

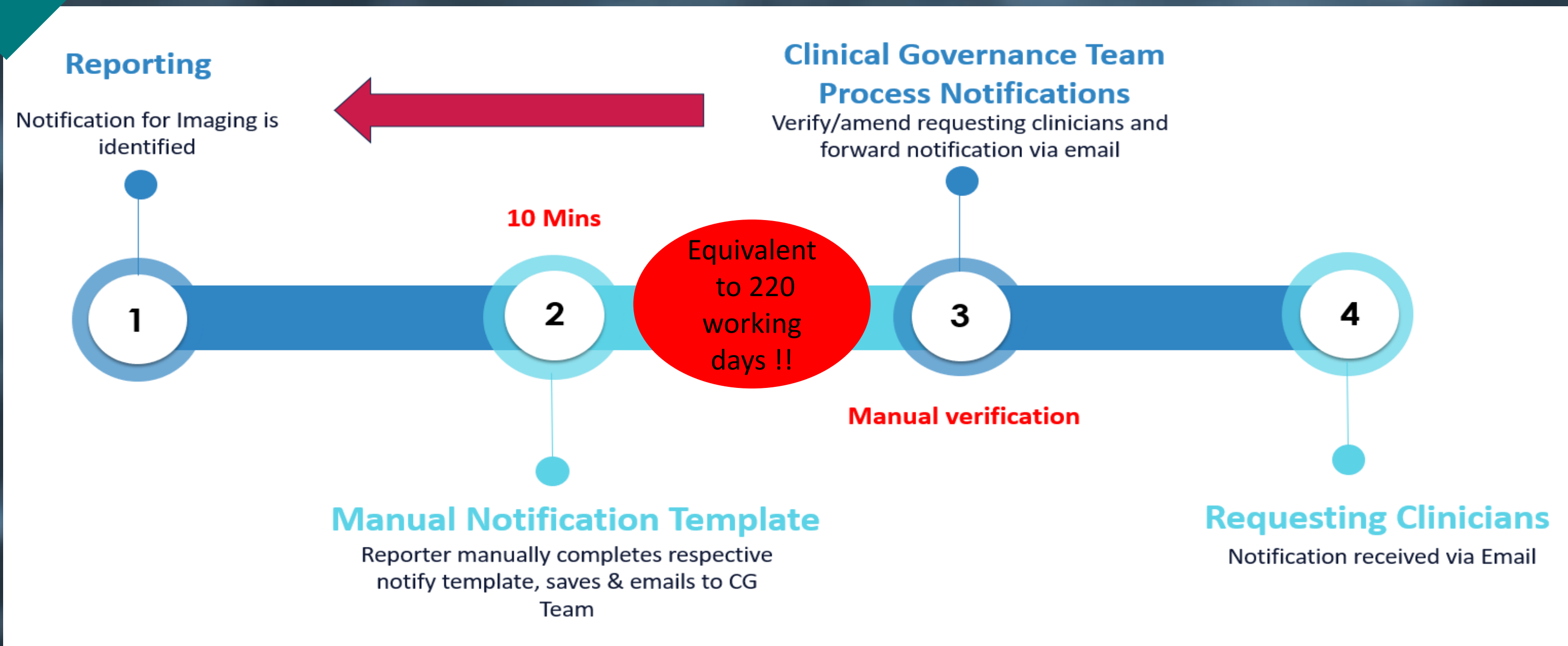
Intervention to improve accuracy, safety and efficacy of notification system for alerts and notifications of radiology reports

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BACKGROUND:

Historically, notifying of unexpected findings within radiology was a cumbersome and error-prone process. Radiology reporters would complete a Word document template, manually copy patient and attendance details, save the document, and email it to an administrative team. This team would then verify and potentially amend the requesting clinician details before forwarding the notification and report via email. This process averaged ten minutes per notification, discouraging timely reporting of urgent findings due to its time-consuming nature.

Old Notification Flow Process



Deficiencies

Efficiency

- Undue waste in reporting time for manual completion of notification template - approx. 10 mins (2).
- Delays caused by frequent clarification emails sent to the reporter due to incomplete and/or illegible entries (RED ARROW).
- High workload for the CG team.

Accuracy

- Legibility issues can lead to misinterpretation of key information, e.g. notifications forwarded to incorrect requesting clinician (3).
- Lack of predetermined selections increased ambiguity in notification submissions.

Safety

- Potential delays in patient management.
- Notification delivered to wrong requesting clinician.
- Difficulty in tracking changes within notification trends, to highlight potential problems/issues with the system.

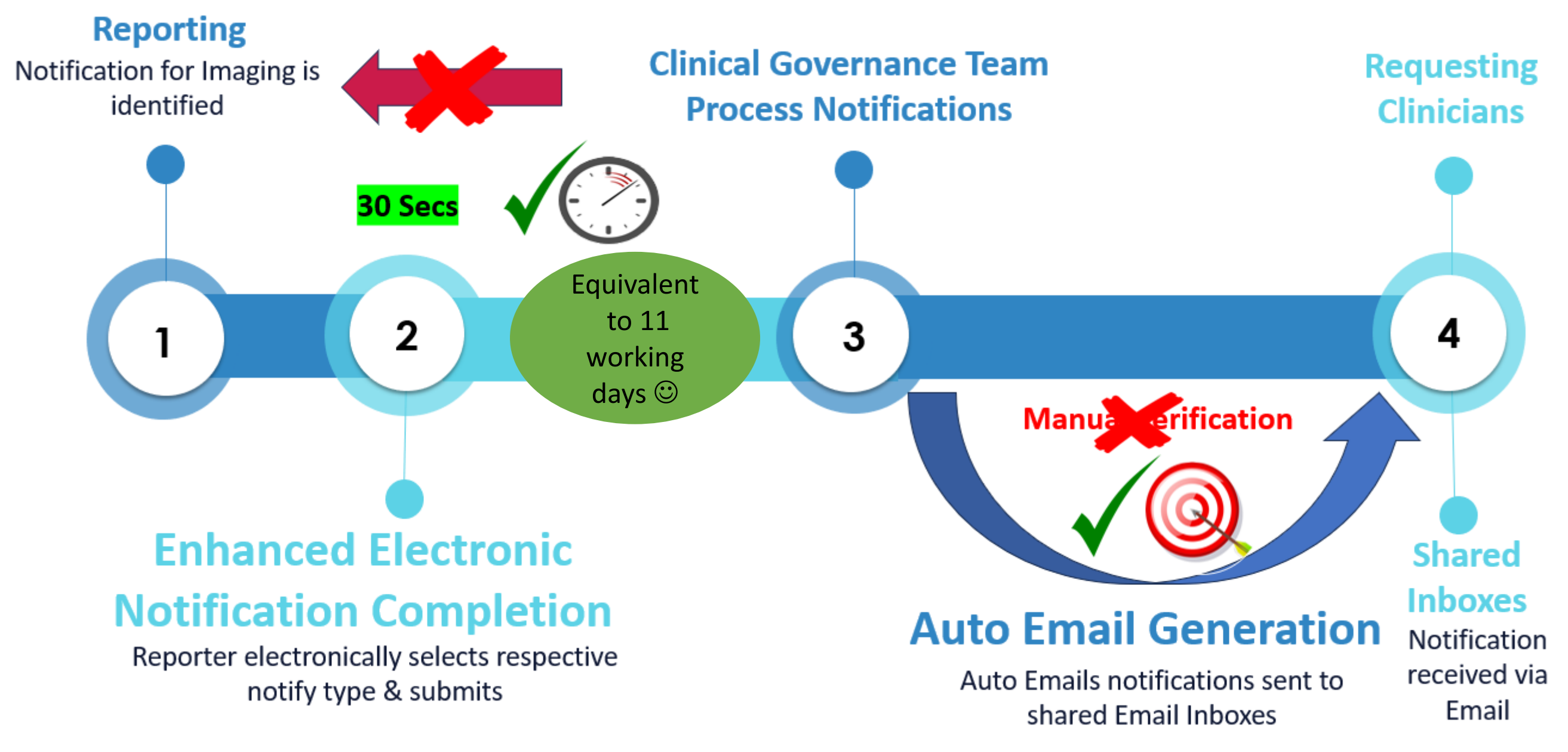
INTERVENTION:

To address inefficiencies, the team developed a roadmap incorporating recommendations from the Academy of Royal Medical Colleges' "Alerts and Notification of Imaging Reports Recommendations", October 2022, which was approved by the clinical governance committee for integration into the Radiology Information System (RIS). Collaborating with the RIS provider, following the build phase and User Acceptance Testing, the new enhanced notification feature was launched within four months. This large-scale intervention consisted of two phases:

- 1) Digitising the system to mitigate immediate risks.
- 2) Further enhance the notification system, introducing new notification categories and details, auto-email generation, and improved efficiency by allowing multi-selection of notifications.

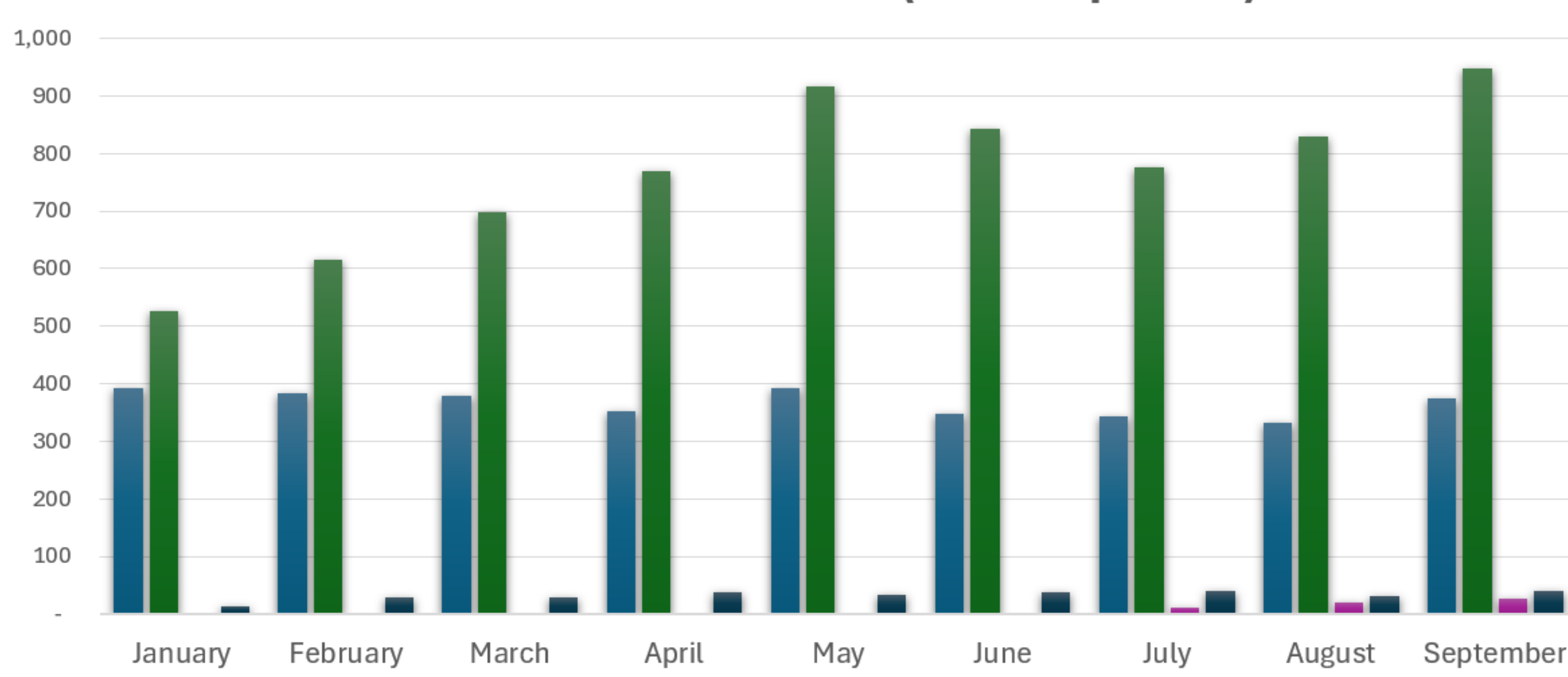
Enhanced Electronic Notification

Enhanced Notification Flow Process



Currently, our notification process is partially electronic, featuring autogenerated alerts from reporters based on predefined criteria. These notifications are seamlessly directed into shared inboxes, while specific categories are still routed to the clinical governance team for final delivery to the referring clinician.

Number of Notifications (Jan - Sep 2024)



Advantages



- The streamlined layout, multi-notify options, pre-determined selections & auto populated patient demographics all aid toward time savings in submission (30 Seconds/Submission)
- Instant TAT for delivery to shared inboxes.
- Complete mitigation of incomplete and illegible submissions due to mandatory fields



- Complete mitigation of illegibility due to electronic platform.
- Complete mitigation of ambiguity due to the availability of predetermined selections .



- Potential reductions in patient management delays
- Reductions in notifications delivered to wrong clinicians (will completely mitigate post electronic requestion).



- Auditing trends in notification helps early identification of system deficiencies (see graph).

Notification Layouts

The screenshot shows the Notification Layouts form, which is used to configure notifications. The form includes sections for "Notifications", "Management type", "Time Critical", "Disease Progression", "Follow-up", "Further Evaluation", and "Recommendations for CRO (MDT Selection)".

Notifications:

- ☒ Finding for Urgent Review
- ☒ Lung Nodule for surveillance (5-8 mm)
- ☒ Pulmonary Embolism Finding

Management type: (Findings that may alter clinical management)

Time Critical:

- ☐ TB finding
- ☐ Paediatric finding (Only tick for Outpatient, Inpatient or A&E cases. Not GP cases)
- ☐ Bone metastases from an unknown primary

Recommendations for CRO (MDT Selection)

Anal	Haematology	Skin
Breast	Head and Neck	Upper GI
Colorectal	Lung	Urology
Gynae	Neuro Oncology	

Type

- ☐ New or Probable New Cancer
- ☐ New or Probable New Cancer Recurrence
- ☐ Paediatric finding (Only tick for Outpatient, Inpatient or A&E cases. Not GP cases)

CONCLUSION:

Looking ahead, we're poised to transition entirely to electronic notifications with auto-generated emails upon the rollout of a comprehensive trust-wide electronic requesting system. Furthermore, we're committed to establishing a robust fail-safe mechanism to guarantee timely acknowledgment of notifications by our clinical teams, ensuring that no critical updates go unnoticed.

The shift from a manual to an automated notification system in radiology reporting has revolutionised our operations, enhancing efficiency, accuracy, and patient safety. This advancement marks a significant leap forward in our reporting practices, providing an extra layer of protection for our patients and ensuring we meet industry standards.