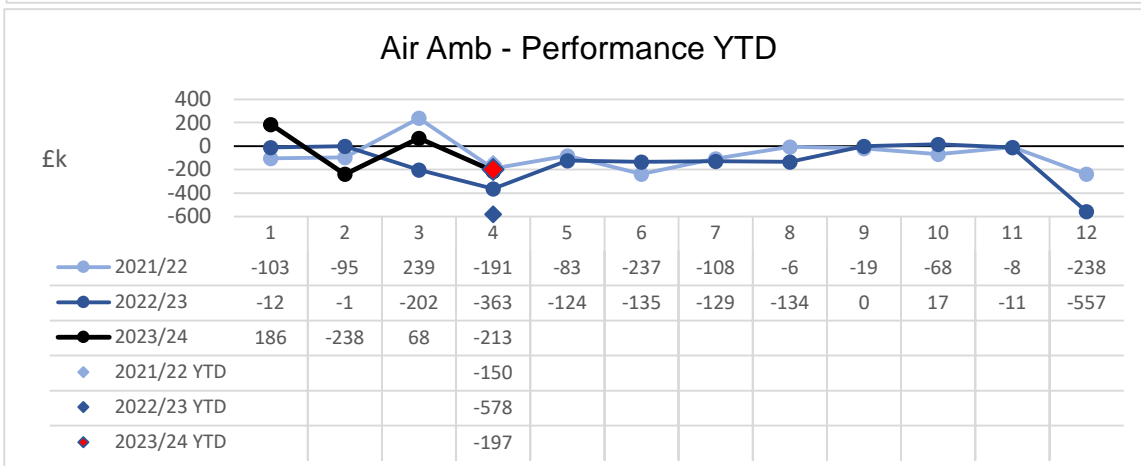
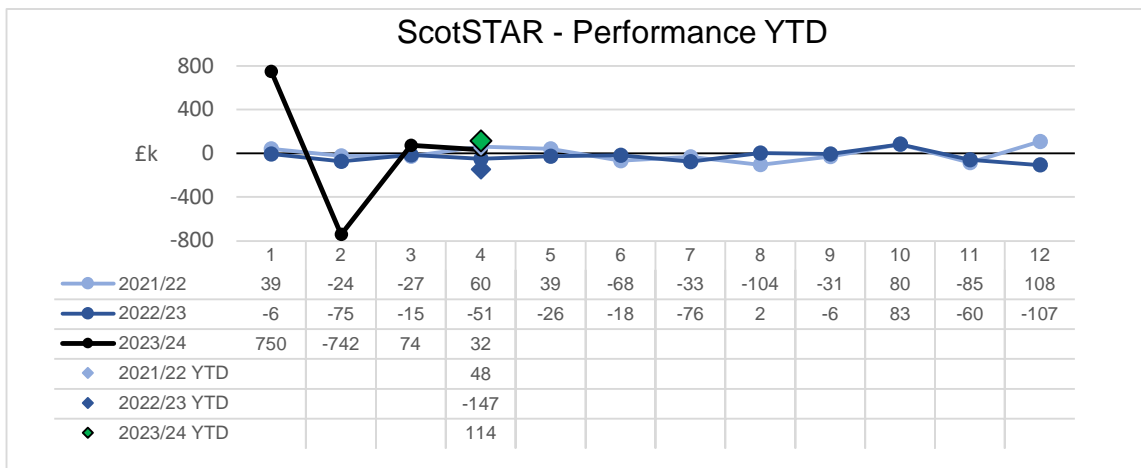
Department	Operational Data	Sep 20 to Aug 21	Sep 21 to Aug 22	Sep 22 to Aug 23	year most recent	Yearly Changes
Air Ambulance	Helimed 2 Missions	522	685	799	16.6%	
	Helimed 5 Missions	878	962	987	2.6%	
	Helimed 76 Missions	330	385	363	-5.7%	
	Helimed 76 Missions - Road	76	121	139	14.9%	
	Helimed 79 Missions	255	304	348	14.5%	
	King Air Aberdeen Missions	845	841	854	1.5%	
	King Air Glasgow Missions	805	742	715	-3.6%	
	Coast Guard - HEMS	124	155	192	23.9%	
	Coast Guard - Other Missions	198	246	189	-23.2%	

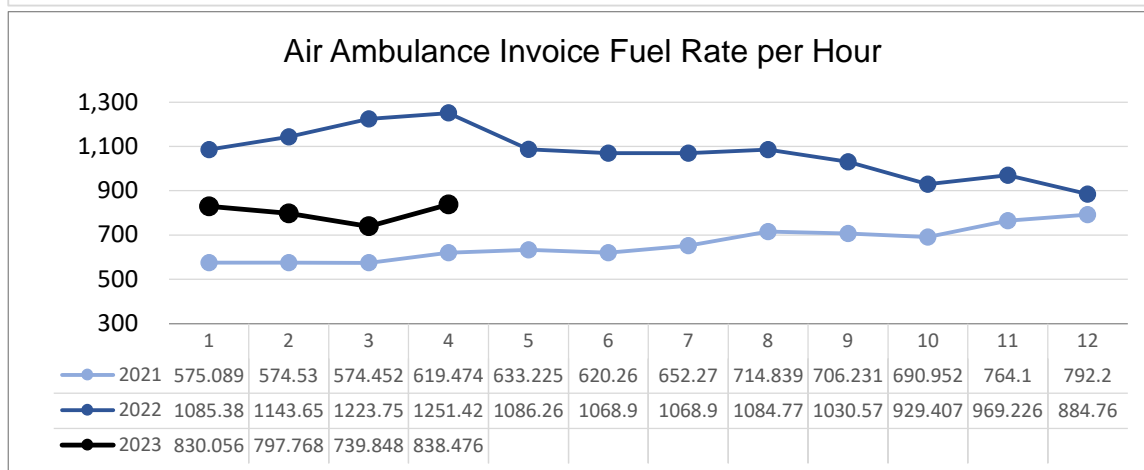
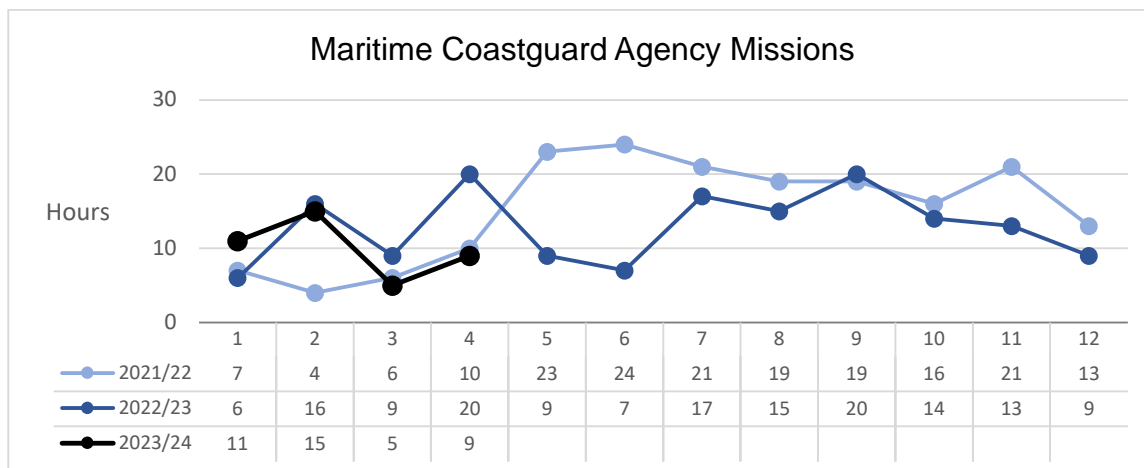
3.5 Search and Rescue Activity



4. Financial Position

ScotSTAR currently shows an underspend of £114,000. Air Ambulance currently shows an overspend of £197,000. Areas of overspend within the Air Ambulance budget will be addressed as part of the Efficiency Project. It is envisaged that the delivery of the efficiency target will support the delivery of some of the Air Ambulance savings target.





5. ScotSTAR KPIs

There are a heterogeneous set of KPIs in use across the complexity of the ScotSTAR with some teams having well developed KPIs, and others less so. We are working to summarise all KPIs for the team and to develop common KPIs which accurately summarise and drive improvement in the work of all ScotSTAR sub teams.

6. Winter Planning & Preparation

In preparation for winter, our winter plan has been developed for ScotSTAR to support surges in demand, adverse weather, and other barriers to routine activity during the winter period. Modelling work from previous years clearly shows the expected changes in activity through the winter months, this data is used to pre-plan winter requirements.

7. Future Developments for 2023/24

Anticipating the year ahead, we have a number of future developments planned. We have harnessed the insights gained from our experiences, feedback from stakeholders and emerging trends to chart a course that not only aligns with our strategic goals but also reflects our dedication to excellence. These developments include: -

- Delivery of the Air Ambulance Efficiency Project.
- Implementation of nurse delivered transfer guidelines.

- Development of ScotSTAR-wide clinical governance structures and procedures to capitalise on commonalities between sub-teams.
- Continue to develop and improve frameworks for practice, competencies, and currency for all ScotSTAR clinical staff groups.
- Implementation of KPIs for all elements of ScotSTAR delivery.
- Redesign of Neonatal Service to support delivery of the Best Start review.
- Review of paediatric service model and development of business plan/case.
- Engage with the challenge of finding solutions to the fragility and inequity of pre-hospital critical care provision in the East of Scotland.

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