

The International Forum on Quality and Safety in  
Healthcare

# Sentinel Event Policy of Hospital Authority, Hong Kong- 17 years on, what have we learnt?

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Cluster, Hospital Authority

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Management Department, Quality & Safety Division, Hospital

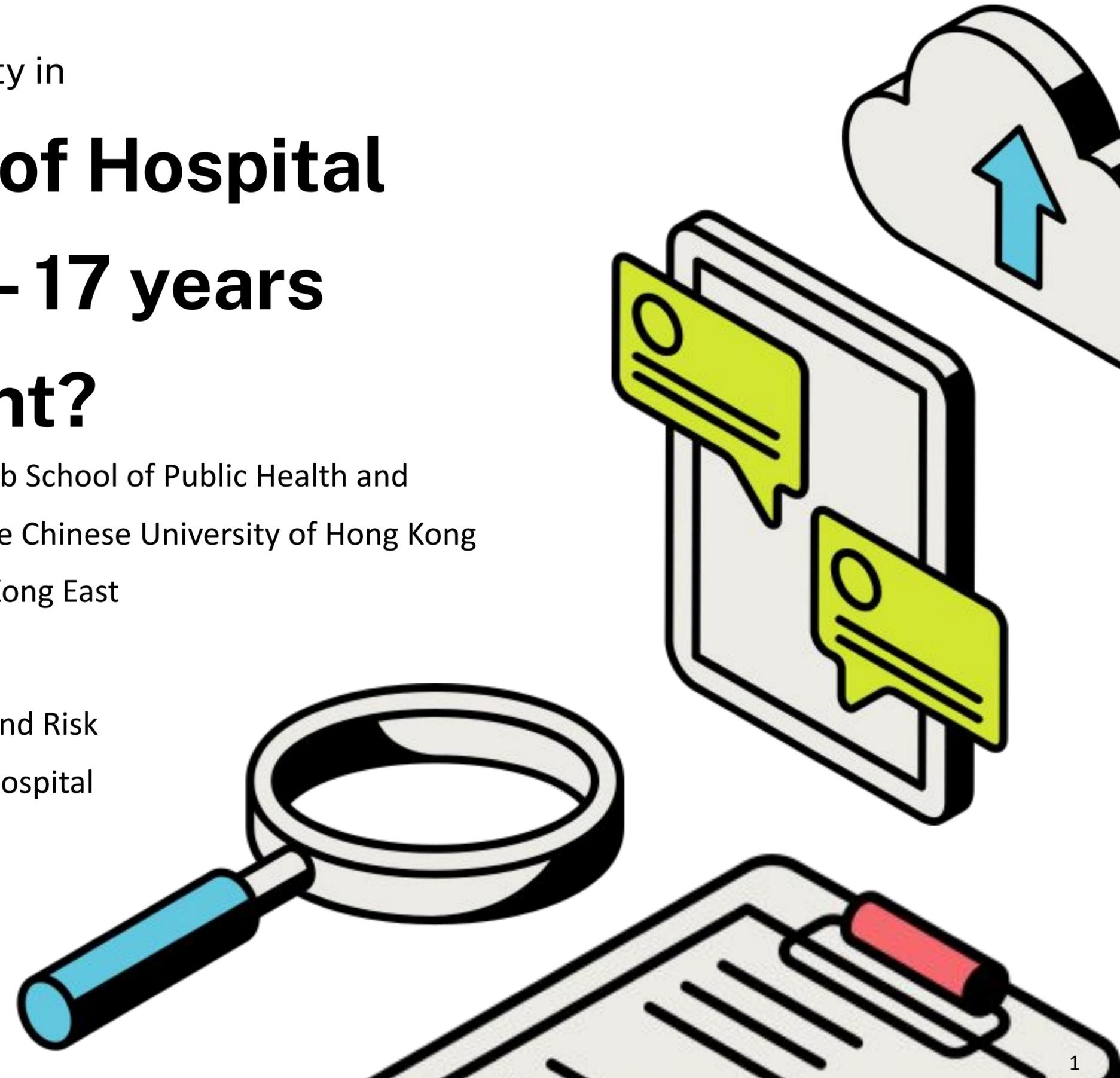
28 August

2024



醫院管理局  
HOSPITAL  
AUTHORITY

PS&RM  
病人安全及風險管理  
Patient Safety & Risk Management



# Sentinel Event Policy of Hospital Authority, Hong Kong - 17 years on,

## What have we learnt?

# Start...

Presenter: Professor LUI Siu-fai, Adjunct Professor, The Jockey Club School of Public Health and Primary Care, CUHK Jockey Club Institute of Ageing, The Chinese University of Hong Kong



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2007.07.07

Ms. LHL, age 21

Died from a fatal intrathecal injection of vincristine

# 威院打錯針 昏迷20日終拔喉 小琳玉殞家人誓究責

上月中在威爾斯親王醫院治療時，被打錯治療針的血癌少女呂巧琳，昏迷多日後，其家人不忍她繼續受苦，忍痛同意拔喉，昨早小琳在親友和男友陪伴下安然離世。小琳父親與愛女永別前一刻終按捺不住，衝出病房外痛哭；小琳母親同樣哀慟不已：「希望小琳下一世都係我個女！」小琳家人矢言會訴諸法律行動，向威院追究責任。

◆威院醫生出錯，奪去了小琳的性命。



守候病榻半月 盼女友別牽掛 癡情男友忍淚含笑送

◆本報訊「我係笑住送佢走，因為希望佢可...」

### 小琳遭打錯治療針事件簿

日期	事發經過
2005 年底	小琳證實患上急性淋巴白血病。
2006 年	小琳接受九個月化療後，情況穩定。
2007 年	小琳到威院接受化療針注射，但院方錯誤將原定分別在靜脈及骨髓注射的針藥，均注入骨髓。
5 月 15 日	
5 月 16 日	小琳頸部痙攣，送急症室救治。

「堅持留住佢就好自私」

「唔係（我舉）唔好講咁快抉擇！」小琳母親傷心地說，小琳曾接受化療及受細菌感染，其家人商量之後，當晚已決定請醫生逐步對小琳減藥。而在前幾個月，大批親友前日及昨早已探訪小琳。小琳母親說，「個女係住廿二天」在病房開始較好，家人唔忍心佢繼續嗰半世，如果唔堅持留住佢就好自私。所以決定好佢走。」

**From:** *Siu Fai LUI Dr, NTEC SD(RM&QA)/HOQ&S Cons(Q&RM)*  
**To:** *NTEC COSs; NTEC DOMs, NTEC HCEs, DHCEs & C(CS)s*  
**Date:** *Sun Jul 08 2007 02:57*

***Subject: Tragic death from a medical mishap  
- what have we learnt, what must we learn?***

***With great sadness and sorrow, I am writing about the death of “小琳”, aged 21, who fought bravely to overcome acute leukaemia but succumbed to a tragic death from a medical mishap.***

***Professor Anthony Chan and I were with the family of 小琳 as they said their Last goodbye to her. On behalf of the Hospital and our staff, we have once again expressed our deepest apology and condolences to the family, but no words can adequately express our regrets, grief, and sorrow.***

***The relatives have requested that we ensure 小琳 tragic death shall not be in vain – in that, her tragic death would forever remind all medical and nursing staff to be careful and vigilant at all times when giving treatment to patients.***

# Sentinel Event Policy of Hospital Authority, Hong Kong - 17 years on,

## What have we learnt?

# Past...

Presenter: Dr Sara HO, Service Director (Quality & Safety), Hong Kong East Cluster, Hospital Authority



醫院管理局  
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Patient Safety & Risk Management

# Contents

**A**

**Prevailing policy**  
of incident  
management

**B**

Overview of  
**Reported Incidents**  
in HA

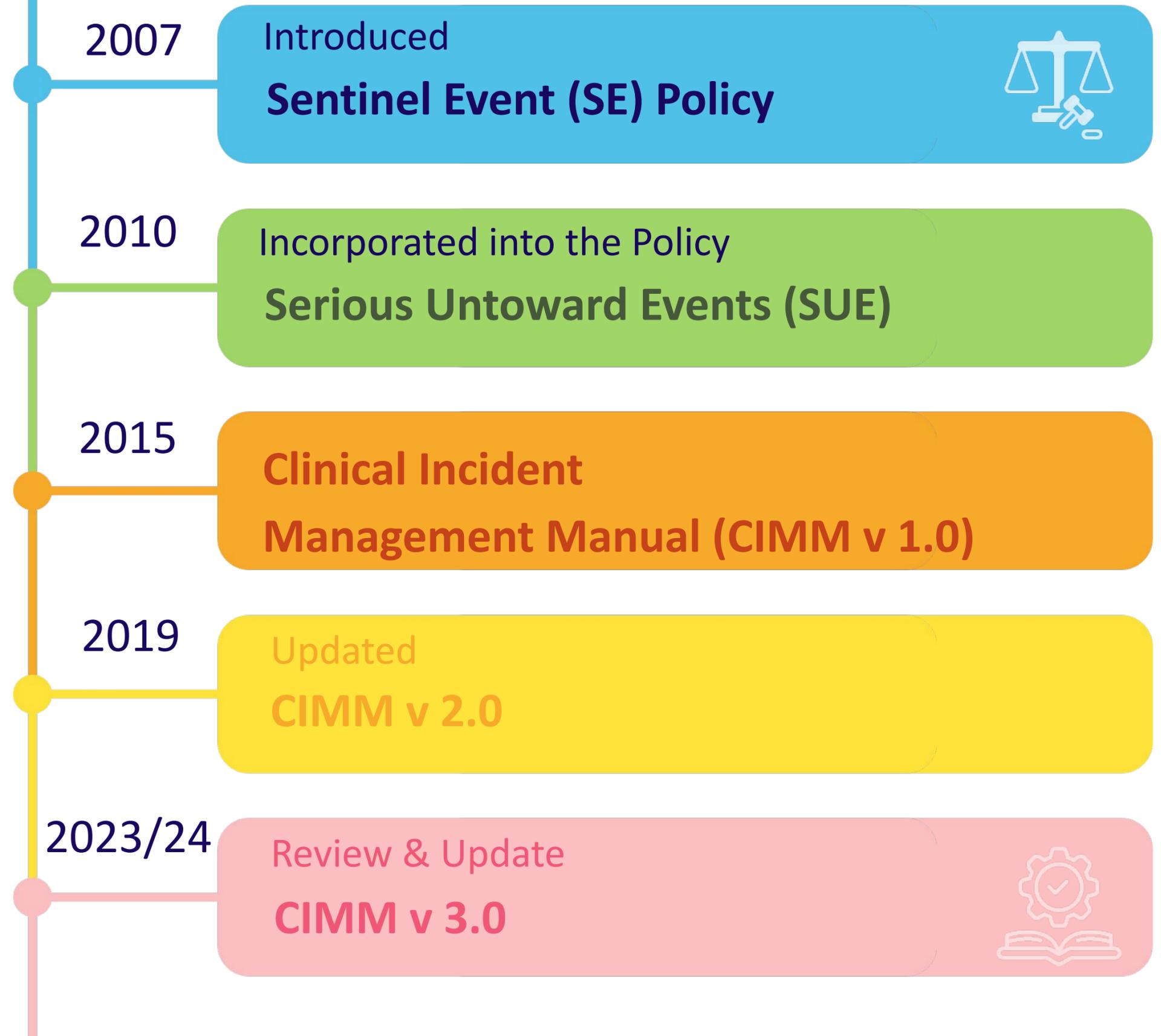
**C**

**Systemic Change**

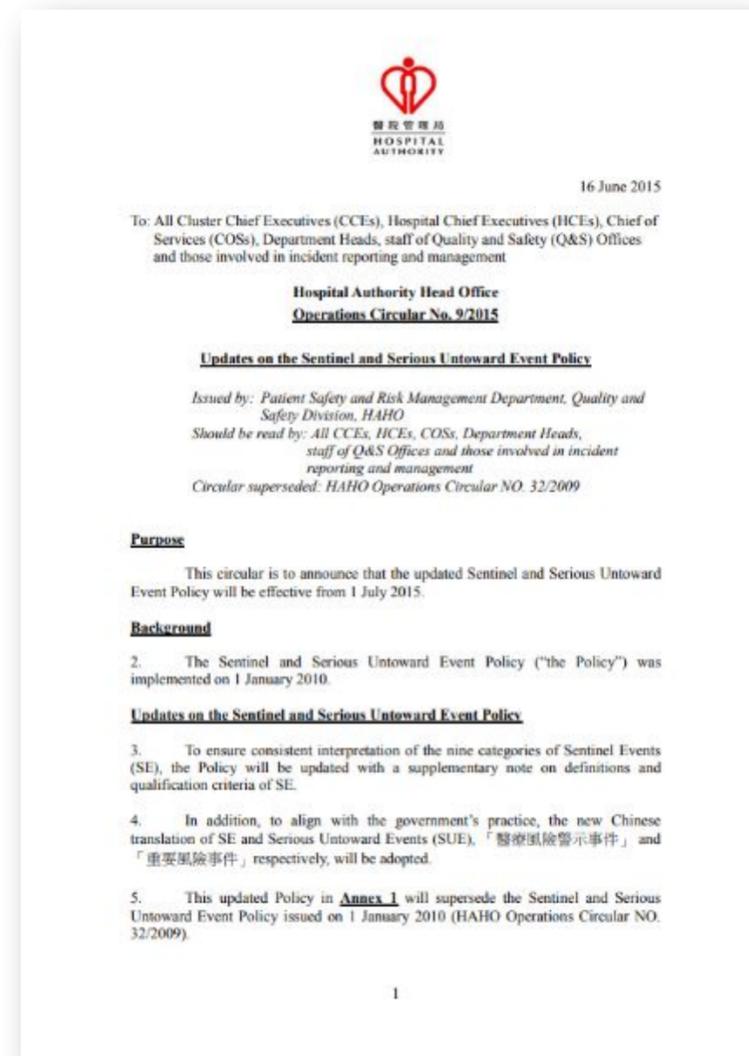
**D**

**What Have  
We Learnt?**

# Incident Management in HA



# Sentinel and Serious Untoward Event Policy



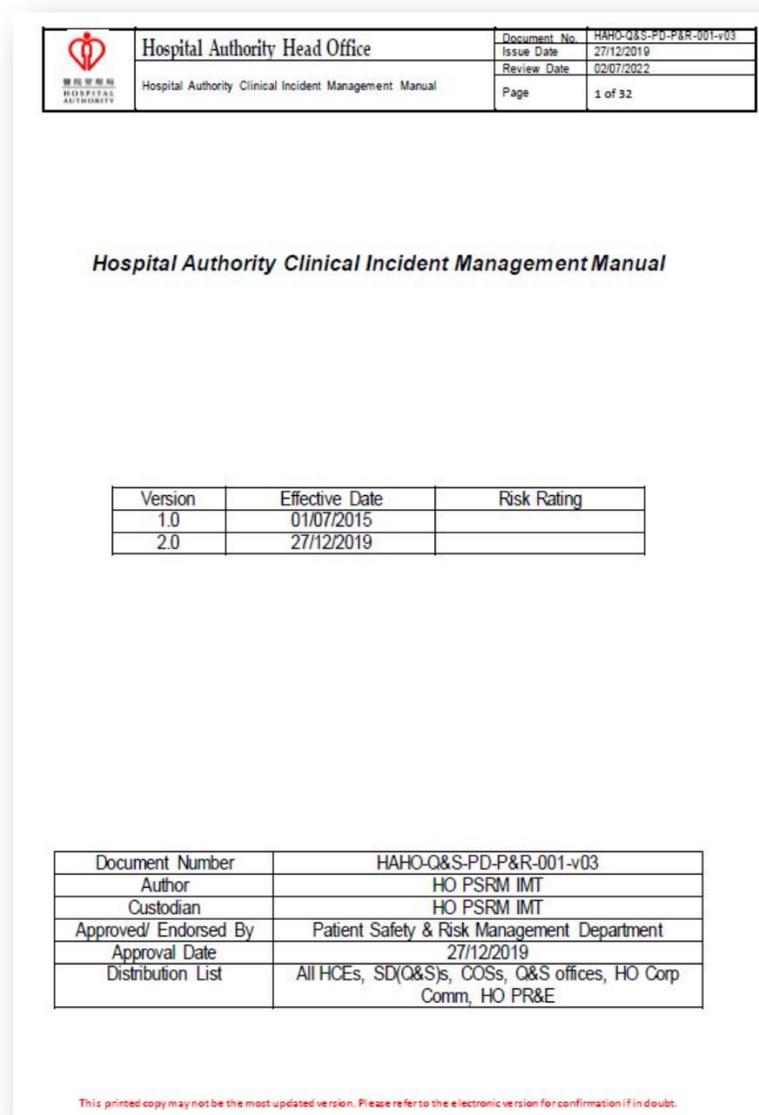
SE 「醫療風險警示事件」  
SUE 「重要風險事件」

SE Policy was first implemented in **2007**.

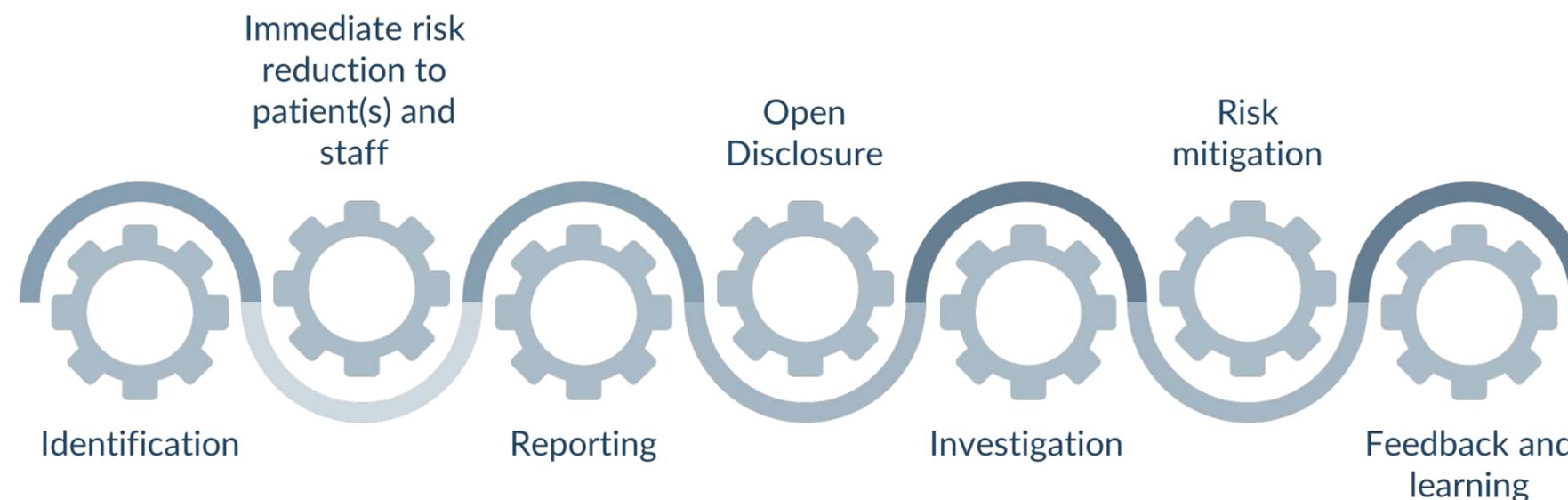
## Objectives of the Policy

- To increase staff awareness of SE and SUE
- To learn through Root Cause Analysis (RCA), with a view to understand the underlying causes, and make positive changes to the organization's systems and processes
- To maintain the confidence of the public and regulatory / accreditation bodies

# Clinical Incident Management Manual (CIMM)



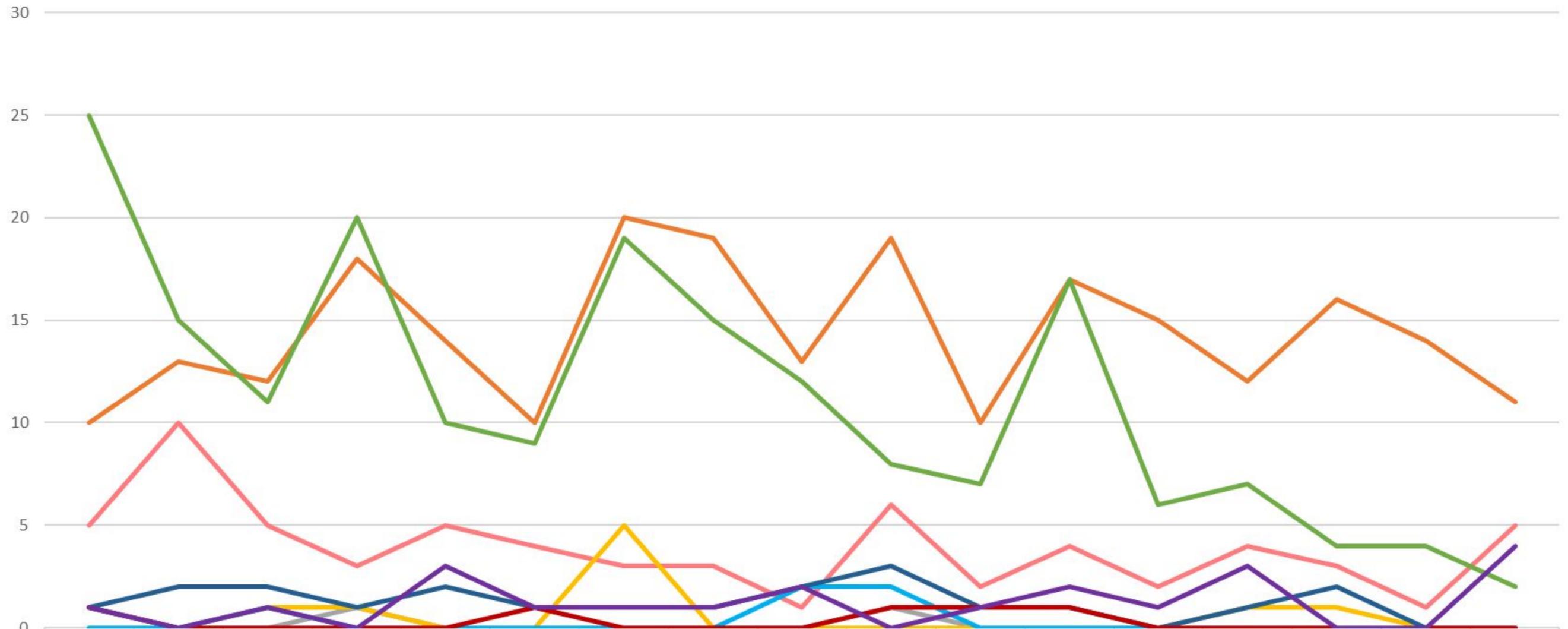
- Implemented on 1 July 2015
- Provides guidance on **reporting, investigating, analysing and monitoring** of clinical incidents
- Describes the<sup>9</sup> management of clinical incidents, including Sentinel Event (SE), Serious Untoward Event (SUE) and other adverse incidents



# 9 Categories of Sentinel Events (SE)

<b>Cat. 1. Wrong patient / body part</b>	<b>Cat. 4. Medication error</b>	<b>Cat. 7. Maternal morbidity</b>
<b>Cat. 2. Retained instruments / material</b>	<b>Cat. 5. Gas embolism</b>	<b>Cat. 8. Wrong infant / abduction</b>
<b>Cat. 3. Blood incompatibility</b>	<b>Cat. 6. Inpatient suicide</b>	<b>Cat. 9. Others</b>

## Sentinel Events in HA – By Category (2007– 2Q 2024)

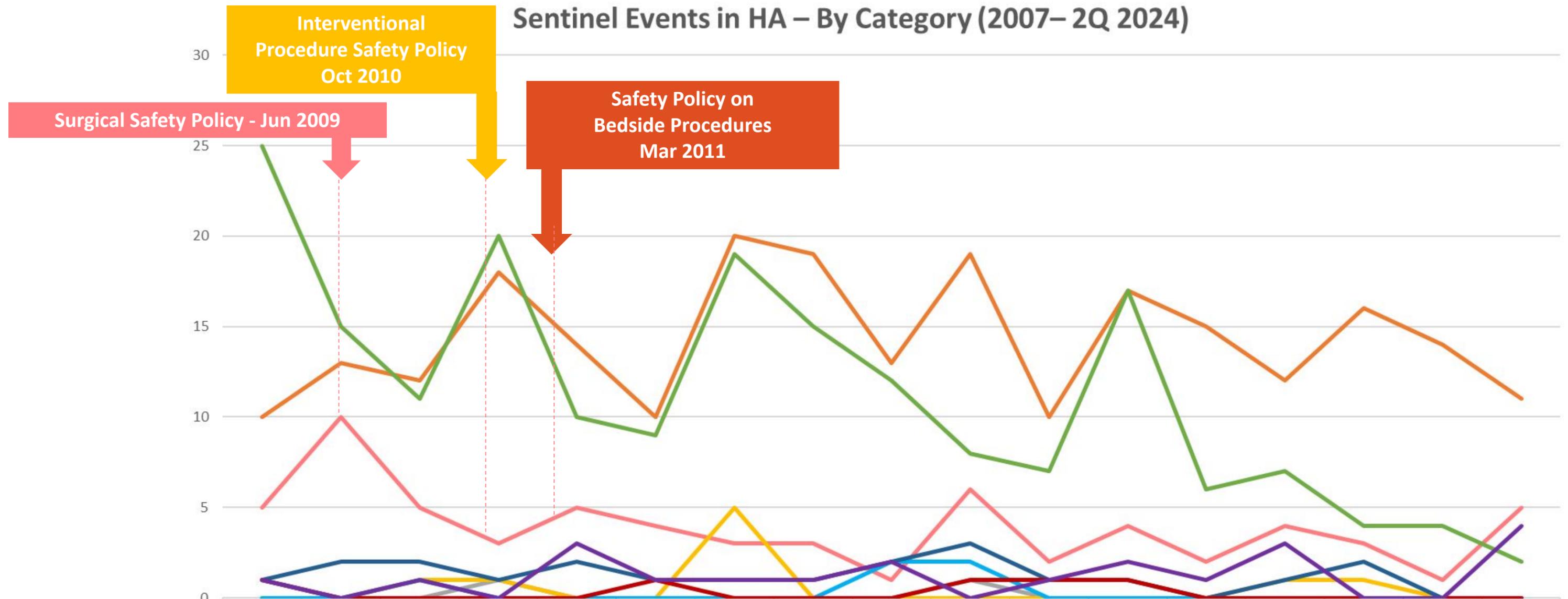


	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	4Q23-2Q24
Wrong patient/part	5	10	5	3	5	4	3	3	1	6	2	4	2	4	3	1	5
Retained instruments/material	10	13	12	18	14	10	20	19	13	19	10	17	15	12	16	14	11
Blood incompatibility	1	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0
Medication error	0	0	1	1	0	0	5	0	0	0	0	0	0	1	1	0	0
Gas embolism	0	0	1	0	0	0	0	0	2	2	0	0	0	0	0	0	0
Inpatient suicide	25	15	11	20	10	9	19	15	12	8	7	17	6	7	4	4	2
Maternal morbidity	1	2	2	1	2	1	1	1	2	3	1	1	0	1	2	0	0
Wrong infant/abduction	1	0	0	0	0	1	0	0	0	1	1	1	0	0	0	0	0
Others	1	0	1	0	3	1	1	1	2	0	1	2	1	3	0	0	4

\* Statistics from October to September of respective year

Wrong patient/part Retained instruments/material Blood incompatibility Medication error Gas embolism Inpatient suicide Maternal morbidity Wrong infant/abduction Others

# Sentinel Events in HA – By Category (2007– 2Q 2024)

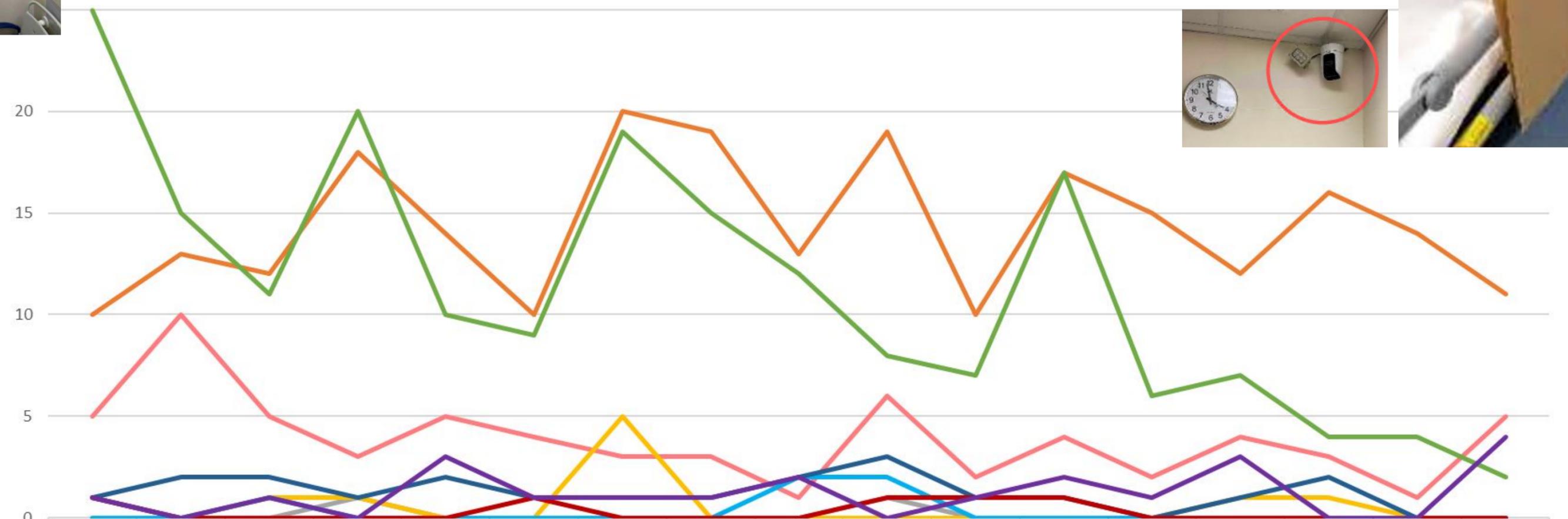
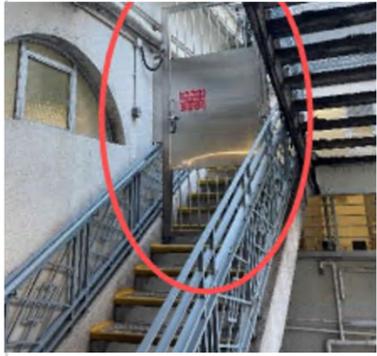
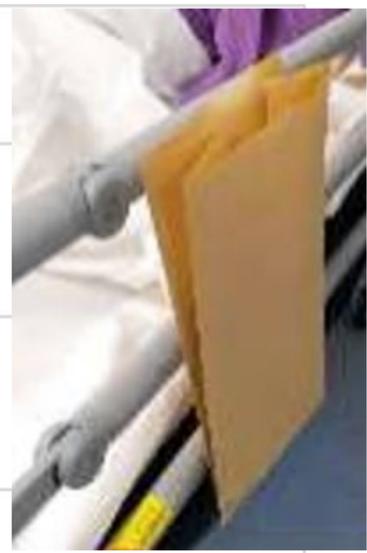


	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	4023-2024
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Medication error	0	0	1	1	0	0	5	0	0	0	0	0	0	1	1	0	0
Gas embolism	0	0	1	0	0	0	0	0	2	2	0	0	0	0	0	0	0
Inpatient suicide	25	15	11	20	10	9	19	15	12	8	7	17	6	7	4	4	2
Maternal morbidity	1	2	2	1	2	1	1	1	2	3	1	1	0	1	2	0	0
Wrong infant/abduction	1	0	0	0	0	1	0	0	0	1	1	1	0	0	0	0	0
Others	1	0	1	0	3	1	1	1	2	0	1	2	1	3	0	0	4

\* Statistics from October to September of respective year

Wrong patient/part Retained instruments/material Blood incompatibility Medication error Gas embolism Inpatient suicide Maternal morbidity Wrong infant/abduction Others

# Sentinel Events in HA – By Category (2007– 2Q 2024)



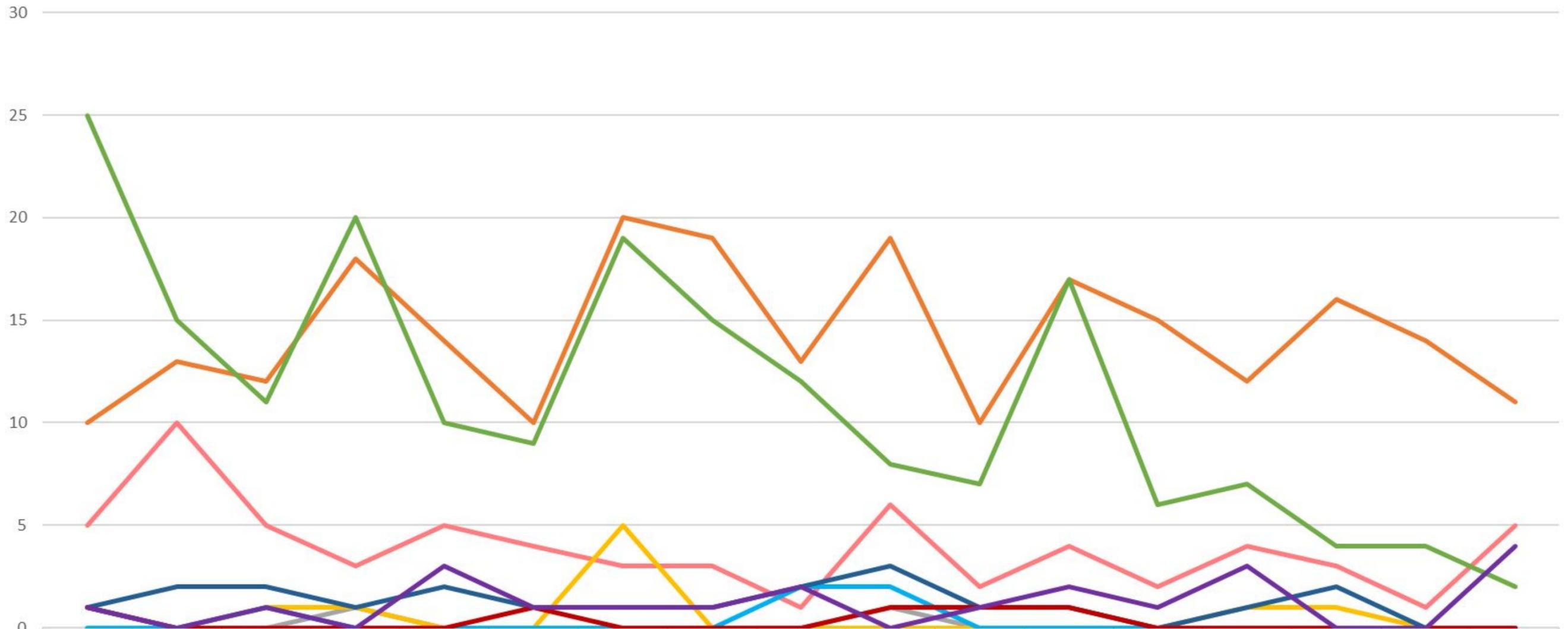
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Blood incompatibility	1	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0
Medication error	0	0	1	1	0	0	5	0	0	0	0	0	0	1	1	0	0
Gas embolism	0	0	1	0	0	0	0	0	2	2	0	0	0	0	0	0	0
Inpatient suicide	25	15	11	20	10	9	13	15	12	8	7	17	6	7	4	4	2
Maternal morbidity	1	2	2	1	2	1	1	1	2	3	1	1	0	1	2	0	0
Wrong infant/abduction	1	0	0	0	0	1	0	0	0	1	1	1	0	0	0	0	0
Others	1	0	1	0	3	1	1	1	2	0	1	2	1	3	0	0	4

\* Statistics from October to September of respective year

Wrong patient/part Retained instruments/material Blood incompatibility Medication error Gas embolism Inpatient suicide Maternal morbidity Wrong infant/abduction Others



# Sentinel Events in HA – By Category (2007– 2Q 2024)



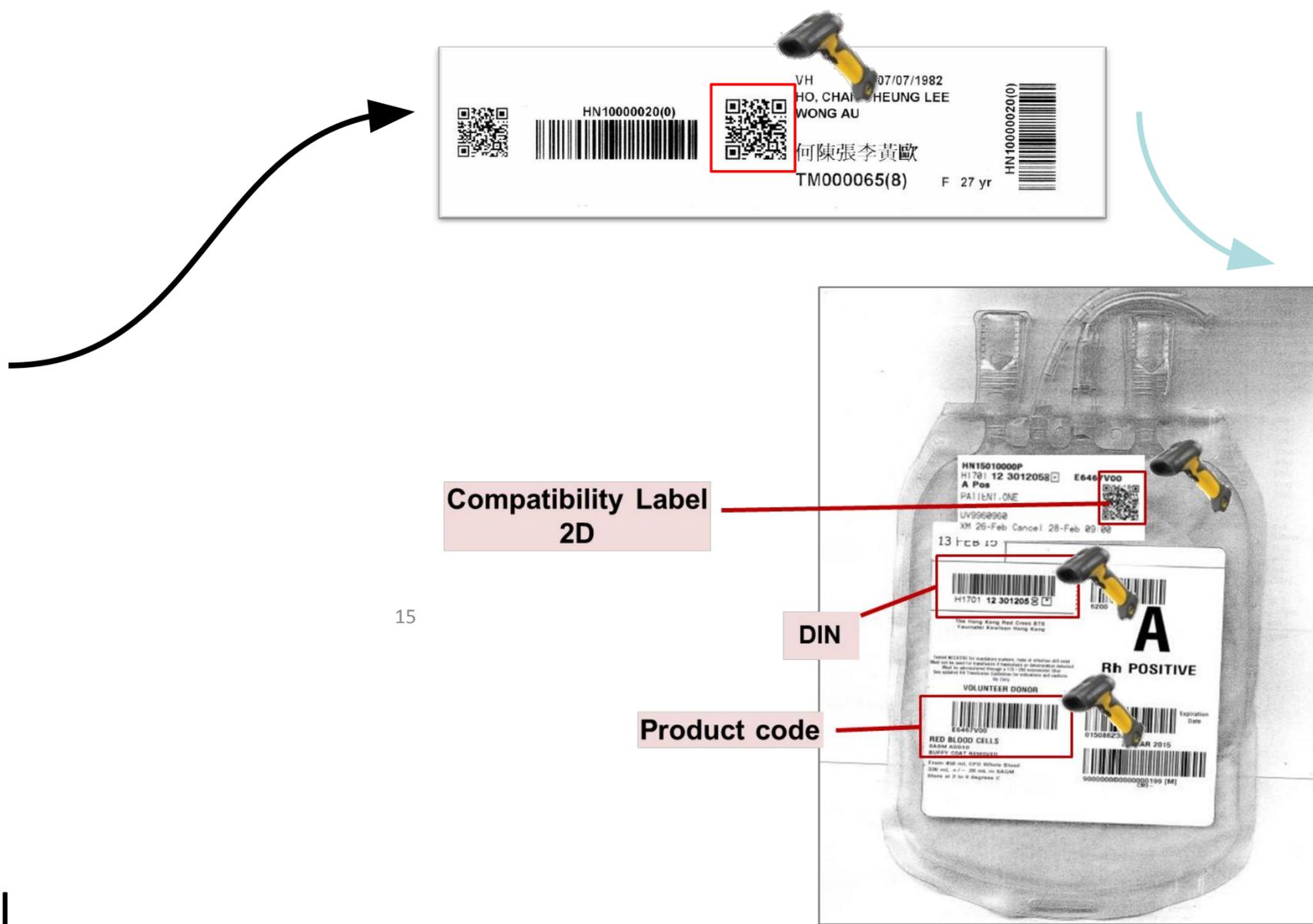
	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	4Q23-2Q24
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Blood incompatibility	1	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0
Medication error	0	0	1	1	0	0	5	0	0	0	0	0	0	1	1	0	0
Gas embolism	0	0	1	0	0	0	0	0	2	2	0	0	0	0	0	0	0
Inpatient suicide	25	15	11	20	10	9	19	15	12	8	7	17	6	7	4	4	2
Maternal morbidity	1	2	2	1	2	1	1	1	2	3	1	1	0	1	2	0	0
Wrong infant/abduction	1	0	0	0	0	1	0	0	0	1	1	1	0	0	0	0	0
Others	1	0	1	0	3	1	1	1	2	0	1	2	1	3	0	0	4

\* Statistics from October to September of respective year

Wrong patient/part Retained instruments/material Blood incompatibility Medication error Gas embolism Inpatient suicide Maternal morbidity Wrong infant/abduction Others

# System Change – Prevent blood transfusion Incidents

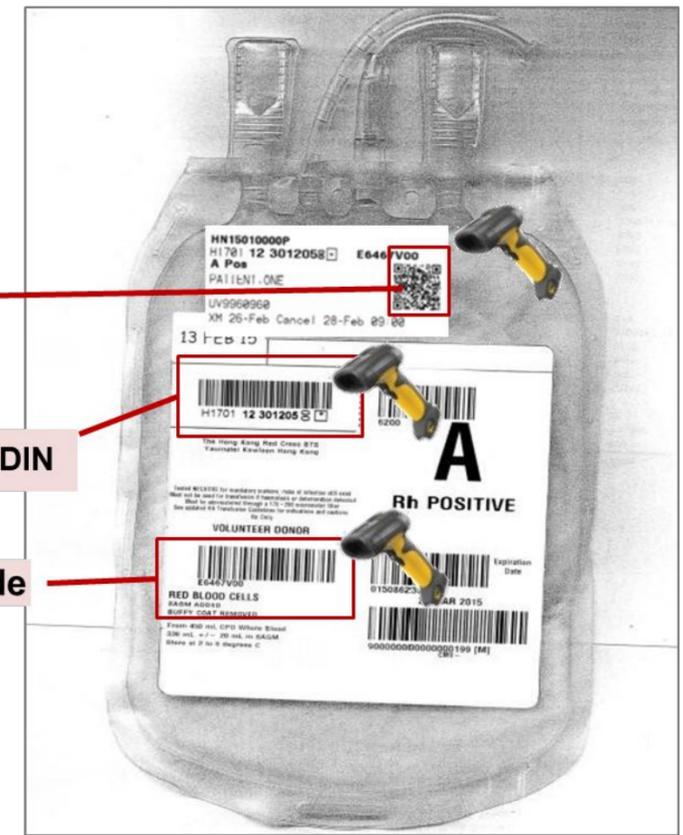
## Unique Patient Identification (UPI) device



Compatibility Label  
2D

DIN

Product code



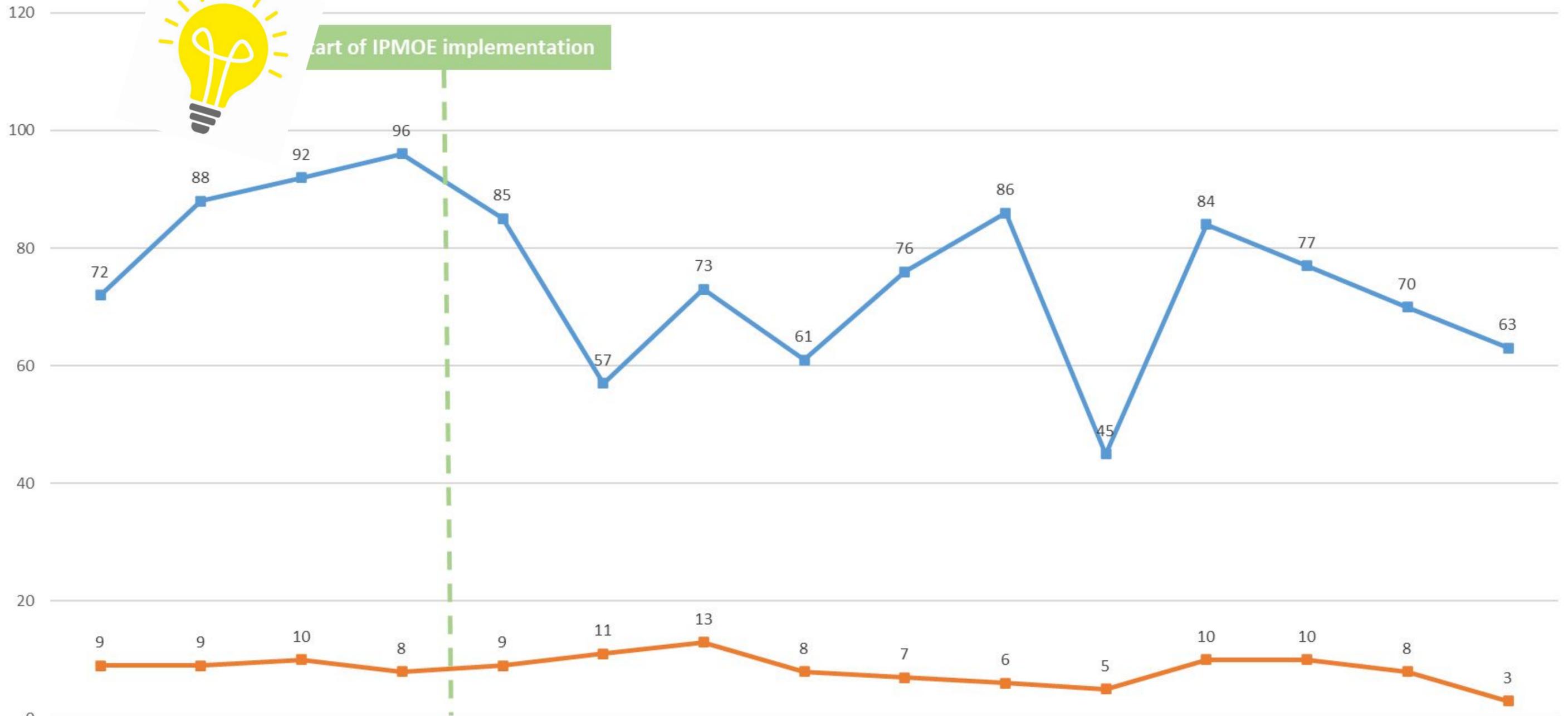
Since 2007, HA introduced UPI device for patient identification in blood transfusion

The technology is used as an adjunct to the human checking process

# 2 Categories of Serious Untoward Events (SUE)

1. Medication error	Medication error which <b>could have led</b> to death or permanent harm
2. Patient misidentification	Patient misidentification which <b>could have led</b> to death or permanent harm

# Serious Untoward Events in HA – By Category (2007– 2Q 2024)



Start of IPMOE implementation

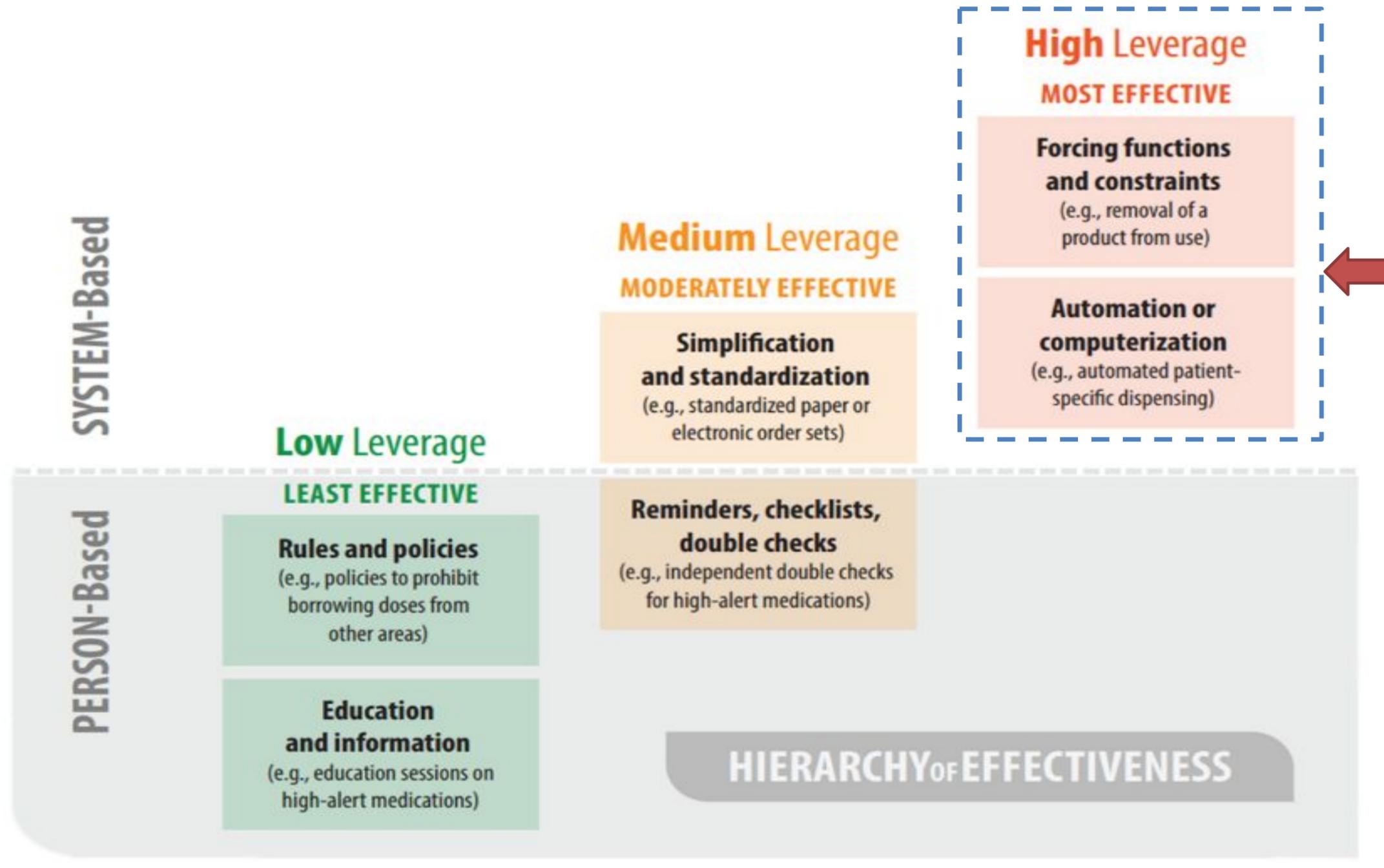


■ Medication error	72	88	92	96	85	57	73	61	76	86	45	84	77	70	63
■ Patient misidentification	9	9	10	8	9	11	13	8	7	6	5	10	10	8	3

\* Statistics from October to September of respective year

■ Medication error ■ Patient misidentification

# Effective Recommendations



# System Change for Medication Safety



**1. Inpatient Medication Order Entry (IPMOE)**

**2. Drug Allergy**

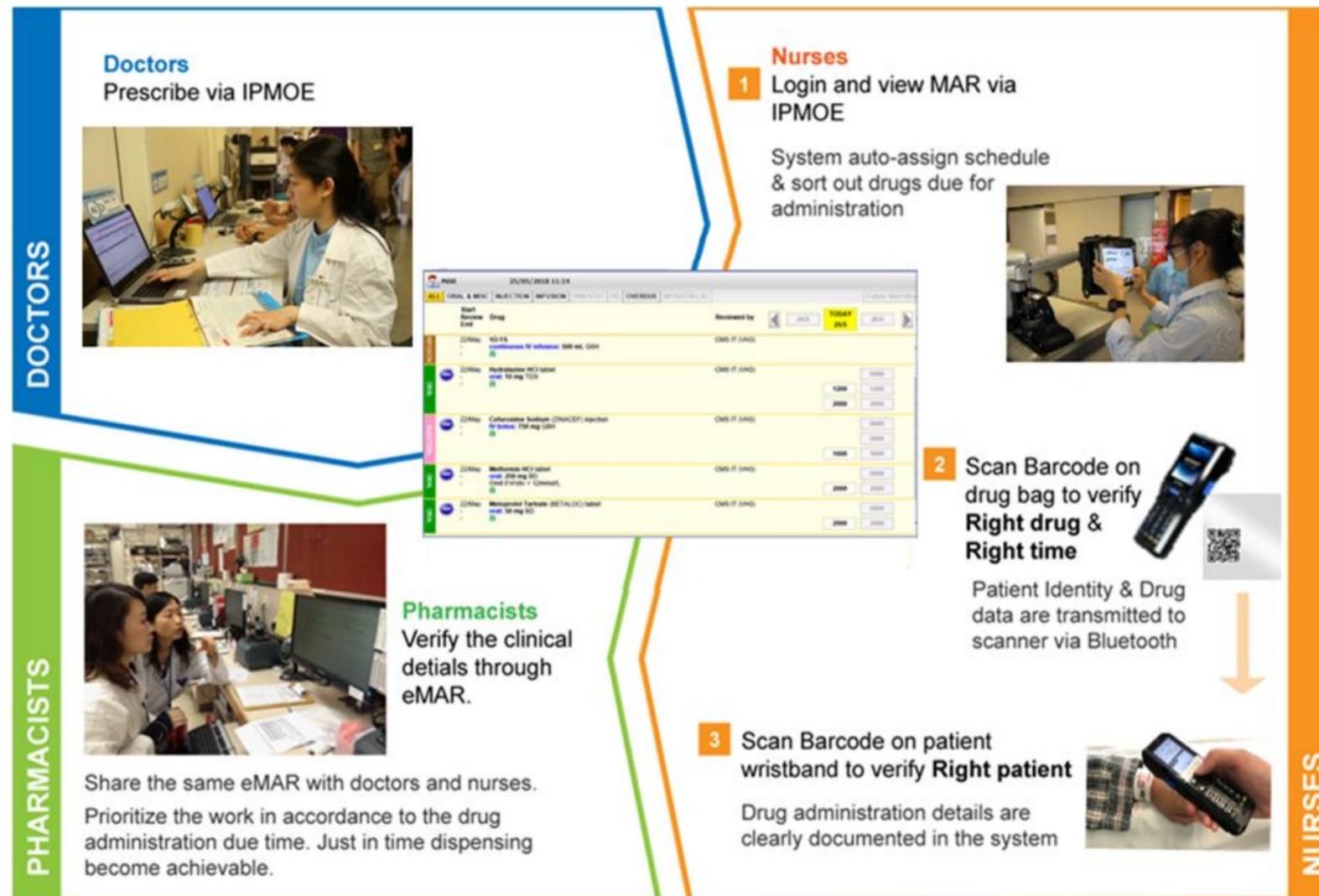
**3. Long-term Steroid**

**4. Warfarin**

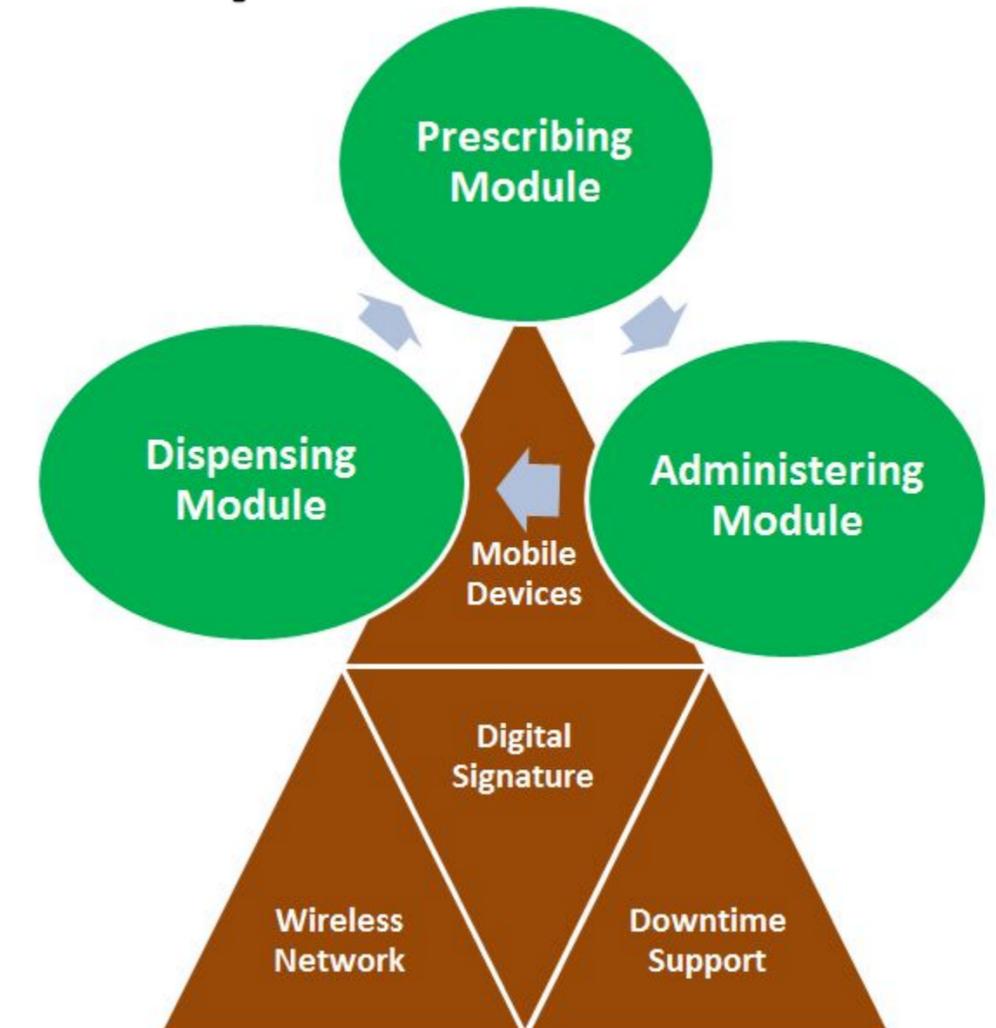
**5. Allopurinol**

# In-patient Medication Order Entry (IPMOE)

- A **closed-loop computerized system** for prescribing, MAR verification, dispensing & administering drugs for HA in-patients.



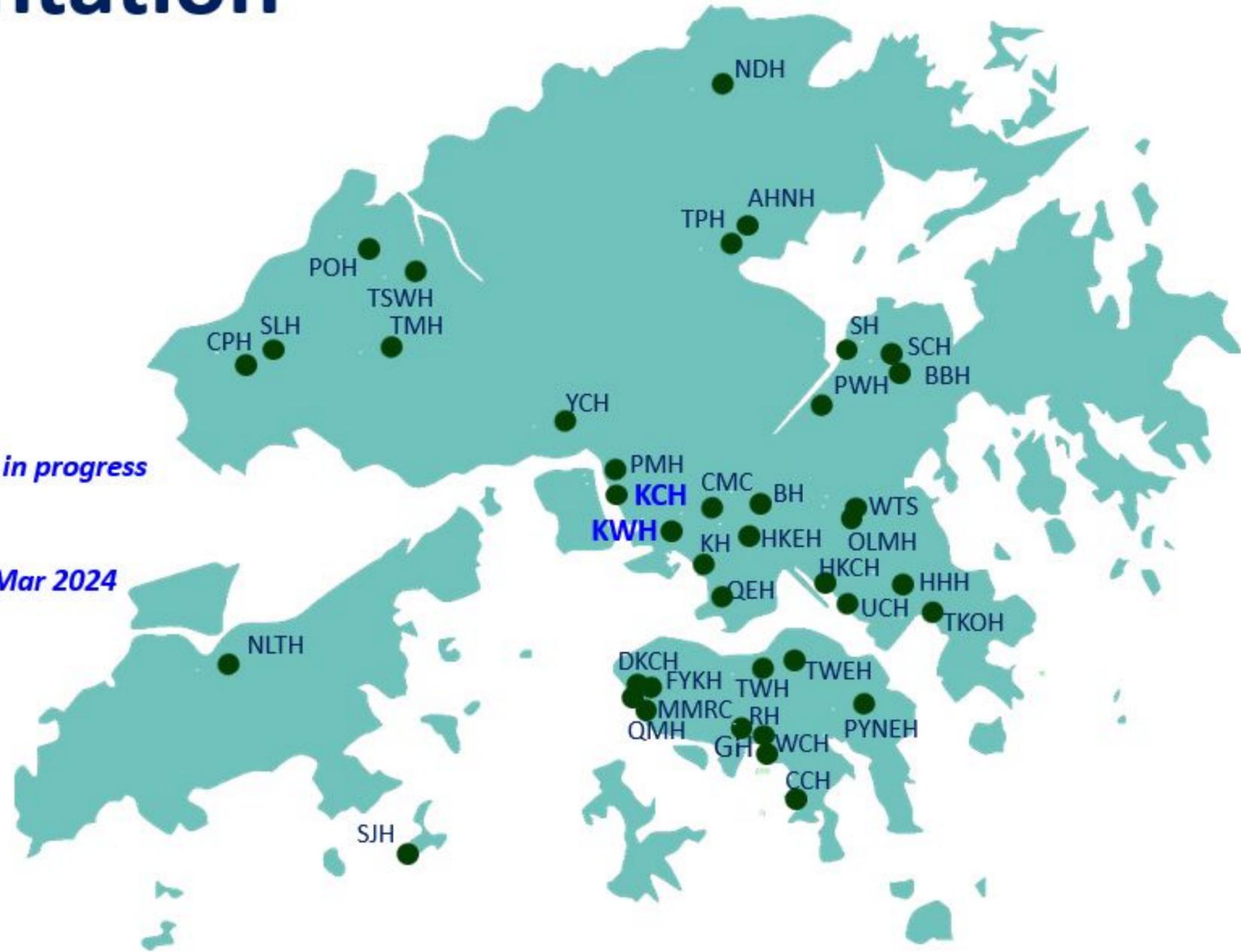
## Components of IPMOE



# System Enhancements

## IPMOE Implementation

- |   |   |  |
|---|---|--|
| <ul style="list-style-type: none"> <li>🚩 <b>2013-14</b><br/>:: PMH</li> <li>🚩 <b>2014-15</b><br/>:: PWH<br/>:: TKOH<br/>:: NLTH</li> <li>🚩 <b>2015-16</b><br/>:: UCH<br/>:: YCH<br/>:: RH</li> <li>🚩 <b>2016-17</b><br/>:: AHNH<br/>:: NDH<br/>:: CMC<br/>:: POH<br/>:: PYNEH</li> <li>🚩 <b>2017-18</b><br/>:: QEH<br/>:: QMH<br/>:: TMH</li> </ul> | <ul style="list-style-type: none"> <li>🚩 <b>2018-19</b><br/>:: TPH<br/>:: SH<br/>:: BBH<br/>:: SCH<br/>:: HHH<br/>:: HKCH<br/>:: TSWH</li> <li>🚩 <b>2019-20</b><br/>:: TWEH<br/>:: WCH<br/>:: CCH<br/>:: SJH<br/>:: SLH<br/>:: CPH</li> <li>🚩 <b>2020-21</b><br/>:: BH<br/>:: HKEH<br/>:: KH<br/>:: WTSH</li> </ul> | <ul style="list-style-type: none"> <li>🚩 <b>2021-22</b><br/>:: DKCH<br/>:: FYKH<br/>:: MMRC<br/>:: GH<br/>:: TWH<br/>:: OLMH</li> <li><b>2022-23</b><br/>:: <i>KWH Live run in progress</i></li> <li><b>2023-24</b><br/>:: <i>KCH Live run Mar 2024</i></li> </ul> |
|---|---|--|



# System Enhancements

## 1. Medication Decision Support (MDS) checking message for drug allergy

The screenshot displays a web-based clinical information system interface. At the top, the browser address bar shows the URL: `http://cms-corp-common-dmo.server.ha.org.hk:29012/`. The page header includes navigation menus for various clinical functions (1.Clinical, 2.Investigation, 3.Enquiry, 4.Booking, 5.DT, 6.Report, 7.Doc./Print, 8.Other System, 9.Info, 0.Admin) and a user logon area.

The main content area shows patient data for **陳駿軒 (CHAN, CHUN HIN)**, a 40-year-old male, born on 01-Apr-1977. The patient's medical history includes a reported allergy to Augmentin. The system is currently displaying the **IP Prescribing** screen for the drug **AUGM**.

A **Clinical Intervention** alert is displayed, titled **CAUTION for AUGMENTIN INJECTION**. The alert text reads: **Allergy Checking**, **AUGMENTIN - Allergy history reported**, **Clinical Manifestation: Rash**, **Level of Certainty: Certain**, and **Use of AUGMENTIN INJECTION may result in allergic reaction.** The alert includes two buttons: **Override alert** and **Do not prescribe**.

The background interface shows a list of Augmentin formulations, including Tablet (375MG, 1G), Syrup (156MG/5ML, 10 ML TDS), and Parenteral Injections (1.2G, 1200 MG, IV bolus). The bottom of the screen features navigation buttons: **Cancel**, **<< Back**, **+ Additive**, **Edit**, **Next >>**, and **Add to MAR**.

# System Enhancements

## 2. Extended decision support for allergy and adverse drug reactions (ADR) records

### Electronic Health Record Sharing System (eHRSS)

### Free Text Allergy Conversion

**ADR record on eHealth Record Sharing System (eHRSS)**

ADR Causative Agent | ADR Information

- benzocic acid + ethyl alcohol + eucalyptol + menthol + salicylic acid + thymol | Severe, Diarrhoea
- Listerine (ethyl alcohol + benzocic acid + eucalyptol + menthol + methyl salicylate + thymol) | Severe, Diarrhoea
- ciprofloxacin | Severe, Diarrhoea
- ciprofloxacin (as hydrochloride) | Severe, Diarrhoea

**HA Corp Alert - Download and convert to HA structured ADR record**

Drugs Ingredient Search

Disclaimer: Records in RED are NOT checked by systems against medications prescribed.

Additional information from eHRSS

Alloglot | ethyl alcohol + benzocic acid + eucalyptol + menthol + methyl salicylate + thymol

ADR Causative Agent | ethyl alcohol + benzocic acid + eucalyptol + menthol + methyl salicylate + thymol, ciprofloxacin (as hydrochloride)

**eHRSS ADR record for HA MDS checking (CMS and Pharmacy)**

Clinical Information

**CAUTION for CIPROFLOXACIN HCL TABLET**

Patient Specific Clinical Checking

eHRSS Adverse Drug Checking

CIPROFLOXACIN (AS HYDROCHLORIDE) - Adverse drug reaction history reported on 26-Jan-2021 at VHC4 HOSPITAL.

Adverse Drug Reaction: Diarrhoea

Level of Severity: Severe

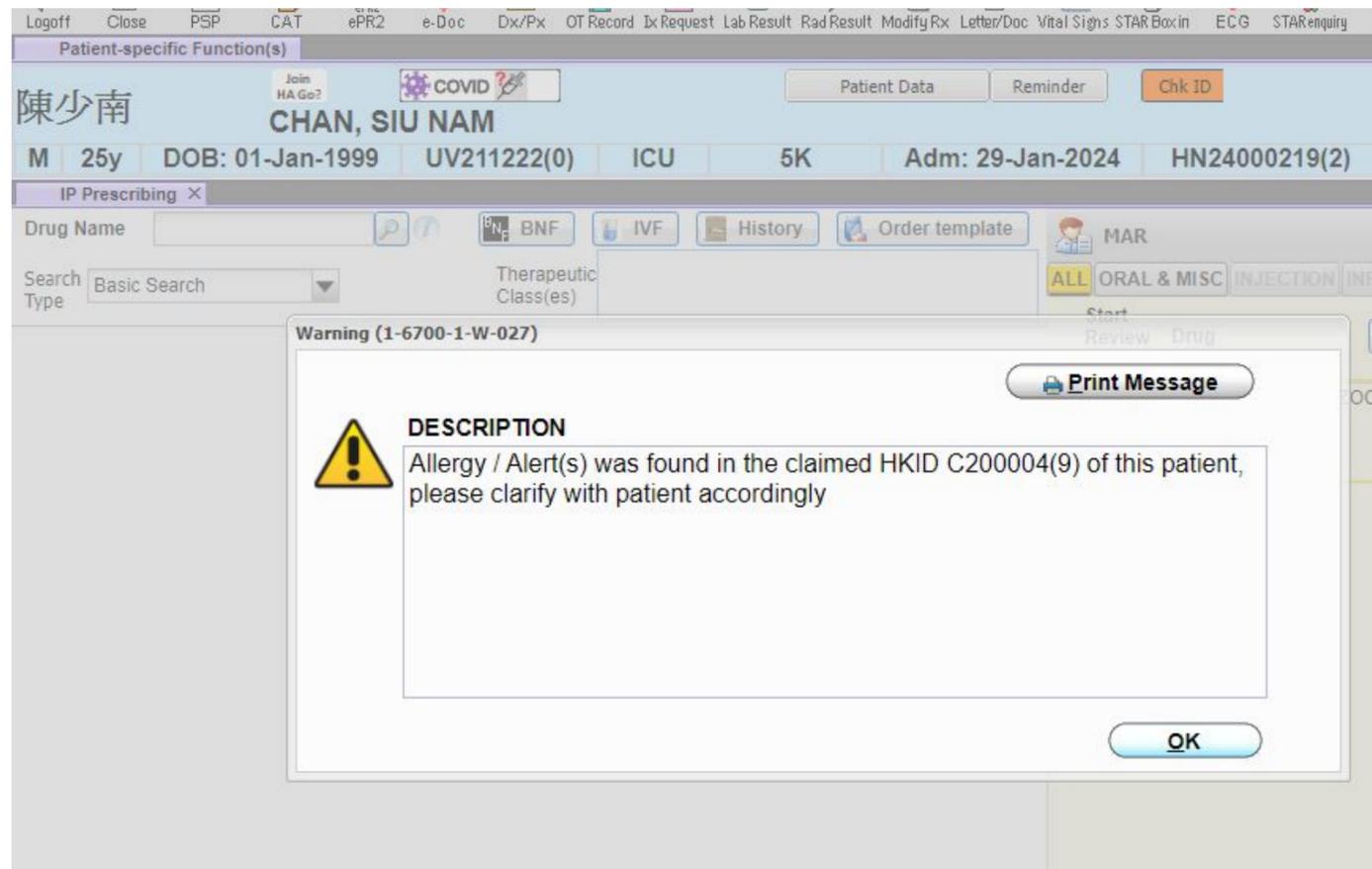
Use of CIPROFLOXACIN HCL TABLET may result in adverse drug reaction.

Overwrite alert | Do not prescribe

Batch No.	Date of conversion	No. of Rules	No. of records converted	Removed due to duplication
1 <sup>st</sup> batch (NSAID)	15-Sep-2015	5	2980	17
2 <sup>nd</sup> batch (Penicillins / Cephalosporins / Carbapenem)	08-Apr-2016	70	2228	348
3 <sup>rd</sup> batch (Sulfa group)	19-Aug-2016	162	3633	598
4 <sup>th</sup> batch	21-Dec-2016	736	1715	199
5 <sup>th</sup> batch (Contrast)	20-Nov-2017	1399	2666	224
6 <sup>th</sup> batch (Quinolones / Phenothiazines / Aminoglycosides / Macrolides)	12-Jul-2018	1617	669	57
7 <sup>th</sup> batch (conversion from non-drug free text allergy)	02-Nov-2018	1617	130	33
8 <sup>th</sup> batch (included drug and non-drug free text allergy)	18-Nov-2019	1617	160	30
9 <sup>th</sup> batch	15-Mar-2021	1617	108	19
10 <sup>th</sup> batch	28-Apr-2022	1617	113	7

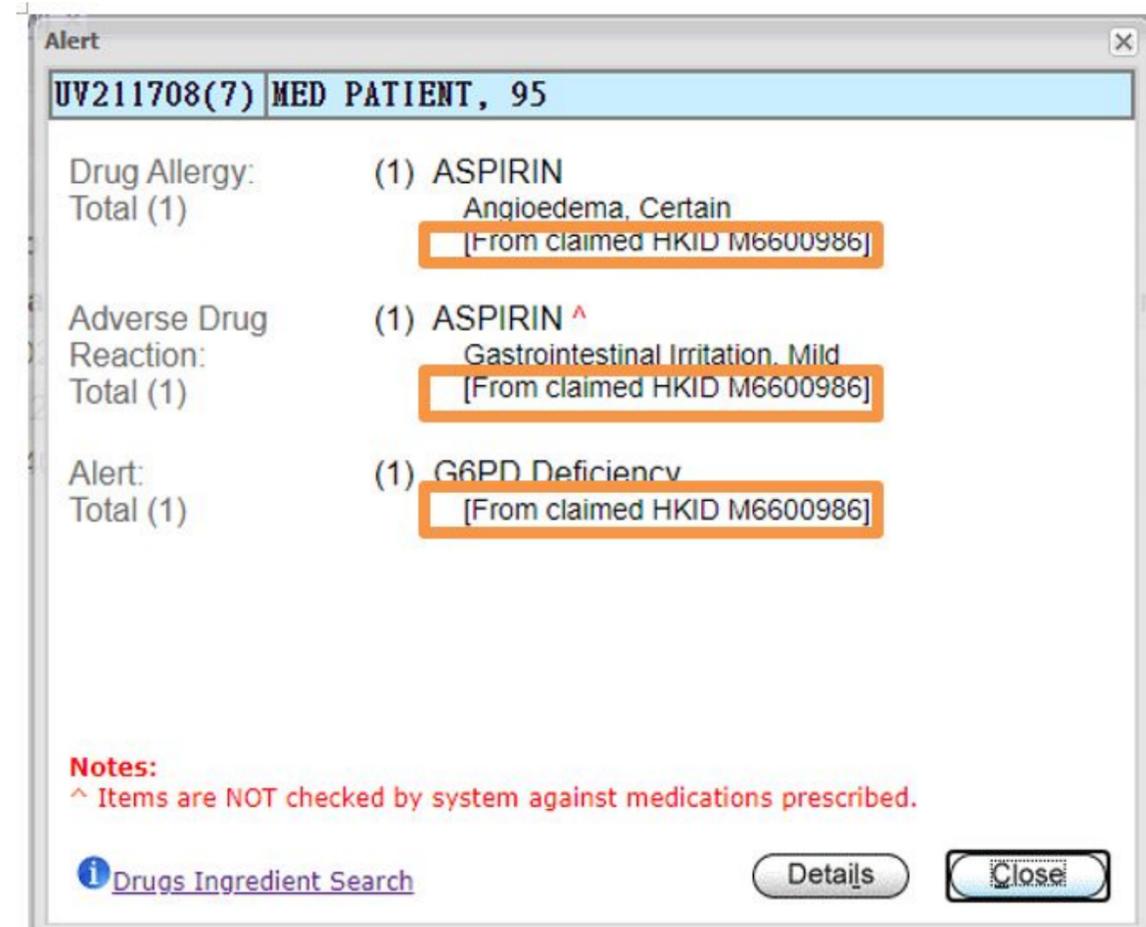
# System Enhancements

## Before Change



## 3. Medication decision support to “Claim HKID” patients

After Change - allergy/adverse drug reaction/alert records from claimed HKID’s profile will be **auto copied** into pseudo id’s profile.



# A case of Delayed prescription of antiviral drug to an HBV carrier given high-dose corticosteroid therapy (2017)

- A patient with IgA nephropathy was prescribed high-dose steroid by renal physician
- The patient was a known hepatitis B virus (HBV) carrier
- Surveillance investigation for early detection of hepatitis B flare up was not organized, nor preventive treatment with antiviral medication prescribed to the patient
- About two-and-a-half months later, the patient developed liver failure due to hepatitis B flare up
- The patient eventually passed away despite liver transplantation operations, and two doctors involved in the incident were found guilty of misconduct by the MCHK (MC 18/376)

港聞 / 社會新聞

## 疑醫生開漏藥致鄧桂思肝病發亡 死因庭明年2月展開聆訊

撰文：劉安琪

出版：2022-10-28 17:26 更新：2022-10-28 17:28



患有慢性腎病的女子鄧桂思於2017年，疑因聯合醫院兩名醫生開錯藥，引致急性肝病發作入院，惟兩度換肝，最終於同年8月去世，死因庭今(28日)就事件展開閉門研訊前檢討。據司法機構網站，案件排期至2023年2月27日開審，料需時15日。據悉，被列為利害關係方的醫管局將由資深大律師蔡維邦代表，家屬今亦有到庭。

**A medication-related incident might attract publicity  
and create stress to our clinical staff**

# System Enhancements

## 1. Auto-flag Hepatitis B positive in CMS alert.

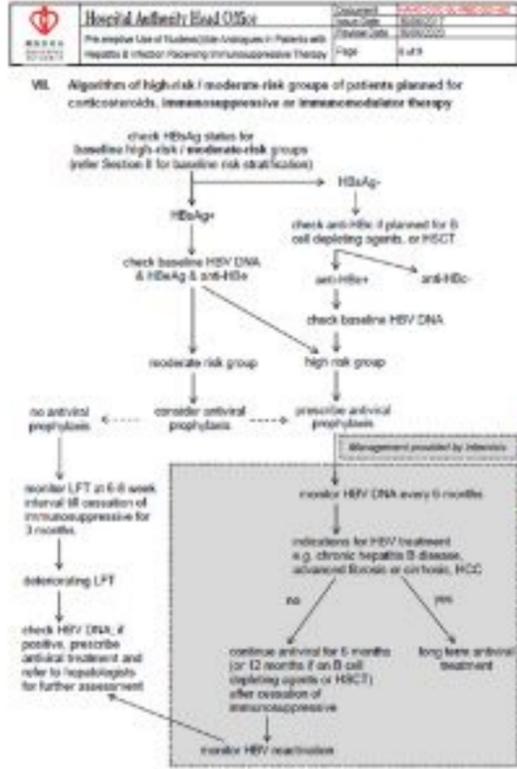
### AI for HBV DNA

Automation 



**From 1 Jan 2021 – Oct 2022**

- Auto flagged: 67,000+ positive HBV DNA  
(AI scanned 139,297 HBV DNA free text report)



**WB** Algorithm of high-risk / moderate-risk groups of patients planned for corticosteroids, immunosuppressive or immunomodulatory therapy

check HBsAg status for baseline high-risk / moderate-risk groups (refer Section 8 for baseline risk stratification)

HBsAg- → check anti-HBc: if planned for B cell depleting agents, or HSCT → anti-HBc- → check baseline HBV DNA → moderate risk group → consider antiviral prophylaxis → monitor LFT at 6-8 week interval till cessation of immunosuppressive for 3 months → deteriorating LFT → check HBV DNA, if positive, prescribe antiviral treatment and refer to hepatologists for further assessment

HBsAg+ → check baseline HBV DNA & HBeAg & anti-HBe → moderate risk group → consider antiviral prophylaxis → monitor LFT at 6-8 week interval till cessation of immunosuppressive for 3 months → deteriorating LFT → check HBV DNA, if positive, prescribe antiviral treatment and refer to hepatologists for further assessment

HBsAg+ → check baseline HBV DNA & HBeAg & anti-HBe → high risk group → prescribe antiviral prophylaxis → Management provided by clinicians → monitor HBV DNA every 6 months → indicated for HBV treatment e.g. chronic hepatitis B disease, advanced fibrosis or cirrhosis, HCC → yes → long term antiviral treatment → monitor HBV reactivation

no → continue antiviral for 6 months (or 12 months if on B cell depleting agents or HSCT) after cessation of immunosuppressive → monitor HBV reactivation



**Clinical Intervention**

**CAUTION for ALEMTUZUMAB (FREE GOODS)**

Patent Specific Clinical Checking

**Hepatitis B Positive/Carrier Alert Checking**

ALEMTUZUMAB (FREE GOODS) – Hepatitis B positive/ carrier/ reactive reported. Use of ALEMTUZUMAB (FREE GOODS) as immunosuppressive therapy without antiviral given may result in risk to patient.




# System Enhancements

2. Automatic medication safety checking for Hepatitis B patients during corticosteroid and immunosuppressive therapy prescriptions.

**Automation**

## Anti-HBc positive patients

**Hospital Authority**  
East of London Health Board

**Department of Microbiology**  
UCLH - UCL Academic Unit, 4th Floor  
St. Bartholomew's Hospital, West Wing, London EC2A 3UG

**Lab No.** 422  
**Ref No.** 12345  
**Specimen** Cholest Blood

**Results**  
Anti-HBc: Positive  
HBV DNA: Not Detected

**Alerts:**  
Hepatitis B Alert Checking  
HBV DNA Detected Alert Checking  
Hepatitis B Positive/Carrier Alert Checking

**Clinical Intervention**  
**CAUTION for RITUXIMAB**

**Hepatitis B Alert Checking**  
Anti-HBc Positive Alert Checking  
RITUXIMAB – Anti-HBc positive prediction.  
Use of RITUXIMAB as immunosuppressive therapy without antiviral given may result in risk to patient.  
Please verify the latest blood result in ePR.

**HBV DNA Detected Alert Checking**  
RITUXIMAB – HBV DNA detected prediction.  
Use of RITUXIMAB as immunosuppressive therapy without antiviral given may result in risk to patient.  
Please verify the latest blood result in ePR.

**Hepatitis B Positive/Carrier Alert Checking**  
RITUXIMAB – Hepatitis B positive/ carrier/ reactive reported.  
Use of RITUXIMAB as immunosuppressive therapy without antiviral given may result in risk to patient.

**Disclaimer:**  
Drug is subjected to Hepatitis B Checking against other medication(s) on the current prescription and the on hand drug prescribed at all hospitals.

**Override alert** **Edit prescription**

**Live since 17 Jun 2022: > 10,000 predictions performed**

**IT&HI**

A case of

# Omitted Hydrocortisone prescription in a patient with adrenal insufficiency (2022)

- A 81-year-old man with adrenal insufficiency was admitted for chest infection and septic shock
- The patient has been on long-term steroid replacement
- During the hospital stay, he was kept nil by mouth, given IV antibiotics and stress dose steroid (IV hydrocortisone 50 mg Q8H)
- The patient later improved clinically, and the IV medications were switched back to oral
- However, the clinician thought the hydrocortisone was for septic coverage only, and did not restart oral hydrocortisone replacement
- One day later, the patient was found unresponsive in ward

*Mx*  
*To oral*  
*Augmentin*  
*Off*  
*Hydrocortisone*



# System Enhancements

## 1. New Corp Alert

Alert Input Screen

Alert categories

- Clinical Condition
- On Medication**
- Assessment
- Infectious
- Multi Drug Resistant Organisms
- Procedure
- Radioisotope / Radioactive Implant
- Miscellaneous
- All

Search/Free text

On Medication

- On Anti-platelet
- On Warfarin
- On NOAC / DOAC
- On dual anti-platelet (Aspirin + Clopidogrel [Plavix] or equivalent)
- Hx of Streptokinase
- On Icodextrin: H'stix overestimated by GDH PQQ glucometers
- On second-generation antipsychotics (SGAs) with abnormal blood results
- On SGLT-2 inhibitors
- On long-term steroid replacement

Change "On steroid" to "On long-term steroid replacement"

Alert: On long-term steroid replacement

Additional Information:

Validity Period: From [ ] To [ ] expire now

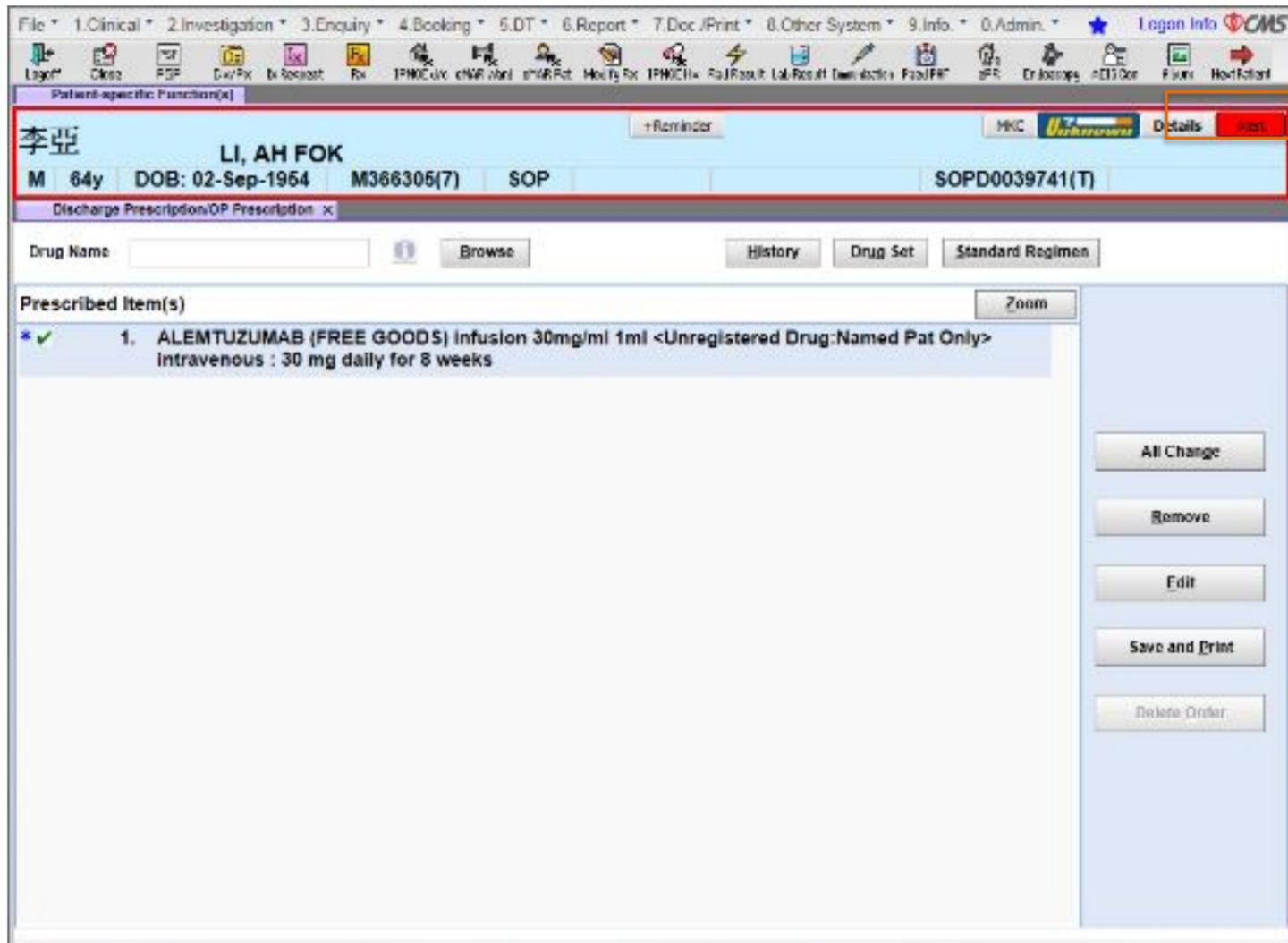
Add optional validity period

Clear Cancel

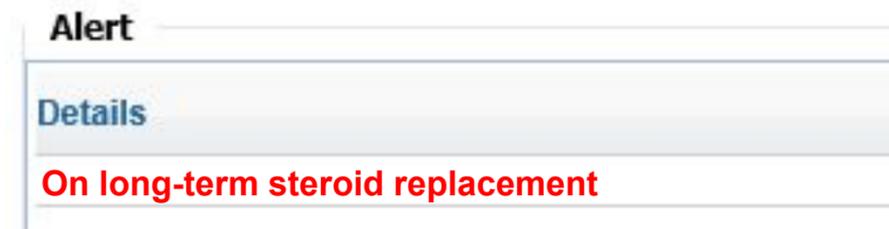
# System Enhancements

## 2. MDS Checking in MOE

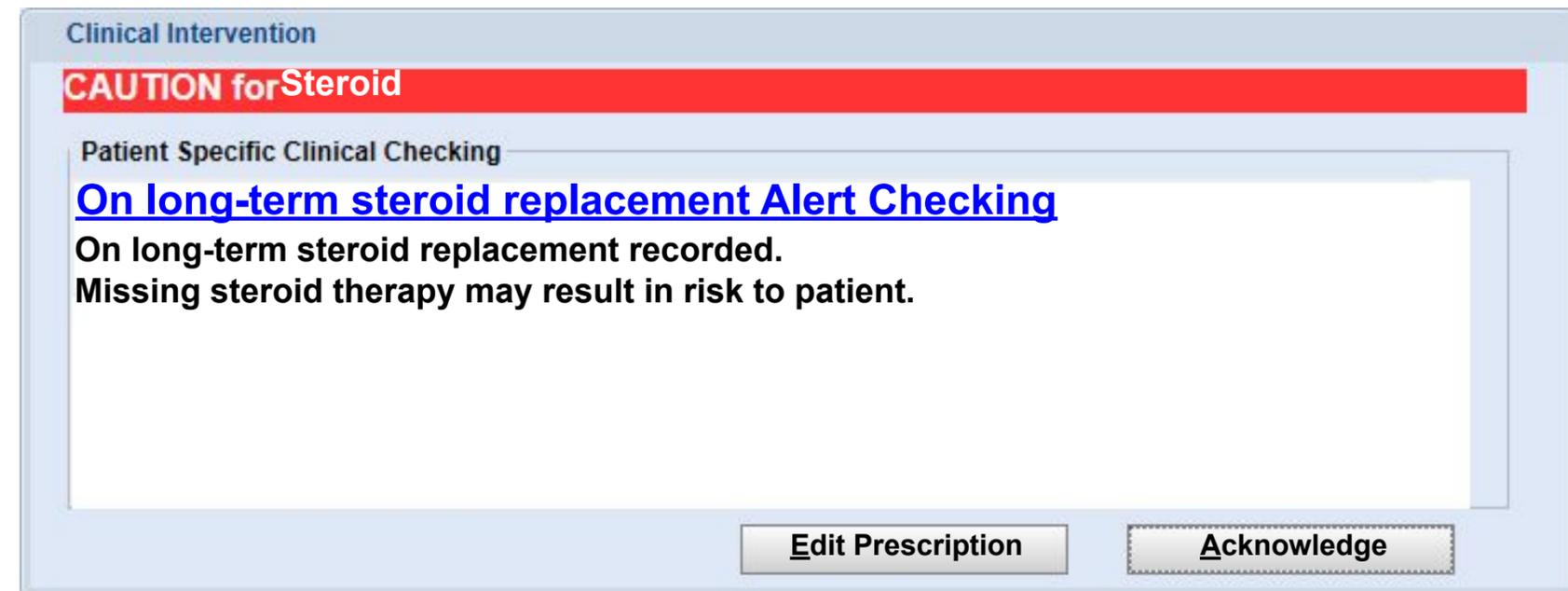
- 1 Click Save and Print  
Doctor did not prescribe steroid OR  
**Patient does not have on hand steroid**

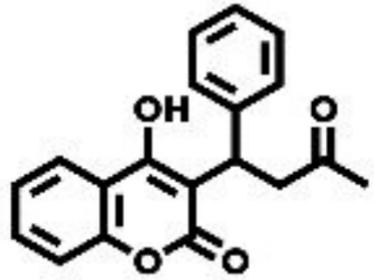


- 2 Patient marked on long-term steroid replacement in Corp Alert



- 3 Prompt Reminder





warfarin

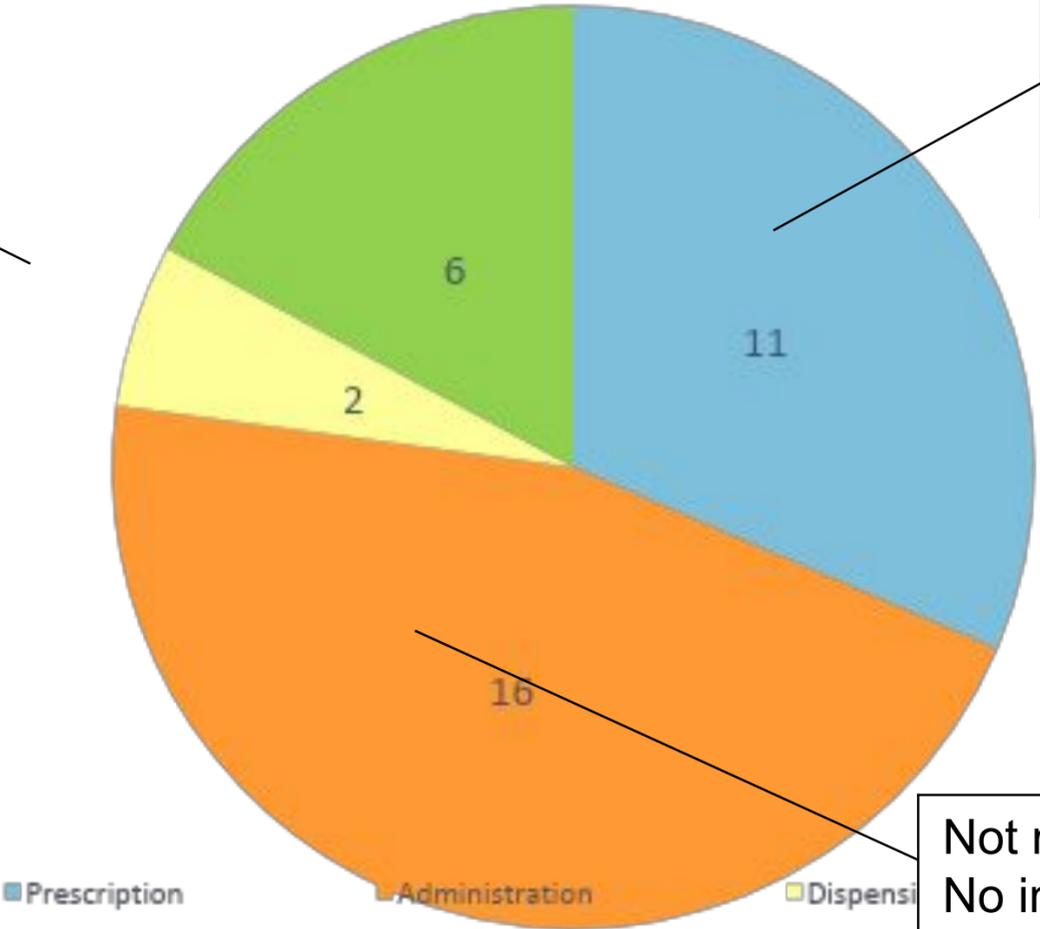
## Warfarin - Little margin for error

- **Narrow therapeutic window**
- **Unpredictable response**
- **Slow onset and offset**
- **Numerous drug-drug and food-drug interactions, warfarin resistance**
- Influenced by genetics (CYP450, VKORC1), disease and patient (age, sex, height, weight, smoking)
- Requires routine INR monitoring and frequent dose adjustment

# Learning from past incidents, data collection and analysis...

Warfarin-related incidents: 35  
(From Jan 2019 to Jun 2021)

Complicated regime	1
--------------------	---



Duration of prescription is shorter than the next FU	2
Actual prescription is different from the intended prescription	5

Not referred to the most updated INR / No intention to check INR	1
	1

- Incidents can occur **during prescription, administration, dispensing and self-administration by patients.**
- Common types of error include **discrepancy between intended dose and prescribed dose, or discrepancy between prescription and administration.**

Can the system remind me to check INR before administration?

How do I enter my intended prescription simply and safely?

How do I convey my clinical intent more effectively?

How can we better educate and empower our patients?

Do we really need a complicated regime?



# Staff empowerment and engagement

## Warfarin safety campaign

- Launched in June 2022
- To raise awareness of warfarin safety in HA and gather bright ideas
- Total 189 entries
- Expert judging panel selected Champion, 1<sup>st</sup> runner-up and 2<sup>nd</sup> runner-up
- Instagram voting: “My Favourite Warfarin Idea”

Hospital Authority  
**Warfarin Safety Campaign**

Have I checked the INR?  
Increase? Decrease? 2.5mg!  
INR? Give if INR? INR Target? Optimal INR

How much should I take?

**Do you know ?**

- In 2020, around 19,000 HA patients were prescribed Warfarin and among them, 2,200 were new cases
- 90.5% of these patients were on daily or odd-even day regime, 1.5% were on complicated regime
- There have been around 10 Warfarin related incidents each year in 2019 - 2020
- Common Observations:
  - ◆ Actual prescription different from the intended prescription or shorter than intended period
  - ◆ Not referring to the most updated INR
  - ◆ Complicated regime

**Theme**

We hope to call for bright ideas on Warfarin safety in HA, such as smarter administration, prescription, dispensing or patient communication

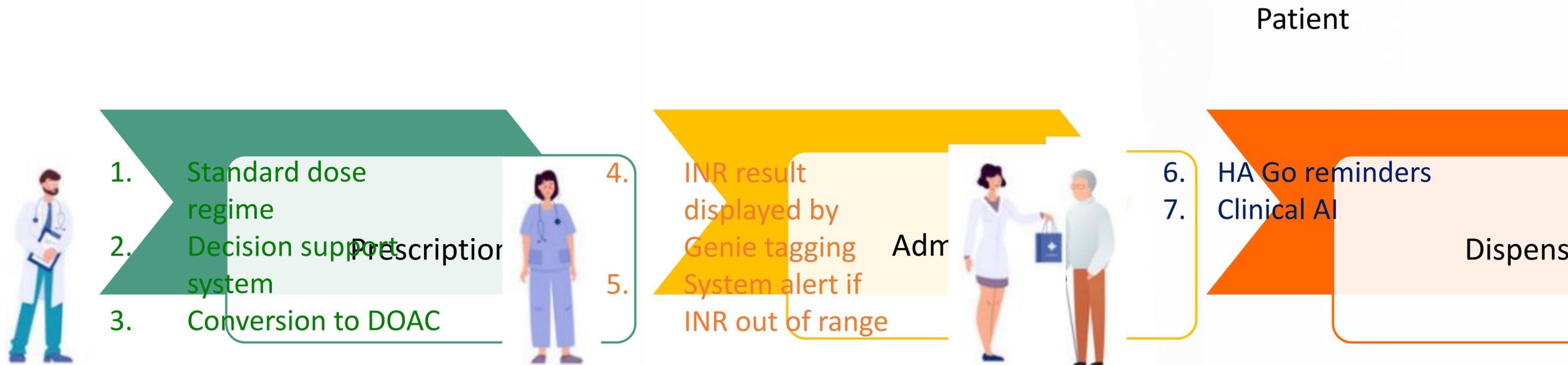
**Awards & Prize**

Champion : Apple AirPods Pro  
1st runner up : Nintendo Switch Life  
2nd runner up : Bruno Compact Hot Plate  
Merit : Supermarket Cash Coupon

**Submission deadline**  
30 June 2022

SCAN ME

# Can we achieve a safe warfarin journey for all?



# System Enhancements

*Putting ideas in to actions!*

## 1. Clinical intention for warfarin prescription

A new [Intent] function was developed to enable users of clinical systems to **view and edit the clinical intention for warfarin prescription** including:

- Clinical indication (with CHA2DS2-VASc Score calculator)
- INR target
- Intended treatment duration

The screenshot shows a web-based form titled "Warfarin Sodium Tablet". It is divided into two main sections: "Indication" and "Intention".

**Indication:** This section contains a checkbox for "AF" which is checked, and a text input field for "CHA2DS2-VASc score" with the value "4" and a calculator icon. There is also an unchecked checkbox for "Others".

**Intention:** This section contains a radio button for "INR Intensity" which is selected, followed by two input fields containing the numbers "2" and "3" separated by a minus sign. Below this are two more options: a radio button for "≥" followed by an empty input field, and a radio button for "≤" followed by an empty input field.

At the bottom of the form, there is a small text note: "Last updated by CHAN, Tai Man, AC on 24-Dec-2021 10:09". Below this are two buttons: "Proceed Prescription" and "Do Not Prescribe".

# System Enhancements

## “Clinical Intention” in MOE

- Generic to all drugs.
- For specific drug and group. Priority for high risk medication with predefined template

Plavix (Clopidogrel) tablet <Special Drug>

Intent IND Advanced Option Preparation & \$

Dosage: 75 MG, Daily Frequency: DAILY, PRN: , Route/Site: ORAL, Duration: 1 Weeks, Quantity: TAB

75 mg daily for 1 weeks

Fixed Period,  Single Use, Special Instruction: [Empty], Action Status: Dispense by Pharmacy

Prescribed Item(s)

Buttons: All Change, Remove, Edit, Save and Print, Delete Order, << Back, Cancel

Plavix (Clopidogrel) Tablet

Indication: Post PCI with AF

Drug Duration:  On going treatment,  From 01-Jan-2022 To 31-Dec-2022

Intention: Post PCI on Aspirin + Plavix till 31-12-2022  
Then Aspirin + PPI cover lifelong

Buttons: Confirm, Cancel

# System Enhancements

## 2. Warfarin Administration Enhancement



- Patient tagging framework  
**'Medication Genie'**
- It would enable users to access **recent INR results** as to support checking before administration

The screenshot displays the 'Drug Admin by Patient' interface. At the top, it shows 'PREPARE DRUG 0' and 'Patient Verification' with the date '05/05/2022 18:14'. Below this is a navigation bar with tabs for 'ALL', 'ORAL & MISC', 'INJECTION', 'INFUSION', 'PRN/STAT', 'PD', 'OVERDUE', and 'INTRATHECAL'. The main area lists medication orders for '05/May':

- ORAL**: Metformin HCl sustained release tablet <Special Drug>, oral: 500 mg BD, scheduled for 1900 on 05/5.
- ORAL**: Warfarin Sodium tablet, oral: 2 mg once per day, Omit if INR >= 4, scheduled for 1900 on 05/5.
- INJECTION**: Tramadol HCl injection, IM: 50 mg Q8H PRN.

A pop-up window titled 'Latest result from ePR within 7 days' displays the following lab results:

Test	Result	Date
Glucose, Capillary Blood, POCT	7.5 mmol/L	05/05/2022 07:28
Glucose, Whole Blood, POCT	---	---
Potassium	4.1 mmol/L	05/05/2022 10:30
INR	1.2	05/05/2022 15:13
Platelet	119 L x10 <sup>9</sup> /L	05/05/2022 15:13

At the bottom of the interface, there are fields for 'Given by: Wong, Jing(MED)', 'Checked by: Countersign', a 'Scan QR Code' button, and a 'No. of due / overdue remaining: 2' indicator. A 'Proceed' button is also visible.

A case of

# Allopurinol-associated Stevens-Johnson syndrome (SJS)

- F/74 with hypertension, chronic kidney disease, anemia, hyperlipidemia and gout, was prescribed low dose allopurinol (100mg daily) for gout in GOPC in April
- Admitted in May for neck swelling, throat pain, and fever
- Developed skin rash after admission, allopurinol-induced skin reaction was suspected
- HLA-B\*58:01 tested positive in Early June
- Passed away in June due to toxic epidermal necrolysis (TEN) complicated with multi-organ failure in ICU

公院醫生未提尿酸藥別嘌醇副作用 婦服後亡

攝文：呂耀輝

出版：2022-11-14 08:00 更新：2022-11-14 17:24



「成塊面都係紅紅腫腫，好恐怖，其實係唔敢望，你當係一個嚴重燒傷病人啦。」76歲的許女士今年4月底獲公院醫生處方別嘌醇 (Allopurinol) 治療尿酸問題，怎料服用藥物後一個月後卻開始出現紅疹。她其後病情惡化，皮膚出現廣泛性脫落、壞死及黏膜糜爛等不良反應，最終演變成「毒性表皮溶解症」(Toxic Epidermal Necrolysis, TEN)，不敵病魔離世。

**A fatal case of allopurinol-induced toxic epidermal necrolysis in 2022 received widespread attention**

其在向藥師查詢後得知，母親原來帶有HLA-B\*58:01基因，服用此藥會有高機會出現嚴重皮膚不良反應，惟醫生當時未有提及任何副作用及未有安排檢測基因，而媽媽當時已有慢性腎衰竭，亦不適合服食大劑量的別嘌醇。

# Role of HLA-B\*58:01 Testing in Allopurinol Treatment



死者帶有一種基因 對別嘌醇有嚴重皮膚不良反應

蔡小姐其後得悉，母親原來帶有HLA-B\*58:01基因，服食別嘌醇會有嚴重皮膚不良反應，惟普通科門診醫生當時未有提及任何副作用，亦未有安排檢測基因，加上媽媽當時已有慢性腎衰竭，亦不適合服食大劑量的別嘌醇，「如果當日個醫生肯同我哋講有咩副作用，一聽到我哋一定日日打比媽媽幾次問有無咩病徵，咁就已經救返條命。」她亦指，母親入院後，威院仍要花逾一周的時間才發現母親的情況是由藥物所致，如及早發現問題而停藥，母親或不會因而喪命。

- HLA-B\*58:01 allele carriers (**Chinese population prevalence: 8-20%**) face an **80-fold increased risk** of developing Stevens-Johnson Syndrome (SJS) and Toxic Epidermal Necrolysis (TEN) with allopurinol treatment.
- Despite the associated risks, HLA-B\*58:01 testing before initiation of allopurinol was **not previously mandatory** due to **low Positive Predictive Value, limited alternative and lack of conclusive cost-effectiveness data/ Healthcare authority recommendations.**

# Questions?

**A**

**Why was the genetic test not done earlier, i.e. before starting Allopurinol?**

Patient & Carer perspective

**B**

**Is universal testing warranted? What are the costs and benefits?**

Clinician & Population Health perspective

**C**

**How can we best support clinicians to help our patients?**

Corporate Perspective



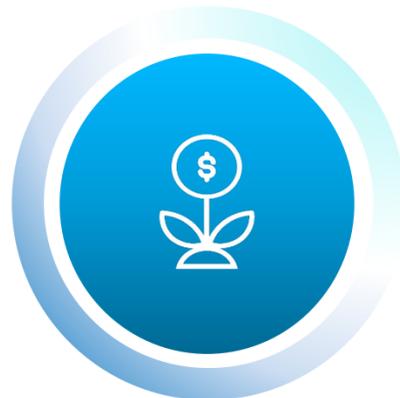
# HA Strategy in Enhancing Allopurinol Safety

- Pre-allopurinol universal screening of HLA-B\*58:01 for HA patients
- Call-back exercise



- Strengthening laboratory genetic testing service for HLA-B\*58:01

Allopurinol Safety



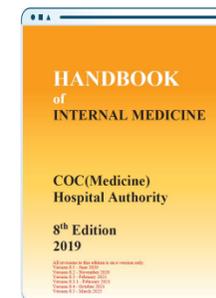
- Ensuring accessibility of alternative drug (Febuxostat)



- CMS enhancements to strengthen decision support in initiation of allopurinol



- Staff promulgation and patient education regarding HLA-B\*58:01 testing, allopurinol and SCAR





# CMS Enhancements to Strengthen Decision Support in Initiation of Allopurinol

## CMS system prompts (deployed on 27 March 2023)

- Automatic alerts for doctors to verify a patient's HLA-B\*58:01 status prior to prescription of Allopurinol.

## Positive Test Results

- In case of a positive HLA-B\*58:01 test, doctors are advised to exercise clinical vigilance and consider alternative treatments.

## New Allopurinol Users

- For those with unknown HLA-B\*58:01 status, it is recommended to confirm the test result before proceeding with the prescription.



Clinical Intervention

**CAUTION for ALLOPURINOL TABLET**

Patient Specific Clinical Checking

**HLA-B\*58:01 Contraindication Checking**  
Positive HLA-B\*58:01 test result is detected in the system. This patient is at higher risk of developing severe cutaneous adverse reactions with use of **ALLOPURINOL TABLET** (e.g. Stevens-Johnson syndrome, toxic epidermal necrolysis). Please exercise clinical vigilance and consider alternative treatment.

Override alert    Do not prescribe

Clinical Intervention

**CAUTION for ALLOPURINOL TABLET**

Drug Lab Checking

**Drug Lab Checking**  
This patient is a new patient of Allopurinol (i.e. on Allopurinol < 1 year) and the HLA-B\*58:01 status is UNKNOWN. It is recommended to check HLA-B\*58:01.

Proceed Prescription    Do not prescribe

# Conclusion

	<b>Turning incidents into opportunities:</b>
	Through the systematic reporting, investigation, and analysis of incidents <input type="checkbox"/> identify underlying system-level issues <input type="checkbox"/> implement targeted interventions to address them
	<b>Key systemic changes:</b>
	Need for closed-loop computerised systems (e.g. IPMOE) Robust decision support for medication safety Proactive monitoring of high-risk patient populations
	<b>Collaboration among stakeholders is essential:</b>
	Clinical professionals (doctors, nurses, pharmacists), IT teams, policy-makers
	<b>Way forward:</b>
	Systemic changes and safety cultures

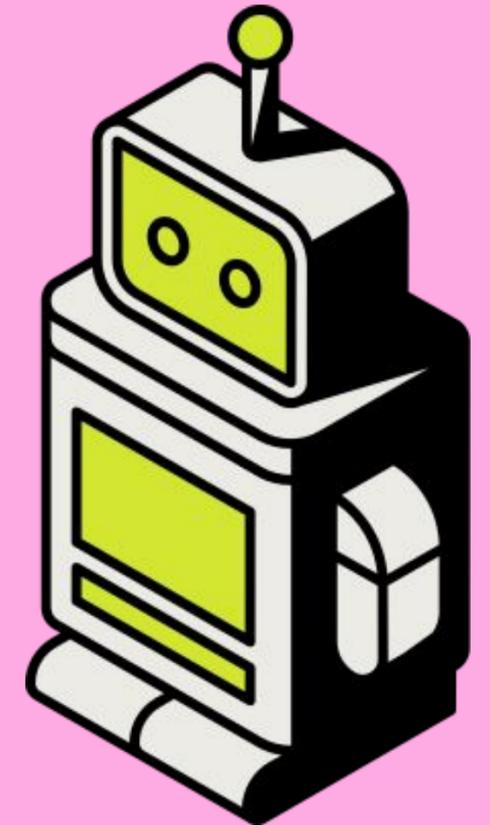
# Thank you



醫院管理局  
HOSPITAL  
AUTHORITY



病人安全及風險管理  
Patient Safety & Risk Management



# Sentinel Event Policy of Hospital Authority, Hong Kong - 17 years on,

## What have we learnt?

# Future...

Presenter: Dr Raymond CHEUNG, Chief Manager, Patient Safety and Risk Management

Department, Quality & Safety Division, Hospital Authority



醫院管理局  
HOSPITAL  
AUTHORITY



病人安全及風險管理  
Patient Safety & Risk Management

# Best Practice Principles in Incident Management

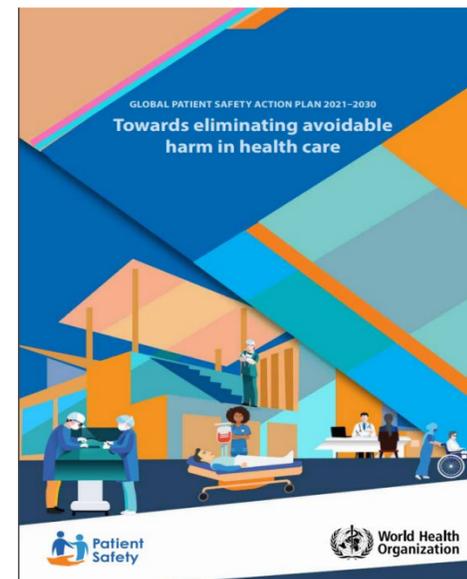
1. **Transparency**: Providing honest and open explanations.
2. **Accountability**: Ensuring duty of care and timely investigations.
3. **Partnering with Consumers**: Involving patients, carers, and families.
4. **Open, Fair, and Just Culture**: Promoting a safe reporting environment.
5. **Timeliness and Prioritization**: Acting promptly based on clinical risk.
6. **Shared Learning**: Disseminating lessons across the healthcare sector.



The Safety Competencies 2nd Edition. Canadian Patient Safety Institute. (March 2020)

# Global Patient Safety Action Plan (GPSAP) 2021 – 2030

Strategic framework towards eliminating avoidable harm in health care



## Framework for Action - The 7x5 Matrix

1		<b>Policies to eliminate avoidable harm in health care</b>	1.1 Patient safety policy, strategy and implementation framework	1.2 Resource mobilization and allocation	1.3 Protective legislative measures	1.4 Safety standards, regulation and accreditation	1.5 World Patient Safety Day and Global Patient Safety Challenges
2		<b>High-reliability systems</b>	2.1 Transparency, openness and No blame culture	2.2 Good governance for the health care system	2.3 Leadership capacity for clinical and managerial functions	2.4 Human factors/ ergonomics for health systems resilience	2.5 Patient safety in emergencies and settings of extreme adversity
3		<b>Safety of clinical processes</b>	3.1 Safety of risk-prone clinical procedures	3.2 Global Patient Safety Challenge: Medication Without Harm	3.3 Infection prevention and control & antimicrobial resistance	3.4 Safety of medical devices, medicines, blood and vaccines	3.5 Patient safety in primary care and transitions of care
4		<b>Patient and family engagement</b>	4.1 Co-development of policies and programmes with patients	4.2 Learning from patient experience for safety improvement	4.3 Patient advocates and patient safety champions	4.4 Patient safety incident disclosure to victims	4.5 Information and education to patients and families
5		<b>Health worker education, skills and safety</b>	5.1 Patient safety in professional education and training	5.2 Centres of excellence for patient safety education and training	5.3 Patient safety competencies as regulatory requirements	5.4 Linking patient safety with appraisal system of health workers	5.5 Safe working environment for health workers
6		<b>Information, research and risk management</b>	6.1 Patient safety incident reporting and learning systems	6.2 Patient safety information systems	6.3 Patient safety surveillance systems	6.4 Patient safety research programmes	6.5 Digital technology for patient safety
7		<b>Synergy, partnership and solidarity</b>	7.1 Stakeholders engagement	7.2 Common understanding and shared commitment	7.3 Patient safety networks and collaboration	7.4 Cross geographical and multisectoral initiatives for patient safety	7.5 Alignment with technical programmes and initiatives

# Actions to Improve Patient Safety



# The Path Forward:

# Revisit.

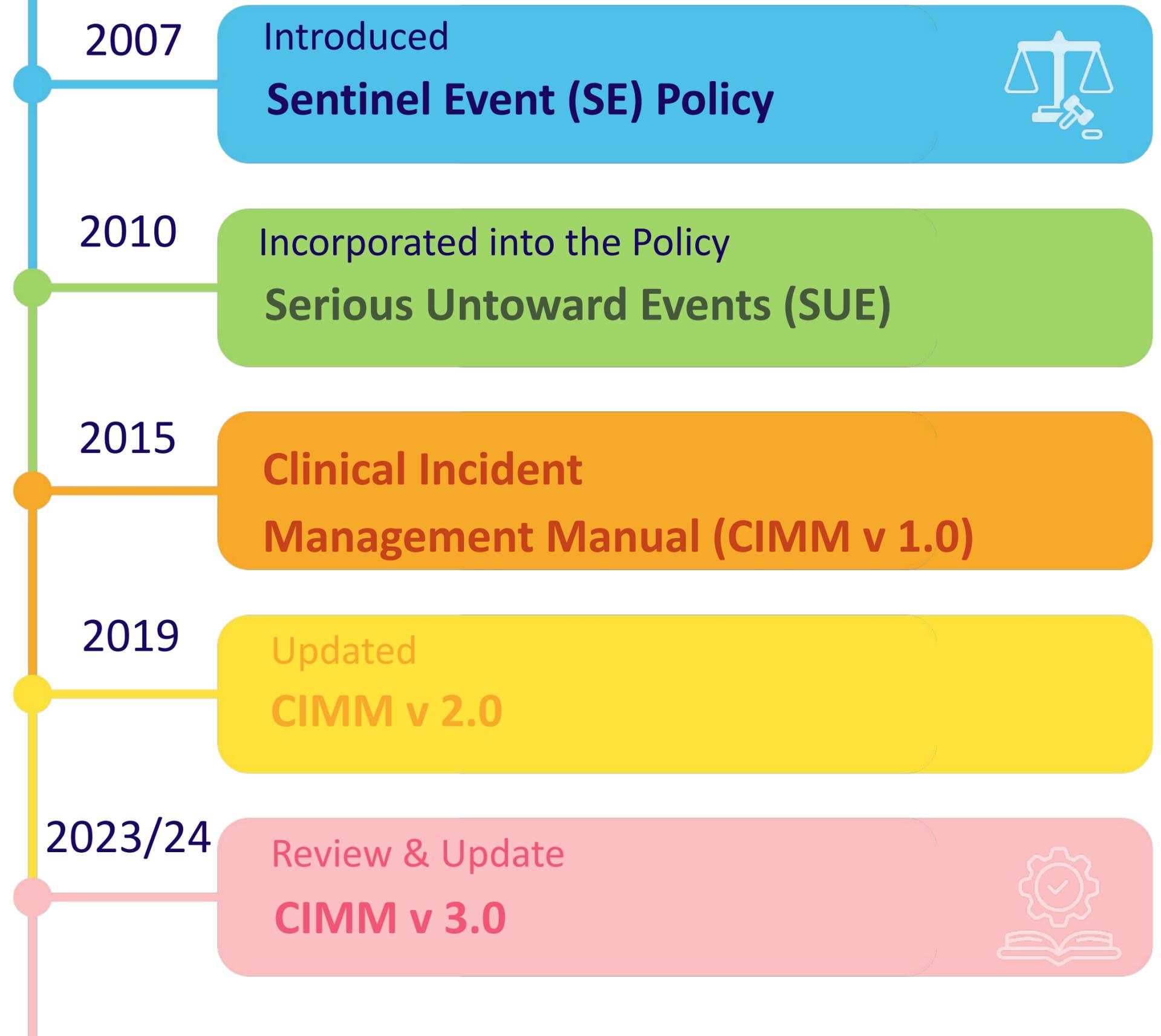
# Rethink.

# Refocus.

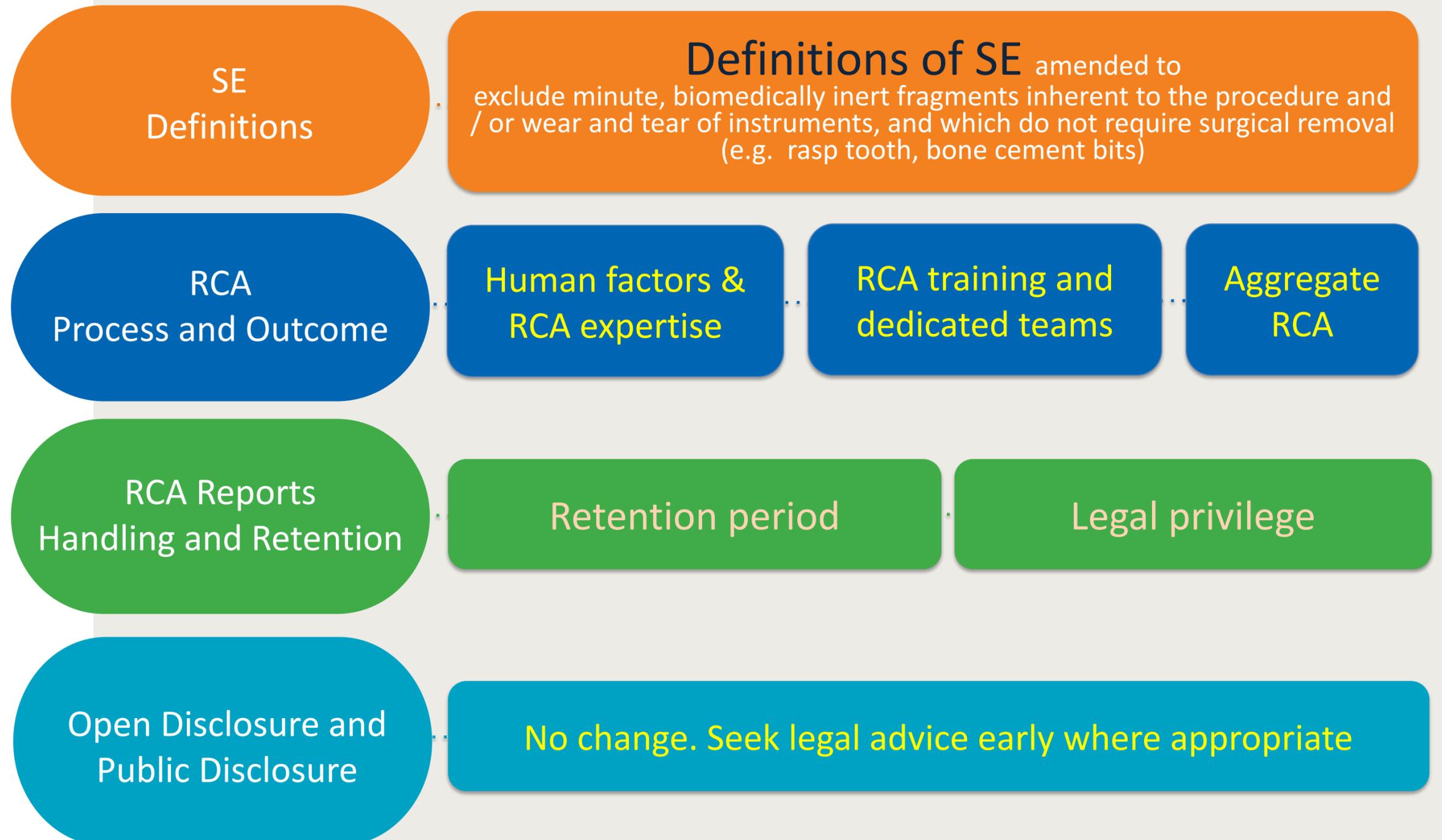
# Reconnect.



# Incident Management in HA



# Review of Clinical Incident Management Manual and SE & SUE Policy (2023)



# A Robust Incident Management System

1. **Identification**: Recognizing when incidents occur.
2. **Immediate Action**: Taking steps to reduce risk and harm.
3. **Notification**: Reporting mechanisms and requirements.
4. **Initial Assessment**: Evaluating severity and risk.
5. **Analysis & Investigation**: Understanding the causes.
6. **Action**: Implementing recommendations.
7. **Feedback & Learning**: Ensuring **system-wide improvements**.



# 1. Patient Safety Culture



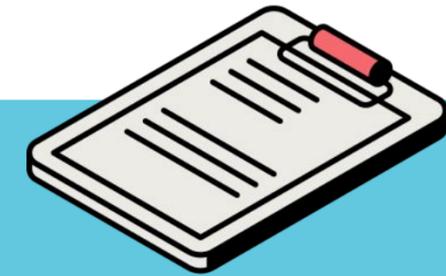
## Reporting Culture

A safe organization is dependent on the willingness of front-line workers to report their errors and near-misses



## Just Culture

Management will support and reward reporting;  
Discipline occurs based on risk-taking



## Learning Culture

The willingness and the competence to draw the right conclusions from safety information systems, and the will to implement major reforms when their need is indicated.

# 1. Environment for Reporting

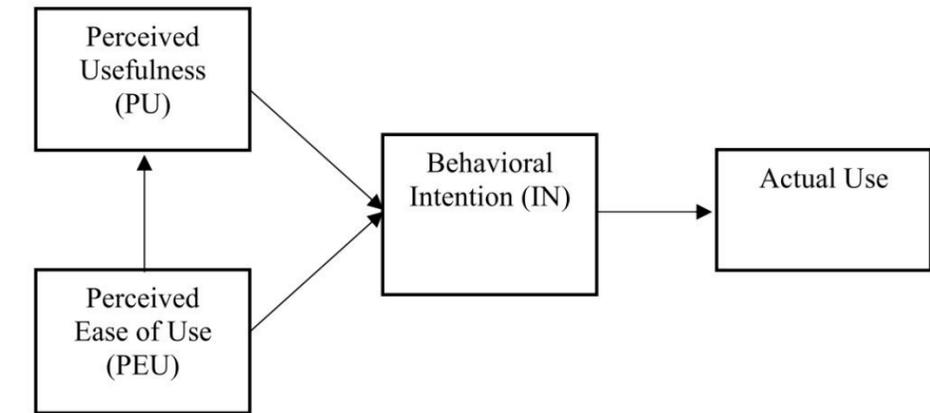
Behavioral intention (IN), and in turn Actual Use, is *statistically significant highly correlated* with Perceived Usefulness (PU) and Perceived Ease of Use (PEU).

Reporting should be **simple** and **accessible**.  
 Contains structured information capture and free text narrative commentary

## Minimal Information Model for Patient Safety Incident Reporting and Learning Systems (MIM PS)



Source: World Health Organization



Dependent variable	Independent variable	Pearson correlation coefficient	r <sup>2</sup>
IN	PEU	0.745***	0.555
IN	PU	0.791***	0.625
PU	PEU	0.746***	0.556
IN	PEU & PU	0.822***	0.672

Note. IN = behavioral intention. PEU = perceived ease of use. PU = perceived usefulness.

\*\*\*p < 0.001.

Inform Med Unlocked 2020;21:100477.

- ### Top 5 self-perceived barriers to incident reporting for doctors
- 1 No feedback on incident follow-up (57.7%)
  - 2 Form too long; lack of time (54.2%)
  - 3 Incident seemed "trivial" (51.2%)
  - 4 Ward was busy, forgot to report (47.3%)
  - 5 Not sure who is responsible to make report (37.9%)

Qual Saf Health Care. 2006  
 Feb;15(1):39-43.

# 1. Patient Safety Culture

1. Promote Safety **Culture**
2. Provide **Training and Education**
3. Make **Reporting easier**
4. Make **Reporting meaningful to the reporter.**  
Ensure **Visible Actions and Feedback**
5. Shift the focus **from Quantity to Quality**
6. Prioritize high-yield events and ensure detailed **investigation** of incid
7. Collaborate and **share data**
8. Utilize **Technology**



Training: Crew Resources Management

## Domains in assessment of hospital's patient safety culture

HSPSC v2 Domain (v1 Domain)	Description
Teamwork (v1 <i>Teamwork Within Units</i> )	Staff work together as an effective team, help each other during busy times, and are respectful.
Staffing and Work Pace (v1 <i>Staffing</i> )	There are enough staff to handle the workload, staff work appropriate hours and do not feel rushed, and there is appropriate reliance on temporary, float, or on call staff
Organizational Learning—Continuous Improvement	Work processes are regularly reviewed, changes are made to keep mistakes from happening again, and changes are evaluated.
Response to Error (v1 <i>Nonpunitive Response to Errors</i> )	Staff are treated fairly when they make mistakes and there is a focus on learning from mistakes and supporting staff involved in errors.
Supervisor, Manager, or Clinical Leader Support for Patient Safety (v1 <i>Supervisor/Manager Expectations &amp; Actions Promoting Patient Safety</i> )	Supervisors, managers, or clinical leaders consider staff suggestions for improving patient safety, do not encourage taking shortcuts, and take action to address patient safety concerns
Communication About Error (v1 <i>Feedback &amp; Communication About Error</i> )	Staff are informed when errors occur, discuss ways to prevent errors, and are informed when changes are made.
Communication Openness	Staff speak up if they see something unsafe and feel comfortable asking questions.
Reporting Patient Safety Events (v1 <i>Frequency of Events Reported</i> )	Mistakes of the following types are reported: (1) mistakes caught and corrected before reaching the patient and (2) mistakes that could have harmed the patient but did not.
Hospital Management Support for Patient Safety (v1 <i>Management Support for Patient Safety</i> )	Hospital management shows that patient safety is a top priority and provides adequate resources for patient safety.
Handoffs and Information Exchange (v1 <i>Handoffs &amp; Transitions</i> )	Important patient care information is transferred across hospital units and during shift changes.

# 2. Investigations and Analysis

## Review Individually

**Prioritize** high-yield events and ensure detailed investigation of incidents

## Study in Aggregate

Data are aggregated to a recognized **classification system**. Skilled analytical function to process raw data (e.g. trend analysis, textural analysis by AI).

The perspective of patients and their families	Measures of harm	Measures of the reliability of critical safety processes
Information on practices that encourage the monitoring of safety	Information on the capacity to anticipate safety problems	Information on the capacity to respond to and learn from safety information
Data on staff attitudes, awareness and feedback	Mortality rate indicators	Staffing levels
Data on fundamental standards	Incident reports	Incident reporting levels

## Tool Tutorial

# Using Aggregate Root Cause Analysis to Improve Patient Safety

*Readers may send Tool Tutorial inquiries and submissions to Steven Berman at sberman@jcaho.org (630/792-5453). Tina Maund, MS, serves as Tool Tutorial editor.*



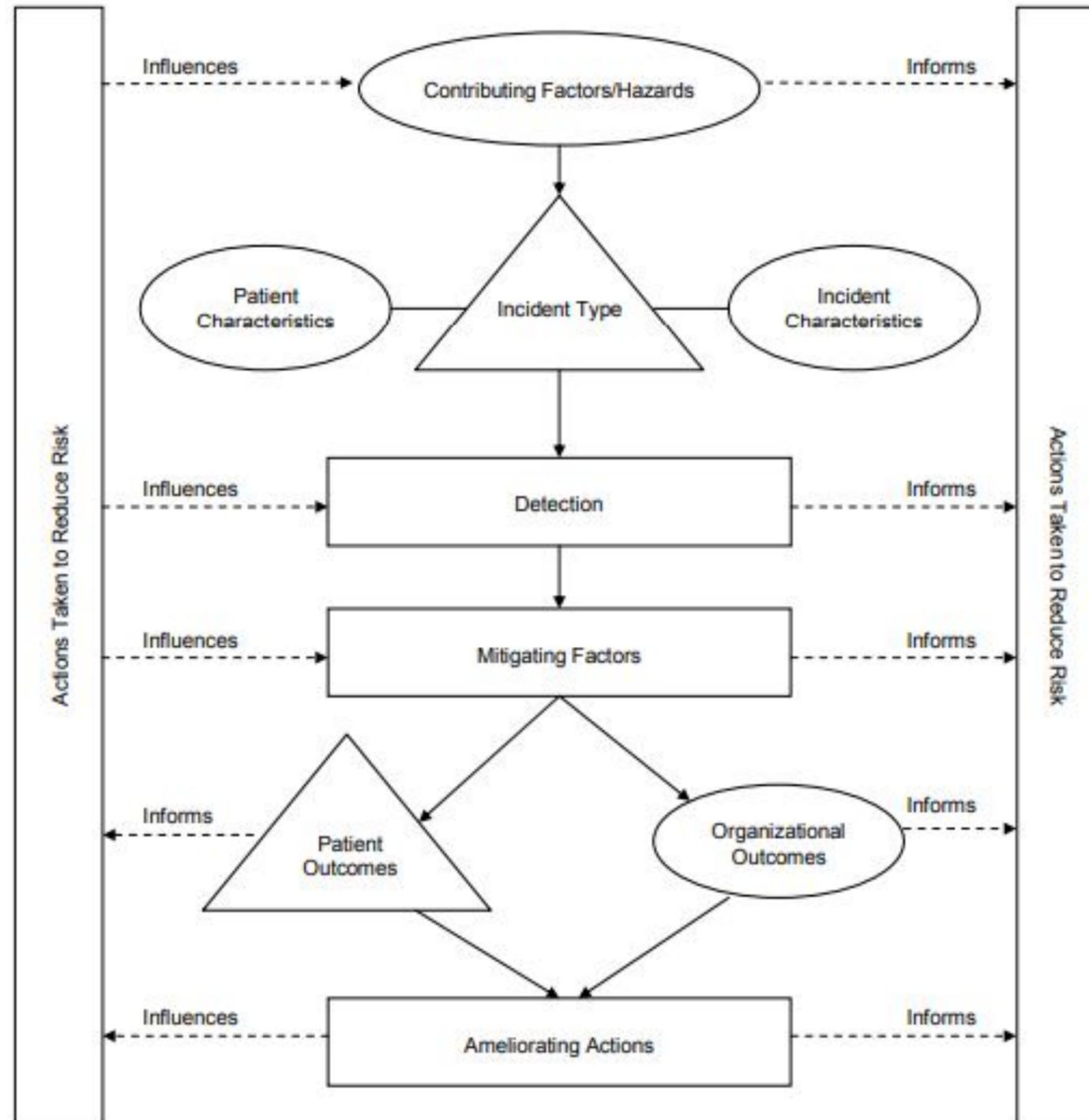
## Beyond Analyzing Incidents

Other indicators and data used to assess safety.

At ward/unit and cooperate level.

Improving the Safety of Patients in England. National Advisory Group on the Safety of Patients in England. August 2013.

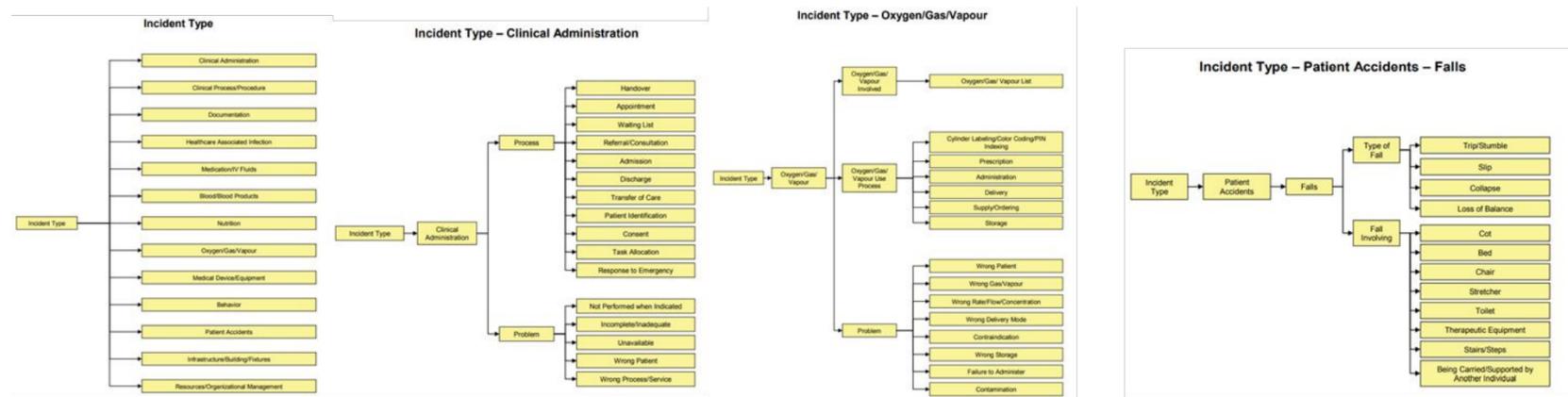
# Conceptual Framework for the International Classification for Patient Safety



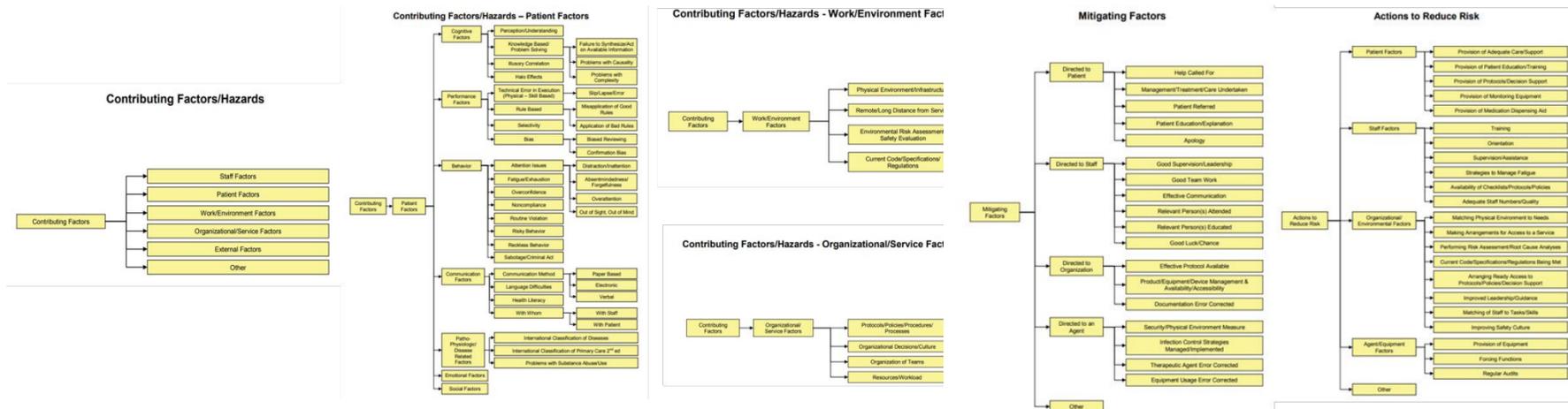
To define and group patient safety concepts into a classification that conduce learning and improve patient safety

# Taxonomies and classifications that enable aggregation of reports into categories that reliably highlight system weaknesses

## International Classification for Patient Safety



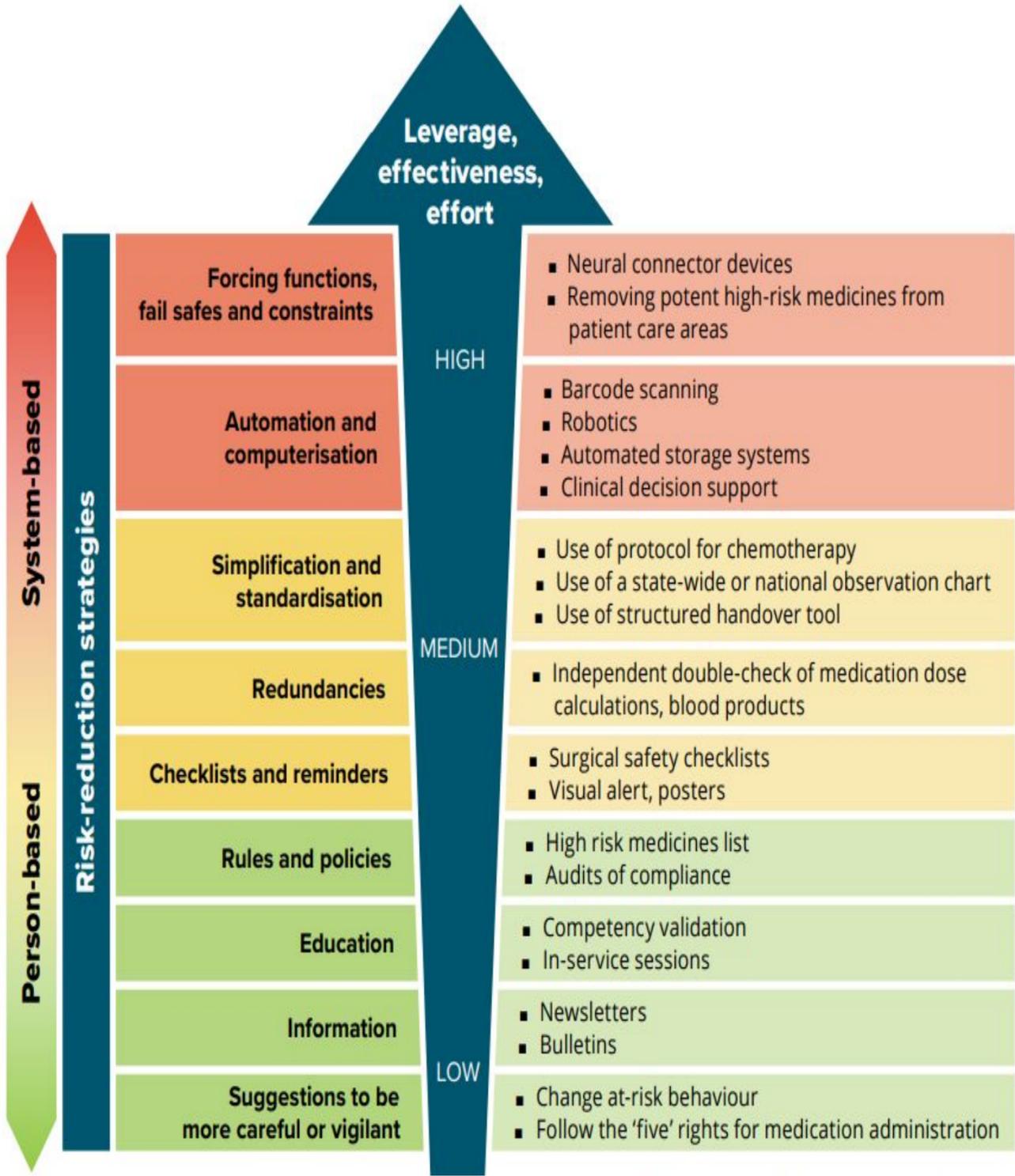
1. Incident Type
2. Patient Outcomes
3. Patient Characteristics
4. Incident Characteristics
5. Contributing Factors/Hazards
6. Organizational Outcomes
7. Detection
8. Mitigating Factors
9. Ameliorating Actions
10. Actions Taken to Reduce Risk



# 3. Implementing Improvements

- 1. **Hierarchy of Effectiveness:** System-based vs. person-based strategies.
- 2. **System-based Strategies:** Examples include simplification, standardization, and automation.
- 3. **Implementation:** Driving improvements in incident management using recommended strategies.

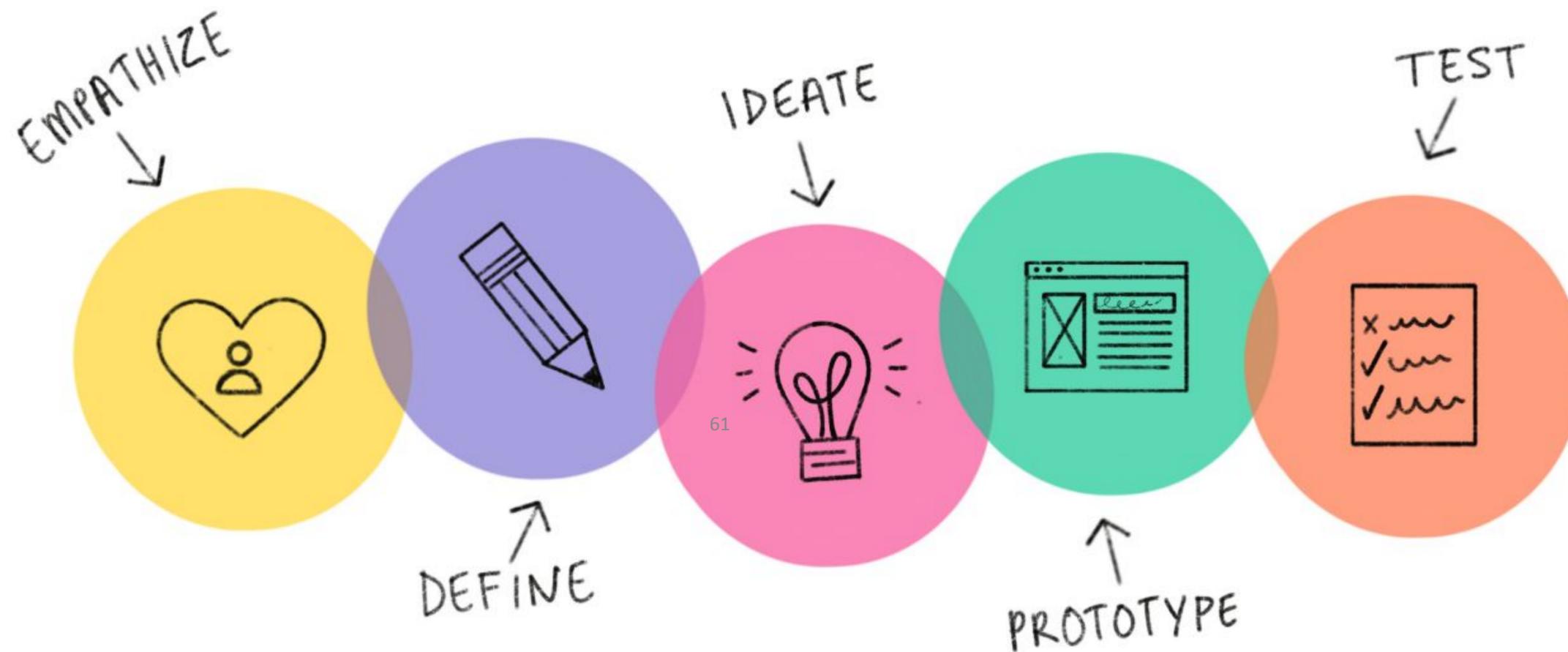
<b>‘Technical part’ (Intervention itself):</b>
<ul style="list-style-type: none"> <li>• Risk reduction action plan with due date of completion</li> <li>• Prioritization</li> <li>• Short/ medium/ long term measures</li> </ul>
<b>‘Management of Change’ part (Implementation of intervention):</b>
<ul style="list-style-type: none"> <li>• Engagement</li> <li>• Communications</li> </ul>



Incident Management Guide. Australian Commission on Safety and Quality in Healthcare. Nov 2021. And adapted from ISMP's hierarchy of effectiveness of risk-reduction strategies. 2020.

# 3. Workflow re-engineering

Improvement intervention through **Design Thinking**



# 4. Feedback & Learning:

Ensuring system-wide improvements

## System-wide learning and sharing

### **Internal stakeholders**

Healthcare workers

Executive

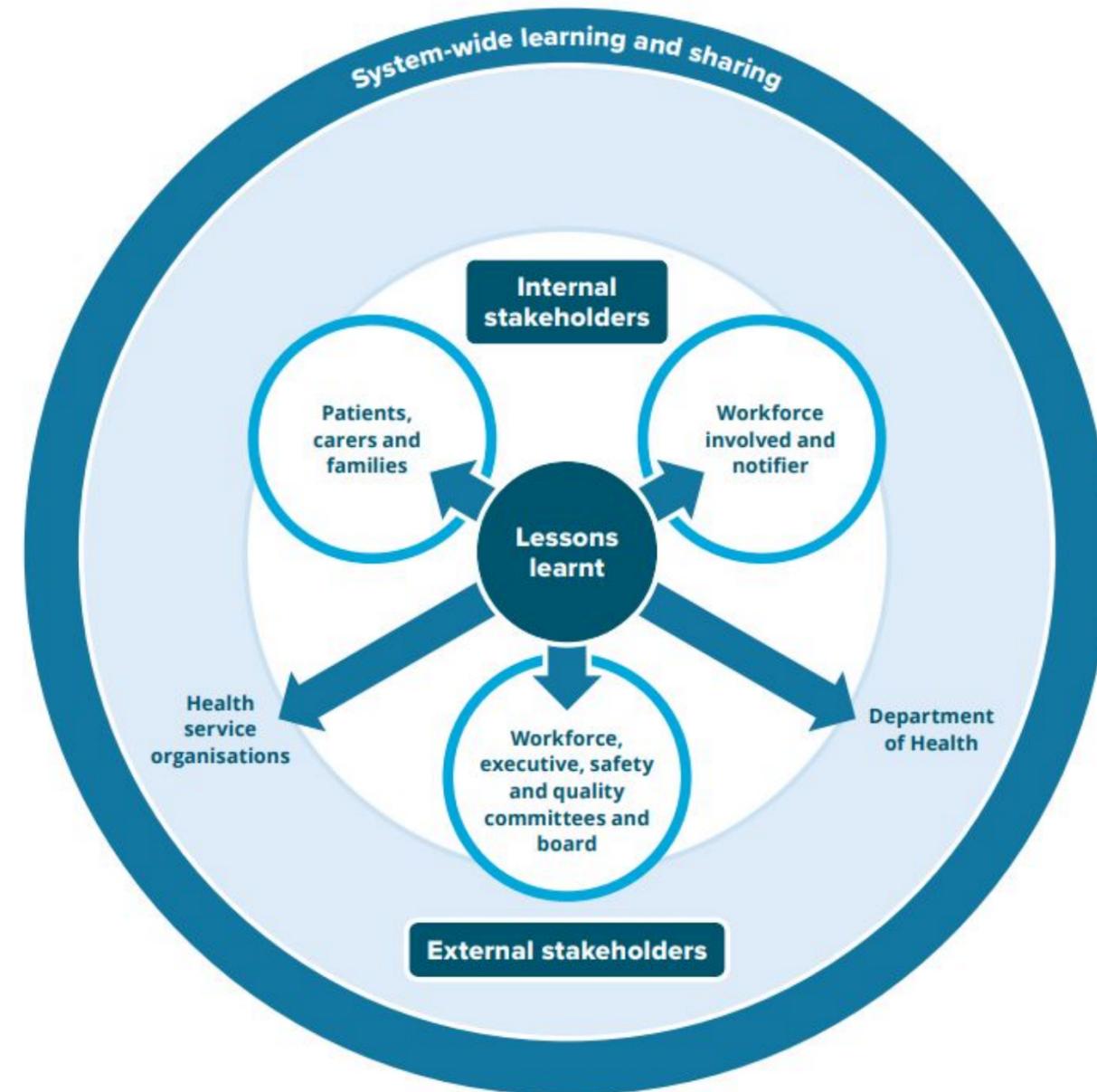
Safety and quality committees

Patients, carers and families

### **External stakeholders**

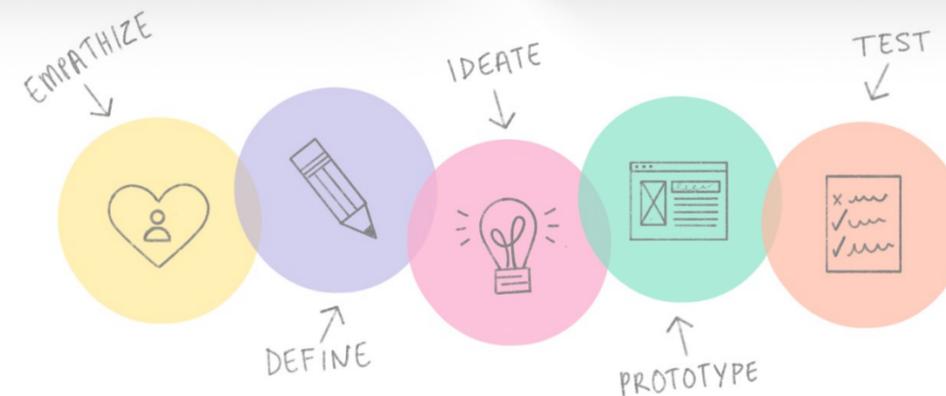
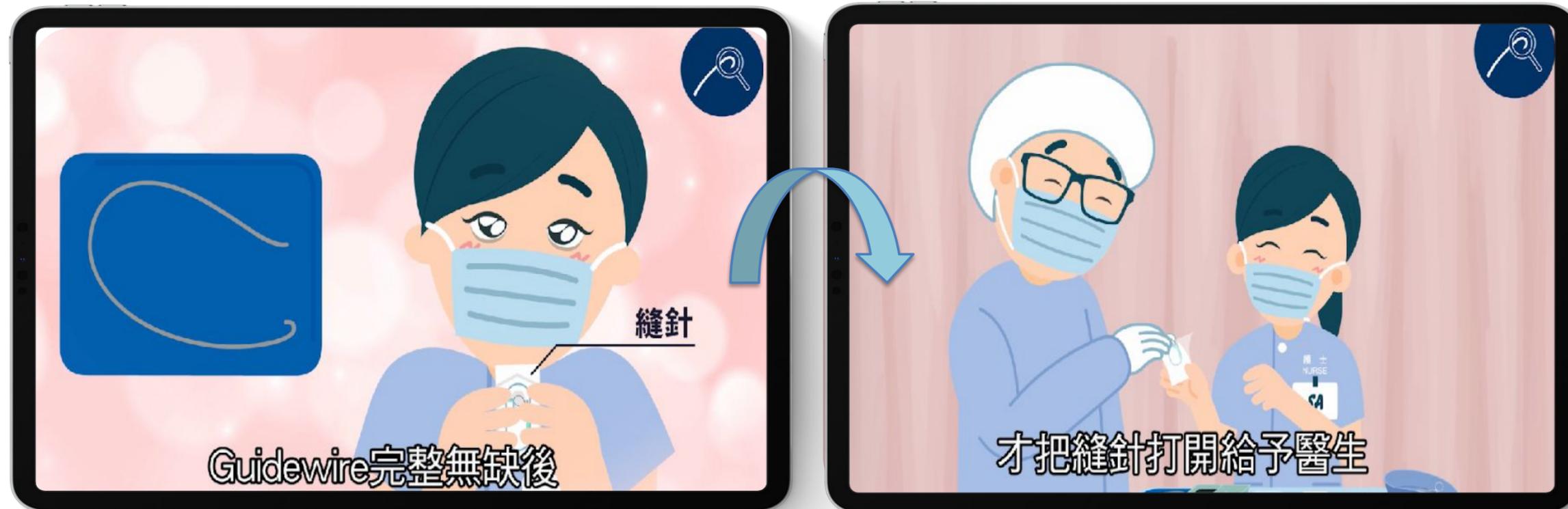
Health service organisations

Department of Health



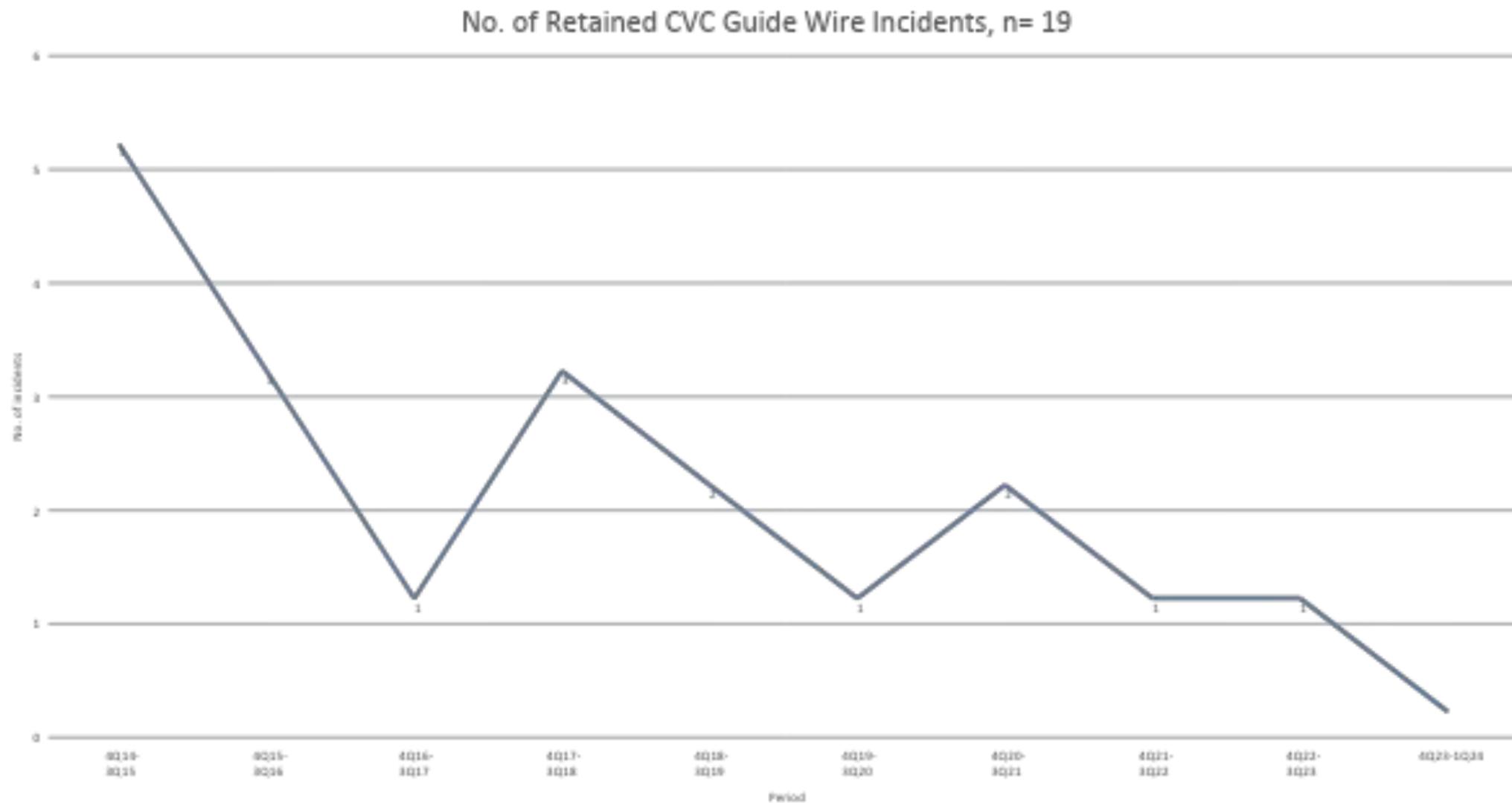
## Prevention of Guide Wire Retention

- Implementation of a system where the suture needle should not be provided unless guidewire counting is confirmed

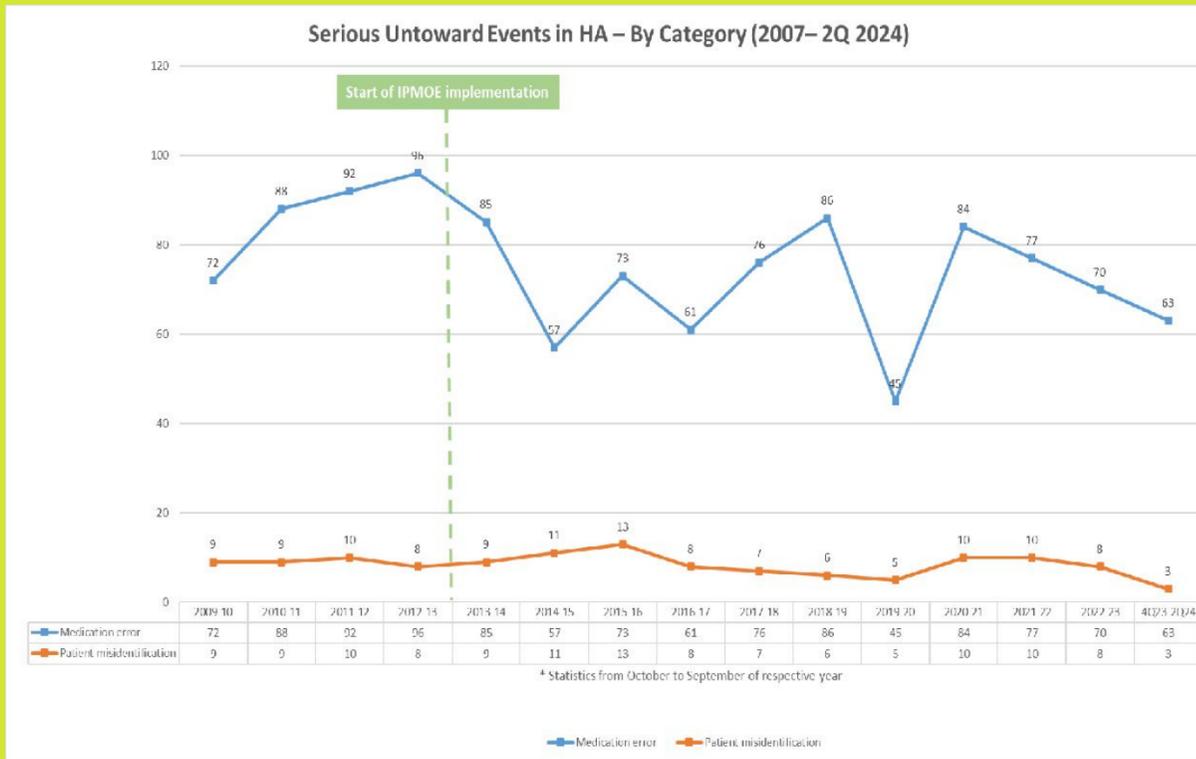


# Examples of **Potential System Change** for Risk Reduction

## Retained Central Venous Catheter (CVC) Guide Wires (2014 - 1Q 2024)

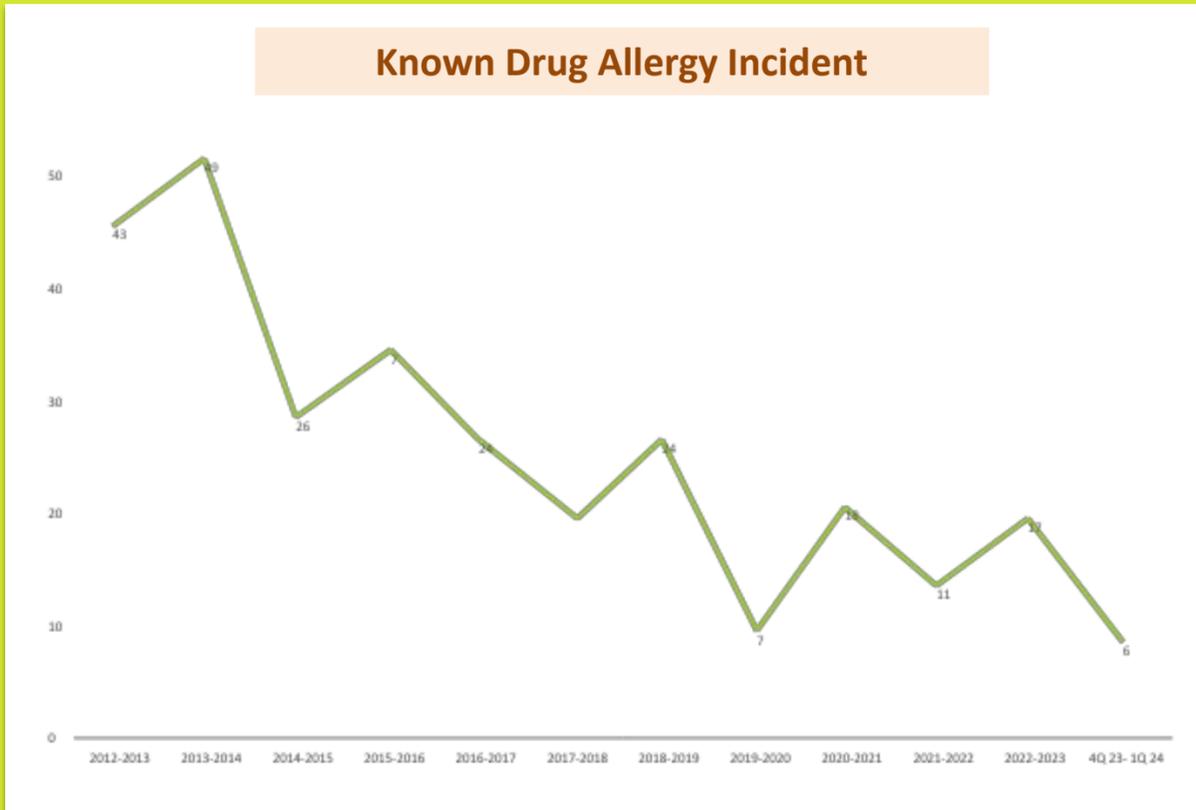


# Medication Incidents



**Prescribing Errors**

**Dispensing Errors**



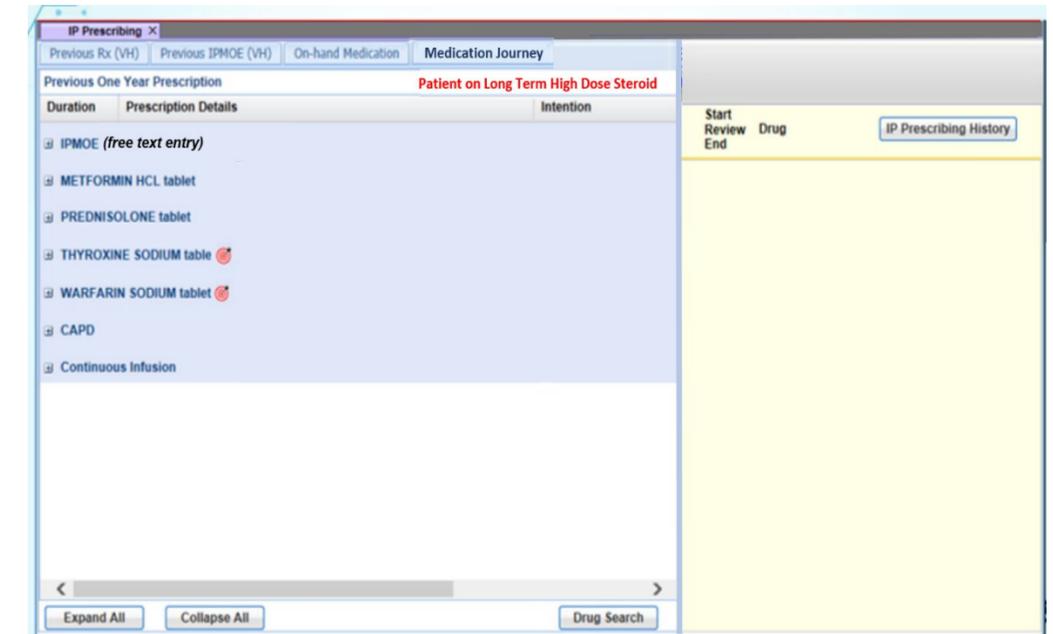
**Administration Errors**

**Known Drug Allergy**

# Prevent Medication Incidents

## Clinical intention and Medication Journey in IPMOE

A system designed to clearly indicate the clinical intent behind a prescription and provide a comprehensive view of a patient's medication history



## Smart Assemble to Light

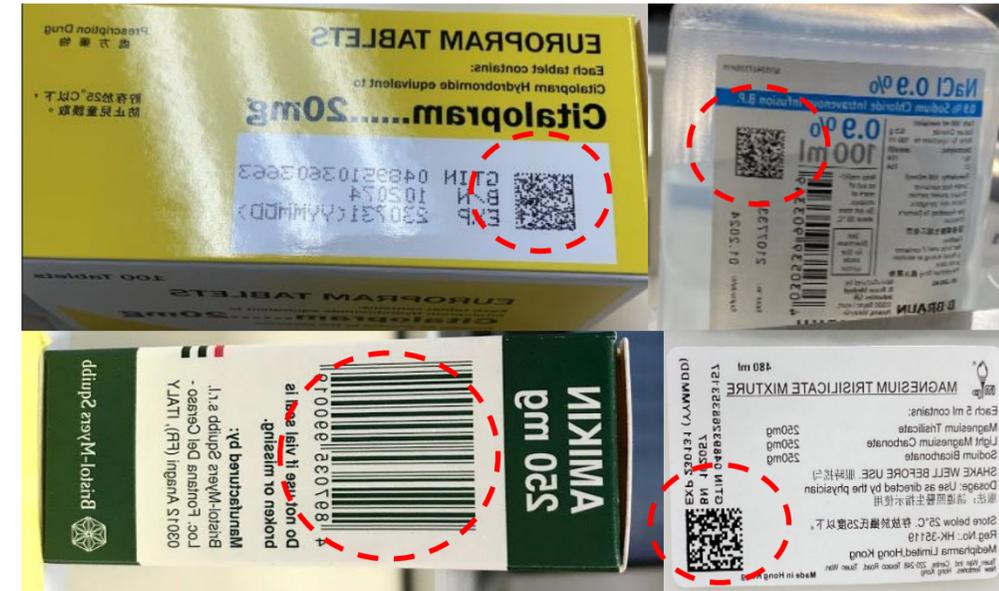
Implement Smart Assemble to Light as an **environmental redesign** to enhance assembling accuracy and reduce reliance on human memory



# Prevent Medication Incidents

## Global Trade Item Number

IT-based use of **Global Trade Item Number** (GTIN) on product packaging to accurately identify medications and reduce **dispensing errors** throughout the distribution process



## Unit Dose Packaging Machine

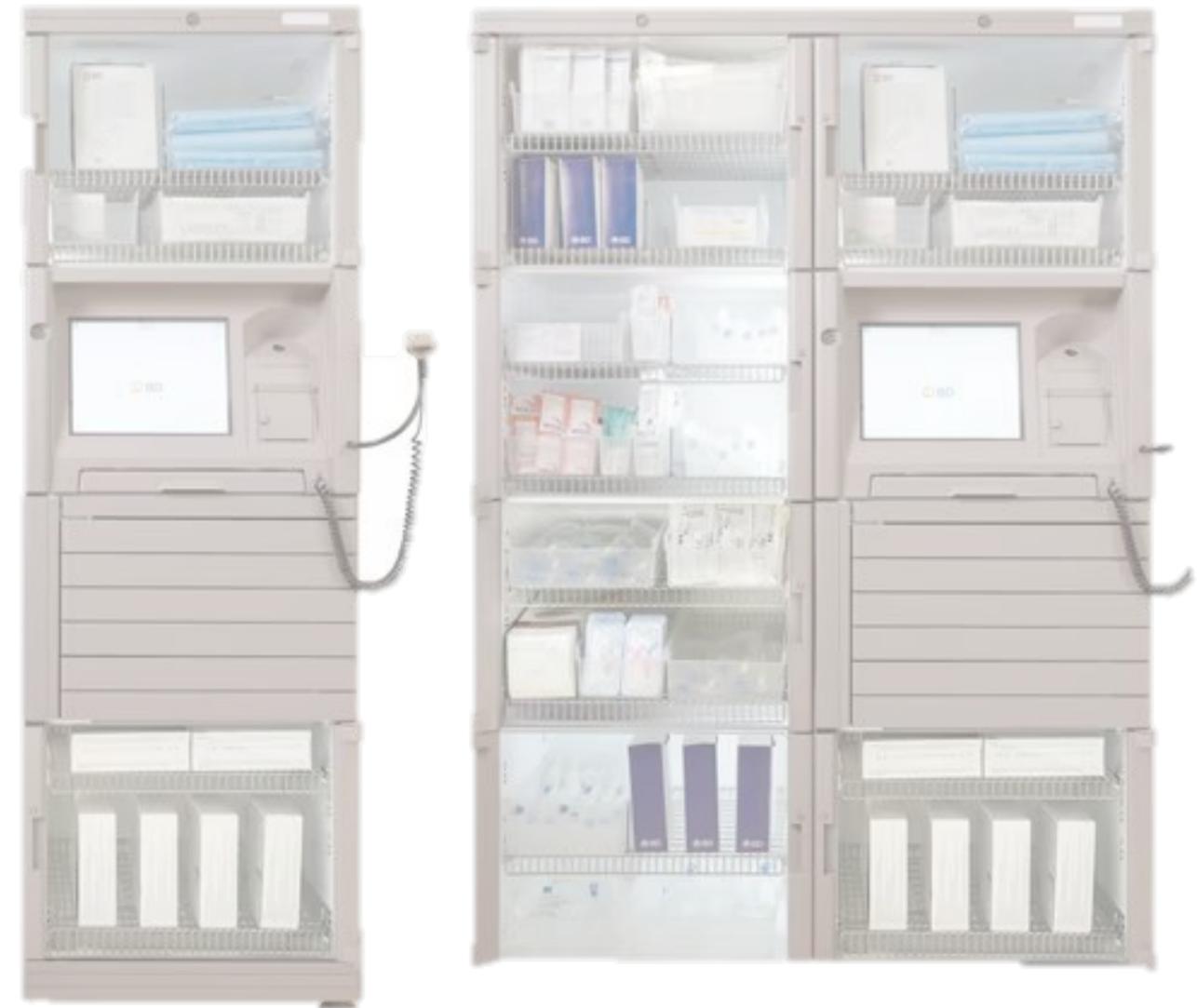
Unit dose packaging machine as a **workflow re-engineering** solution to streamline the medication dispensing process by packaging medications into single-dose units, reducing **administration incidents** during hospital stays



# Prevent Medication Incidents

## Smart drug cabinet

- **Smart drug cabinet** connects with electronic health record to access patient allergy information before dispensing medication
- Restricts access to medications based on patient-specific allergy profiles



# Advance Incident Reporting System - AIRS 3.0

**Advance Incident Reporting System 3.0**

 Hospital Authority

**For staff only**

Corp ID:

Password:

 For Staff Psychological Services, please click [here \(PDF\)](#) for the contact information.

Please logon with the web mail login name and password (i.e. the Corp id and password)

Sample Corp ID: "abc123".  
Need not to add "CORP".

For enquiry, please kindly contact [HA IT Call centre](#)

Home Reporting Supervisor Case Management Case Status Enquiry Reports System Maintenance

Home / Reporting

Quick Link: [Go To Top](#)

I want to report: 

- Clinical Near Miss
- Clinical Incident
- Others
  - Adverse Drug Reactions
  - Adverse Transfusion Reactions
  - Dangerous Drug Irregularity
  - Data Privacy
  - Equipment
  - Facility & Environment
  - Generic
  - Non-pharmaceutical Items (Medical Devices/ Consumables)
  - Radiation
  - Pharmacy Medication Delivery Service
- IOD / Staff Incident such as Workplace Violence Incident
- Incident Under Finance Template

69

**An electronic web-based reporting platform for reporting any types of incidents in HA**

- **Mandatory** reporting: Sentinel & Serious Untoward Events (SE &SUE)
- **Voluntary** reporting: Any types of incidents

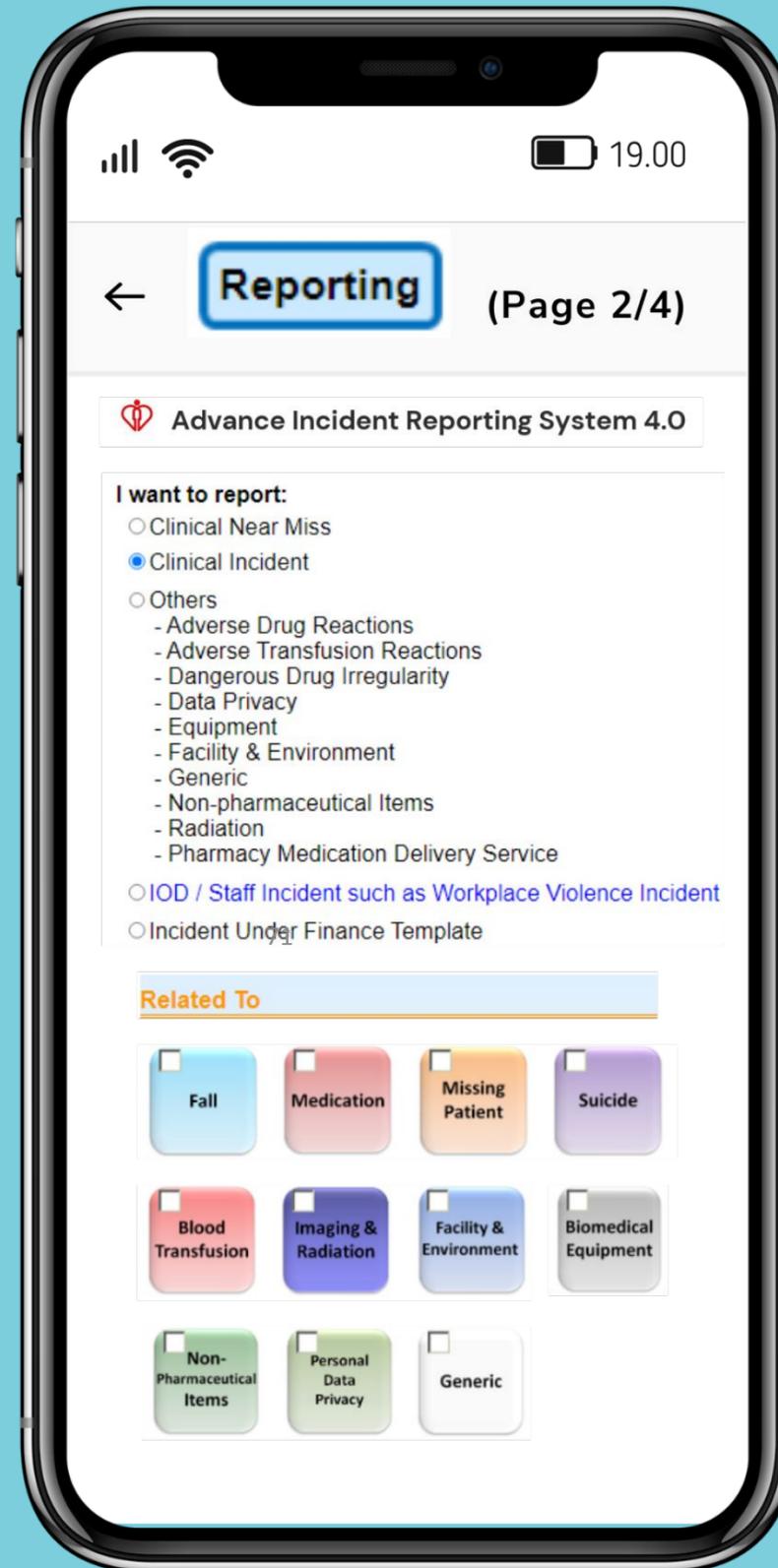
**The purpose of AIRS 3.0 is to enhance the efficiency, effectiveness and timeliness of reporting and management of incidents**

# Advance Incident Reporting System - AIRS 4.0



# AIRS 4.0

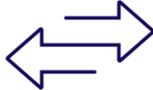
## Mobile Friendly Interface



# AIRS 4.0 - AI-Enhanced Notifications and Two-Way Communication

AIRS 4.0

Escalate & alert top management



**Supervisor**

- Follow up
- Provide information




**Cluster Q&S/  
Filter Person**

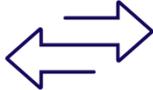
- Classify, clarify
- Provide additional information/  
Finding



(if required)

~~PS&RM~~ PS&RM

- Review and provide feedback (if required)



The screenshot displays the 'Advance Incident Reporting System 4.0 Dashboard'. At the top, there is a navigation bar with the system name and two buttons: 'Your Account' and 'Template'. Below this, a date range selector shows 'From Apr 1, 2023' to 'Apr 28, 2024', along with 'Search' and 'Filter' options. A left-hand sidebar lists navigation items: 'Case Detail', 'Case Filtering', 'Discussion', 'Notify People', and 'Action Tracker'. The main content area is titled 'Action Tracker' and shows 'On investigations' with a '+ Add Action Tracker' button. A list of three actions is shown, each with a status indicator and a dropdown arrow:

Action	Assignee	Status
Provide clinical view	The department	Pending
Supplement hospital number of the case	Cluster Q&S	Pending
Provide summary of last family conference	Cluster PRO	Overdue

The screenshot displays the 'Advance Incident Reporting System 4.0 Dashboard'. At the top, there is a navigation bar with 'Your Account' and 'Template' buttons. Below this, a date range selector shows 'From Apr 1, 2023' to 'Apr 28, 2024', along with 'Search' and 'Filter' options. The main content area is divided into a left sidebar and a main panel. The sidebar lists navigation options: 'Case Detail', 'Case Filtering', 'Discussion', 'Notify People', and 'Action Tracker'. The main panel is titled 'Action Tracker' and features a sub-header 'On investigation recommendations'. A '+ Add Action Tracker' button is prominently displayed. Below the button, three action items are listed, each with a status indicator and a dropdown arrow:

Action Item	Assignee	Status
Reinforce independent double checking	Cluster Q&S, NSD, and departments	Complete
Produce a promotional video to all staff	HAHO	Pending
Revise the guideline	HAHO	Overdue

# AIRS 4.0

## AI-Enhanced Data Aggregation and Analysis

**Advance Incident Reporting System 4.0**

Your Account
Template

Select period: from Apr 1, 2023 to 28 Apr 2024
Search...
Filter

Total Number of Incident  
**23**

Fall  
**61%**

Medication  
**21%**

Facility & Environment  
**9%**

ANALYSIS  
DETECTION

### Analysis and Recommendation

Recurrent drug allergy medication incidents in patients with pseudo-ID

Quarter	No. of incident
1Q 2023	3
2Q 2023	5
3Q 2023	5
4Q 2023	6
1Q 2024	5
2Q 2024	6

**Promulgate new function**

**Change in claimed HKID**

HA Risk Alert

# Utilize Technology - Artificial Intelligence (AI) and language models

**A**

**Data Collection and  
Input Interface**

**B**

**Data Structuring  
and  
Standardization**

**C**

**Automated  
Analysis**

**D**

**Real-time Alerts**

**E**

**Auto-generate  
summaries**

**F**

**System Integration**



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