質素 QUALITY TIMES

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醫院管理局 HOSPITAL AUTHORITY

Head Office Quality & Safety Division

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Enhancing Timeliness in Reviewing CXR and Avoiding Oversight Through Targeted Interventions

By ***Dr Ka Shing LEUNG[1] , Sena SZE[2], Jody LIU[1], Dr Joyce CHAN[2], Dr Lap Man HAU[1]***

[1] *Quality & Safety Division, New Territories West Cluster*

[2] *Information Technology and Health Informatics Division, Hospital Authority Head Office*

Chest X-rays (CXRs) are performed frequently and often require prompt review by clinicians. However, delays or missed reviews can lead to serious consequences for patients.

To address this, the Hospital Authority (HA) implemented AI tools and a "Notify Image" feature. These systems highlight abnormalities and alert clinicians when images are ready. Any CXR not reviewed within 14 days is flagged for follow-up.

A six-month review in New Territories West Cluster (March - August 2024) showed that around 100 out of 20,000 outpatient CXRs remained unread after three months. Major contributing factors included poor clinical handover, unclear exam scheduling, and delays in reviewing self-ordered CXRs. In response, several strategies were introduced: **regular reminders to clinicians, bi-monthly reports of unreviewed images sent to department heads, strengthened training on documentation and handover practices**.

One real case illustrated the impact. An 89-year-old man had a CXR done in January 2025, but it was not reviewed until over two months later. The image showed signs of possible Pulmonary Tuberculosis, requiring urgent follow-up. This incident was only identified through the unattended image review.

The project has improved safety, reduced risk, enhanced accountability—without additional cost. The next step includes implementing a smart patient list is planned to further reduce missed images.

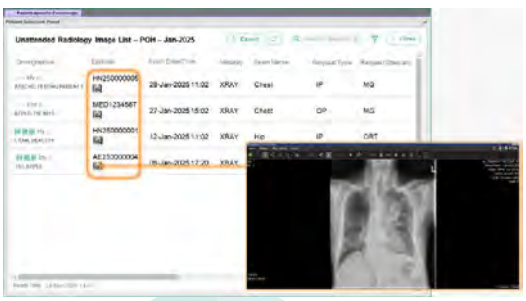

Figure 1:Example of Smart Patient List

Figure 2:Example of missed CXR review

Editorial Comments

This new Chest X-ray AI tool and Notification System is a wonderful innovation indeed. It provides decision support on chest x-ray interpretation, reminds clinicians for a timely review and helps to avoid missing readings. This system truly brings a reassuring level of safety enhancement for the patient, the staff and HA as an institution.

Hon. Assoc. Prof. William CHUI, Chief Pharmacist, HAHO

Accelerated Mobilisation for Adolescent Idiopathic Scoliosis Surgery

By ***Mr. Dominic LEUNG[1], Ms. Toby TANG[2] & Mr. Alan TSUI[3]***
[1]Advanced Practice Physiotherapist, [2]Senior Physiotherapist, [3]Deputising Department Manager (Physiotherapy)
Physiotherapy Department, Prince of Wales Hospital, New Territories East Cluster

Prince of Wales Hospital (PWH) is one of the only two scoliosis surgery centres in Hong Kong. Each year, the Department of Orthopedics and Traumatology handles approximately 5,000 follow-up cases and 1,000 new cases. Cases under care are usually those with a high Cobb's angle, for which corrective surgery is the last resort should the spinal curvature progress with systemic compromise.

Corrective surgical intervention for adolescent idiopathic scoliosis (AIS) in the PWH is conducted via posterior spinal fusion. A standardised multidisciplinary pathway was published in 2018, with an overall length of stay for paediatric patients undergoing surgery at an average of 11.1 days. Despite the lengthy hospital stay, the surgical procedure itself is associated with high surgical stress and a propensity for high-volume blood loss. The restrictive nature of the lungs secondary to AIS might also increase the risk of difficult extubation.

An accelerated mobilisation program endorsed by the Pediatric Orthopedics Division in PWH has been piloted in 2024. By commissioning **pre-operative counselling** on the day of admission, **early mobilisation** since post-operative day 1, and an **additional session** on Saturdays, public and statutory holidays, the program is targeted to **reduce potential risks associated with prolonged immobilisation, facilitate pain reduction and functional ability**. Eventually, it aims to shorten the length of stay for better resource utilisation.

The average days for all AIS patients admitted in the PWH Pediatric Orthopedics Ward for scoliosis surgery to achieve independent walking and stairs walking were accelerated by 21% and 22%, i.e., from 6 days to 4.72 days and 8 days to 6.22 days, respectively. The **total length of stay was shortened by 24%**, from 11.1 days to 8.44 days. The outcome yielded no adverse event despite the mean Cobb's angle being 63.1 degrees, a very severe type of scoliosis.

Other than statistical significance, a carefully accelerated program offering **timely, accurate, and holistic care, advice, and education to patients and their families** has achieved **better patient journeys, clinical outcomes, and resource utilisation**. This is a win-win solution.

Our Department is devoted to optimising the pathway in order to create a more seamless experience for our patients!

Figure 1: Modified Functional Activities

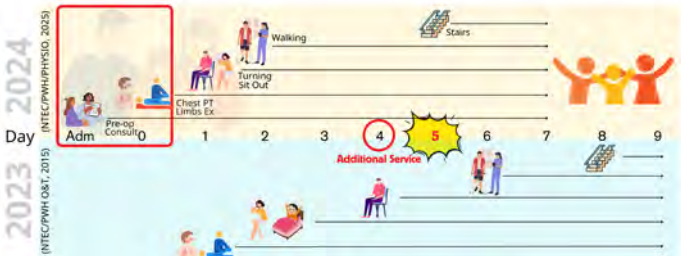

Figure 2: Early Mobilisation Program

Editorial Comments

The early mobilisation programme is a seminal advancement in peri-operative care for adolescents undergoing corrective surgery for idiopathic scoliosis. The early physiotherapy intervention has proved to have significantly accelerated recovery in mobility and reduced length of stay. The emphasis on early mobilisation not only enhances physical outcomes but also promotes psychological well-being, comforting adolescents during a challenging recovery period. As the clinical team continues to refine the programme, the positive impact on patient experience and rehabilitation underscores a new multi-disciplinary approach in surgical care, and that exemplifies a commitment to improving health outcomes for the youth.

Dr Osburga CHAN, Service Director (Quality & Safety), KCC

Establishing Surgical Risk Calculator for Post-operative Mortality in Hong Kong

By Prof. Ka Chun Chong[1], Prof. Yuchen Wei[1], Prof. Paul Bo San Lai[2], Dr Sunny Yue Sun Cheung[3], Prof. Chi Tim Hung[1], Prof. Eman Yee Man Leung[1], Prof. Thomas Yuen Tung Lam[4], Prof. Eng Kiong Yeoh[1]

[1]*Centre for Health Systems and Policy Research, The Chinese University of Hong Kong*

[2]*Department of Surgery, Faculty of Medicine, The Chinese University of Hong Kong*

[3]*Department of Surgery, North District Hospital*

[4]*The Nethersole School of Nursing, The Chinese University of Hong Kong*

Surgical operations are a crucial component of effective treatment for common diseases and injuries, playing an important role in healthcare systems. According to the Lancet Commission on Global Surgery, approximately 313 million procedures are performed worldwide each year.

The Surgical Outcomes Monitoring and Improvement Program (SOMIP) is an annual audit program initiated by the Hospital Authority (HA) in Hong Kong since 2008. This program aims to monitor the performance of public hospitals with surgical departments under HA in regard to postoperative mortality and morbidity outcomes, and to identify potential improvements in surgical services.

With the support of the Health Bureau, the Chinese University of Hong Kong (CUHK) team collaborates with SOMIP team to initiate a research project aimed at establishing a surgical risk calculator for post-operative mortality and morbidity in Hong Kong. The project utilised **11 years of surgical big data** from all 17 public surgical hospitals, including a total of 124 preoperative and intraoperative patient-level variables, and employed 12 machine learning models to predict 30-day, 60-day, and 90-day mortality, as well as major morbidities. The results of the data analysis show that the predictive performance for surgical outcomes is excellent and highly accurate in both emergency and elective surgeries.

The establishment of a convenient surgical risk calculator in Hong Kong is timely and beneficial for assisting surgeons in their clinical practice, especially for **risk assessment before operations on high-risk patients**. In the long run, it is expected that risk calculator could help alleviate the healthcare and economic burden resulting from the growing and aging population, which is more likely to call for surgical services.

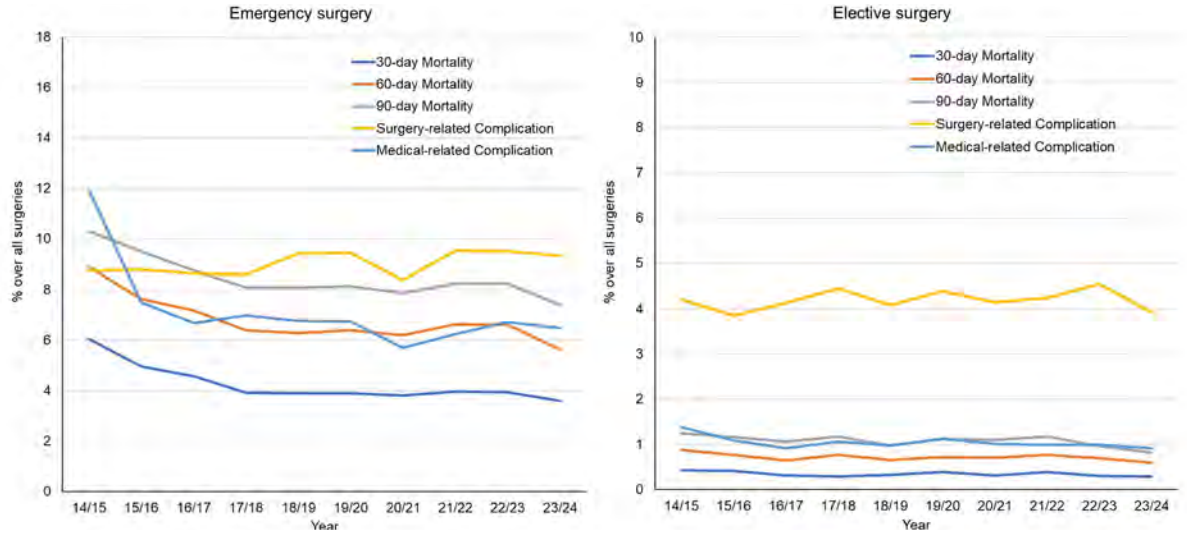

Figure 1: Yearly rates of emergency (left) and elective (right) surgical outcomes from 14/15 to 23/24

Editorial Comments

In an era where healthcare systems are increasingly burdened by aging populations and complex medical needs, tools like this surgical risk calculator are invaluable. This initiative enhances pre-operative risk assessment, potentially reducing mortality and morbidity rates. Ultimately, this development promises to enhance patient outcomes and optimise resource utilisation in an evolving healthcare landscape.

Dr Victor IP, Service Director (Quality & Safety), KEC

Streamlining Chemotherapy Ordering Process via a Digital Platform

By ***Dr Luke CHAN[1], Dr Vivien MAK[1], Ms Shan TSEUNG[1], Ms Fanny CHAN[1], Ms Kristy TANG[2], Mr Elton YIP[2], Mr Parklan POON[3], Ms Queenie LAM[3]***

[1]Division of Haematology and Haematological Oncology, Department of Medicine and Geriatrics,
[2]Pharmacy, [3]Information Technology Division, Princess Margaret Hospital

The Electronic Chemotherapy Ordering System (ECOS) was introduced in March 2023 at the medical day ward of Princess Margaret Hospital. Its primary function is to facilitate the submission of chemotherapy requests to the pharmacy department and to maintain scanned chemotherapy administration records (MARs).

ECOS features both desktop and mobile tablet app interfaces. Operation begins by entering a unique patient identifier after admission. The camera function of mobile tablets is used to scan and upload documents, including MARs and invoices for self-financed items. Pharmacy staff employed ECOS to acknowledge orders, return MARs for revisions and provide updates on the vetting status. MARs were subsequently uploaded to ECOS rather than filed in the chemotherapy folder after drug administration.

In 2024, ECOS processed over 4,400 chemotherapy orders. The adoption of ECOS has substantially **reduced the incidence of missed or delayed chemotherapy requests** compared to the conventional method of using facsimile for such purposes. In addition to **ensuring traceability**, the system also **enhances communication and teamwork** by enabling every stakeholder to visualise the stage of the chemotherapy ordering process. Care providers can **access past chemotherapy records remotely**, which is crucial for reviewing and making treatment plans in the clinic or ward.

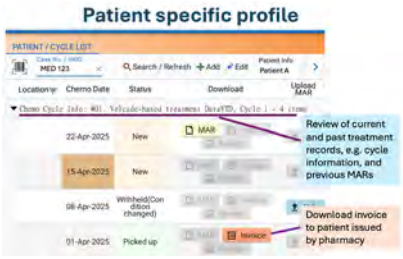

Figure 1: Patient specific profile

Figure 2: Day Ward Patient List

Figure 3: Document scanning function of iPad

Editorial Comments

The implementation of ECOS represents a pivotal shift in oncology care, streamlining chemotherapy order management with digital precision. By enhancing communication, reducing errors, and enabling remote record access, ECOS fosters safer and more efficient treatment planning, while also streamlining workflows to save time. The introduction of ECOS sets a strong precedent for healthcare innovation.

Dr Jeffrey LAI, Chief Manager (Quality & Standards), HAHO

Trivia

Please scan the QR code to answer the question of the Trivia. If you answer the following question correctly by 20 Sep 2025, we will put your name into a lucky draw. Then we will present a gift coupon to each of the 3 winners that we draw.

What were key reasons for missed CXR interpretation in the recent review in NTWC?

A. Poor AI performance

B. Poor handover, unclear scheduling, and delayed self-review

C. Busy radiology and not enough machines

D. Patients missing appointments

Here is the answer of Issue 55 :

Question: What are the new Key Performance Indicators (KPIs) on Patient Blood Management (PBM)?

Answer: A) 1 ,2

1. % of transfusion with pre-transfuse haemoglobin (Hb) level <7g/dL
2. % of transfusion with single red blood cell unit transfusion

Thank you for participating and congratulations to the three winners of Quality Times Issue 55!

We have already contacted all the winners for the prize-delivery arrangement.

Comments are welcome

Please email us at address:
HO Quality & Standards Department