Project Title

Optimizing Inpatient O&G Electronic Results Acknowledgement: A Revamped Workflow

Project Lead and Members

Project Lead: Dr. Boricha Yash Bhanji

Project Members: Ms Felicia Ang Yiqian, Dr. Mok Zhun Wei, Dr. Pamela Partana, Dr. Ng Qiu Ju, Dr. Lee Ai Xin, Dr. Tan Kim Teng, Prof. Tan Hak Koon

Organisation(s) Involved

KK Women's and Children's Hospital, Singapore General Hospital

Healthcare Family Group(s) Involved in this Project

Medical

Applicable Specialty or Discipline

Obstetrics & Gynecology

Project Period

Start date: 26 Apr 2021

Completed date: 26 Oct 2021

Aim(s)

To reducing the number of unacknowledged result

Background

See poster appended/ below

Methods

See poster appended/ below

Results

See poster appended/ below

Lessons Learnt

Patient care is a combined effort amongst various stakeholders. Patients encounter healthcare providers from different departments/units during their hospital journey. Any change would not have been possible without good teamwork amongst the various departments. We learnt how regular monitoring/audits can bring about sustainable positive changes, how patients can be empowered for their own care and how reducing harm can be achieved. Thus, collaborative efforts by individual healthcare providers and a strong, well-integrated healthcare system is paramount for patient safety.

Conclusion

There are a myriad of factors that contribute to an optimal patient care experience. Clinicians need to have good communication, accountability and passion for promoting patient safety. Trust and shared decision making are also vital components in doctor-patient relationships. A good and coordinated follow-up process of medical results is vital in any clinical care facility. By ensuring that all abnormal results are acted upon promptly, we keep to our patients' trust and confidence in helping them in their clinical care. Results management is a challenging problem that requires resilient governance approaches and a culture dedicated to reliable and safe patient care. Lapses in results acknowledgement/ management can occur in any healthcare institution. This is a serious and essential issue that should be addressed by all healthcare providers or institutions. With the success of our new results acknowledgement workflow, we hope that others can learn from our experience and tailor the model accordingly. We hope that this initiative can be implemented across institutions and nationwide for patients' safety.

'Healthcare is filled with moral injury, because you are constantly failing - you may want to help people and the system isn't built to do that' - Koegh Weed

Curated by CHI Faculty: Sr Tan Yew Hiang, Nurse Manager, TTSH

Additional Information

The workflow was started on 26th April 2021. It has been over a year that the targeted results have been sustained.

Strategies implemented by our team are easy to adopt and inexpensive. They can be utilised by any institute for both the inpatient or outpatient setting. As of today, our strategies of results acknowledgment have been adopted by the whole Division of O&G in KKH, including O&G outpatient clinics and Urgent O&G Clinic (UOGC).

As the Electronic Medical Records is currently used by the 3 integrated public healthcare clusters in Singapore (Central region, Eastern region and Western region), other institutions or clinics can also adopt the strategies that we have outlined to improve their results acknowledgement process and ensure patient care and safety

Project Category

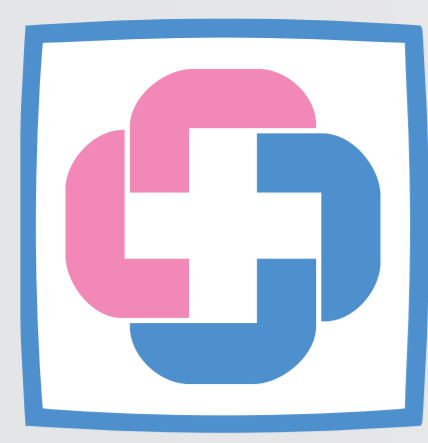Care & Process Redesign, Quality Improvement, Workflow Redesign

Keywords

Unacknowledged Results, Results Tracking & Follow Up, Team-Based Communication

Name and Email of Project Contact Person(s)

Name: Dr. Boricha Yash Bhanji

Email: Yash.bhanji@kkh.com.sg

Optimizing Inpatient O&G Electronic Results Acknowledgement: A Revamped Workflow

Yash Bhanji Boricha, Felicia Ang Yiqian, Mok Zhun Wei, Pamela Partana, Tan Kim Teng, Tan Hak Koon
Division of O&G, KK Women's and Children's Hospital

Background

Electronic medical records (EMR) contribute to improved quality of patient care, by allowing contemporaneous access to results and clinical documentation. This robust tool also addresses potential patient safety problems by returning all results to the ordering clinicians to ensure a closed loop system. Results that are not within the laboratory-specific reference ranges will also be highlighted. However, since the adoption of EMR, there has been a large number of unacknowledged results. As of 24 March 2021, there was a total of 7526 unacknowledged results in KKH, of which 81% belonged to the Division of O&G. 45% of the Division's unacknowledged results were contributed by the inpatient wards. Abnormal unacknowledged results have implications on patient safety and satisfaction, in addition to potential medico-legal consequences. Results which may have been acted upon but were not acknowledged in the system would also result in duplication of work amongst clinicians. This would contradict the efficiency of the EMR system and affect data accuracy.

Aim

To reduce the percentage of unacknowledged results (defined as results that are still pending on EMR for more than 2 weeks from the ordering date) from O&G inpatient wards to less than 5% within 6 months.

Root Cause Analysis

Our team evaluated the current results acknowledgement workflow and identified several factors contributing to the high rates of unacknowledged results (Figure 1).
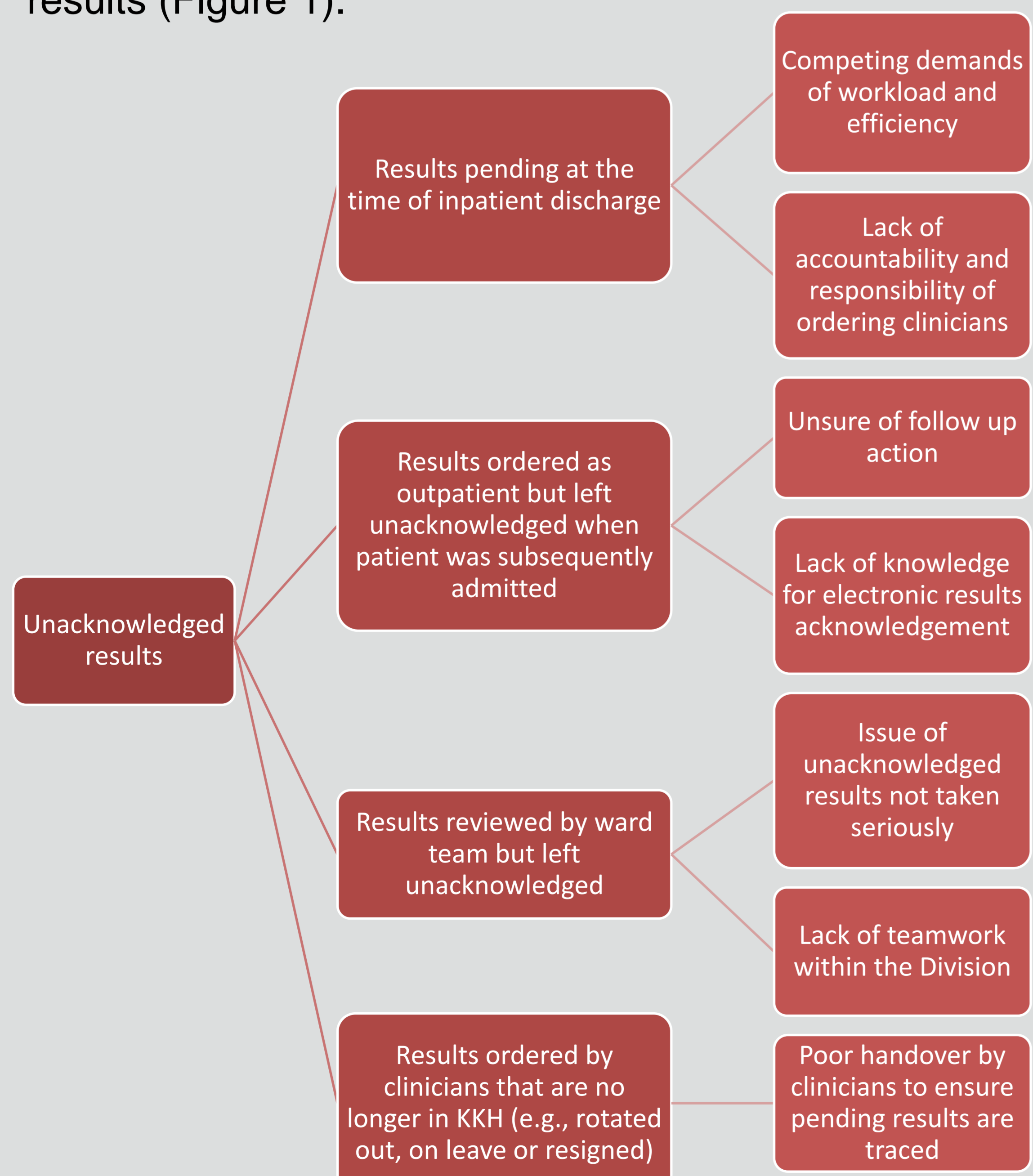

Figure 1: Root Cause Analysis for Unacknowledged Results

Proposed Solutions

Based on the root causes identified, possible targeted solutions were formulated as illustrated in Figure 2.
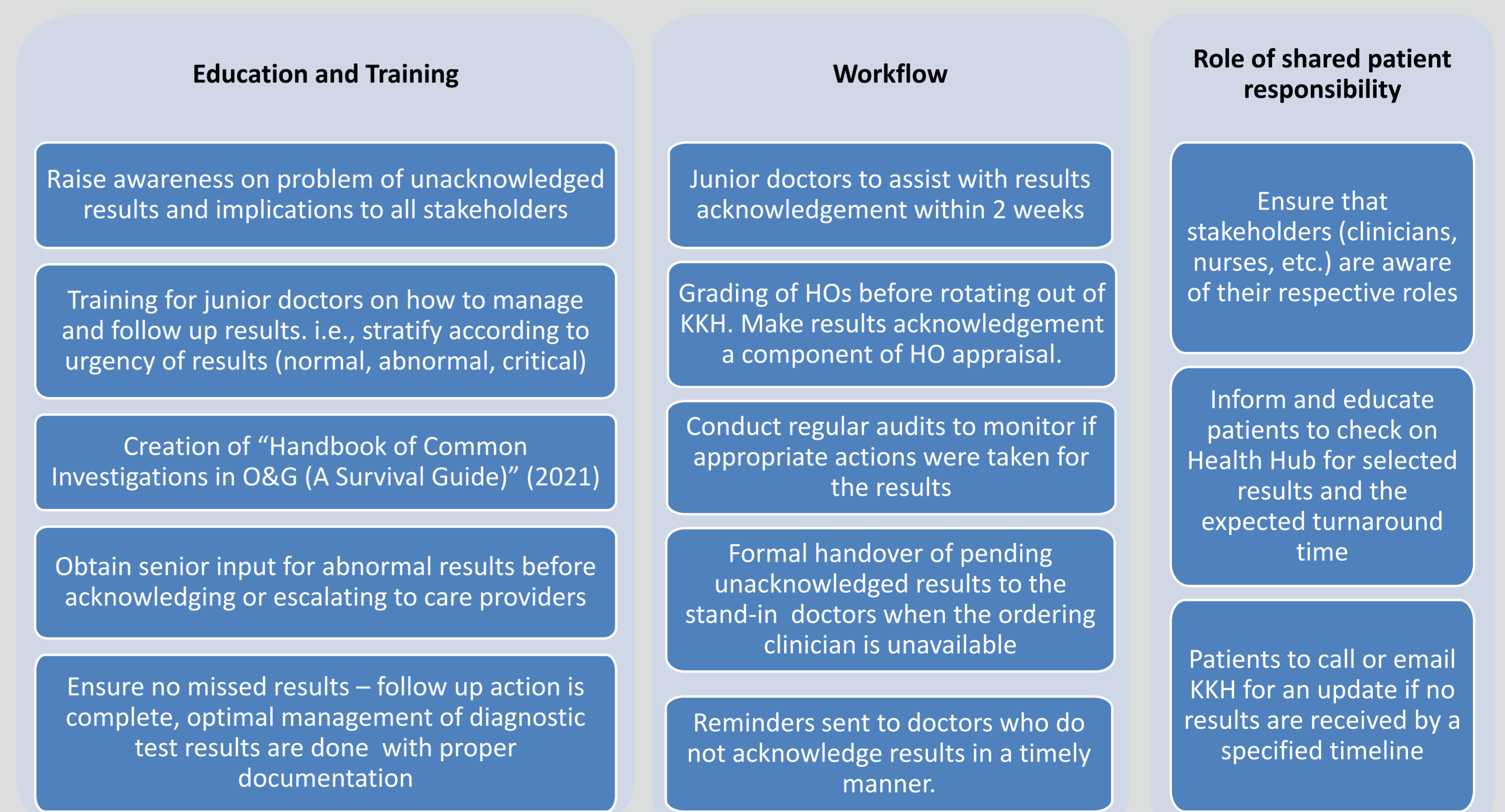

Education and Training	Workflow	Role of shared patient responsibility
Raise awareness on problem of unacknowledged results and implications to all stakeholders	Junior doctors to assist with results acknowledgement within 2 weeks	Ensure that stakeholders (clinicians, nurses, etc.) are aware of their respective roles
Training for junior doctors on how to manage and follow up results. i.e., stratify according to urgency of results (normal, abnormal, critical)	Grading of HOs before rotating out of KKH. Make results acknowledgement a component of HO appraisal.	Inform and educate patients to check on Health Hub for selected results and the expected turnaround time
Creation of "Handbook of Common Investigations in O&G (A Survival Guide)" (2021)	Conduct regular audits to monitor if appropriate actions were taken for the results	
Obtain senior input for abnormal results before acknowledging or escalating to care providers	Formal handover of pending unacknowledged results to the stand-in doctors when the ordering clinician is unavailable	Patients to call or email KKH for an update if no results are received by a specified timeline
Ensure no missed results – follow up action is complete, optimal management of diagnostic test results are done with proper documentation	Reminders sent to doctors who do not acknowledge results in a timely manner.	

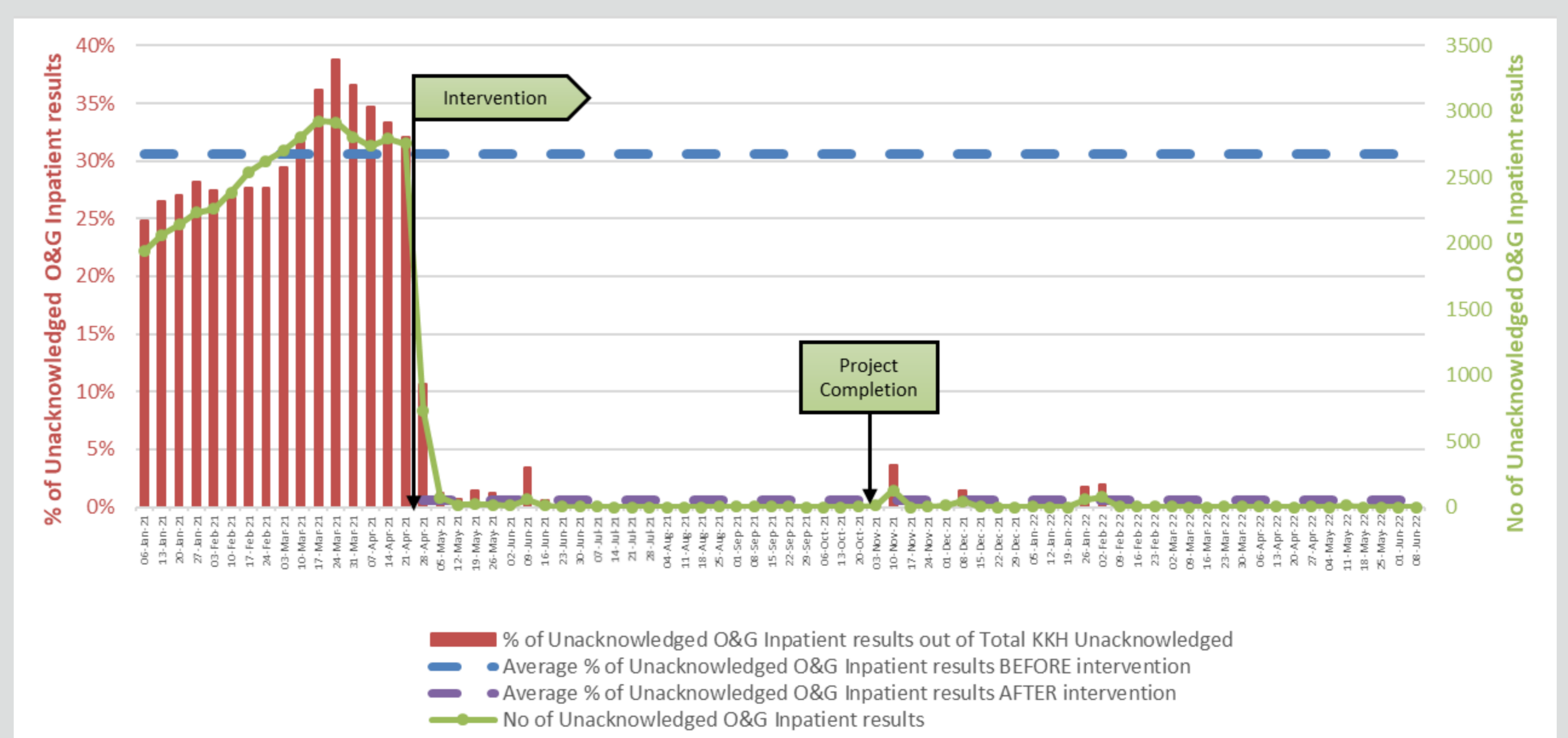*Figure 2: Proposed Solutions*

Results and Conclusion

Figure 3: Trend of O&G inpatient unacknowledged results from Jan 2021 to July 2021 showing decline from 31% to 1%

Since the implementation of the new workflow for acknowledgement of O&G inpatient results on 26th April 2021, there has been a significant reduction in the percentage of unacknowledged results. It declined from an average of 31% pre-intervention to 0.556% post-intervention, despite a relatively constant workload. The rate of unacknowledged results remained low for the consecutive months (Figure 3). This demonstrated the success of a combination of continued training, regular audits and education of the stakeholders on the importance of timely results acknowledgement. Following our successful revamped workflow, similar interventions can be replicated to other clinical areas like the outpatient setting in the Division of O&G and beyond. The tracking and follow up of results is an area that should be prioritized for healthcare IT development and training. This will ultimately improve team-based communication in our institution and have a great impact on ensuring patient safety in the long run.

Acknowledgments

The team would like to thank all doctors who were involved in clearing the backlog of unacknowledged results and contributed to the success of this quality improvement project. We would also like to thank Dr. Ku Chee Wai for his invaluable contribution towards the creation of the above graph (Figure 3).