



# NISTAR

# Annual Report



Belfast Health and  
Social Care Trust

caring supporting improving together



## Foreword

I am very pleased to present the 2020/21 Annual Report for the Northern Ireland Specialist Transport and Retrieval (NISTAR) service. NISTAR has come a long way since the establishment of the first dedicated regional critical care transfer service for adults in 2000 and then neonates/paediatrics in 2007.

NISTAR is currently hosted by the Belfast Health and Social Care Trust (BHSCT) in partnership with the Northern Ireland Ambulance Service (NIAS). The core management team, the call handlers and the specialised doctors and nurses are provided by BHSCT. The dedicated NISTAR ambulances and crews are provided by NIAS.

There are now four distinct NISTAR clinical teams that deliver safe inter-hospital transfer of seriously ill or injured infants, children and adults. They all work together to ensure multidisciplinary operational integration and the most efficient use of NISTAR resources. Their aim is to always provide the highest quality critical care to any patient in need of specialist medical retrieval. This was certainly evident during the COVID-19 pandemic. NISTAR teams ensured that seriously ill patients with COVID pneumonitis were transferred to appropriate units for escalation of ICU care or for ICU capacity reasons. All the patients in the BCH COVID Nightingale ICU were transferred there by NISTAR. The COVID transfers were extremely challenging given the high degree of multi-organ support that most of these patients were on. No COVID patients were refused transfer and it is a credit to the skills of the teams that there were no serious adverse incidents during any of the transfers.

There is still much for NISTAR to achieve. It is hoped that a dedicated computerised data management system will be in place within the next year so that all aspects of the patient's clinical transfer can be accurately recorded and uploaded to the electronic care record.

It is also hoped that more teaching and training on safe transfer and retrieval will be delivered to medical and nursing staff in DGHs, and to trainee doctors in Anaesthesia, Intensive Care and Emergency Medicine. Delivery of the educational programme may however be adversely impacted by further COVID surges. Of pressing concern is the need for a single operational base so that all the teams can be co-located. Teams are currently spread between the Royal Victoria Hospital, the Royal Belfast Hospital of Sick Children, the Royal Jubilee Maternity Hospital and the Broadway NIAS Ambulance station. A single base would obviously improve multi-disciplinary training, the efficiency of the service and responses to time critical requests.

Finally, I want to take the opportunity to thank everyone involved with NISTAR for their hard work, skill and dedication throughout this unprecedented year. The ability to adapt to change and to cope with new, stressful situations is awe-inspiring.

Dr Brian Mullan  
NISTAR Medical Lead



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## Background

NISTAR (Northern Ireland Specialist Transport and Retrieval) is the combined critical care transfer service for Northern Ireland. It incorporates the neonatal, paediatric and adult retrieval services.

NISTAR provides advanced resuscitation, stabilisation and inter-hospital transfer of critically ill infants, children and adults. Patients are managed by specialised clinical teams experienced in transport and retrieval. In 2020, the service introduced a nurse led service that facilitates elective inter-hospital transfers and repatriations of children who require nursing care. The service operates 24 hours a day, seven days a week. Approximately 1400 patients are transferred by NISTAR annually.

NISTAR also provides advice, support, education and training to hospitals on the safe transfer of critically ill patients.

NISTAR is hosted by the Belfast Health and Social Care Trust (BHSCT) who provide the medical and nursing teams. NISTAR also work in partnership with the Northern Ireland Ambulance Service (NIAS) who provide a fleet of ambulances and a team of Ambulance Care Attendants.

## Mission statement

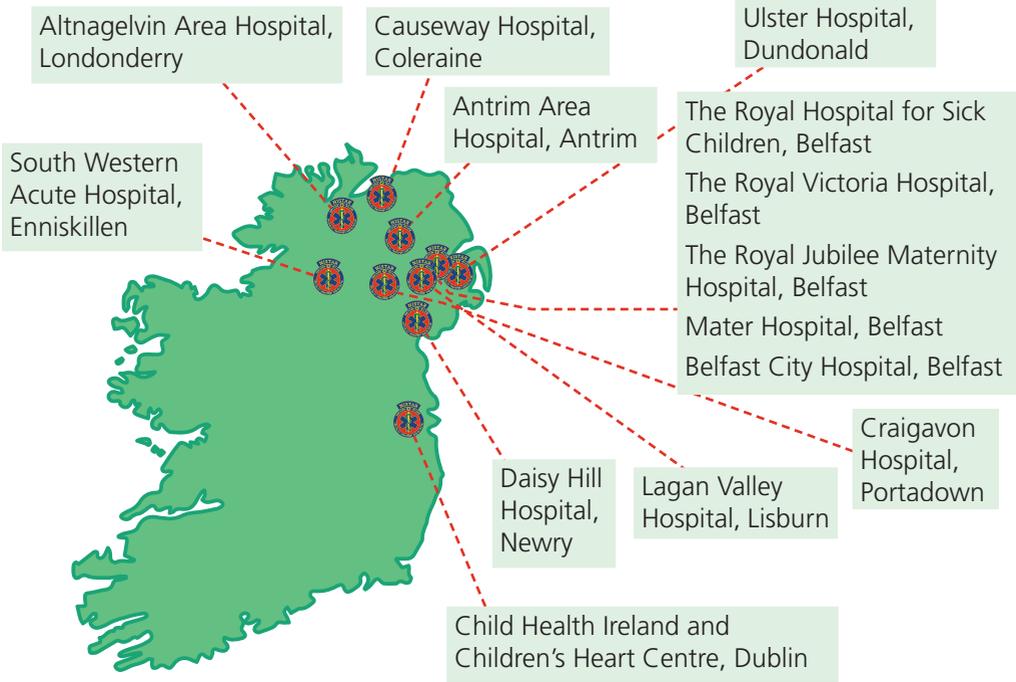
To provide the highest quality critical care to infants, children and adults in need of specialist medical retrieval

## Aims

To get:

- The *right* patient
- Transported in the *right* condition
- To the *right* care
- In the *right* time
- By the *right* people with the *right* skillset

# Hospitals serviced by the NISTAR teams



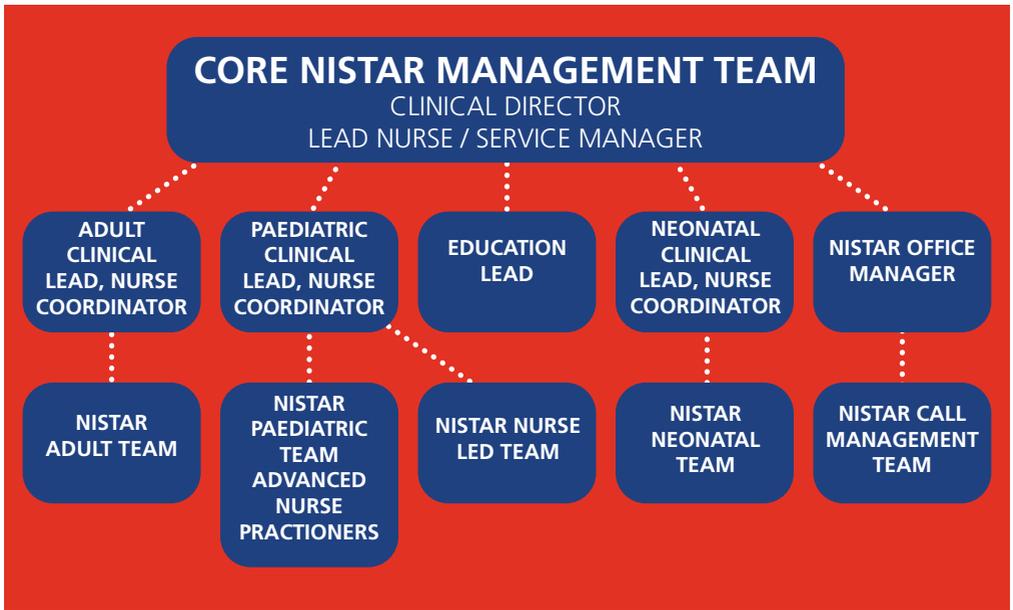
## Structure

### NISTAR ORGANISATION CHART





# NISTAR TEAM CHART



## The NISTAR Teams

- NISTAR Clinical Teams**

The critical care retrieval service is available to assess, stabilise and transfer seriously ill or injured patient's between hospitals in Northern Ireland.

Indications for transfer include specialist investigation or treatment not available in the referring hospital, lack of availability of a staffed critical care bed and repatriation.

Patients may be sedated and on mechanical ventilation. They may also be receiving vasopressor and/or inotropic support. These interventions are continued throughout the transfer process.

Patients are transferred on a specialised critical care trolley equipped with a portable ventilator, intravenous drug infusion pumps and a critical care patient monitor.

In addition to undertaking retrievals, NISTAR has an important role in the delivery of education and training of staff in all hospitals in Northern Ireland who may have to perform the occasional time critical transfer.

All teams are supported by a management team, admin team and a team of critical care scientists.

- **Adult**

The adult transfer team is comprised of a doctor, a critical care transport nurse, and an ambulance care attendant (ACA). The doctor is a consultant in either ICU, Anaesthesia or Emergency Medicine with additional experience in critical care retrieval. The nurse is an ICU nurse from the Regional Intensive Care Unit (RICU) who also has transport experience. The ACA is provided by NIAS but works exclusively for NISTAR.

The team work 12 hour shifts, 08.00-20.00 and 20.00-0800. The current hub is RICU, Belfast. The service is available seven days a week, all year round.

- **Paediatric**

The paediatric team consists of a consultant in Paediatric Anaesthesia, Paediatric Intensive Care or Paediatric Emergency Medicine, a critical care transport nurse and an ACA. The team work 12 hour shifts, 08.00-20.00 and 20.00-0800. The current hub is PICU, Belfast. The service is available seven days a week, all year round. This team undertake critical care transfers for children requiring specialist care in the regional paediatric intensive care unit or children who require specialist cardiac surgery in Dublin.



- **Neonatal**

The neonatal team consists of a specialist registrar, consultant Neonatologist, critical care transport nurse and ACA. The team work 12 hour shifts, 0800-2000, seven days per week and complete transfers of neonates requiring specialist care within the regional neonatal intensive care unit or repatriation following specialist care. This team also facilitates transfers of neonates requiring specialist cardiac care in Dublin.

- **Nurse Led**

The dedicated paediatric nurse led transfer team became operational in Jan 2020. This service operates from 0800-2000, seven days per week and completes elective transfers for children no longer requiring critical care. The nurse led team complete transfers on behalf of all neonatal and paediatric units within NI and also on behalf of the All Island Congenital Heart Network.

## **Governance**

NISTAR has a robust governance structure in place.

Daily team conference calls ensure that issues are identified and resolved quickly. The NISTAR clinical leads meet monthly to review activity, risk and education requirements. In March 2021, NISTAR held their first Clinical Governance Day with presentations from the Adult, Paediatric, Neonatal and Nurse Led teams. The presentations included comprehensive review of clinical, logistical and human factor issues and provided a forum for honest discussion and shared learning.

There is oversight from BHSCT with Trust meetings held every four months. In addition, the NISTAR team also meet with the Health Social Care Board, the Public Health Agency and key external stakeholders every four months to review service delivery and plan service developments.

NISTAR aligns with the BHSCT governance framework and report incidents using the Datix system. A local risk register is held to record, monitor and address risks. NISTAR are also active participants in the Belfast Risk Audit and Assessment Tool (BRAAT).

The current risks on the NISTAR risk register are:

- NISTAR cross border activity post Brexit requiring clinical staff to have dual professional registration.
- NISTAR accommodation. NISTAR is currently located across five locations across the Royal Victoria site. A dedicated NISTAR base would enable the teams to be co-located and facilitate clinical education.
- Workforce – Neonatal service. The NISTAR service have experienced challenges within their workforce and a plan is in place to recruit additional staff.
- Workforce – Paediatric service. The NISTAR service have experienced challenges within the consultant medical workforce. Attempts are being made to resolve this issue but this is likely to be a protracted issue.

The NISTAR teams adhere to a range of transport specific guidelines such as those published by the Faculty of Intensive Care Medicine (FICM), Paediatric Critical Care Society (PCCS) and Neonatal Transport Group (NTG). Locally, there are a number of Standard Operating Procedures to support clinical practice. The service regularly undertake national benchmarking exercises with the NISTAR paediatric and neonatal teams submit annual data to the PICANet and NTG respectively.

NISTAR have their own personal risk insurance policy which covers the team for up to 1500 transfers per year. In addition, the NISTAR teams are indemnified by the BHSCT for service delivery.

## Resources

The following resources are available to NISTAR to aid service delivery.

- **Vehicles**

NISTAR work in partnership with the Northern Ireland Ambulance Service (NIAS) to provide a fleet of specially adapted critical care ambulances. In October 2020, NISTAR took delivery of NISTAR 4. All the ambulances have the capability to connect to the BHSCT computer network so that top level remote clinical advice can be provided to the retrieval teams when required. NIAS are responsible for the maintenance and servicing of these vehicles. Three ambulances are in operation daily with the fourth kept as reserve for training or in the event of breakdown or scheduled maintenance.

In 2020, NISTAR initiated a contract with a local taxi service to provide backup ad hoc transport of staff and equipment, thereby ensuring the ambulances are always available for patient transfers.



NISTAR 4

- **Equipment**

2020 saw significant investment in NISTAR clinical equipment. New critical care retrieval bags were purchased for all teams. The adult and nurse led team took delivery of new critical care trolleys. A Tecotherm Neo was also purchased for the neonatal team for the management of hypoxic ischaemic encephalopathy. In addition, following service user feedback, the nurse led team purchased a range of sensory equipment and a new transport mattress.

The NISTAR education team has also benefited and took delivery of neonatal and adult training mannequins and simulation equipment.



Tecotherm



Critical Care Trolley



Critical Care Response Bag

- **Facilities**

NISTAR is currently based in a number of locations around the BHSCT. The ambulance crew and ambulances are located in Broadway ambulance station. The current facilities do not meet the ongoing needs of the service and work is underway to obtain a dedicated NISTAR base from which all teams will be co-located. This will promote collaborative team working and enable the teams to train together. It will also allow for more efficient triaging and tasking of assets.

- **Information Technology**

NISTAR started 2020 as a completely paper based service, however as the year went on the teams have gradually transitioned to an electronic reporting system. Kinseed is an electronic patient record system that was purchased in the Autumn of 2020. Paper records are currently entered onto the system retrospectively, however iPads are currently being customised which will allow the teams to go completely paperless by Autumn 2021.

In March 2021, NISTAR also purchased the My Retrieval App from Eolas Medical. This app will hold all NISTAR information, policies and Standard Operating Procedures and will enable the teams to access them remotely from personal devices when completing transfers.

In addition, NISTAR began using Corsium software via the Tempus Pro critical care monitor. This software enables the retrieval teams to share information while on the move with clinicians at base.

## Investments

The NISTAR team invested significantly between April 2020-March 2021 and the following items were purchased:

- Critical care transport trolleys
- Neonatal Tecotherm
- Neonatal training mannequin
- Adult ALS mannequin
- ALSi simulation monitor
- Intra osseous access kits
- Accuvein vascular visualisation technology
- IV cannulation simulation training arm
- Critical care response bags
- Sensory equipment for nurse led trolley
- New mattress for nurse led trolley
- IT upgrades for admin office
- McGrath video laryngoscopes
- Tempus Pro critical care monitors and defibrillators
- Hamilton T1 ventilator

## Covid response

The Covid 19 global pandemic very quickly put unprecedented challenges on the service. The teams responded rapidly and the following actions took place:

- Additional PPE was purchased in line with national guidance
- The teams made Covid specific response bags and PPE kits for each transfer
- A Covid specific Standard Operating Procedure was developed for interhospital critical care transfers. This SOP was reviewed and updated regularly as new evidence emerged
- Multidisciplinary Covid specific simulation training was developed and completed which saw many of the team take on new roles

- New ways of working were developed and as a result NISTAR were responsible for transferring all critical care patients to the Nightingale hospital. Three NISTAR teams safely completed the simultaneous transfer of 11 Covid patients. This was the first time in NISTAR's history that multiple critical care patients were moved at the same time
- Closer working with the critical care scientist team ensured that team safety was paramount when completing critical care Covid transfers that involved aerosol generating procedures
- The establishment of a dedicated NISTAR transport consultant pod
- Additional ACAs were recruited to assist with each Covid transfer
- The NISTAR management team contributed to the Critical Care Network Northern Ireland (CCaNNI) surge plan and the regional critical care hub. They also attended the regional daily sit-rep calls
- Risk assessments were carried out on individual transfers which enabled the paediatric team to continue to deliver family focused care



NISTAR team completing a transfer



Team in full PPE prior to transfer



Paediatric Covid 19 training



Doffing / donning training



The NISTAR team having completed multiple simultaneous Covid transfers

NISTAR are immensely proud of all our teams who went over and above to ensure that core business was delivered in addition to ensuring that all Covid patients who required critical care were transferred safely. The efforts of all the NISTAR team were recognised throughout 2020. Irish Glass Artist Eleanor-Jane McCartney designed and donated rainbow pins to the NISTAR team and Minister for Health Robin Swann visited NISTAR in October to thank the teams for all their work during the pandemic.

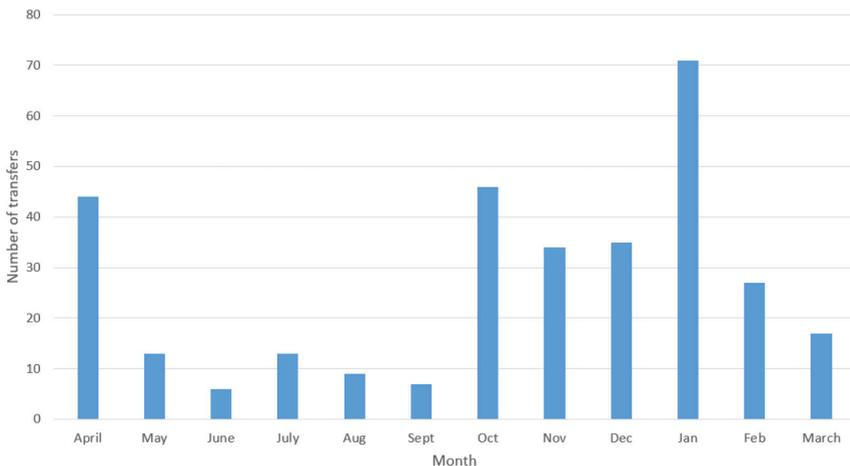


Rainbow pin donated by Irish Glass Artist Eleanor-Jane McCartney.



Health Minister Robin Swann meeting Dr Mullan, Dr Gillen and Dr Orr

### NISTAR Covid Activity April 20 - March 21



## The NISTAR brand

Throughout 2020, the NISTAR team “rebranded”. This started in May 2020 with a new logo which was designed by ACA Mark Clendinning and Sam McCready. The teams then received their new NISTAR uniform which included t-shirts, fleeces and scrubs. A range of merchandise was procured and delivered to our teams and key stakeholders. This included water bottles, lanyards, mouse pads and pens. As the year progressed, the team redesigned the NISTAR website and increased our social media presence with the use of Twitter.



NISTAR nurse Emma sporting the NISTAR beanie



The NISTAR coffee cup and hat



The NISTAR logo

# Recruitment

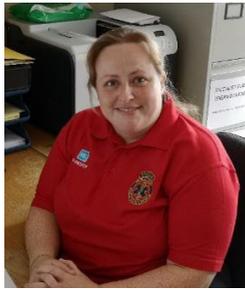
The NISTAR team grew significantly during 2020-21 with a number of new appointments. These included:

- **Trainee Advanced Nurse Practitioners**

Lynsey Freeburn and Heather Maxwell were appointed NISTARs first ever Trainee Advanced Nurse Practitioners. Lynsey and Heather have completed non medical prescribing and will commence a Masters in Advance Practice in September 2021 they will support the paediatric medical and nursing teams on qualifying.



ANP Heather Maxwell



ANP Lynsey Freeburn

- **Call management**

Annette Lavery was appointed as the NISTAR office manager in Aug 2020 and quickly began recruiting a team of call handlers. Jonathan McConnell joined the team in the Autumn with Susan Reilly and Andrea O'Neill joining in March 21. Annette and her team are responsible for co-ordinating all NISTAR transfers on a daily basis.



Annette Lavery



Susan Reilly



Jonathan McConnell



Andrea O'Neil

- **Education lead**

Dr Andrew Topping was appointed as the NISTAR Education Lead in Sept 20. Andrew is responsible for co-ordinating training and education for both the core NISTAR teams and the clinicians within the District General Hospitals



Dr Andrew Topping

- **Paediatric consultant**

Dr Steven McVea joined the NISTAR paediatric team in Oct 2020. Steven will complete NISTAR shifts in addition to his core role as a paediatric intensive care consultant.



Dr Steven McVea

- **Adult Consultants**

Consultant Anaesthetists Dr Matthew Grimes and Dr Chris Wasson joined the adult NISTAR team in Sept 2020. Mathew and Chris will be completing NISTAR shifts in addition to their clinical shifts within theatres and the intensive care unit



Dr Matthew Grimes

- **NIAS Ambulance Care Attendants**

The Ambulance Care Attendants have an invaluable role with all the NISTAR teams and 2020 saw us welcome Paddy Adams, Emer McWilliams, Julie Cruickshank and Alison McKinley to the team.



- **Nurse coordinators**

Each NISTAR team has a nurse co-ordinator who is responsible for the day to day running of the team. Cara Barbour was promoted to Paediatric Nurse Co-ordinator in the Autumn of 2020 and Bill Hickland joined the team on a full time basis from Jan 21.



- **Critical Care Scientists**

The NISTAR teams have a range of specialist equipment that is used to facilitate elective and critical care transfers. In the Spring of 2020 NISTAR began working with Principal Critical Care Scientist (CCS) Amanda Scappaticci and her team. The CCS team have proved to be invaluable and offer NISTAR technical expertise in addition to asset management and equipment maintenance / servicing.



Chris Kialt

Theatres Principal CCS



Amanda Scappaticci

RICU Principal CCS



Ian Adair

RICU Chief CCS



Deirdre Gamble

Theatres Acting Chief CCS



Jim Horner

Senior CCS



Ronald Sison

Senior CCS



Rebecca Cunningham

CCS Education Facilitator



Claire Ellis

Senior CCS



Leon O'Neill

Senior CCS



Darren McLaughlin

Senior CCS



Rebecca Gilmore

Senior CCS



Louise Johnston

Senior CCS



Danielle De Niro

Junior CCS



Curtis Bell

Trainee CCS



Gareth Watt

Trainee CCS

- **Neonatal Consultants**

The Neonatal team traditionally relied on the Neonatal Intensive Care Unit to provide consultant cover for the NISTAR service. In order to increase resilience in the team, NISTAR welcomed a number of locum consultants to the team including Michael McGowan, Sam Thompson, Julia Courtney, Alison Verner and Muhammad Saleemi

- **Farewells**

In addition to all the recruitment in 2020-21, the NISTAR team also said farewell to Dr Richard Tubman, Dr Stewart Reid and Dr Bob Taylor. Dr Reid, a NISTAR Paediatric consultant left NI to take up an exciting role in Cambridge while Dr Taylor retired from the service. Dr Tubman also retired from the service. Dr Tubman was the founder of the neonatal transport service in NI and had worked for over 35 years in the health service. We wish Dr Reid well in his new role and both Dr Tubman and Dr Taylor well in their retirements



## Regional engagement



NISTAR had commenced a programme of roadshows at the beginning of 2020 with the aim of visiting every Trust in NI and partner hospitals in ROI. The purpose of the roadshows was to give referring units an opportunity to meet the NISTAR team and develop their understanding of the service. Unfortunately this came to a sudden stop as a result of the Covid 19 restrictions. Although face to face meetings stopped, team members have continued to meet with colleagues around the region virtually.

Keen to improve the service, the NISTAR team became involved in Care Opinion in Spring 2020. This is an online patient feedback platform that enables NISTAR to respond promptly to queries.

NISTAR are pleased to report that there were no complaints in 2020-21 but the team did receive a number of compliments from service users and fellow HSC colleagues including:

*"I just wanted to email to pass on praise to the nicu/neonatal transport team last week. Twice last week they brought babies over (09/02/2021 and 11/02/2021). Communication was great, everyone was really helpful and pleasant. In fact when I got into trouble intubating the baby on Thursday, the team ran back to help me!"*  
Quote from a Paediatric anaesthetist.

*"I would like to forward my appreciation of the NISTAR transport team, led by Patricia McDermott and her colleagues. Everyone on the NISTAR team is absolutely professional, confident and competent in their role, and continually go above and beyond what should be expected of the staff. On the 10th December 2020, we had an unusually busy period within the NNU in the Ulster Hospital. Which necessitated the transfer of one baby to Craigavon Area Hospital NNU, and another to the Antrim Area Hospital NNU, in order to cope with demand on cots and patient safety in the NNU. It was one of the NISTAR team Nurses, Clare McIlwaine who was on duty that I would like to acknowledge. As she ensured that both these babies were transported safely, along with her ambulance colleagues to their receiving Neonatal Units.*

*Clare despite knowing that it would mean a late finish for herself and the team, went the extra mile to ensure the transfers were completed"*

Importantly though, patients and families also value our service



# What our families say

**Alexandra Creaney**  
Amazing team who did so much for us in our little girls life. I think we probably met all of the team so thank you for all your kindness, professionalism and compassion.

**Teresa Keenan**  
They are amazing they transported our son from crumlin hospital after open heart surgery, such a warm welcome when they arrived and couldn't do enough to make Ross comfortable for his journey I couldn't have been greeted by two nicer girls in the world I would like to thank Linda again you both took such great care of him going down the rd to Belfast Thank you for all that you do

"Friendly, helpful paramedic driver and nurse. Ensured my comfort on the transport trolley. Excellent service. Positive experience."

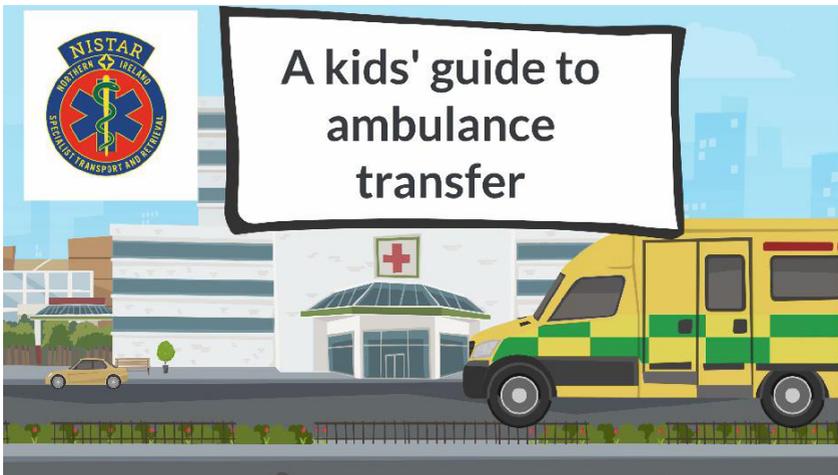
"Thank you so much. There are no words for Cara and Johnny's kindness, especially during such a stressful time. They went out of their way, above and beyond to bring us back from Dublin and we are so grateful."

"Thank you so much for all you have done for my son. I will be forever grateful. You should be so proud of yourselves. You are truly special."



- **Nurse Led video**

As a new service, the nurse led team proactively sought feedback from patients, carers and HSC colleagues throughout the year regarding their service and ways to improve it. As a result of this feedback and with the help of Dr Lyndsey Thompson (RBHSC Paediatric Registrar), a cartoon video was produced to help children prepare for a NISTAR transfer.



## Independent Sector

NISTAR have always had a relationship with the independent sector who provide a transfer service when NISTAR is unavailable. In the past this has been an ad hoc arrangement but in the Autumn of 2020 this arrangement was formalised and a tender exercise completed. Proparamedics were successful and won the contract. NISTAR now have a robust governance process in place with Proparamedics which includes weekly operational meetings and a monthly governance meeting. This allows NISTAR to have oversight and provide support with issues relating to recruitment, equipment, and vehicles.

## Network partnerships

NISTAR work in collaboration with a number of networks including:

- **Neonatal network**

NISTAR are board members of the Neonatal network and help the network manage capacity issues across NI.

- **Critical Care Network Northern Ireland (CCaNNI)**

NISTAR are a key stakeholder of the Critical Care Network Northern Ireland and played an integral role in Northern Ireland's critical care response to the Covid 19 pandemic.

- **Child Health Partnership (CHP)**

NISTAR work in collaboration with the Child Health Partnership and ensure that children are moved promptly for ongoing care.

- **Congenital Heart Disease Network (CHD)**

NISTAR work in close partnership with the Congenital Heart Disease Network and complete both urgent elective transfers and repatriations of children to / from Dublin for children requiring specialist cardiac surgery.

## Dual professional registration

The end of the EU transition period in December had a significant impact on the NISTAR service. Following engagement with the Irish Medical Council and the Department of Health, it was identified that NISTAR would not be able to provide a cross border service from 21st April 2021 unless all doctors and nurses working for the service were registered with the appropriate ROI professional bodies.

NISTAR began the arduous task of registering all their doctors and nurses with the Medical Council of Ireland and the Nursing Midwifery Board Ireland to ensure that the cross border service would not be compromised.

## Quality and service improvement

Despite the restrictions placed on NISTAR as a result of the Covid 19 restrictions, we are proud to say that we have still be heavily engaged with the education of our team during the year. Staff have completed the following courses:

- BSc in Nursing Practice
- MSc in Business Improvement
- Master in Public Administration in healthcare leadership and management
- Proteus medical leadership course
- Advanced Life Support
- Neonatal Life Support
- European Paediatric Life Support
- Safety Quality Belfast
- Emotional intelligence training with the HSC Leadership centre
- Covid 19 updates
- Time critical simulation training
- Serious Adverse Incident training

- Senior Nursing toolkit
- Root Cause Analysis training
- IV cannulation training
- Tecotherm training



Adult simulation equipment



Critical Care Scientist Dr Cunningham training the team on the ventilator

## Service development

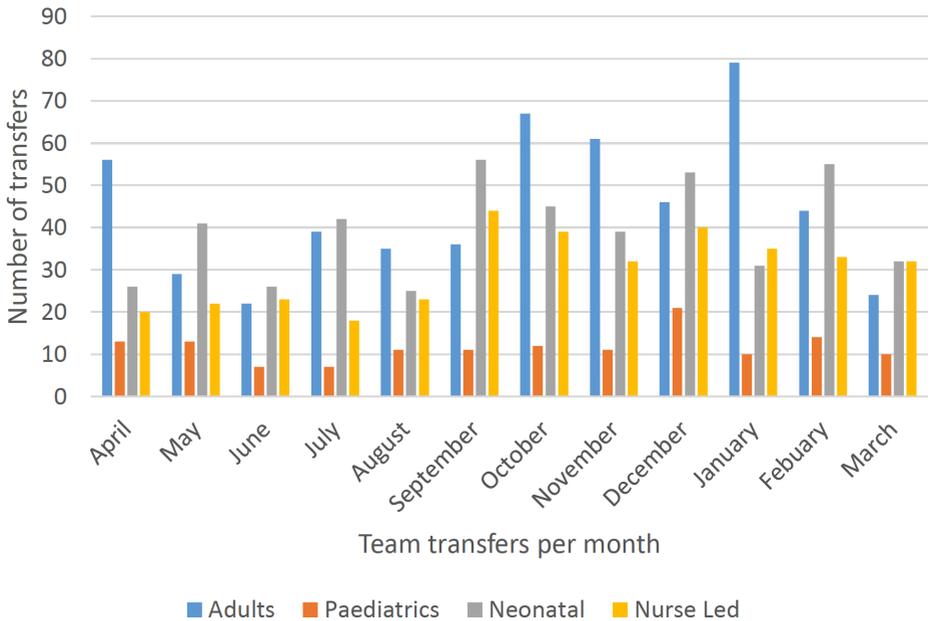
The NISTAR team have developed a five year plan which will take the service from 2021-2026. Key highlights of the plan include:

- Move to a dedicated NISTAR base
- Implementation of a seven day management team
- Introduce an electronic patient record system
- Provide seven day neonatal consultant cover
- Provide bespoke flexible teams
- Commence time critical transfers
- Deliver a regional education programme

## Activity

Between April 20 – March 21, NISTAR completed 1510 transfers. Key highlights included:

- Simultaneous critical care transfers completed in April – the first time this has happened in NISTAR's history
- 70 Covid transfers completed in Jan 21
- 322 Covid transfers completed between April 20 – March 21
- NISTARs busiest ever day in Oct 20 with 18 critical care transfers completed.





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