NTG Annual Transport Data. 2018.

Andy Leslie

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CenTre Neonatal Transport &
COMET Paediatric Transport

University Hospitals Coventry and Warwickshire NHS Trust

University Hospitals of Leicester NHS Trust

Caring at its best

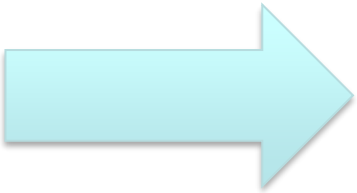
Nottingham University Hospitals NHS Trust

Method

- Email to transport service's medical and nursing leads requesting activity data from 1.1.18 to 30.6.18
- Brief additional information about each service.

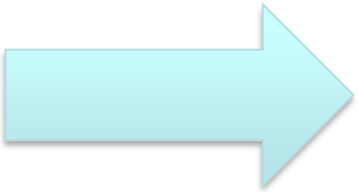
Reorganisations & additions for **2018** data

- Newcastle
- Middlesbrough



NNeTS

- Cheshire & Mersey
- Greater Manchester
- STARS, Cumbria



Connect NW

Number of services, UK

- 2012 – data from 22
- 2013 – data from 21
- 2014 – data from 19
- 2015 – data from 19
- 2016 – data from 18
- 2017 – data from 18
- 2018 – data from 15

Number of services, UK

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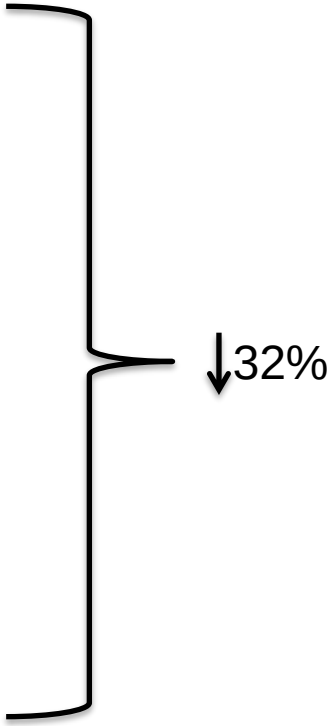
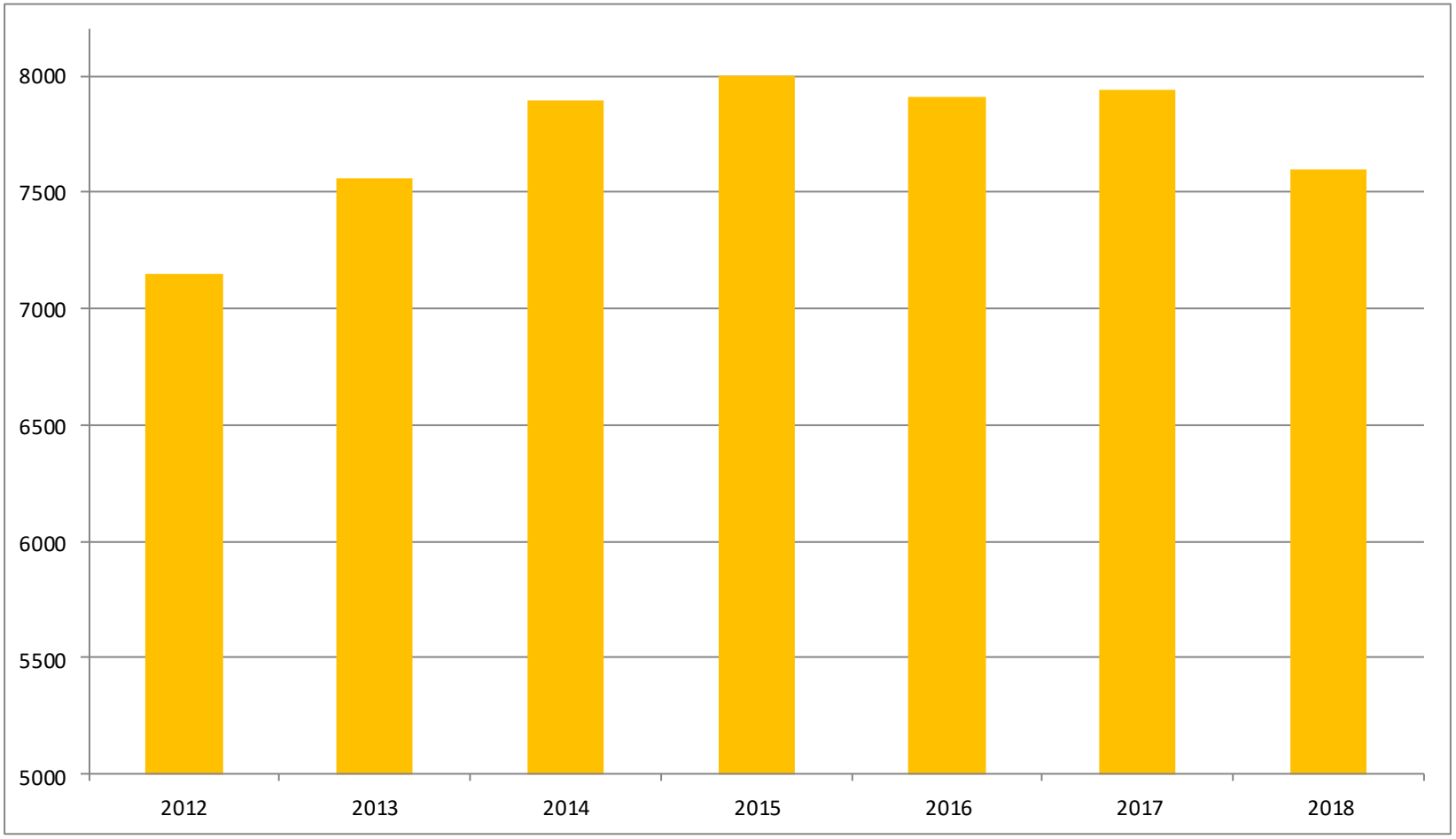
- 2018 – data from 15



UK summary data, Jan-Jun/year, all transfers, all teams (n=)



UK summary data Jan-Jun/year

	2012	2013	2014	2015	2016	2017	2018
Total transfers	**7152**	**7562**	**7892**	**7997**	**7910**	**7938**	**7594**
Ventilated	1889 (26%)	1961 (26%)	1949 (25%)	2155 (27%)	2000 (25%)	1913 (24%)	1939 (26%)
HFOV	-	-	-	16 (<1%)	16 (<1%)	39 (2%)	48 (2%)
CPAP	847 (12%)	906 (12%)	819 (10%)	790 (10%)	737 (9%)		621 (8%)
High-flow	-	-	-	452 (6%)	496 (6%)		674 (9%)
Cooling	247 (3%)	288 (4%)	249 (3%)	274 (3%)	288 (4%)	245 (3%)	255 (3%)
iNO	99 (1%)	111 (1%)	117 (1%)	138 (2%)	145 (2%)		154 (2%)
Palliative	22 (<1%)		19 (<1%)	19	33	33	20

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HFO

HFOV - 2 teams in 2015
- 5 teams in 2016
- 6 teams in 2017
- 8 teams in 2018

HFO-capable teams (number of transfers on HFO, 2018)

ScotSTAR	0
ConnectNW	15
KIDS NTS	0
N Wales NTS	0
CHANTS	0
NEST	2
SONET	5
London NTS	26

UK summary data Jan-Jun/year

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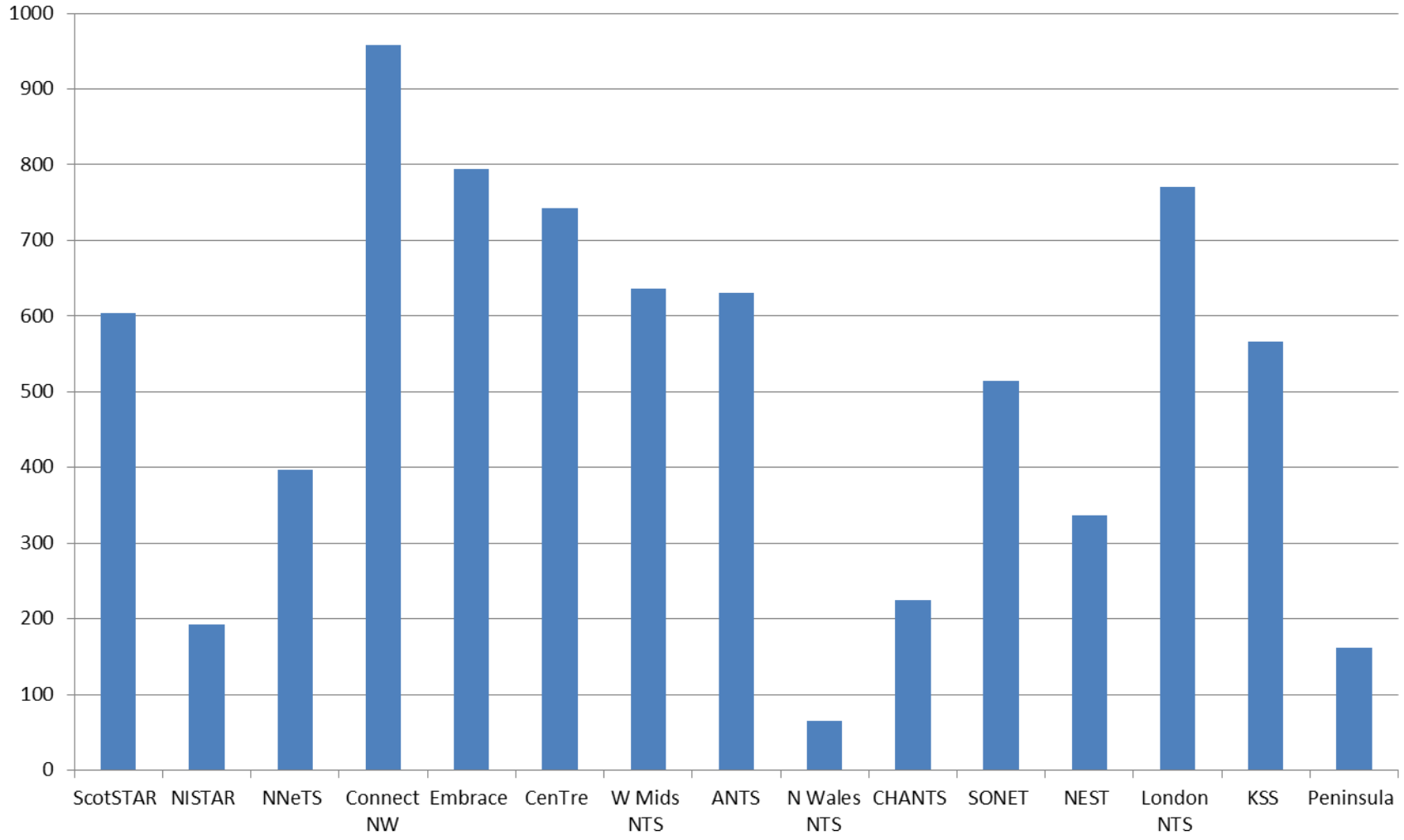
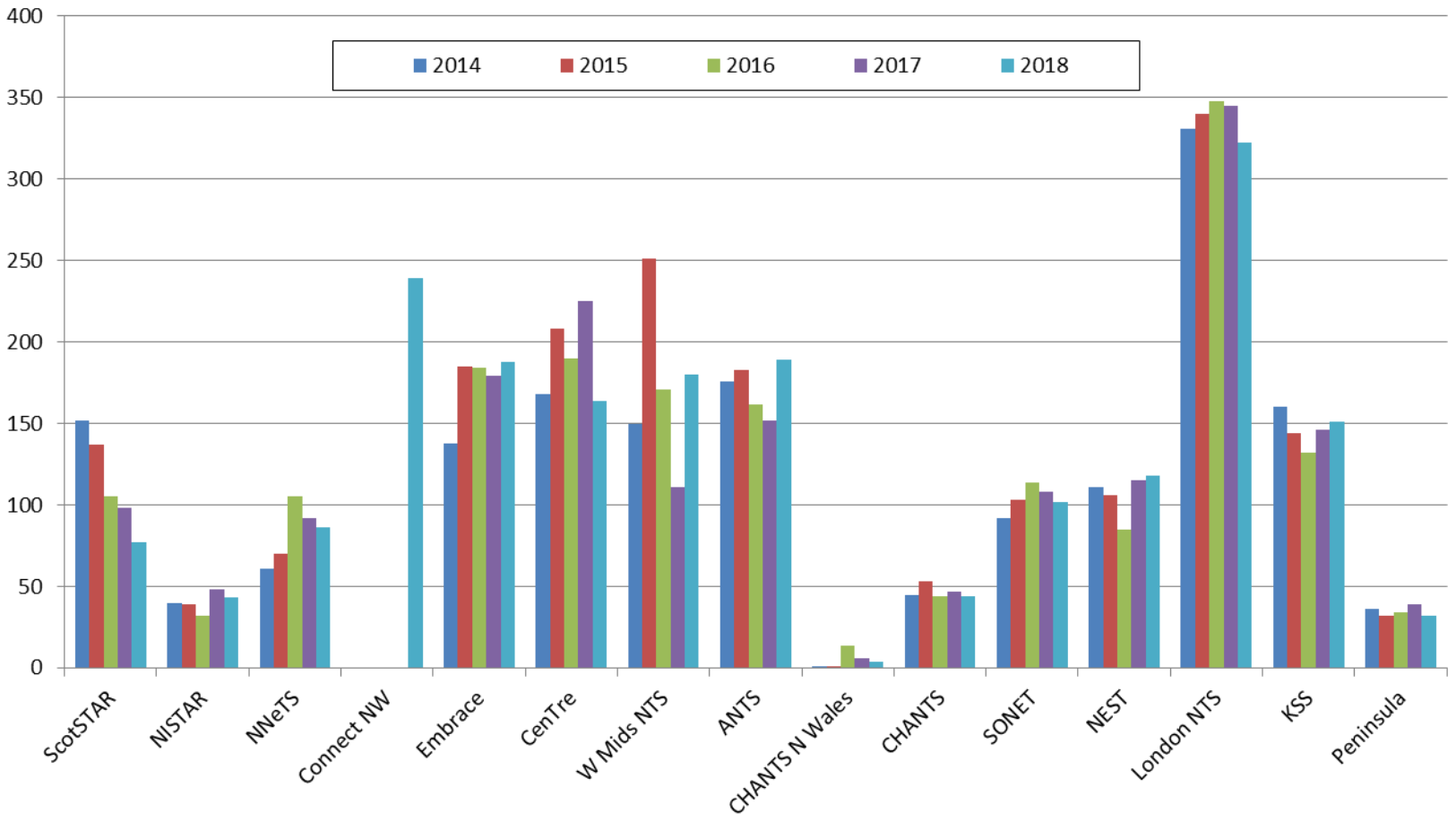
Total Transfers/team, Jan – June 2018



Number of ventilated transfers, Jan-Jun 2014-2018.

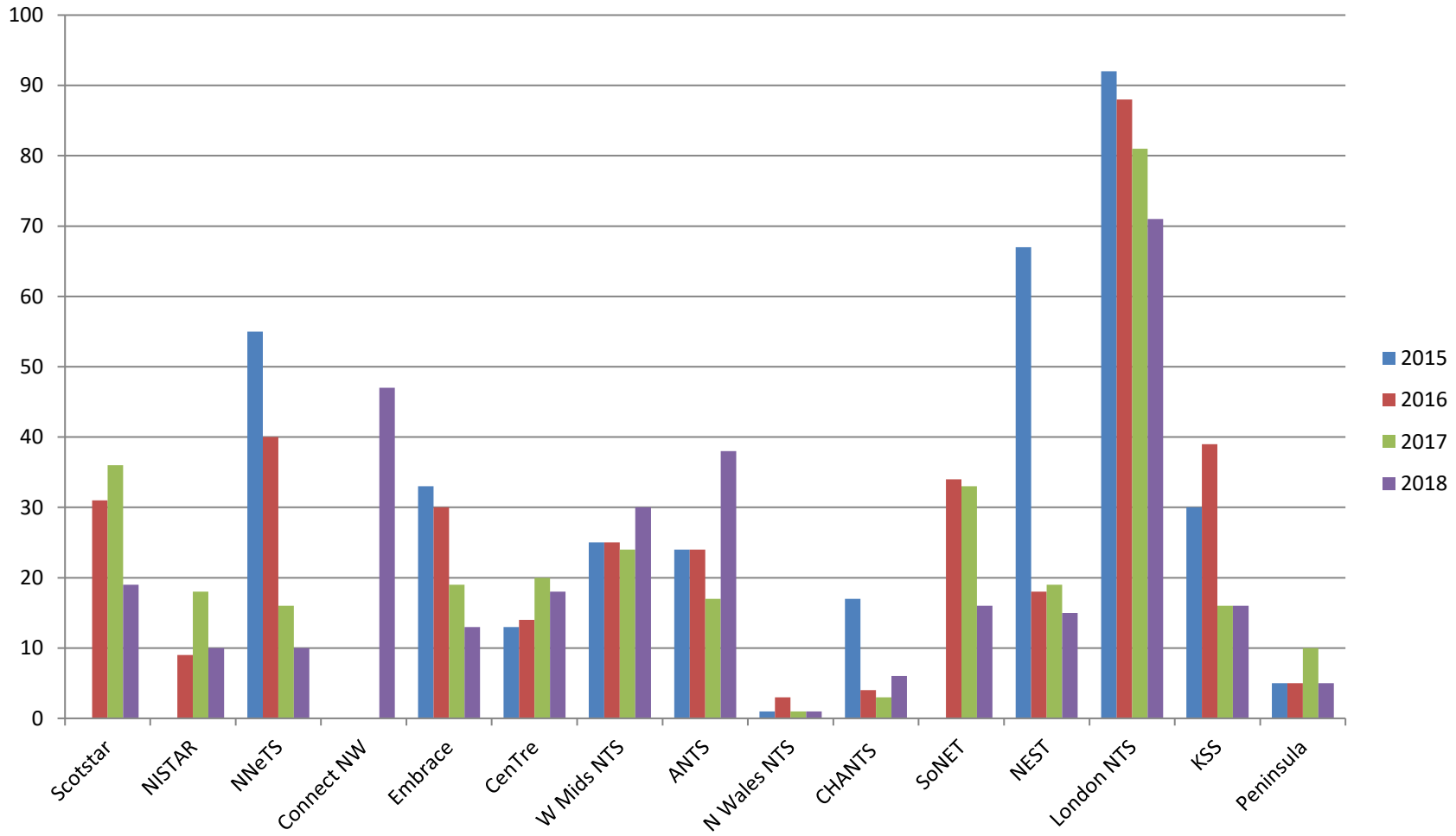


Response standards

Data on

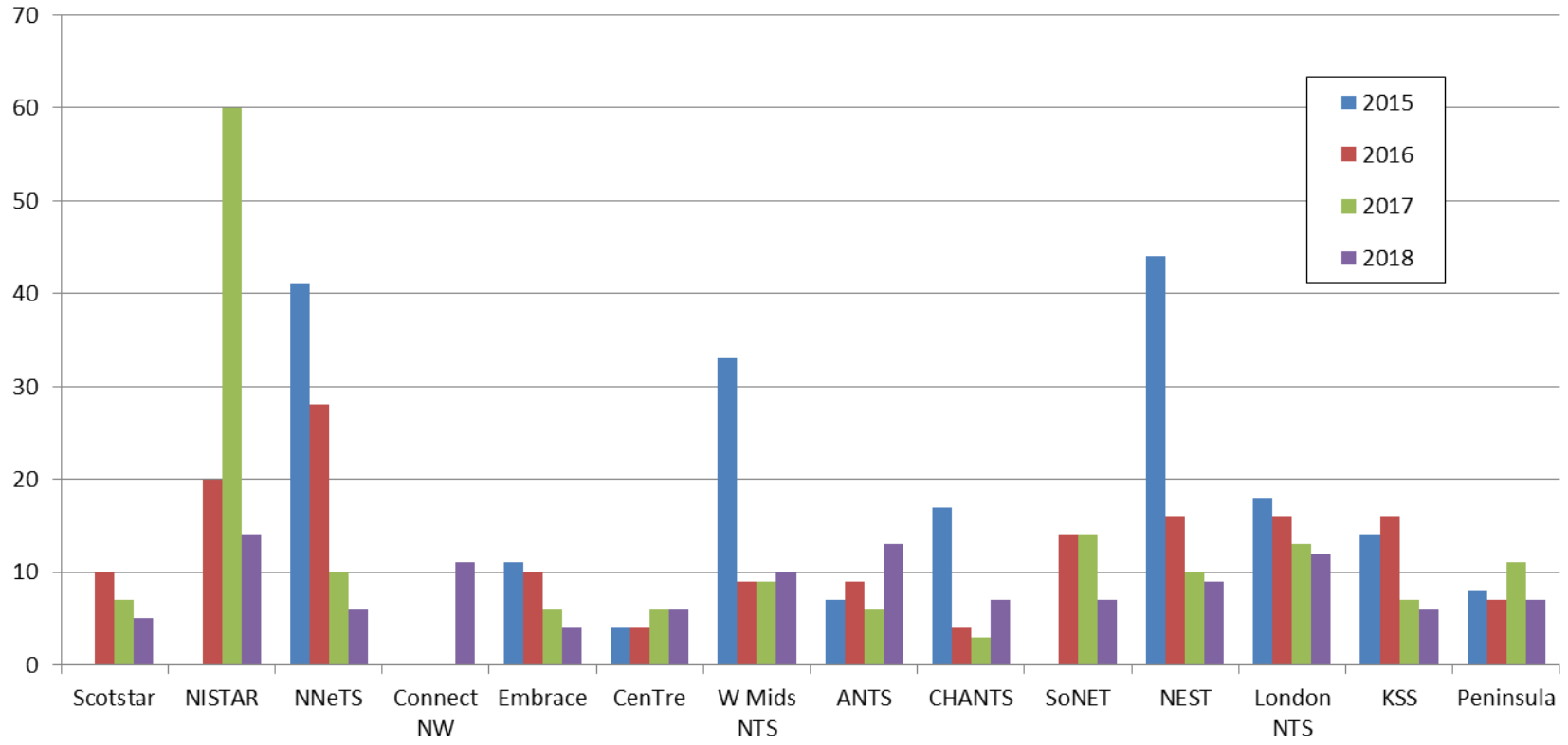
- Time critical (% mobile/60 mins)
- Referral response time (for ICU/uplift)
- Uplift transfers performed (%)

Number of time-critical transfers/team, Jan-Jun 2015-2018



TC transfers/team as % of uplift transfers, Jan-Jun 2015 - 2018

%



	2015	2016	2017	2018
TC	469	408	341	315
Uplift	3172	3355	3729	3718
%	15	12	9	8

% of time critical transfers team mobile within 60 minutes of start of referring call.

2013: 73 % (n=404)	2016: 84% (n=408)
2014: 77% (n=409)	2017: 82% (n=341)
2015: 81% (n=469)	2018: 79% (n=315)

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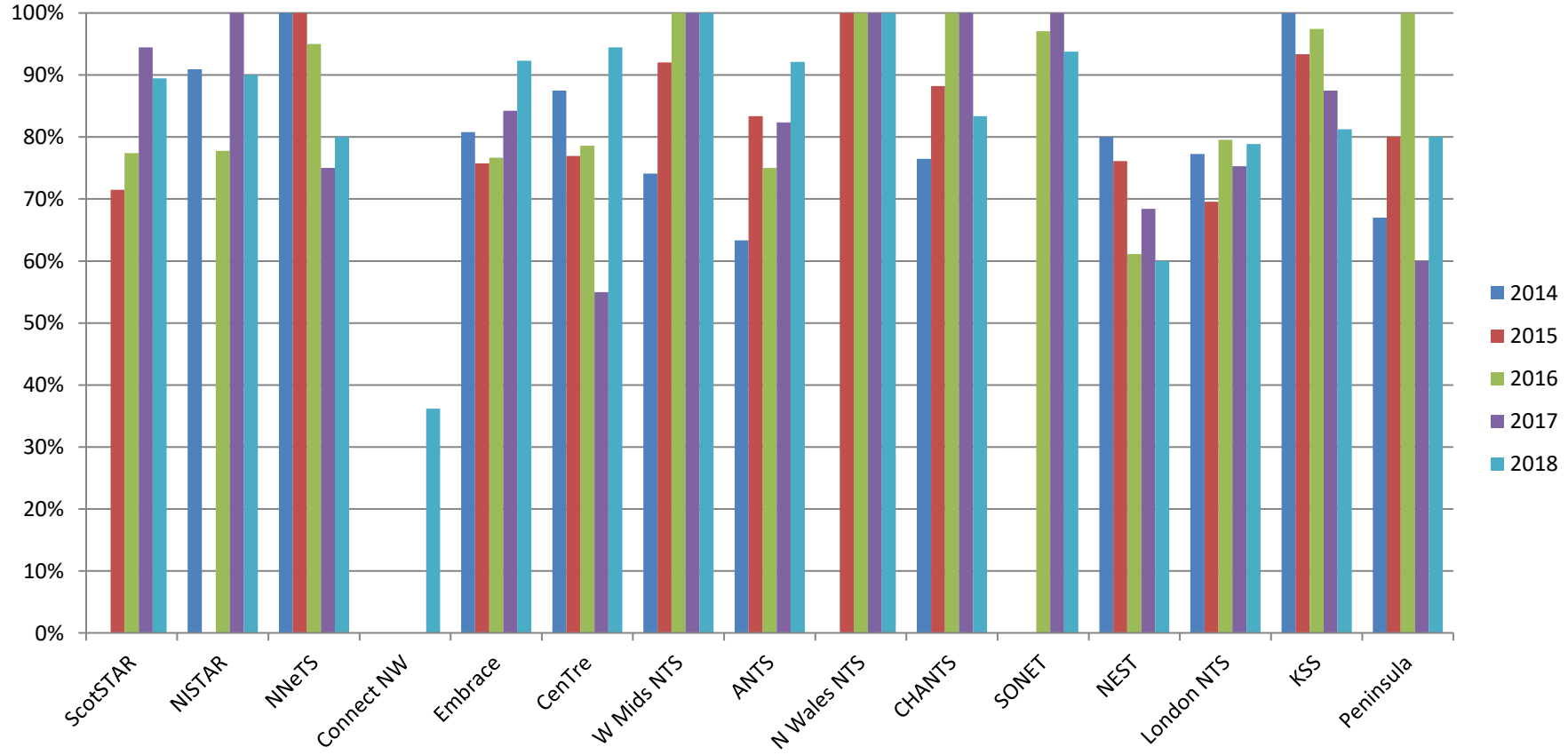

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Team arrived with the patient within 3.5 hours of the start of the referring call (Intensive care; uplift) (%), Jan-Jun/year.

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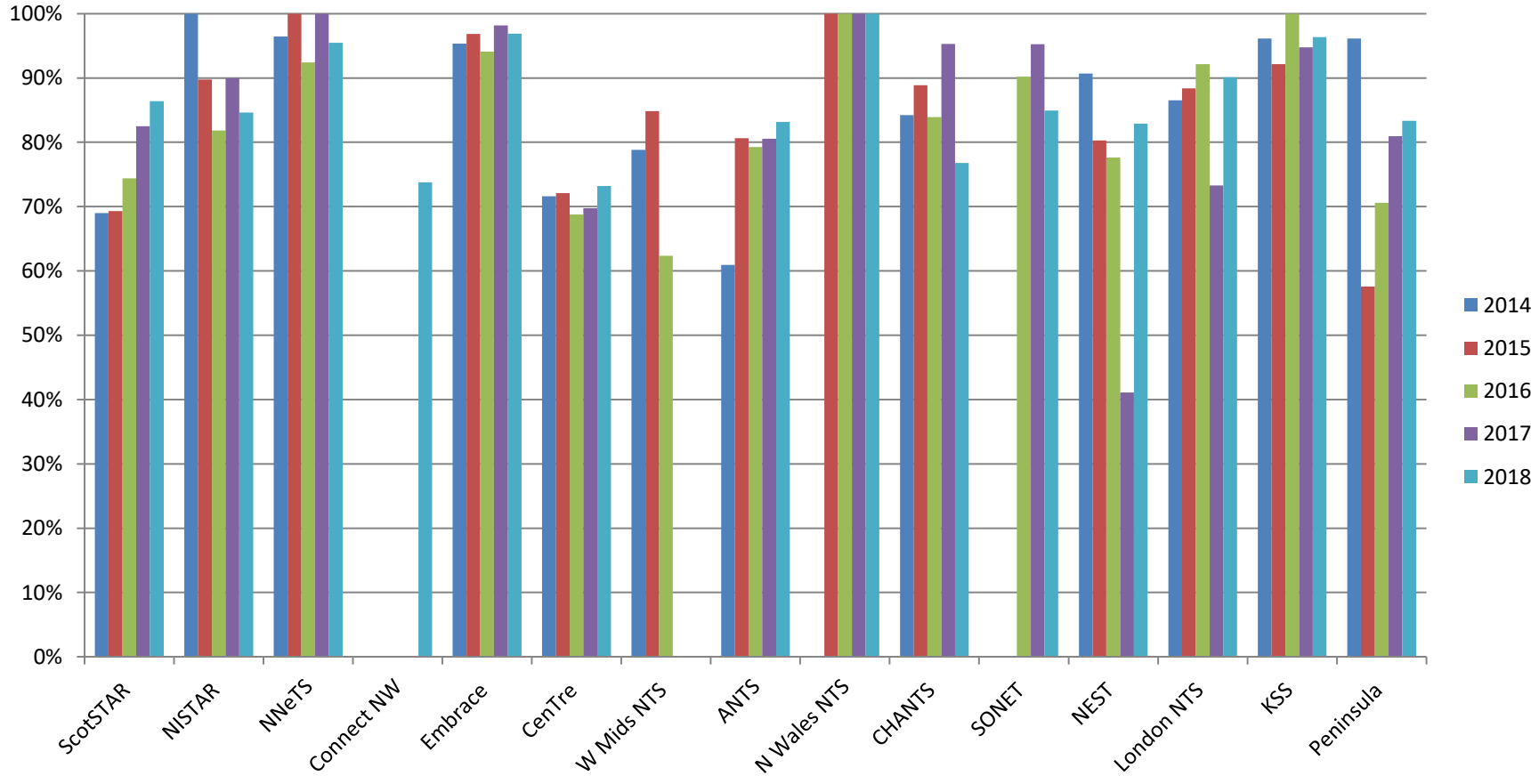
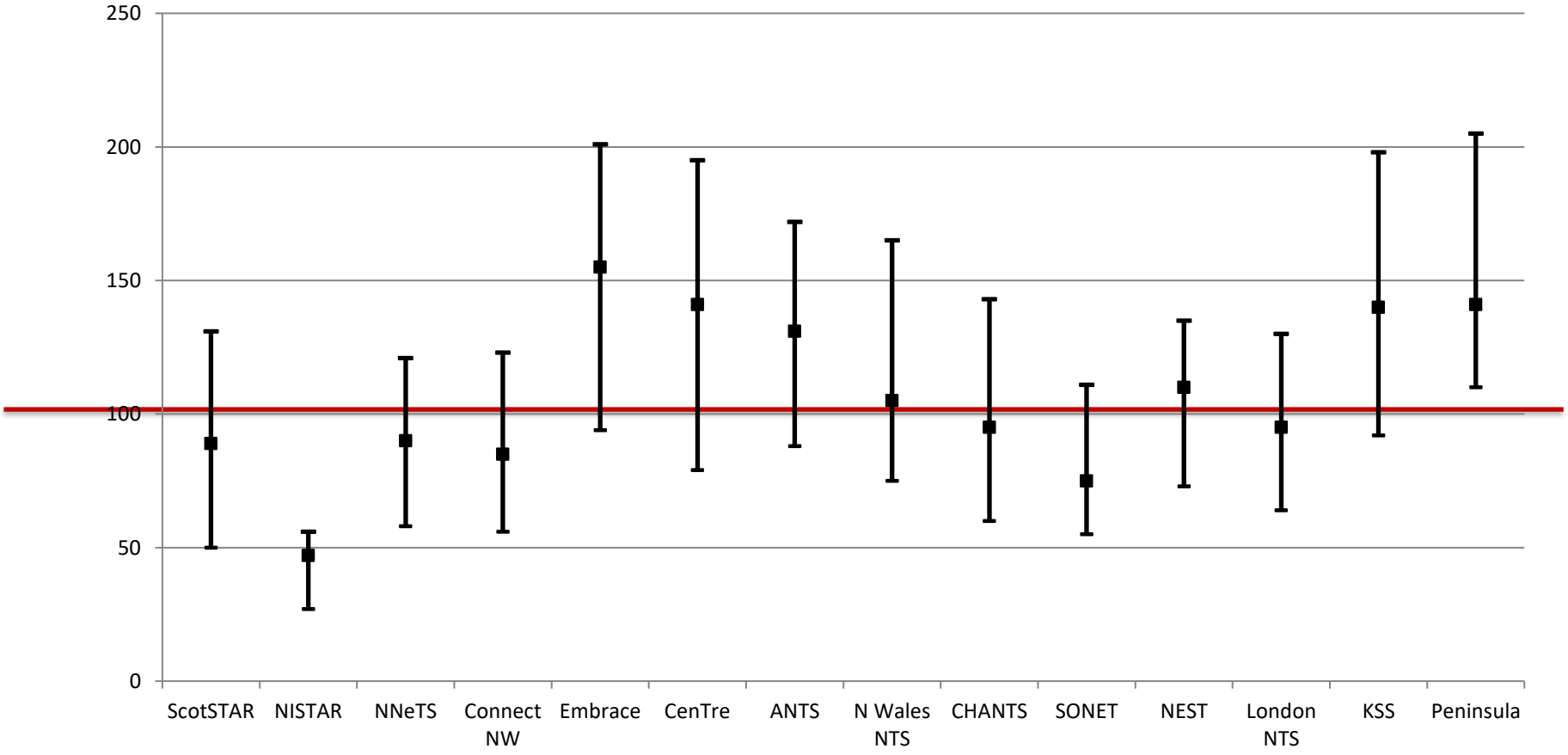


2013: 72% (n=1689)	2016: 82% (n=1787)
2014: 86% (n=1836)	2017: 80% (n=2031)
2015: 83% (n=1945)	2018: 85% (n=1800)

Stabilising time (minutes), Jan-Jun 2018,
Median (25th & 75th centiles), uplift/ICU transfers.



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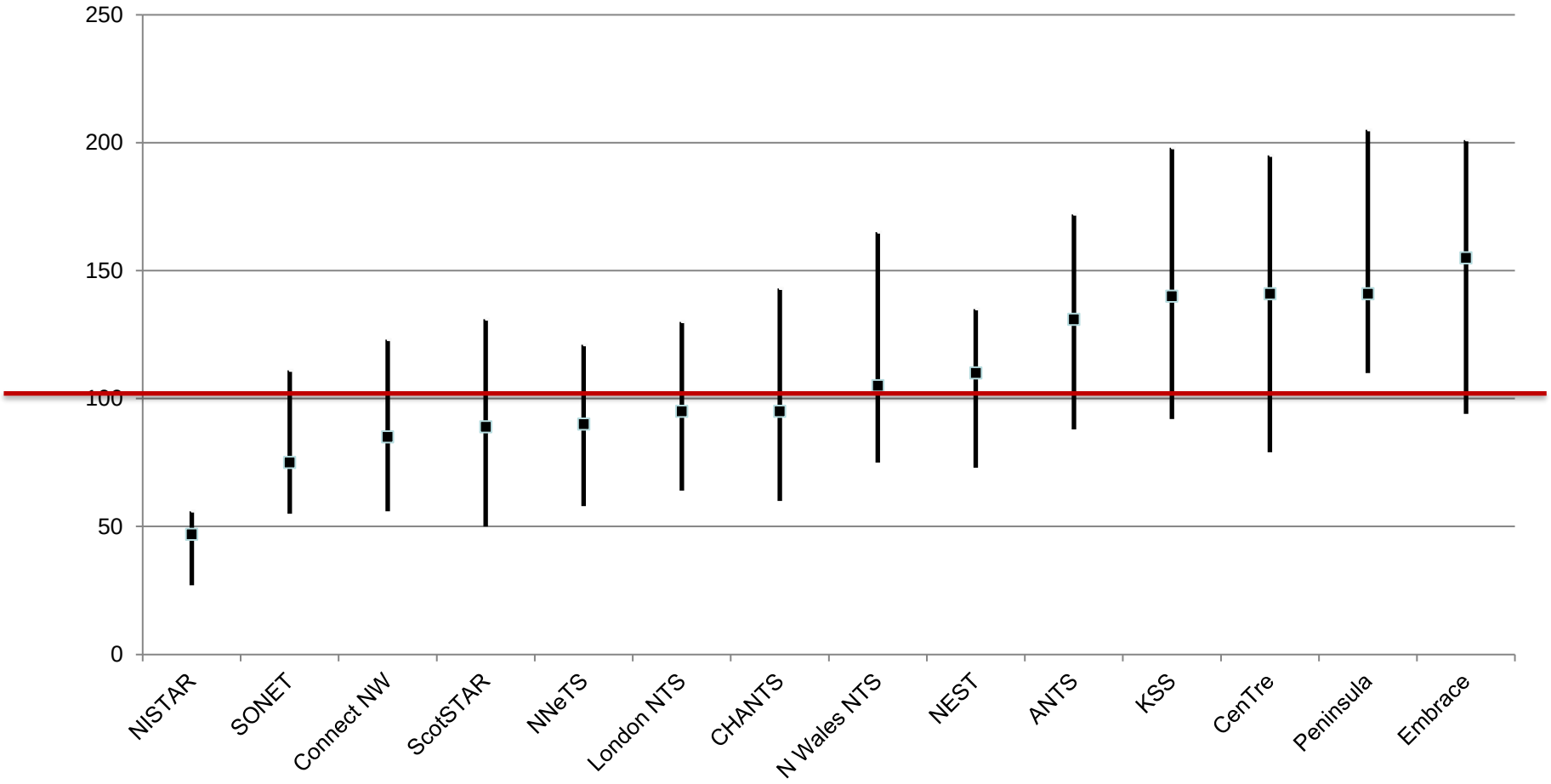

Neonatal Transport Services transfer at least 95% of patients requiring transfer for uplift within its defined catchment area. (%)

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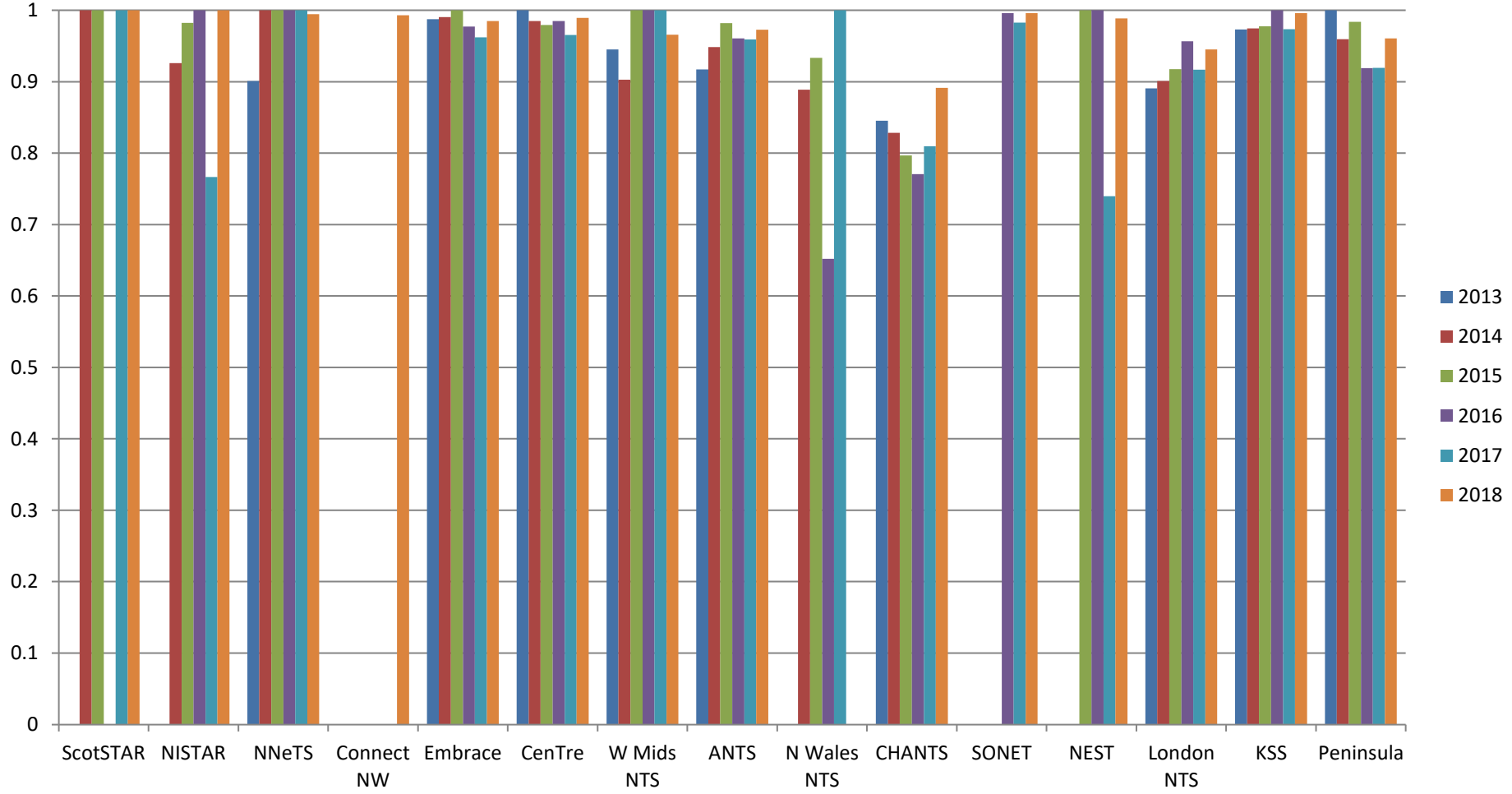
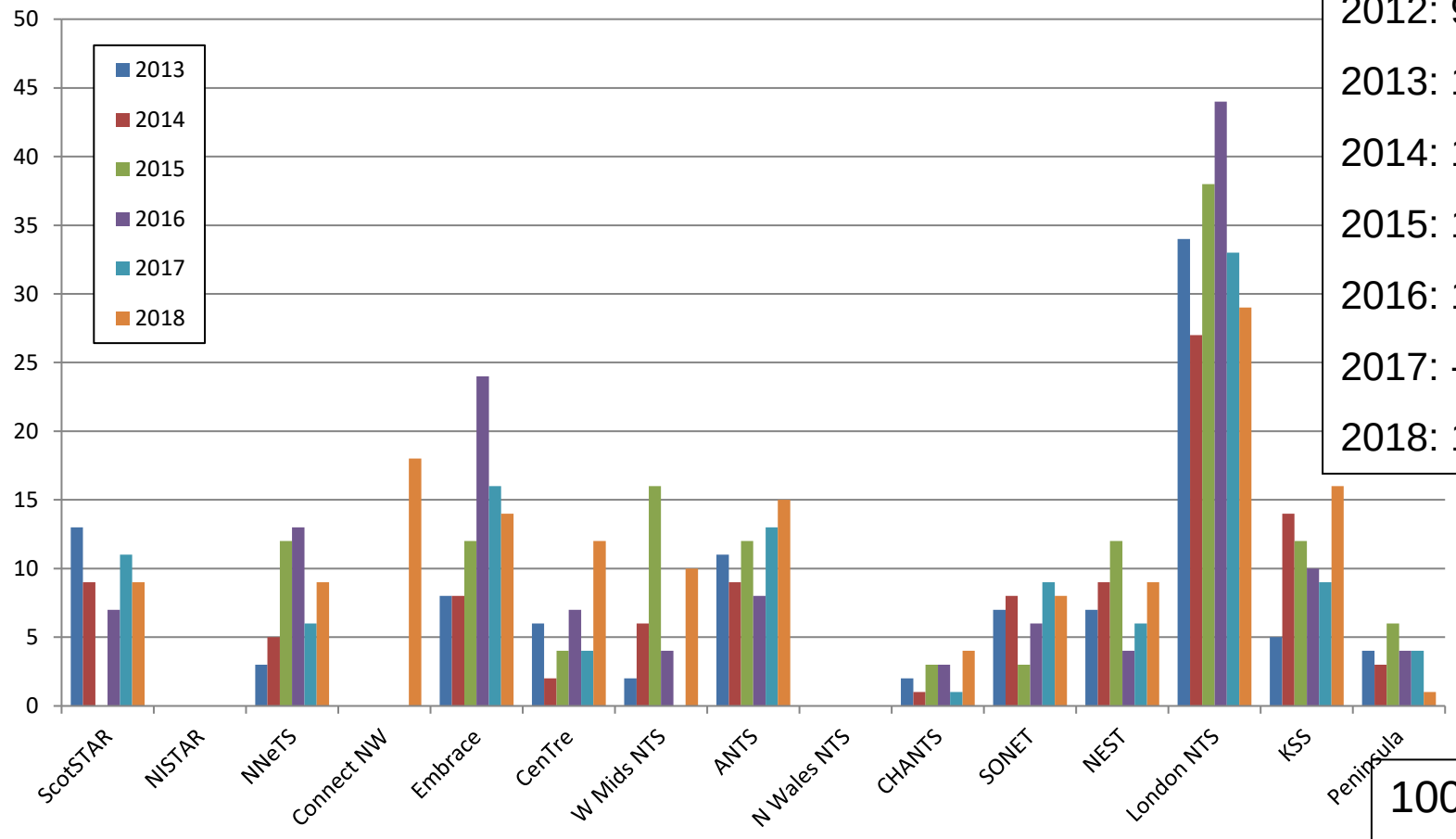
	2013	2014	2015	2016	2017	2018
n=	3109*	3416	3268	3355	3729*	**3718**
Done by commissioned team n= (%)	2704 (87)	3097 (91)	3172 (97)	2971 (89)	3543 (95)	**3637 (98)**

* * = 20% increase

Neonatal Transport Services transfer at least 95% of patients requiring transfer for uplift within its defined catchment area. (Jan-Jun, %)



Number transferred on iNO – Jan – June/year



Total for UK

2012: 99

2013: 111

2014: 117

2015: 138

2016: 145

2017: -

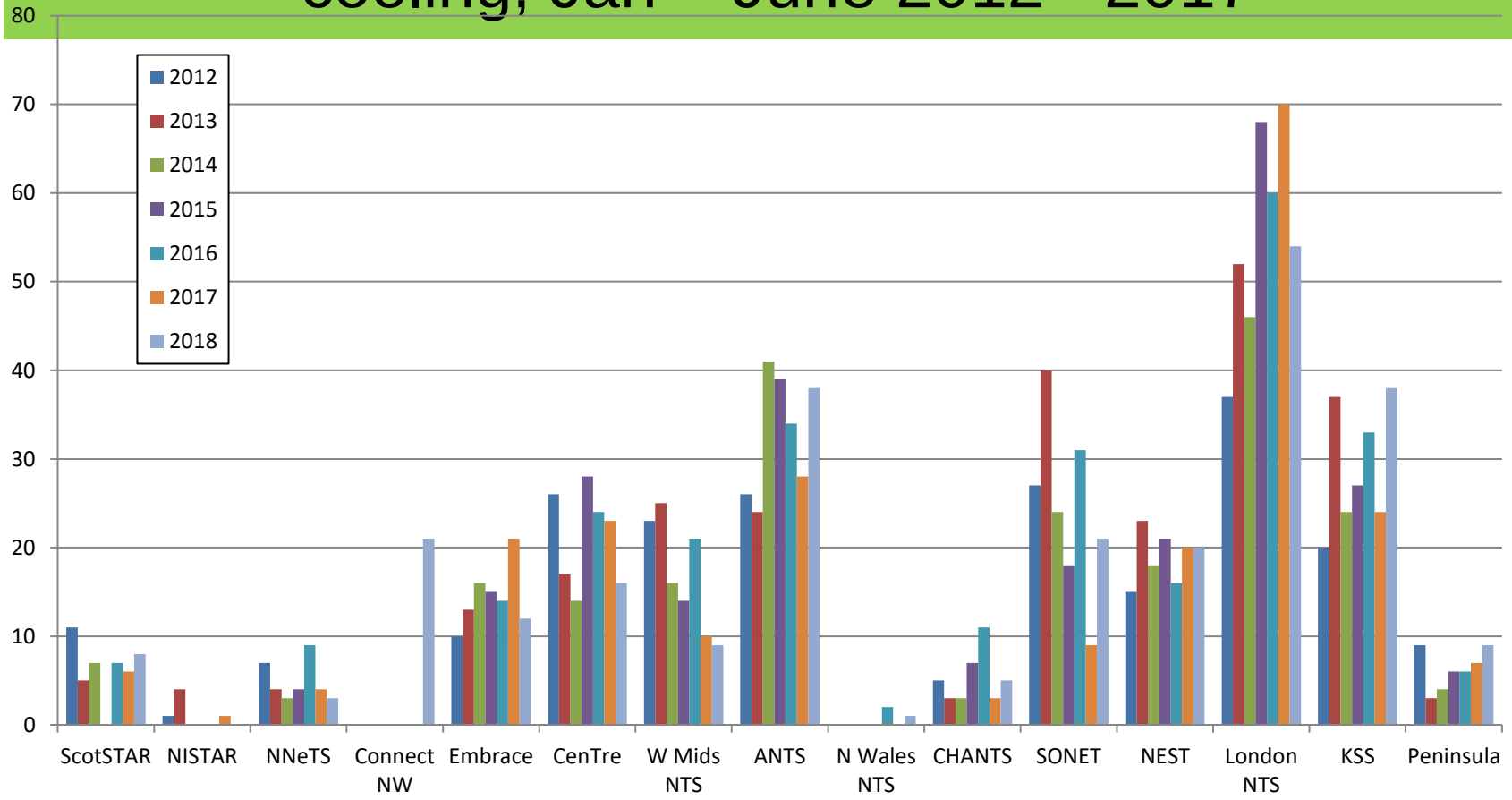
2018: 154

100% of services have iNO available

Number transferred for cooling or assessment for cooling, Jan – Jun/year

2012: 247	2016: 288
2013: 288	2017: 245
2014: 249	2018: 255
2015: 274	

Number transferred for cooling or assessment for cooling, Jan – June 2012 - 2017

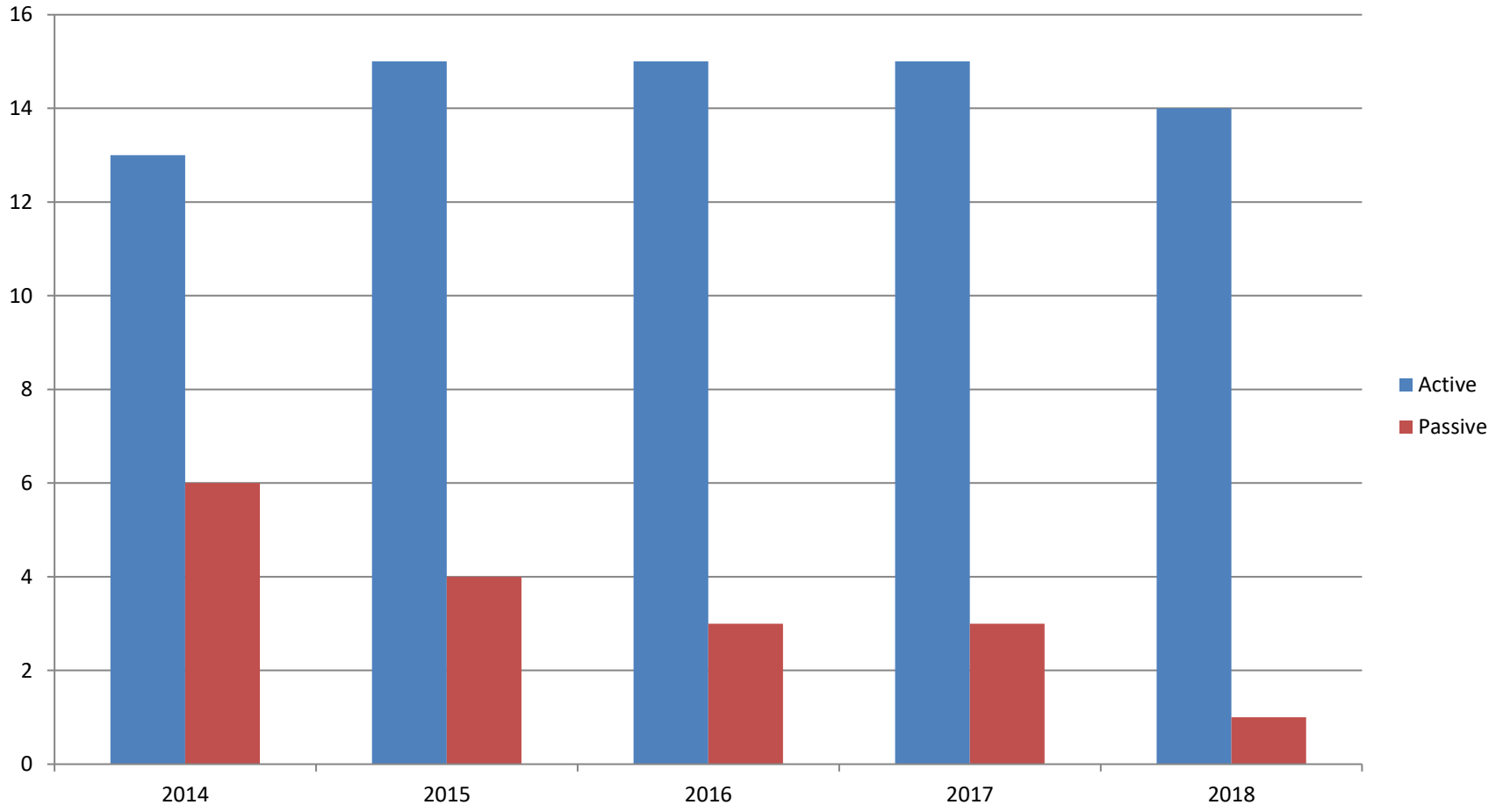


2012: 247	2016: 288
2013: 288	2017: 245
2014: 249	2018: 255
2015: 274	

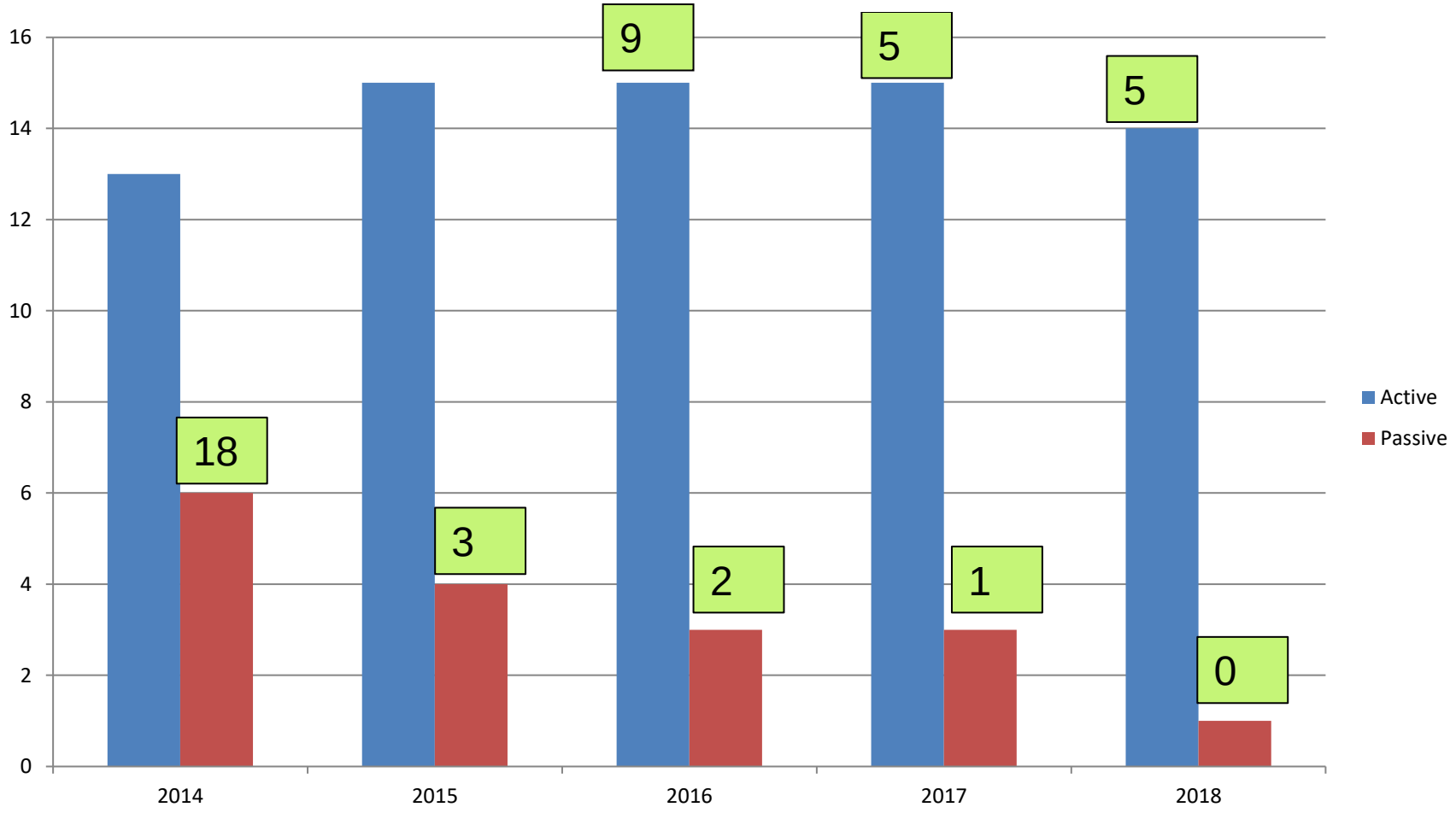
Transferred for cooling, temp 33-34^{0}C at 6 hours of age.

	2016	2017	2018
Cooling n=	288	245	255
Transferred on active cooling n= (%)	277 (96)	229 (93)	250 (98)
Infant temperature data available n= (%)	216 (75)	191(78)	230 (90)
Temp 33-34^{0}C at 6hrs n= (%)	180 (83)	154 (81)	182 (79)

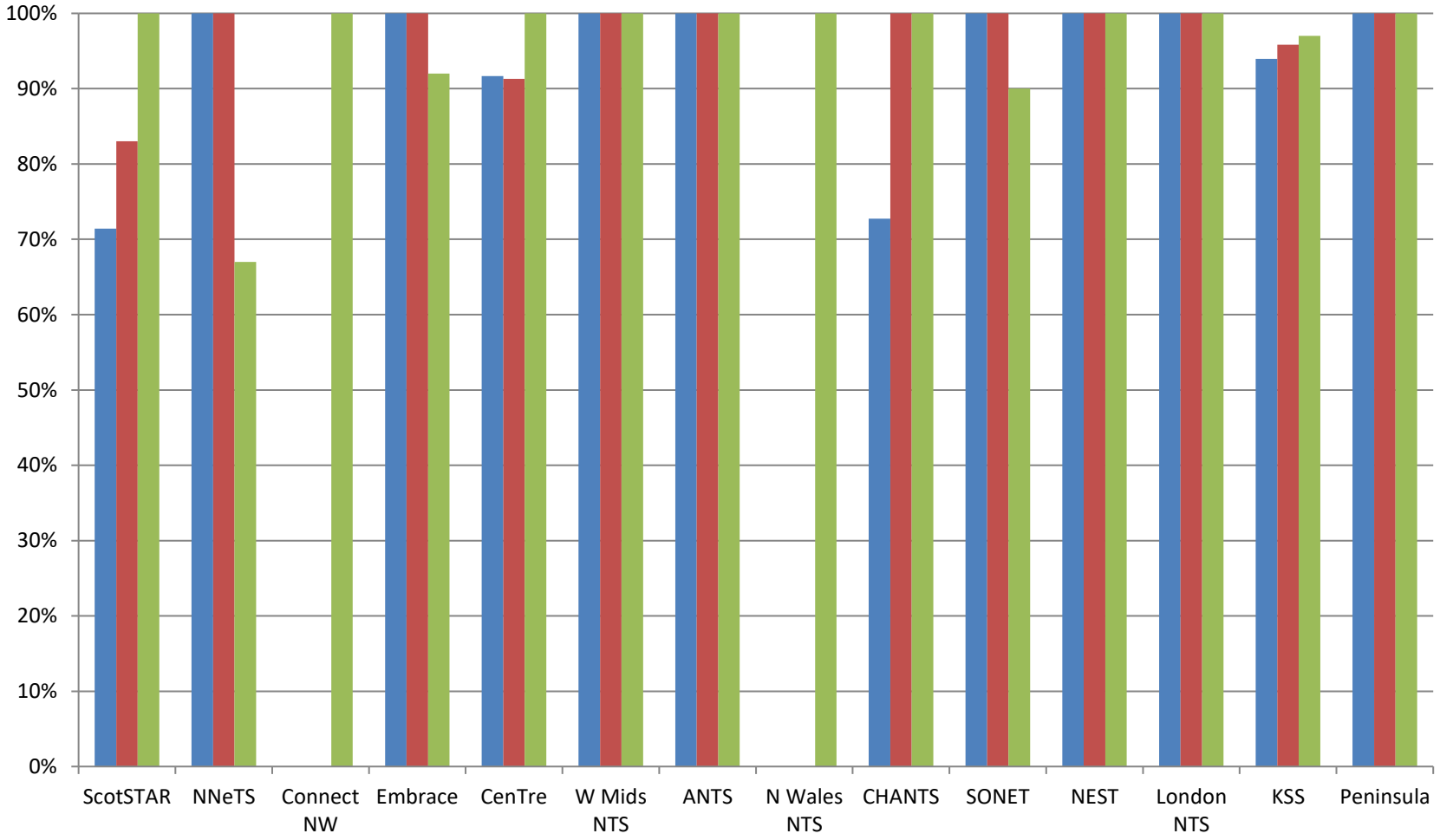
Active vs. passive cooling, number of teams, 2014 - 2018.



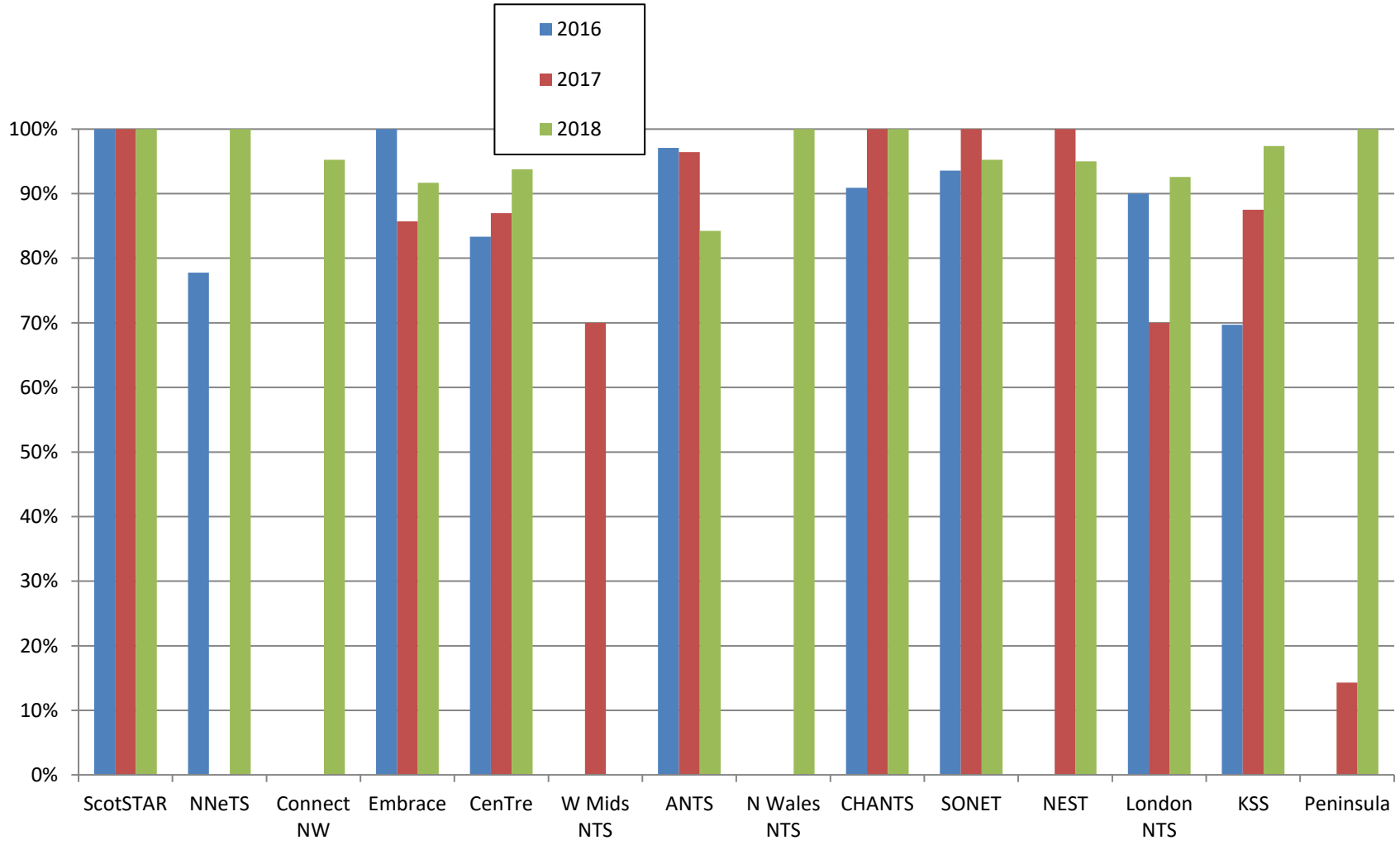
Active vs. passive cooling, number of teams, 2014 - 2018 and number of infants transferred with passive cooling.



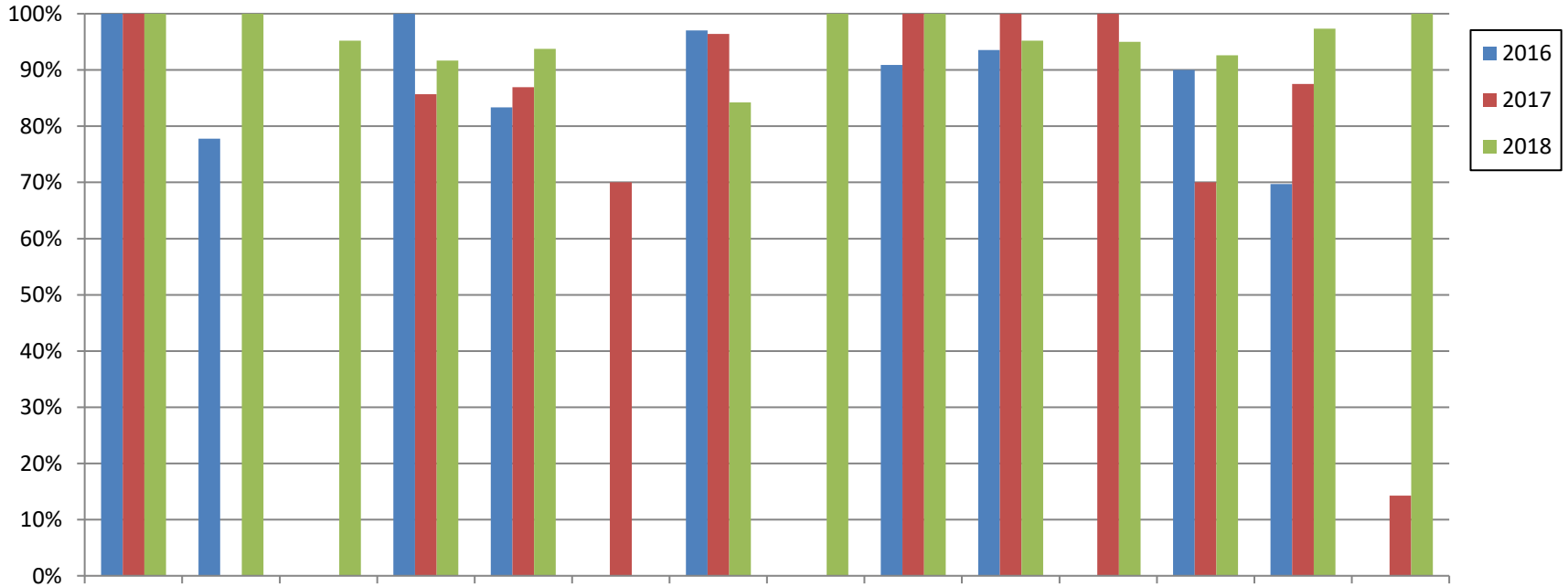
Active cooling services, % transferred on active cooling Jan – Jun 2016,2017 & 2018.



Teams undertaking cooling transfers, % of transfers with infant temperature data available.

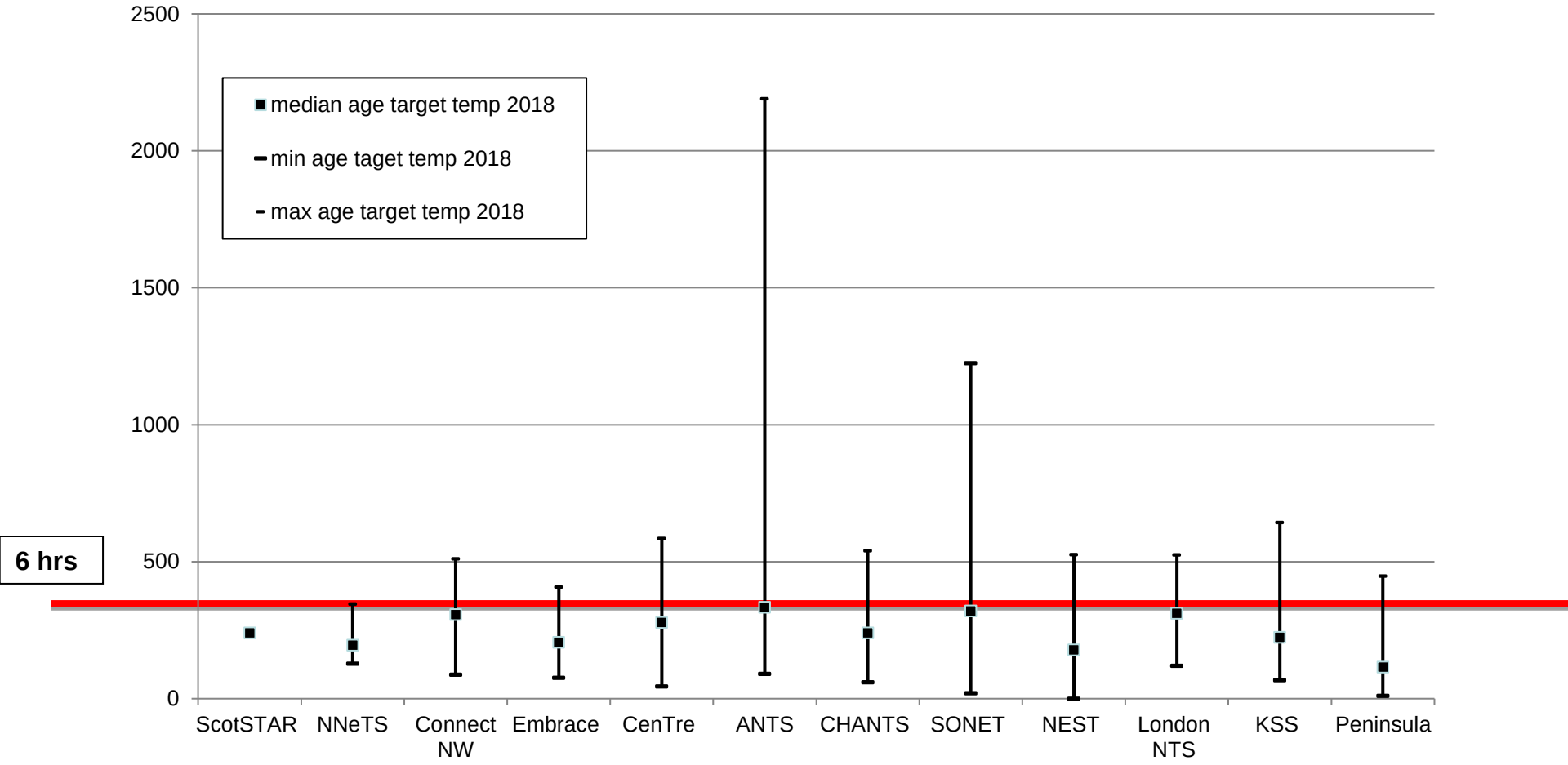


Infants transferred for cooling, percentage in target range at 6 hours of age.



2018 n=	8	3	21	12	16	9	38	1	5	21	20	54	38	9

Age (mins) target temperature achieved, infants transferred for cooling, Jan – Jun 2018 (median, range)



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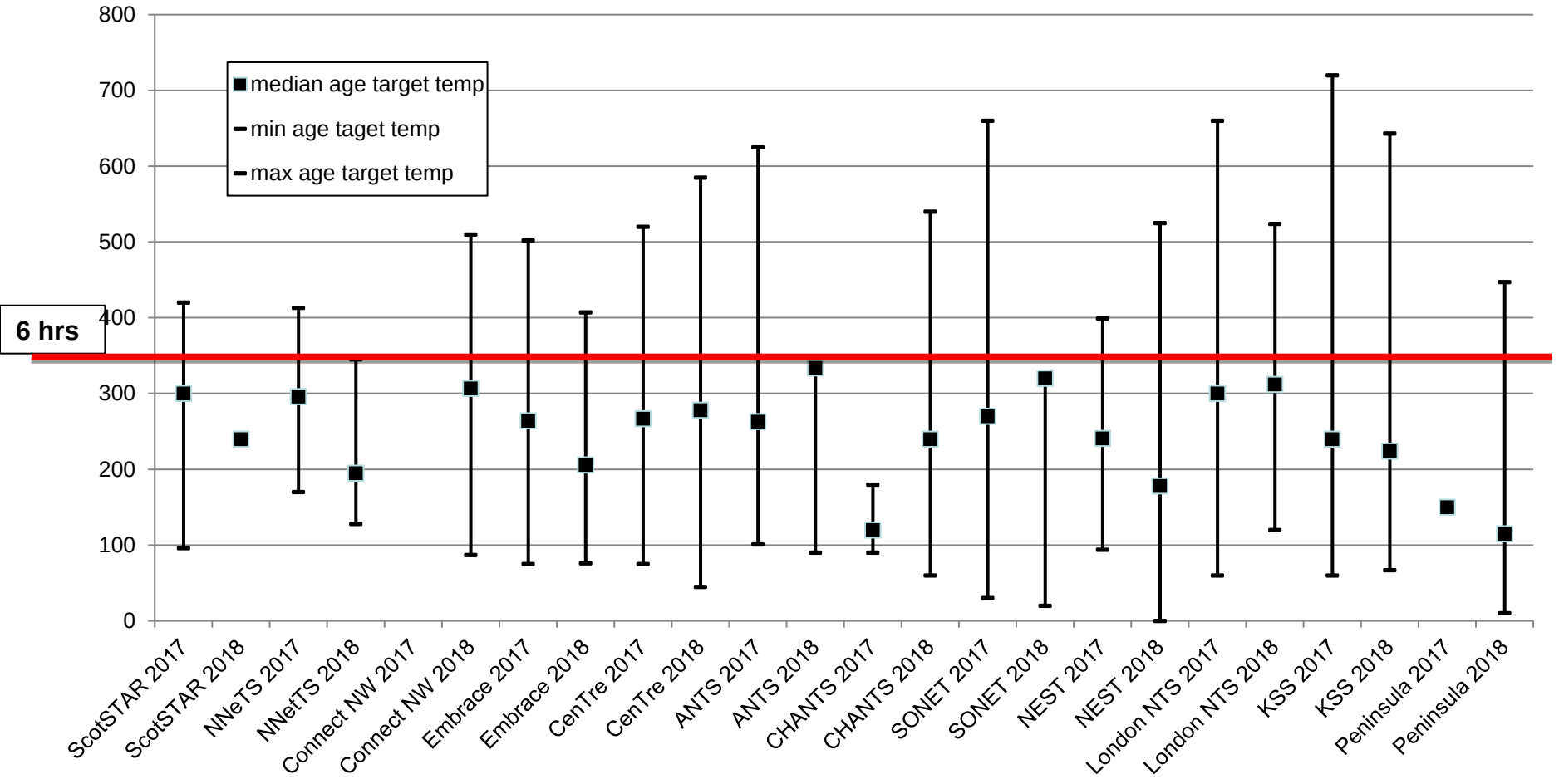

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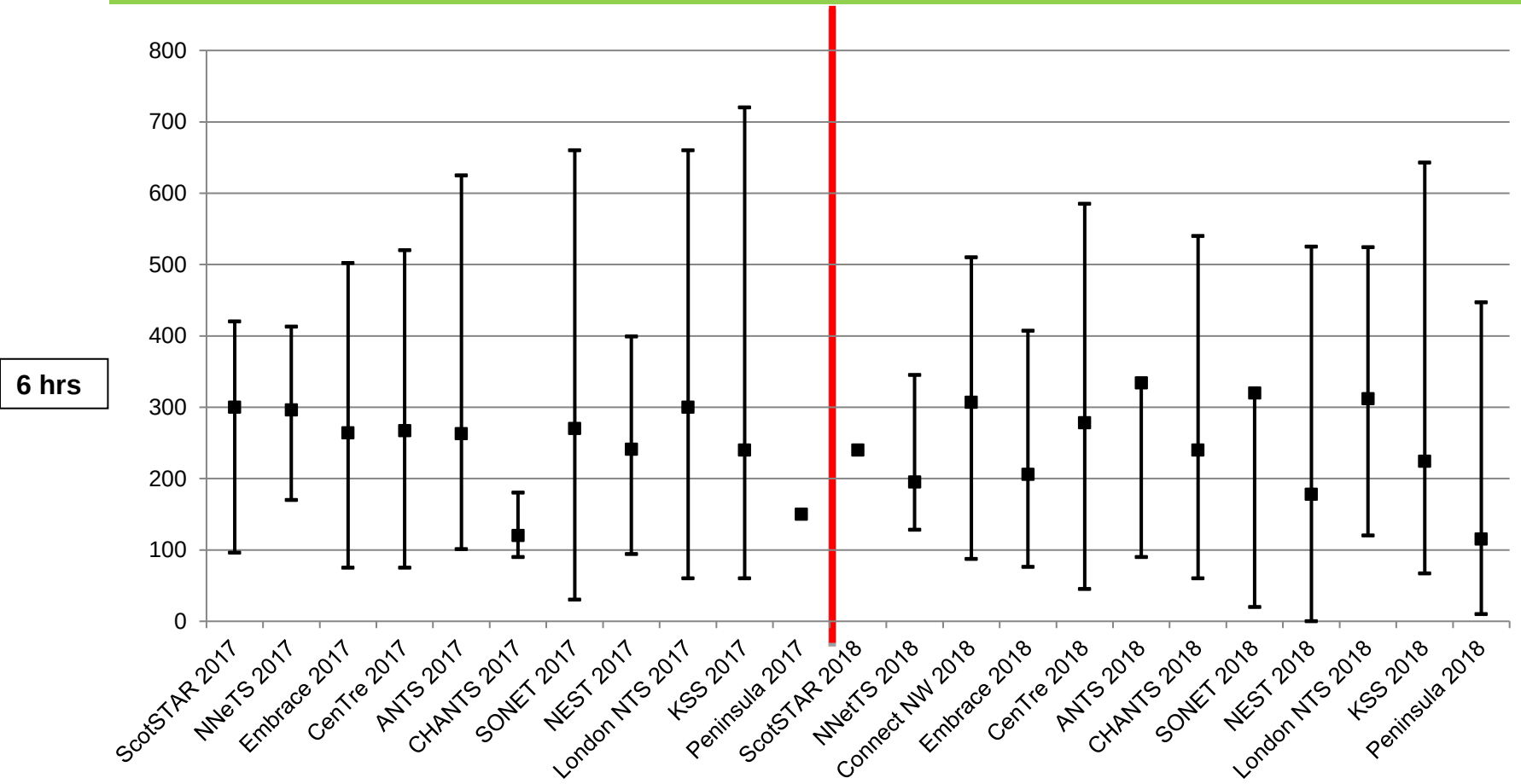


Hypocarbia & hypercarbia

- pCO_2 <4 kPa
- pCO_2 >7 kPa and pH<7.2

…on the gas measurement on completion of transfer of ventilated infants.

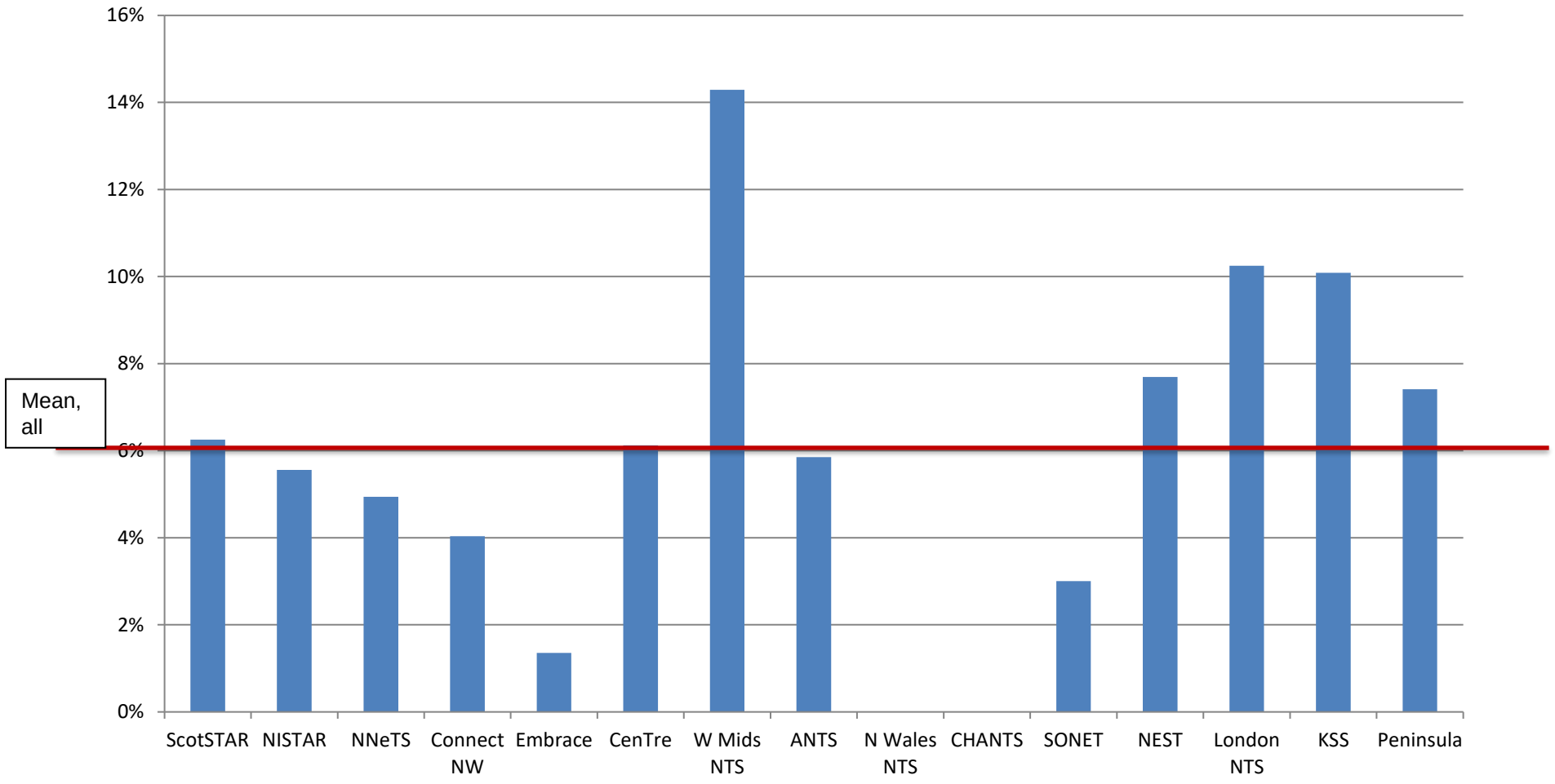
Note that not all infants had pCO_2 available post-transfer.

Hypocarbia & hypercarbia, Jan-Jun/year, infants on a ventilator during journey, all operational reasons.

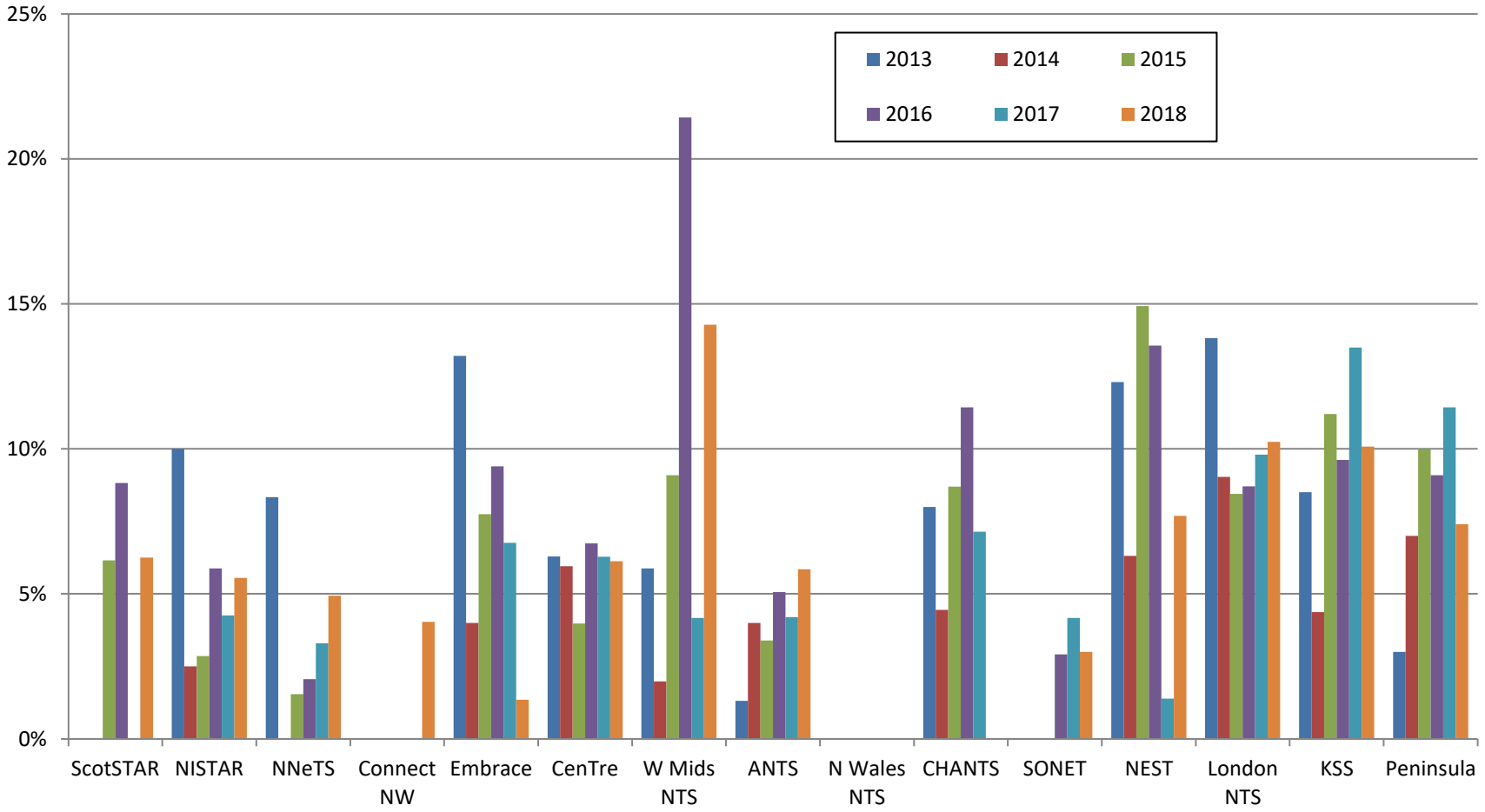
	2013	**2014**	**2015**	**2016**	**2017**	**2018**
Ventilated + gas available n=	1355	1895	1685	1493	1519	1524
pCO_2 <4kPa, n=(%)	118 (9)	106 (5)	122 (7)	107 (7)	100 (6)	94 (6)
pCO2>7kPa & pH<7.2, n=(%)		68 (3)	94 (6)	79 (5)	83 (5)	73 (5)

Infants transferred for cooling	**2014**	**2015**	**2016**	**2017**	**2018**
Cooling, n=	249	274	288	245	255
Cooling & ventilated n= (%)	202 (81)	230 (84)	217 (75)	190 (78)	195 (76)
pCO_2 <4kPa, n=(%)	27 (13)	25 (11)	21 (10)	15 (8)	19 (10)

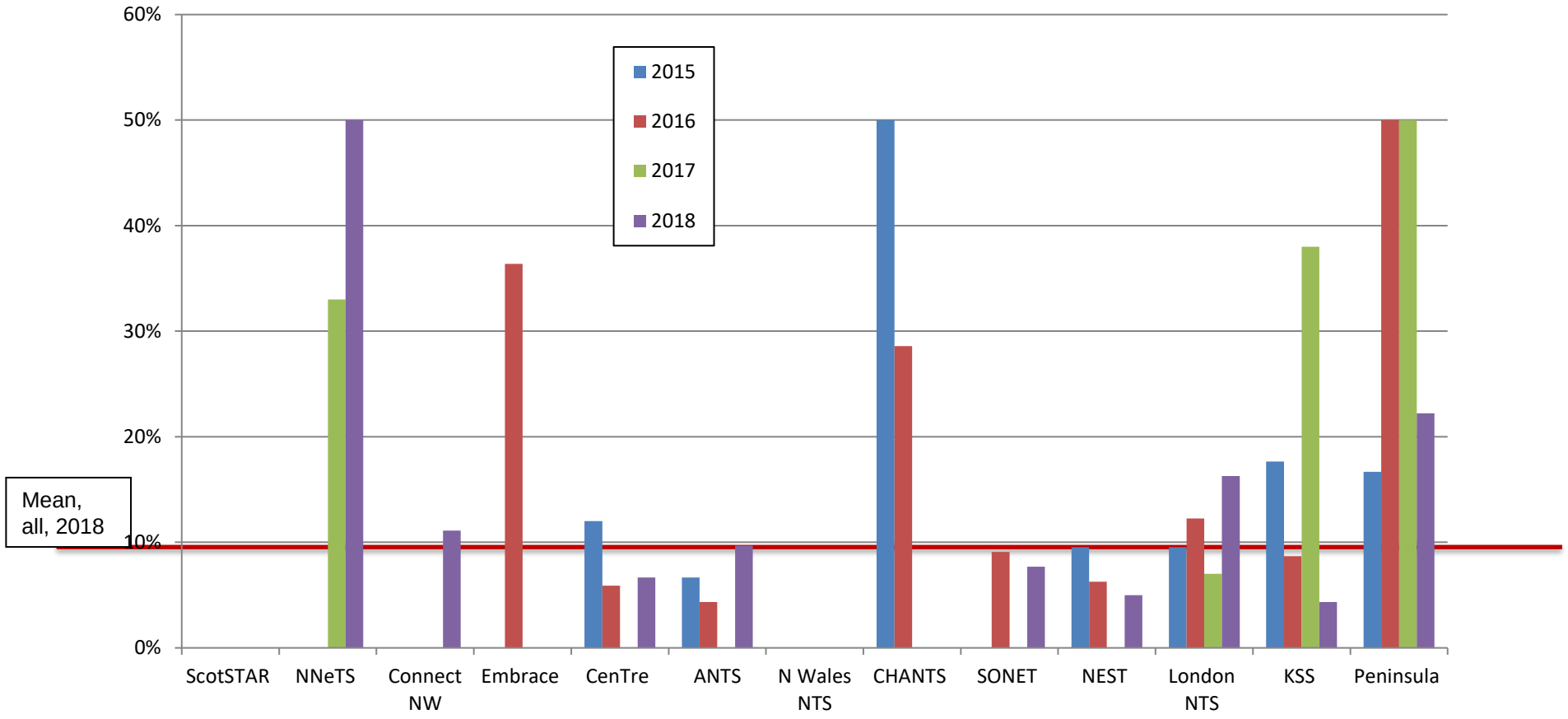
% pCO_2 <4 kPa on completion , per service. Jan – June 2018



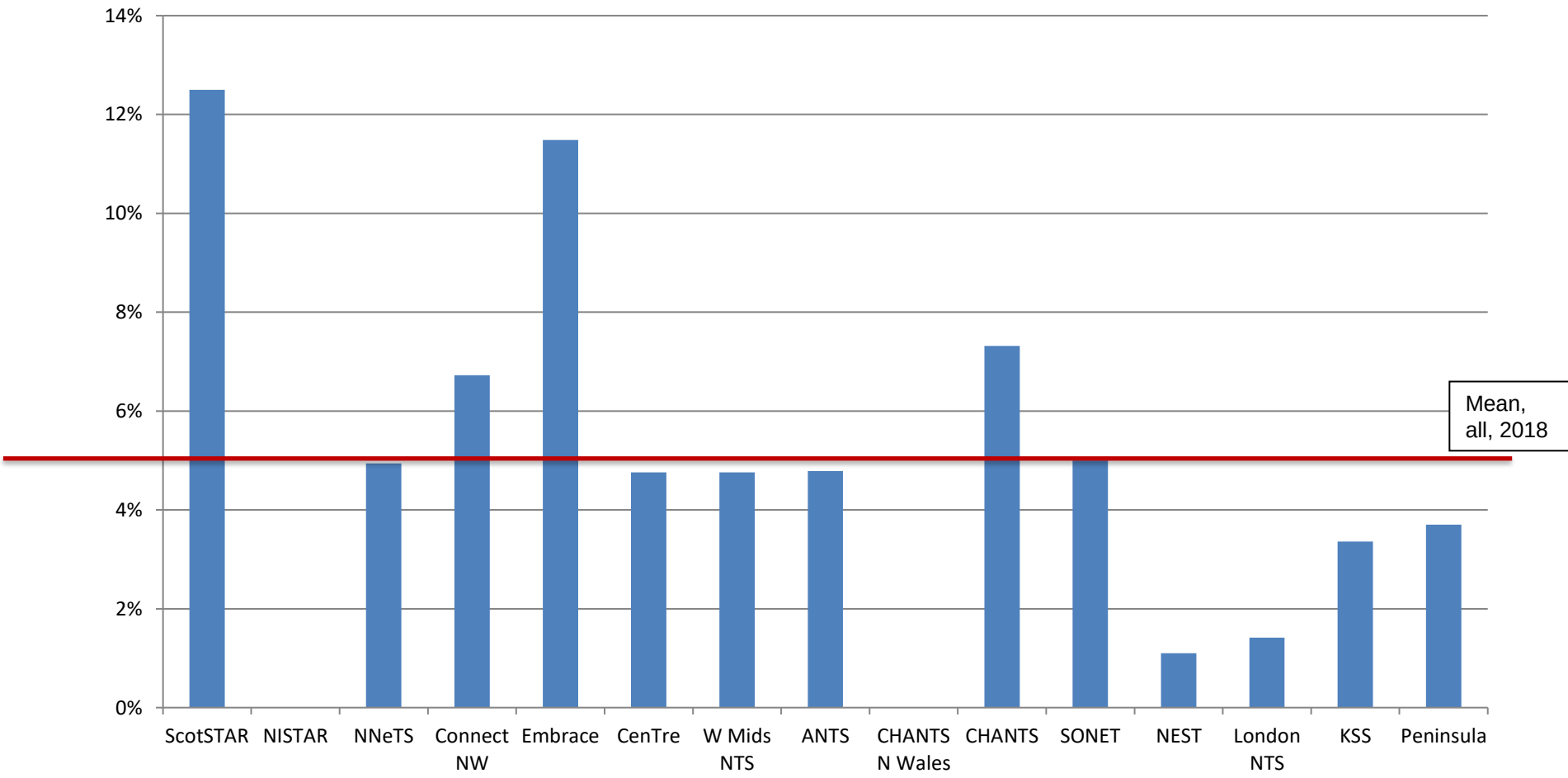
% pCO_2 <4 kPa on completion, per service. Jan – June 2013-18



% pCO_2 <4 kPa on completion, per service.
Jan – June 2015-18, infants on a ventilator during journey (**Cooling transfers**)



% pCO_2 >7kPa & pH<7.2 on completion , per service, Jan – June 2018.



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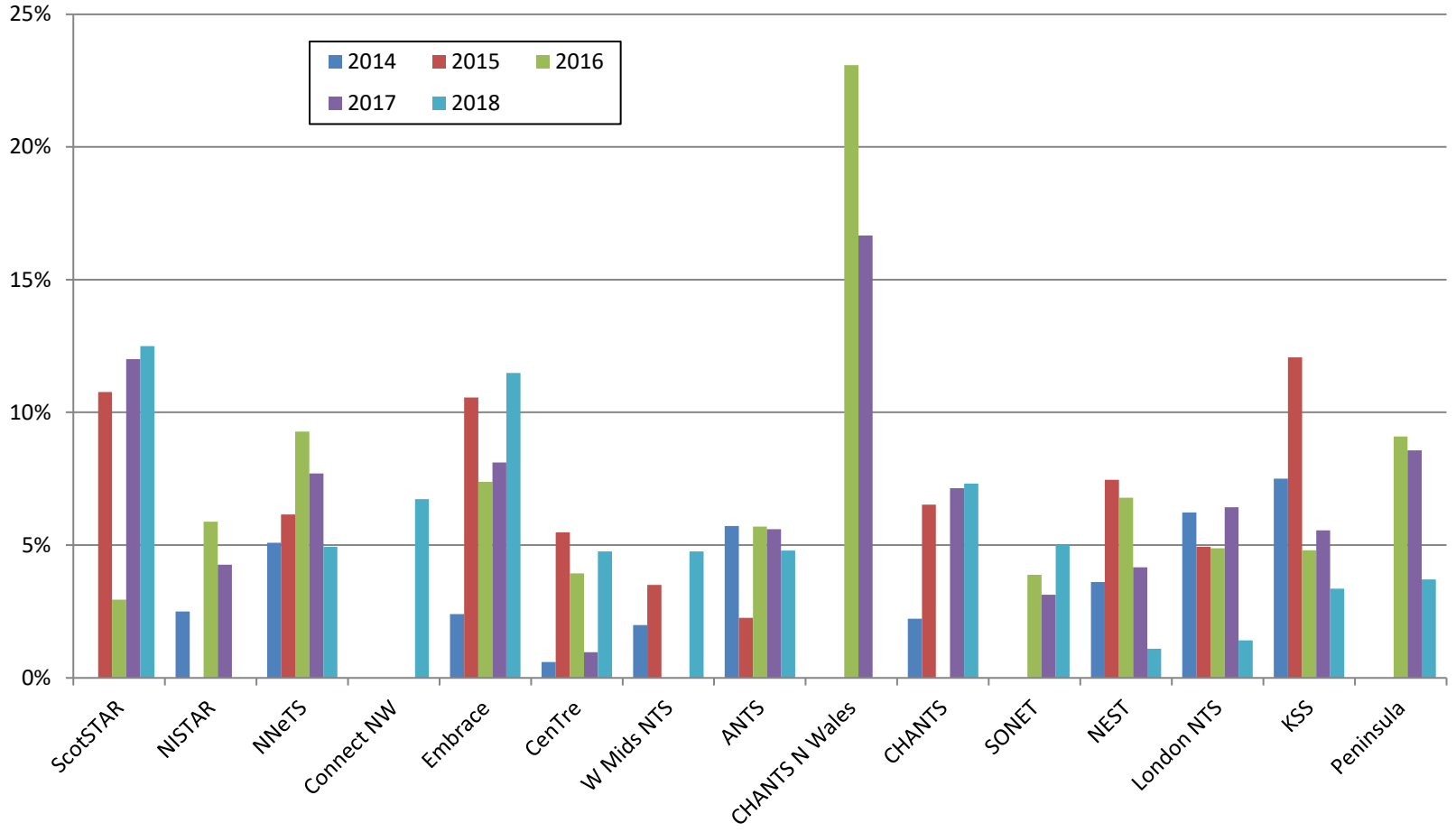
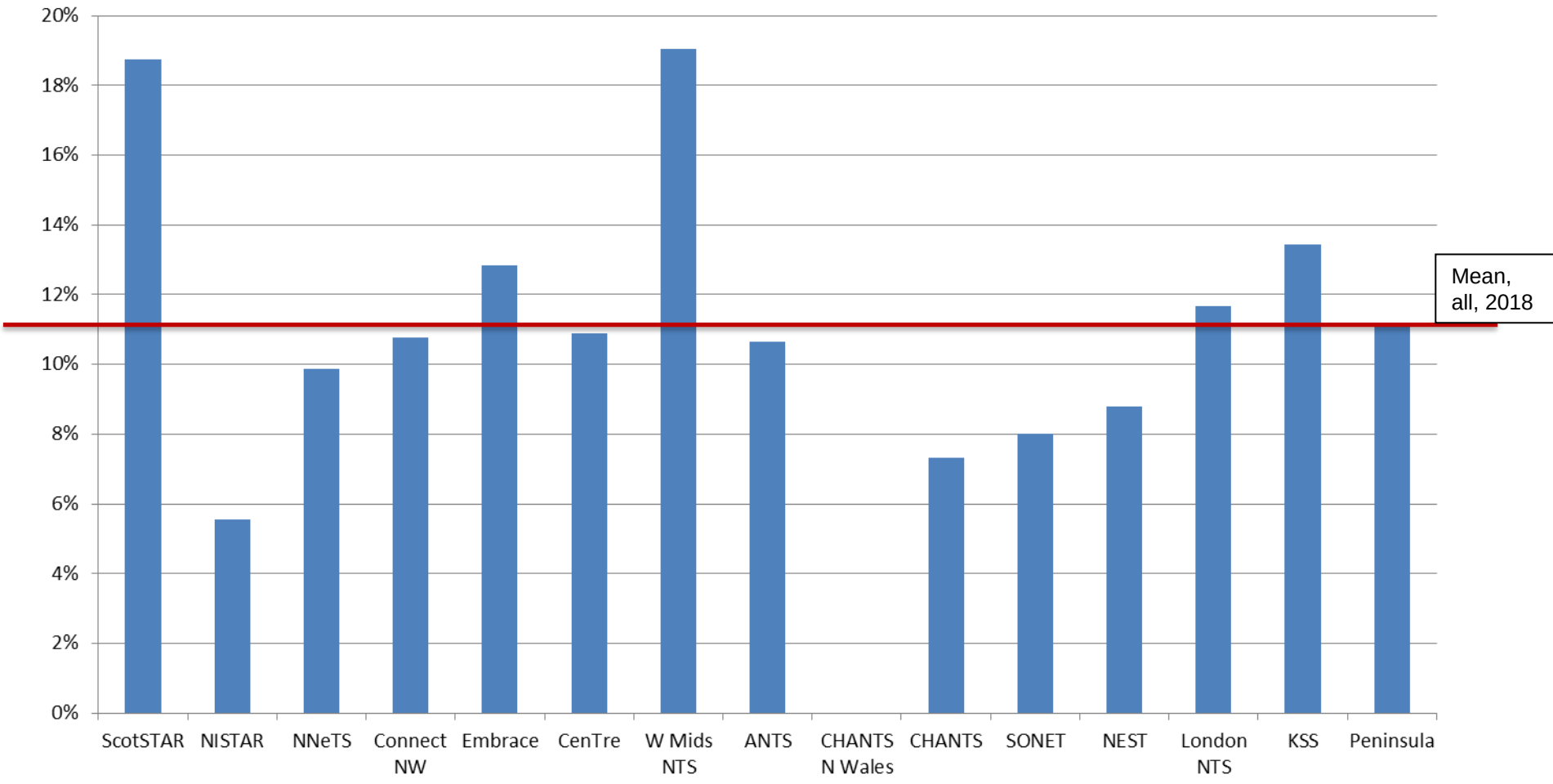
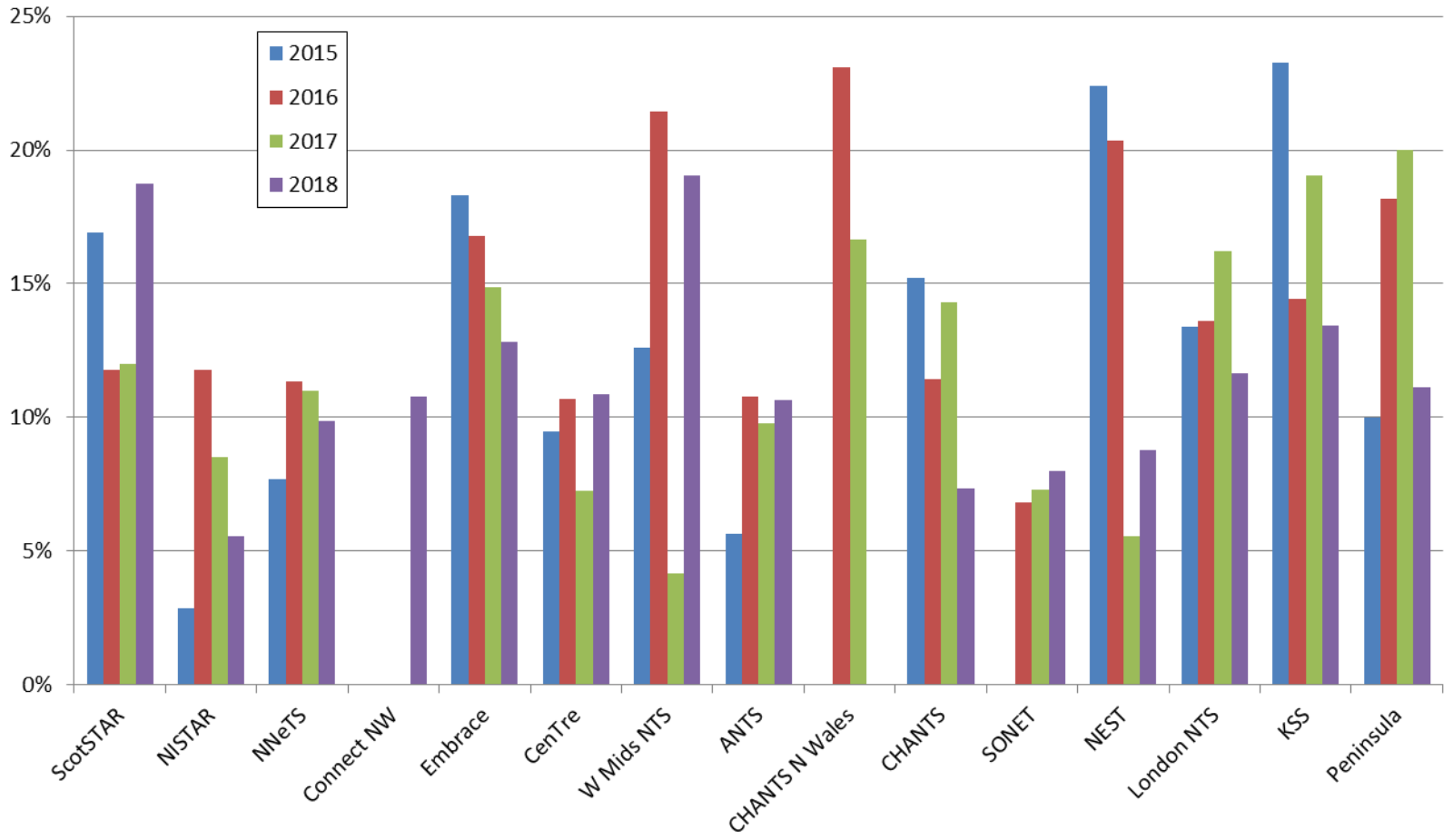


% pCO_2 >7kPa & pH<7.2 and/or pCO_2 <4 kPa on completion , per service, Jan – June 2018.



% pCO_2 >7kPa & pH<7.2 and/or pCO_2 <4 kPa on completion , per service, Jan – June 2015-18.



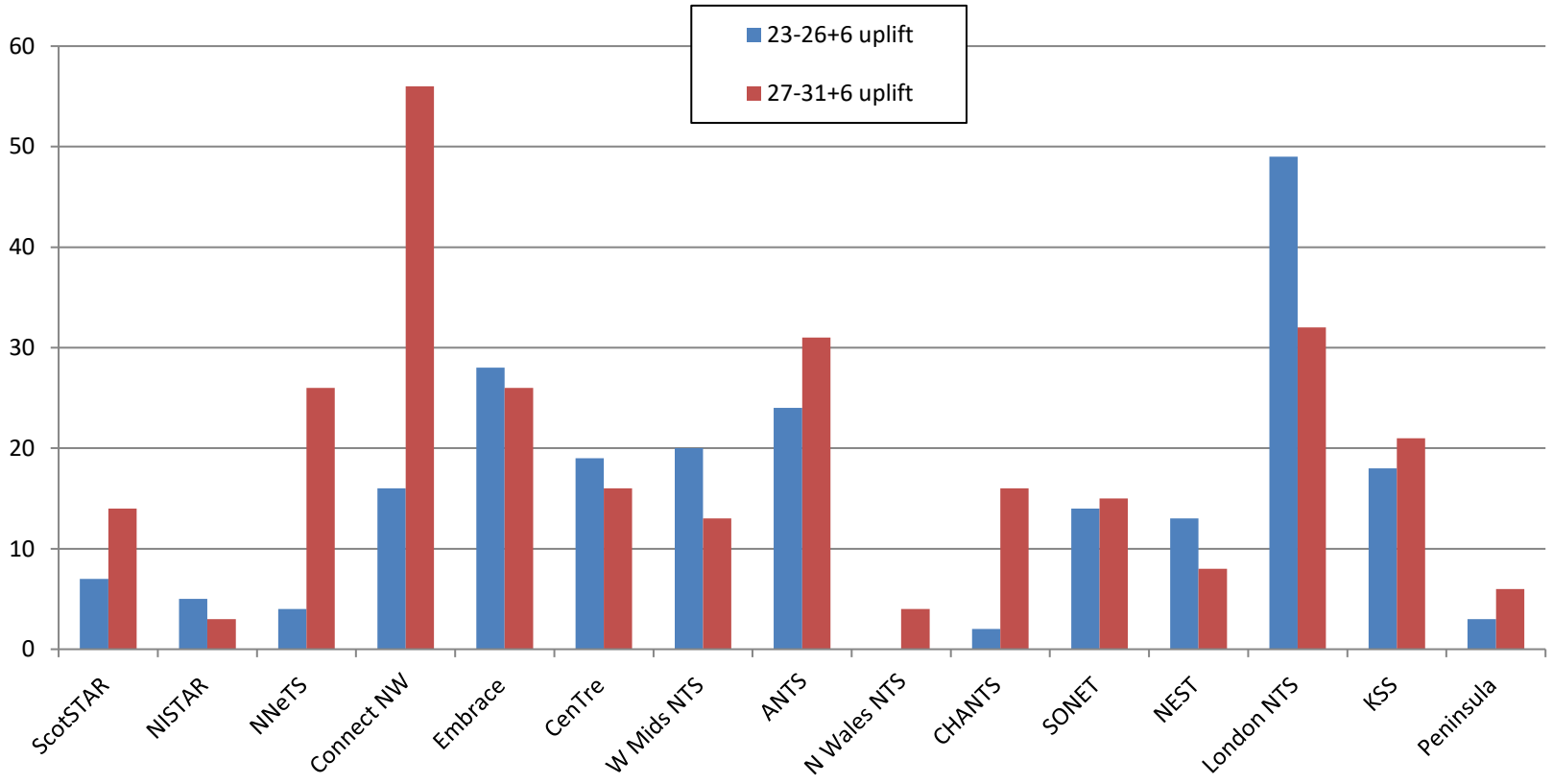
Operational reason for transfer for premature infants transferred on the first 3 days of life.

Gestation at Birth	Uplift					Capacity					Repatriation				
	2014	2015	2016	2017	2018	2014	2015	2016	2017	2018	2014	2015	2016	2017	2018
23^{+0} to 26^{+6}	208	199	209	190	222	9	11	12	10	1	11	2	5	0	5
27^{+0} to 31^{+6}	255	328	309	342	287	97	105	115	80	92	46	49	45	40	30
Total	463	527	518	532	509	106	116	127	90	93	57	51	50	40	35

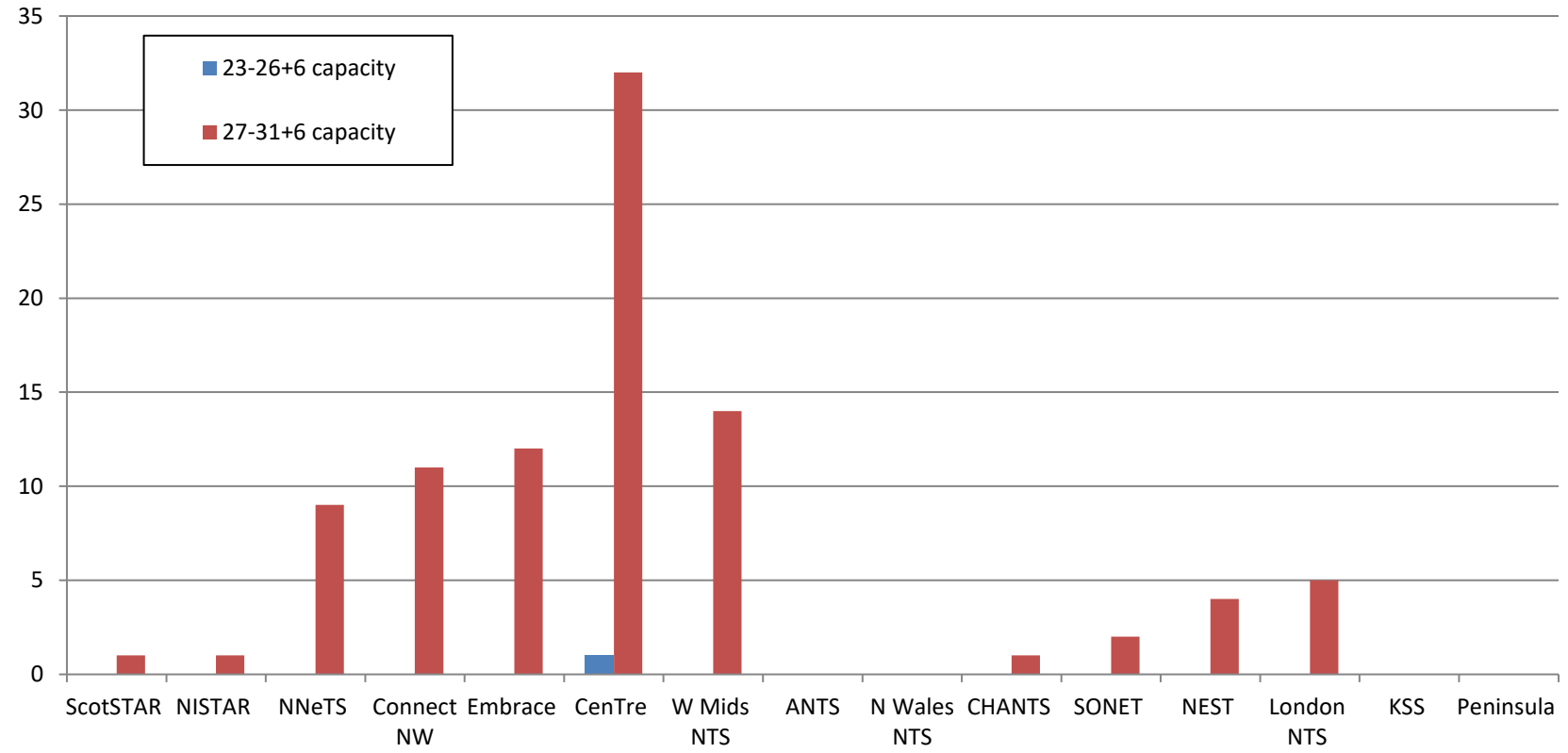
= +9%

* = +20%

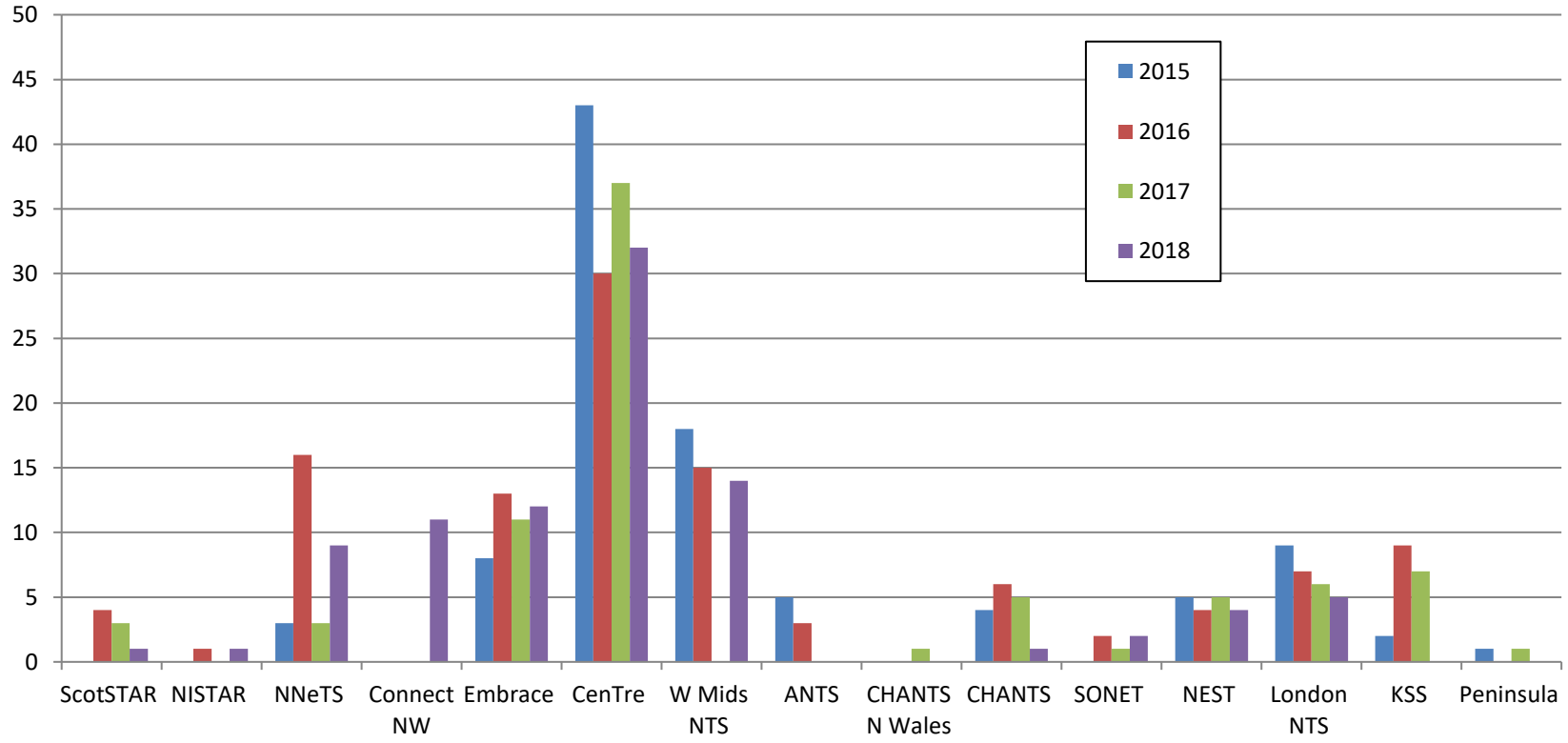
Uplift transfers, 1st 3 days of life, 23-32 week infants, Jan-Jun 2018



Capacity transfers, 1st 3 days of life, 23-31+6 week infants, Jan-Jun 2018

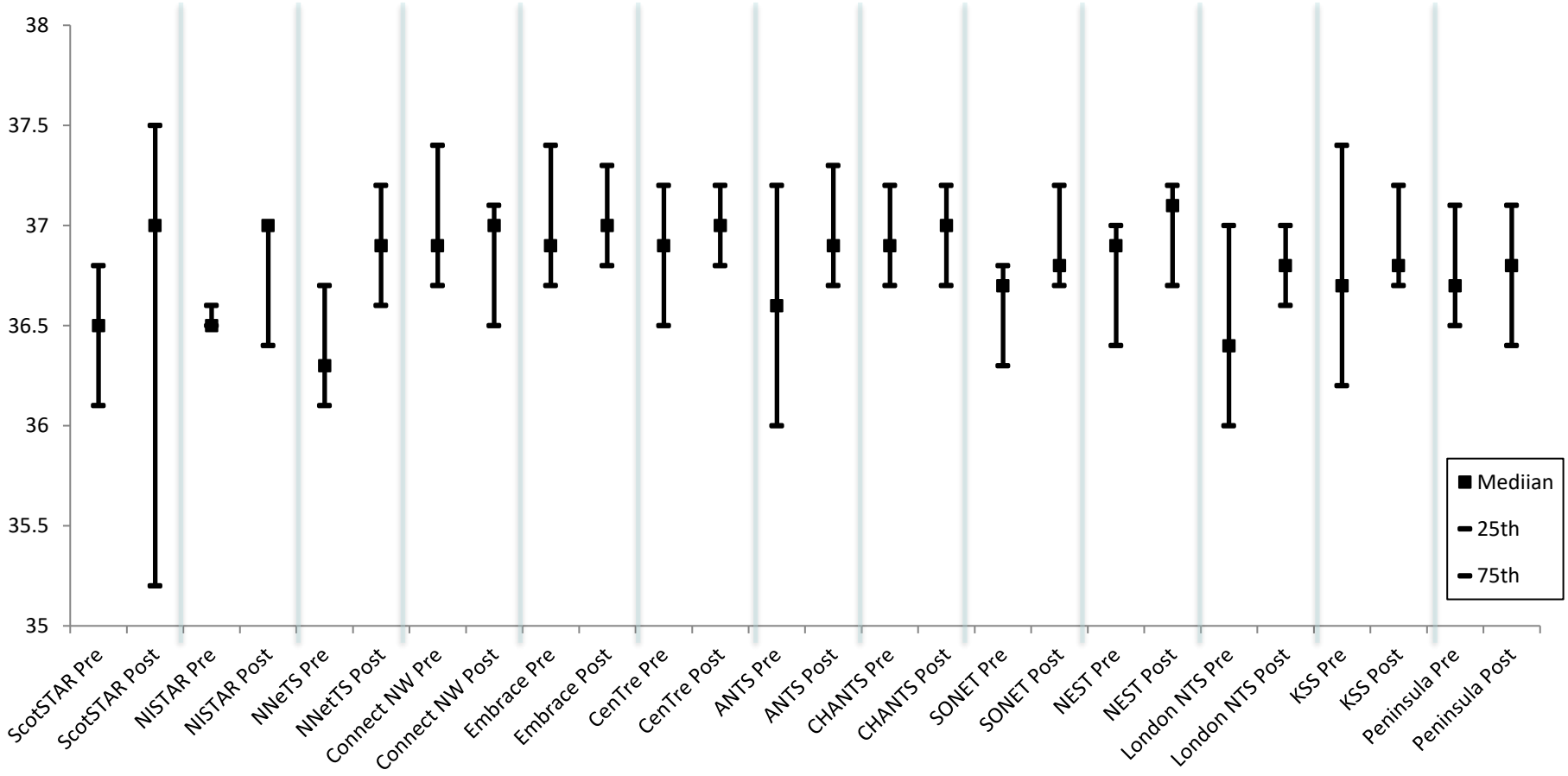


Capacity transfers, 1st 3 days of life, 27-31+6 week infants, Jan-Jun 2015 - 2018



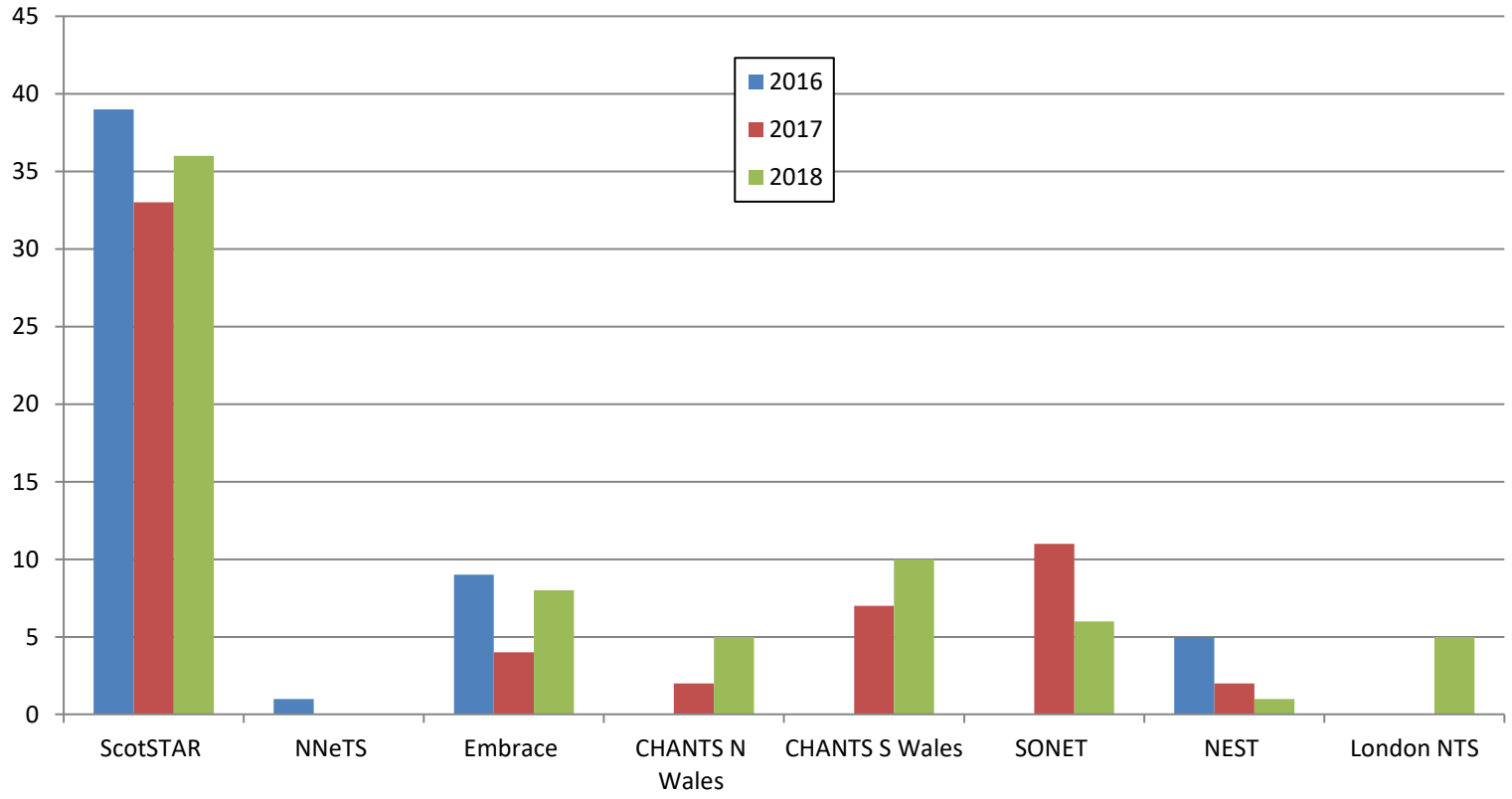
Temperature, 23-26^{+6} weeks,1st 3 days of life, uplift, Jan-Jun 2018.

Temp at first assessment (pre) & on completion of transfer(post).

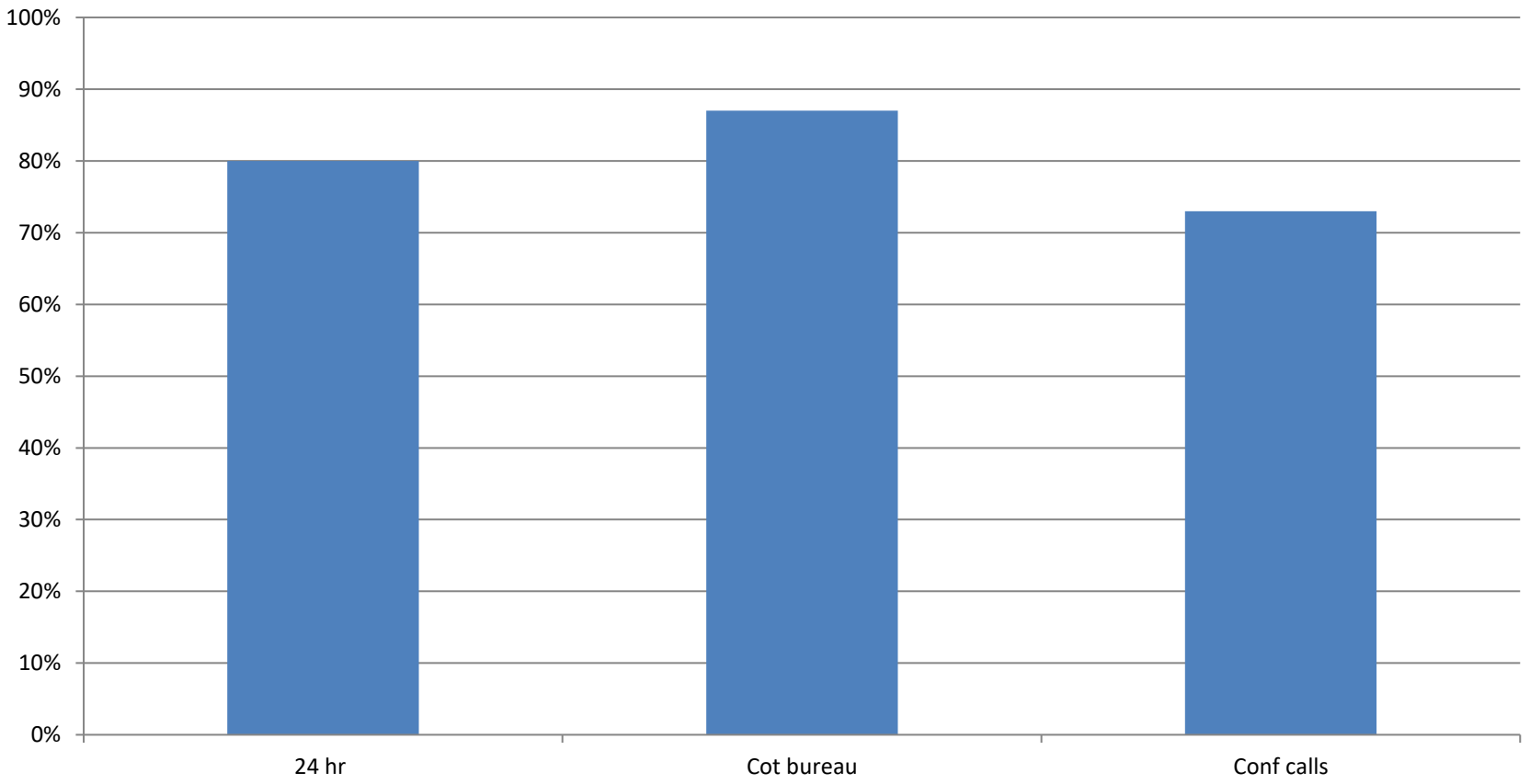


Air Transport, Jan – Jun 2016 - 18

Jan-Jun 2016 - 54 transfers undertaken by 4 services.
Jan-Jun 2017 - 59 transfers undertaken by 6 services.
Jan-Jun 2018 - 71 transfers undertaken by 7 services.



Service Characteristics 2018



Do you have a service policy to treat as time-critical transfers infants referred with bile-stained vomiting/aspirates?

	Yes	No
2015	9	10
2016	6	11
2017	8	10
2018	7	8

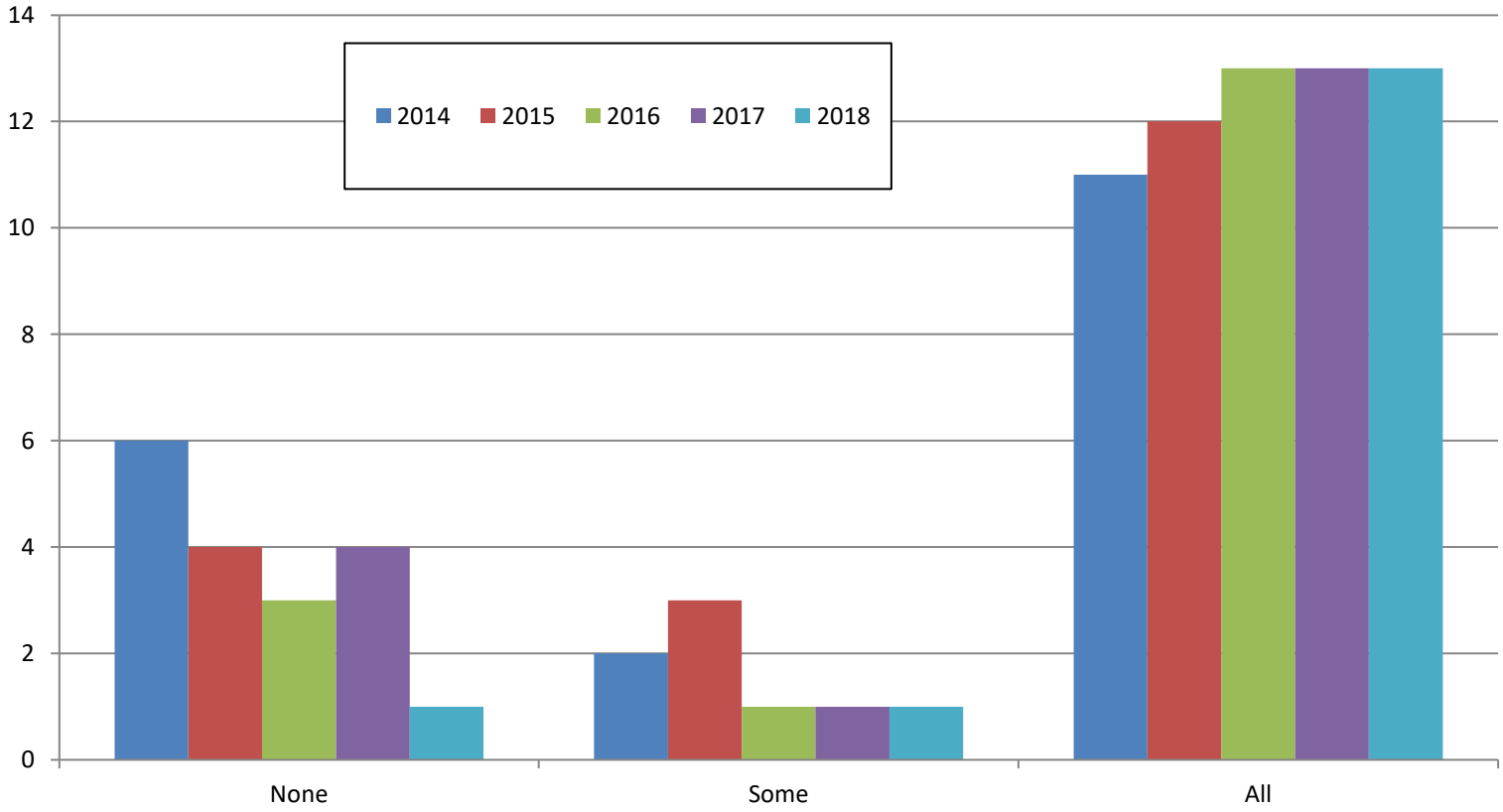
IUT

Do you offer support for locating appropriate maternal and neonatal beds for in-utero transfers?

Yes: 11 (13)

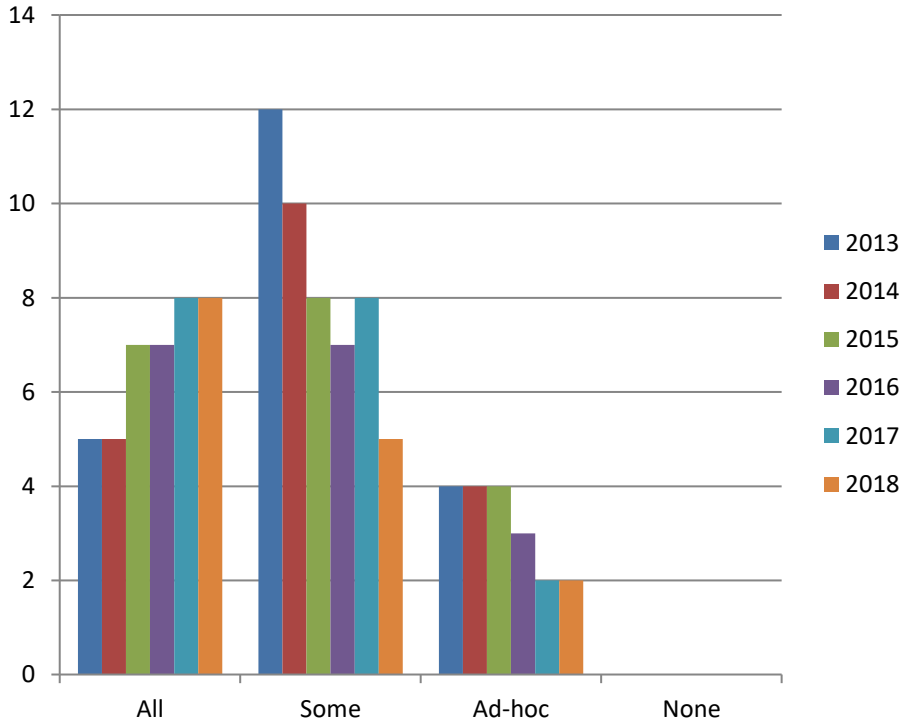
No: 4 (5)

Dedicated vehicles, 2014-2018.



Consultants

- Consultant availability **to attend transfers:**
  - Scheduled, all of the time.
  - Scheduled, some of the time
  - Maybe available, ad-hoc.
  - Never available to attend.



Vacancies survey

- One-off data snapshot
- Completed for service staffing at the time of NTG data survey completion (July/Aug 2018)
- Asked for number & % rota gaps for:
  - Transport Nurses
  - ANNPs
  - Middle grade doctors/fellows
  - Consultants
  - Ambulance crew

Vacancies survey

- Three services sent no data.

Vacancies survey

	Transport nurse (n=12)	Middle-grade doctor (n=10)	Consultant (n=11)	ANNP (n=9)	Ambulance (n=8)
n = median (range)	0.17 (0 – 1.8)	0 (0 – 1.75)	0 (0 - 1.4)	0.87 (0 – 2)	0 (0 – 2)
% median (range)	6 (0 – 33)	0 (0 – 22)	0 (0 – 48)	16 (0 – 33)	0 (0 – 20)

Conclusions/trends 2018

- Number of transfers trending down.
- Number of services down.
- HFO, high-flow & iNO all up.
- Palliative numbers unchanged.
- Time critical numbers down.
- Stabilising times are very variable.
- Cooling remains challenging (and we can’t solve it alone).
- Hypo/hypercarbia are getting better – what next?