



**Gloucestershire Safety &
Quality Improvement Academy**

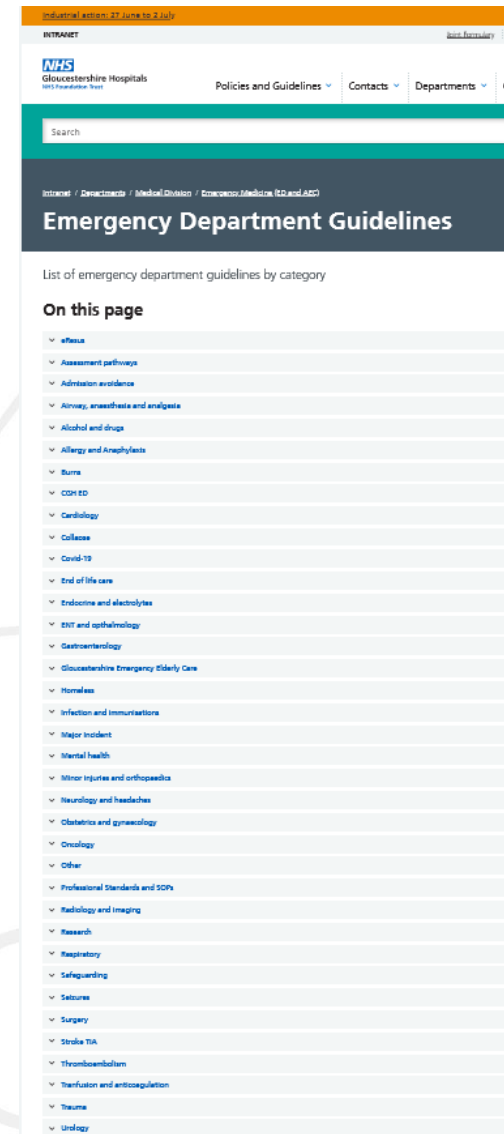
eResus (Emergency Department QIP)

9th July 2024

The Problem

Learning from Excellence

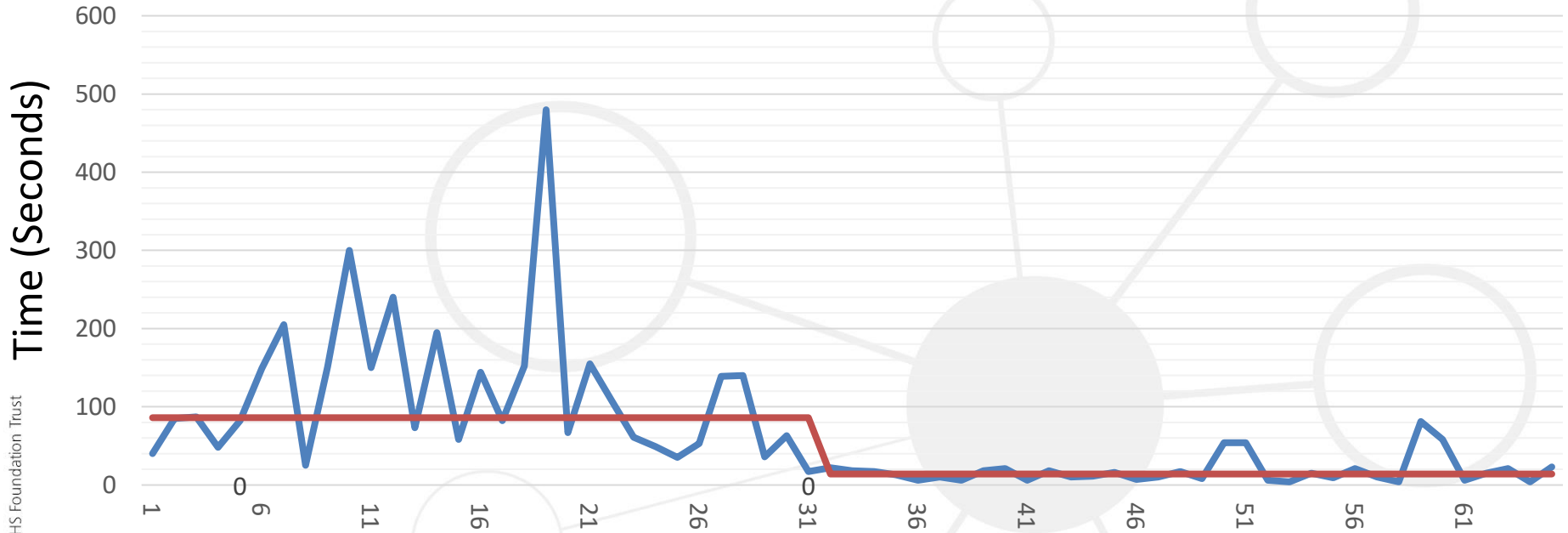
- Use of guidelines allows standardisation of care and reduces cognitive load when dealing with high pressure situations.
- Inspired by other trusts in the region, eResus was developed to make it easier to access these guidelines in a timely manner.



**Mean time take to access
guidelines = 122 seconds**

The Problem

Time take to Access Guideline



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Median time pre-eResus = 86 seconds
Median time with eResus tool = 14 seconds

Improvement Team & Stakeholders

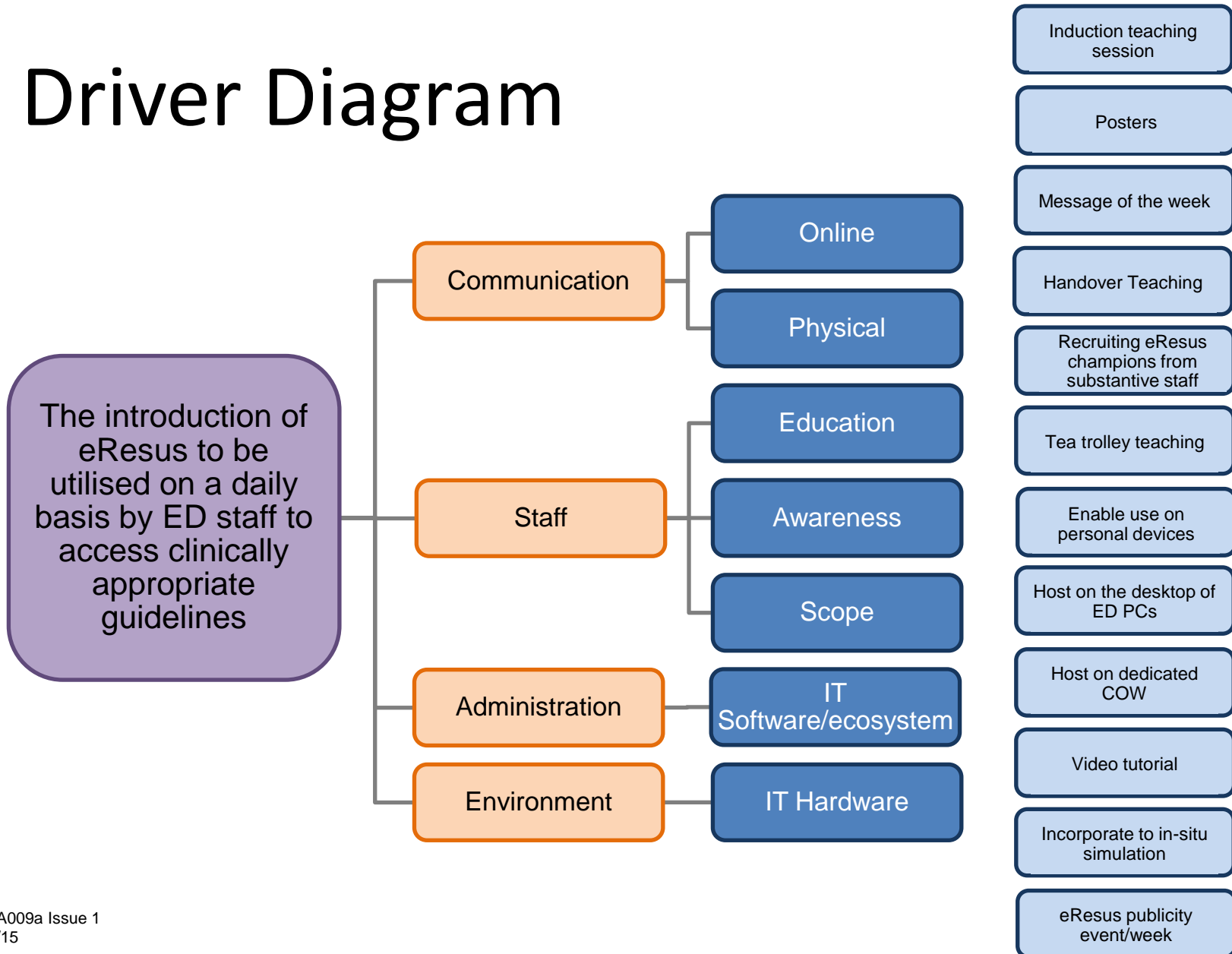
**Aled Donaldson, Ghulam Memon, Graeme Bird
& Sam Rogers**

(original work by Matthew Bankhead)

Sponsors: Helen Mansfield, Emma Colley

Additional Stakeholders: Communications Team (Kate Jeal
& Duncan Stevenson), IT Department, Tom Mitchell

Driver Diagram



Measures

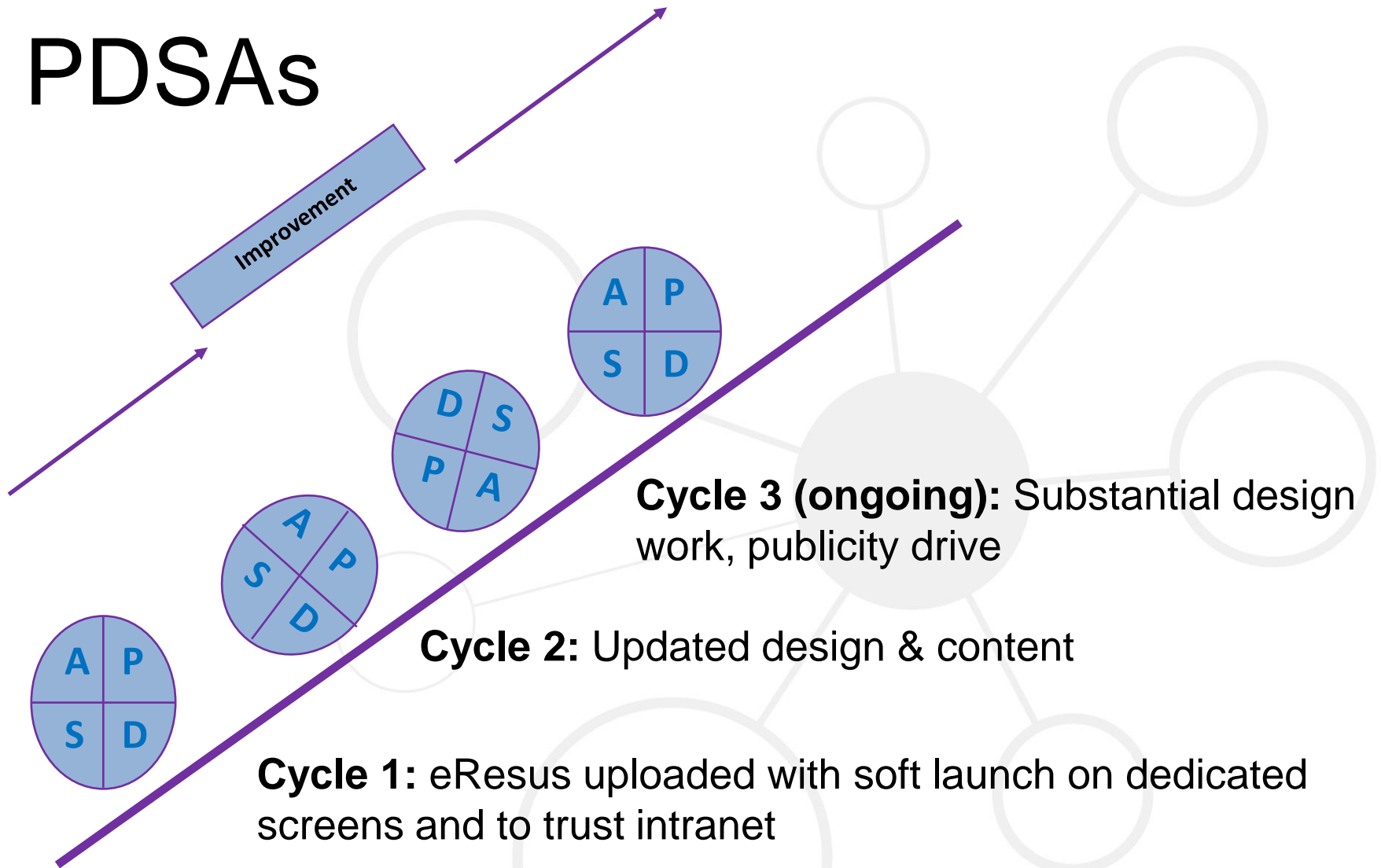
Outcome:

- The number of times eResus is used on average per week

Process:

- Staff qualitative feedback
- Time taken to access guidelines

PDSAs



PDSA Cycle 1

- eResus Version 1 uploaded to intranet and dedicated screens in Resus
- Informal/peer to peer launch



PDSA Cycle 1

“User friendly, some guidelines are too text heavy”

“Attractive layout and easy to find – would be quicker to locate on the desktop”

“Good layout and easy to locate guideline”

“Nice range of guidelines, some of the procedures would possibly benefit from more pictures”

“Simple layout that is easy to navigate forwards however clearer navigation backwards is needed”

“Easy to use and navigate, checklist is too wordy and close together to read easily, also procedures would benefit from more pictures”

“Well thought out package, would benefit from a ‘pretty’ up but on the whole nicely put together”

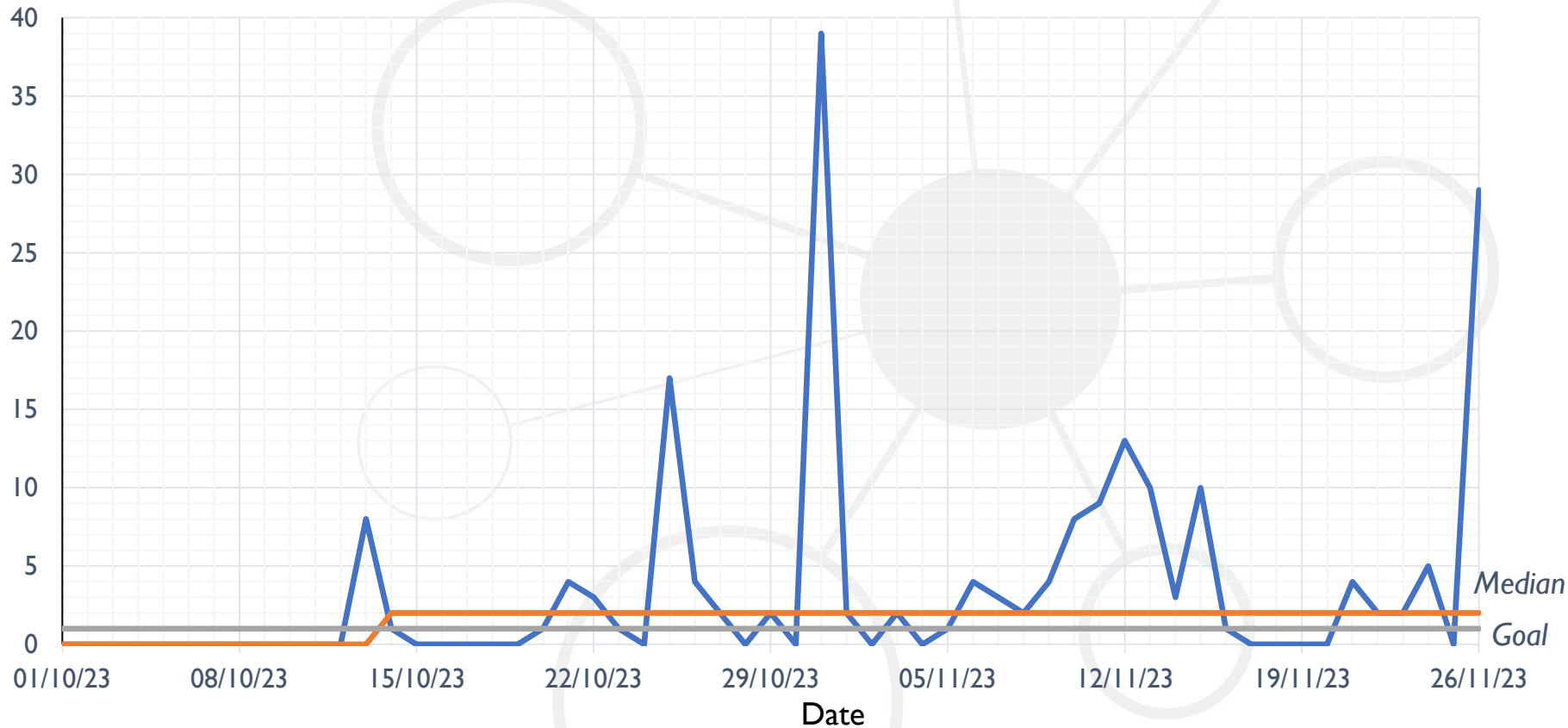
“Nicely put together, minor occasional spelling mistakes”

PDSA Cycle 1

eResus Daily Downloads: 1st October - 26th November

Daily Downloads

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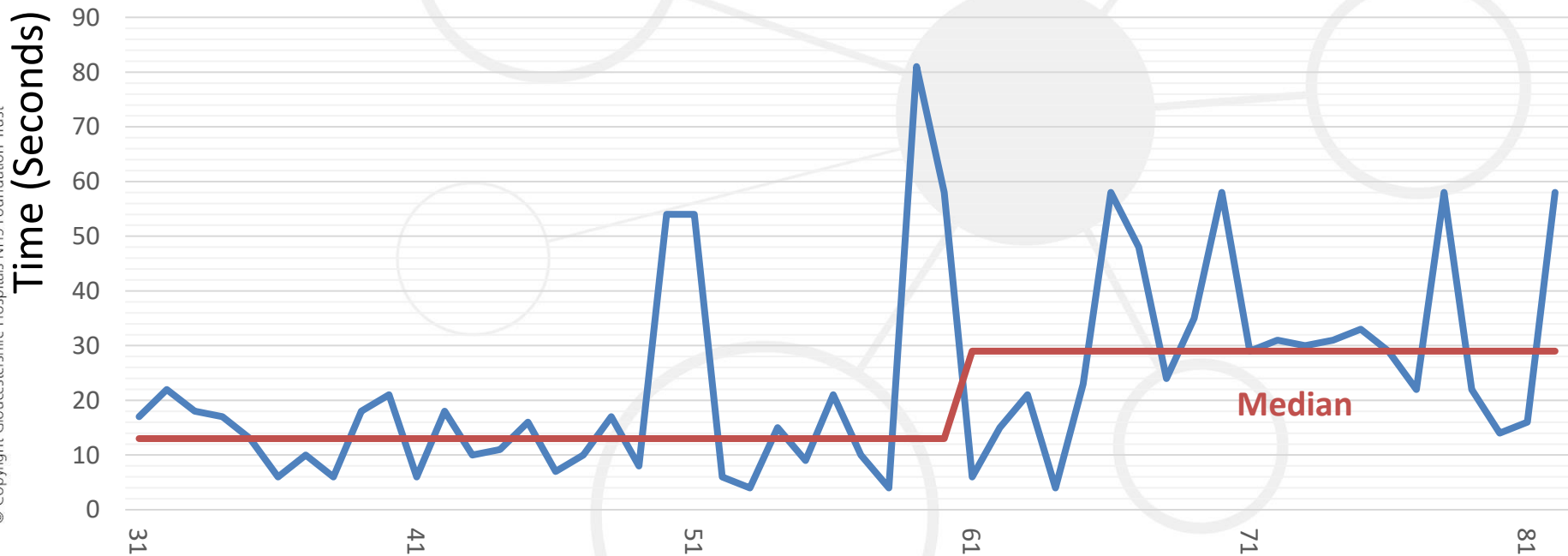
PDSA Cycle 1

Process Measure:

Time taken to access appropriate guideline

First version eResus = 14 seconds

PDSA Cycle I = 29 seconds



PDSA Cycle 2

- New version with updated content and design
- (Review of all topics)
- Improved usage data

1	Topic	Date reviewed	Reviewed by	To be Updated by	Date Updated	Source of Guide	Source Review/Expiry date	Notes/Guideline Link
2								
3	Adult							
4	Advanced Life Support	08/12/2023	Aled			Resus Council		Need to apply for permission from Resus council. Algorithm from 2021 Guidelines
5	Anaphylaxis	08/12/2023	Aled			Resus Council		Need to apply for permission from Resus council. Algorithm from 2021 Guidelines
6	Aortic dissection	08/12/2023	Aled	Ghulam		?Local guideline		Source of Guideline needs clarifying
7	Asthma	08/12/2023	Aled	Ghulam		?Local guideline	2019 guideline overdue review (Jan 2021)	Needs Updating
8	Bradycardia	08/12/2023	Aled			Resus Council		Need to apply for permission from Resus council. Algorithm from 2021 Guidelines
9	Cardiogenic Pulmonary Oedema	08/12/2023	Aled	Ghulam		RUH eResus		Needs review to make more legible
10	Choking	08/12/2023	Aled			Resus Council		Need to apply for permission from Resus council. Algorithm from 2021 Guidelines
11	Eclamptic Seizure	08/12/2023	Aled	Ghulam		?Local guideline	Published October 2021. Review date October 2024	M1049.pdf (sharepoint.com)
12	Hyperkalaemia	08/12/2023	Aled	Graeme		Local guideline	Published March 2023. Review date March 2026	https://www.gloshospitals.nhs.uk/media/documents/Inpatient_Hyperkalaemia_Management_Mar2024.pdf
13	Hypoglycaemia	08/12/2023	Aled	Graeme		Local guideline	Published September 2023. Review date September 2026	Varies from trust guideline. https://nhs.sharepoint.com/sites/RTE_ghnhsft_policies/Shared%20Documents/A2043.pdf
14	Hyponatraemia	08/12/2023	Aled	Graeme		Local guideline	Published December 2020. Review date December 2023	https://nhs.sharepoint.com/sites/RTE_ghnhsft_policies/Shared%20Documents/A2043.pdf
15	ICD De-Activation	08/12/2023	Aled	Graeme		Local guideline	Published January 2022. Review date January 2025	https://nhs.sharepoint.com/sites/RTE_ghnhsft_policies/Shared%20Documents/A2043.pdf
16	Local Anaesthetic Toxicity	08/12/2023	Aled			AAGBI	Published 2010. New version 2023	Needs Updating with 2023 guidelines. https://anaesthetists.org/Portals/0/PDFs/QRH/QRH_complete.pdf
17	Major Haemorrhage	08/12/2023	Aled	Graeme		Local guideline	Published September 2021. Review date September 2024	https://nhs.sharepoint.com/sites/RTE_ghnhsft_policies/Shared%20Documents/A0235%20AC14.pdf
18	Poisoning	08/12/2023	Aled			??TOXBASE		Needs Review

PDSA Cycle 2

E-Resus Homepage

Please note, E-Resus guidelines are designed to give guidance on how to stabilise a patient only and are therefore not extensive. For full guidance on how to manage a condition, please consult full hospital guidelines.

eResus Homepage

Please note, eResus guidelines are designed to give guidance on how to stabilise a patient only and are therefore not extensive. For full guidance on how to manage a condition, consult full hospital guidelines.

Adult Patients Ingestion of Unknown Substance

Initial Assessment Quick Reference Help

A. Ensure airway patent, control aspiration risk

B. Assess for respiratory effort and need for supplementary oxygen (respiratory rate, respiratory effort, chest rise and O₂ sat)

C. Assess for Apnoea, Tachy and Brady arrhythmias

History to Obtain

Blood Levels (POC, U&E, UPT, Betae, Mg, Creatine, Hb, Paracetamol, VitK)

ECG Interpretation & Anion Gap Calculation



Blood Pressure Management in Acute Stroke

Haemorrhagic Stroke

Onset within 6 hours and GCS 6 or above

BP >150mmHg

Apply GTN 5mg Patch

IV Labetalol Bolus 10-20mg over 2min followed by infusion

Ischaemic Stroke

Eligible for Thrombolysis?

BP >185/110?

IV Labetalol Bolus 10-20mg over 2min followed by infusion

Review full BP in Management in Acute Ischaemic Stroke guideline

Adult Head Injury

ADULT GLASGOW COMA SCORE		
Eye Opening	Score	Spontaneously
4	4	Spontaneously
3	3	To verbal command
2	2	To pain
1	1	No response
Verbal Response	Score	Confused
5	5	Orientated
4	4	Confused
3	3	Inappropriate words
2	2	Incomprehensible sounds
1	1	No response
Motor Response	Score	Obeys commands
5	5	Obeys commands
4	4	Localises pain
3	3	Flexion - withdrawal (decorticate)
2	2	Extension - abnormal (decerebrate)
1	1	No response

AIRWAY

Intubate and ventilate the patient immediately in the following circumstances:

- GCS ≤8
- Loss of protective laryngeal reflexes
- Ventilatory insufficiency as judged by blood gases: hypoxaemia (PaO₂ <13 kPa on oxygen) or hypercapnia (PaCO₂ >6kPa)
- Spontaneous hypoventilation causing PaCO₂ >6kPa
- Irregular respirations

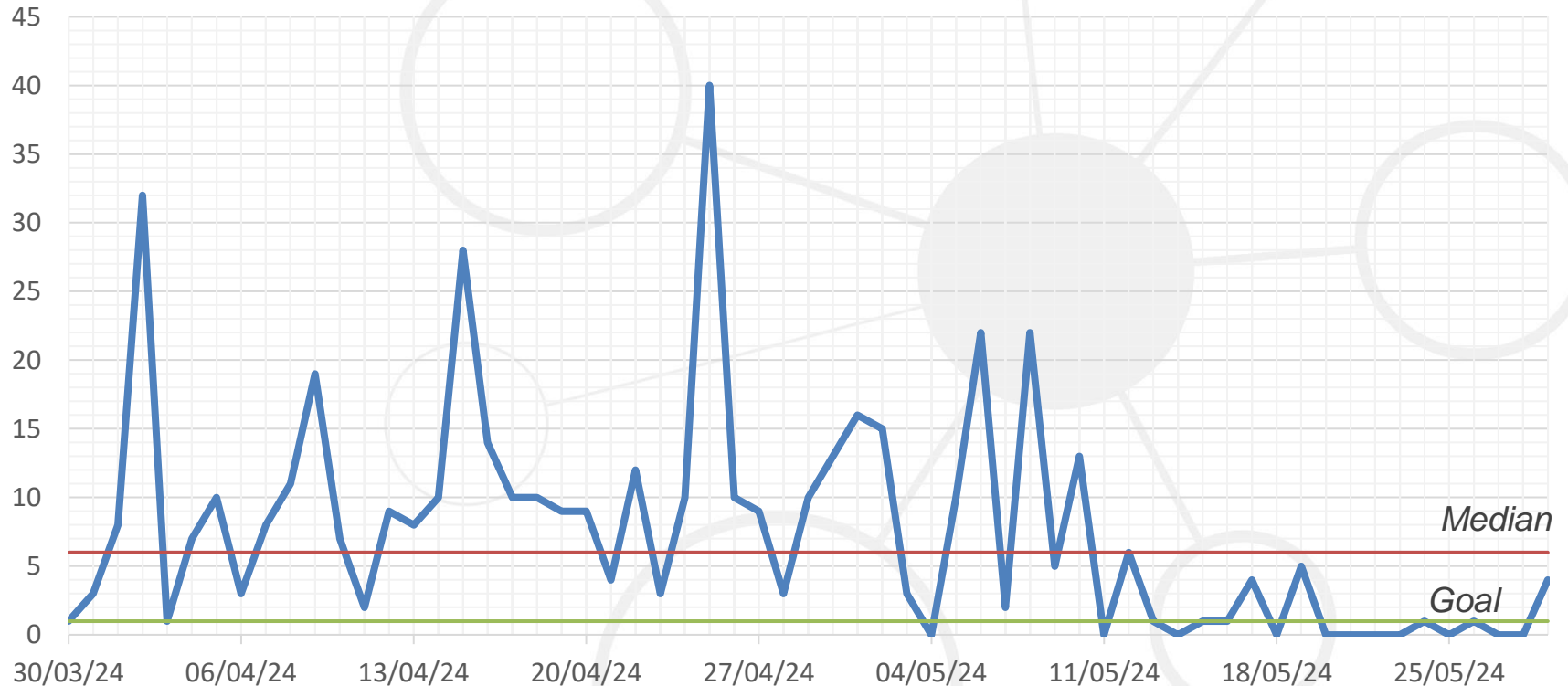
Consider TXA (2g IV) for GCS ≤12 if within 2h of injury and no active extracranial bleeding

Neuroprotective Measures, ICP & Antiepileptics

PDSA Cycle 2

eResus Daily Downloads: 31st March - 29th May

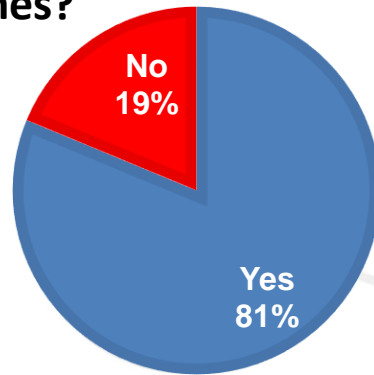
Downloads



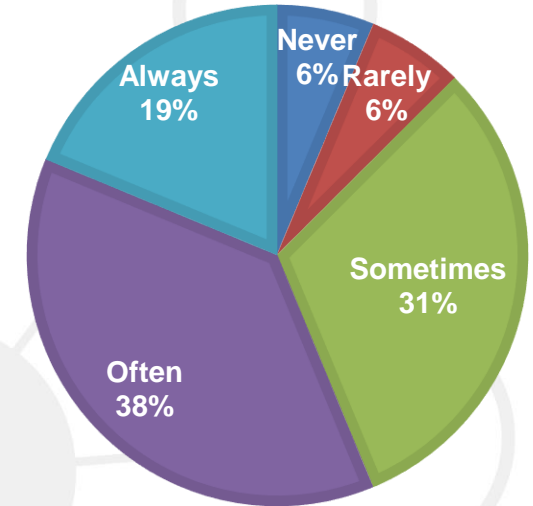
PDSA Cycle 2

When you need to find treatment guidelines, how often will you use eResus to do so:

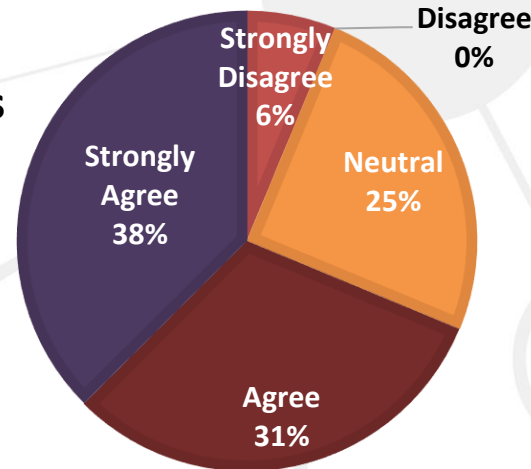
Have you ever used eResus to find emergency guidelines?



When you need to find treatment guidelines, how often will you use eResus to do so:



Locating relevant emergency treatment guidelines via eResus is easier than via the intranet guidelines page (or other sources)?



PDSA Cycle 3

(in-progress)

Design work undertaken by Comms team

Work on way eResus is hosted to improve access data

Publicity drive including CGH

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eResus guidelines

Before you use these guidelines

eResus guidelines are designed to give guidance on how to stabilise a patient only and are therefore not extensive. For full guidance on how to manage a condition, consult full hospital guidelines.

the Best Care for Everyone

Adult guidelines

Advanced Life Support (Cardiac Arrest)	Eclamptic Seizure	Major Haemorrhage	Stroke
Anaphylaxis	Hyperkalaemia	Poisoning	STEMI
Aortic Dissection	Hypoglycaemia	Pulmonary Embolism	Tachycardia
Asthma	Hyponatraemia	Rapid Tranquillisation	Upper GI Bleed
Bradycardia	ICD De-activation	Sepsis	
Choking	Local Anaesthetic Toxicity	Status Epilepticus	

Adult Major Haemorrhage: CODE RED

Delivery

Ongoing Bleeding

Damage Control Surgery

Ongoing Bleeding

MOVE TO GOAL DIRECTED THERAPY BASED ON ROTEM RESULT

- Maintain TEMP >35°C
- Give 10ml Ca Gluconate slowly before every 4th unit to keep Ica >1mmol/l

MOVE TO GOAL DIRECTED THERAPY BASED ON ROTEM RESULT OR if severe ongoing bleeding before ROTEM available, use 2nd CODE PACK B

PREVIOUS STEPS

Next Steps

- Completion of PDSA Cycle 3
- (Spread of eResus across both sites with publicity drive)
- ?Stretch goal – quantify usage target
- Widen project team to include non-clinicians and more substantive staff
- Sustainability – establish process for keeping eResus content up to date