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3-stage National Discovery: Triangulation in a learning cycle

Maternity & Neonatal Safety Support
Programme Wales
(MatNeoSSP)

Sarah Patmore

MatNeoSSP Discovery Programme Lead

Head of Improvement Capability & Improvement Analytics



Background & Context

The Welsh Landscape

c.28,800 births annually | c.2500 pre-term babies | c.3000 neonatal admissions

Deprivation creating inequality & public health challenges

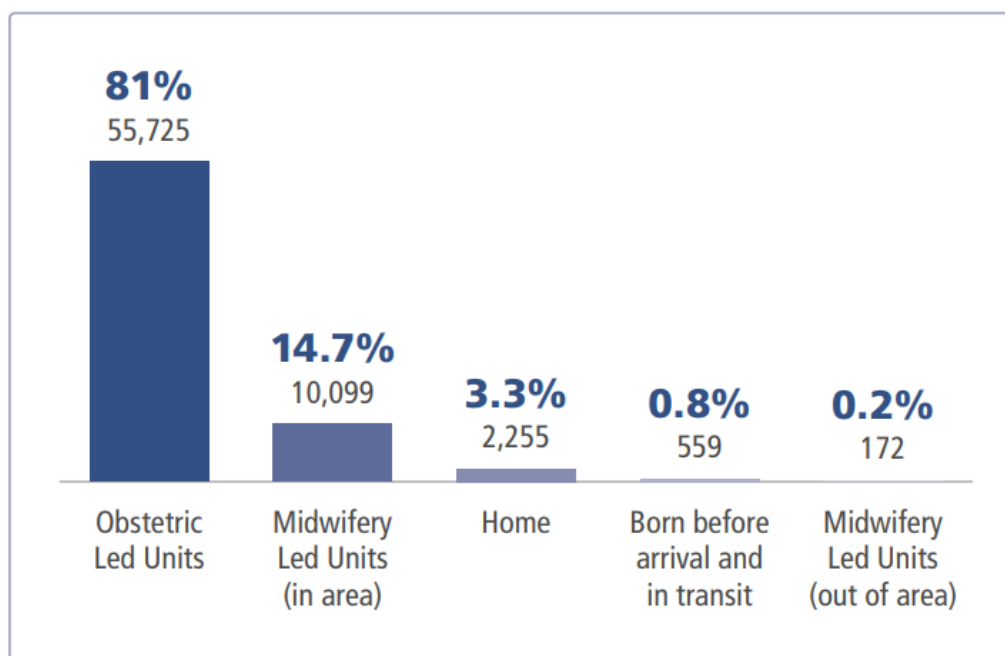
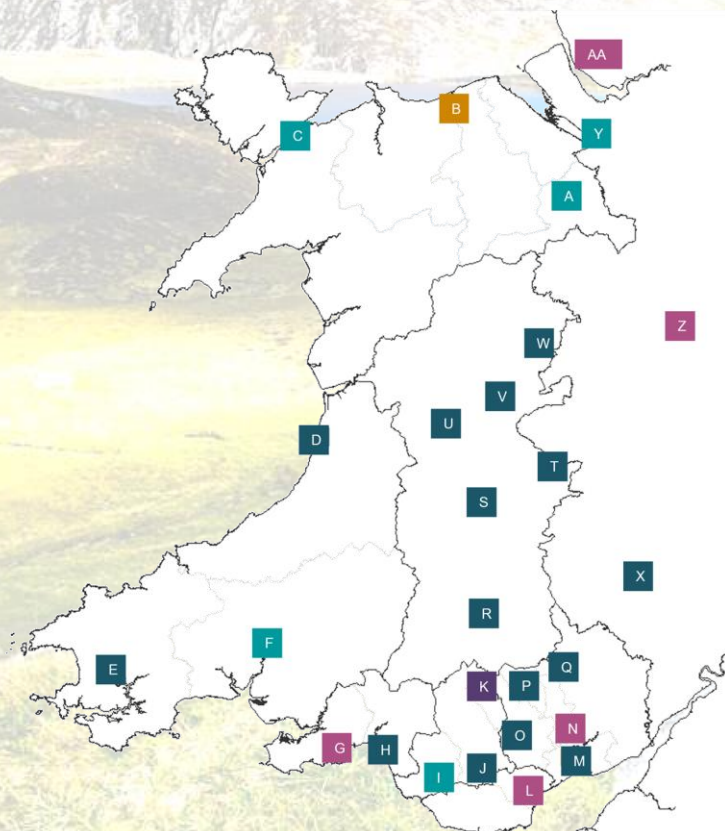


Figure 2. Place of birth in Wales, (January 2020- June 2022) (MatNeoSSP data).

Reading the signals

Maternity and neonatal services in East Kent – the Report of the Independent Investigation

October 2022

Dr Bill Kirkup CBE

HC 681

It is too late to pretend that this is just another one-off, isolated failure...

...it failed to investigate, failed to learn and failed to improve



REPORT

Review of Maternity Services at Cwm Taf Health Board.

On 15-17 January 2019



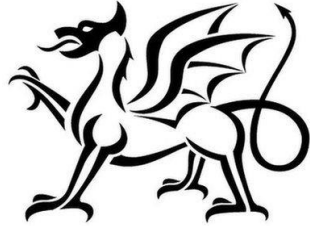
...engrained culture has resulted in poor learning from incidents and a lack of ownership, accountability and leadership

OCKENDEN REPORT - FINAL

FINDINGS, CONCLUSIONS AND ESSENTIAL ACTIONS FROM THE INDEPENDENT REVIEW OF MATERNITY SERVICES at The Shrewsbury and Telford Hospital NHS Trust

Our Final Report

30 March 2022

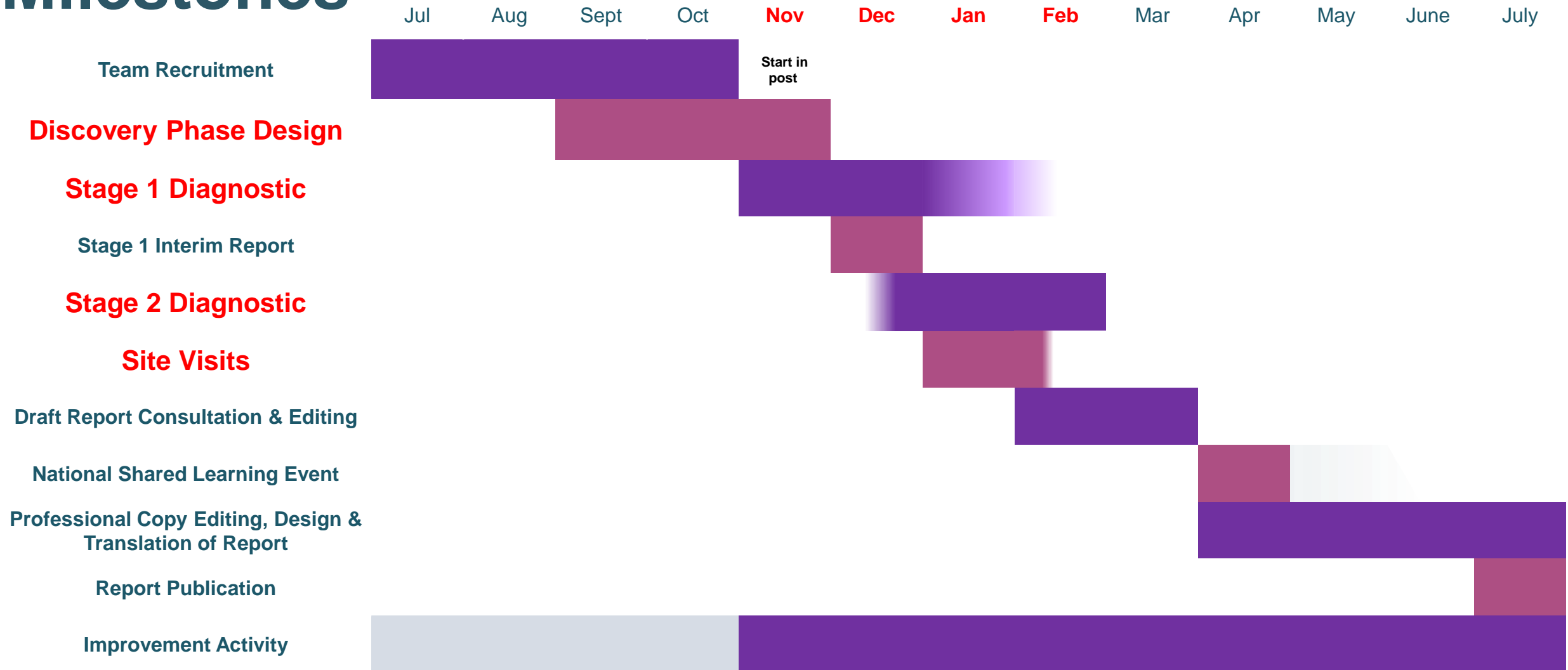


Llywodraeth Cymru
Welsh Government

MatNeoSSP Wales Purpose

To ensure we have clear and consistent
improved approaches to maternity
and neonatal safety within
all services in Wales

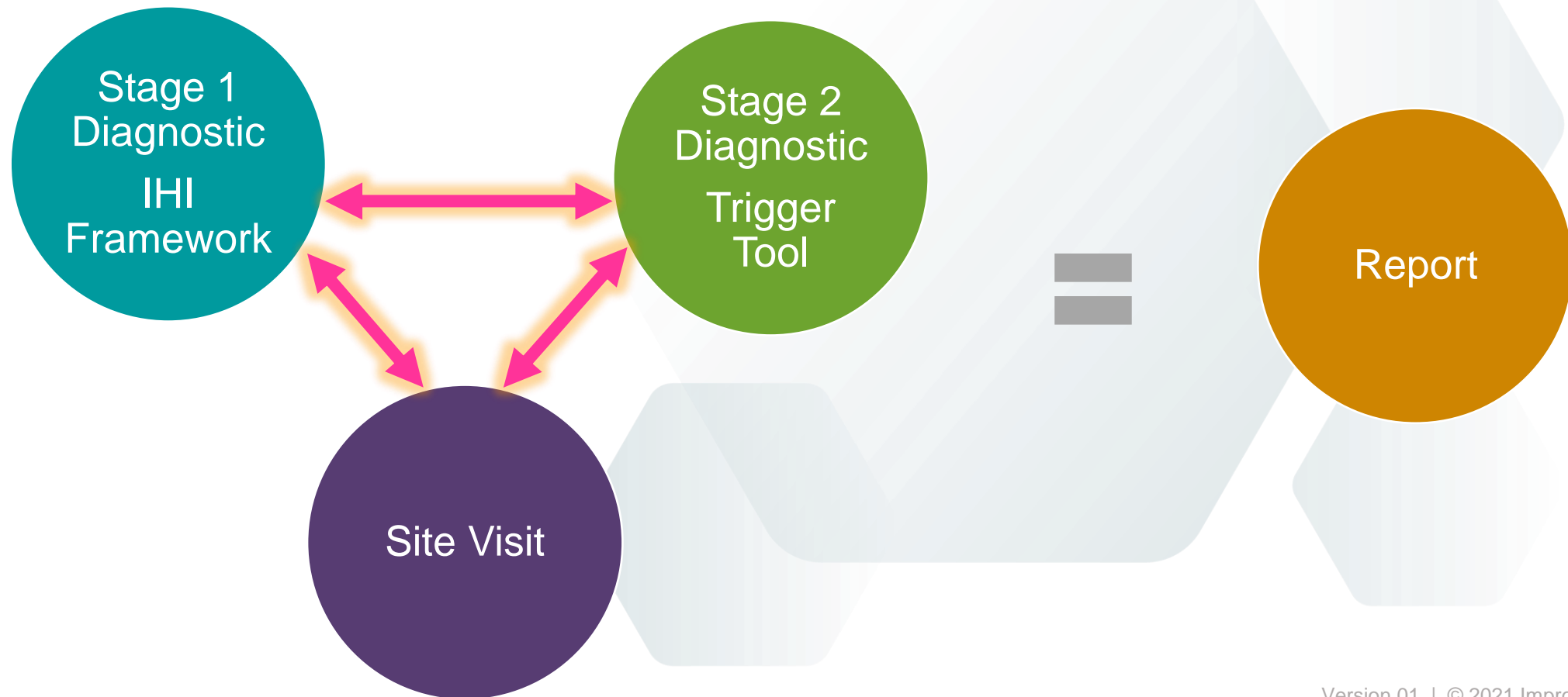
Milestones



Start in post



Our MatNeoSSP Discovery Methodology





Stage 1 – IHI Framework

Just Beginning Making Progress Significant Impact Exemplary

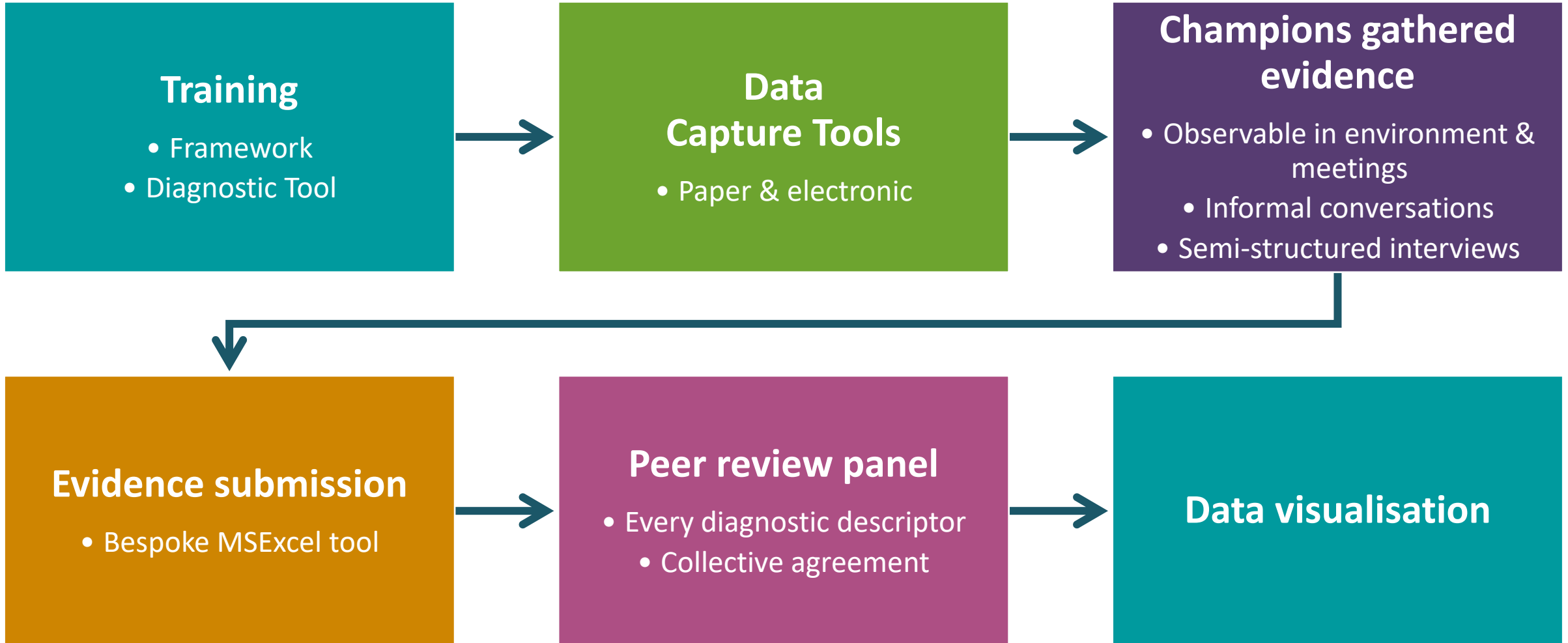


Diagnostic Stage 1

IHI Framework for Safe, Reliable & Effective Care & Diagnostic Tool



Methodology

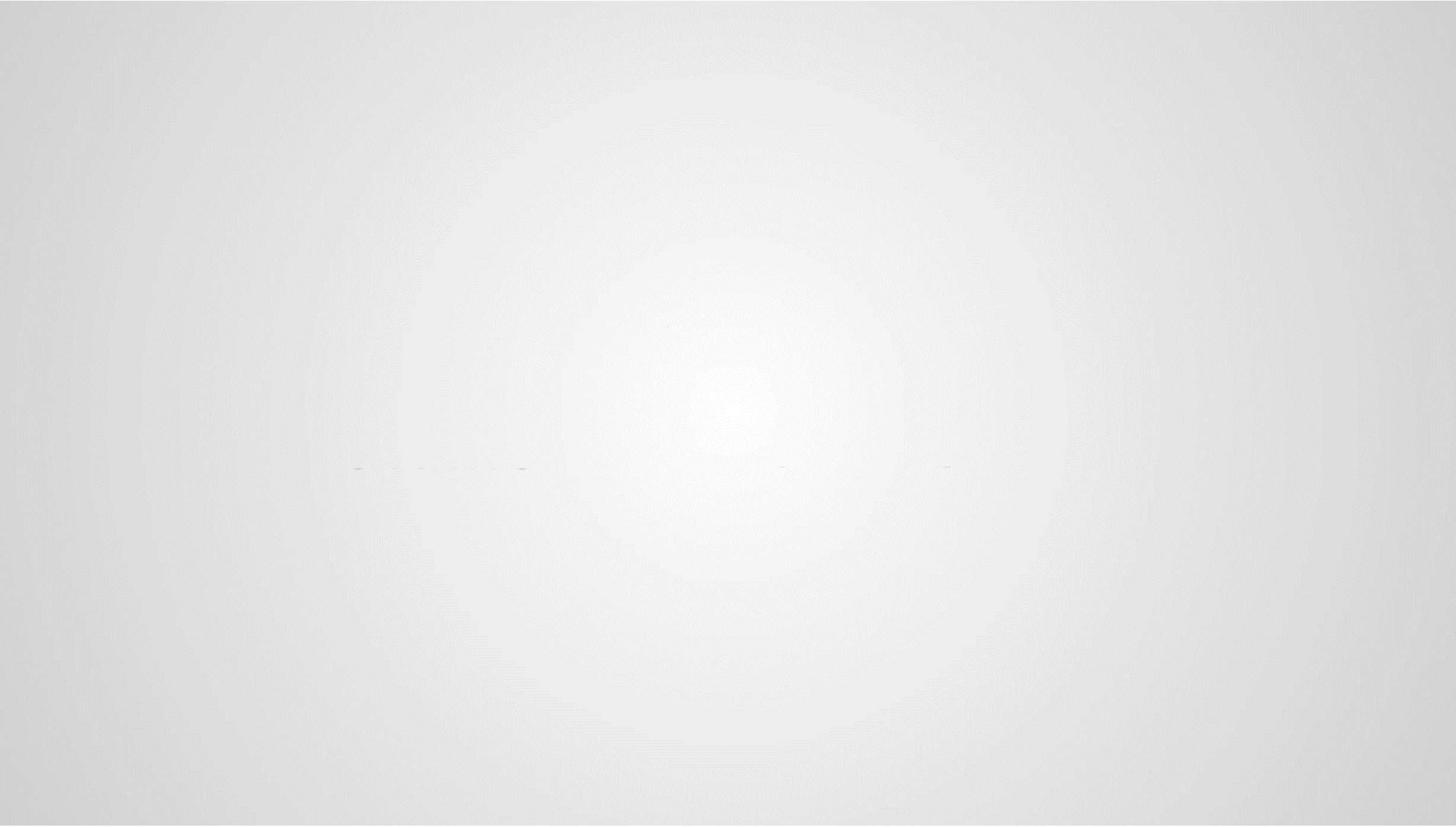


Peer Review Panel Decision of the Maternity Services in All Wales



Peer Review Panel Decision of the Neonatal Services in All Wales







Stage 2 – Trigger Tools



Broad scope



Clinician engagement



Time constraints

3 bespoke tools:

- Maternity
- Neonatal
- Emergency ambulance services

Examples

Section 1 - Landscape

Note: Please collect the data items below for each month within the time frames specified.

Number of Code 24 calls
Number of Code 24 calls where ambulance attended house
Number of Code 24 calls pre term deliveries
Number of Code 24 calls term deliveries
Number of third trimester bleeding calls
Number of postnatal calls

Section 3 - Insight

Note: Please collect the data items below for each month within the time frames specified.

Number of DATIX incidents graded moderate or above
Number of Datix incident moderate harm (not NRI)
Number of Datix incident NRI
Number of external organisation with concerns or request for action made directly to the trust
Number of Coroner Reg 28 made directly to the trust

Section 4 - NICUs and LNUs

This section should be asked of all individual NICUs and LNUs.

These set of questions are for NICUs only.

Note: Please collect the data items below for each month within the time frames specified.

	01/01/2020 - 31/12/2020	01/01/2021 - 31/12/2021	01/01/2022 - 30/06/2022
How many days of IC days did you provide			
How many VLBW babies were looked after			

These set of questions are for LNUs only.

Note: Please collect the data items below for each month within the time frames specified.

	01/01/2020 - 31/12/2020	01/01/2021 - 31/12/2021	01/01/2022 - 30/06/2022
How many combined ITU / HDU days did you provide?			

Section 1 - Perinatal Morbidity and Mortality Inborn

Note: Please collect the data items below for each month within the time frames specified.

	01/01/2020 - 31/12/2020	01/01/2021 - 31/12/2021	01/01/2022 - 30/06/2022
Total number of perinatal deaths			
Number of stillbirths 17 - 23+6 weeks excluding Termination of Pregnancy			
Number of stillbirths >= 24 weeks excluding Termination of Pregnancy			
Number of neonatal deaths between 0 - 6 days			
Number of neonatal deaths between 7 - 28 days			
Number of suspected brain injuries in inborn neonates (no structural abnormalities grade 3 HIE 37+0)			
Number of babies born at 37 weeks + with Apgar<7 at 5 mins			
Number of babies born with Ph<7			
Number of HIE cases (Maternity)			
Number of HIE cases (NICU)			

Workforce & Working Practices

Section 1 - Clinical Service Medical Staffing Arrangements

This section should be asked of all individual NICUs, LNUs and SCUs

Note: Please collect the data item below for each month within the time frames specified.

Number of live births		
01/01/2020 - 31/12/2020	01/01/2021 - 31/12/2021	01/01/2022 - 30/06/2022
Number of ITU cots		
Number of HDU cots		
Number of SC cots		
Total number of cots (Excluding TC and rooming in room numbers)		

Section 2 - Allied Health Professionals

This section should be asked of all individual NICUs, LNUs and SCUs

Please provide the number and Whole Time Equivalent for the following:

Roles	Number
Psychology	
Pharmacy	
Respiratory Physio	
NM Physio	
OT	
SALT	
Dietician	
Neonatal Breastfeeding Lead / Advisor	0
Total	

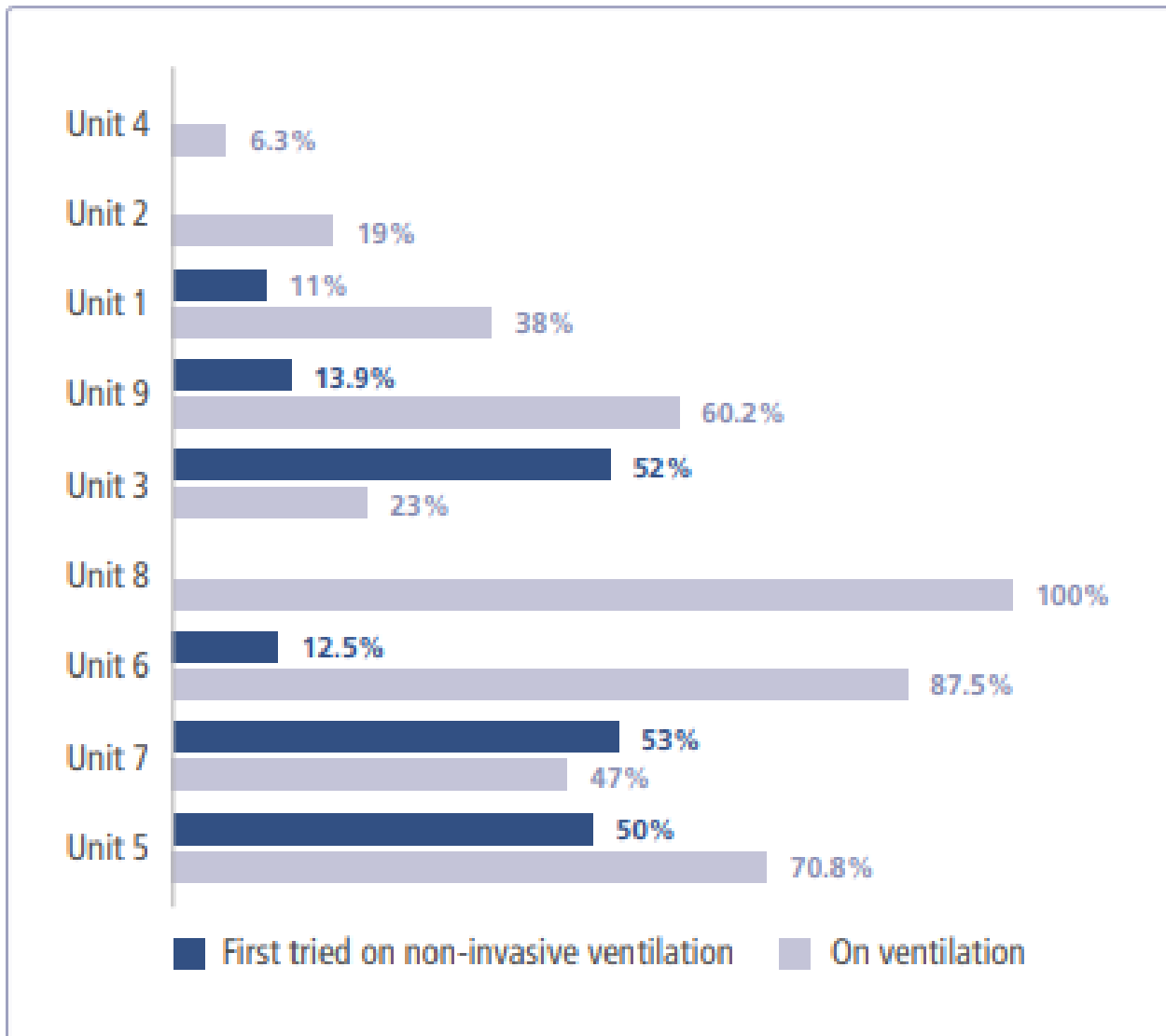
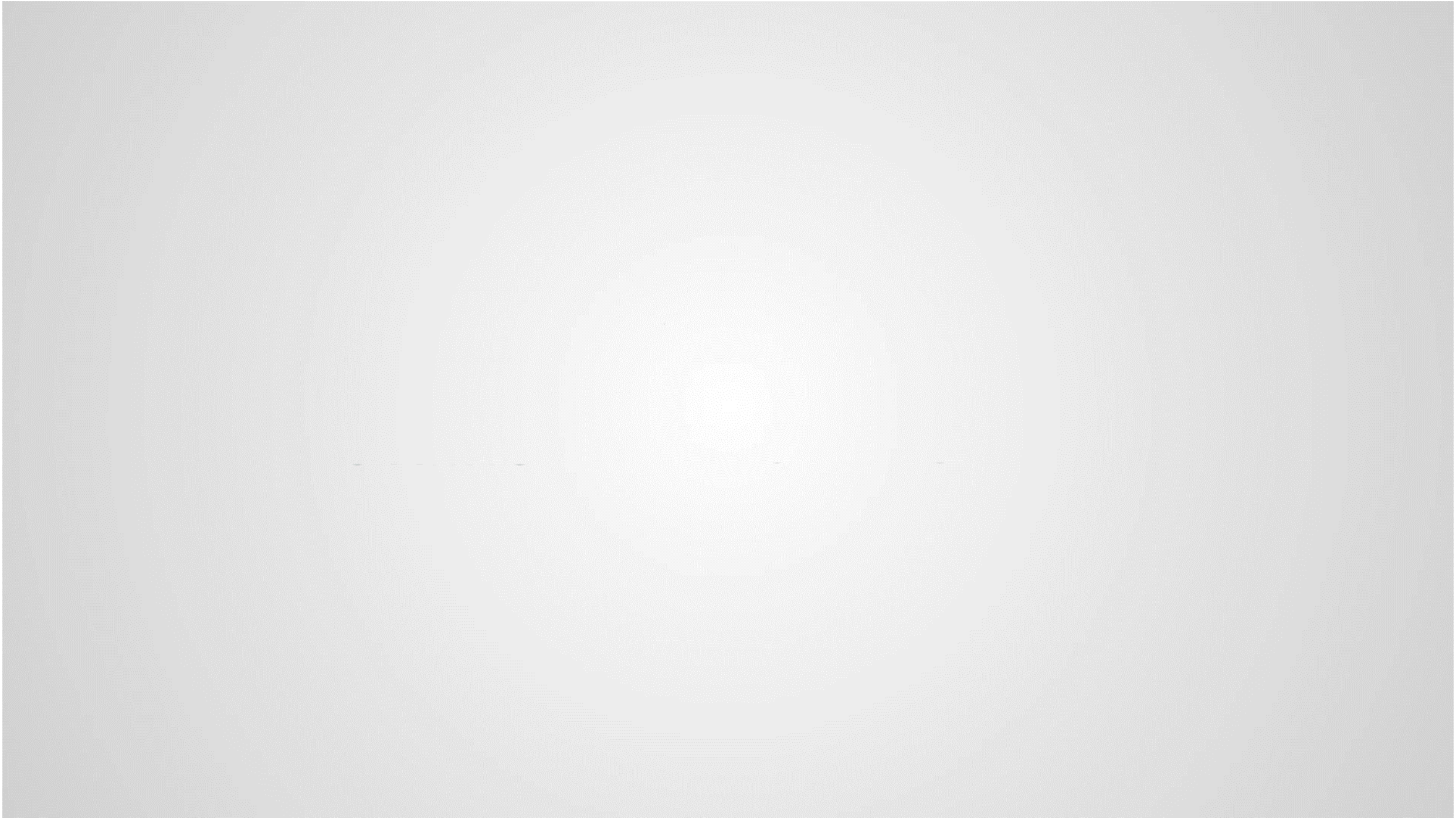


Figure 15. Percentage of babies < 1500g that were first tried on non-invasive ventilation and those that were ventilated by Health Board in Wales over 12 months Jan 2021 – Jan 2022.

Data visualisation

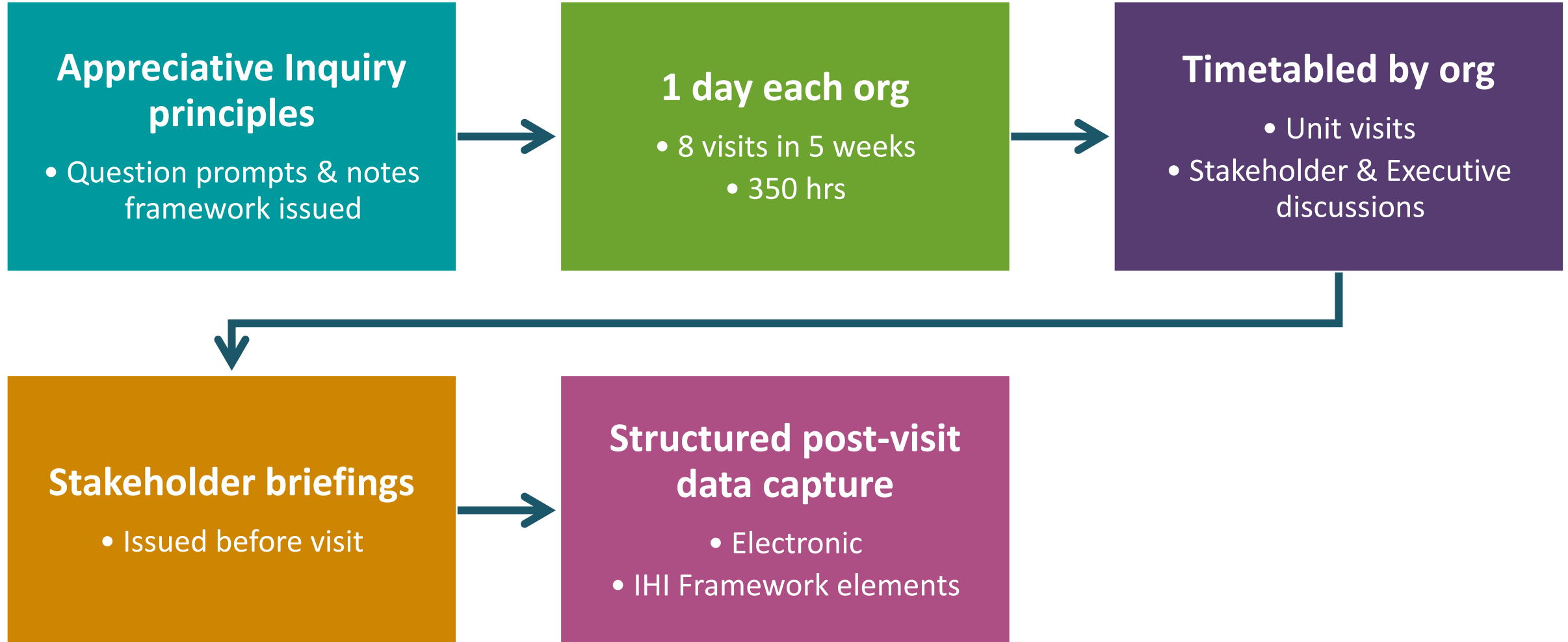
- Organisations anonymised





Site Visits

Methodology



TPN

The DRUGGLE

Gentamicin Sticker Launch

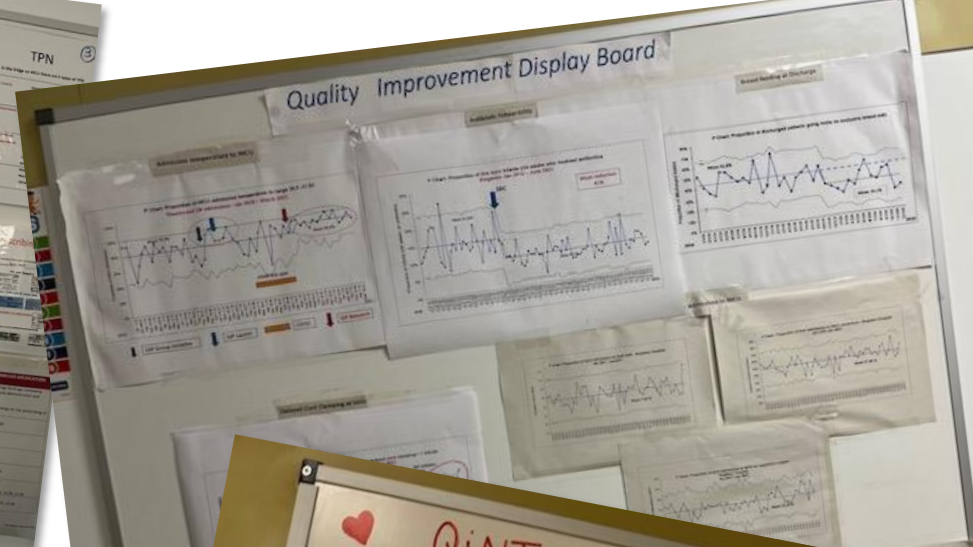
Gentamicin feedback

INSULIN

CAFFEINE CITRATE

Neonatal Medication

CRISIS IN BREASTFEEDING



EDUCATION & WELFARE

MONDAY	TUESDAY	WEDNESDAY	THURSDAY
10:30 JOURNAL CLUB	11:30 PSYCHOLOGICAL MEETINGS	REGA ROUNDS	12:30pm HI
	1pm GRAND ROUNDS	2pm SIM	
	2:30pm SAFETYWORKING		2pm T...

SHARING IS CARING

CLINICS	MON	TUE	WED	THUR	FRI	SAT	SUN
INTUBATION							
INTUBATION < 24h							
MIST							
UVG							
UAC							
LONG-LINE							
LR							

ACT (Action Cycle Tool)

DO: Improve the layout and organization of the area

PLAN: Review patient and staff safety

STUDY: Changes already made since first meeting

ACT: Review and act on the results

QINT NICU Board

01/23 MM/YY Gestation: 39+

Team: RA, MM, LW

Positives:

- Skin to skin ✓
- continuous temp used ✓
- Good maternal documentation ✓

Improvements:

- Ask for heated mattress
- document room temp

Comments: Good interventions for transfer = better temp o/a 😊

Temp prior to transfer: 37.1
Temp o/a: 36.4
Temp o/a: 36.8

01/23 MM/YY Gestation: 34+

Team: KG, DO

Positives:

- Admission temp in range
- Mum had cuddles

Improvements:

- Utilise continuous temp
- ? could have had skin to skin
- Document maternal temp & room temp
- ? Intervention prior to transfer

Comments: More documentation please

Temp prior to transfer: 36.6
Temp o/a: 36.7
Temp o/a: 36.6

Treatment Room

Total TCU admissions

Month	Admissions	Discharges	Deaths	Temp	Days
Jan 21	26	50	2.2	2.21 days	
Feb 21	287	50	3.3	2.06 days	
Mar 21	47	90	2.5	1.91 days	
Apr 21	294	44	69	2.5	1.56 days
May 21	42	74	2.5	1.76 days	
Jun 21	41	73	3.2	2.27 days	

Number of babies not admitted

Month	Not Admitted	Number of babies not admitted	%
Jan 21	50	30	18%
Feb 21	287	22	31%
Mar 21	254	47	24
Apr 21	290	44	27
May 21	288	42	37
Jun 21	41	8	

PLEASE READ ME A STORY

Ward 20 Almost Christmas Party!

All welcome for an evening of bubbles and sparkles

Sunday 28th January 2023 13.30

Ch and Juice in Mummies

Hagard's Twin

TCU is integral to the unit's patient centred care and services with the needs of the external NTC should link seamlessly facilitating early discharge post-discharge support

Quality & Safety

Month board updated: January 2023

3 things to celebrate: TEAM WORK

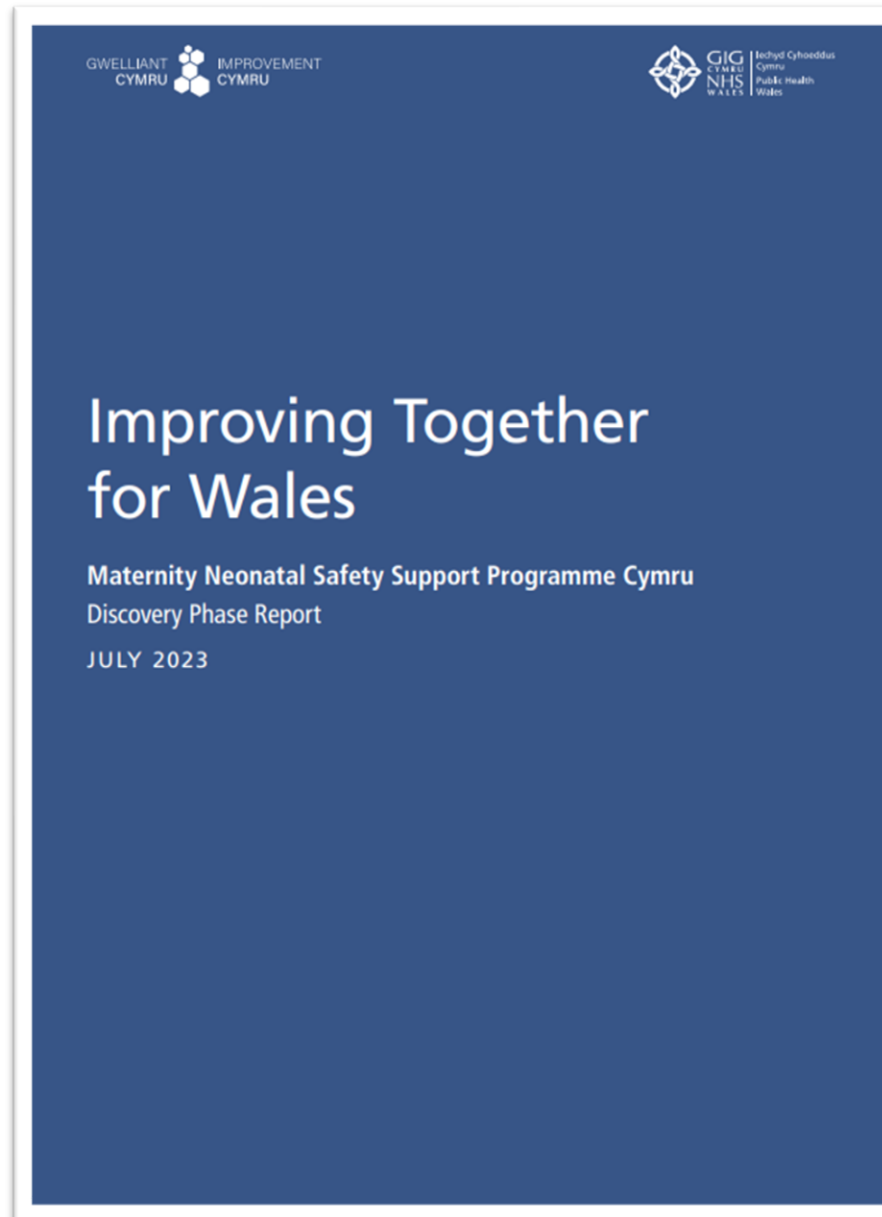
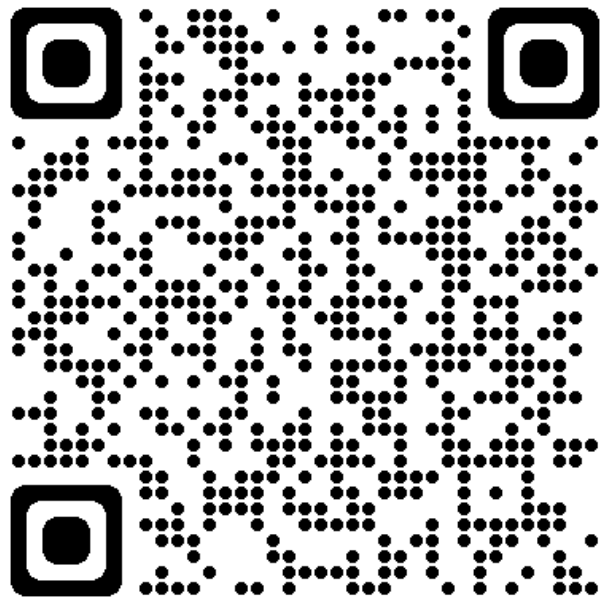
Our top 3 risks/concerns: Staffing, LOCUMS

Key positive themes from our staff, patient and family feedback

Key messages for sharing: 07/02/23 8-4pm support your vote -> see Rachel or Kate



Report... & Impact





We have a new understanding about how our unit learning boards need data to drive improvement and not just posters about intentions. We're talking a new language about baseline data and data over time

Our organisation is going to redistribute an existing neonatal culture survey, but reframe it to use an appreciative inquiry approach

We've started meaningful conversations about psychological safety in our organisation and are planning the rollout of some training on the topic

MatNeoSSP has already highlighted the importance of quality improvement and data collection and put this concept firmly on our leadership team's agenda

We have been looking at data differently, including co-monitoring data across internal team boundaries, tracking outcomes for ethnic minority women and looking to make changes to the maternity system

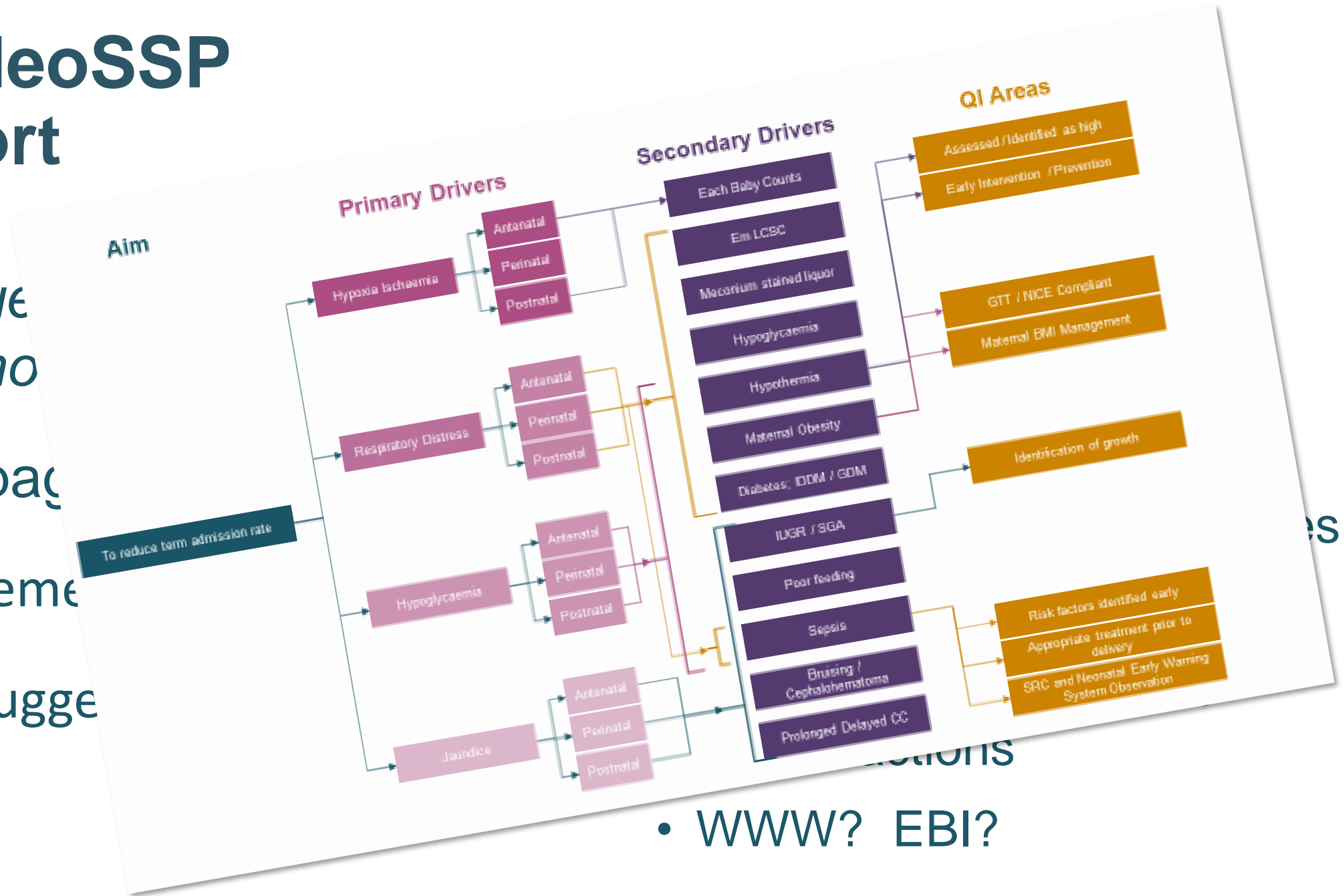
MatNeo has created an opportunity to speak with the whole MDT to explore perspectives and identify improvement needs/opportunities.

The MatNeoSSP project has had a positive impact on staff who felt deflated by external reviews in the past. As this project is a national programme staff have faith that it offers real potential for change

MatNeo conversations in our organisation have created momentum – a group of ward midwives now want to undertake some improvement work relating to Transitional Care

MatNeoSSP Report

- Request for 'no more'...
- 103 pages
- 16 themes
- 134 suggestions



- WWW? EBI?

Thank you

*Would you like to find out more about this
Discovery phase, our report or resultant
improvement work?*

3pm – Exhibition Stand 8

*Sarah Patmore – Programme Lead
Sarah Morris – Lead Midwife*





Evaluating improvement collaboratives: Design variations and their impact

Geetika Singh, Head of Quality Improvement

Janet Seale, Expert by Experience Advisor & Honorary Improvement Academy Faculty

11 April 2024



Introductions



Geetika Singh
Head of Quality Improvement
@GeetikaQI

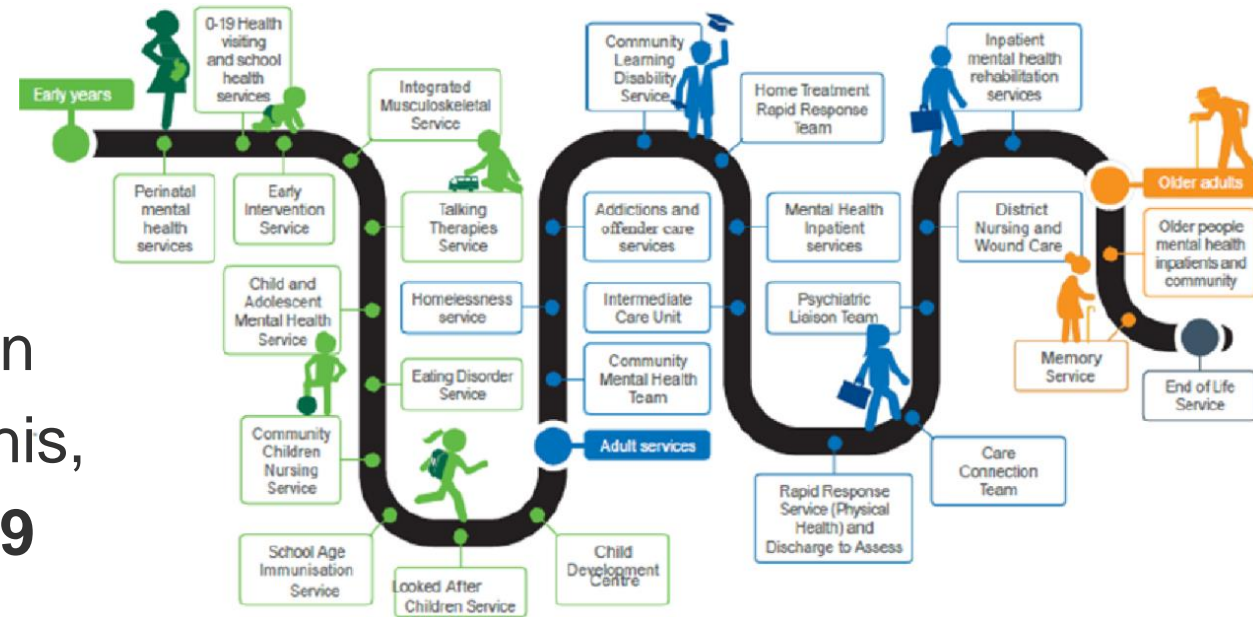


Janet Seale
Expert by Experience Advisor &
Honorary Improvement Academy Faculty



About CNWL

- Provides NHS services in London, Milton Keynes, Surrey and beyond
- Serve around 3 million people
- Community, sexual health, mental health, health and justice and addictions services
- Employ over 7500 staff
- Across 150 hospital and community sites
- QI is key to our work and we have an Improvement Academy to support this, with **3272 staff** trained in QI and **209 active QI projects**
- Involving people with lived experience is absolutely essential for us.



CNWL Improvement Collaborative



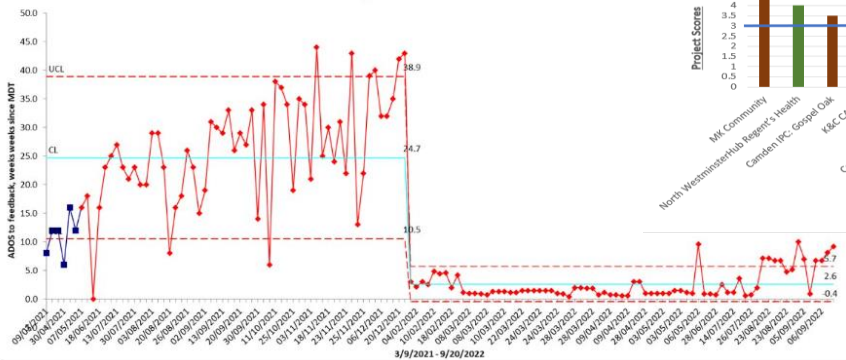
Brings together healthcare professionals & SU&C from multiple services to work together on shared improvement goals



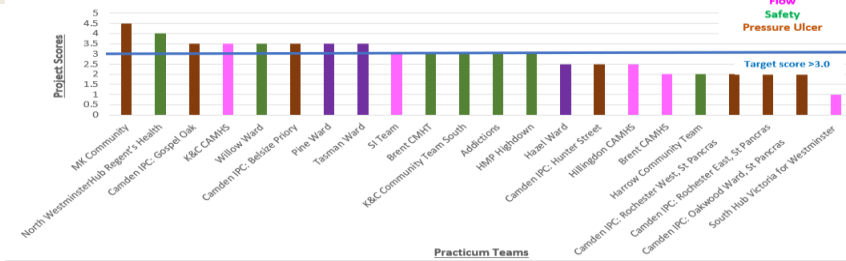
Design a collaborative learning system

- ## Key activities:
- Learning sessions to delivery QI knowledge and skills
 - Regular workshops to share learning and identify interventions that may be used to support and scale improvement
 - Partnership working with SU&C
 - Provision of data to participating teams

ADOS to feedback, weeks since MDT - I Chart



QI Project Scores by Practicum Programmes & Teams



Improved Efficiency

35% reduction in mean time taken to complete initial CAMHS assessment - K&C CAMHS	32% reduction in mean time taken to complete concise SI reviews - Serious Incident Team	15% reduction in mean number of Children & Young People service users waiting for treatment - Hillingdon CAMHS	23.2% reduction in the mean incidence of Category 2 Pressure Ulcers. - Belsize Priority
33.3% reduction in the mean incidence of Category 3 Pressure Ulcers. - Gospel Oak	20% reduction in the mean incidence of Category 3 Pressure Ulcers. - MK community Health	74% reduction in patients not contacted for 45 days or more - Brent CMHT	12% reduction in missing medication and established process following installation of the new medication cupboard. - HMP Highdown
10% increase of the caseload contacted within 45 days. - K&C South Hub	34% reduction in the caseload not contacted for over 45 days. - Westminster North Hub	35% reduction in self harm incidences - Willow Ward	65% reduction in the mean episodes of physical and verbal abuse with 65. - Tasman Ward

Evaluate aggregate effect of collaborative learning

Evaluation of the impact of three different improvement collaboratives

Similarities

- Aligned to Strategic priorities
- 24 participating teams incl over 90 staff and SU&C
- Divided into 3 phases: Scoping, Delivery & Summative phases
- Evaluation methods designed to cover all three phases.

Differences

- Duration
- Distinct approaches to team selection
- Wrap-around support mechanisms
- Training designs and post-collaborative support



Improvement Collaborative Designs



Central and North West London
NHS Foundation Trust

Improvement Collaborative, 2019/ 2020

	Sep-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	May-20	Jun-20	Jul-20	Aug-20
Virtual Workshop	10 Sept 3pm - 4pm	In person training days 21 - 23 Oct all day (London)	Virtual Workshop 12 Nov 3pm - 4pm	Virtual Workshop 3 Dec 3pm - 4pm	Virtual Workshop in groups. 21 Jan 3pm - 4pm	Continue project actions in preparation for March face to face dates	In person training days 4 March (all day) 5 March (am only) (London)	Virtual Workshop in groups. Dates to be confirmed by calendar invites.	Virtual Workshop 12 May 3pm - 4pm	In person training days 3 June (all day) 4 June (am only) (London)	Virtual Workshop 7 July 3pm - 4pm	Virtual Workshop 4 Aug 3pm - 4pm
Virtual Workshop	24 Sept 3pm - 4pm		Life QI Project Updates by 5 Nov	Life QI Project Updates by 26 Nov	Life QI Project Updates by 14 Jan	Life QI Project Updates by 15 Feb	Life QI Project Updates by 17 Mar	Life QI Project Updates by 8 Apr	Life QI Project Updates by 5 May		Life QI Project Updates by 1 July	Life QI Project Updates by 24 July
Local project actions during this period	Intro to Life QI and draft project charters	In person ISIA workshop	Complete project charters	PDSA testing and data collection begins			At in-person workshop: Sharing learning (PSDAs, run charts, barriers) Action period onsite: Iterative testing in more than one driver. Data collection across measures.			Sharing learning (PSDAs, run charts, barriers)	Moving from testing to implementing changes. Continuous testing in areas still working towards improvement	

Improvement Collaborative, 2021 / 2022

Scoping	Delivery Phase												Summative Phase														
	Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7	Month 8	Month 9	Month 10	Month 11	Month 12															
Months 1-3																											
Theme selection																											
Training faculty																											
Enrollment of participating teams by Divisional leads																											
STRUCTURE	Bespoke Bitesize Training (11 May, 15 Jun, 15 Jul)	Life QI (11 May, 15 Jun, 13 Jul)	Practicum Launch Prep call	Prep call (19 Jul)	Learning Session 1 (3hrs) All	Theme 1/2 Workshop 1.1/ 2.1 (2hrs)	Theme 3/4 Workshop 3.1/ 4.1 (2hrs)	Life QI Reporting	Learning Session 2 (3hrs) All	Theme 1/2 Workshop 1.2/ 2.2 (2hrs)	Theme 3/4 Workshop 3.2/ 4.2 (2hrs)	Life QI Reporting	Learning Session 3 (3hrs) All	Theme 1/2 Workshop 1.3/ 2.3 (2hrs)	Theme 3/4 Workshop 3.3/ 4.3 (2hrs)	Life QI Reporting	Learning Session 4 (3hrs) All	Theme 1/2 Workshop 1.4/ 2.4 (2hrs)	Theme 3/4 Workshop 3.4/ 4.4 (2hrs)	Life QI Reporting	Theme 1/2 Workshop 1.5/ 2.5 (2hrs)	Theme 3/4 Workshop 3.5/ 4.5 (2hrs)	Life QI Reporting	Theme 1/2 Workshop 1.6/ 2.6 (2hrs)	Theme 3/4 Workshop 3.6/ 4.6 (2hrs)	Life QI Reporting	Celebration Event (3hrs)
	Project Coaching / Coach Forum																										
CONTENT	Introduction: Why we are here. Principles of improvement. What is expected of you. What you can expect from us.	Core content Exploring our problem	MFI AIMS Driver diagram	PDSA SU&C involvement	Focussed work with teams to finalising AIM, DD & measures	Agree first PDSA	Complete Charters and Life QI	Team Reports submitted & presented (Learning from PDSA)	Focus on Data (run) SU&C Involvement	PDSA testing Monthly report feedback	Visual display boards Team reports SU&C involvement	PDSA ramps Data (SPC) Learning barriers Action plan	Iterative testing Data collection Shared learning	Iterative testing Data collection Shared learning	PDSAs, run charts, learning barriers Action plan	Iterative testing Data collection Shared learning	Presentations	Presentations	Celebration event (in-person?) With CMO								
	Team presentations/ Story boards																										
	Project Score 1.0 to 1.5	PPS 1.5 to 2.0			PPS 2.5								PPS 3.0					PPS 3.0 - 3.5									

Improvement Collaborative, 2022 / 2023

Scoping Phase	Delivery Phase						Summative									
	Pre-work	Month 1	Month 2	Month 3	Month 4	Month 5		Month 6	Month 7							
Pre-work	Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7									
STRUCTURE	SCOPING PHASE							DELIVERY PHASE								
Select quality topics based on Trust Strategic Objectives	Month 1 Information Session: 21 June Application Deadline: 04 July							Learning Session 1 (Full day)	Learning Session 2 (Full day)	Workshop 1 (Half day)	Workshop 2 (Half day)	Workshop 3 (Half day)	Workshop 4 (Half days)	Celebration Event (3 hrs)		
Recruitment of teams for programme	Month 2-3: Engagement work Training - Bitesize (3 1/2 hours)							Project coaching/ Life QI used as Project Highlight Reports								
	Practicum Welcome Call: 05 Oct (2 hours)															
ACTIONS/CONTENT	Application process Select potential teams with divisions Identify SRO/s & PM/s Sponsor, Coach & TL Teaching Faculty	Preparing the teams for work - Meeting SROs, PMs, Sponsors, coaches, team's line management & TL - Go through JD/ expectations for each role. Identify QI core team members & SU&C. Prepare home team members Identify MUSIQ and explore any gaps Identify scope of work - aim, baseline data and current process. DRAFT CHARTERS Communication plan to SU&C, staff & organisation - Visual board.							Building will - Team & engagement SU&C Understanding current system/ problem Developing Aim, DD, Change ideas Testing, refining ideas & building Knowledge PDSA	Data for improvement - Line, Run, SPC and their rules Story telling & VD boards Spread and sustainability	Team presentations on their Project Charter and co-production Shared Learning via reflection and debrief	Team presentations on their baseline data and what change ideas will you sustain within your team. Shared Learning via reflection and debrief	Team presentations on their DD, change ideas (one e.g. of PDSA), family of measures Shared Learning via reflection and debrief	Team presentations on their improvement data and project reflections Shared Learning via reflection and debrief	F2I event Celebrate successes. What could be spread or taken forward? - Dragon Den & team vote on the idea they would like to spread across the organisation.	
PPS	0.5	1.0							1.0	1.5	2.0				2.5 - 3.0	3.5

Design Approach for Each Collaborative

	IC 1 – 2019-2020	IC 2- 2021-2022	IC 3 – 2022-2023
Themes	Falls, Violence Reduction & miscellaneous	Violence Reduction, Pressure Ulcers, Improving flow & Improving Safety	Focus on Excellence Care & Simple Effective Processes
Duration of delivery phase	12 months extended to 18 → COVID	12 months	6 months
Training design	<ul style="list-style-type: none"> • 3 full days & 2 half days of LS • 10 webinars of 1 hr • ½ day theme workshops 	<ul style="list-style-type: none"> • 4 half day LS • 5 half-day workshops for each theme (i.e. 20 workshops across 4 themes) 	<ul style="list-style-type: none"> • 2 full day LS • 4 half theme workshops
Delivery platform	F2f but had to move to virtual	Virtual	Hybrid attendance
Teams recruitment	Chosen by Divisional Leadership	Chosen by Divisional Leadership	Application process with SU&C on panel
Wrap-around support for teams	Divisional coaches, Sponsors, SU&C, PM	Divisional coaches, Sponsors, SU&C, PM	Coaches from QI team, Sponsors, SU&C, PM
Wrap-around support for Sponsors, SU&C, Coaches	Coach forums	<ul style="list-style-type: none"> • Coach forums • Gap in leadership QI capability • Accessibility to SU&C esp for community services 	Sponsor huddles, SU&C Improvement forums, Coach support
Evaluation	By theme	Aggregated evaluation of entire prog. incl tracking team culture changes	<ul style="list-style-type: none"> • Aggregated evaluation • Tested CNWL Added Value Framework
Decision gateways	Informal	Informal	Introduced formal & robust

CNWL Added Value Framework

Added Value Framework



Added Value Template

Added Value Summary

<p>Staff Experience - What impact did your project have on staff experience?</p>	
<p>Patient Experience - What impact did EbE made on your project?</p>	
<p>Safety & Learning Culture - How did this work helped to establish safety and learning culture within the team/ service</p>	
<p>Organisational Reputation - Where is the work shared and celebrated/ Will be shared?</p>	
<p>Streamlined processes - What non-value-adding steps were removed from the process? What improvements were made in productivity & efficiency during redesigning of care around what adds value to the service user & staff?</p>	
<p>Costs & Efficiency - How did this work help you to reduce unwanted variation or remove waste from the system? Any cost avoidance related to staff costs, or for equipment, materials or other overheads?</p>	



Outcomes & Post-Collaborative Support

IC 2 (12 months data)

200 change ideas tested

~60% teams achieved project score of 3.0 or above

Sustained positive engagement

77% had SU&C involvement

90% improvement in safety culture markers

59% shared their work internally or externally

All teams returned to BAU with local governance

IC 3 (6 months data)

152 change ideas tested & 42 (26%) came from SU&C

~43% teams achieved a project score of 3.0 or above

Sustained positive engagement

100% SU&C involvement

23% improvement in safety culture markers

43% shared their work internally or externally

52% teams → local governance

48% teams → QI coaching for 2-3 months post collaborative

Lesson Learnt

1. Key enablers to the success:
 - ✓ Application process brought teams together that were ready and willing to improve
 - ✓ Targeted wrap-around support to Sponsors, SU&Cs, coaches via Sponsor huddles, SU&C forums and coach forums
 - ✓ Having decision gateways in design enabled focused and candid conversation about team progression
 - ✓ Central QI team providing coaching enabled timely improvement support and escalation
2. Collaborative with longer time frame were more resource intensive but had a greater positive impact on safety culture & successful projects at the end of delivery phase.
3. Collaborative with shorter duration created an energy, momentum and mindset for continuous improvement. Teams became more confident to take on other projects.
4. Designing a system to measure all QI benefits helped demonstrate overall impact of the improvement journey (CNWL Added Value framework).



Thank you!



Acknowledgement to all Contributors

CNWL Improvement Academy (IA) is deeply grateful to all those who played a role in the success of the Improvement Collaborative Programmes. Thank you to - Dr Con Kelly, Dr Simon Edwards, Alison Butler, all members of QI team, IA faculty, Service Users, Carers and staff from all participating teams - for their invaluable input and support throughout the process. Their insights and expertise were instrumental in shaping the direction of these improvement collaboratives.

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A/B testing and QI: bringing tech tools to healthcare

Holly Krelle @berni_hk

Leora Horwitz @leorahorwitzmd

The **NETFLIX** challenge: what artwork will make someone watch your programme?

Cells	Cell 1 (Control)	Cell 2	Cell 3
Box Art	 A vertical poster for 'The Short Game' featuring a group of people, including a young boy in a pink shirt, smiling and holding a golf club. The text 'A NETFLIX ORIGINAL' is at the top, and 'THE SHORT GAME' is at the bottom.	 A vertical poster for 'The Short Game' showing a golfer in a blue shirt in mid-swing on a green field. A caddy is visible in the background. The text 'A NETFLIX ORIGINAL' is at the top, and 'THE SHORT GAME' is in the center.	 A vertical poster for 'The Short Game' showing a golfer in white clothing preparing to hit a ball on a golf course. The text 'A NETFLIX ORIGINAL' is at the top, and 'THE SHORT GAME' is in the center.

The **NETFLIX** challenge: but it's not the same for everyone



Top in Germany



Top in Brazil



Top in US



Top in UK



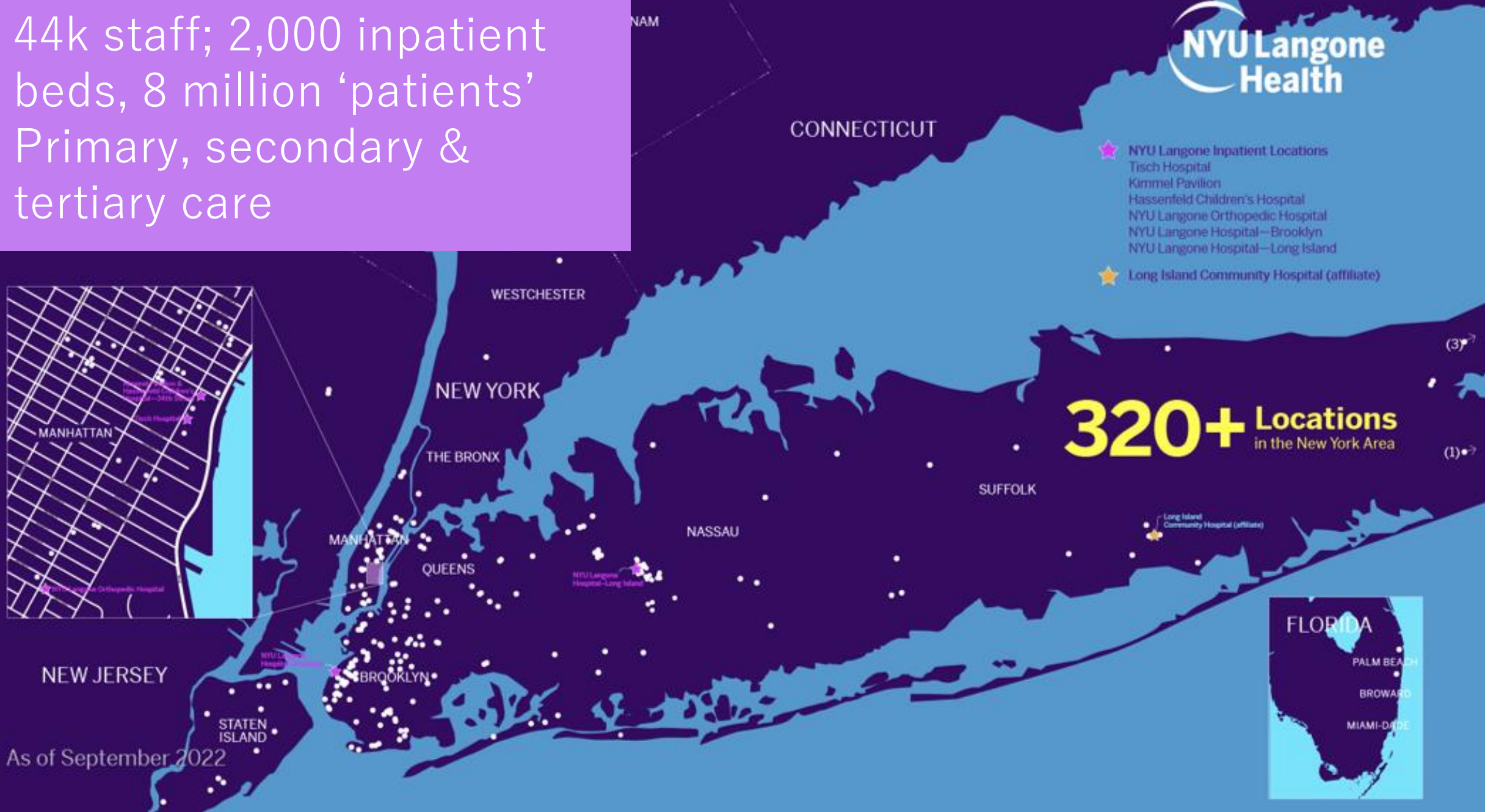
**So, how do we apply this
to healthcare?**

- 44k staff; 2,000 inpatient beds, 8 million 'patients'
- Primary, secondary & tertiary care



- ★ NYU Langone Inpatient Locations
 - Tisch Hospital
 - Kimmel Pavilion
 - Hassenfeld Children's Hospital
 - NYU Langone Orthopedic Hospital
 - NYU Langone Hospital—Brooklyn
 - NYU Langone Hospital—Long Island
- ★ Long Island Community Hospital (affiliate)

320+ Locations in the New York Area



As of September 2022

1. **QI** more flexible, but often offers weak evidence
2. **RCTs** are robust, but too slow, burdensome & inflexible
3. **A/B** testing, rapid & robust, but not often used in healthcare

We help develop a learning health system by running studies that are:

- Short (ideally 1-3 months),
- Randomized,
- Repeated, &
- **No extra work for the frontline**
 - Automated randomization
 - Existing collection of outcomes



Examples

**Better messaging: can we
improve mammogram
attendance?**

A/B testing a new mammogram message

Old

On behalf of your NYU Care Team, we hope you are staying safe and healthy during this time. At NYU Langone Health, we are dedicated to providing you with world-class medical care. Our records indicate you may be due for breast cancer screening.

Screening is the number one way to reduce your risk of breast cancer. Having a mammogram to screen for breast cancer on a regular basis can help detect cancer at the earliest, most treatable stages.

To schedule your mammogram:

- Visit the NYU Langone Health app
- Call 646-987-3512

If you have recently had a mammogram, please let us know by replying to this message with the date of screening; or if you have the mammogram report, you may also send it to us by uploading the report to this message. We will then update your record.

To learn more about breast cancer screening, visit:

<https://nyulangone.org/locations/mammography>

Thank you,

The NYU Preventive Health Services Team

New

On behalf of your doctor, our records indicate you are due for a mammogram. We realize the COVID-19 pandemic may have interrupted your screening timeline, but we encourage you to schedule this screening today.

To book, please click [here](#).

If you recently had a mammogram or require assistance, please reply to this message or call us at 646-987-3512.

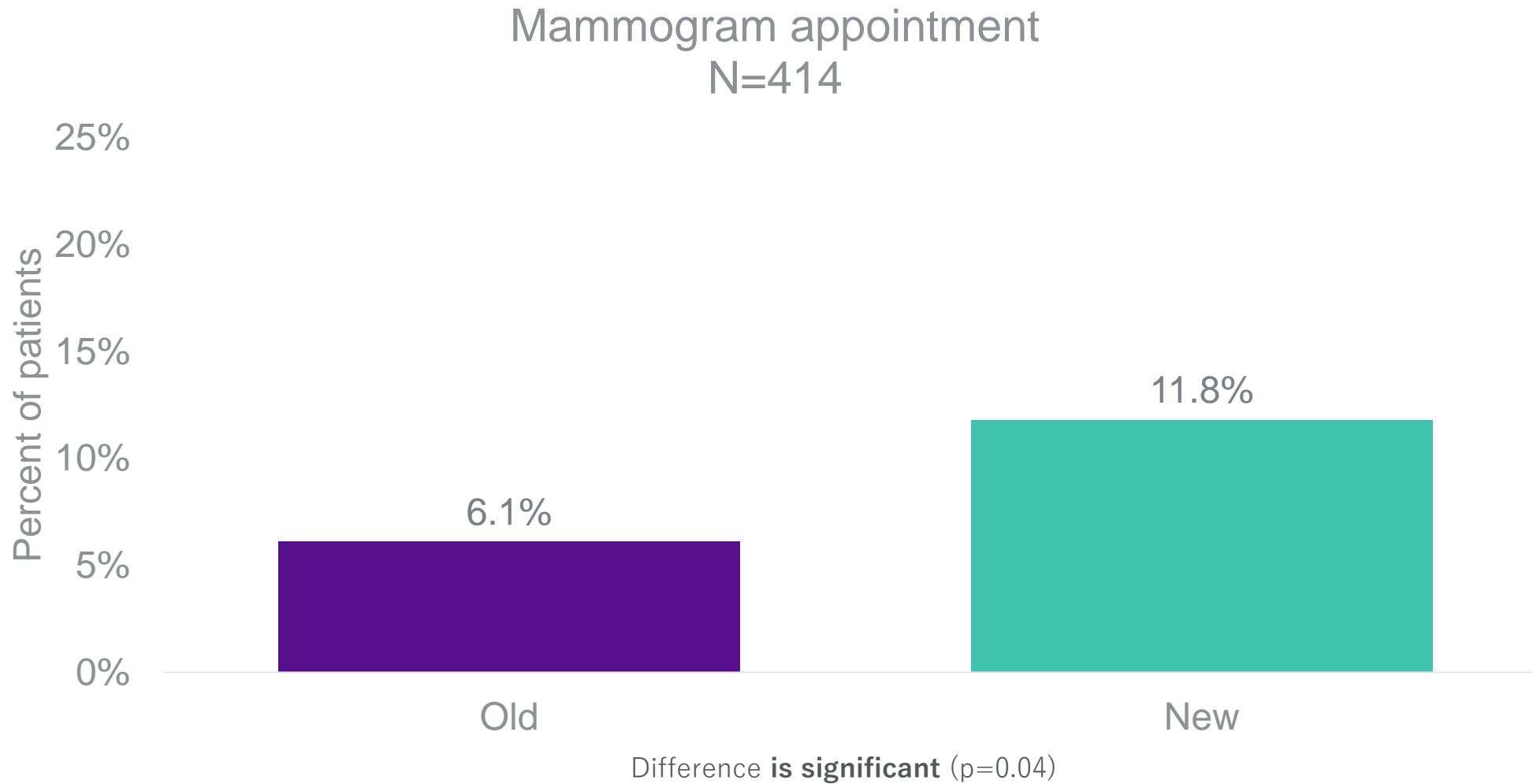
Thank you,

NYU Langone Preventive Health Services Team

To learn more about breast cancer screening, visit:

<https://nyulangone.org/locations/mammography>

Appointment rate

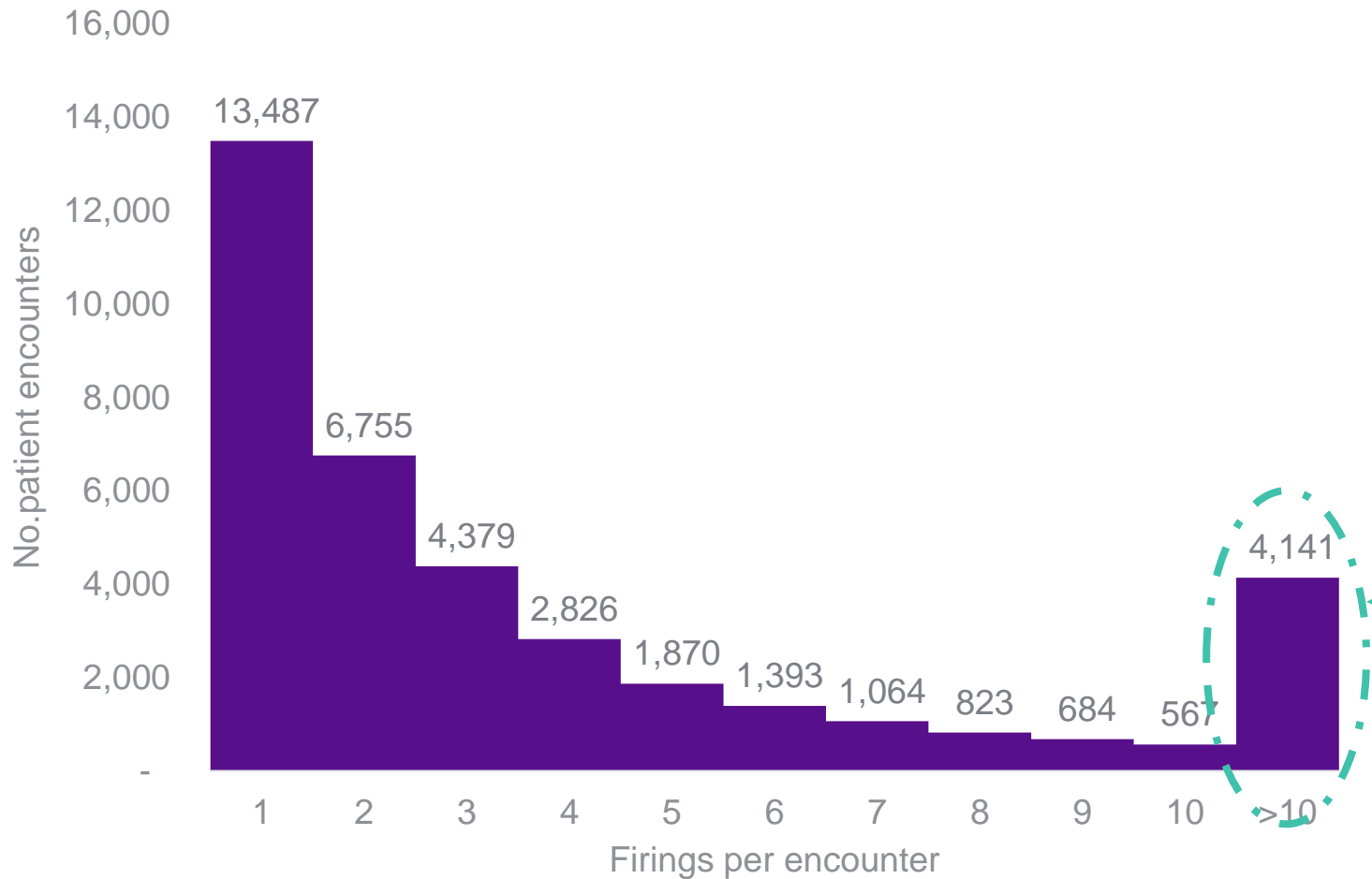




Stopping annoying alerts: venous thromboembolism

VTE Alert: it fires a lot

Firings per encounter



- In **10%** of encounters it fires **more than 10 times**
- And, there are **hundreds of encounters** where it fires **more than 50 times**

! Pharmacologic VTE Prophylaxis

Patients need to have pharmacologic VTE prophylaxis ordered or a reason for no pharmacologic VTE prophylaxis.

@CERMSG(965574:31093,1)@

@RESUFAST(INR:3,PTT:3,HEPANTIXA:3,ANTIXALMH:3,ANTIXAUNF:3)@

Order

Do Not Order

VTE Prophylaxis (ADULT)

! Acknowledge Reason

Reassess Patient

Not Member of Primary Team

Patient receiving Warfarin

Surgical procedure expected within the n...

Active bleeding, including hemorrhagic s...

History of major bleedings

Coagulation disorder predisposing to ble...

Cerebral angiogram within past 24 hours

Aortic or cerebral aneurysm

Recent eye, brain, or spinal cord surger...

Imminent eye, brain, or spinal cord surg...

Low risk for in-hospital VTE (Caprini VT...

The alert is also badly designed

We made two improvements

1.

Simplify acknowledgement reasons

… so they're less annoying, take up less space, and increased chance clinicians click the correct acknowledgement reason

2.

Test firing of alert only for first contact provider & attending

… so that the alert fires less often, but without a reduction in safety

Oct 12-Nov 10, 2023

Simplified acknowledgement reasons

! Pharmacologic VTE Prophylaxis

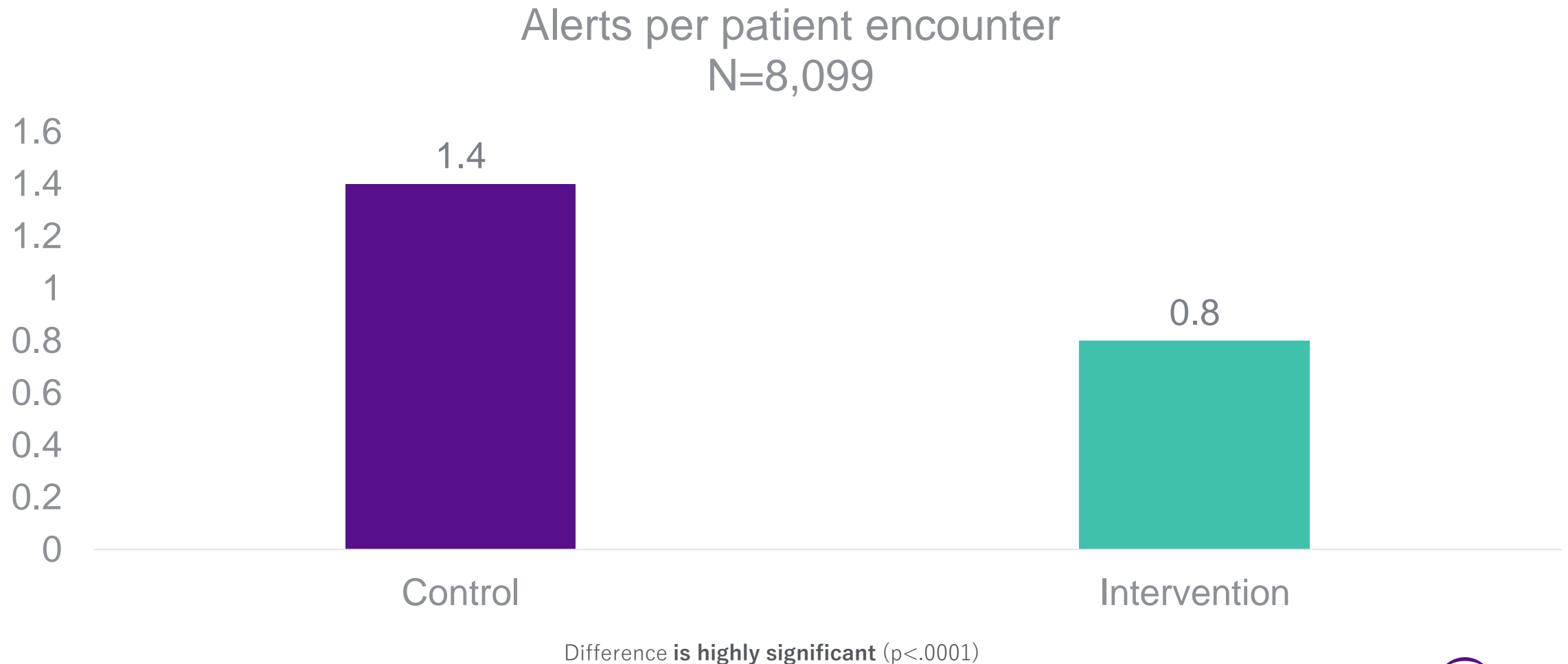
Patients need to have pharmacologic VTE prophylaxis ordered or a reason for no pharmacologic VTE prophylaxis.

Lab Results

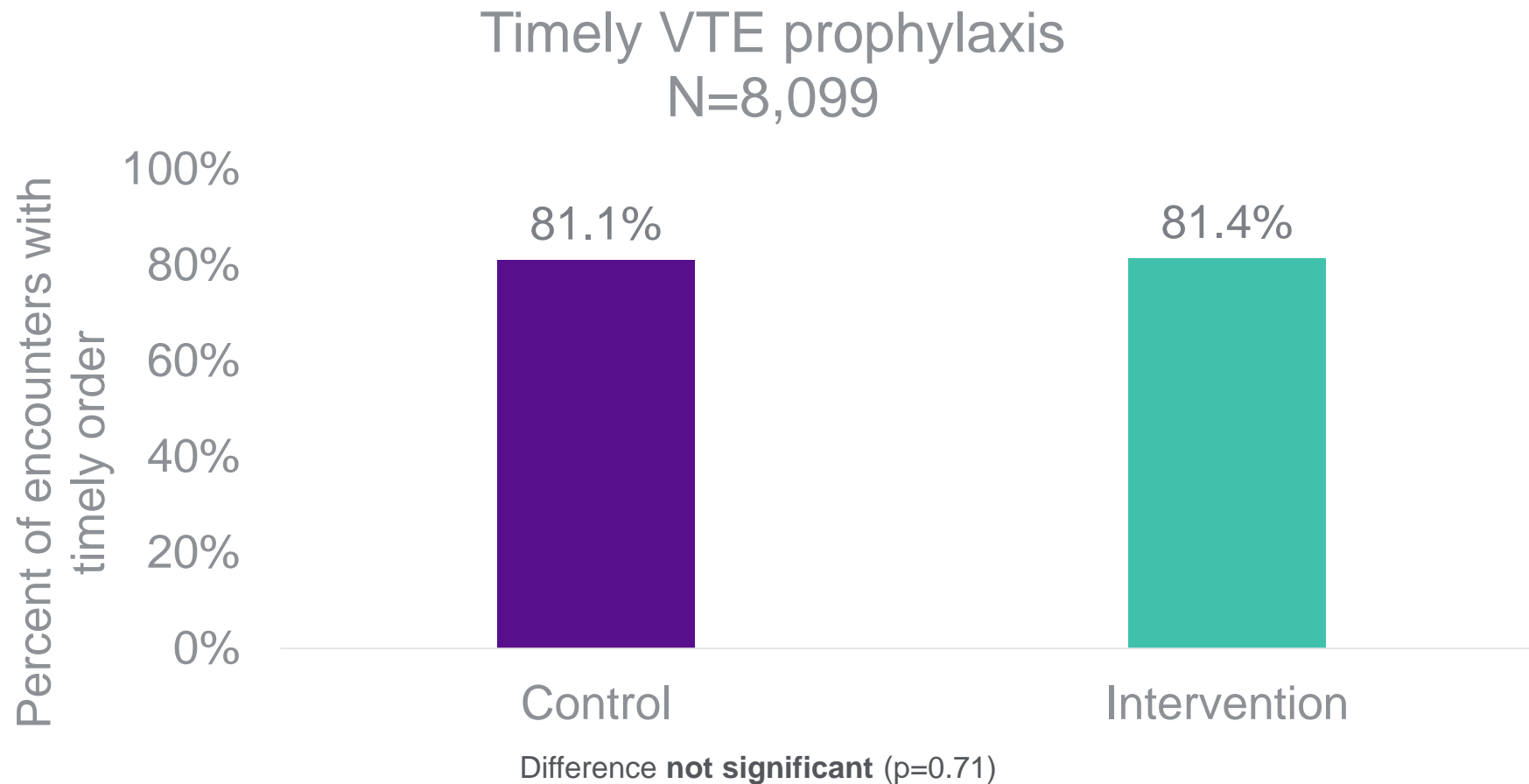
Component	Value	Date
INR	1.0	07/12/2023
INR	0.9	02/28/2022
INR	0.8 (L)	06/17/2019

! Acknowledge Reason

Firings per encounter reduced by nearly half



VTE timeliness unchanged



Intervention had **2,336 fewer total alerts** in 1 month **without reducing timeliness**



Precision phone calls

Which patients should we target with our phone outreach?

1. Some patients have **'open gaps'** (due for screening but have not fulfilled) or are behind on their **medication adherence** (not filling crucial prescriptions)
2. We **cannot call everyone**
3. Therefore, we try to **target interventions** to those most likely to benefit
4. We built models to **predict likelihoods** of patients doing screening or adhering to medication
5. Then ran trials to see **which groups benefitted most** from outreach
 - Patients randomly assigned to control or intervention arms
 - Outreach effectiveness compared at different levels of predicted likelihood

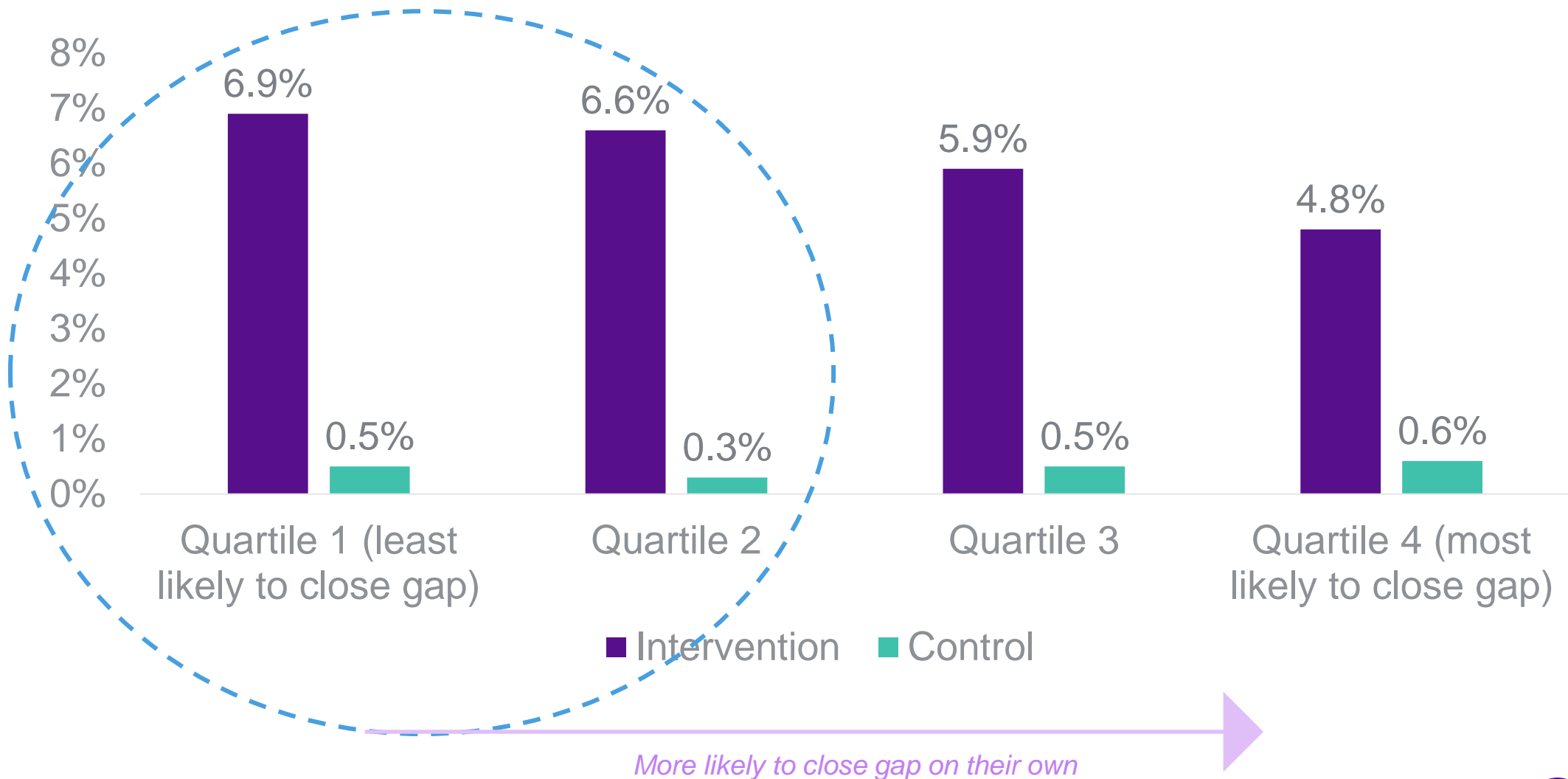
Open Gaps

- 21,067 total patients
- Outcome: close an open screening gap
- Mar 1 2021 – Feb 28, 2022

Medication Adherence

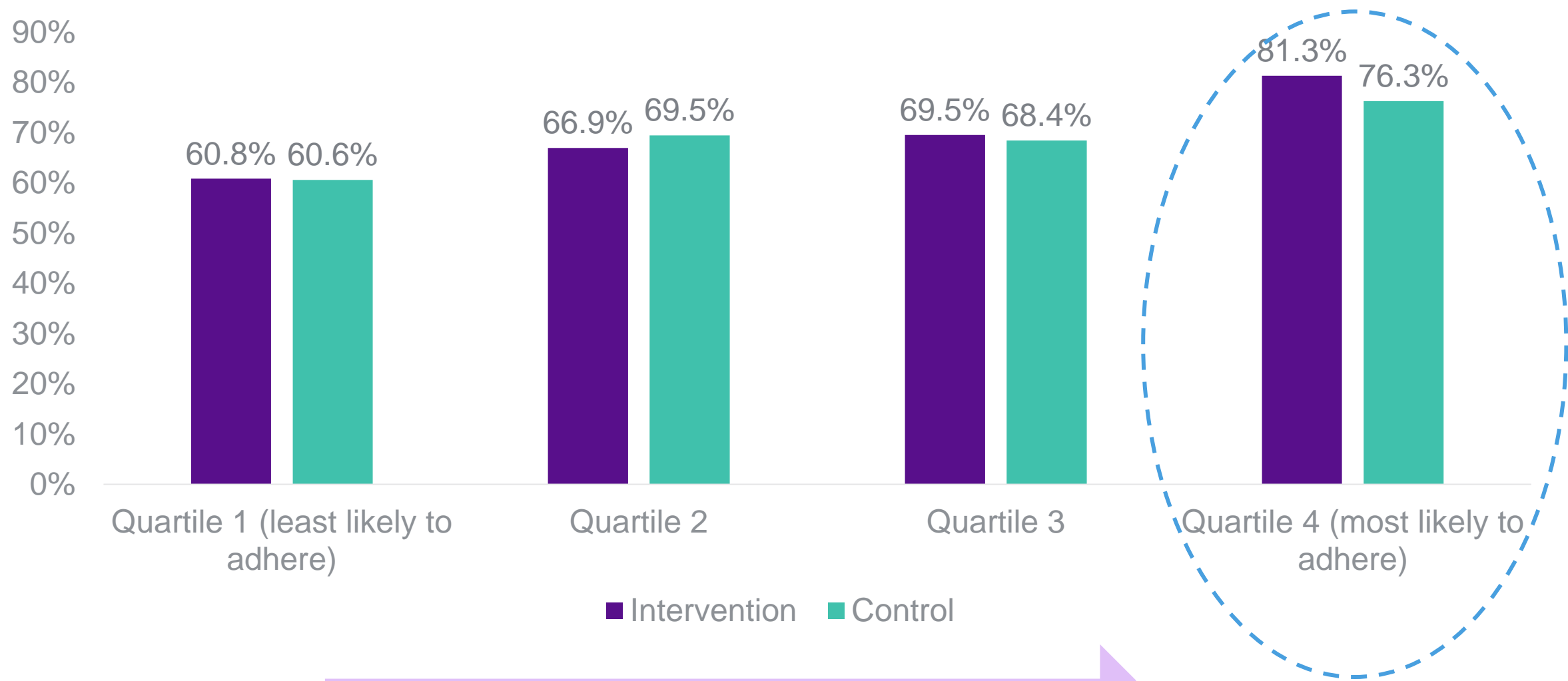
- 6,784 total patients
- Outcome: 80% percent of days covered (PDC)
- Jul 17 – Dec 19, 2022

Percent of patients who closed gap after call



Difference is highly significant (p < .0001) overall and within each quartile

Percent of patients reaching adherence target



More likely to close gap on their own

Difference **is not significant** overall (p=0.31)
Within Quartile 4, difference **is significant** (p=0.01)



The team

The NYU team

- Director
- Assistant Director (evaluation & delivery background)
- Two data analysts
- One data extractor
- Two project associates
- Statistical advisor
- 'Running' 10-15 trials at a time



Key features

- Senior-level sponsorship/buy-in
- Frontline staff willing to design & test ideas
- Ability to manipulate the EHR
- Easy & immediate (ish) access to data
- Project management, ideation & analytical skills

How do we motivate people to work with us?

Soft encouragement

- Build relationships, trust & enthusiasm;
- Find their motivation – e.g. here's a tool to help you stop doing things you don't want to do
- Stick around when things don't work out, and try again
- Run trials that really don't burden the frontline – no/minimal downside

Hard encouragement

- Tie to measured outcomes – NHSE targets/ board priorities;
- Try to link into cost savings (e.g. departments that just need that extra nudge to meet % screened targets)