Canada-Wide Neonatal & Pediatric Transport Systems

3rd Canada-Taiwan Symposium for Children's Health 2021

Presenter: Kyong-Soon Lee

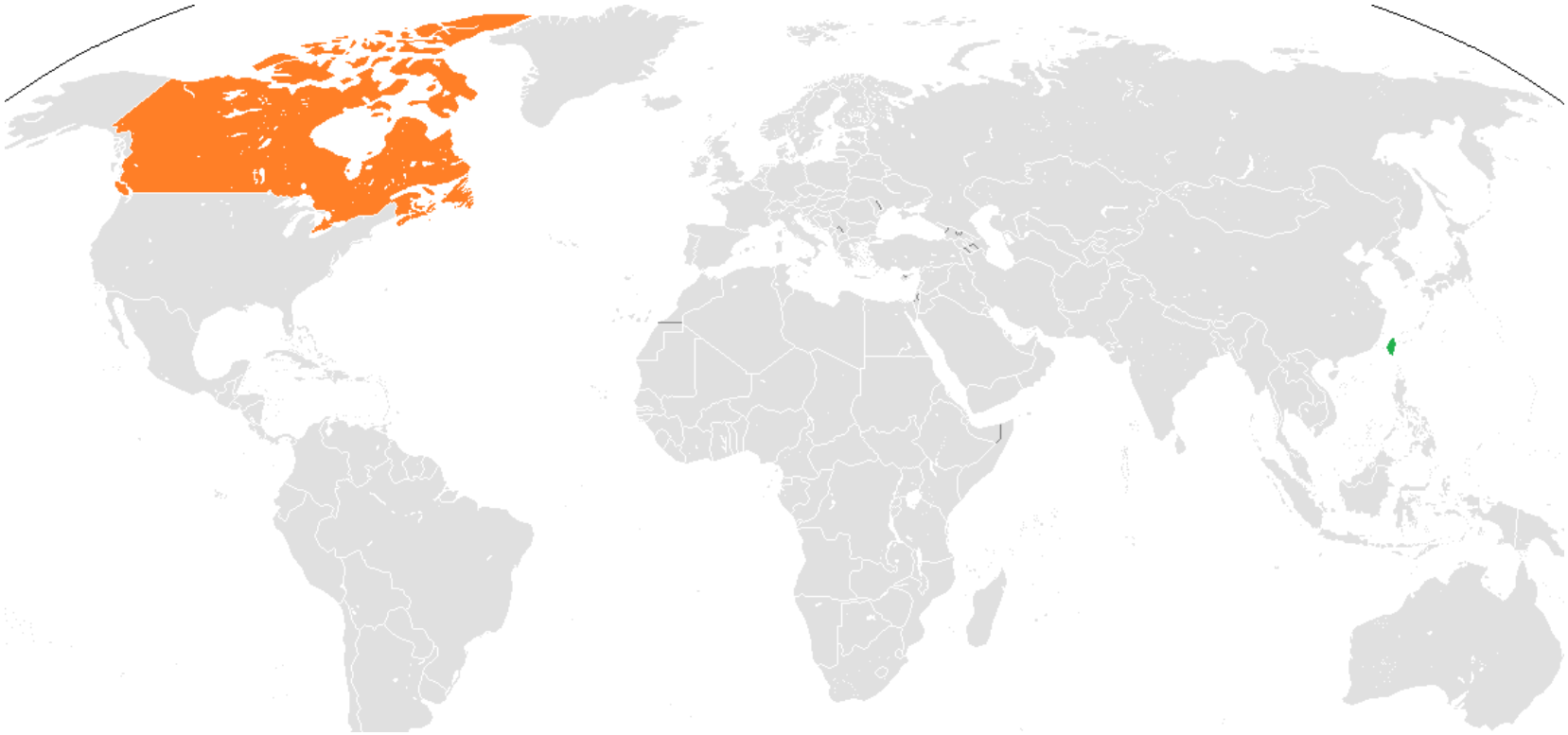
Outline

State of **pediatric** transport in Canada

State of **neonatal** transport in Canada

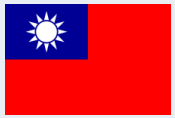
Utilization of national database and network for benchmarking and quality improvement

Future directions in neonatal and pediatric transport



	Surface area in km²	Births per year	Births /km2
Canada	9,980,000	388,000	0.039
Taiwan	36,000	200,000	5.556

Transport Regions

	Surface area in km²	Births per year	Births /km2
England & Wales	 240,000	772,000	3.217
United States	 9,830,000	4,036,000	0.411
Sweden	 450,000	120,000	0.267
Canada	 9,980,000	388,000	0.039
Australia	 7,690,000	316,000	0.041
Taiwan	 36,000	200,000	5.556

Transport Teams Bring Critical Care to Referral Sites

Attendance at delivery

Endotracheal intubation

Intraosseus insertion

Cool packs for therapeutic hypothermia

Inhaled nitric oxide

ECMO

Skilled team + efficient system = effective transport

Wide variation in training, processes and quality assurance activities

Karlsen et al. Pediatrics 2011;128:685-691

Pediatric transport in Canada

Hospital-based pediatric transport teams in Canada n=8, survey from Aug 2015

Transport program	Total transports	Pediatric transports	%Pediatric/ total transports	Population serviced	%pediatric to PICU (marker of acuity)
A	2300	1100	48	Peds & neo	18
B	1300	200	15	Peds & neo	75
C	714	117	16	Peds & neo	51
D	462	462	100	Peds only	45
E	350	150	43	Peds & neo	30
F	265	265	100	Peds only	65
G	250	240	96	Peds only	60
H	45	42	100	Peds only	100

Non-hospital based provincial systems support majority of pediatric transport

Kawaguchi et al. Ped Emerg Care 2019;35(1)

Team composition
Among 8 hospital-based pediatric teams

	Number of teams Total = 8	%transports operated by the team composition
Registered nurse (RN); one only Respiratory therapist (RT); one only	0	
Paramedic only	1	85%
RN-RN	2	20% and 99%
RN-RT	5	Median 85%; range 70-98%
RN-paramedic	0	
RN-physician	0	
RN-RT-physician	6	Median 2%; range 2-100%
Other	3	

Team composition: most common: RN-RT
Physicians rarely

Kawaguchi et al. Ped Emerg Care 2019;35(1)

Data recorded in database of 8 hospital-based transport teams

Data elements	N (%)
Patient demographics (ID, name, etc.)	8 (100%)
Referral site information (name, postal code etc.)	7 (87%)
Details of transport times/dates of transport	8 (100%)
Vital signs during transport	5 (63%)
Bloodwork result (blood gas etc.)	4 (50%)

Need for common database with standardized elements and definitions to study associations between systems and outcomes for improvement in practice and outcomes

Kawaguchi et al. Ped Emerg Care 2019;35(1)

Mode of transport
for 8 hospital based pediatric transport teams

Mode of transport	N (%)
Ground – local EMS	8 (100%)
Ground – private transport service	2 (25%)
Ground – dedicated to transport team	2 (25%)
Helicopter -dedicated to transport team	4 (50%) 2 (25%)
Fixed wing propeller -dedicated to transport team	4 (50%) 2 (25%)
Fixed wing jet -dedicated to transport team	5 (63%) 1 (13%)
Mode of transport used	**Proportion of transports Median (range)**
Ground	43% (15-100%)
Helicopter	10% (0-39%)
Fixed wing jet/propeller	38% (0-65%)

Kawaguchi et al. Ped Emerg Care 2019;35(1)

Who does the triaging for pediatric transports?

- For decisions re: mode of transport and team composition
  - PICU staff 6/8 (75%)
    - Rest: PICU fellows, transport RNs and RTs
  - Pediatric emergency physician not involved for decisions, but are involved in discussion for 2/8 programs

Kawaguchi et al. Ped Emerg Care 2019;35(1)

Pediatric transports in Canada

- Challenging to determine current state due to wide variation in types of teams
  - Few hospital based teams
  - Majority of transports by non-hospital based teams (provincial) or local emergency medical systems
  - Lack of standardization of data collection and elements

Neonatal transport in Canada

CNTN

Canadian Neonatal Transport Network

A National Quality Collaborative

CIHR IRSC
Canadian Institutes of Health Research
Instituts de recherche en santé du Canada

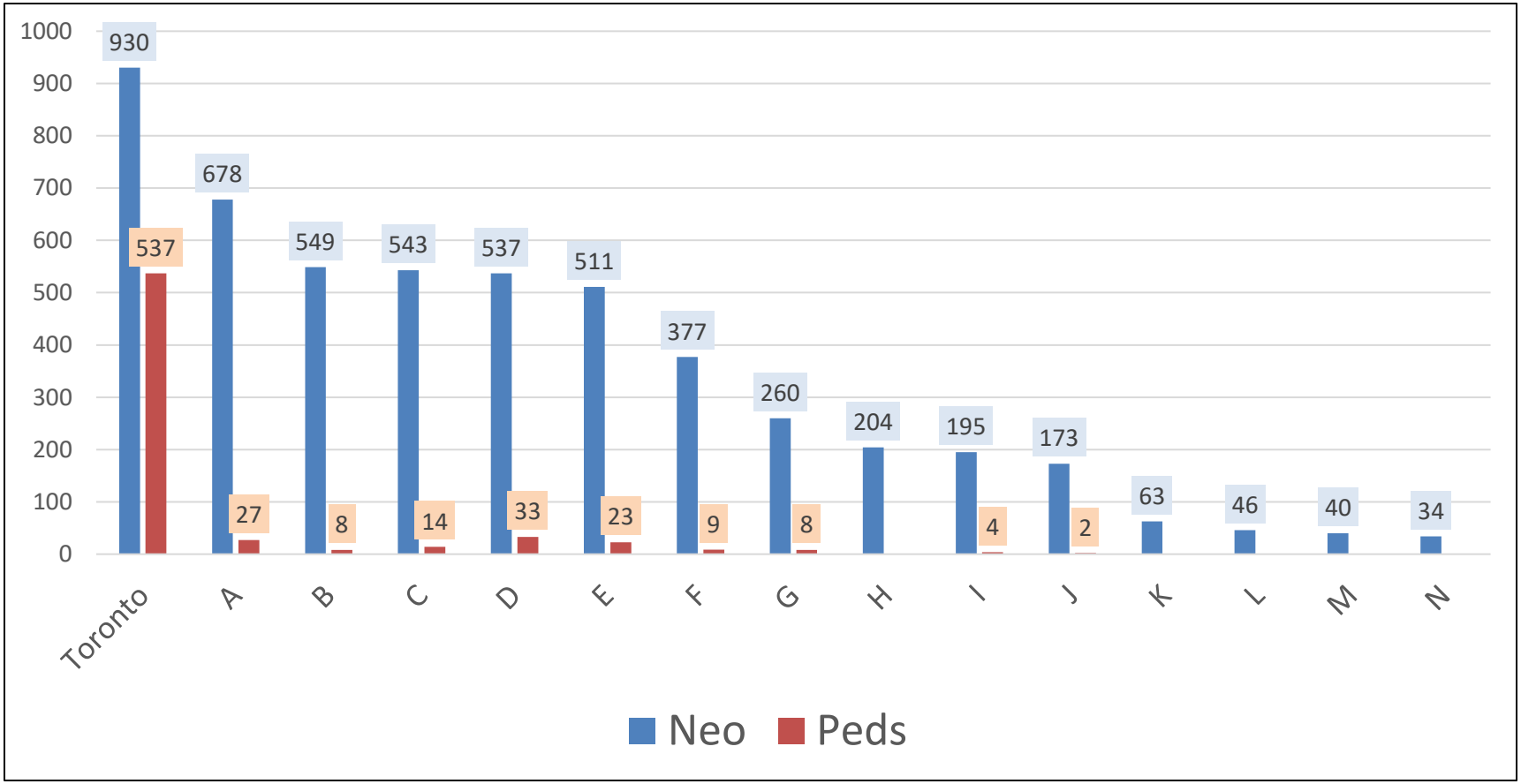
SickKids®

The Canadian Neonatal Network™

Funded by the Canadian Institute for Health Research PHSI PHE293626

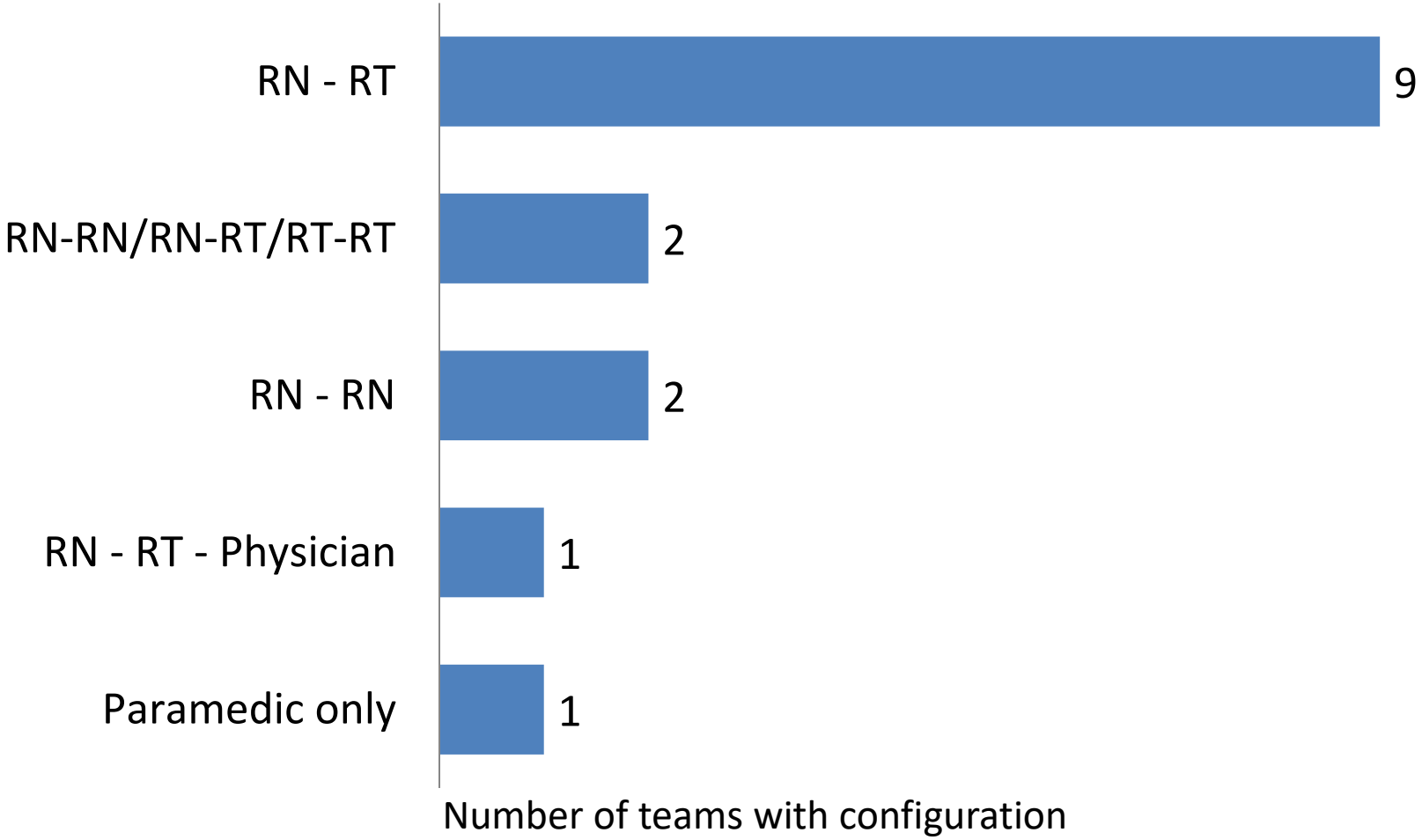
- Network created 2013, includes all 16 neonatal transport teams in Canada
- Currently, data collection ongoing from all 16 sites
- Captures majority of critically ill transports for neonates

Volume of transports entered onto CNTN
Fiscal year 2019/20, 15/16 teams
16th team restarted entering data in 2021



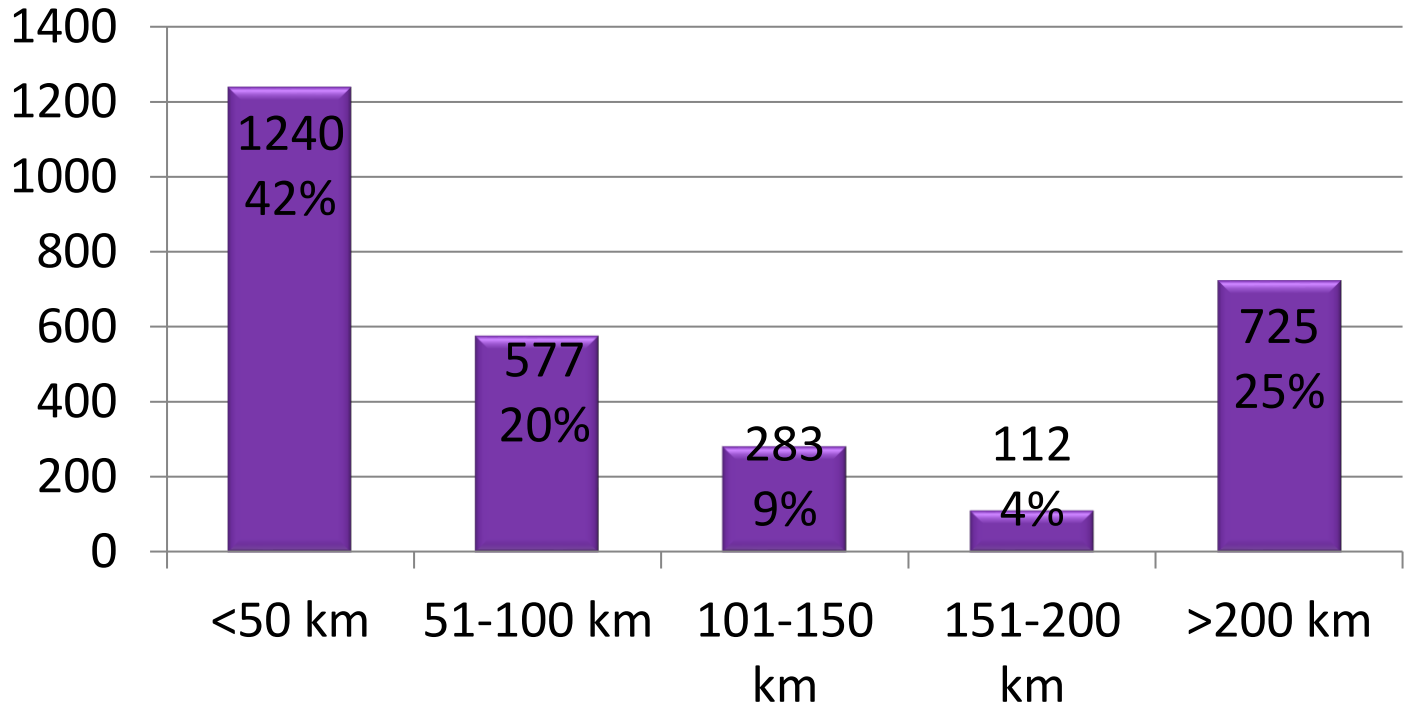
CNTN Total = 5805, neo 5140, peds 685

Team configuration for majority of acute neonatal transports

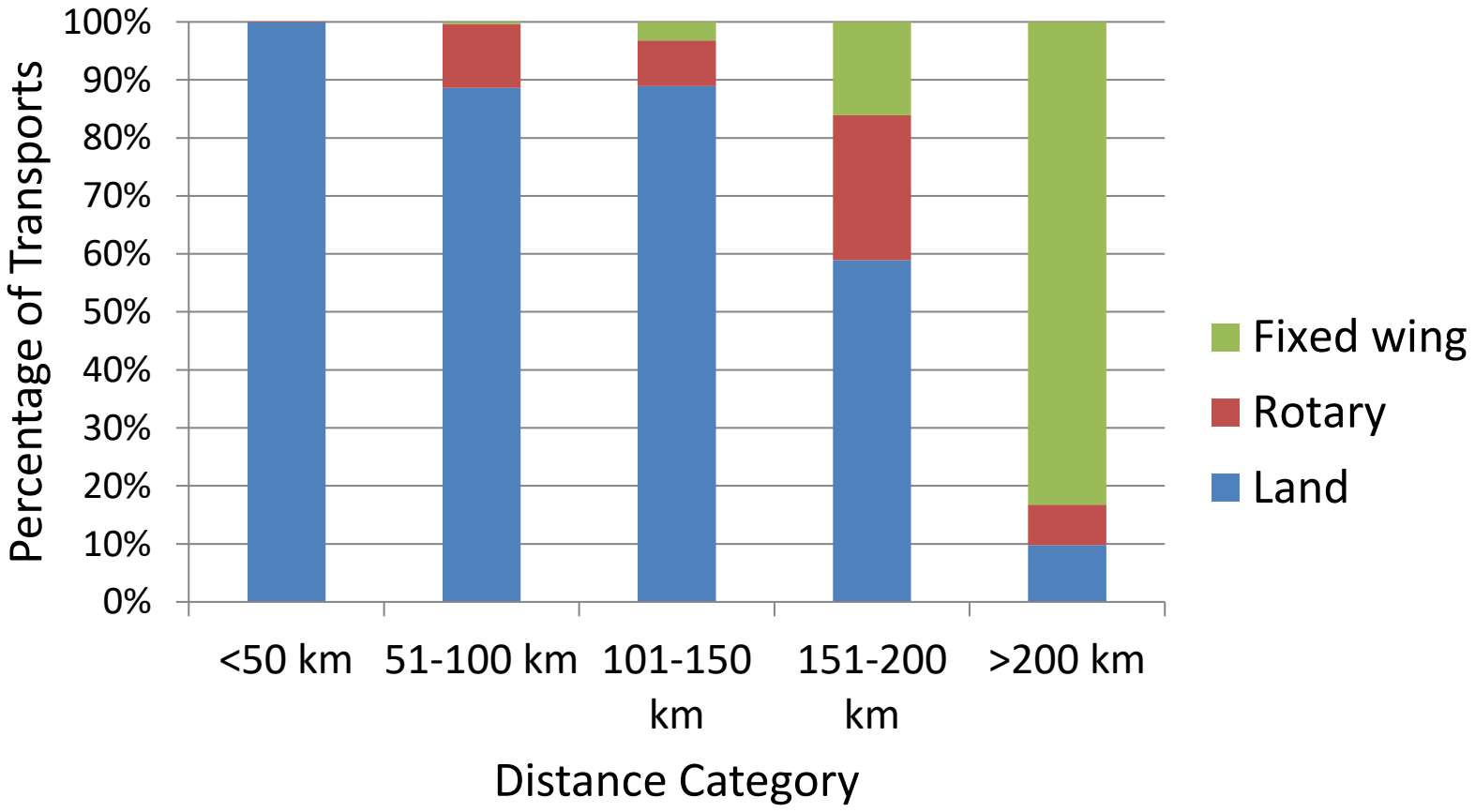


CNTN Survey Feb 2018

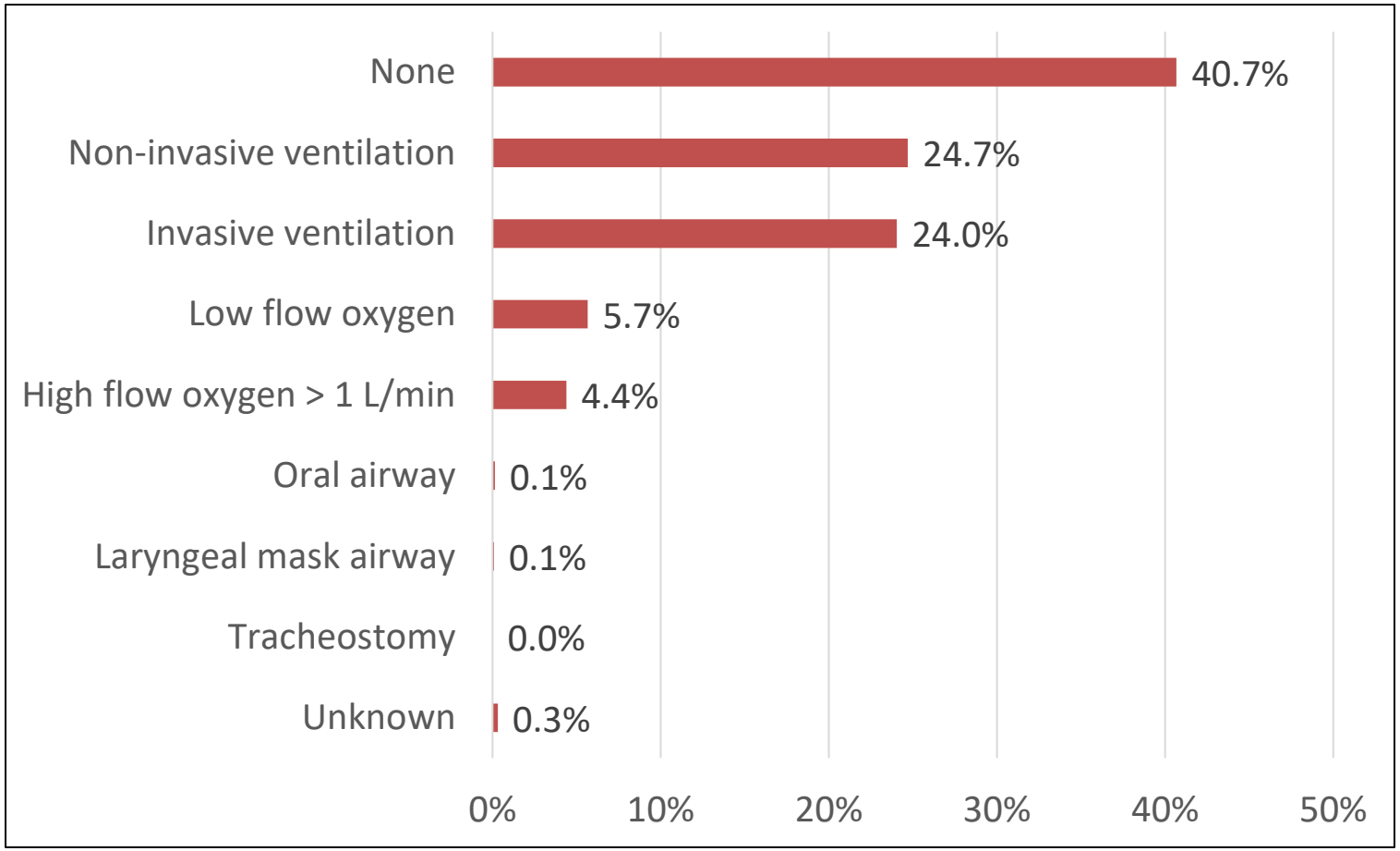
Distances Travelled

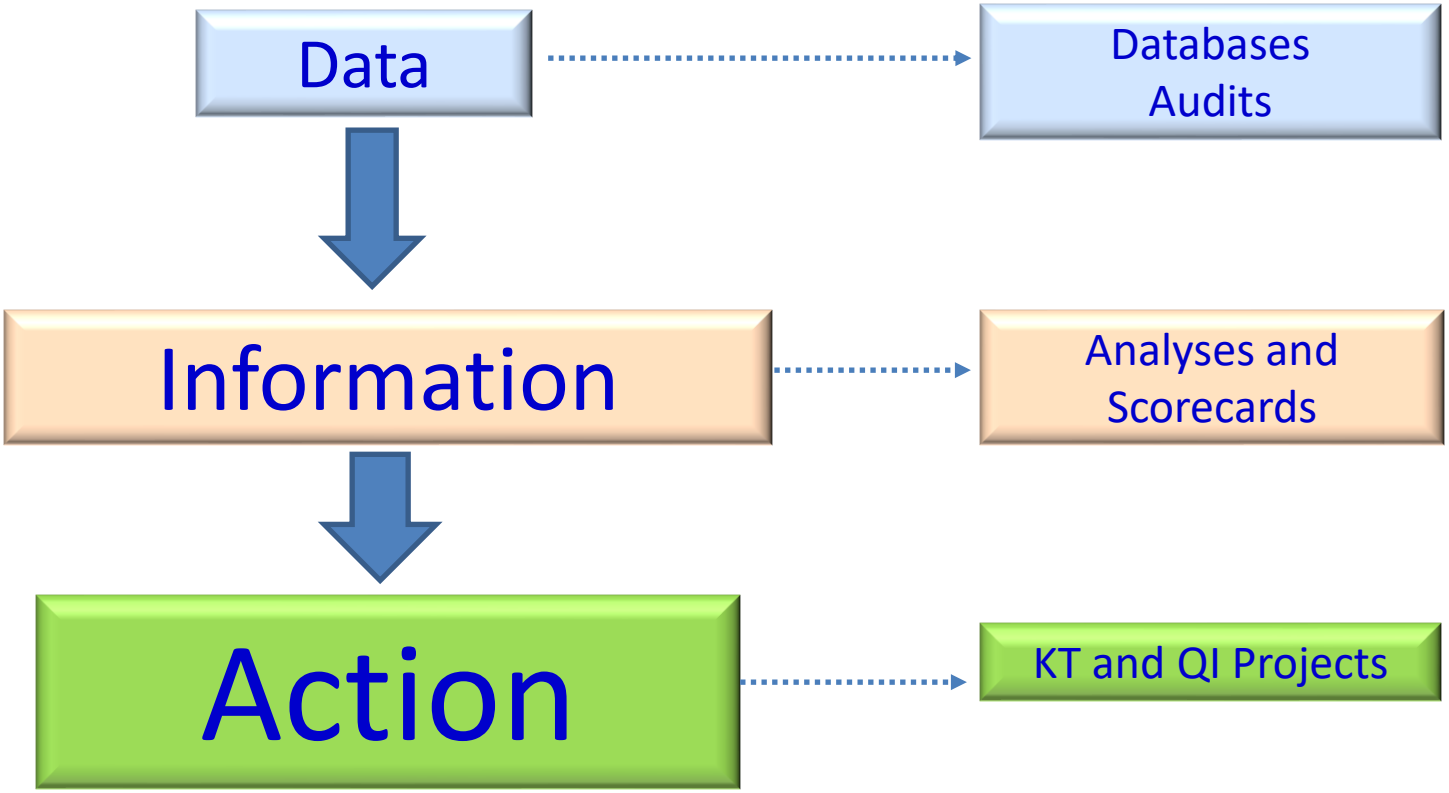


Mode for First Leg of Transport by Distance



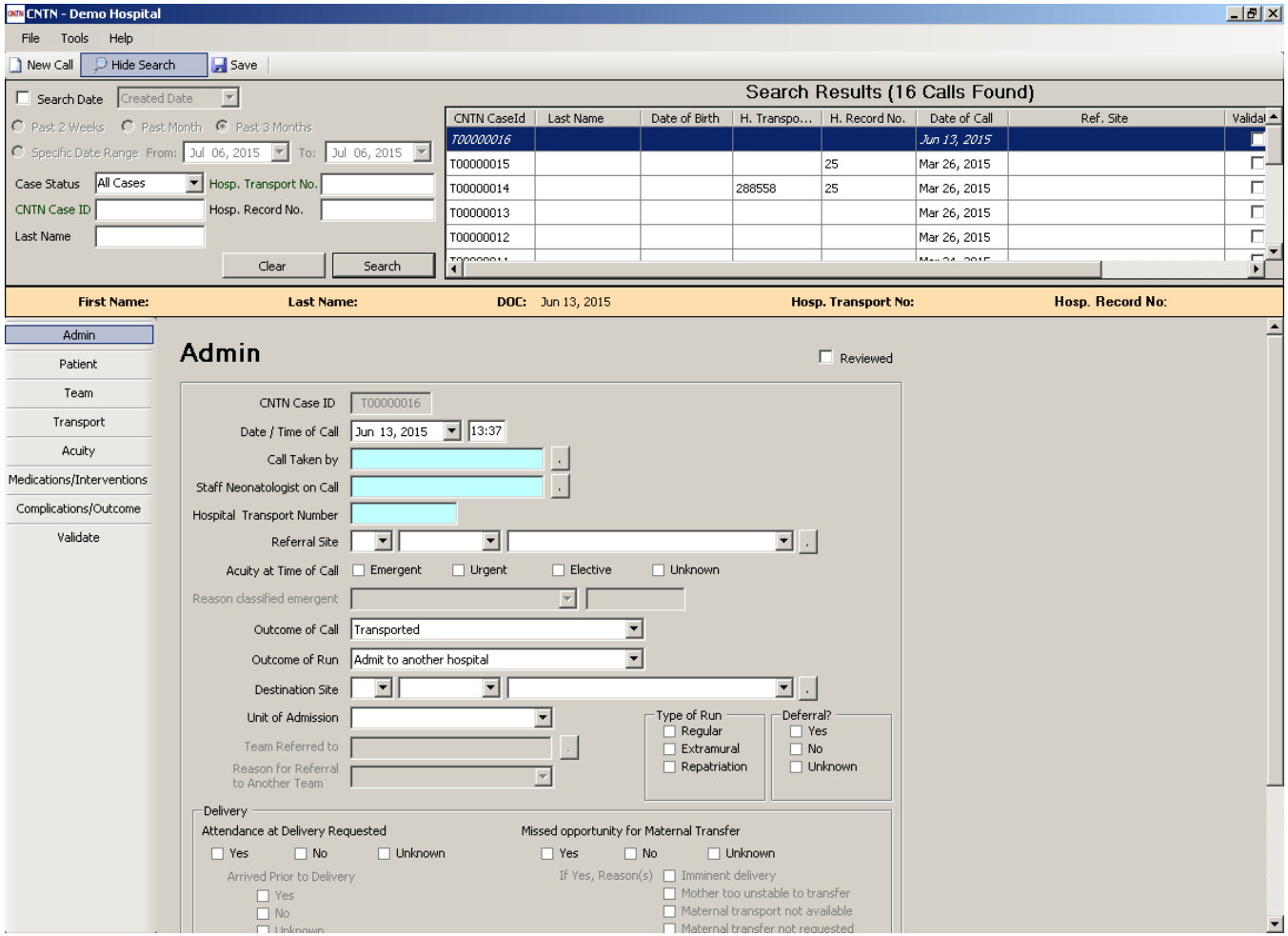
Respiratory support at destination site
Neonatal transports, FY 2019/20, n=4768




Data
Databases
Audits
Information
Analyses and
Scorecards
Action
KT and QI Projects

CNTN

Canadian Neonatal Transport Network



Acuity at Time of Call

CNTN Definition

	Descriptor	Examples
Emergent	1. Referral site are having difficulty with resuscitation or stabilization; OR 2. Infant born or to be born in a facility where resources (equipment/expertise) are unavailable/inadequate to meet resuscitation or stabilization needs	•Ongoing cardiorespiratory arrest, shock, neurologic unresponsiveness, inadequate ventilation or oxygenation •Bilious vomiting •Request for attendance at delivery for <28 wk infant in non-tertiary center
	Reason emergent: 1. medically unstable; 2. surgical emergency; 3. local medical resources inadequate; 4. other (specify as free text)	
Urgent	Patient with an **ACUTE** condition which requires a higher level of care (medical, surgical or diagnostic) than locally available	•30 wk ventilated infant with RDS with stable saturations in a non-tertiary centre
Elective	Patient whose initial medical/surgical needs have been met, whose condition has stabilized but requires transfer to access resources (medical / surgical / diagnostic) that are not available locally	•Infant with cleft palate, stable airway referred for Plastics Team consultation

Transport Time Definitions

Dispatch time	Time of call	Time of dispatch (team 'decision to go' from home base; team must be available to dispatch)
Vehicle response time – home base	Time vehicle called to depart home base	Time vehicle arrived at home base
Wheels up time: home to referral	Take off from home	Landing from home
Vehicle response time – referral site	Time vehicle called to depart referral site	Time vehicle arrived at referral site
Wheels up time: referral to destination	Take off from referral	Landing from referral
Vehicle response time – destination site	Time vehicle called to depart destination site	Time vehicle arrived at destination site
Wheels up time: destination to home	Take off from destination	Landing from destination
Mobilization time	Time of dispatch	Time depart from home base
Travel time	Time depart home	Time arrival at referral site
Response time	Time of call	Time of arrival at referral site
Stabilization time	Time of arrival at referral site	Time of departure from referral site
Time to NICU admission	Time of call	Time of arrival at destination site
Total transport time	Time of dispatch	Time of arrival back to home base

Quality Indicators

Systems	Clinical
Dispatch time • Time of referral call to team dispatch	**Parent accompanied transport**
Vehicle response time: home to referral	**Unintended hypothermia temperature <36.0°C**
Mobilization time • Time of dispatch to leave home base	**Dislodgment of therapeutic tubes**
Response time • Time of call to team arrival at bedside	**Patient or crew injury**
Stabilization time	**Intubation success first attempt**
Total transport time • Time team dispatched to return to home site	**PIV insertion success first attempt**
Number of deliveries GA <32 wk and age <3 days (potentially preventable outborn deliveries)	**Age when therapeutic hypothermia initiated** **Age when target temperature of 34.0°C reached**

Lee KS. Translational Pediatr 2019;8(3):233-245

Institute of Medicine's Six Domains of Quality

Timely initiation of therapeutic hypothermia
Intubation success
PIV success

Parent accompanied transport

Minimize response times, total transport times

Minimize unintended hypothermia

Minimize adverse events: crew injury, tube dislodgement

Transfer high risk mothers to perinatal centers

Deferrals to another region

Figure 1: CNTN Scorecard - 2015 Data

TRANSPORT TEAM

	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o	National IQR	National Median
INDICATOR																	
SYSTEMS (median, in minutes)																	
Dispatch time, emergent or urgent runs	5	8	0	5.5	0	0	5	15	12	10	8	2	5	15	14	0, 19*	8
Vehicle response time, emergent or urgent runs	84	50	29.5	0	37.5	30	29	45	10	36	25	53	56	30	12	11, 50	25
Mobilization time, emergent or urgent runs	75	58.5	50	13	56.5	30	38	90	25	31	30	60	45	50	25	21, 56	35
Stabilization time, emergent or urgent runs	95	58	57	50	85	30	90	175	85	87	55	65	70	130	89	47, 115	75
Total transport time	411	351	240	251	350	180	320	580	215	321	160	350	342	300	223	175, 380	260
CLINICAL (%)																	
Parent accompanied transport	12.82	2.7	0	40.33	2.7	0	0	0	10.12	6.12	1.5	0	1.86	0.86	6.2	0, 6.2†	1.86
Hypothermia temp <36.0°C	0.00	0.00	6.25	0.24	0.00	2.81	0.45	0.00	0.96	1.02	4.49	4.42	0.47	4.01	0.16	0, 4.01*	0.47
Unplanned tube dislodgements	0.00	0.00	0.00	0.71	1.35	1.61	1.36	3.13	0.72	2.04	0.90	2.65	1.63	1.43	1.24	0.71, 1.63	1.35
Intubation success any number of attempts	100	100	50	100	100	80	100	100	85	86	85	100	97	93	82	85, 100*	97
Intubation success, first attempt	94	100	0	70	78	80	85	80	65	86	59	60	79	60	56	60, 85	78
Intravenous success any number of attempts	98	100	100	74	59	81	100	100	62	73	29	91	88	83	69	69, 100*	83
Intravenous success, first attempt	93	100	100	42	24	43	79	86	41	63	13	45	66	59	59	42, 86	59

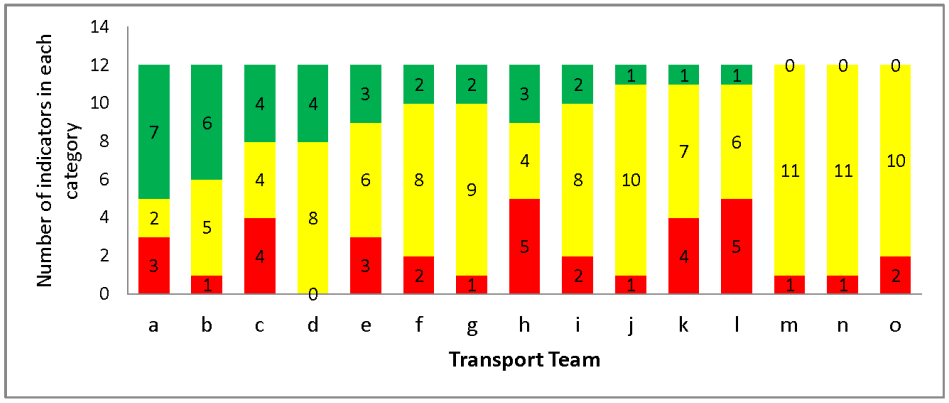
Better than IQR

Within interquartile range (IQR 25-75%)

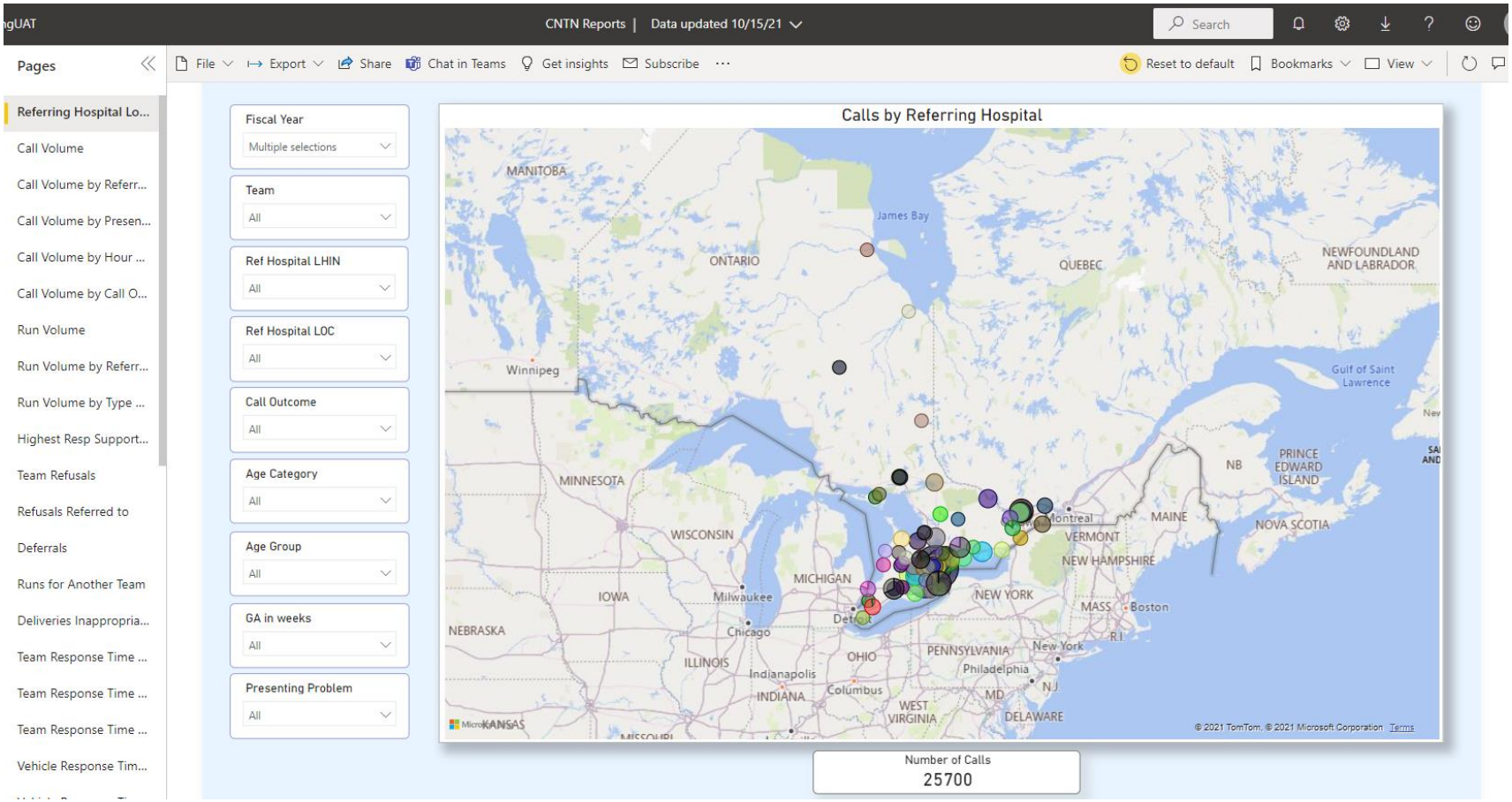
Worse than IQR

*values of zero or 100 categorized as green rather than yellow

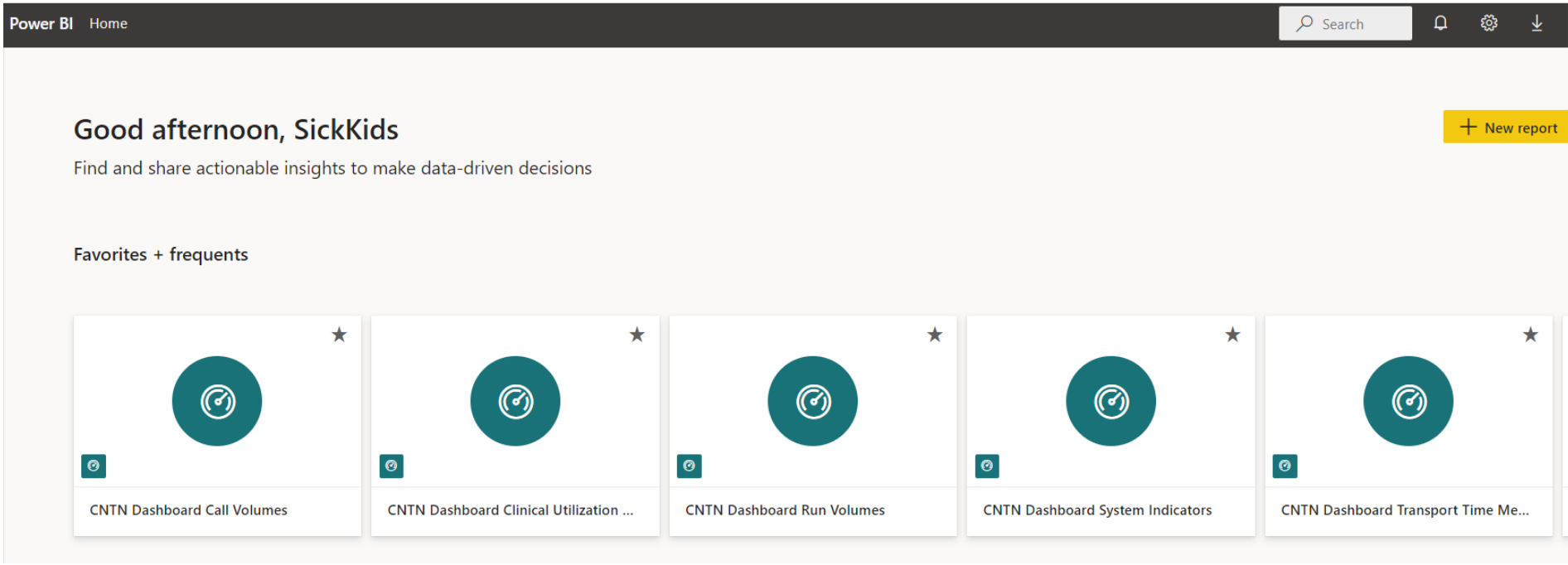
†values of zero categorized as red rather than yellow



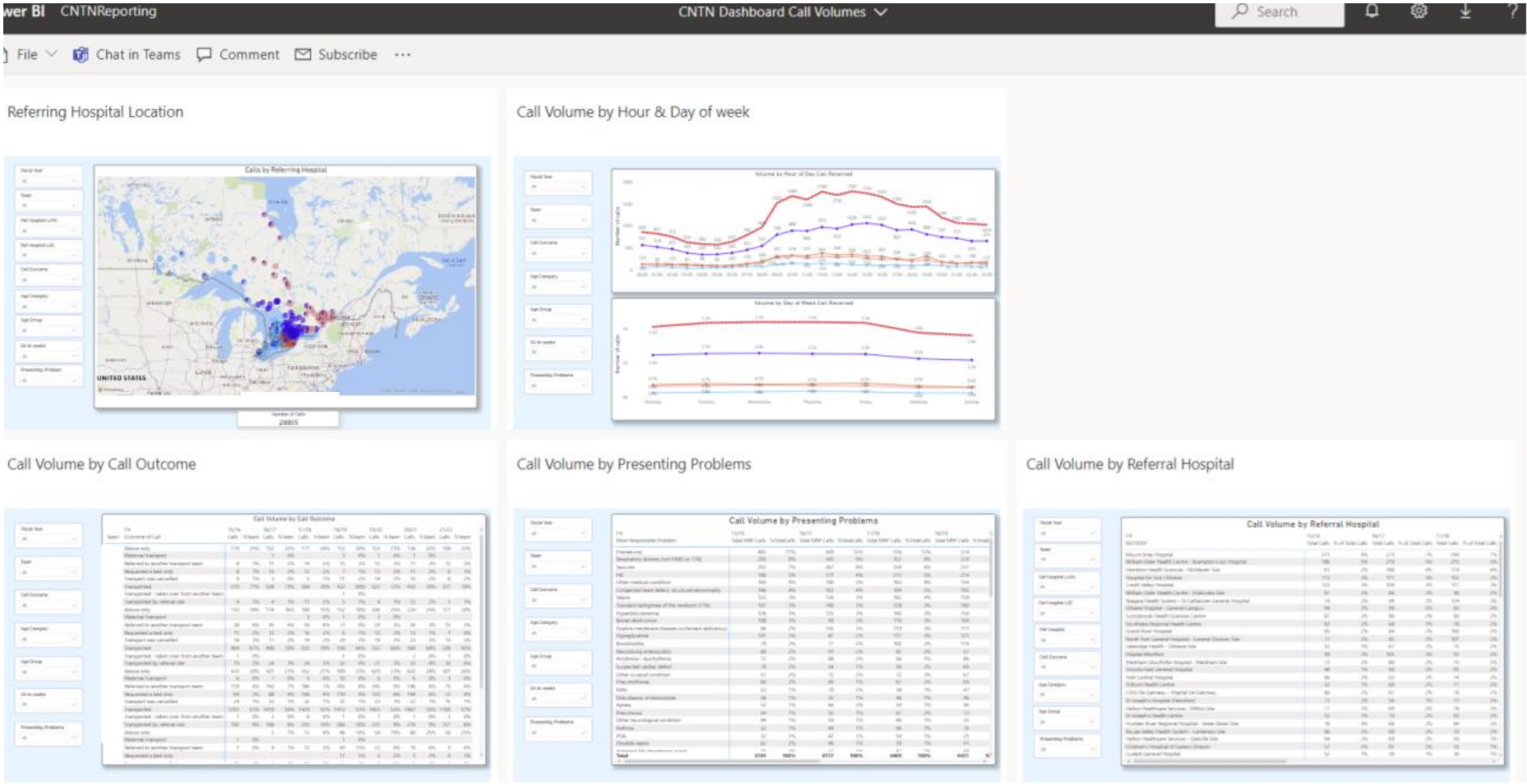
CNTN Webportal - launched for Ontario in 2021



CNTN Webportal - Dashboards



CNTN Webportal - Dashboard for Call Volumes



Improvement in vehicle response time after funding for dedicated ambulances

Fiscal Year: Multiple selections

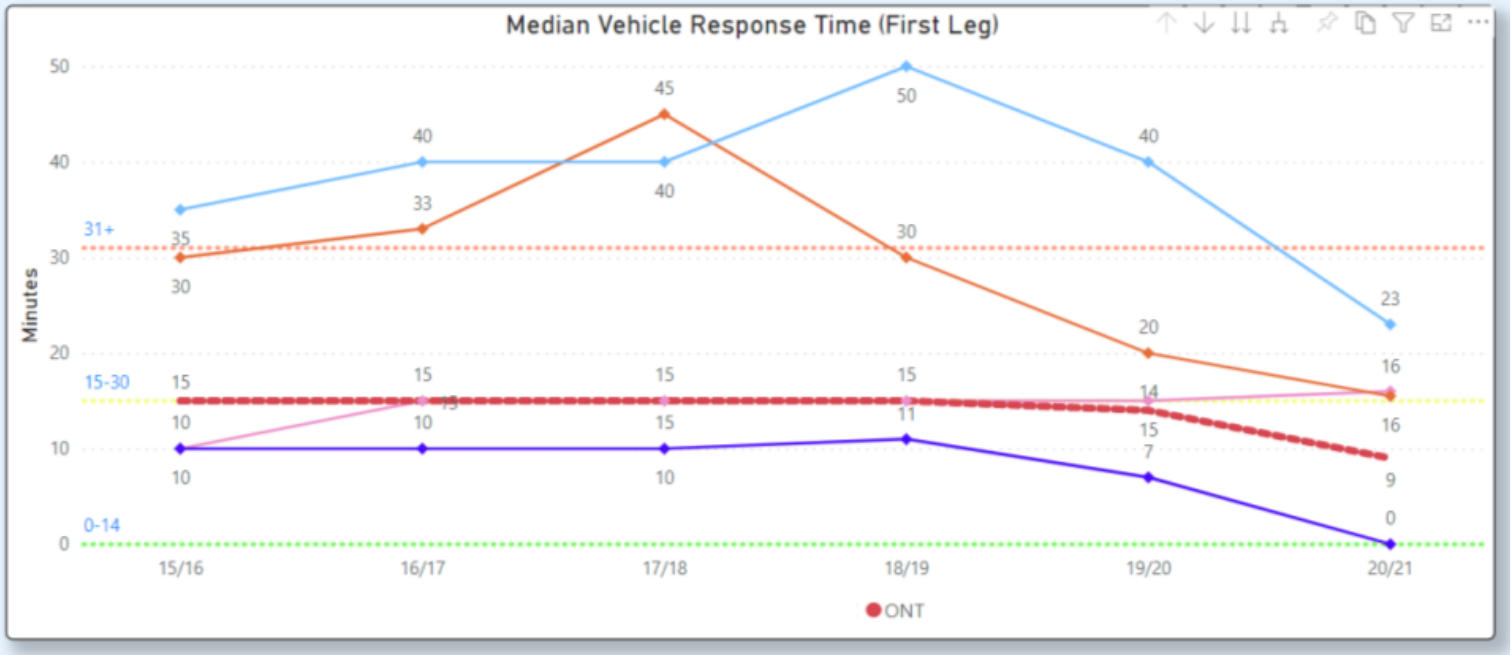
Run Outcome: All

Team: All

Age Category: Neonate

Mode of Transport: All

Subgroup Mode of Trans...: All



Team	15/16	16/17	17/18	18/19	19/20	20/21	Total
	10	15	15	15	15	16	**15**
	30	33	45	30	20	16	**28**
	10	10	10	11	7	0	**10**
	35	40	40	50	40	23	**39**
ONT	15	15	15	15	14	9	**15**

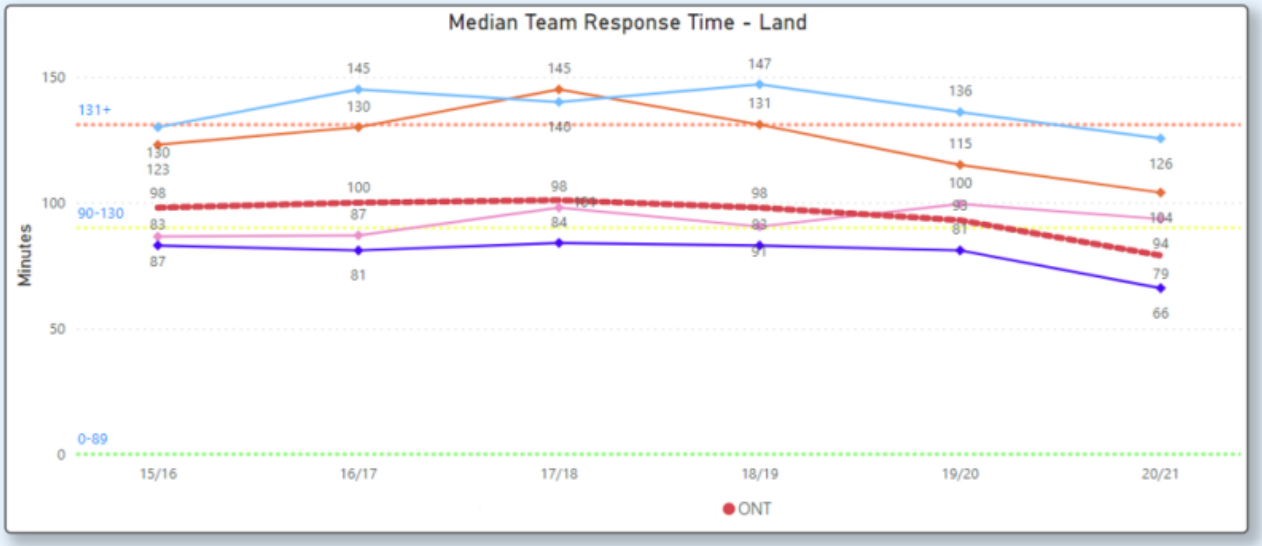
Improvement in response time for land transports after funding for dedicated ambulances

Fiscal Year: Multiple selections

Team: All

Age Category: All

Mode of Land Transport: All



Median Team Response Time - Land

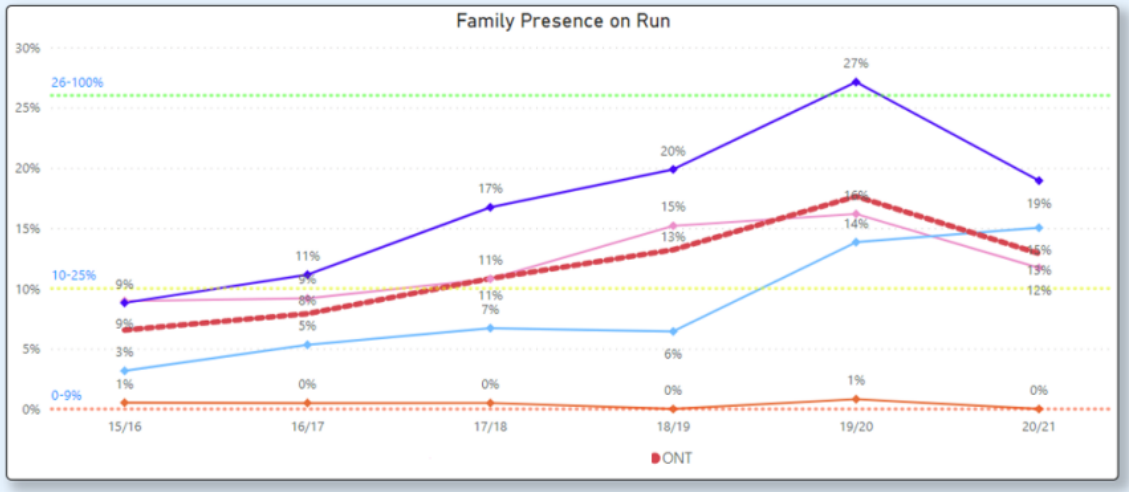
Team	15/16	16/17	17/18	18/19	19/20	20/21	Total
	87	87	98	91	100	94	**93**
	123	130	145	131	115	104	**124**
	83	81	84	83	81	66	**80**
	130	145	140	147	136	126	**140**
ONT	98	100	101	98	93	79	**95**

Improving family presence on run

Fiscal Year
Multiple selections

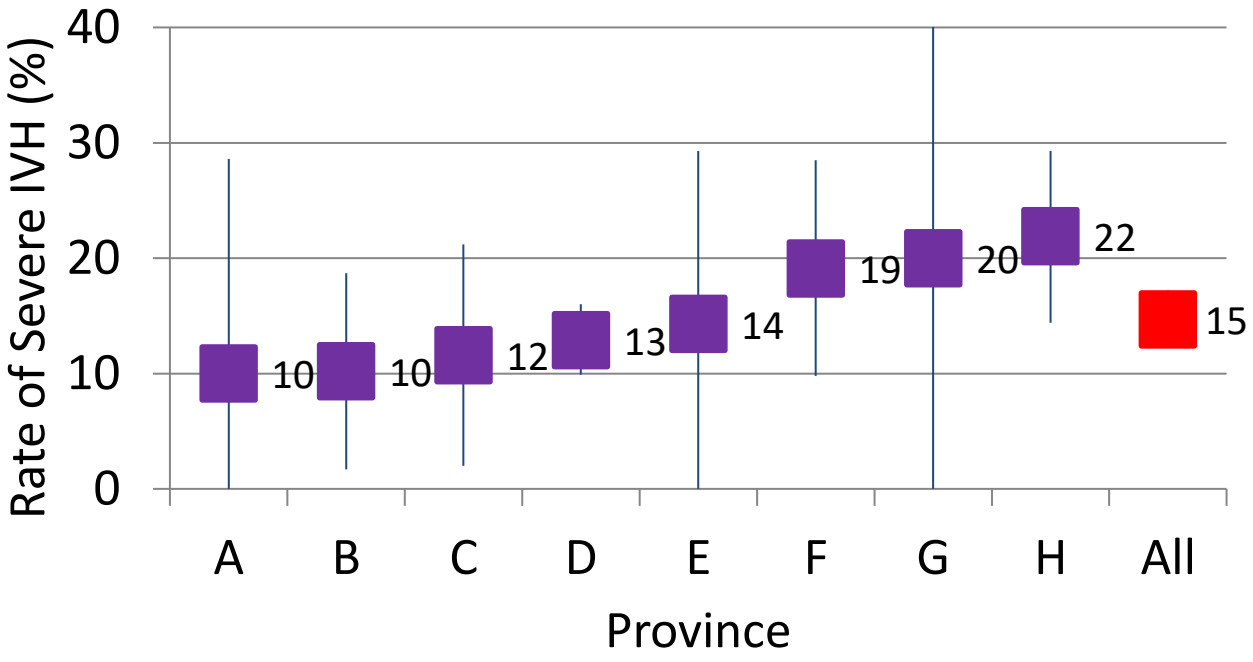
Team
All

Age Category
Neonate
Select all
Neonate
Pediatric



Team	15/16	16/17	17/18	18/19	19/20	20/21	Total
	9%	9%	11%	15%	16%	12%	**12%**
	1%	0%	0%	0%	1%	0%	**0%**
	9%	11%	17%	20%	27%	19%	**17%**
	3%	5%	7%	6%	14%	15%	**8%**
ONT	7%	8%	11%	13%	18%	13%	**11%**

Severe IVH Rates for Transported Infants GA <33 wk by Province; n=781



2014 & 2015 CNTN and CNN data linked

Risk Factors for Severe IVH

Multivariable Analysis

Variable	Adjusted OR (95% CI)
GA (per week)	0.77 (0.71, 0.85)
Compressions or epinephrine	1.81 (1.08, 3.05)
Transport team arrived prior to delivery	0.83 (0.51, 1.33)
Fluid bolus received	1.61 (1.00, 2.58)
Hypothermia	1.89 (0.83, 4.35)
Transport team	Significant for 3 teams

Risk factors were

- Condition at birth
- Immediate postnatal management
- NOT related to transport factors

Redpath et al. on behalf of CNTN & CNN. J Perinatol 2019;40:385-393

Procedures performed by transport team & success rates CNTN 2014-16

Procedure	Frequency N (% of transports)	Success N (% attempts)
Peripheral intravenous	1586 (47.3)	1351 (85.2)
Arterial blood gas	1410 (42.1)	1257 (89.1)
Endotracheal intubation	829 (24.8)	790 (95.3)
Venipuncture	569 (17.0)	511 (89.8)
Umbilical venous catheter	293 (8.8)	273 (93.2)
Umbilical arterial catheter	170 (5.1)	121 (71.2)
Peripheral arterial line	99 (3.0)	48 (48.5)
Oral airway	64 (1.9)	60 (93.8)
Chest tube	48 (1.4)	47 (97.9)
Laryngeal mask airway	8 (0.2)	8 (100)

- Canadian national transport data
- Identified most common procedures during neonatal transport
- Type and frequency of procedures had impact on stabilization time
- Limit non-essential and lower success rate procedures such as UAC insertion

Air Medical Journal 39 (2020) 276–282

Contents lists available at ScienceDirect

Air Medical Journal

journal homepage: http://www.airmedicaljournal.com/

Original Research

Procedural Interventions and Stabilization Times During Interfacility Neonatal Transport

Aravanan Anbu Chakkarapani, MD [1,2,3], Hilary E. Whyte, MB [1,4], Edith Massé, MD [5], Michael Castaldo, MD [6], Junmin Yang, MSc [7], Kyong-Soon Lee, MD [1,4,*], on behalf of the Canadian Neonatal Transport Network

[1] Division of Neonatology, The Hospital for Sick Children, Toronto, Ontario, Canada
[2] Division of Neonatology, Sidra Medicine, Doha, Qatar, United Arab Emirates
[3] Department of Pediatrics, Weill Cornell Medicine, Doha, Qatar, United Arab Emirates
[4] Department of Paediatrics, University of Toronto, Toronto, Ontario, Canada
[5] Centre intégré universitaire de santé et de services sociaux de l'Estrie, Centre hospitalier universitaire de Sherbrooke, Sherbrooke, Quebec, Canada
[6] Division of Neonatology, British Columbia Women's Hospital and Health Centre, Vancouver, British Columbia, Canada
[7] Maternal-Infant Care Research Centre, Department of Paediatrics, Mount Sinai Hospital, Toronto, Ontario, Canada

ABSTRACT

Objective: Transport teams perform multiple procedural interventions during the stabilization of critically ill neonates. The setting of this study was a national cohort of interfacility neonatal transports from nontertiary centers.

Methods: A retrospective cohort study of neonatal transports having interventional procedures using the Canadian Neonatal Transport Network database during 2014 to 2016. Demographics and procedures associated with stabilization times ≤ 120 versus > 120 minutes were analyzed. Predictors of stabilization time were evaluated using multivariable logistic regression analysis.

Results: Among 3,350 neonatal transports analyzed, the 3 most frequently performed procedures were peripheral intravenous insertion, arterial blood gas sampling, and endotracheal tube insertion, with success rates of 85.2%, 89.1%, and 95.3%, respectively. The frequency of procedures varied across gestational age subgroups, and success rates were lower for umbilical arterial catheter insertions. After adjustment for confounders, more invasive procedures and a higher number of interventions were associated with longer stabilization times.

Conclusion: The type and frequency of procedures performed had a significant impact on stabilization time. Any procedures that are nonessential for stabilization at the nontertiary center, such as umbilical arterial catheter insertion, could be minimized to promote timely admission to tertiary centers. The demonstrated variations in procedural success among teams provide useful information for benchmarking and promote the sharing of training practices.

- Canadian national transport data
- Propensity-score matched analysis for more acute transport runs

- Runs with MDs vs noMDs have no difference in procedural success
- MD group had more clinical complications e.g. hypothermia
- Supports current Canadian model of noMD routinely on transport runs

Paediatrics & Child Health, 2021, 1–7
doi: 10.1093/pch/pxab019
Original Article

OXFORD

Original Article

Evaluation of transport-related outcomes for neonatal transport teams with and without physicians

Mohamed Abdelmawla MD[1], Gregory Hansen MD MSc MPH[2,3], Michael Narvey MD[1,4], Hilary Whyte MD MSc[5,6], Don Ilodigwe MSc[5], Kyong-Soon Lee MD MSc[5,6], On behalf of the Canadian Neonatal Transport Network

[1]Division of Neonatology, Children's Hospital of Manitoba, Winnipeg, Manitoba, Canada; [2]Division of Critical Care, Royal University Hospital, Saskatoon, Saskatchewan, Canada; [3]Department of Pediatrics, University of Saskatchewan, Saskatoon, Saskatchewan, Canada; [4]Department of Pediatrics, University of Manitoba, Winnipeg, Manitoba, Canada; [5]Division of Neonatology, Hospital for Sick Children, Toronto, Ontario, Canada; [6]Department of Pediatrics, University of Toronto, Toronto, Ontario, Canada

Correspondence: Kyong-Soon Lee, Division of Neonatology, Room 38102, Hospital for Sick Children, Toronto, Ontario, M5G 1X8, Canada. Telephone 416-813-7488, e-mail Kyong-soon.lee@sickkids.ca

Abstract

Objective: The aim of this study was to evaluate if the presence of a physician in the neonatal transport team (NTT) affects transport-related outcomes and procedural success.
Design: Retrospective cohort study with propensity score matching.
Setting: Canadian national study.
Patients: Neonatal transports from nontertiary centres between January 2014 and December 2017.
Interventions: Comparison of transports conducted by NTTs with physicians (MD Group) and without physicians (noMD Group).
Main outcome measures: The primary outcome was the change in patient acuity as measured by the transport risk index of physiologic severity (TRIPS) score. Secondary outcomes included mortality within 24 hours of NICU admission, clinical complications during transport, procedural success, and stabilization time.
Results: Among 9,703 eligible cases, 899 neonatal transports attended by NTTs with physicians were compared to 899 neonatal transports without physicians using propensity score matching. No differences were seen in the improvement of TRIPS score or mortality ≤24 hours of NICU admission. The MD Group had more clinical complications (7.7% versus 5.0%, P=0.02). No differences were seen in success rates of invasive procedures. The MD Group had shorter stabilization times. In multivariable analysis, the MD Group was not a significant predictor for the improvement in TRIPS score after adjustment for covariates.
Conclusions: Neonatal transports conducted by teams including physicians compared to teams without physicians, did not have higher improvement in TRIPS scores and had similar success rates for procedures. These results provide insights for the planning of the structure and training of specialized interfacility neonatal transport programs.

CNTN
Canadian Neonatal Transport Network

Webconference

March 26, 2018 12:00-13:00 EST

Focus on Metrics:

Procedural Skills and Team Training in Neonatal Transport: A review of network data and survey results

Hosted by: Kyong-Soon Lee, MD
Director of CNTN

Join from PC, Mac, Linux, iOS or Android:
https://zoom.us/j/784125430
Canada: +1-647-558-0588
Meeting ID: 784 125 430

***participants joining via phone need to press *6 to mute or unmute*

Intubations first attempt success

CNTN
Canadian Neonatal Transport Network

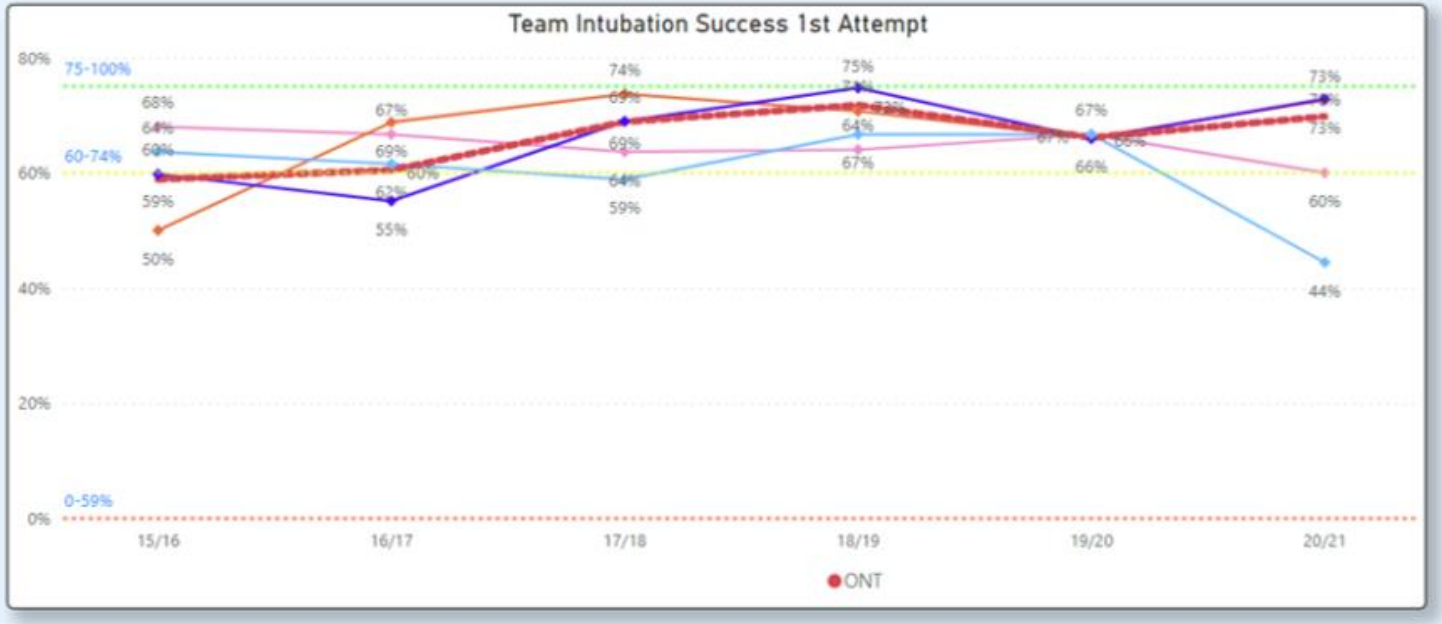
Fiscal Year
Multiple selections

Team
All

Age Category
All

Age Group
All

GA in weeks
All



Team	15/16	16/17	17/18	18/19	19/20	20/21	Total
	68%	67%	64%	64%	67%	60%	**65%**
	50%	69%	74%	71%	66%	73%	**68%**
	60%	55%	69%	75%	66%	73%	**66%**
	64%	62%	59%	67%	67%	44%	**60%**
ONT	59%	60%	69%	72%	66%	70%	**66%**

Intubation teaching for new team members

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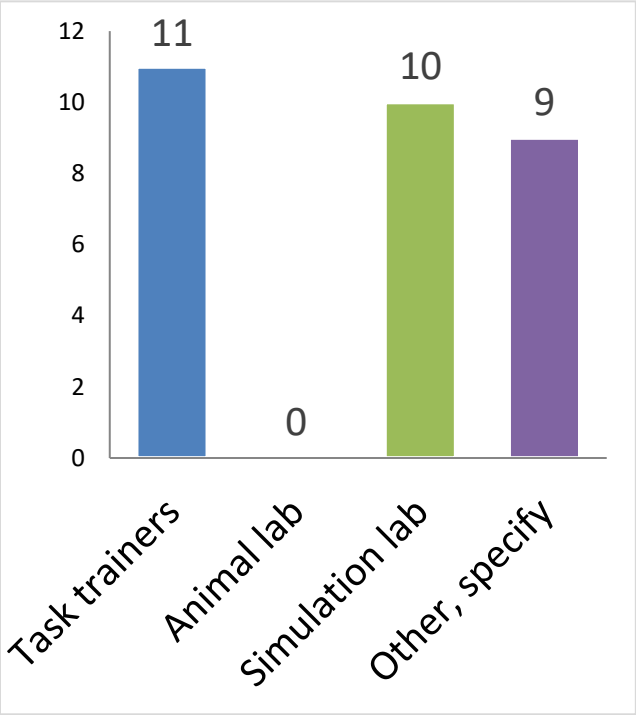


BC	Time in OR paired with anaesthetist
Saskatoon	Under direction supervision they attempt on live neonates
Regina	Under supervision, should have 10 intubations before working in NICU
Hamilton	Didactic class & simulation, followed by observation of 10 successful intubations prior to certification
Toronto	Training in the OR with staff anesthetists
Ottawa	Skills day - low fidelity and hi fidelity 3 days in OR
Montreal	Minimum 5 intubations under observation
Halifax	Cadavers also
Nfld & Lab	RTs must show competency for intubation in NICU before being certified to do independent transport

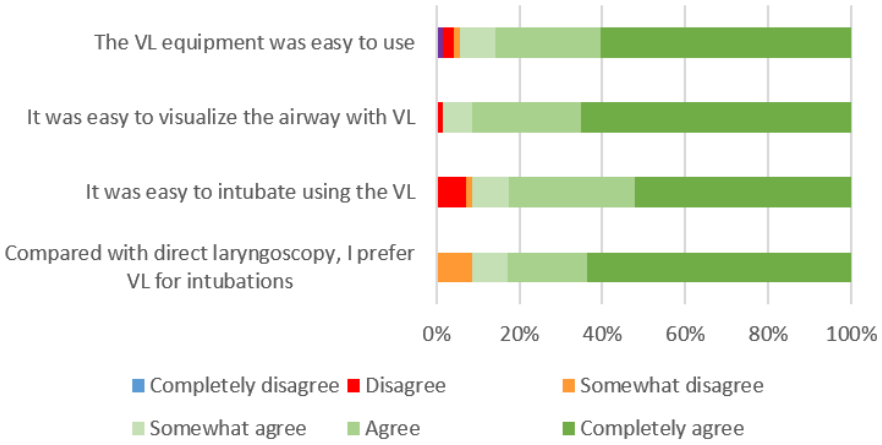
CNTN Survey Dec 2014
Responses n=15/16 teams

Use of video laryngoscopy to improve intubation success during neonatal and pediatric transport

Nicole Coutu RRT, L Yap, M Culjat, H Whyte, K-S Lee

- First pass intubation success rates pre and post 72% and 77% (p=0.37)
- Overall intubation success improved from 89% to 99% (p=0.002)
- VL made intubation easier in 7/7 (100%) known difficult airway cases
- Adverse events during intubation with VL rare n=2/103

Figure 1. User evaluation responses



PIV first attempt success

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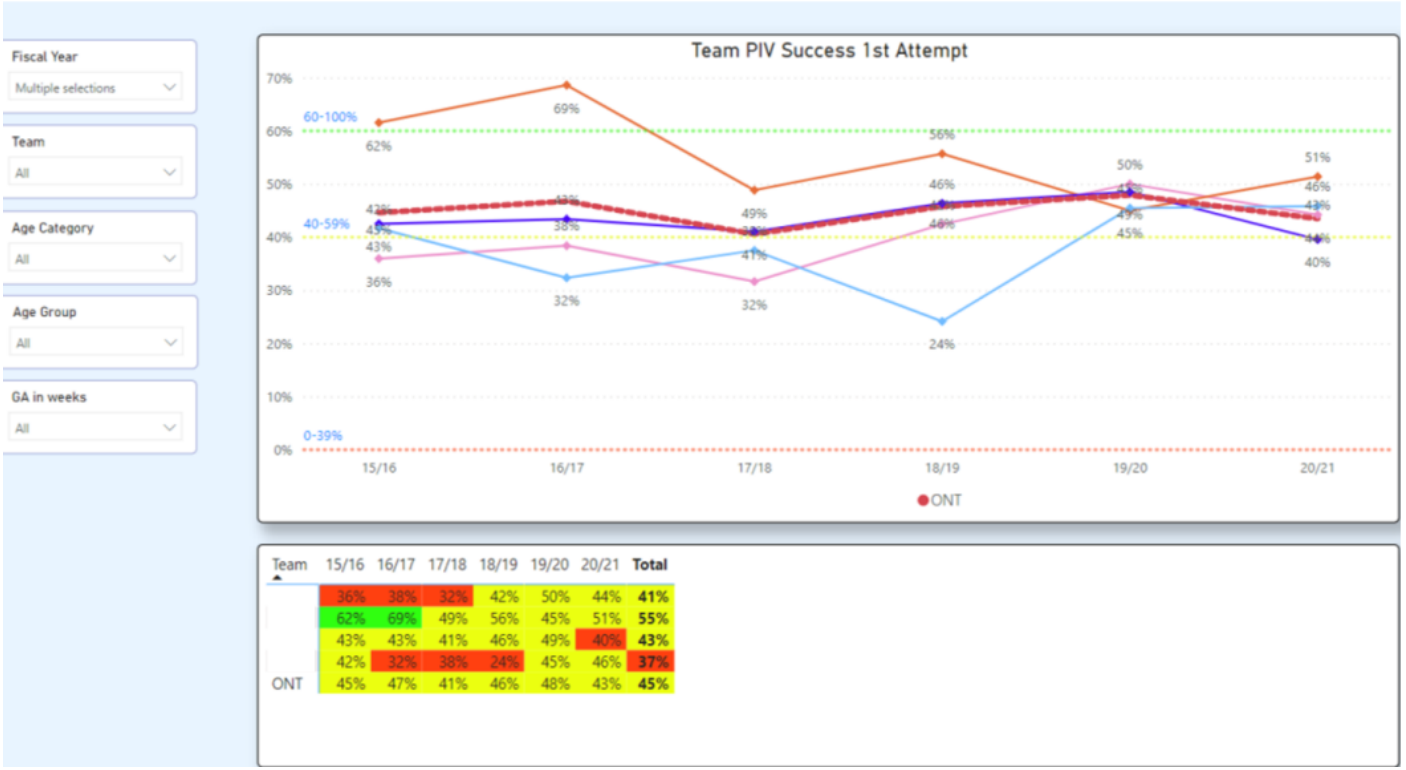
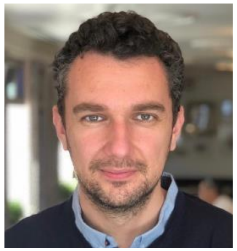


Team	15/16	16/17	17/18	18/19	19/20	20/21	Total
	36%	38%	32%	42%	50%	44%	**41%**
	62%	69%	49%	56%	45%	51%	**55%**
	43%	43%	41%	46%	49%	40%	**43%**
	42%	32%	38%	24%	45%	46%	**37%**
ONT	45%	47%	41%	46%	48%	43%	**45%**

US guided PAL insertion

Marko Culjat (Senior Fellow), N Ruse, M Soreta, H Colangelo, J Gardiner, H Whyte, K-S Lee



- Improved first-attempt success rates
- Overall success rate of 96%
- Decrease in #attempts
- Lower complication rates
- Currently training more NICU providers
- Goal of making USgPAL new standard of care for our NICU

- Also using US for PIVs

	Traditional PAL N=159	USgPAL N=93	p-value
1st attempt success rate [%]	53.0% (79/149)	84.9% (79/93)	<0.00001
Overall success rate [%]	unknown	95.7% (89/93)	n/a
Line days, median [IQR]	2.7 [1.3, 4.1]	2.9 [1.9, 4.0]	0.25
Complication rate [%]	47.1% (66/140)	30.4% (24/79)	0.02
Major complication rate [%]	16.7% (11/66)	16.7% (4/24)	1.00
Time to failure days, median [IQR]	1.9 [0.4, 3.5]	1.5 [0.2, 2.8]	0.79

Marko Culjat. Ultrasound-guided Vascular Access in Acute Care Transport Services and Neonatal Intensive Care Unit, March 2021

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Webconference

Wednesday November 28, 2018 12:00-13:30 EST

Therapeutic hypothermia in transport:

Review of our network data and sharing our practices including Tecotherm

Presenters:
Sumesh Thomas/Renee Paul, Calgary
Stephanie Redpath, Ottawa
Kyong-Soon Lee, Toronto

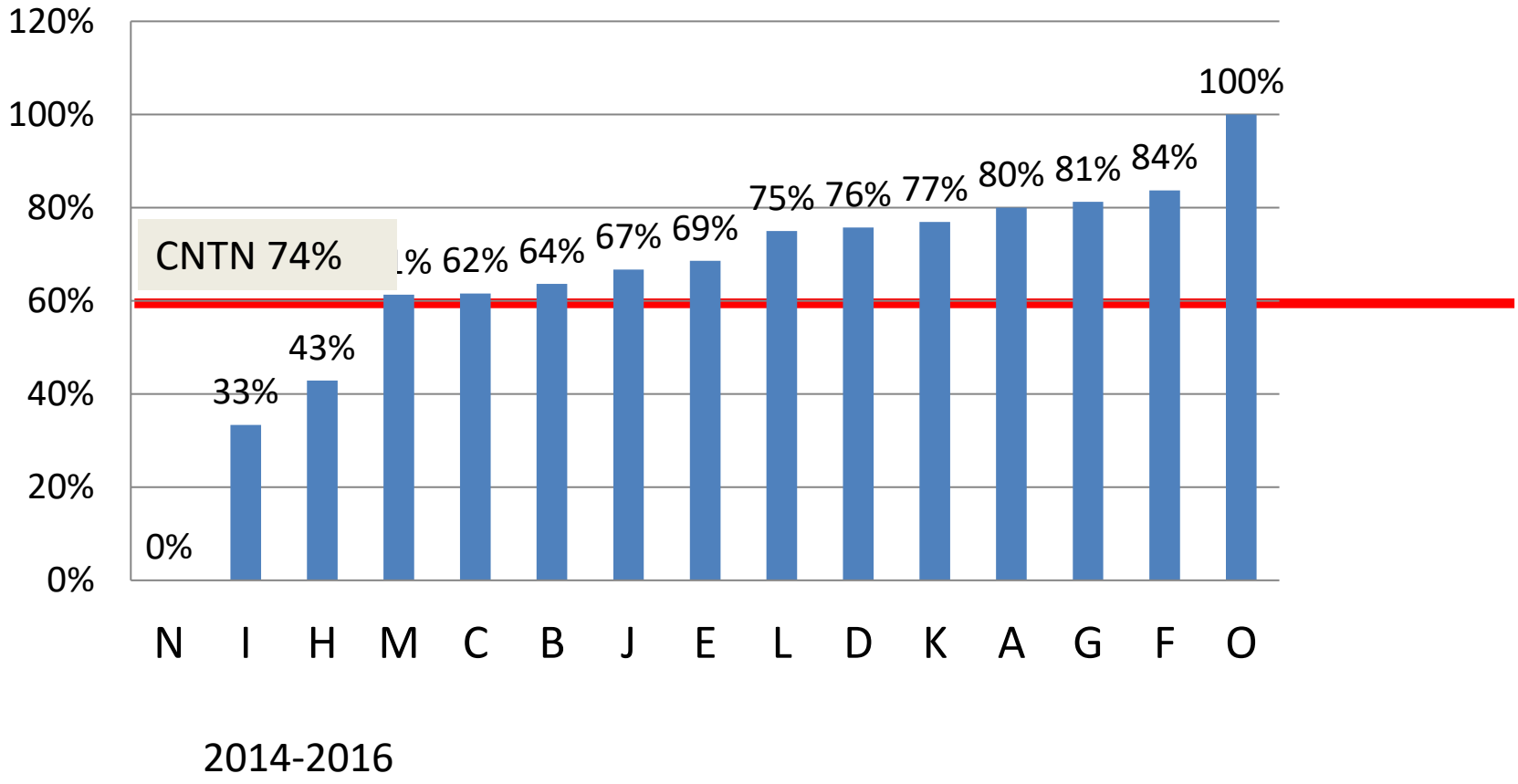
Active Cooling during Transport?

Survey Feb-Mar 2018

Team	Active cooling	
BC	Yes	Cool packs
Calgary	Yes	Tecotherm
Toronto	Yes	Cool packs
Ottawa	Yes	Tecotherm since Aug 2017
Sherbrooke	Yes	Cool packs
Halifax	Yes	Cool packs
Nfld & Lab	Yes	Cool packs
Edmonton	No	stopped using cool packs due to overcooling
Saskatoon	No	
Regina	No	stopped using cool packs due to overcooling
Winnipeg	No	
London	No	
Hamilton	No	
Montreal Children's	No	
Quebec City	No	stopped using cool packs due to overcooling

CNTN Survey Feb 6 - March 5, 2018 - Responses 15/16 teams

Proportion of cases where target temperature of 34.0°C reached at ≤6 hours age



Neo-Paeds Virtual Critical Care Pilot Project

SickKids® | Acute Care Transport Service (ACTS)

Goal to improve neonatal & paediatric health care

Enhanced patient stabilization and care

Optimize patient transfers

Improved patient and provider experiences

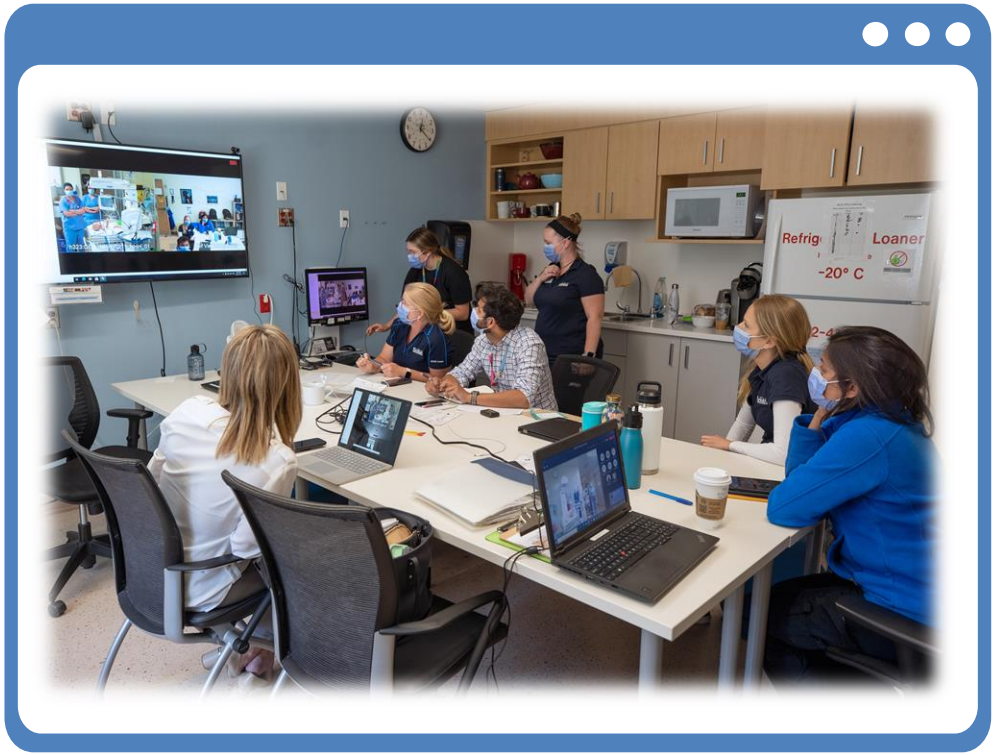
Enhanced capacity to deliver quality care closer to home

Reduce risk infection spread

Health system savings

How adding video enhances the transport process…

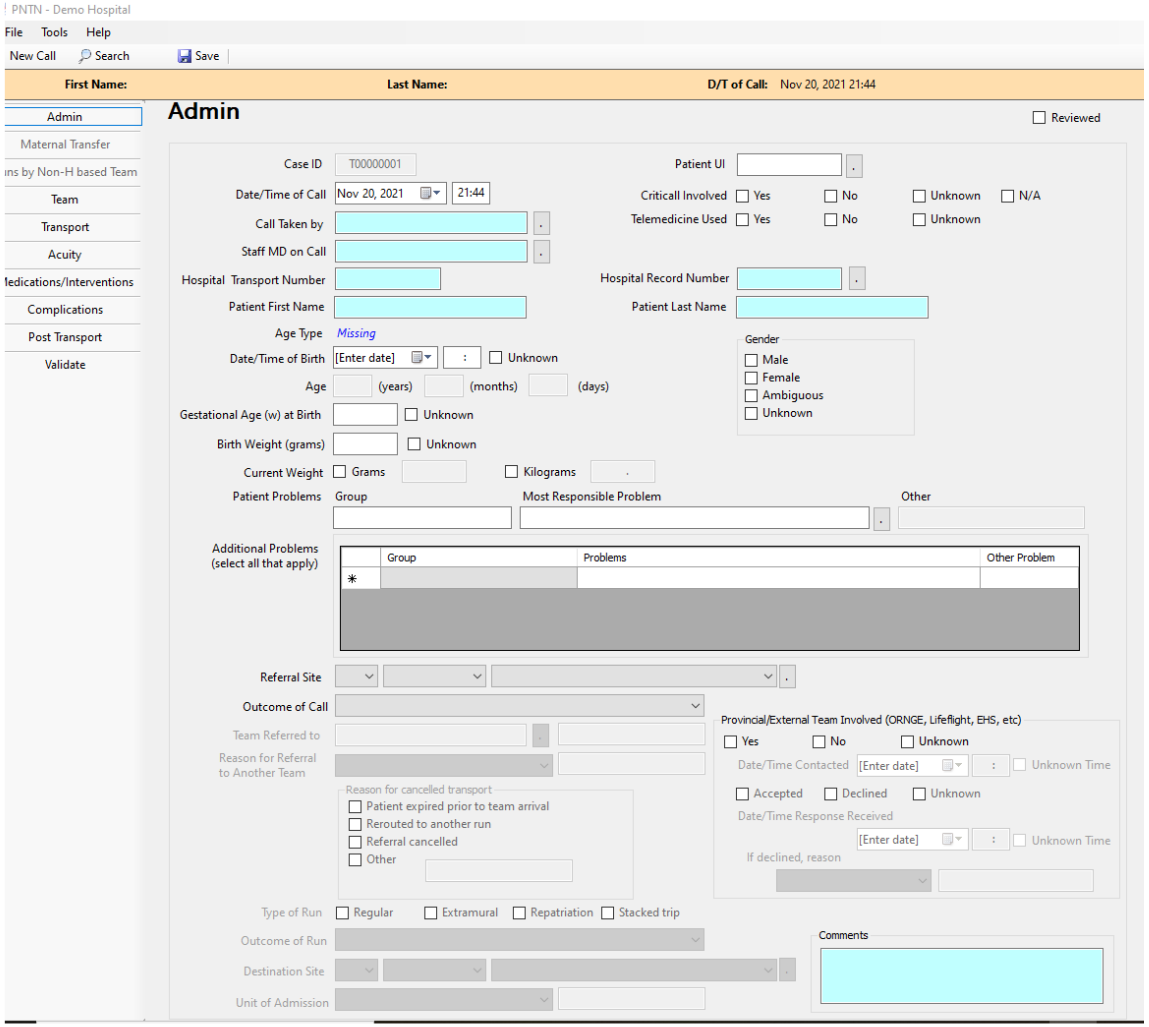
- Teams are able to determine if the patient can safely be kept closer to home at the local community hospital or if more specialized care is required
- The addition of video allows the consulting team to provide direction to keep the patient stable until the ACTS team arrives



PNTN

Pediatric Neonatal Transport Network

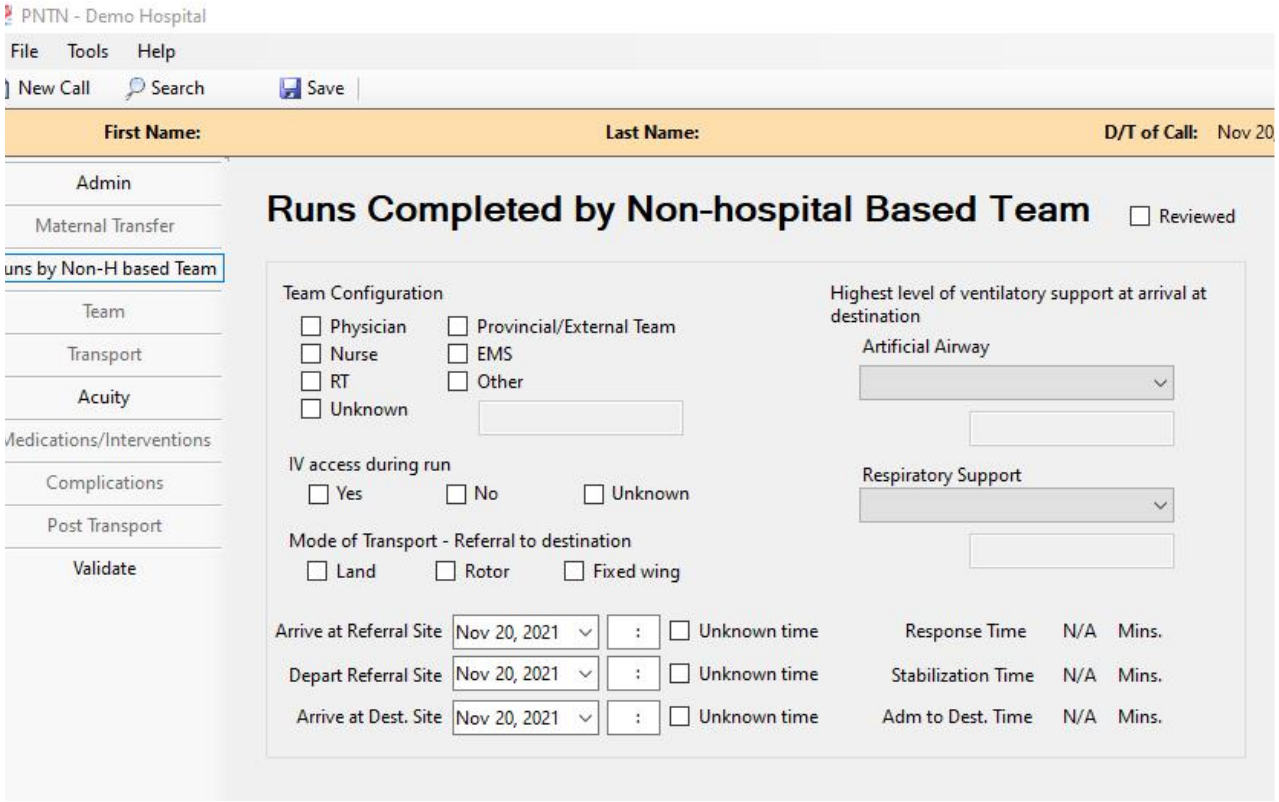
Database Upgrade



PNTN

Pediatric Neonatal Transport Network

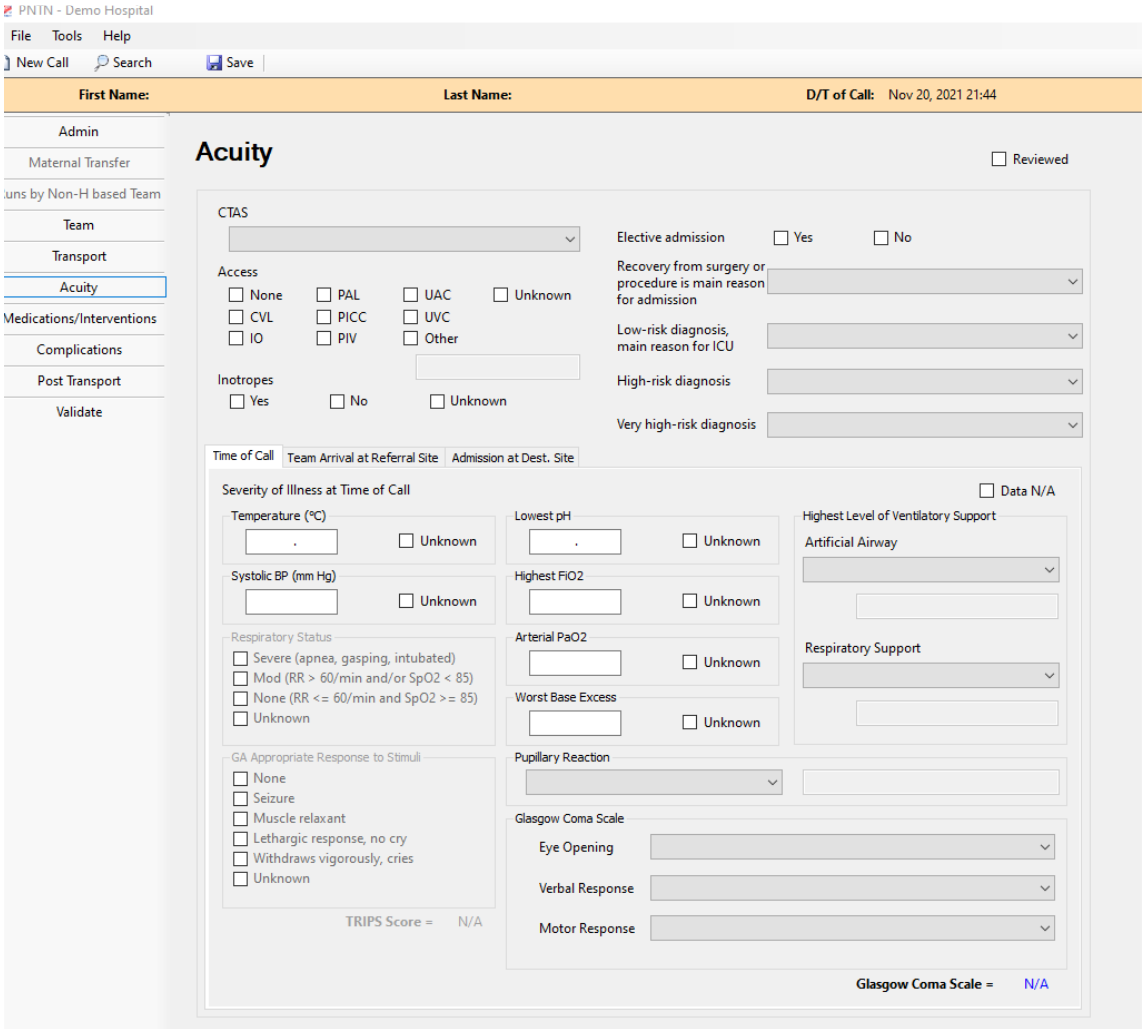
Runs by non-hospital based team screen



PNTN

Pediatric Neonatal Transport Network

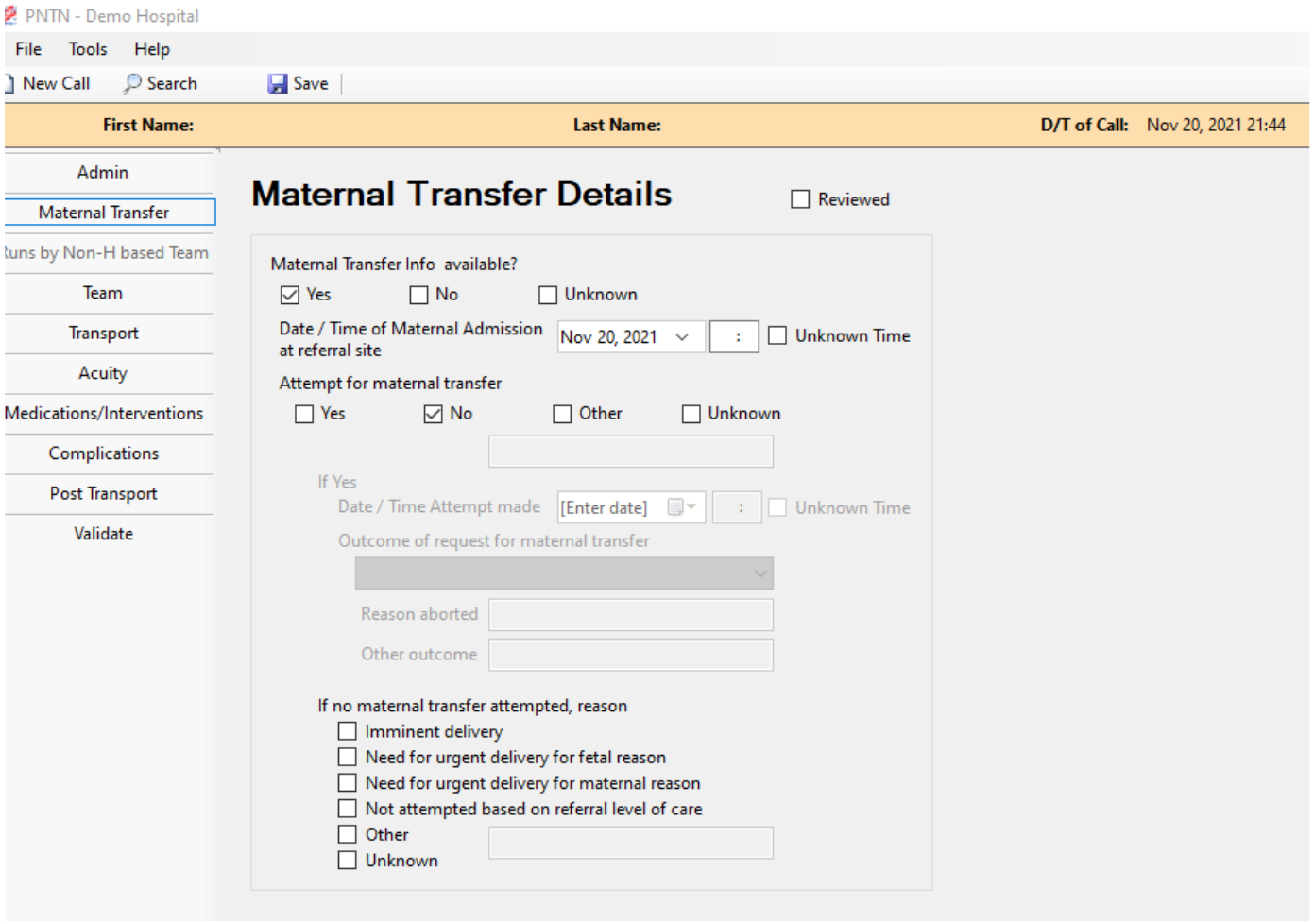
Acuity screen



PNTN

Pediatric Neonatal Transport Network

Maternal data screen



Volume of preterm transports <32 weeks & <3 days old from non-tertiary sites – as surrogate of outborn deliveries

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Canadian Pediatric Transport Initiatives

- Transport equipment
- Outreach education
- Team education
- Royal College transport certificate
- Database/research

Future Directions in Canadian Transport

Expansion of neonatal database to facilitate data collection for	• Pediatric transports • Non-hospital based transports
Increase utilization of database through webportal	• Timely reporting of utilization data and metrics • Benchmarking and trends over time
Increase collaboration across neonatal and pediatric transport networks to share resources and practices	

CN Tower Toronto

Taipei 101

Thank you
and
best wishes
from
Toronto to
Taipei