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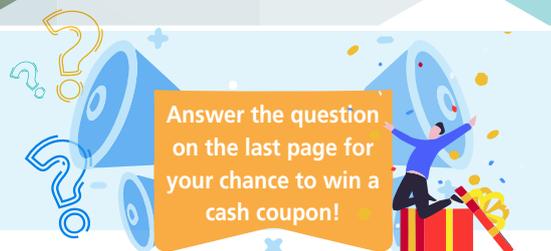
Digital Result Management: Strengthening Care with Innovation

*By **Dr Joanna PANG***

Information Technology and Health Informatics Division, Hospital Authority Head Office
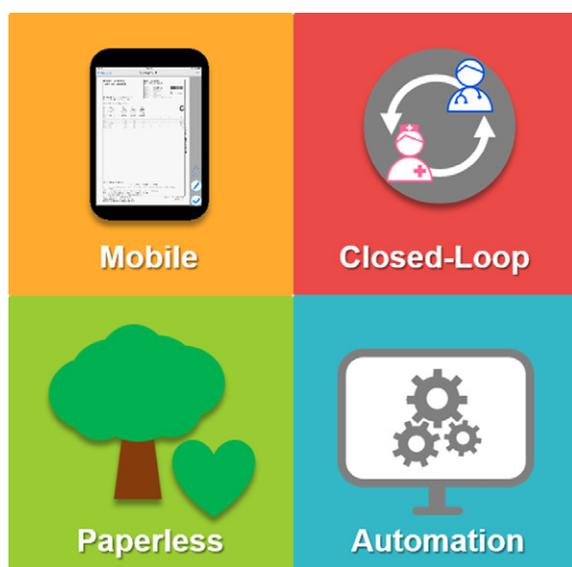
Figure 1: Benefits of the Result Screening App

Mobile · Closed-Loop · Paperless · Automation

Since the early 1980s, clinical teams have accessed patients' laboratory and radiological reports through the Clinical Management System (CMS). Result screening remains a vital clinical process, and the introduction of the Result Screening App has become a cornerstone of modern healthcare. By digitizing diagnostic report management, it enhances patient safety, improves efficiency, and strengthens accountability — ensuring timely follow-up, reducing human error, and maintaining documentation integrity.

A well-designed electronic result management system supports a closed-loop workflow where each result is systematically reviewed, acted upon, and documented. This minimises missed findings while promoting transparency and traceability across clinical teams. Integration with CMS further boosts multidisciplinary collaboration by enabling real-time access to critical patient data.

To extend support for inpatient settings, the Result Screening App is evolving to meet the demands of 24/7 care and rapid clinical decision-making, equipped with automated alerts, centralised dashboards and integration with eDoc to streamline workflows and improve patient outcomes.

Looking ahead, artificial intelligence is poised to play an increasingly important role in result management by helping prioritise urgent findings, identify potential risks, and automate routine tasks. These advancements can support clinicians in making faster, more informed decisions and enhance efficiency in complex healthcare environments.

Editorial Comments

The Result Screening App modernises result management, enhancing patient safety and continuity of care. Closed-loop review, real-time access, and integration with CMS & eDoc strengthen handover and reduce missed findings. Scaling to 24/7 inpatient workflows with alerts and dashboards addresses frontline needs. With AI-driven prioritisation on the horizon, teams can focus on urgent findings and expedite follow-up.

Dr Leo CHAN, Chief Manager (Clinical Effectiveness & Technology Management), HAHO

From Clinic to Wards: Advancing Closed-Loop Result Management

*By **Ms Beatrice LEUNG, Ms Daisy AU***
Information Technology and Health Informatics Division, Hospital Authority Head Office

Five years after its initial launch, the Result Screening App has successfully transformed diagnostic management in Hospital Authority outpatient clinics. This system established a closed-loop process for Laboratory and Radiology reports, ensuring each report is electronically reviewed, followed up, and documented. This initiative has significantly reduced the risk of missed results while saving 22 million sheets of paper annually.

Building on this achievement, the system has been expanded to inpatient and discharge settings. Starting with a pilot at Tseung Kwan O Hospital in 2022, it is now being gradually adopted in 36 hospitals. To address the complex ward environment – characterised by multidisciplinary round-the-clock care and time-sensitive decisions – new features were introduced. These include a Clinical Dashboard that provides instant notifications to nurses and full integration with e-Documentation, offering all team members centralised, real-time access to results. By the end of 2025, it is projected that close to 12 million inpatient and discharged results will be managed electronically through this App.

Leveraging the integration with e-Documentation, there is a plan to incorporate paperless electrocardiogram (ECG) and radiology films to further streamline clinical workflows and enhance patient safety in the handling of diagnostic reports.
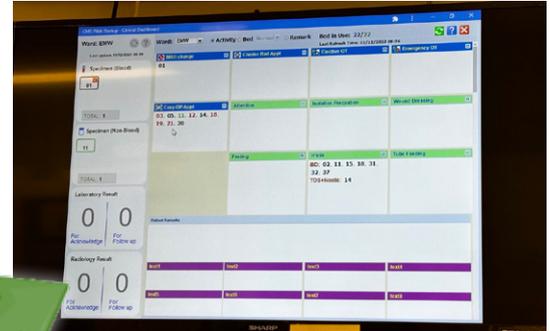

Figure 1 Clinical Dashboard that provides instant notifications to nurses

Notification on Clinical Dashboard

Figure 2: Display of Clinical Dashboard on ToughPad and TV

Editorial Comments

The Result Screening App has successfully established a closed-loop diagnostic management system, significantly enhancing patient safety by reducing missed results and generating substantial administrative efficiencies. Its ongoing expansion and integration with digital platforms underscore a committed advancement towards a fully streamlined, paperless clinical environment in Hospital Authority.

Mr Jackson WONG, Senior Manager (Allied Health), HAHO

AI Deterioration Prediction System & Smart-CARES Clinical Bundle

By Dr C T LUI, Dr L M HAU, Dr L K TSOI, Ms P F TANG, Dr S N WU, Mr M S LAM, Dr C W WONG, Dr W H YUEN, Mr W Y KWOK, Mr M C LAU, Mr M H WONG, Dr H Y YUEN, Ms K C MA, Mr Y C YEE, Mr W S LEE, Mr H Y CHUNG, Mr Edwin LO, Mr Peter CHAN, Mr Jeremiah PALMERSTON, Mr Kenny LAU, Mr Y F LAM, Mr Byron SO, Ms Amy CHUNG, Mr Dennis LEE, Mr Owen NG, Dr Joyce CHAN
NTWC Smart-CARES Workgroup

Early detection of high-risk deterioration patients in ward is always the direction for early intervention. Modified Early Warning Score (MEWS) is the traditional tool. Though widely validated, the impact is limited with accuracy and high false alarm.

Deep learning AI models based on 20 parameters (vitals, demographics, laboratory reports) to predict patient deterioration had been piloted and implemented in Pok Oi Hospital (POH) since September 2024, demonstrating reassured accuracy (AUROC 0.92 c.f. 0.82 of MEWS), earlier predictive window (up to 48 hours prior to deterioration), explainability and better trust by clinical team.

The model is embedded in CMS bundle in smart ward, to ward dashboard and HA chat push notification to case nurse when there is a newly identified patient at-risk of deterioration.

More importantly, the conjoint effort of IT and Q&S integrating IT systems to standardised clinical response and escalation bundle of nursing and medical frontlines, intensified training sessions to share what should be performed when we encounter a patient at-risk of deterioration.

The Smart-CARES nurse bundle covers a simplified A-G approach of nursing initial assessment, monitoring and intervention, iSBAR communication with on-duty physicians. The doctors' bundle covers intensified monitoring plan, organ supports, root cause identification with targeted intervention, to escalating care facilities and standard.

The smooth rollout to all wards in POH in July 2025 signifies a milestone of clinical AI in smart ward, and readiness for codelivery to other hospitals. Evaluation would be followed on the impact on patient outcome, unplanned ICU admission, patient length-of-stay and improvement in hospital operation.
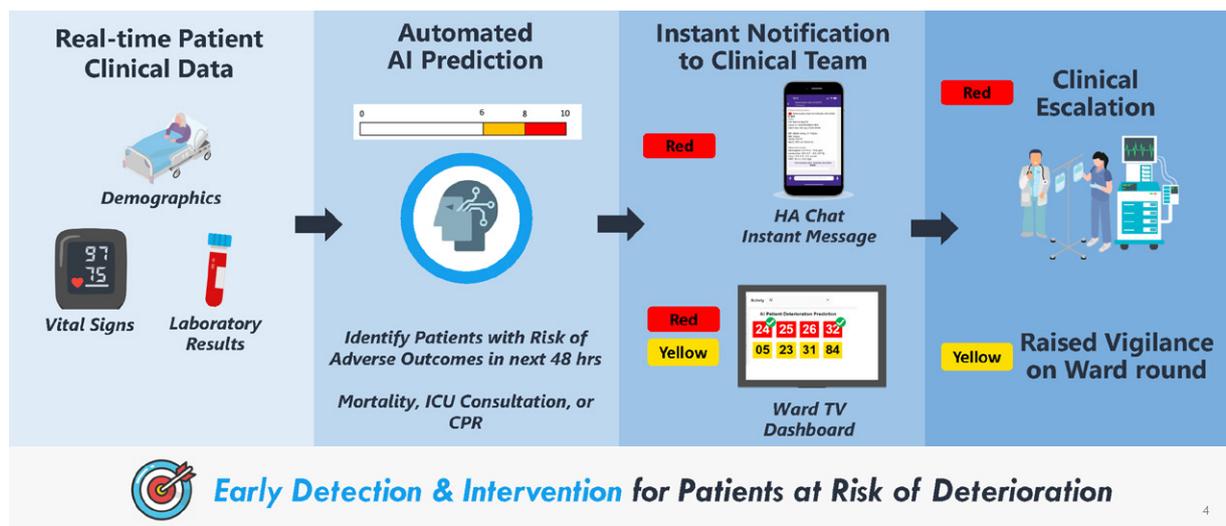

Figure 1: Smart-CARES Bundle with AI Patient Deterioration Prediction

Editorial Comments

The AI-driven deterioration prediction model at POH marks a leap beyond MEWS, with high accuracy (AUROC 0.92), 48-hour foresight, and seamless CMS integration via dashboards and HA notifications. Smart-CARES bundles standardise A-G nursing practices and enhance iSBAR communication with physicians, boosting trust and efficiency. The full rollout in July 2025 further paves way for multi-hospital scaling. We eagerly await the more outcome metrics.

Dr Carmen CHAN, Deputy Service Director (Quality & Standards), HKWC

Smarter, Safer Care: The Result Screening App Goes Inpatient

*By **Dr Kenneth NG[1], Dr Sammy MAK[2], Dr Kam Kwok SHING[3]***
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[3]*Department of Medicine, Haven of Hope Hospital*

Figure 1: KEC's adoption of the Result Screening App

Kowloon East Cluster (KEC) is advancing smarter, safer patient care through the adoption of the Result Screening App, implemented across United Christian Hospital, Tseung Kwan O Hospital and Haven of Hope Hospital to support this progress. This progress began when Tseung Kwan O Hospital first introduced the app in 2022 in outpatient clinics. Building on that success, Tseung Kwan O Hospital extended the app to all inpatient wards, including all day wards by July 2025. Since the second quarter of 2025, United Christian Hospital and Haven of Hope Hospital have also fully adopted the app.

The app is changing how clinical teams manage investigation results at the bedside—reducing paperwork, speeding communication, and most importantly, making patient care safer. The clinical dashboard acts like a command center, highlighting urgent results to prevent anything from slipping through the cracks. Proactive email alerts notify the responsible team of any unscreened or unhandled results, enhancing patient safety by reducing delays and strengthening accountability.

More than paperless, the app provides secure digital access, automated result delivery to the right clinical team, closed-loop communication with documented follow-up, and mobility for clinicians to check results anytime, anywhere in the hospital. A major recent upgrade is the app's integration with the eDoc system. This enables patient-based result screening, fitting seamlessly into ward rounding and supporting faster, more informed decisions at the bedside.
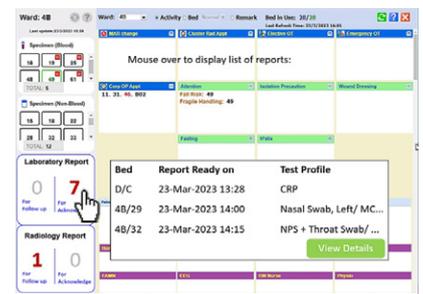

Figure 2: Clinical dashboard

These features contribute to a new era of safer, smarter, patient-centered care across the entire Kowloon East Cluster.

Editorial Comments

The Result Screening App exemplifies the commitment to HA digital transformation, empowering clinical teams with timely, actionable insights that enhance patient safety and streamline workflow. The successful inpatient rollout marks a significant advance in delivering safer, smarter, and more patient-centered care across the Kowloon East Cluster.

Mr Tacko TSOI, Cluster Manager (Quality & Safety), KWC

Trivia

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

Which key feature enables the Result Screening App to function as a closed-loop diagnostic management system?

A. Manual report distribution

B. Manual tracking of abnormal results

C. Closed-loop electronic review, follow up, and documentation of diagnostic reports

D. Integration with external laboratory systems

Here is the answer of Issue 56 :

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

Answer:

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

Comments are welcome

We value your feedback. Please scan the QR code to share your thoughts with us.