Implementing Physiological CTG to RJMH & Northern Ireland

March 2020

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Why Physiological CTG

- Each baby counts (Nov 2018)
  - 1123 babies
  - 2/3 cases may have been preventable
  - 60% of those with suboptimal care had issues surrounding CTG

- NHS Resolution – 5 years of cerebral palsy claims (2017)
  - Obstetrics accounts for 50% of total value of NHS claims (2016/7)
  - Avoidable CP claims have remained static over the past 10 years
  - Errors with fetal heart rate monitoring was the most common theme

Saving Babies Lives March 2019

- Care bundle formulated to reduce perinatal mortality, endorsed by RCOG and RCM
- Effective fetal monitoring during labour – 1 of 5 key elements
- Assess risk at the onset of labour
- Teaching about *fetal physiological responses* to hypoxaemia
- Inclusion of Human factors training

Physiological CTG interpretation – what is different ?

- You assess your baby *at the start* of labour
  - Gestation specific baseline
  - Presence of cycling
  - Consider wider clinical picture

- *During labour* you ask yourself- is the baby doing ok?
  - Normal physiological response to stress
  - Baroreceptor / Chemoreceptor mediated decelerations
  - Compensated response
  - Decompensated response

Why we started……..

Intrapartum CTG Evaluation (reference: NICE Intrapartum CG 190 Feb 2017)			
Reason for CTG:		Other risk factors:	
Gestation:	Liquor colour:	Contractions :10	Maternal pulse:
Feature	**Reassuring**	**Non-reassuring**	**Abnormal**
Baseline rate (bpm)	110-160bpm Rate:	100-109* bpm for > 10 minutes Rate: 161 bpm – 180 bpm Rate: Rise in baseline rate noted (>20bpm above original Baseline Rate)	< 100 bpm Rate: > 180 bpm Rate:
*Although a baseline fetal heart rate between 100 and 109 bpm is a non-reassuring feature, continue usual care if there is normal baseline variability and no variable or late decelerations			
Variability (bpm)	5bpm -25bpm	< 5 bpm for 30 - 50 minutes > 25 bpm for 15 - 25 minutes Sinusoidal pattern lasting for < 30 minutes	< 5 bpm for > 50 minutes > 25 bpm for > 25 minutes Sinusoidal pattern lasting for ≥ 30 minutes Absent variability < 2bpm >20 minutes
Decelerations **Concerning characteristics of variable decelerations:** • **lasting more than 60 seconds;** • **reduced baseline variability within the deceleration;** • **failure to return to baseline;** • **biphasic (W) shape;** • **no shouldering**	None Early decelerations Variable decelerations with any concerning features <50% of contractions for < 30mins	Variable decelerations with no concerning characteristics** for ≥ 90 minutes or Variable decelerations with any concerning characteristics** in up to 50% of contractions for ≥ 30 minutes or Variable decelerations with any concerning characteristics** in over 50% of contractions for < 30 minutes	Variable decelerations with any concerning characteristics** in over 50% of contractions for ≥ 30 minutes (or less if any maternal or fetal clinical risk factors)
	Variable decelerations with no concerning characteristics** for < 90 minutes	Late decelerations with more than 50% of contractions for < 30 minutes, with no maternal or fetal clinical risk factors or Single prolonged deceleration for < 3 minutes	Late decelerations with more than 50% of contractions for ≥ 30 minutes (or less if any maternal or fetal clinical risk factors) or Single prolonged deceleration for ≥ 3 minutes
Opinion (Inform labour ward co-ordinator if overall opinion is suspicious or pathological)	**Normal CTG** *(All features (3) are reassuring)*	**Suspicious CTG** *(1 non-reassuring feature)* Commence conservative measures **Low probability of hypoxia**	**Pathological CTG** *(1 abnormal feature or 2 non-reassuring features)* Urgent action required **High probability of hypoxia**
Action taken: (Always consider medical/clinical & obstetric circumstances when interpreting CTG and determining action)			
Date:	Time:	Signature:	Status:

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Where we started

Ospidéil OL
UL Hospitals
Working together, caring for you

Building a Better Health Service
CARE COMPASSION TRUST LEARNING

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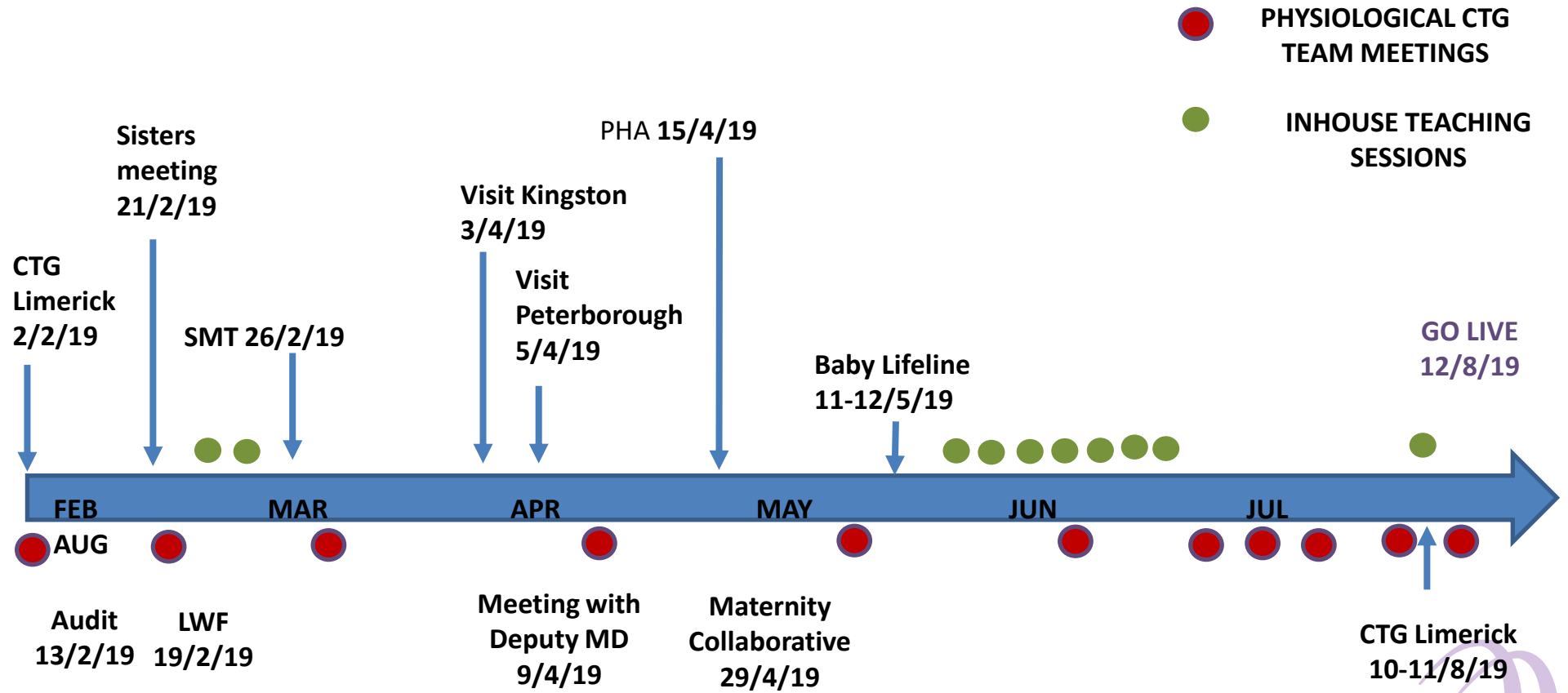
OUR JOURNEY



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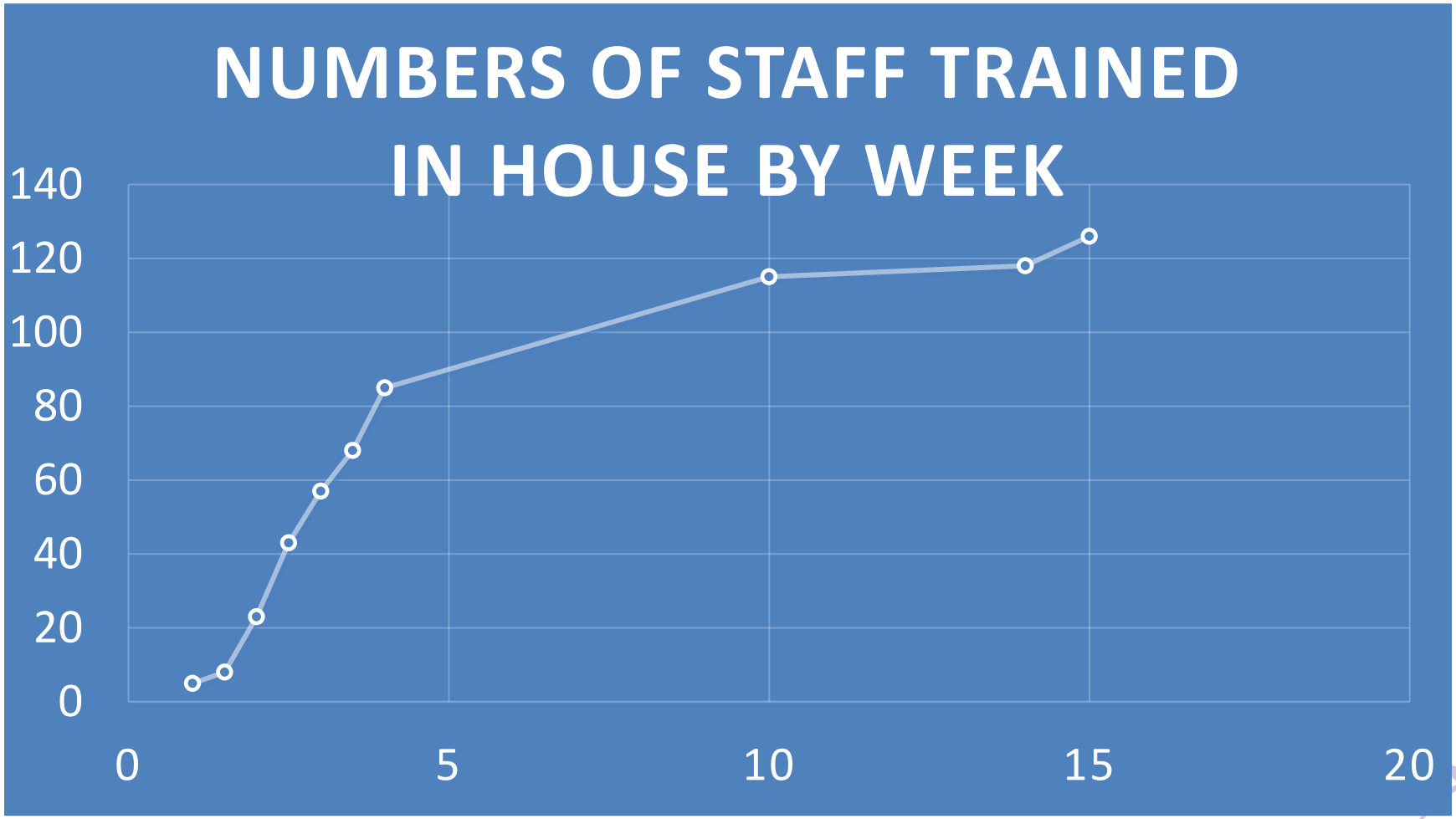
Training

- 3 Consultants, CTG Co-ordinator, Consultant Midwife who attended Limerick devised in house programme
- 2 taster sessions for junior medical staff & an engagement evening with band 7 D/S Co-ordinators
- June 19: roll out of 4 hour session, with competency based assessment
  - 5 & 4 attended first two sessions then increased to 22 in subsequent sessions
- Mandatory to attend and pass (70% in the first round of training ↑ thereafter)
- Additional consultant masterclass training: = 87% to date.
  - 5 attended 2 day Masterclass in May 2019
  - 2 attended Limerick in August
  - Belfast Masterclass: 1 attended November(3 re-attended), 3 February 2020

The Training - June 2019

- 4 hour session competency based
  - Human Factors
  - Fetal Physiology
  - Types of hypoxia with cases
  - Special circumstances i.e. Synto, meconium, pyrexia

  - Assessment 10 questions 70% pass
- Delivery suite staff initial target group MUST attend



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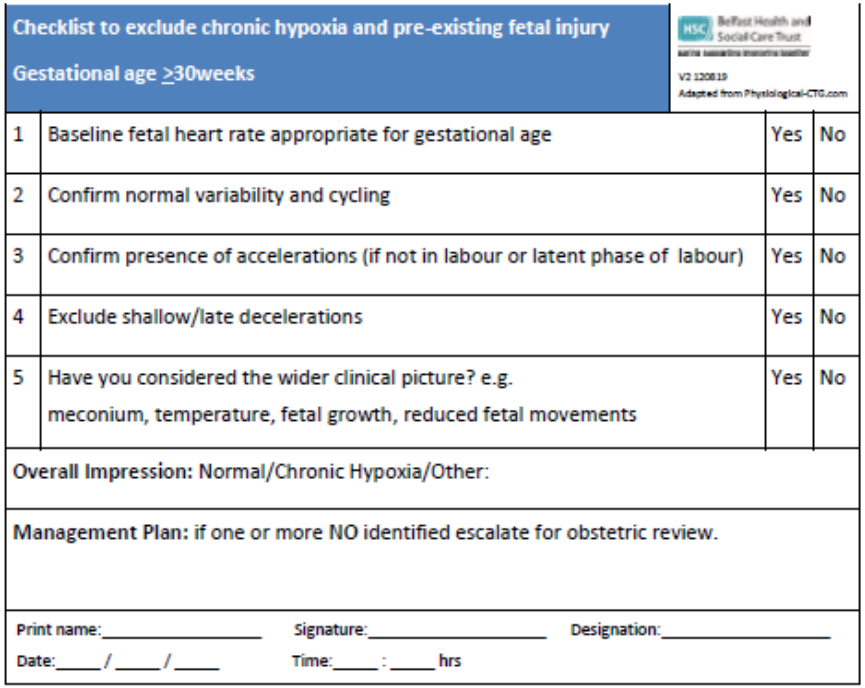
Training statistics (3/2/20)

Training	30/8/19	3/2/20
In-house 4 hour sessions	94	187 (n= 274 Mw/Obs)
Delivery suite staff	97% (n=70)	100% (n=97)
Midwifery Bank Staff	100% (n=10)	100% (n=10)
Obstetric Theatre Staff	100% (n=6)	87% (n=8)
Antenatal Staff	26% (n=31)	52% (n=46)
Consultant Obstetricians	100%	73% (n=15)*
Obstetric trainees	79% (n=29) 100% Aug 2019 cohort	87% (n=32)
Advanced CTG Masterclass	16	*87% Consultants (n=15), T's 87% (n=32) DS B7 82% (n=11), B6 29% (n=86) AN B7 100% (n=3), B6 14% (n=42)

Other Preparation

- Purchase of Physiological CTG E-learning
- New intrapartum CTG sticker
- Guideline
- Clear ‘Go Live’ date 12th August 2019
- Supernumerary trained staff to support

Our new stickers



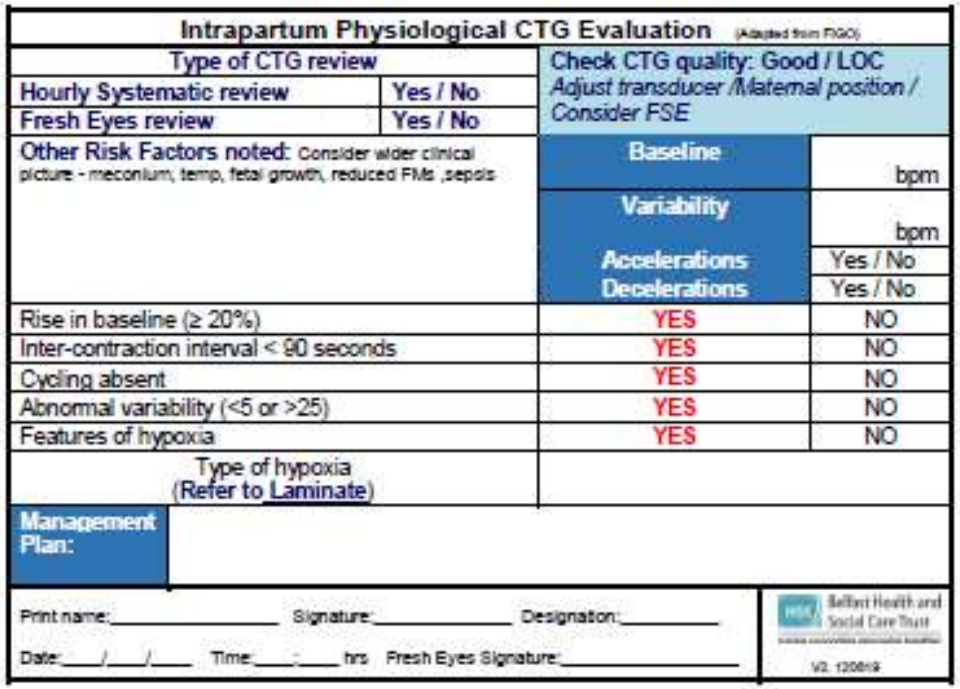
Checklist to exclude chronic hypoxia and pre-existing fetal injury Gestational age ≥30weeks			
1	Baseline fetal heart rate appropriate for gestational age	Yes	No
2	Confirm normal variability and cycling	Yes	No
3	Confirm presence of accelerations (if not in labour or latent phase of labour)	Yes	No
4	Exclude shallow/late decelerations	Yes	No
5	Have you considered the wider clinical picture? e.g. meconium, temperature, fetal growth, reduced fetal movements	Yes	No

Overall Impression: Normal/Chronic Hypoxia/Other:

Management Plan: if one or more NO identified escalate for obstetric review.

Print name:_____ Signature:_____ Designation:_____

Date:____/____/____ Time:____:____ hrs



Intrapartum Physiological CTG Evaluation (Adapted from FIGO)			
Type of CTG review		Check CTG quality: Good / LOC *Adjust transducer /Maternal position / Consider FSE*	
Hourly Systematic review	Yes / No		
Fresh Eyes review	Yes / No		
Other Risk Factors noted: Consider wider clinical picture - meconium, temp, fetal growth, reduced FMs ,sepsis		Baseline	bpm
		Variability	bpm
		Accelerations	Yes / No
		Decelerations	Yes / No
Rise in baseline (≥ 20%)		YES	NO
Inter-contraction interval < 90 seconds		YES	NO
Cycling absent		YES	NO
Abnormal variability (<5 or >25)		YES	NO
Features of hypoxia		YES	NO
Type of hypoxia (Refer to Laminate)			
Management Plan:			

Print name:_____ Signature:_____ Designation:_____

Date:____/____/____ Time:____:____ hrs Fresh Eyes Signature:_____

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BELFAST TRUST OUTCOMES

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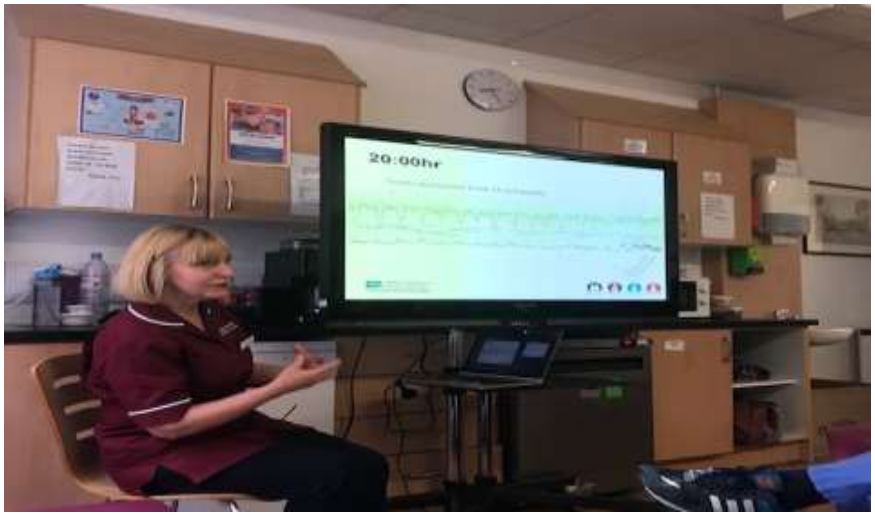

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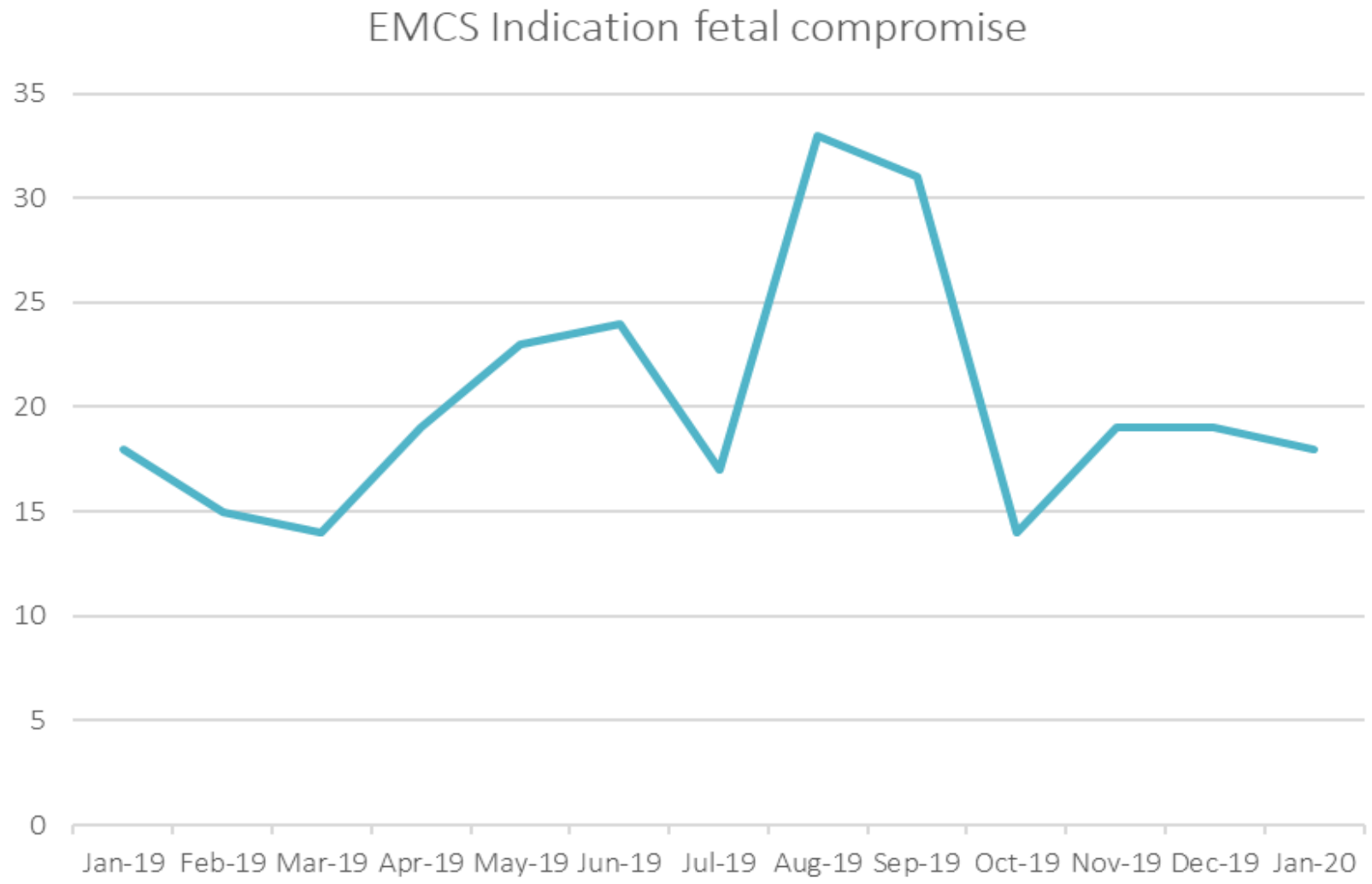
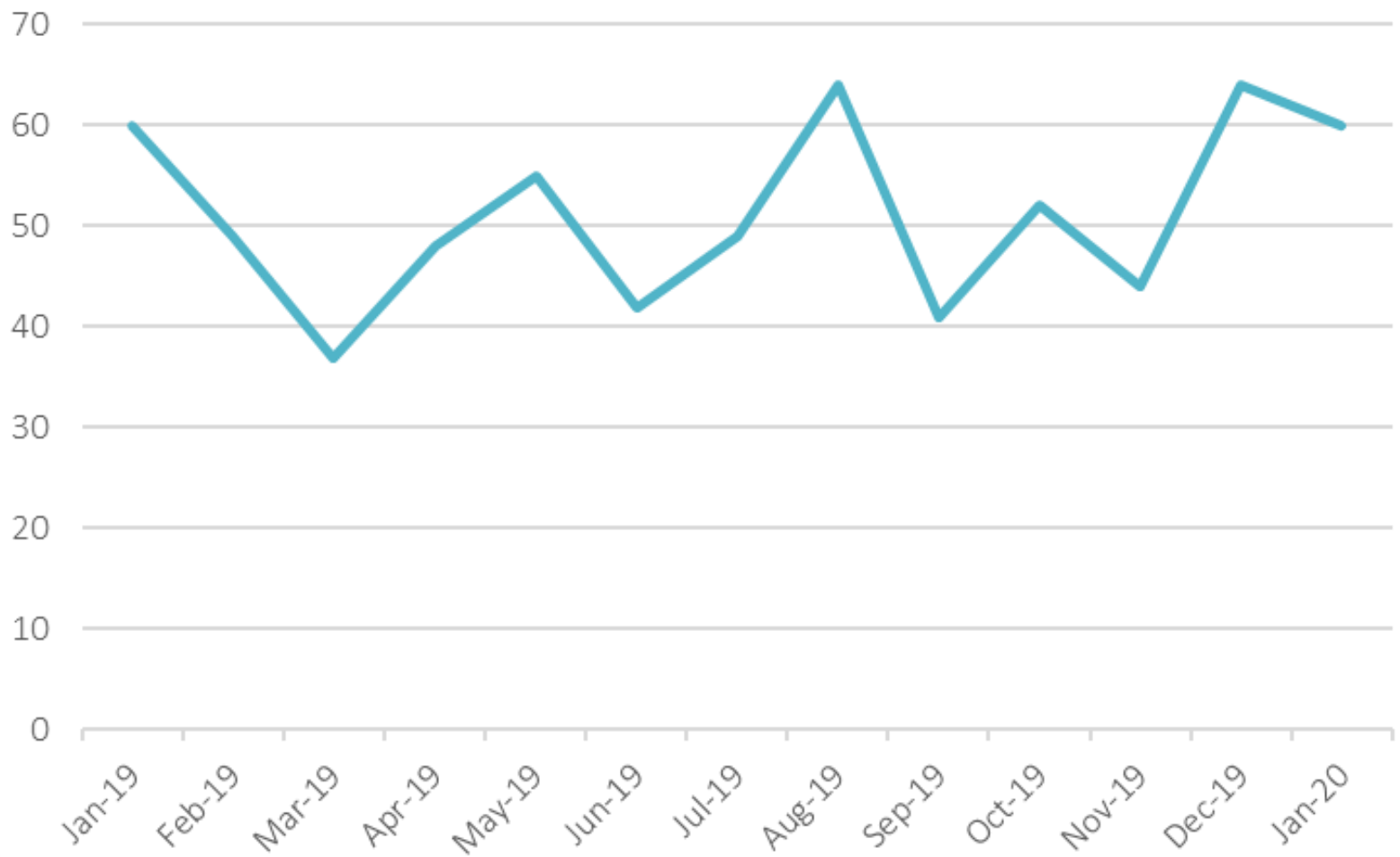

EMCS Indication fetal compromise
35
30
25
20
15
10
5
0
Jan-19
Feb-19
Mar-19
Apr-19
May-19
Jun-19
Jul-19
Aug-19
Sep-19
Oct-19
Nov-19
Dec-19
Jan-20

Number of Instrumental Deliveries



HIE

- Locally……4 babies fulfilled Each baby Counts criteria……1 had CTG concerns
- What other units have achieved…..

Hospital	Reduction in HIE 2/3
St Georges	50%
Poole	50%
South Warwickshire	80%
Kingston	50%
Peterborough	50%

Litigation

Maternity Claims 2014 / 2015

Hospital	Payment
Barts Health NHS Trust	10,340,958
Chelsea & Westminster Hospital	4,085,055
Guy's and St Thomas' Hospital	5,802,405
Imperial College Healthcare NHS Trust	6,875,002
King's College Hospital	9,540,809
Kingston Hospital NHS Trust	9,140,218
Lewisham & Greenwich NHS Trust	4,368,764
Cambridge University Hospital	4,085,055
Oxford University Hospital	7,488,277
Liverpool Women's Hospital	5,956,706
University Hospitals of Leicester	10,988,696
St George's Hospital	1,783,420

Staff views

"It just makes sense"

"Less anxious about CTG's, I know baby is well."

"More time with mum, less time counting decelerations. The room is calmer."

"Its kinder to baby and mum"

"Less intervention is required"


HSC Trust Areas
Belfast
Northern
South Eastern
Southern
Western

REGIONALLY……

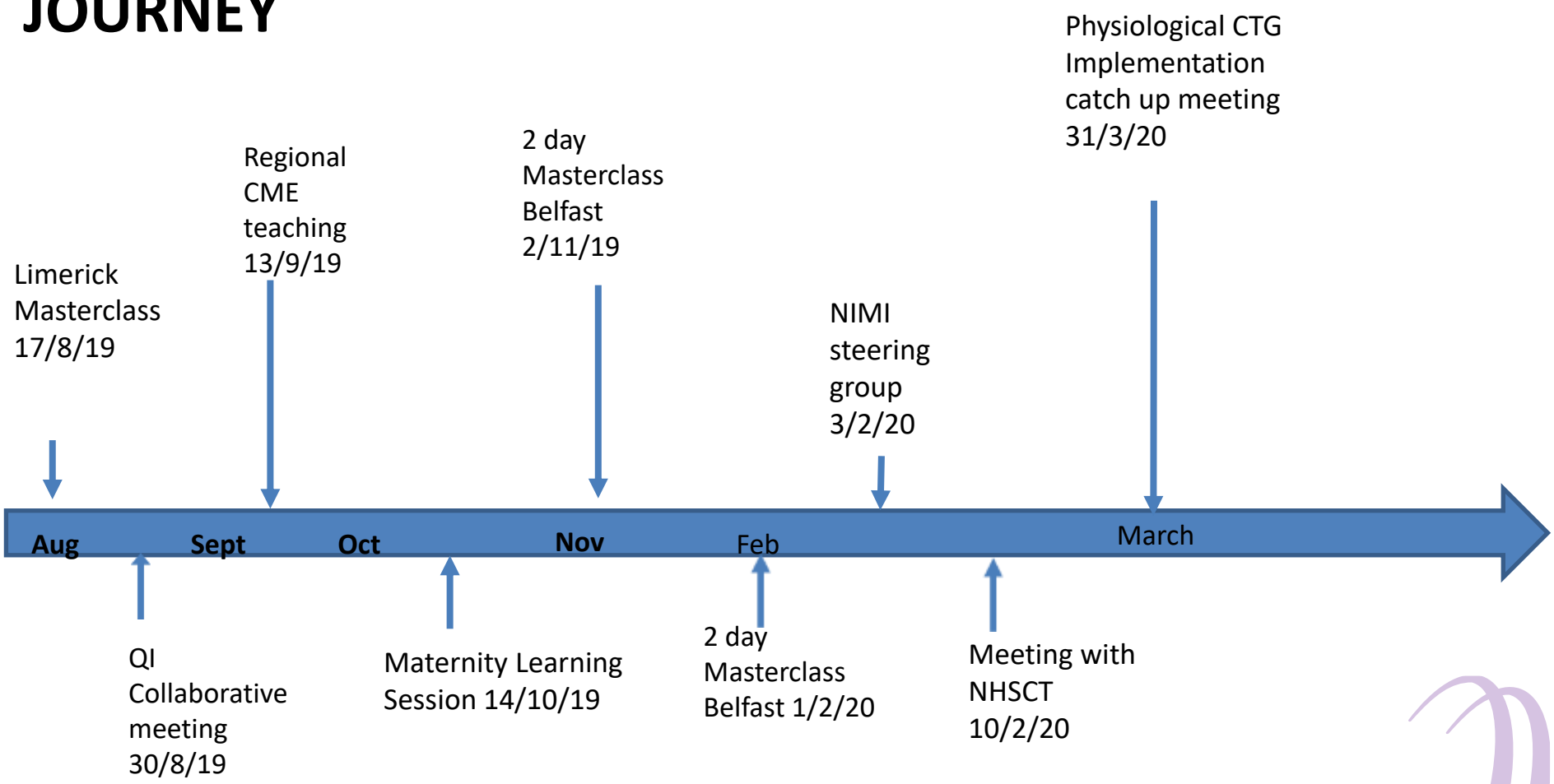
How does the Maternity Collaborative work?

- Consultant Obstetricians and Midwives from all maternity units in NI, meets 3 to 4 times per year
  - Ideas for change /improvement
  - Plan and decide how to achieve these goals

- Examples: Integrated OEWS, Regional dashboard, KPIs, Saving Babies Lives, Birth choice clinics, standardisation MgSO4/ Syntocinon regimes

- A forum where work gets done

OUR REGIONAL JOURNEY



WHAT WE HAVE LEARNED

Our experience

POSITIVES

- Motivated, central team who were passionate to drive forward
- Majority of clinical staff open to change
- Decreased interventions when fetus is deemed not fit for labour
- Generated MDT discussion and learning
- Discussions / learning taking place at central monitoring screen (not in front of the women)
- Midwives are now applying physiology when using intermittent auscultation (IA)

CHALLENGES

- Regional consideration in view of existing CTG evaluation stickers.
- Management initially unsure
- Clinical staff initially didn't appreciate it was actually going to happen
- No additional resources
- Changing our training package from K2
- The issue of meconium stained liquor
- Cultural change
- Ongoing audit of outcomes

Way forward

- Continue training:
  - in-house training
  - 2 day CTG Masterclass bi-annually
  - Physiological CTG E-learning
  - Weekly Wednesday 8am case discussions
- DS Champions
- Standard for mandatory annual CTG training
- Looking at our outcomes

Our advice to you

- Move quickly & ideally regionally
- Don’t reinvent the wheel
- Have support on the ground when you go live

ANY QUESTIONS???

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