




Transfers of babies with NEC

Dr Andrew Leslie

Nurse Consultant, CentTre Neonatal Transport

University Hospitals of Leicester 
NHS Trust

Caring at its best

University Hospitals 
Coventry and Warwickshire
NHS Trust

Nottingham University Hospitals 
NHS Trust

CenTre Neonatal Transport

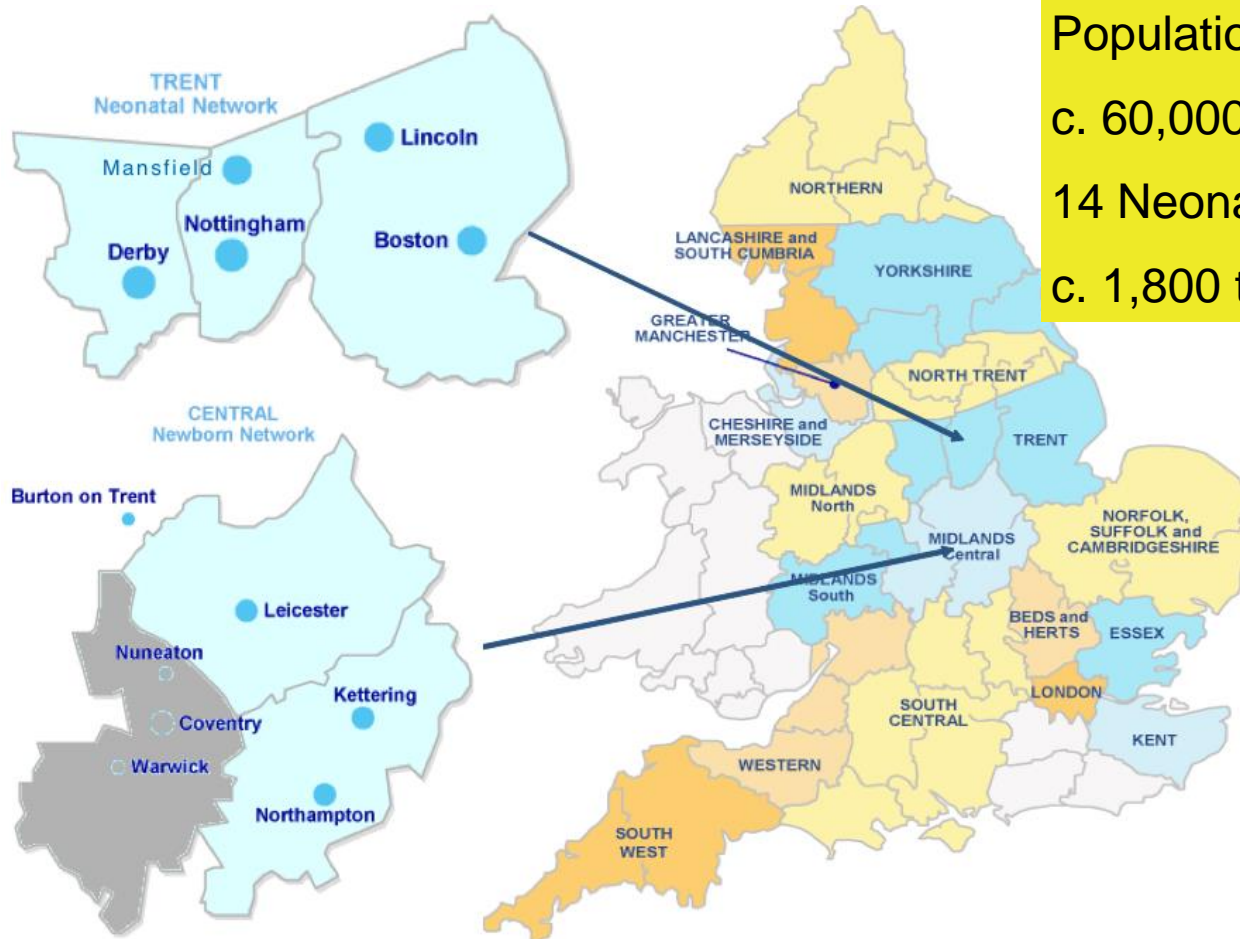
Area: 7,600 sq. miles

Population: 5.2×10^6 people

c. 60,000 births

14 Neonatal Units

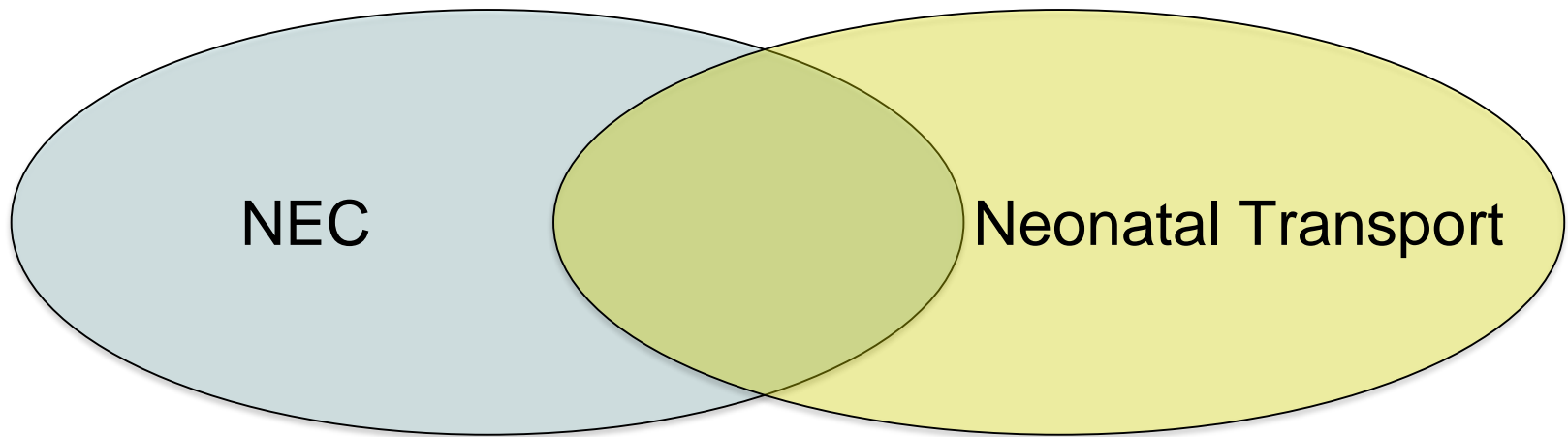
c. 1,800 transfers p.a.



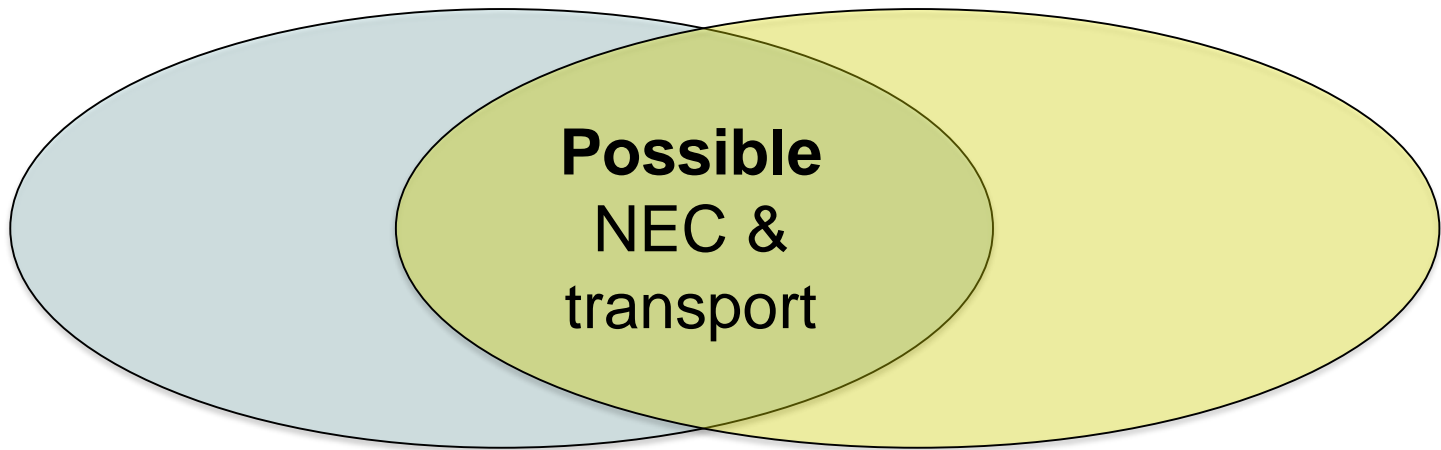
What's coming...

- Background to neonatal transport
 - What we do.
 - How transport works.
 - NEC in context.
- National UK transport capabilities.
- Centre NEC transport data.

Our shared interests...

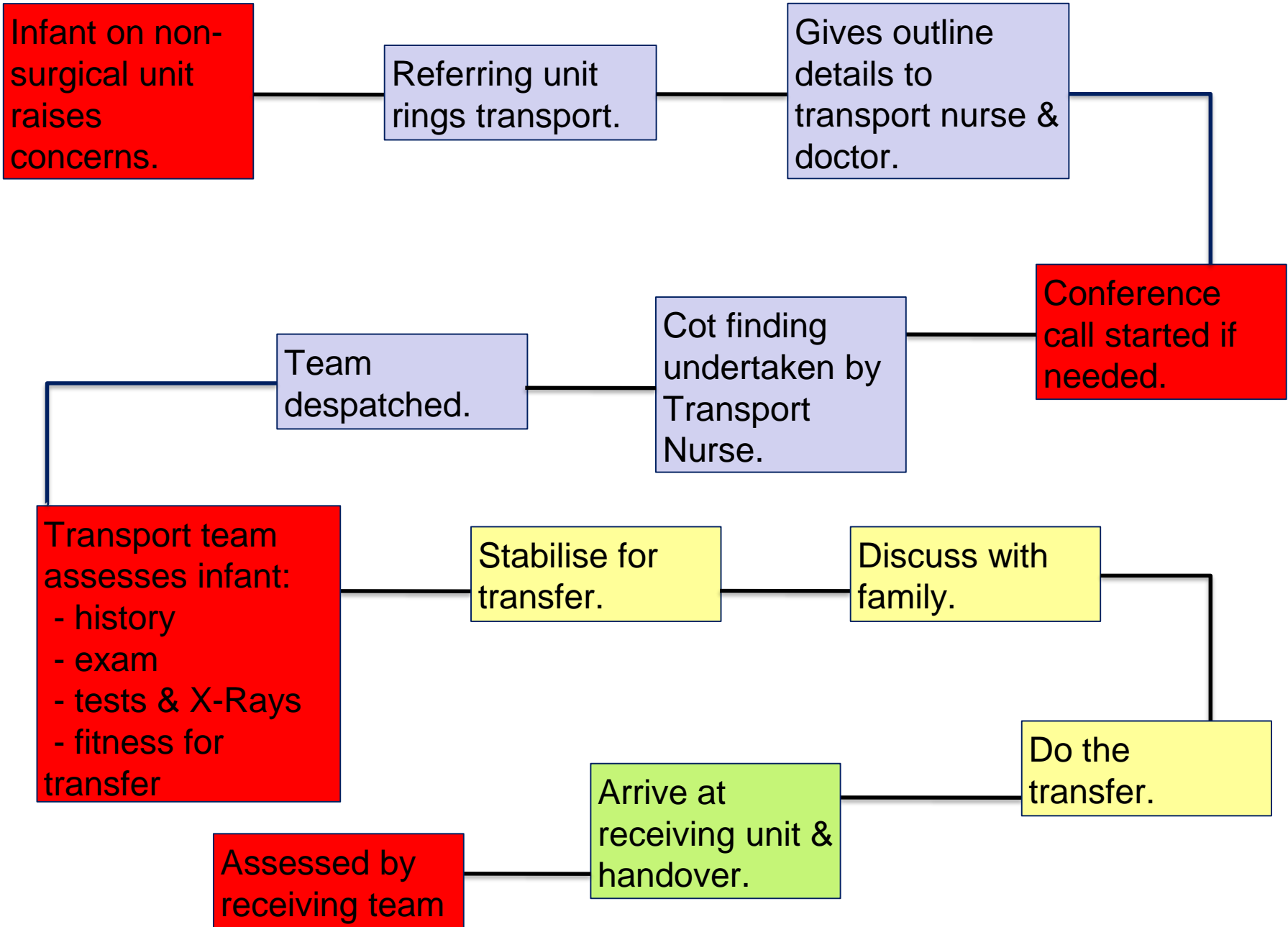


Our shared interests...

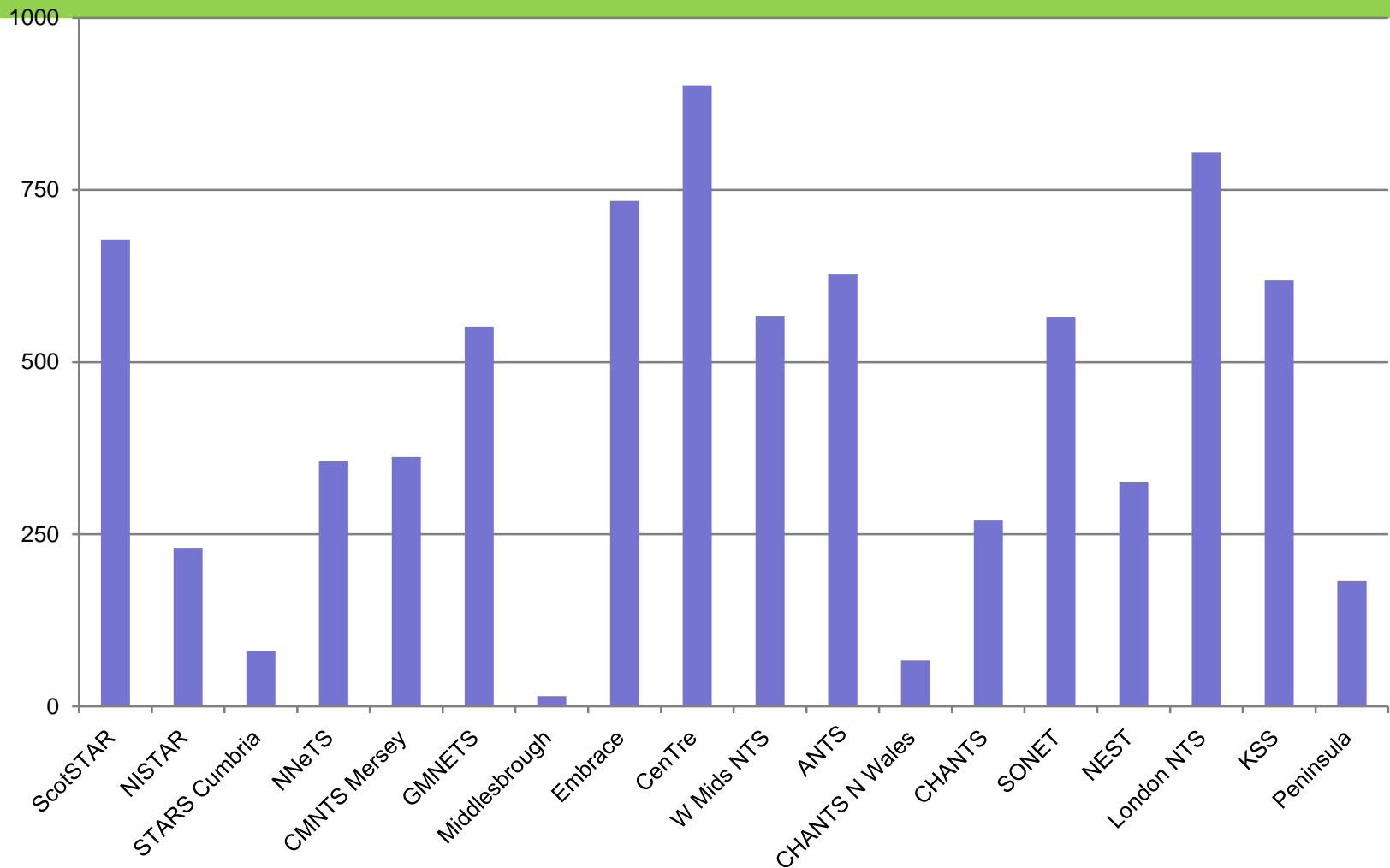


UK transport model

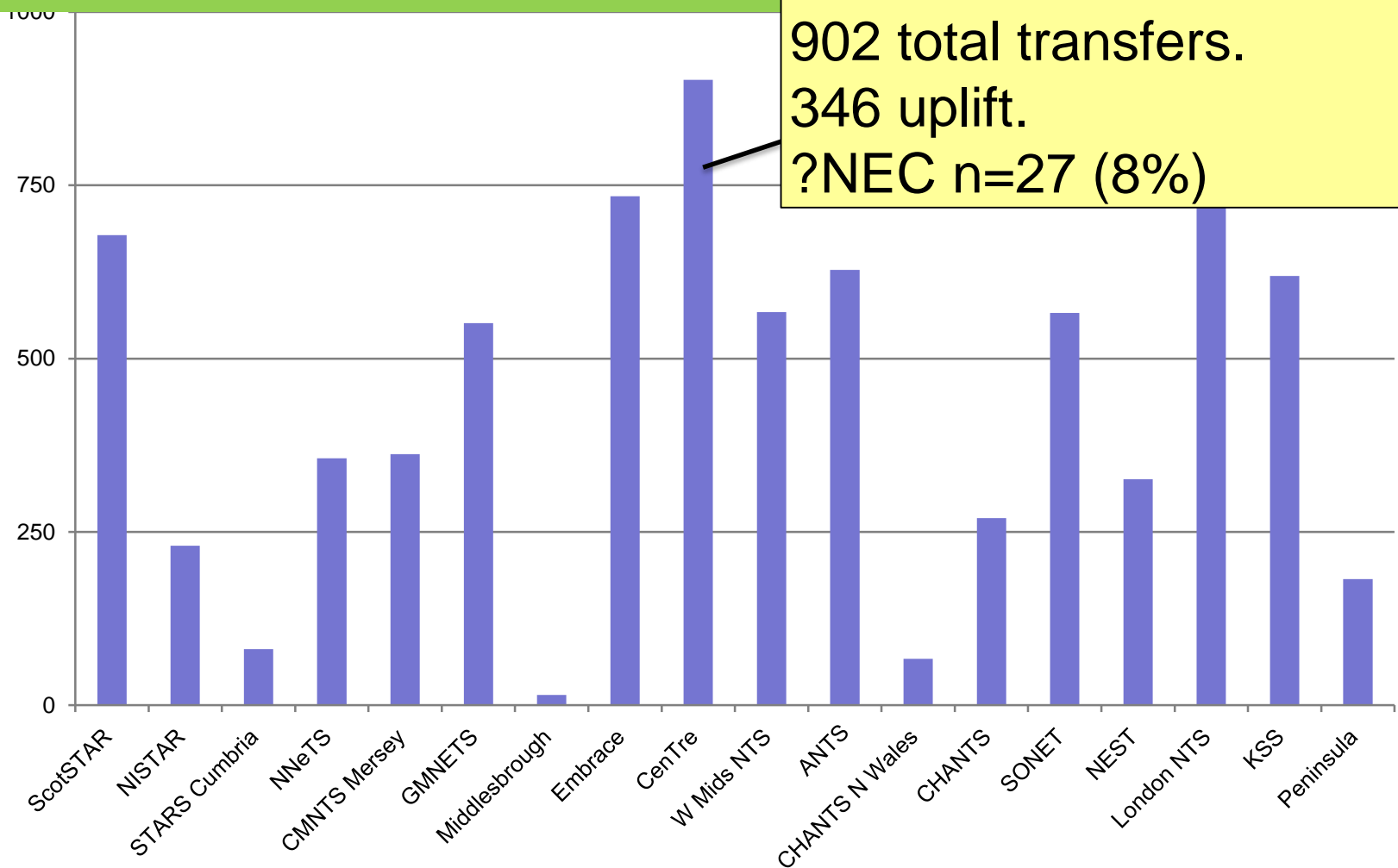
- Hub & spoke model
- Care provided in level 1, level 2 & level 3 medical neonatal units.
- Transfers taken to...
 - Neonatal ICUs with surgical beds
 - Neonatal/paediatric surgical units
 - (Neonatal medical ICU)



NEC in context: Total Transfers/team, Jan – June 2017



NEC in context: Total Transfers/team, Jan – June 2017



Infants transferred with possible NEC. Aarti Mistry, Dush Batra, Craig Smith, Andrew Leslie, CenTre Neonatal Transport.

- 12 months evaluation – 1.4.16 – 31.3.17
- CenTre Transport database interrogated for transfers where NEC was mentioned in the reason for transfer and/or differential diagnoses (n=57).
- Badger summary for each infant reviewed for final diagnosis (n=55).
- Other details taken from transfer record.

Infants transferred with possible NEC. Aarti Mistry, Dush Batra, Craig Smith, Andrew Leslie, CenTre Neonatal Transport.

	All (n=57)	NEC confirmed at any stage (n= 31)	NEC never confirmed (n=24)
Gestation at birth (weeks) median (range)	28 (23 – 40)	28 (23 – 35)	29 (24 - 40)
Birth weight (g) median (range)	1100 (535 – 4110)	1025 (535 – 2780)	1549 (540 - 4110)
Day of life at referral	19 (1 – 81)	25 (1 – 81)	9 (1 - 72)

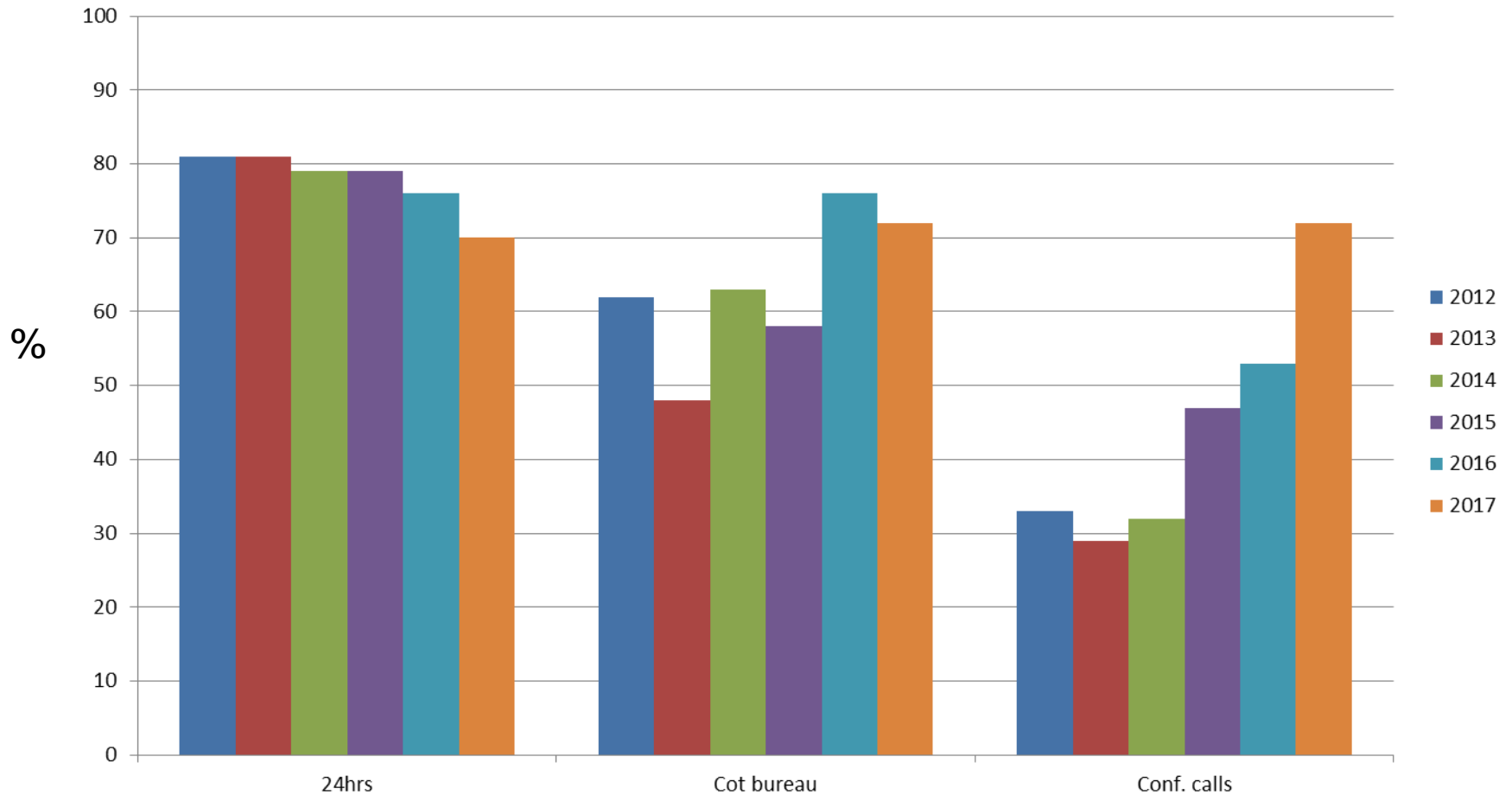
What do infants with possible NEC need from transport?

- Dedicated transport staff
- Timely response
- Pre-transfer discussion and triage
- Consultant-led.
- Dedicated vehicles

Timely response

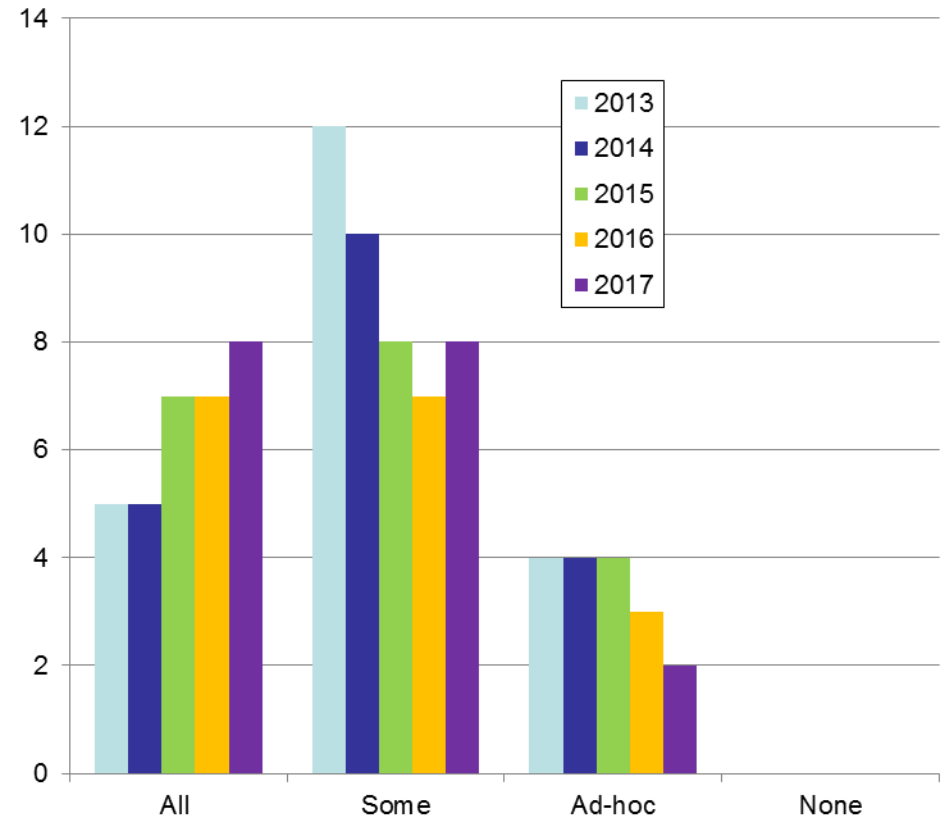
	NEC confirmed at any stage (n= 31)	NEC never confirmed (n=24)
Despatch time (mins) median & IQR	70 (35 - 182.5)	122 (42.5 - 314.5)
Despatch time for time critical transfers (mins) median & IQR	36 (28 - 45)	30 (n=1)
Response time (mins) median & IQR	125 (85 - 235)	165 (105 - 345)
Stabilising time (mins) median & IQR	109 (60 - 130)	95 (56.5 - 159)
Total mission time (mins) median & IQR	265 (155 - 282)	302 (212.5 - 375)

Pre-transfer discussion & triage

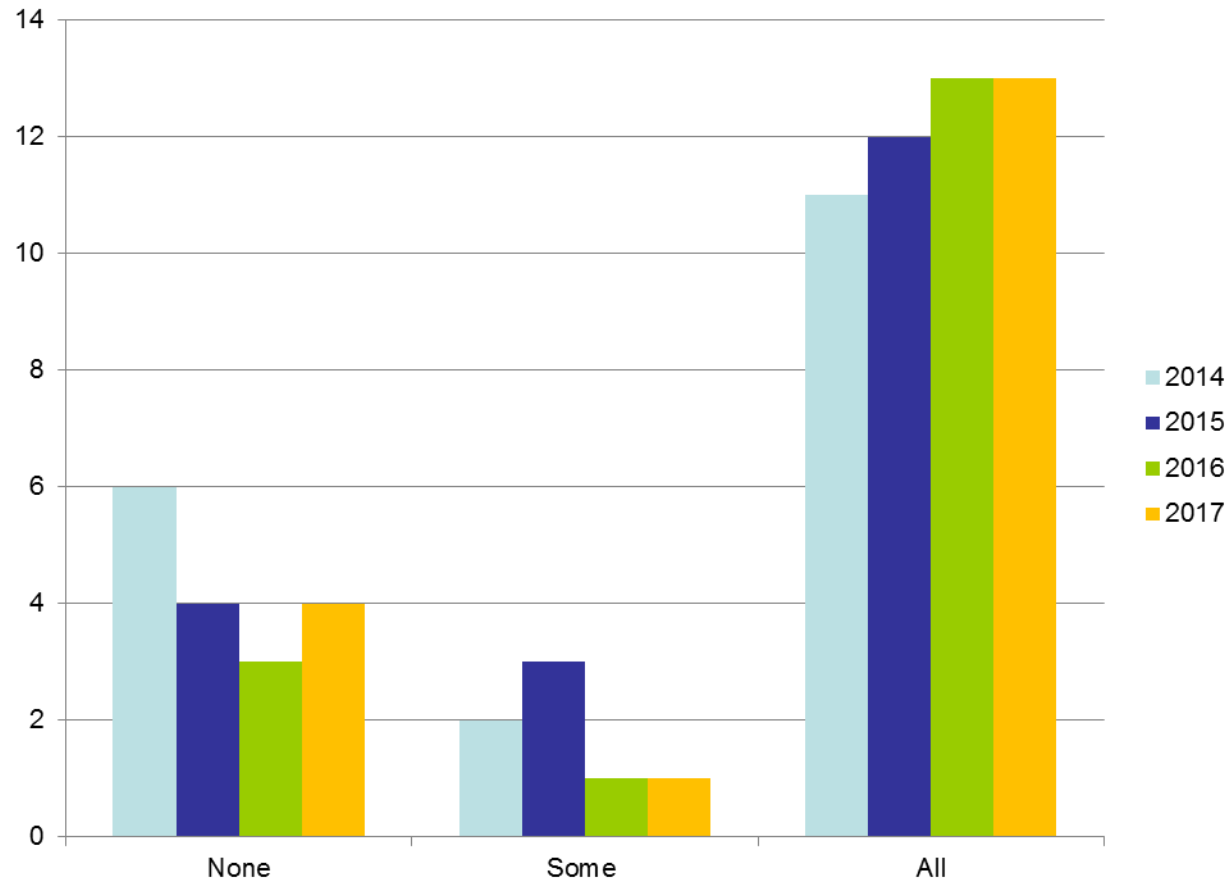


Consultants

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



Dedicated vehicles, 2014-2017.



Medical & Surgical care

	NEC CONFIRMED N=31	NEC NEVER CONFIRMED n=24
Surgical management (n=)	16	2
Medical management (n=)	15	22 *
Surgical interventions	Incl. Laparotomy, Ileostomy, resection, anastomosis	Meconium ileus x 1; Ileal perforation x 1
Diagnoses		Incl. malrotation, mec ileus x 2, Hirschsprungs.
Death	2 deaths 24-48hr post transfer	0

*Medical management : involved lower GI contrasts, rectal washouts, Intravenous antibiotics for 48hrs.

NEC infants (n=16)	
Timing of surgery after transfer	<24h: 12 24-48h: 3 >48h: 1 (5 days)

Length of stay after transfer

	NEC CONFIRMED	NEC NEVER CONFIRMED
Length of hospital stay (days) From transfer to return to local unit, mean (range):	28.7 (3 - 39)	12.6 (1 - 72)
From transfer to discharge home, mean (range):	48 (4 - 134)	42.2 (1 - 127)

Conclusions

- Transfer for possible NEC is a small part of the work of NIC transport.
- Infants are triaged by transport teams & a faster response is delivered to those assessed to need this.
- c.40% of referrals do not have NEC, but c.25% of these have other important diagnoses.
- All transfers received surgical assessment.

What haven't I covered...

- Other models of transport and care.
 - Greater role for telemedicine?
 - Consultant-delivered transport?
- Infant comfort.
- Family care.