The Epic Effect
A review of error trending pre and post implementation of Epic® at two large London teaching hospitals

NHS

King's College Hospital (KCH) and Guy's and St Thomas' (GSTT) were part of the first ever joint Epic® go-live between two Trusts. One year on, we aim to look to compare the error trending from the aseptic units, before and after implementing Epic®.

Introduction

Epic® is a licensed, software that provides a single, integrated and comprehensive source of patient information.

It is not a manufacturing system and was chosen by both Trusts to replace many of its current systems (i.e. Ascribe®, JAC®, Mosaiq®).

Epic® is used within the aseptic units to generate preparation and dispensing documentation, and to provide stock management and point-of-dispensing costing data. Epic does not have specific functionality to produce pharmacy worksheets, and therefore customisation of the system has been an iterative process between Epic® and the KCH and GSTT aseptic units, based on standardised product profiles across Trusts.

Epic® went live on 5th October 2023.

Aim

To understand if error trends have changed when using Epic®, and their similarity between the two Trusts.

Method

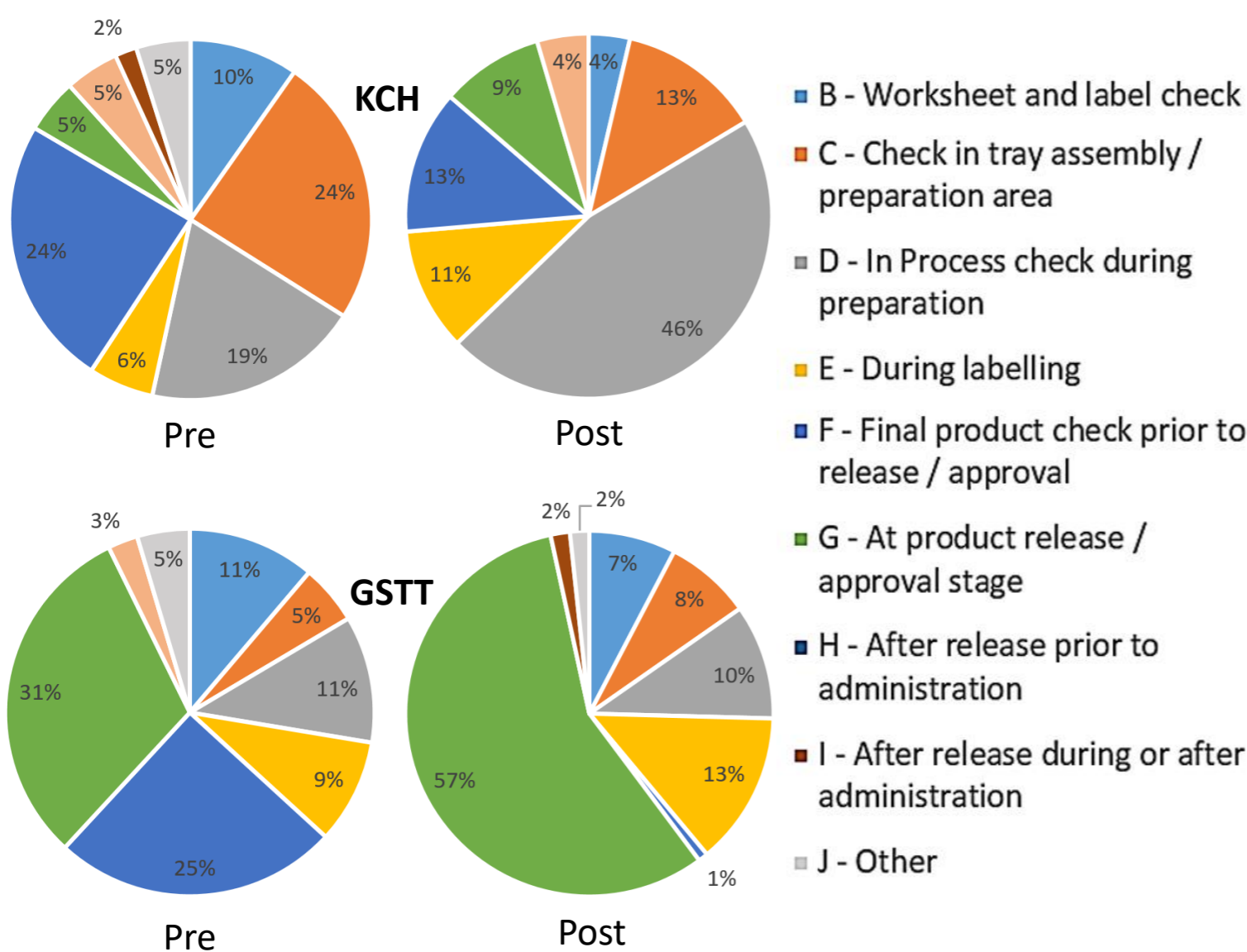Both Trusts use the National Aseptic Error reporting scheme to report and trend errors.

Data from up to 6 months before and after Epic® implementation was compared, focusing on when the error was detected, contributing factors, error type, potential outcome, and GMP failure.

Results

Total Number of Errors Reported

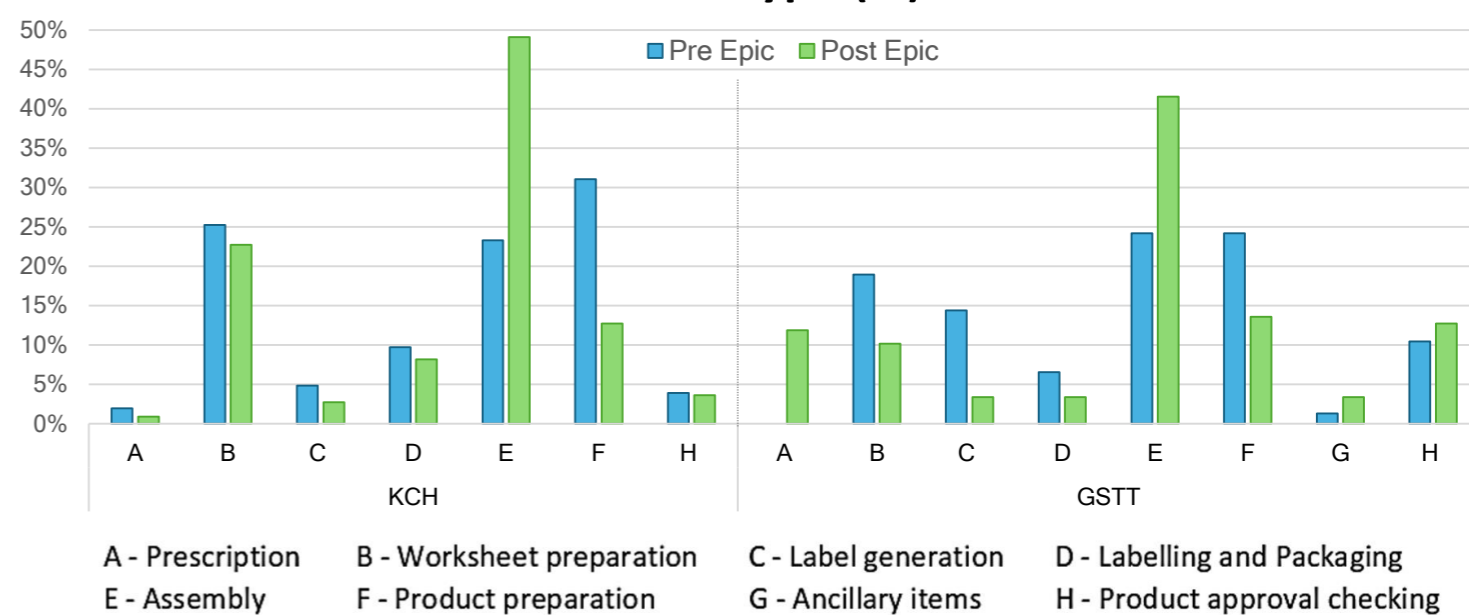|	Pre	Post
KCH	99	110
GSTT	154	117

When Error was Detected (%)

KCH — Pre / Post

GSTT — Pre / Post

- B - Worksheet and label check
- C - Check in tray assembly / preparation area
- D - In Process check during preparation
- E - During labelling
- F - Final product check prior to release / approval
- G - At product release / approval stage
- H - After release prior to administration
- I - After release during or after administration
- J - Other

Contributing Factors: Top 3 (%)

		1st		2nd		3rd	
KCH	Pre	50	Automaticity	15	Distractions	10	Poor quality/poor labelling
	Post	30	Automaticity	26	Distractions	10	Workload Pressures
GSTT	Pre	21	Automaticity	16	Workload Pressures	16	Staff new / in training
	Post	21	Automaticity	21	Workload Pressures	10	Distractions

Error Type (%)

- A - Prescription
- B - Worksheet preparation
- C - Label generation
- D - Labelling and Packaging
- E - Assembly
- F - Product preparation
- G - Ancillary items
- H - Product approval checking

Potential Outcome (%)

		None	Minor	Moderate	Major	Catastrophic
KCH	Pre	0%	48%	40%	12%	0%
	Post	9%	65%	16%	9%	0%
GSTT	Pre	51%	41%	4%	4%	0%
	Post	16%	55%	23%	6%	0%

GMP Failure (%)
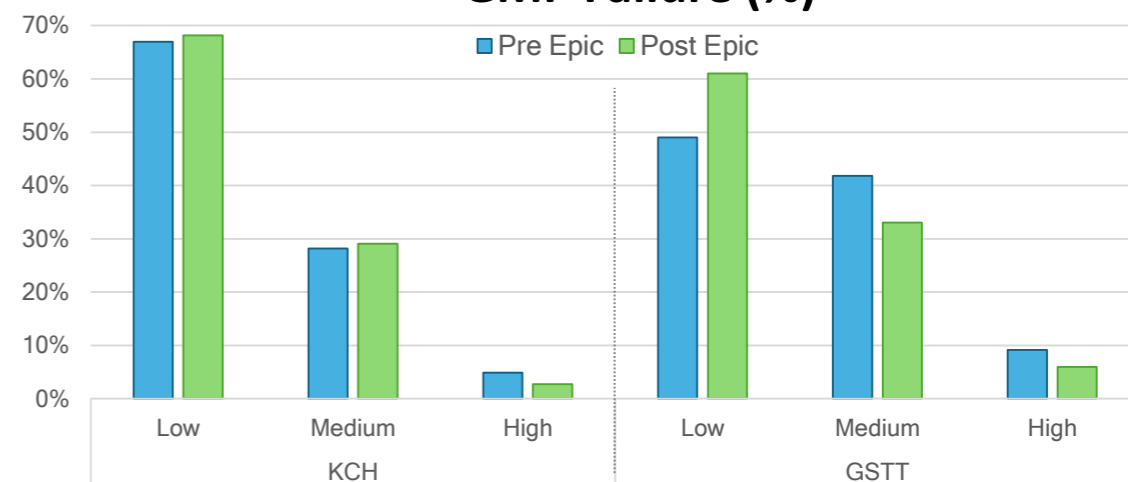
Conclusion and Lessons Learnt

At KCH errors seem to be *increasing*, whereas they have *reduced* at GSTT. Contributing factors to these differences are:
- Hypervigilance;
- Different workflows between the 2 Trusts;
- KCH have gone live for SACT, CIVAS and PN, whereas GSTT have gone live with SACT and CIVAS only.

Epic® might *optimise* detection of errors earlier in the process for KCH, but *no significant shift* for GSTT so far, aside from the *surge* in detection at product release.

Errors from assembly activities have dramatically *increased*.

Contributing factors seem to have been *unchanged*, however, other aspects can be major contributors such as:
- New worksheet layout, which is significantly different;
- Lack of system ownership of the system and ability to fine tune worksheets to local needs;
- Lack of expertise and understanding of new system and risks associated;
- Challenges around providing sufficient detail and training on a new system during the early phase of its use.

The post-Epic® trend suggests that the risk associated with reported errors (potential outcome and GMP failure) is *reducing*.

Further Work

Both Trusts have now entered the stabilisation phase of Epic® roll-out meaning further customisation can be made which will improve usability and safety of the system, and therefore quality of the work produced and patient experience.

Additional data must be gathered, such as detailed user feedback, to further contextualise these error trends and enable customisation.

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