1N1P - No longer a DREAM

Hospital Authority Convention 2025

Presenter: Dr. YAU Ching-ying Jane, QEH DOM(A&E)

Smart PALM (Personal Assistant Light and Mobile)

- Smart Personal Assistant Light and Mobile (PALM) is a small mobile handheld device with built-in **barcode scanners** and near-field communication (NFC) readers
- It provides information storage, computing and data retrieval
- All Smart PALM used in clinical area must be in medical grade

Why do nurses need a Smart PALM?

- The use of Smart PALM in healthcare settings is proven to enhance effectiveness and efficiency by providing appropriate information in a just-in-time manner
- Some showed that the use of Smart PALM would help to minimize medical errors and improve decision-making
- Smart PALM designed as a specialized tool to streamline workflows, improve efficiency, and enhance patient care quality
- Since mid-2000's, the use of Smart PALM started to be adopted in nursing professional education and subsequently used as a tool for clinical documentation and health care practices in the Northern America and some European countries

Why Personal Assistant Light and Mobile for Nurse?

Mobility
Access systems for patient information anytime anywhere

Effective Communication
Minimize manual transcriptions through digitalizing documents and real time data access

Critical Alerts
Instant notifications for urgent clinical conditions

Streamline Workflow
Reduce time spent on administrative tasks and minimize disruptions

Patient Journey with PALM in Kowloon Central Cluster

A&E
- Real Time Location System
- Oxygen Therapy Checklist

Wards
- Nurse Call / Phlebotomist Call / Houseman call (CCMAP)
- Antimicrobial Resistance (AMR) Decolonization Service
- Oxygen Therapy Checklist
- Patients' Belonging Tracking System
- Central Monitoring System

Admission → **Hospitalization** → **Discharge / Transfer and Follow-up**

DIR / Allied Health
- General Xray booking
- Oxygen Therapy Checklist

NEATS
- Oxygen Therapy Checklist

CR Hospital
- Oxygen Therapy Checklist
- Patients' Belonging Tracking System

Showcase: Admission [A&E]

Real Time Location System

Real Time Location System (RTLS)

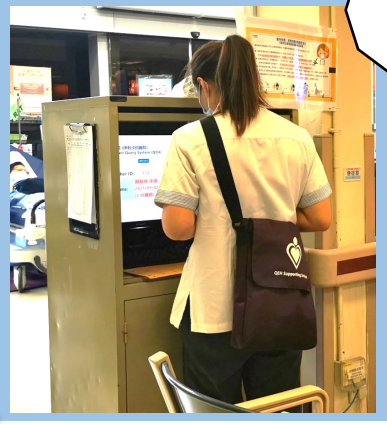
- Using Bluetooth RSSI (Received Signal Strength Indicator)
- Reduce the searching time for staff on locate stretcher and wheelchair
- Provide up-to-date location information of medical equipment
- Streamline A&E stretcher and asset's turnover (or circulation) process

Workflow without Smart PALM

1

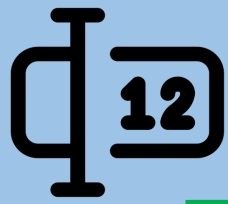
Staff receives a request for stretcher search

2



Staff goes to the nearest workstation to search for the stretcher location

3



Scan or input AE/HN or bed number

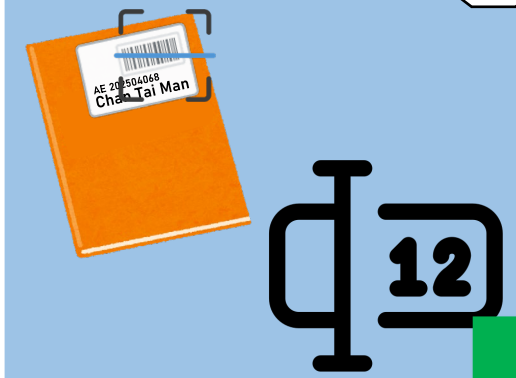
4

Locate the stretcher / wheelchair

Real Time Location System (RTLS)

Workflow with Smart PALM

1



Scan or input AE/HN or bed number

2

Directly search on the system and display relevant search result

3

Locate the stretcher / wheelchair

Real Time Location System (RTLS)

✓Saved 1,200 minutes on stretcher searching time in AED per day, equivalent to 2.5 FTE.

RTLS
Real Time Location System

Average min. used
2 min.

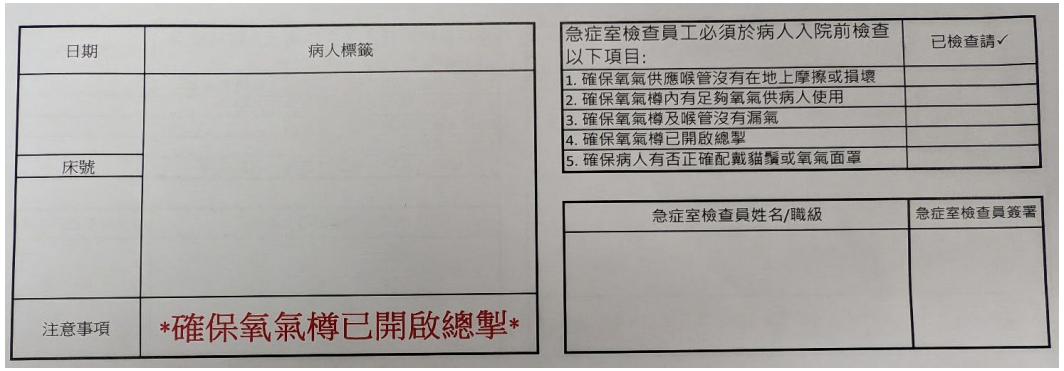
2 MIN probability
100%

Save 3 min. and 60% of search time

Oxygen Therapy Checklist

Oxygen Therapy Checklist

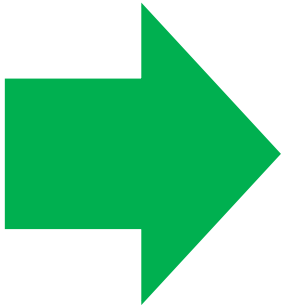
- Streamline oxygen checklist workflow for patient transfer in QEH
- Paperless full solution
- Reduce the chance of lost record and ensure the form has been filled before patient move to next location

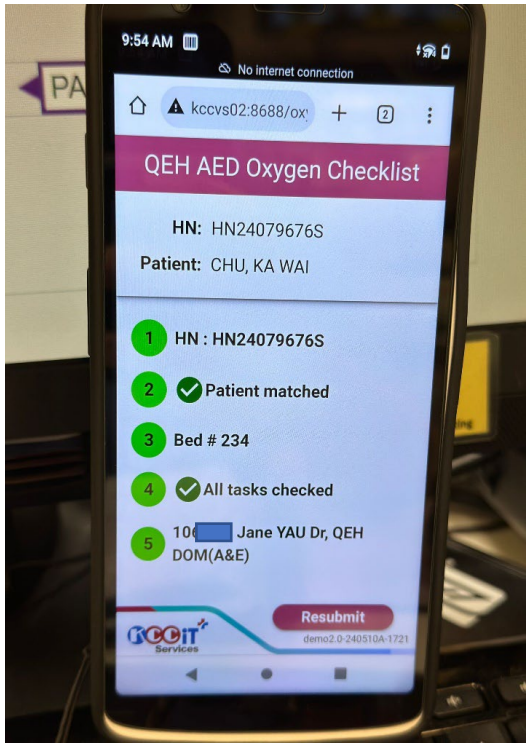


日期	病人標籤
床號	
注意事項	*確保氧氣樽已開啟總掣*

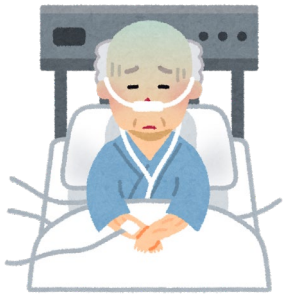
急症室檢查員工必須於病人入院前檢查以下項目:	已檢查請✓
1. 確保氧氣供應喉管沒有在地上摩擦或損壞	
2. 確保氧氣樽內有足夠氧氣供病人使用	
3. 確保氧氣樽及喉管沒有漏氣	
4. 確保氧氣樽已開啟總掣	
5. 確保病人有否正確配戴貓鬚或氧氣面罩	

急症室檢查員姓名/職級	急症室檢查員簽署

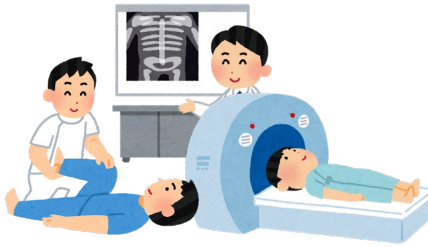




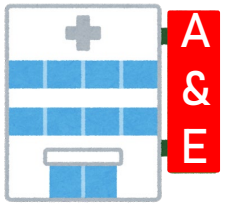
Oxygen Therapy Checklist



Ward



Treatment & investigation

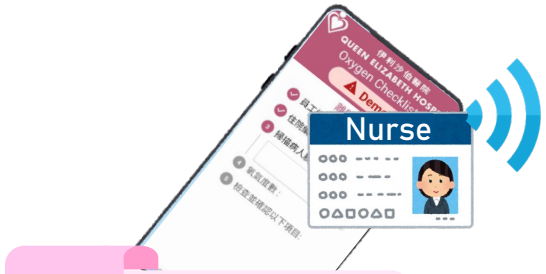


Accident & Emergency

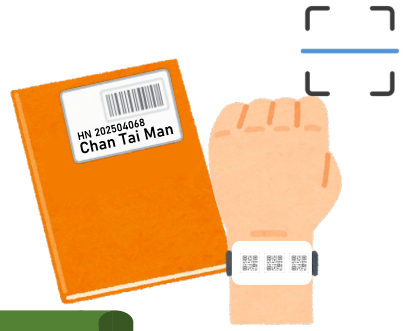
NEATS

CR Hospital

Oxygen Therapy Checklist



1 Staff identification



2 Patient identification

3 Check Oxygen

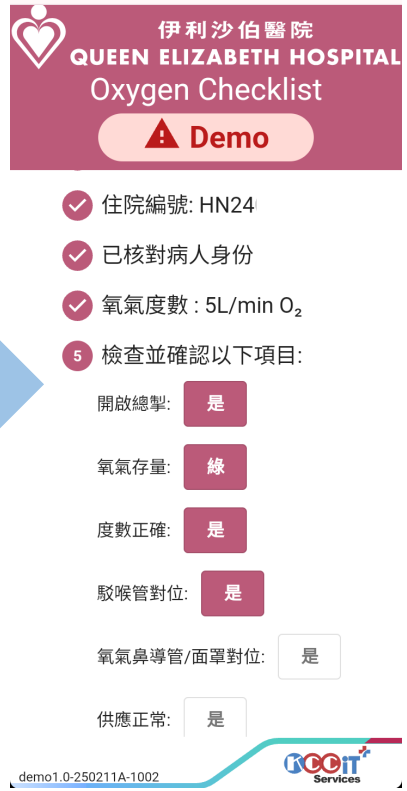
4 Submit and Confirm

All done in PALM

Oxygen Therapy Checklist

九龍中聯網智慧醫院
KCC SMART HOSPITAL

Streamline KCC oxygen checklist via **mobile devices**
- ✓ **Smart PALM adopted** in solution for nurse to perform oxygen checking in A&E or Ward.
- ✓ **Dashboard** provides platform for management review of the checklist if cases require further investigation.



Patient departure / arrival

Patient identification

Checklist

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Oxygen Therapy Checklist

伊利沙伯醫院 QUEEN ELIZABETH HOSPITAL — Oxygen Checklist — CORP : ctk453

HN | From 09/01/2025 | To 09/04/2025 | Refresh | Export to Excel

Create time	State	Case Number	Location	Hospitals	Oxygen	Bed / Wheelchair	Patient	Corp	Staff ID	Staff
2025-04-09 14:59:56	Arrival	HN	H10	QEH	2L/min O_2		LUK, 陸	kht	21	QEH APN(SURG)
2025-04-09 14:51:14	Departure	HN	A&E	QEH	2L/min O_2		LUK, 陸	csm	202	QEH Locum RN(CND)

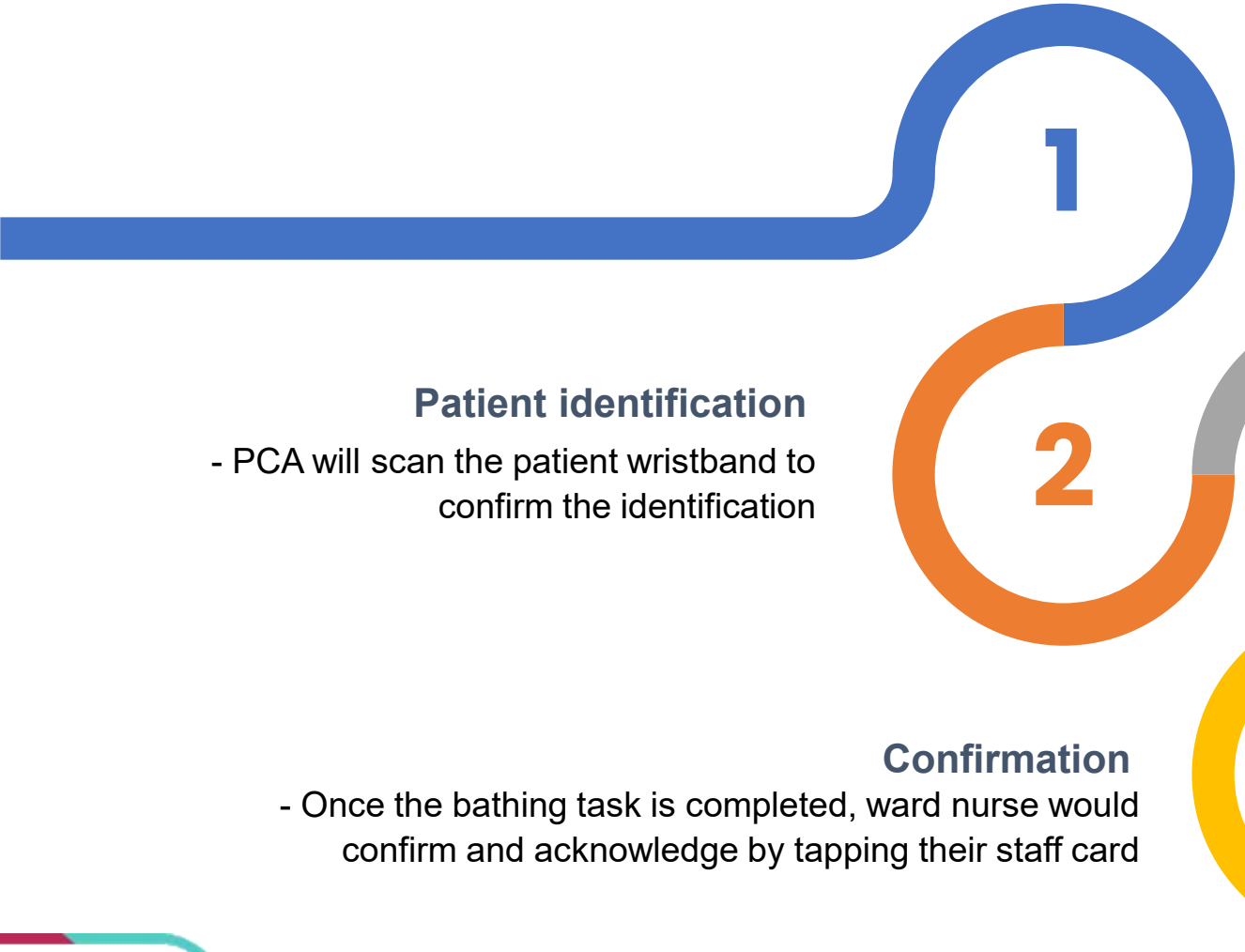
Total records: 2 — Rows per page 10 — 1-2 of 2

- Trace back all the records during the whole patient journey
- Fully paperless solution
- Inter-department/ inter-hospital transfer also can be recorded
- Reduced chances of missing data

Showcase: Hospitalization [Inpatient]

Antimicrobial Resistance (AMR) Decolonization Program

Antimicrobial Resistance (AMR) Decolonization Service



Job allocation

- Using Smart PALM to receive allocated job list
- Job list is automatically distributed to each team by batch (4 cases)

Patient identification

- PCA will scan the patient wristband to confirm the identification

Perform allocated task

- PCA baths the patient

Confirmation

- Once the bathing task is completed, ward nurse would confirm and acknowledge by tapping their staff card

Antimicrobial Resistance (AMR) Decolonization Service

Job allocation

Patient identification

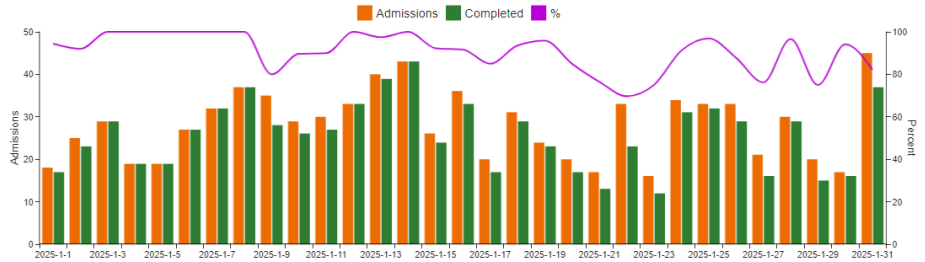
Acknowledgement

Antimicrobial Resistance (AMR) Decolonization Service

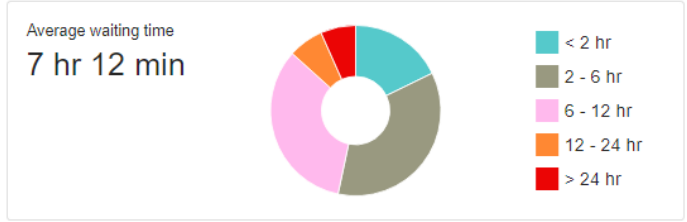
九龍中聯網智慧醫院
KCC SMART HOSPITAL

- Reduced waiting time of decolonization service
- Significantly increased compliance
- Average compliance rate from 01 Feb to 10 Feb is 95.7%
- Reduced possibility of MDRO outbreak

Comparison before and after Smart PALM Adopted			
	Without PALM	With PALM	% Changes
Compliance	60.65%	90.46%	+ 30%
Average Job Complete Time	~30 – 40 mins	~ 20-25 mins	- 37.5%
Average patient waiting time	~12 hours	~ 7 Hours	- 41.6%



2025-01	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	Day 8	Day 9	Day 10	Day 11	Day 12	Da
Completed %	94.44	92	100	100	100	100	100	100	80	89.66	90	100	97
Completed	17	23	29	19	19	27	32	37	28	26	27	33	39
Admissions	18	25	29	19	19	27	32	37	35	29	30	33	40



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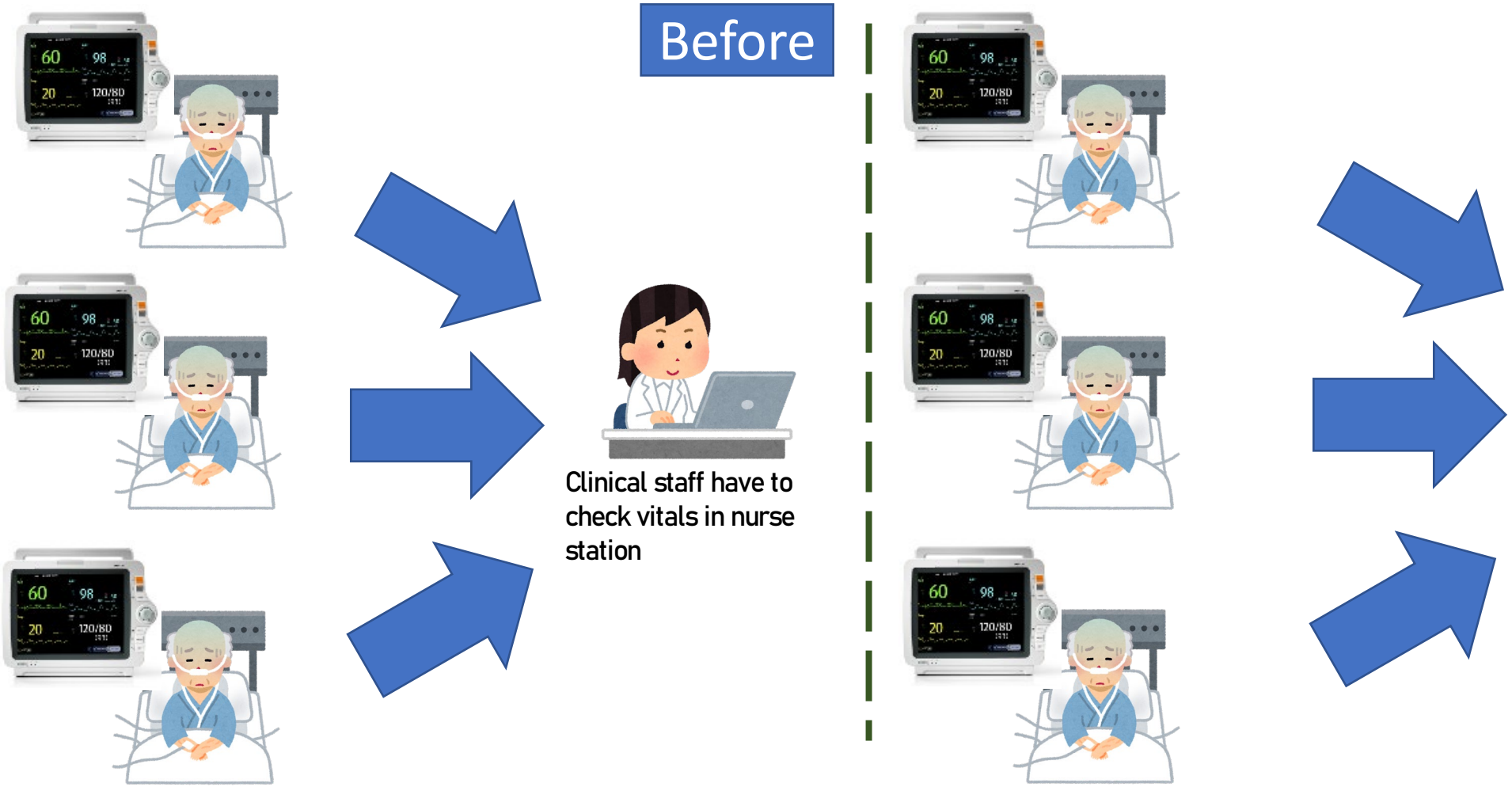
Central Monitoring System

Central Monitoring System



Central Monitoring System

- Nurses can aware patient vitals instantly even they are not
- Instant alert to nurse if any vitals is abnormal
- Reduced time spent travelling back to nurse station

Showcase: Discharge and transfer

Patient Belongings Tracking System (PBTS)

Patients' Belonging Tracking System

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KCC SMART HOSPITAL

Objectives:

- Facilitates tracking of patient's belongings during inter-hospital transfer in KCC
- Minimizes the risk of mis-handling of patient's belongings
- Speeds up the process to locate the missing item

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Patients' Belonging Tracking System

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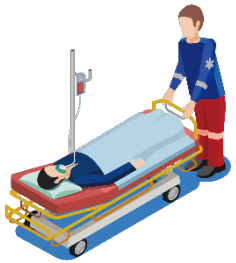
KCC SMART HOSPITAL

1 Ward make request in the Patients' Property Tracking System and stick the label to the Patient's property

Stage 1

2 Patient transfer to NEATS waiting area



3 The porter staff will scan the patient's wristband and scan the property's label

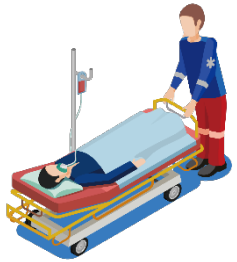
Stage 2

4 Patient transfer via NEATS to CR hospital

5 CR's porter staff will scan the patient's wristband and scan the property's label

Stage 3

6 Patient transfer to destination's ward



7 Destination ward will check the quantity of the patient's property in the system

Stage 4

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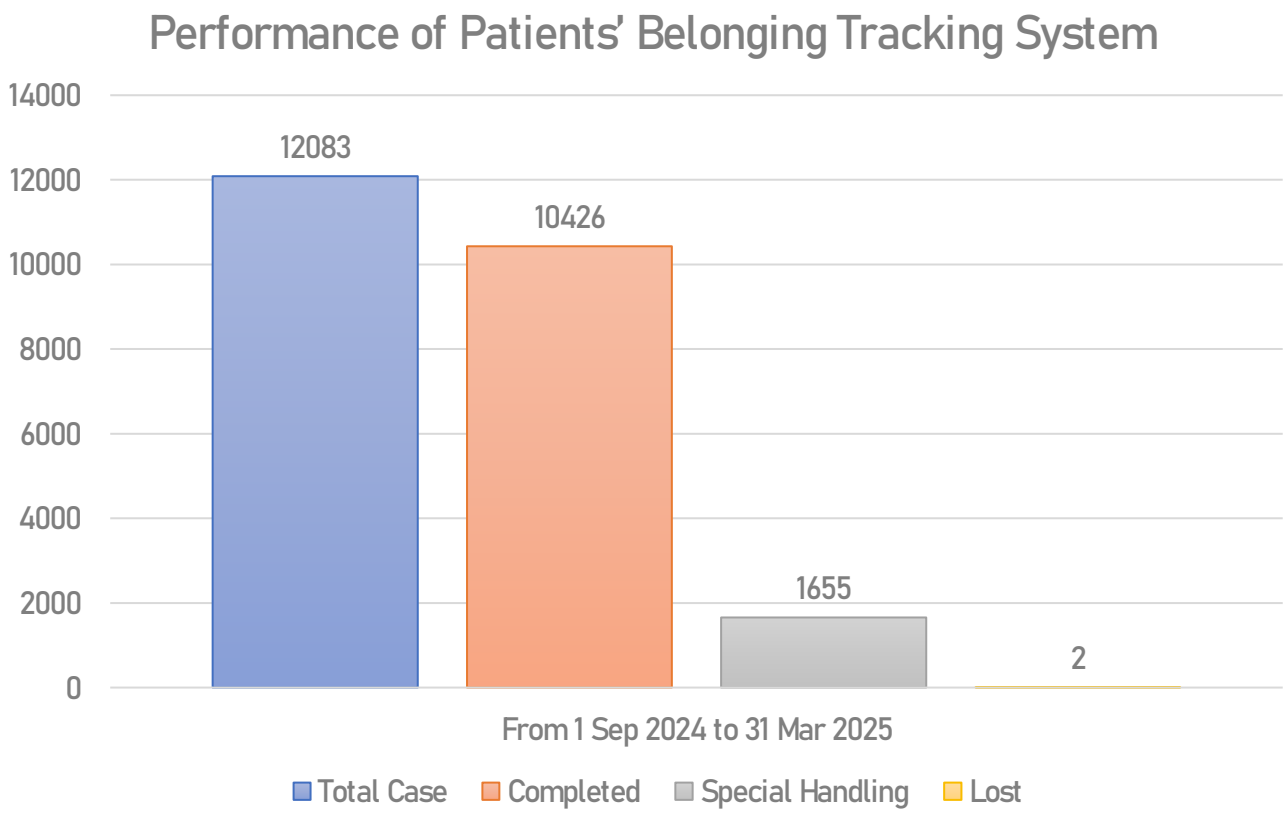
Patients' Belonging Tracking System



	# of cases	Percentage
Completed	10426	86.28%
Special Handling	1655	13.69%
Lost	2	~ 0.01%
Total	12083	100%

Way forward

- Positive users' feedbacks and enhanced service efficiency in previous application experiences. The device was proven to be a feasible and convenient tool for clinical operations in the future.
- Yet, integration with corporate systems and developments of appropriate functions or suitable applications for the possibility of immediate access of information to facilitate are needed

Acknowledgment

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- Mr. Wallace CHENG, KCCIT SSM
- Mr. Alex LAU, KCCIT SM3
- KCCIT Smart Hospital and Innovation Office
- QEH Central Nursing Division
- QEH clinical user departments
- QEH Infection Control Team

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