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Prince of Wales Hospital Operating Theatre Patient Location Update System (OTPLUS)

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OTPLUS is an innovative system developed to provide information about patients undergoing operation to anxious patients' relatives, and at the same time, relieve the workload of frontline medical staff. With an information sheet provided by the ward, family members can utilize barcode scanners of the OTPLUS kiosks placed outside the operating theatre to obtain information about the latest patients' operative status, such as "Preparing for Surgery", "Surgery in Progress", or "Patient is in Recovery Phase".

A multidisciplinary team from Prince of Wales Hospital, including the Department of Anaesthesia and Intensive Care, Operating Theatre, Department of Surgery, Information and Technology Team, engineered this innovative, cost-effective method and workflow for providing timely updates of patients' statuses within the operating theatre to relatives, while at the same time, safeguarding patient privacy in accordance with the Personal Data Ordinance. The team went through permutations of possible clinical scenarios for a patient undergoing operation, and assembled a workflow that accurately reflected patients' status by utilizing the time points in the Operating Theatre Management System (OTMS).

Since the implementation of OTPLUS in August 2016, the system has benefitted more than 7300 patients and their families, with more than 56000 enquiries over the time period. There is an average of 70 enquiries per day, involving all types of surgeries ranging from elective to emergency operations. Post-implementation surveys have also revealed that OTPLUS has achieved its goals – vast majority of users felt satisfied with the system, and were well informed of the patients' operative statuses, with also subsequent reduction in anxiety. The second installment of OTPLUS improved user accessibility through voice assistance in different languages for the benefit of users that have difficulty with screen instructions.

In conclusion, the overwhelmingly positive results have demonstrated that OTPLUS has accomplished patient-centered care beyond the operating theatre, and hopefully, this system can be extended to patients outside Prince of Wales Hospital. Further improvements may include mobile access, as well as further enhancing the usability of the system.

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Editorial Comments

Using information technology (IT) in healthcare to enhance patient services is an international trend. This project is a good example to make use of IT along with the goodwill from healthcare professionals to allay the anxiety of relatives whose loved ones are undergoing operations. With further improvement by using mobile phone applications to access of the information, we hope the project could be adopted in other HA hospitals.

Ms Bonnie WONG,
Cluster Manager (Quality & Safety), NTWC

i-Easy 依時 for Reducing Defaults of Ophthalmic Operations in Kowloon West Cluster

*By **Dr Robert F LAM**, Chief of Service, Department of Ophthalmology;*
***Mr KM TONG**, Systems Manager, Information Technology;*
***Mr Ken CK TAM**, Department Operations Manager, Department of Ophthalmology, Kowloon West Cluster*

Defaults of scheduled operations waste valuable hospital resources. Studies found the most common reason of defaults was patients simply forgetting or there was a mix up over the date and time of the appointment.

Our team developed a mobile app called i-Easy **依時** , which aims to reduce the defaults of scheduled Ophthalmic operations in Kowloon West Cluster Ophthalmic Centre. It is an instant communication app which enables patients to:

1. View/Listen to reminders for the scheduled appointments, and instructions for starting and stopping medications pre-operatively;
2. Access information concerning their disease condition, details of the operation / procedure including side effects and post-operative care etc.

The combined default and cancellation rate for scheduled operations and procedures was 4.0% in year 2016. After the launch of i-Easy **依時** on 5th January 2017, 5,381 patients have downloaded the app and only 4 of these patients (0.07%) have defaulted so far.

Around 4% of patients failed to acknowledge the appointment reminder in the app and follow-up phone calls were made by clinic staff. Appointments were rescheduled for those who were unable to attend.

i-Easy **依時** was awarded the GOLD prize (Mobile and Online Service category) in the Asian Hospital Management Award 2017 and was invited to present in the Best Practice Presentation in the Asian Hospital Management Meeting 2017. i-Easy **依時** team was also awarded the Outstanding team of Caritas Medical Centre in 2017.

Editorial Comments

Smartphones have become an integral part of our daily life and it is expected that healthcare mobile applications will bring transformation in the healthcare industry. i-Easy 依時 is an instant hospital-to-patient mobile communication tool which had shown to significantly reduce default and cancellation of scheduled operations and procedures. The decrease in cancellation rate of planned operations and procedures can ensure timely treatment of patients and proper allocation of scarce healthcare resources. i-Easy 依時 is a good example of adopting smartphone applications to enhance quality of healthcare service.

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

Golden Bullet Trigger for Old Engine-sustaining Benefit of 365-day Physiotherapy Service for Frail Elderly with Hip Fracture in Kowloon Central Cluster

By ***Cheung EYY***[1]***, Chau RMW***[1]***, Wong EYW***[1]***, Pow LWS***[1]***, So JKW***[1]***, Chan BTW***[1]***, Lam CPY***[1]***, Chan ACM***[2]

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365-day physiotherapy service for lower limb fracture and arthroplasty in acute setting was implemented in Queen Elizabeth Hospital (QEH) since October 2017. The aim of current review was to evaluate the sustaining benefits downstream in extended care setting.

Patients transferred to Kowloon Hospital (KH) and received 365-day physiotherapy service in QEH were identified. Sex-, age-, diagnosis-, and operation-matched patients who stayed over weekend in QEH post-operation were selected as control.

Forty-eight hip fracture patients were identified from October 2017 to March 2018 with 48 matched controls. There were significant reduction in length of stay (LOS) in KH(4.8days;29.90±11.37vs34.7±13.23) and total episode LOS(4.7days;38.29±10.80vs42.98±13.34) for patients receiving 365-day acute physiotherapy service. Although with decreased hospital stay, these patients achieved earlier and similar significant clinical improvements(NPRS:4.41±2.55to1.20±1.58, MFAC:median of 3to4 and 45.9% achieving walking without manual assistance, EMS:4.29±2.27to8.79±5.28) nontheless.

Another noteworthy finding was relatively frail elders in our cohort still demonstrating sustained downstream benefits. The early patient engagement in acute care for weekend physiotherapy appeared to pull the golden trigger in motivating and tuning the frail elders not just in acute rehabilitation but also for sustaining the endeavour and spirit in rehabilitation setting. This cost-effective service model can facilitate early and safe discharge, shorten LOS without compromising opportunity for functional gain achievement and generate more bed-days to cater for other service needs.

Editorial Comments

Intensive rehabilitation after hip fracture and arthroplasty was significantly associated with a shorter length of stay. Besides, it also demonstrated functional and emotional improvement that grossly place impacts on the quality of life in those frail elderly.

Dr Carmen CHAN,
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CLUSTER SHARING

Hong Kong West Cluster

Utilizing Barcode Scanning Checking System to Enhance the Safety and Efficiency in Managing Unissued Medications in In-patient Pharmacy

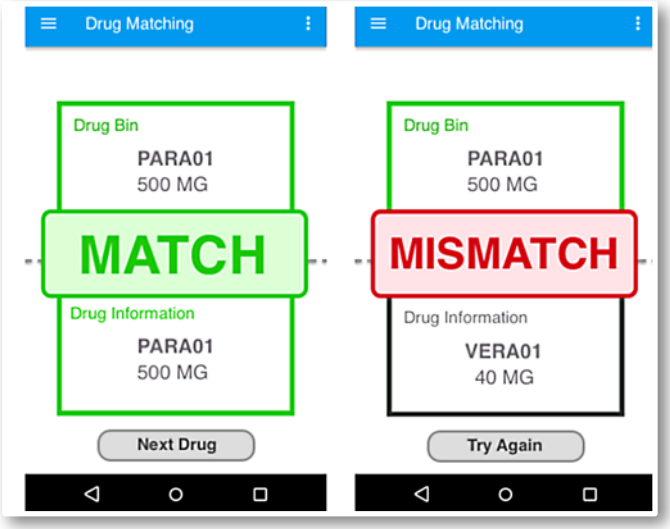
*By **Mr Howard WONG**, Senior Pharmacist and **Mr Howard TSOI**, Clinical Pharmacist, Department of Pharmacy, Queen Mary Hospital*

After the implementation of IPMOE in Queen Mary Hospital, there is an increase in the amount of unissued medications generated in In-patient Pharmacy that require to be returned to drug shelves. The unissued medications are currently manually counter-checked and returned by two Dispensers. With the frequent return of look-alike and sound-alike medications, potential risk of medication misplacement is incurred.

In order to improve the medication safety and efficiency in the process of returning unissued medications to drug shelves, an Electronic Drug Checking System utilizing barcode scanning technology has been employed in In-patient Pharmacy since October 2018. By cross matching the 2D barcodes (with information on drug name, dosage form and strength) on the shelf label and dispensing label with a handheld scanner, returning of the right drug to the right location can be verified by a "matched" signal.

With the help of the Electronic Drug Checking System, the process of returning the counter-checked, unissued medications to drug shelves can be performed by one Dispenser only.

From October to November 2018, the accuracy of Dispensers in returning the unissued medications by the Electronic Drug Checking System was 99.6%, and there was an average reduction of 4.1 man-hours per week in the return process. Thus, medication safety and efficiency is greatly improved.



Editorial Comments

Dispensing errors committed by individuals are often the result of error-prone systems and processes. Misplacement of unissued medications to the drug shelves may potentially contribute to the dispensing errors. The utilization of an Electronic Drug Checking System using barcode technology in QMH has demonstrated how technology can help to improve workflow efficiency and to reduce human errors. I look forward to the sharing of this application in other pharmacies.

***Dr L P CHEUNG**, Deputizing Service Director (Quality & Safety), NTEC*