The International Forum on Quality and Safety in Healthcare

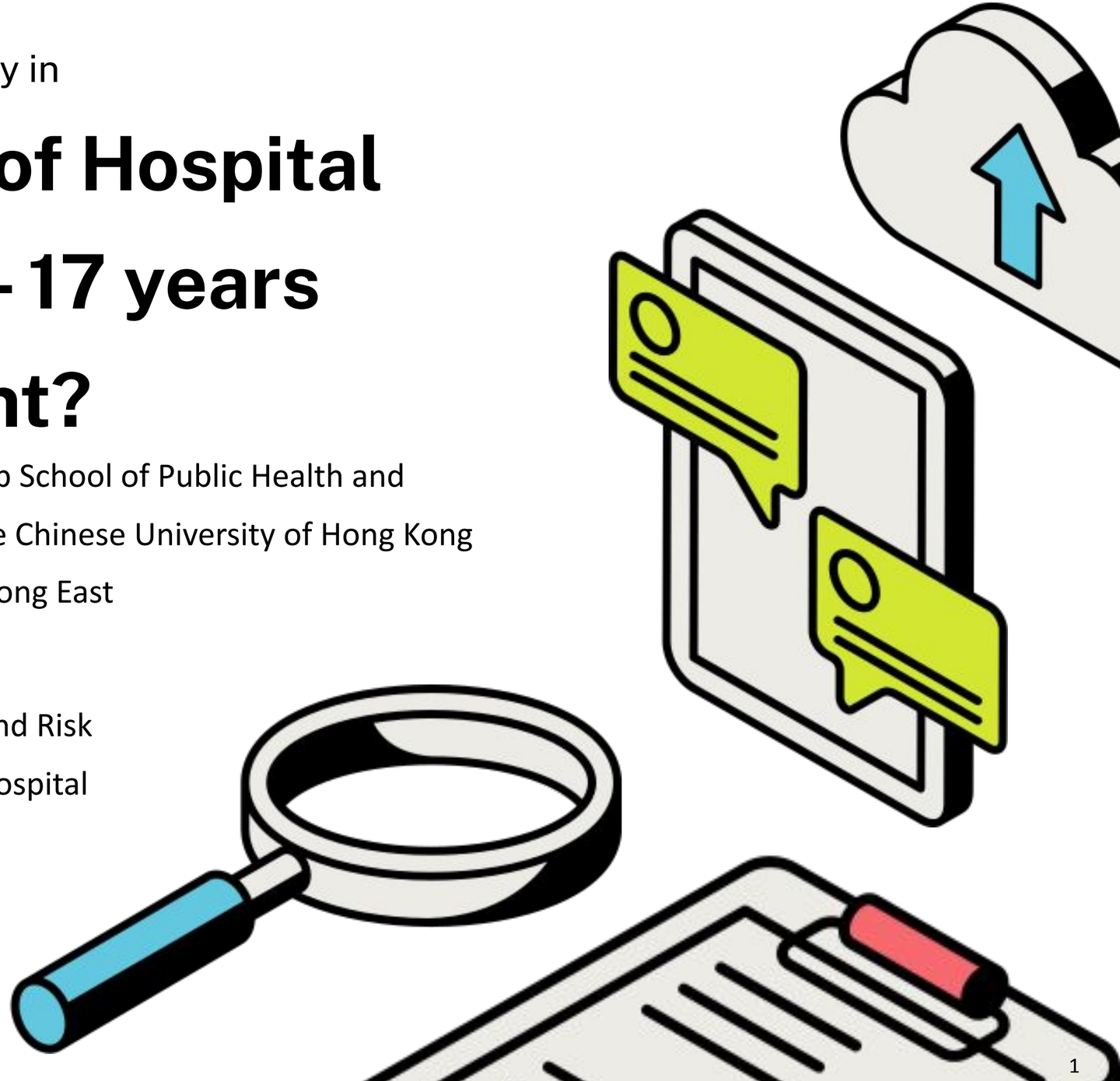
Sentinel Event Policy of Hospital Authority, Hong Kong- 17 years on, what have we learnt?

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

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

Dr Raymond CHEUNG, Chief Manager, Patient Safety and Risk Management Department, Quality & Safety Division, Hospital Authority

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

醫院管理局 HOSPITAL AUTHORITY

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

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，被打錯化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。

「堅持留住佢就好自私」

小琳遭打錯化療針事件簿

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 6 月 15 日	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脊髓注射的針藥，均注入脊髓。
6 月 16 日	小琳頸部僵硬，送急症室救治。

守候病榻半月 盼女友別牽

癡情男友忍淚含笑送

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
HOSPITAL AUTHORITY

PS&RM 病人安全及風險管理
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

2007
Introduced
Sentinel Event (SE) Policy

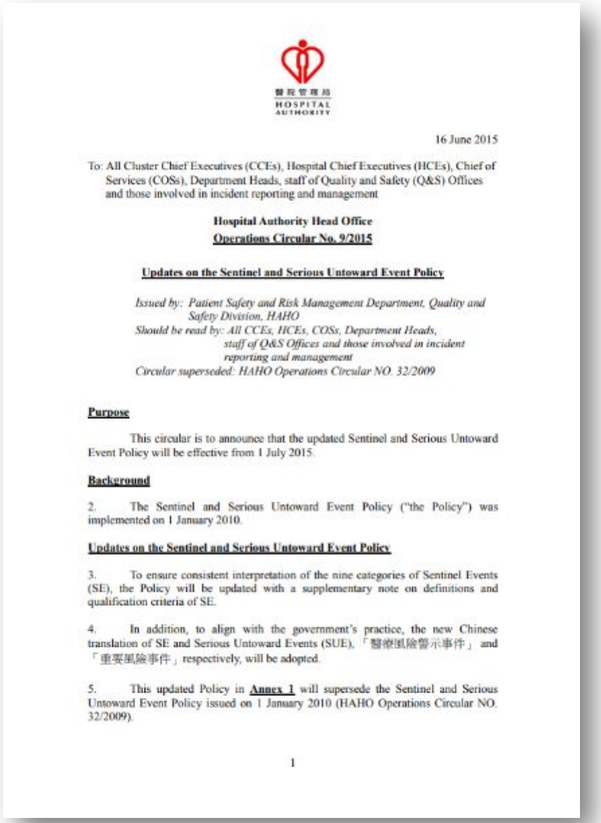
2010
Incorporated into the Policy
Serious Untoward Events (SUE)

2015
Clinical Incident Management Manual (CIMM v 1.0)

2019
Updated
CIMM v 2.0

2023/24
Review & Update
CIMM v 3.0

Sentinel and Serious Untoward Event Policy



醫院管理局
HOSPITAL AUTHORITY

16 June 2015

To: All Cluster Chief Executives (CCEs), Hospital Chief Executives (HCEs), Chief of Services (COSs), Department Heads, staff of Quality and Safety (Q&S) Offices and those involved in incident reporting and management

Hospital Authority Head Office
Operations Circular No. 9/2015

Updates on the Sentinel and Serious Untoward Event Policy

Issued by: Patient Safety and Risk Management Department, Quality and Safety Division, HAHO
Should be read by: All CCEs, HCEs, COSs, Department Heads, staff of Q&S Offices and those involved in incident reporting and management
Circular superseded: HAHO Operations Circular NO. 32/2009

Purpose

This circular is to announce that the updated Sentinel and Serious Untoward Event Policy will be effective from 1 July 2015.

Background

2. The Sentinel and Serious Untoward Event Policy ("the Policy") was implemented on 1 January 2010.

Updates on the Sentinel and Serious Untoward Event Policy

3. To ensure consistent interpretation of the nine categories of Sentinel Events (SE), the Policy will be updated with a supplementary note on definitions and qualification criteria of SE.

4. In addition, to align with the government's practice, the new Chinese translation of SE and Serious Untoward Events (SUE), 「醫療風險警示事件」 and 「重要風險事件」 respectively, will be adopted.

5. This updated Policy in **Annex 1** will supersede the Sentinel and Serious Untoward Event Policy issued on 1 January 2010 (HAHO Operations Circular NO. 32/2009).

1

SE 「醫療風險警示事件」
SUE「重要風險事件」

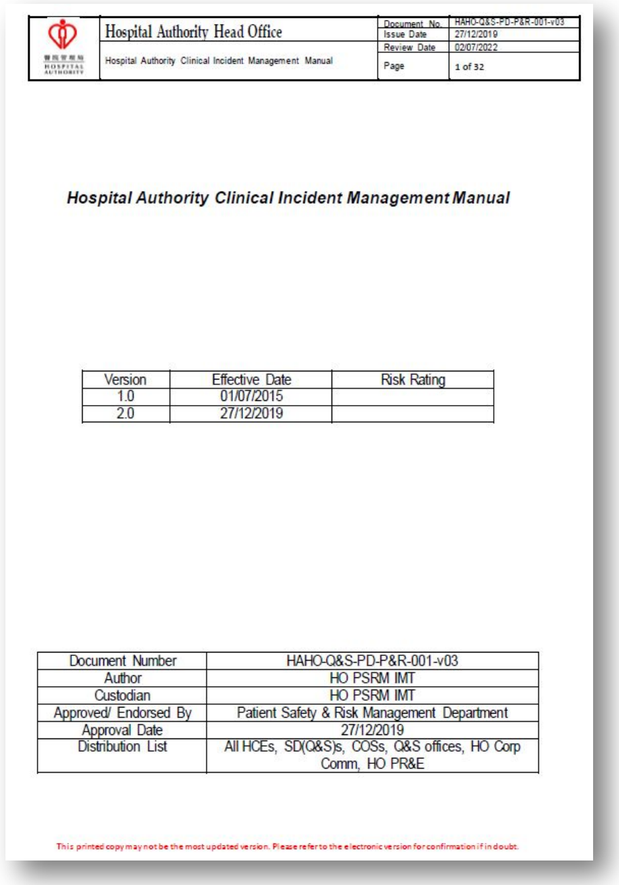
SE Policy was first implemented in **2007**.

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

Source: Hospital Authority, Sentinel and Serious Untoward Event Policy, 1 July 2015

Clinical Incident Management Manual (CIMM)



Hospital Authority Head Office	Document No.	HAHO-Q&S-PD-P&R-001-v03
	Issue Date	27/12/2019
Hospital Authority Clinical Incident Management Manual	Review Date	02/07/2022
	Page	1 of 32

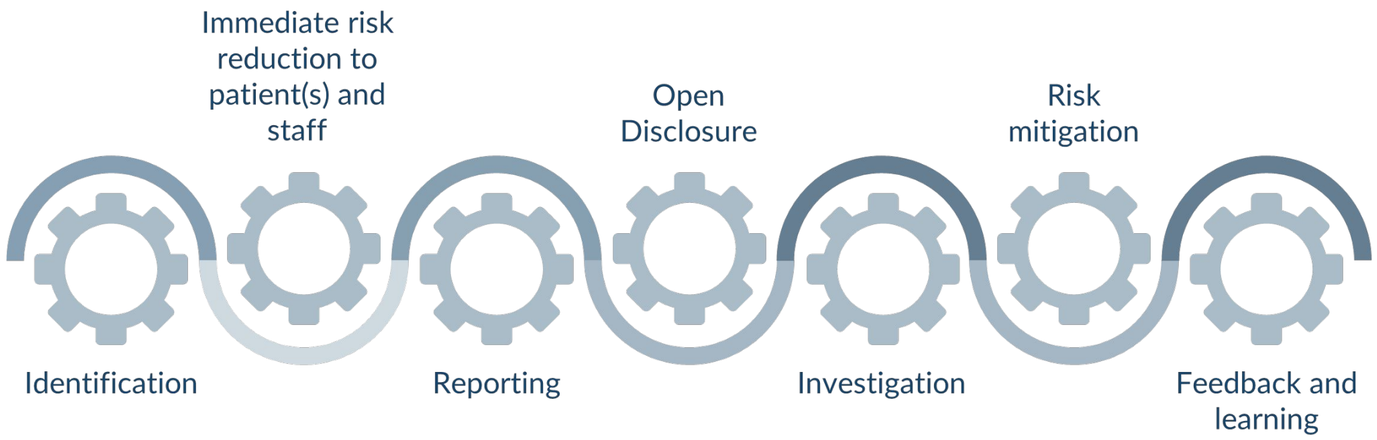
Hospital Authority Clinical Incident Management Manual

Version	Effective Date	Risk Rating
1.0	01/07/2015	
2.0	27/12/2019	

Document Number	HAHO-Q&S-PD-P&R-001-v03
Author	HO PSRM IMT
Custodian	HO PSRM IMT
Approved/ Endorsed By	Patient Safety & Risk Management Department
Approval Date	27/12/2019
Distribution List	All HCEs, SD(Q&S)s, COSs, Q&S offices, HO Corp Comm, HO PR&E

This printed copy may not be the most updated version. Please refer to the electronic version for confirmation if in doubt.

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

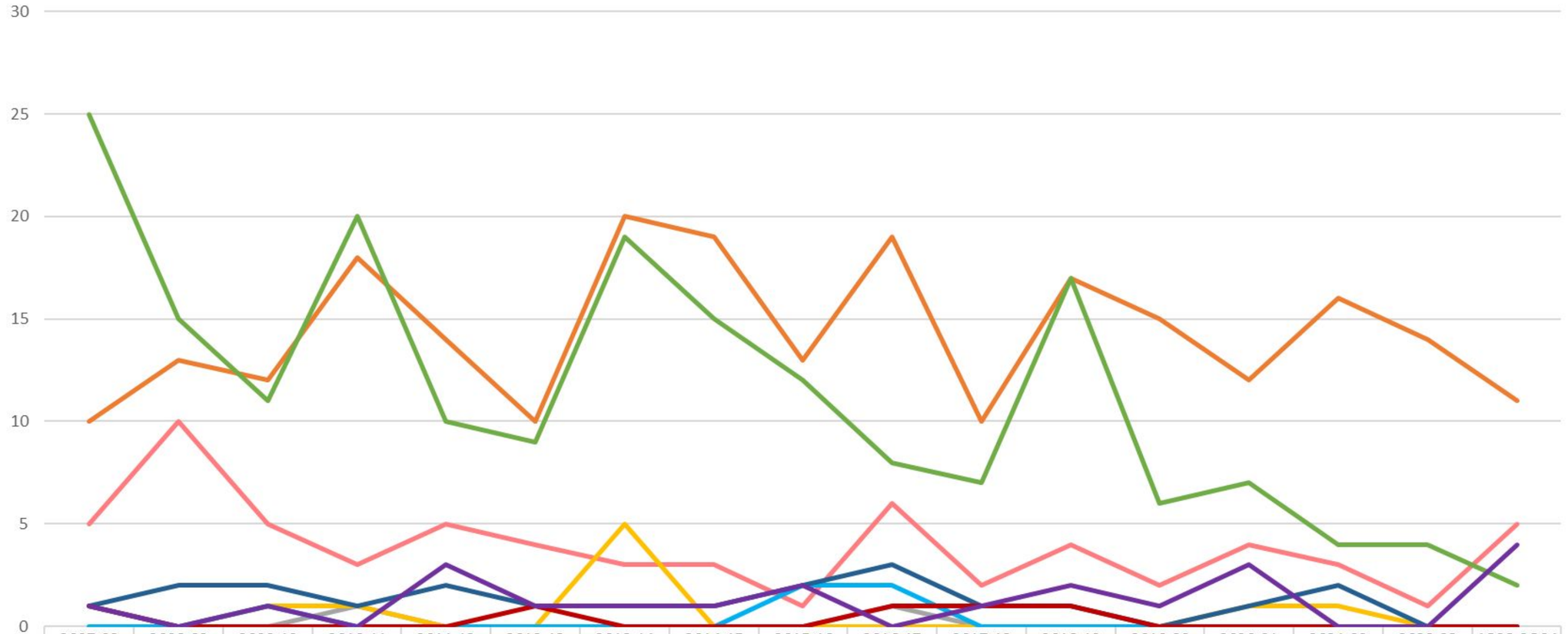


9 Categories of Sentinel Events (SE)

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

Source: Hospital Authority, Sentinel and Serious Untoward Event Policy, 1 July 2015

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

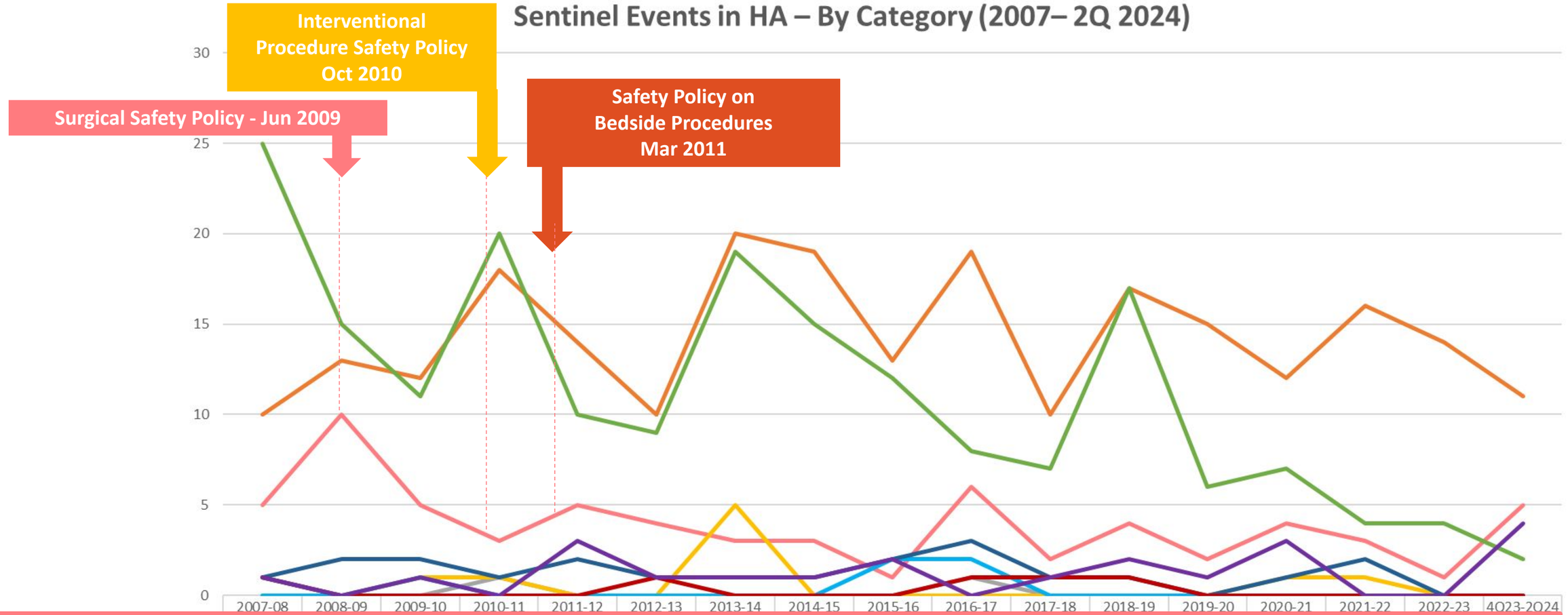


	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	4Q23-2Q24
Wrong patient/part	5	10	5	3	5	4	3	3	1	6	2	4	2	4	3	1	5
Retained instruments/material	10	13	12	18	14	10	20	19	13	19	10	17	15	12	16	14	11
Blood incompatibility	1	0	0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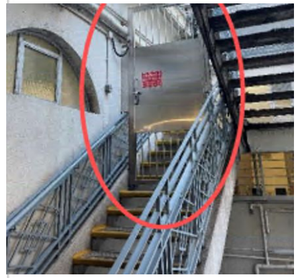
Blood incompatibility	1	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0
Medication error	0	0	1	1	0	0	5	0	0	0	0	0	0	1	1	0	0
Gas embolism	0	0	1	0	0	0	0	0	2	2	0	0	0	0	0	0	0
Inpatient suicide	25	15	11	20	10	9	19	15	12	8	7	17	6	7	4	4	2
Maternal morbidity	1	2	2	1	2	1	1	1	2	3	1	1	0	1	2	0	0
Wrong infant/abduction	1	0	0	0	0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



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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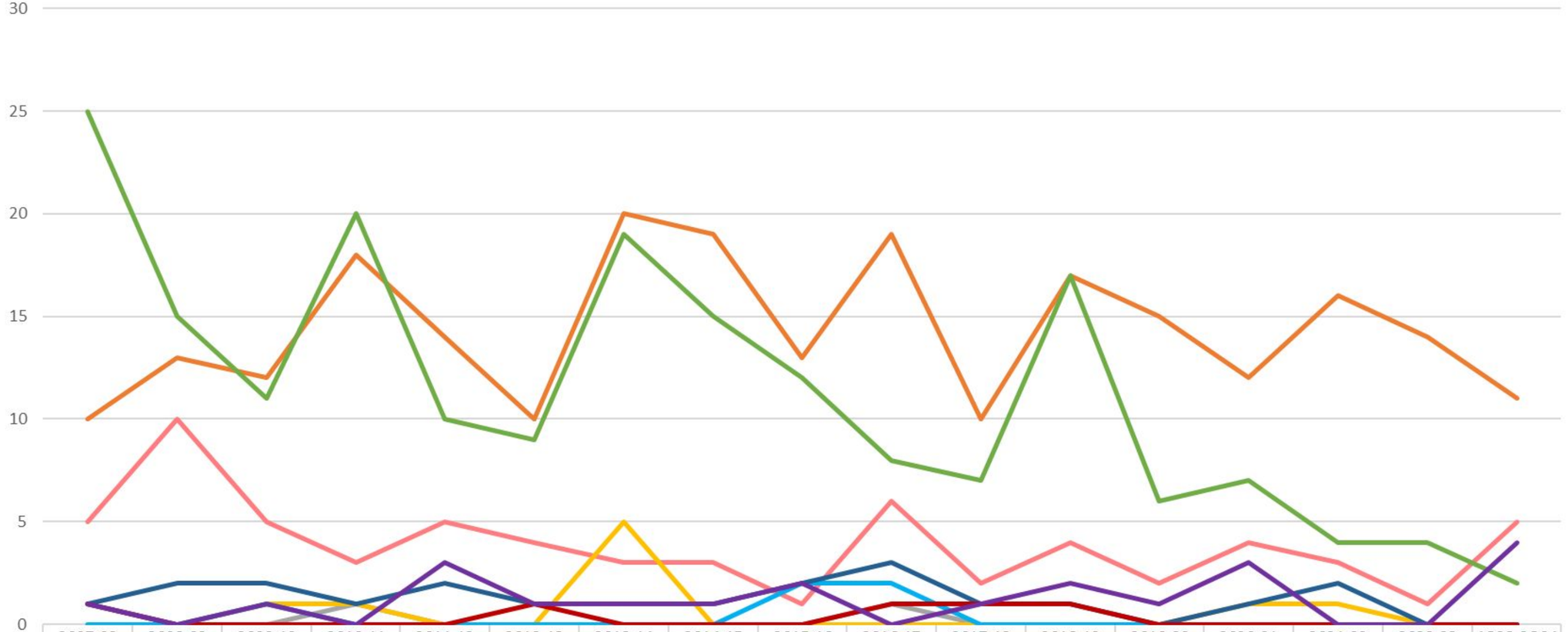
Retained instruments/material	10	13	12	18	14	10	20	19	13	19	10	17	15	12	16	14	11
Blood incompatibility	1	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0
Medication error	0	0	1	1	0	0	5	0	0	0	0	0	0	1	1	0	0
Gas embolism	0	0	1	0	0	0	0	0	2	2	0	0	0	0	0	0	0
Inpatient suicide	25	15	11	20	10	9	13	15	12	8	7	17	6	7	4	4	2
Maternal 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)



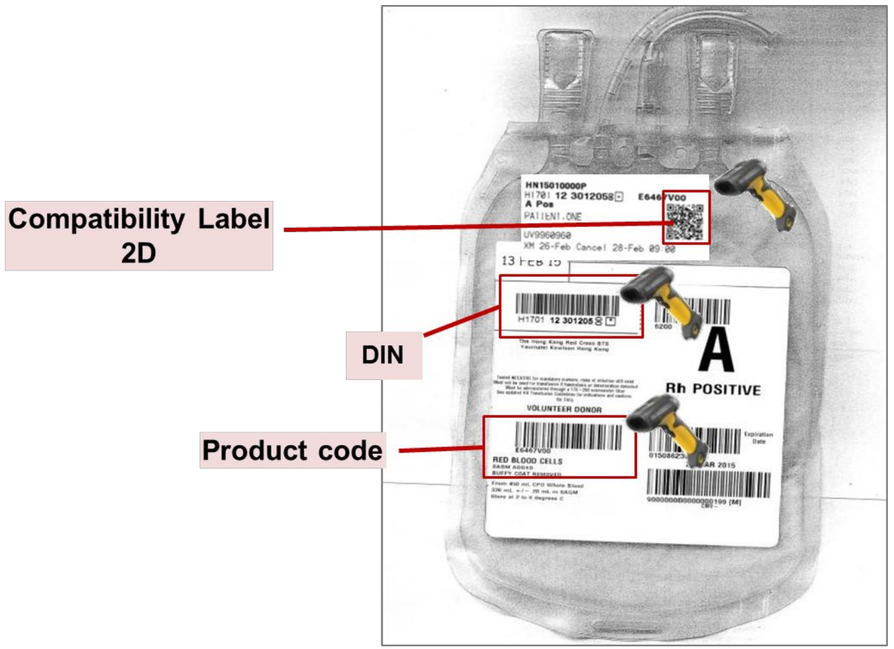
	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	4Q23-2Q24
Wrong patient/part	5	10	5	3	5	4	3	3	1	6	2	4	2	4	3	1	5
Retained instruments/material	10	13	12	18	14	10	20	19	13	19	10	17	15	12	16	14	11
Blood incompatibility	1	0	0	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

System Change – Prevent blood transfusion Incidents

Unique Patient Identification (UPI) device



15

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

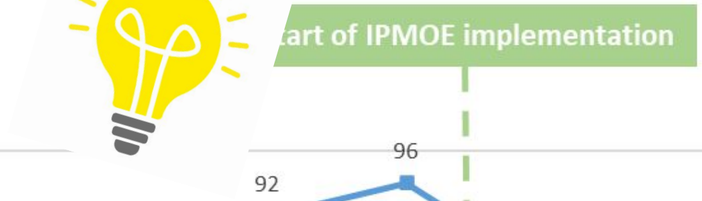
The technology is used as an adjunct to the human checking process

2 Categories of Serious Untoward Events (SUE)

1. Medication error	Medication error which **could have led** to death or permanent harm
2. Patient misidentification	Patient misidentification which **could have led** to death or permanent harm

Source: Hospital Authority, Sentinel and Serious Untoward Event Policy, 1 July 2015

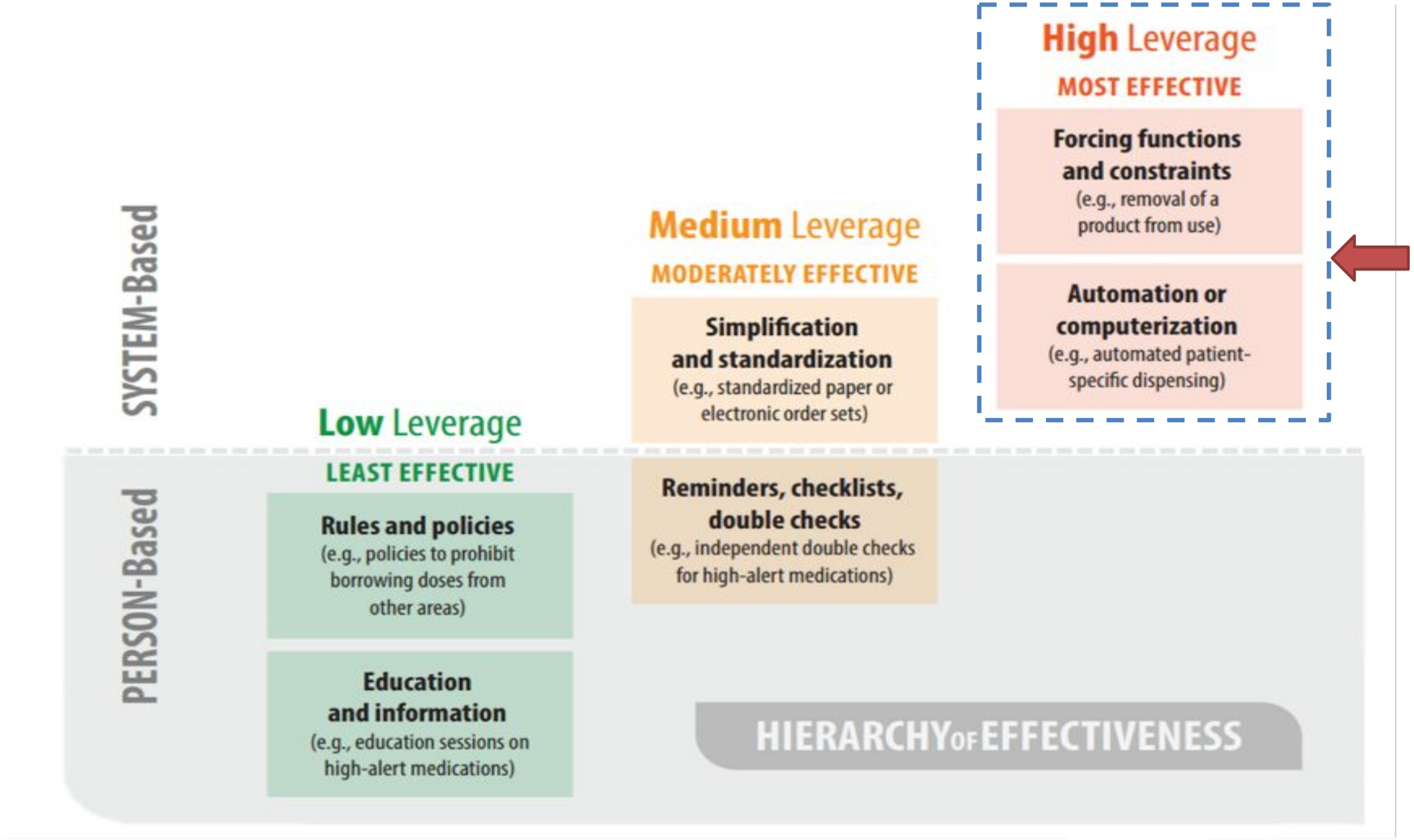
Serious Untoward Events in HA – By Category (2007– 2Q 2024)



	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
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

Effective Recommendations



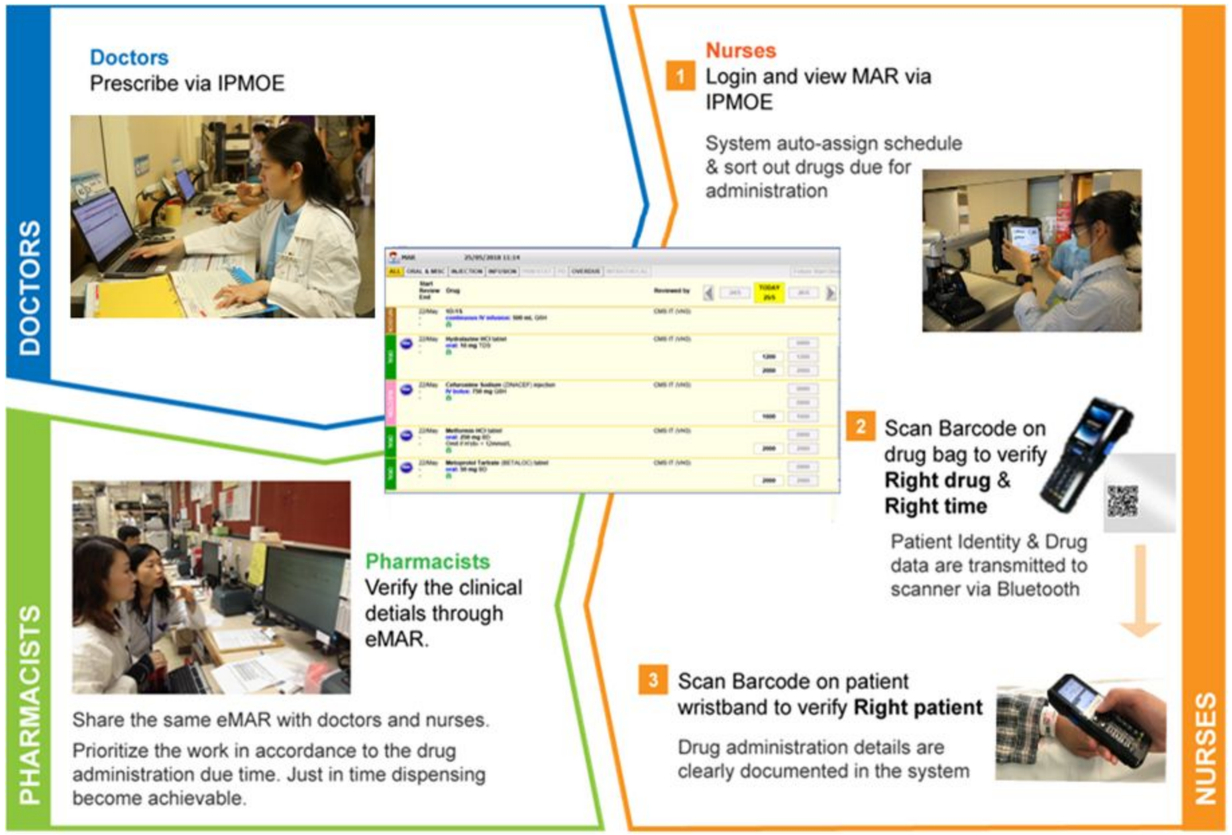
Source: “Designing Effective Recommendations”, Ontario Critical Incident Learning, Issue 4, April 2013

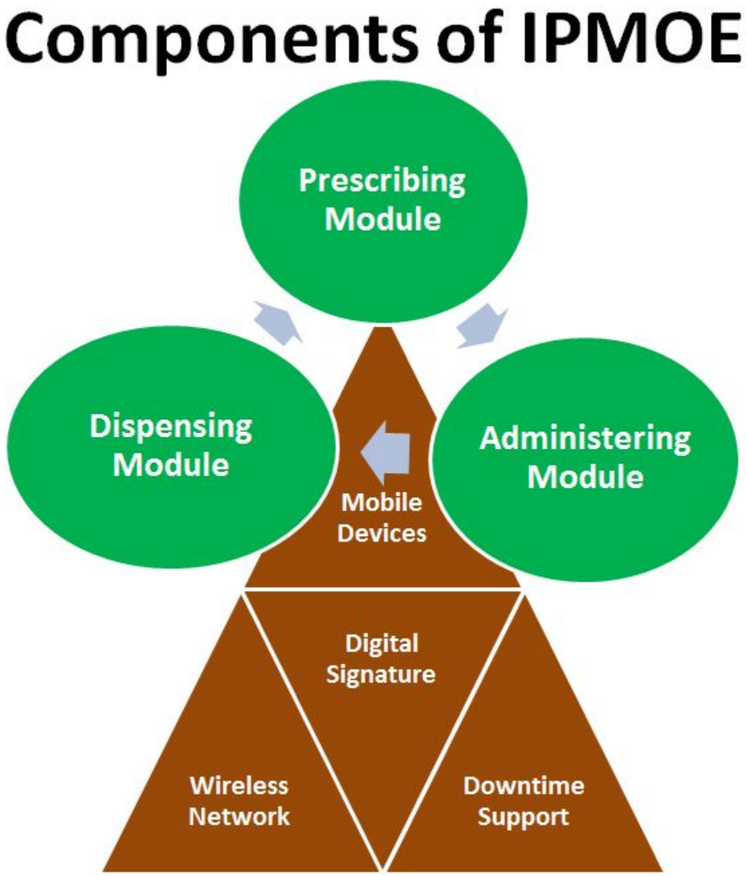
System Change for Medication Safety

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.





System Enhancements

IPMOE Implementation

2013-14
:: PMH

2014-15
:: PWH
:: TKOH
:: NLTH

2015-16
:: UCH
:: YCH
:: RH

2016-17
:: AHNH
:: NDH
:: CMC
:: POH
:: PYNEH

2017-18
:: QEH
:: QMH
:: TMH

2018-19
:: TPH
:: SH
:: BBH
:: SCH
:: HHH
:: HKCH
:: TSWH

2019-20
:: TWEH
:: WCH
:: CCH
:: SJH
:: SLH
:: CPH

2020-21
:: BH
:: HKEH
:: KH
:: WTSH

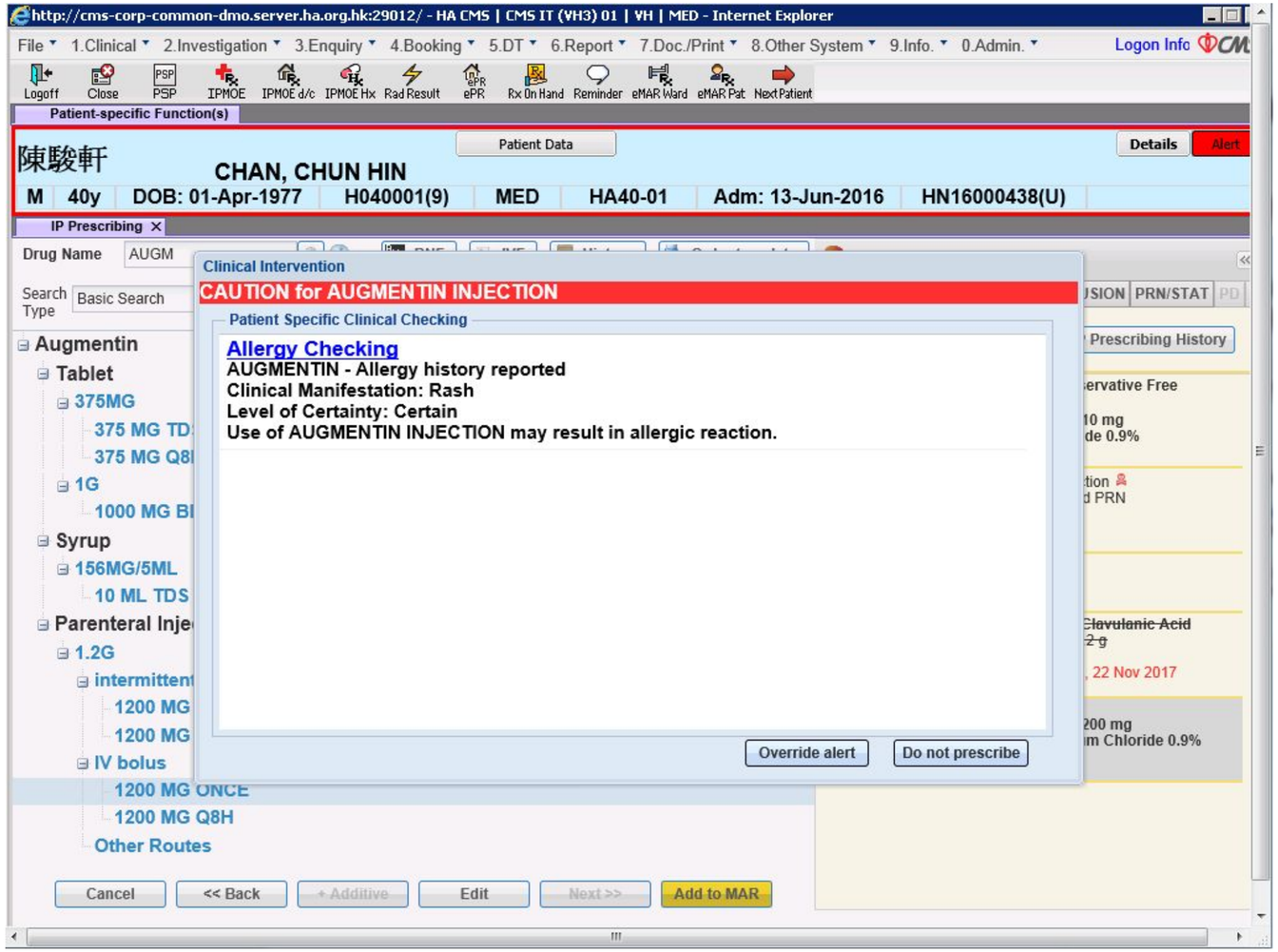
2021-22
:: DKCH
:: FYKH
:: MMRC
:: GH
:: TWH
:: OLMH

2022-23
:: KWH *Live run in progress*

2023-24
:: KCH *Live run Mar 2024*

System Enhancements

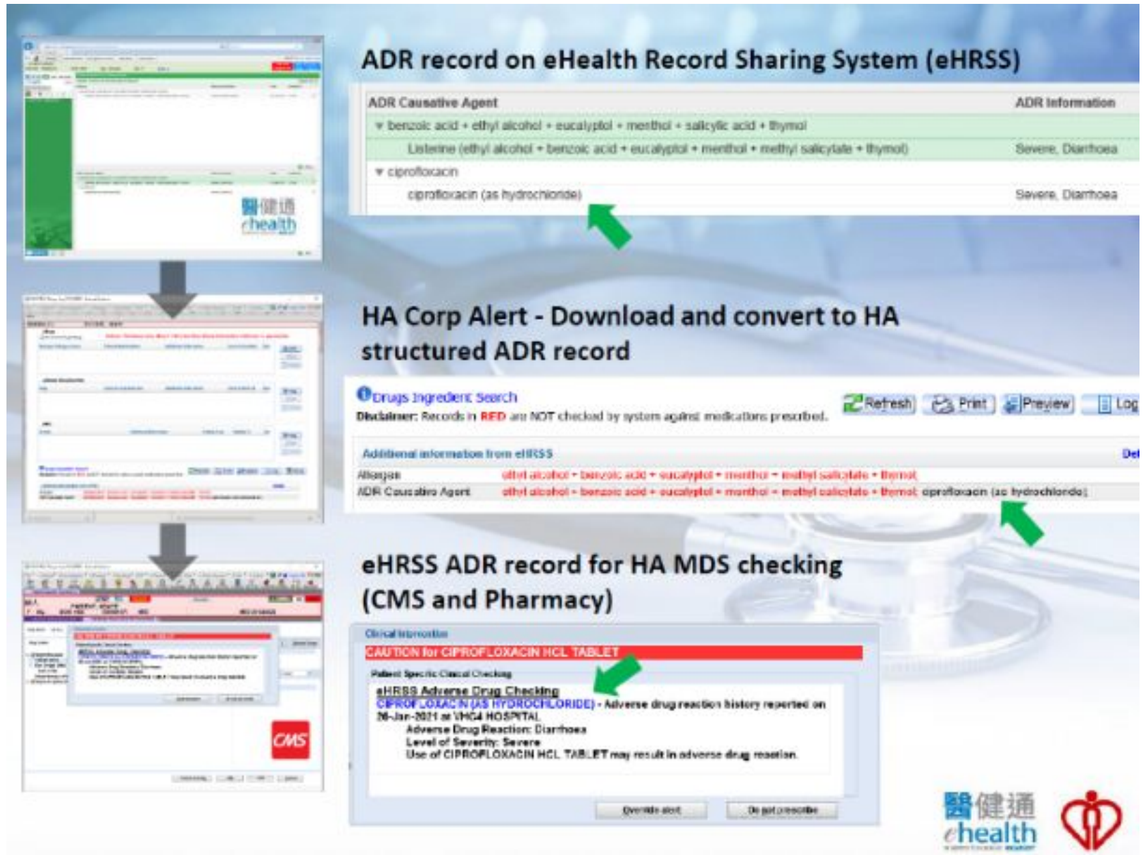
1. Medication Decision Support (MDS) checking message for drug allergy



System Enhancements

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

Electronic Health Record Sharing System (eHRSS)



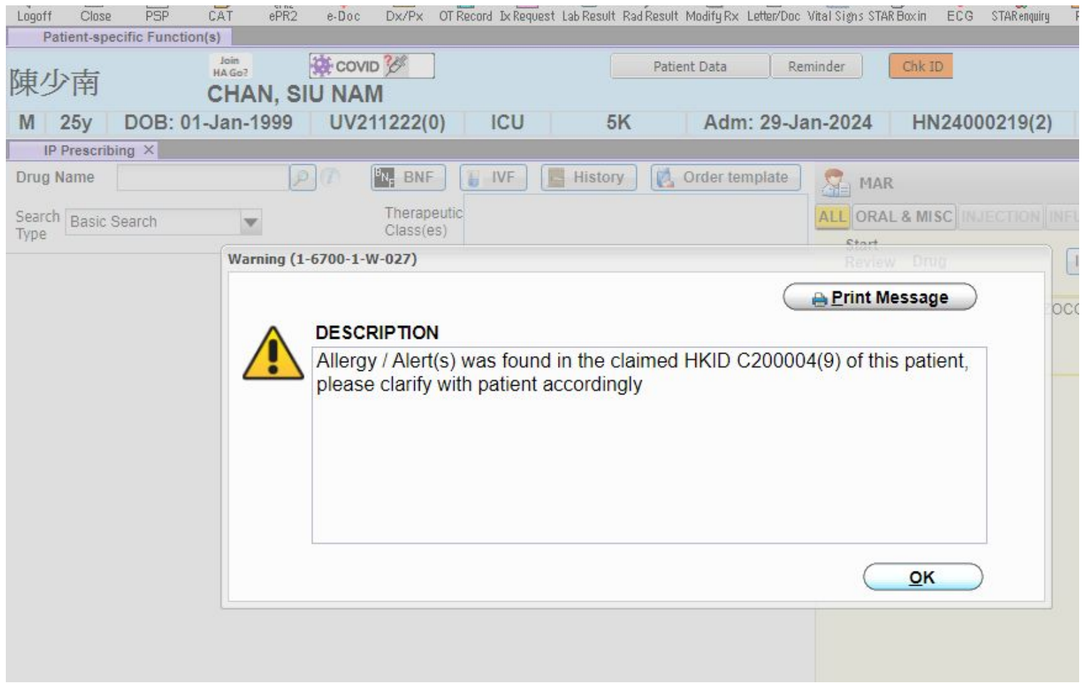
Free Text Allergy Conversion

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

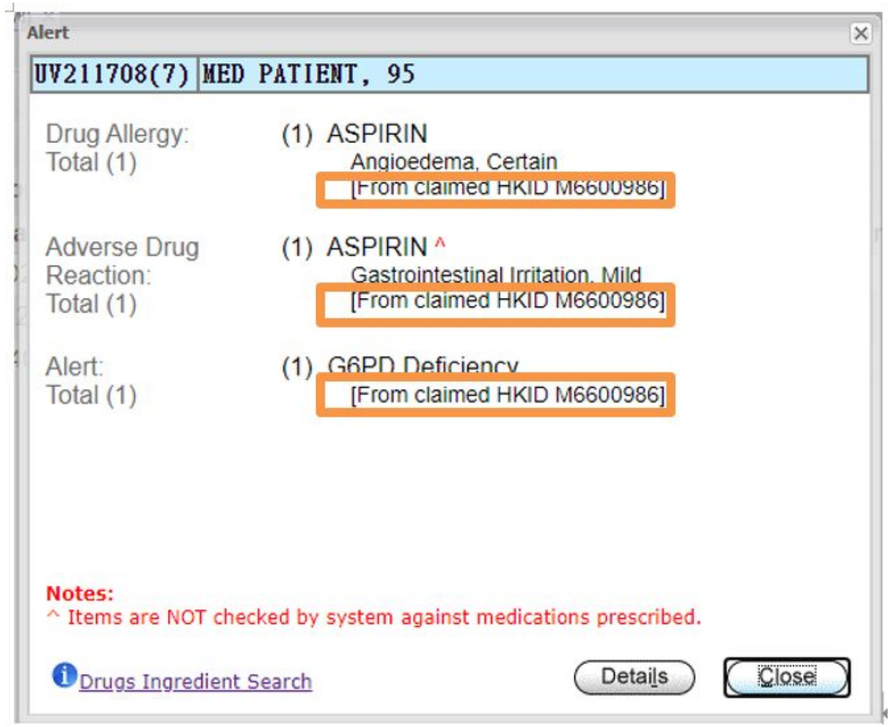
System Enhancements

3. Medication decision support to "Claim HKID" patients

Before Change



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)

香港01 港聞 娛樂 二十大 國際 生活 即時 最Hit 中國 科技 體育 經濟

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

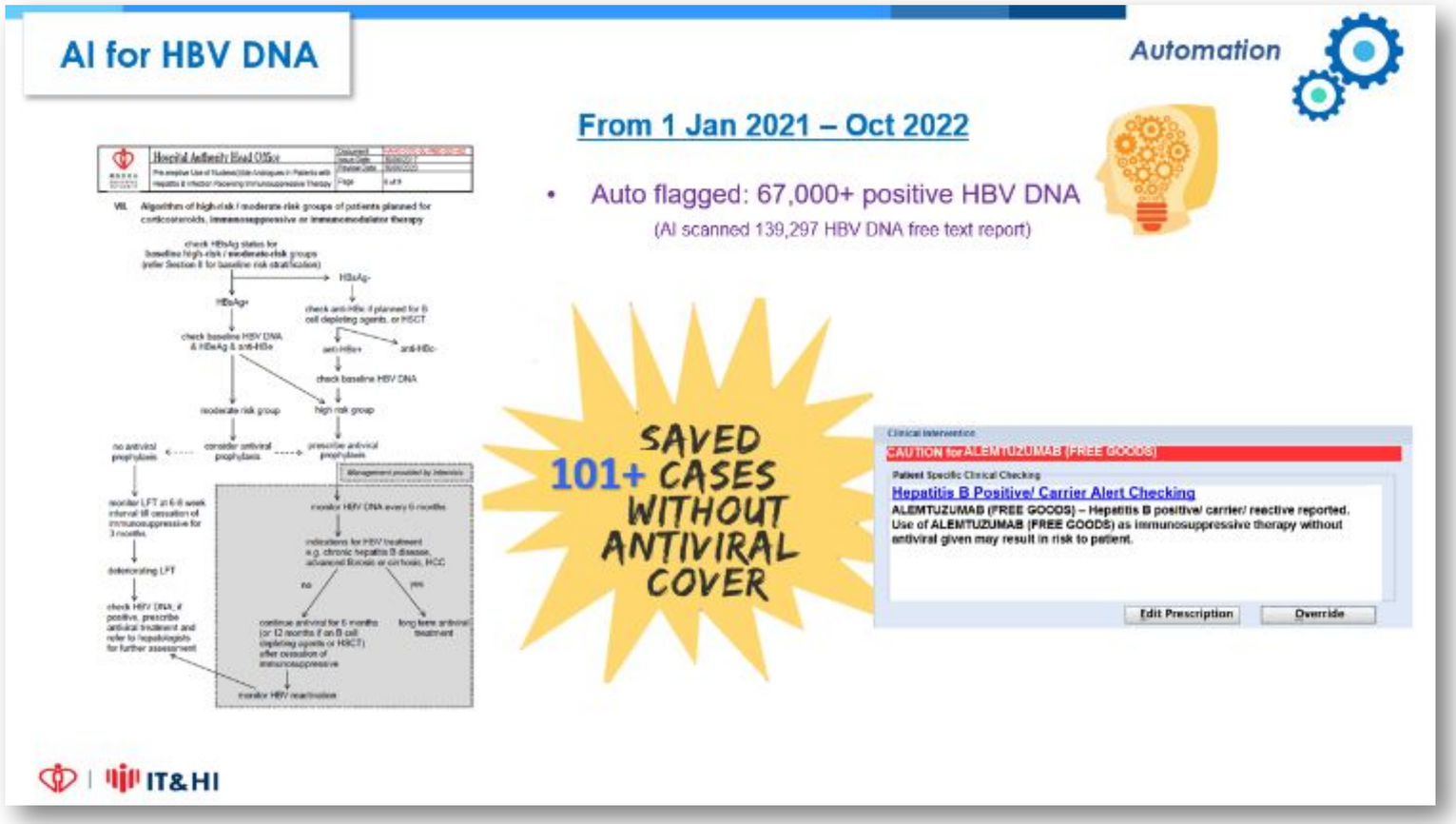
撰文：劉安琪
出版：2022-10-28 17:26　更新：2022-10-28 17:28

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

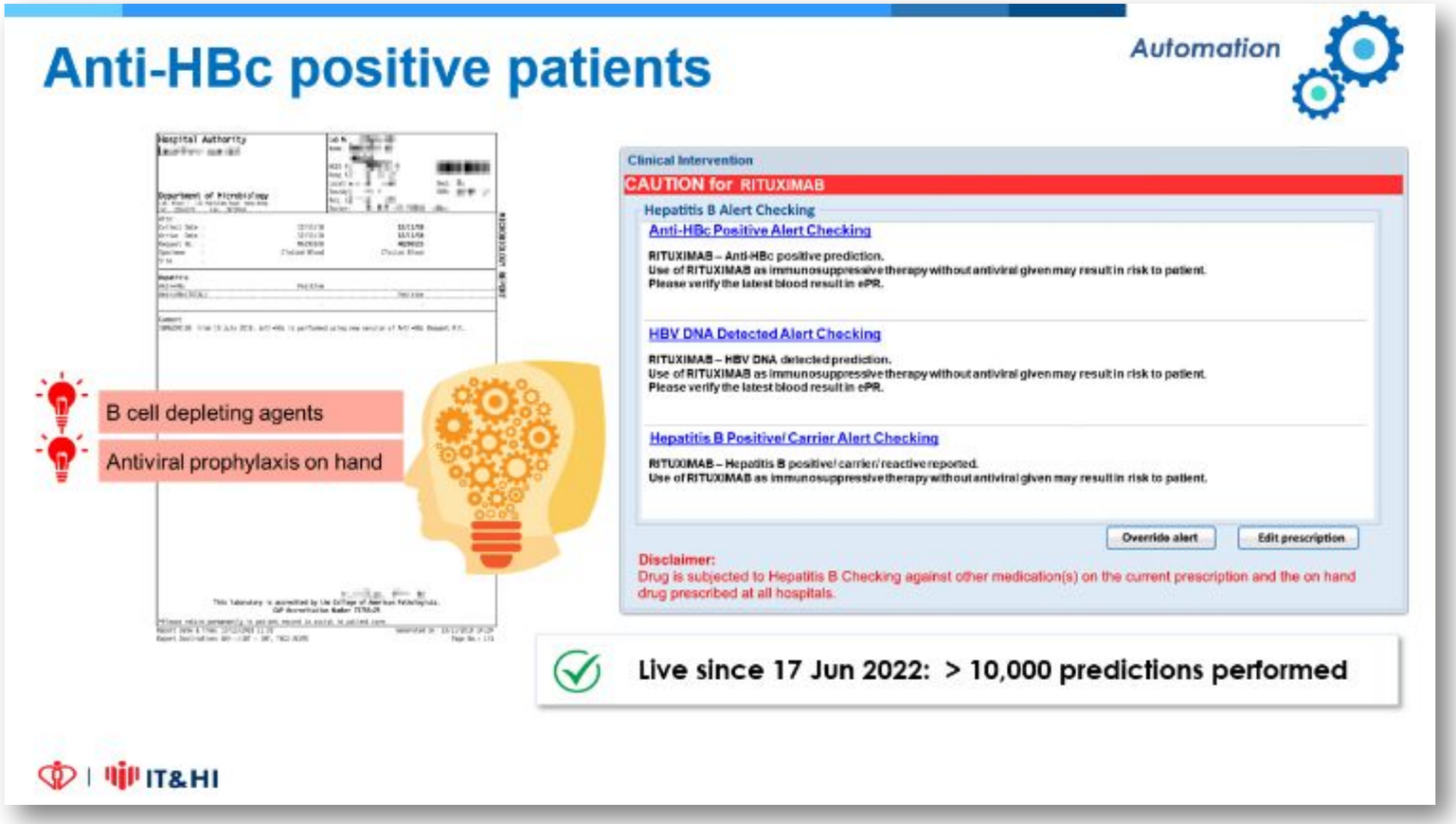
System Enhancements

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



System Enhancements

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



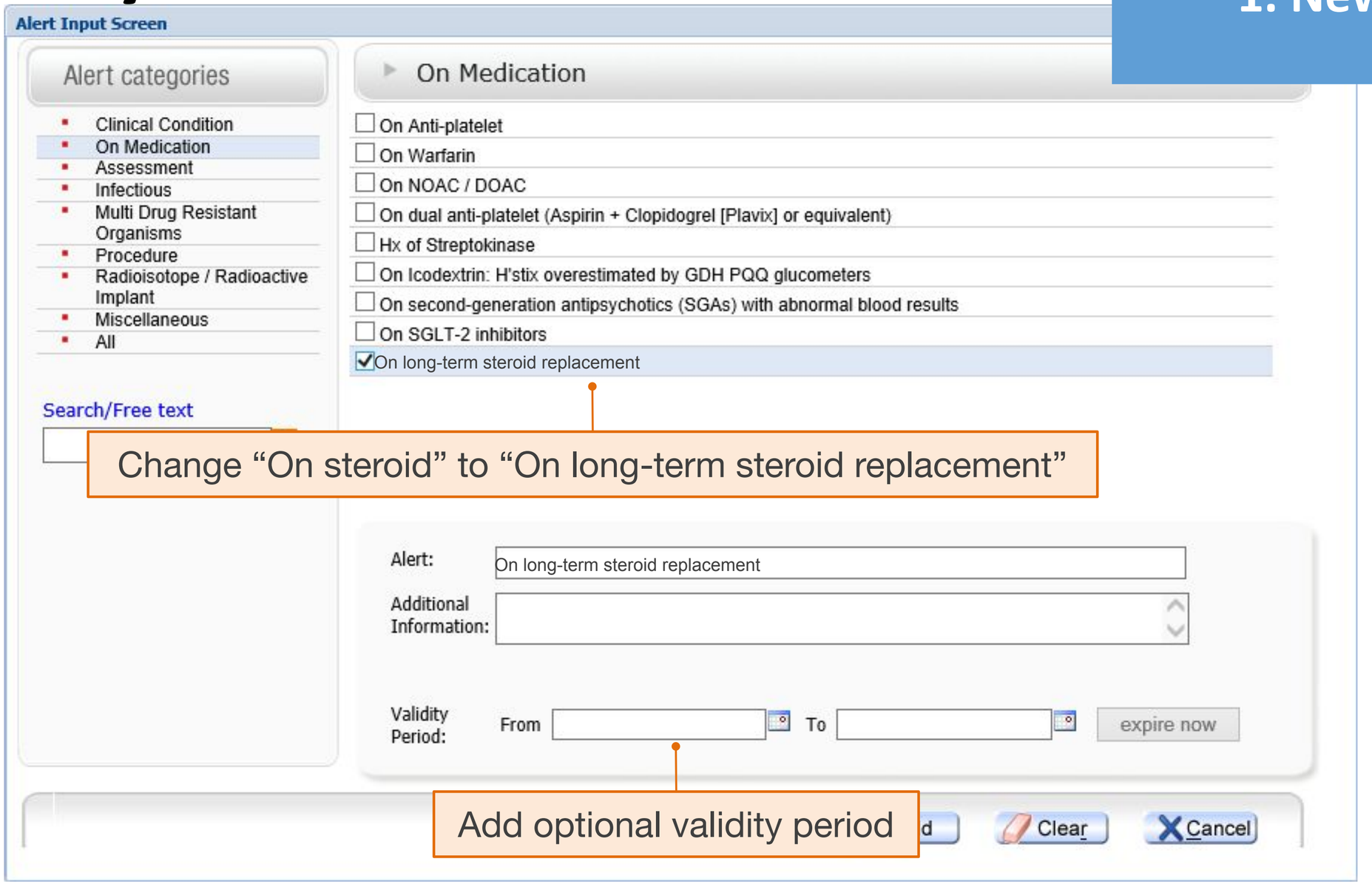
A case of

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

System Enhancements

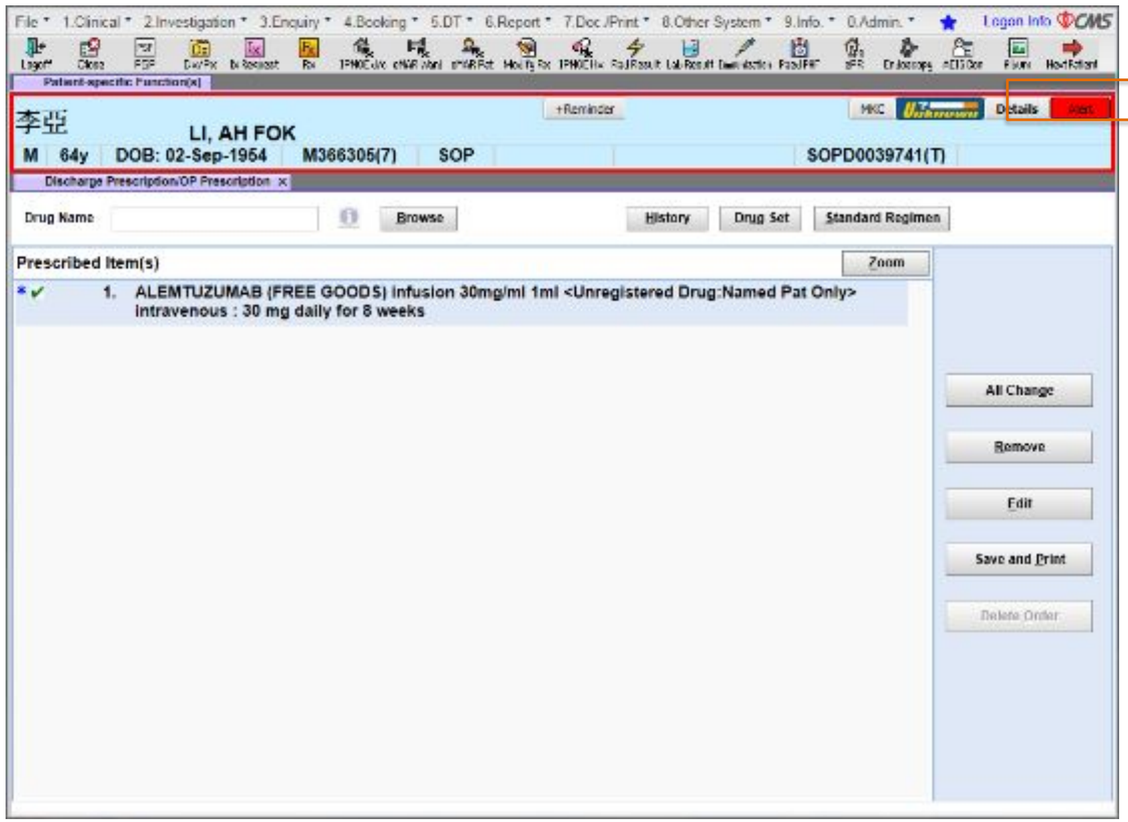
1. New Corp Alert



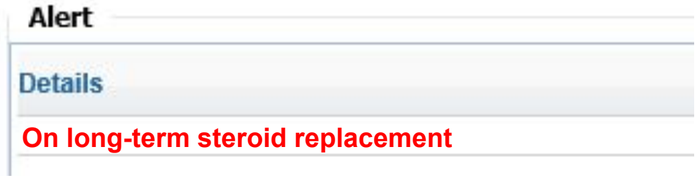
System Enhancements

2. MDS Checking in MOE

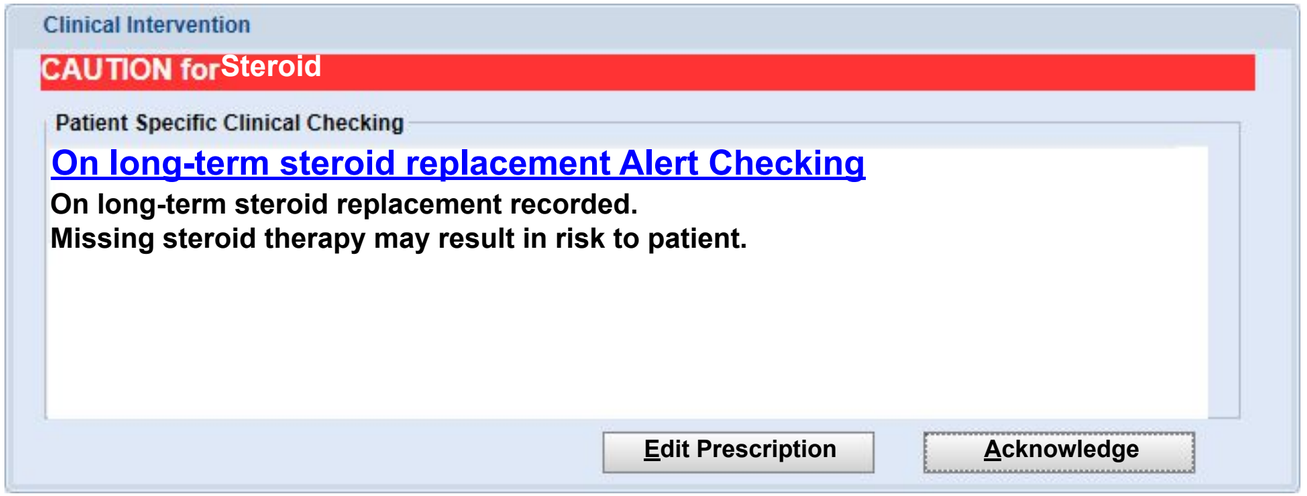
1 Click Save and Print
Doctor did not prescribe steroid OR
Patient does not have on hand steroid

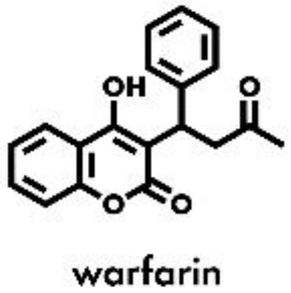


2 Patient marked on long-term steroid replacement in Corp Alert



3 Prompt Reminder



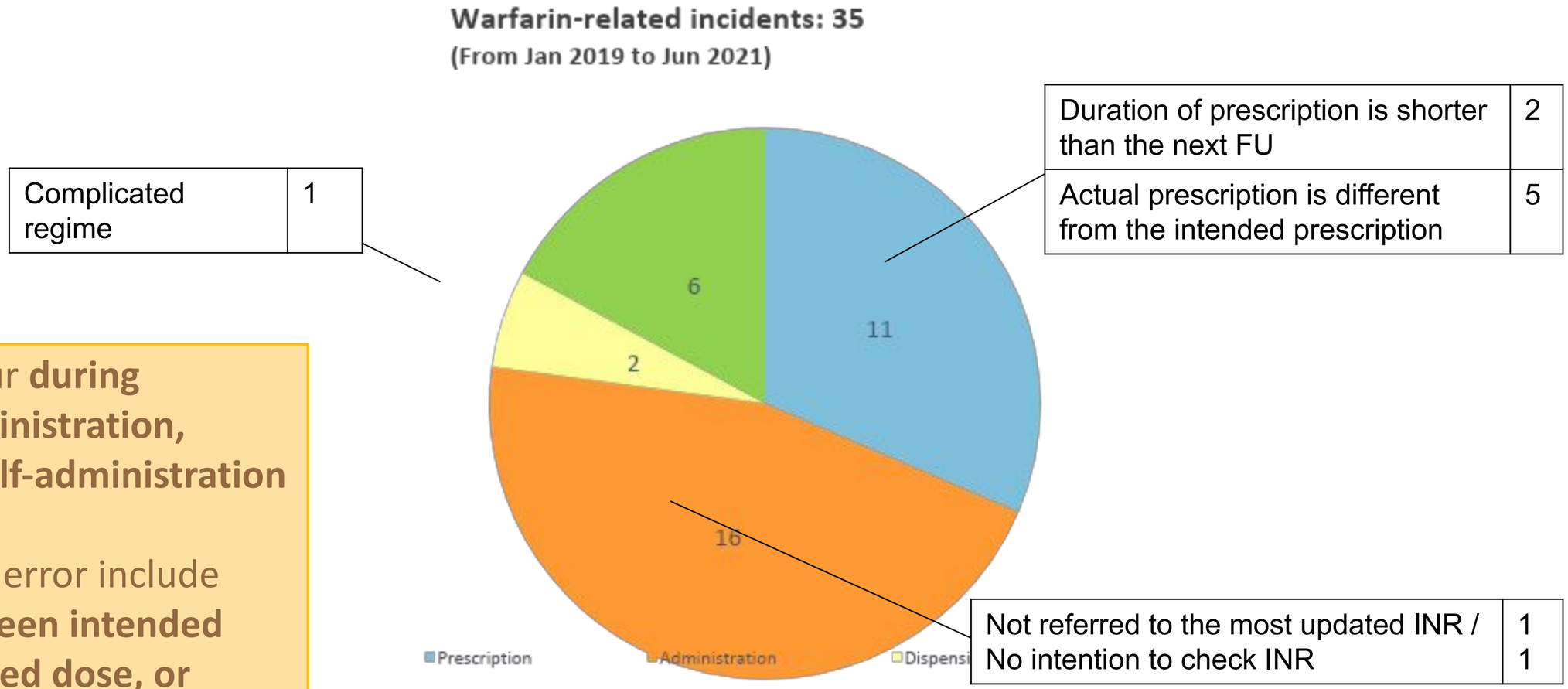


warfarin

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…



- 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.**

Microsoft Excel Worksheet

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?

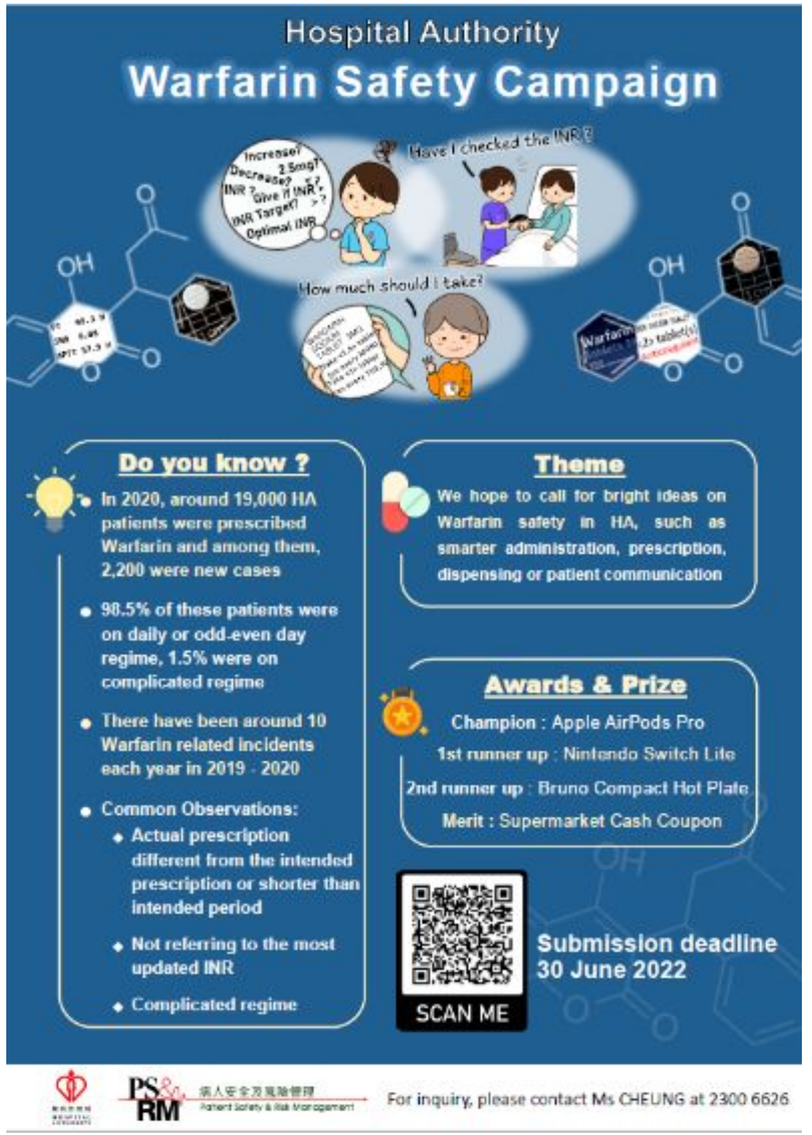
How can we better educate and empower our patients?

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, 1st runner-up and 2nd runner-up
- Instagram voting: “My Favourite Warfarin Idea”



Can we achieve a safe warfarin journey for all?

Patient

1. Standard dose regime
2. Decision support system
3. Conversion to DOAC

Prescriptior

4. INR result displayed by Genie tagging
5. System alert if INR out of range

Adm

6. HA Go reminders
7. Clinical AI

Dispens

Stakeholder Engagement

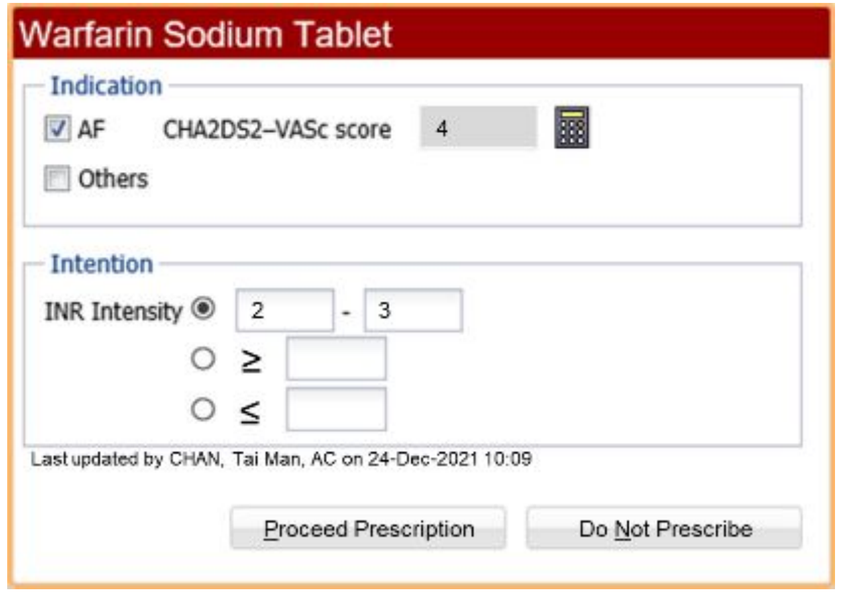
System Enhancements

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:

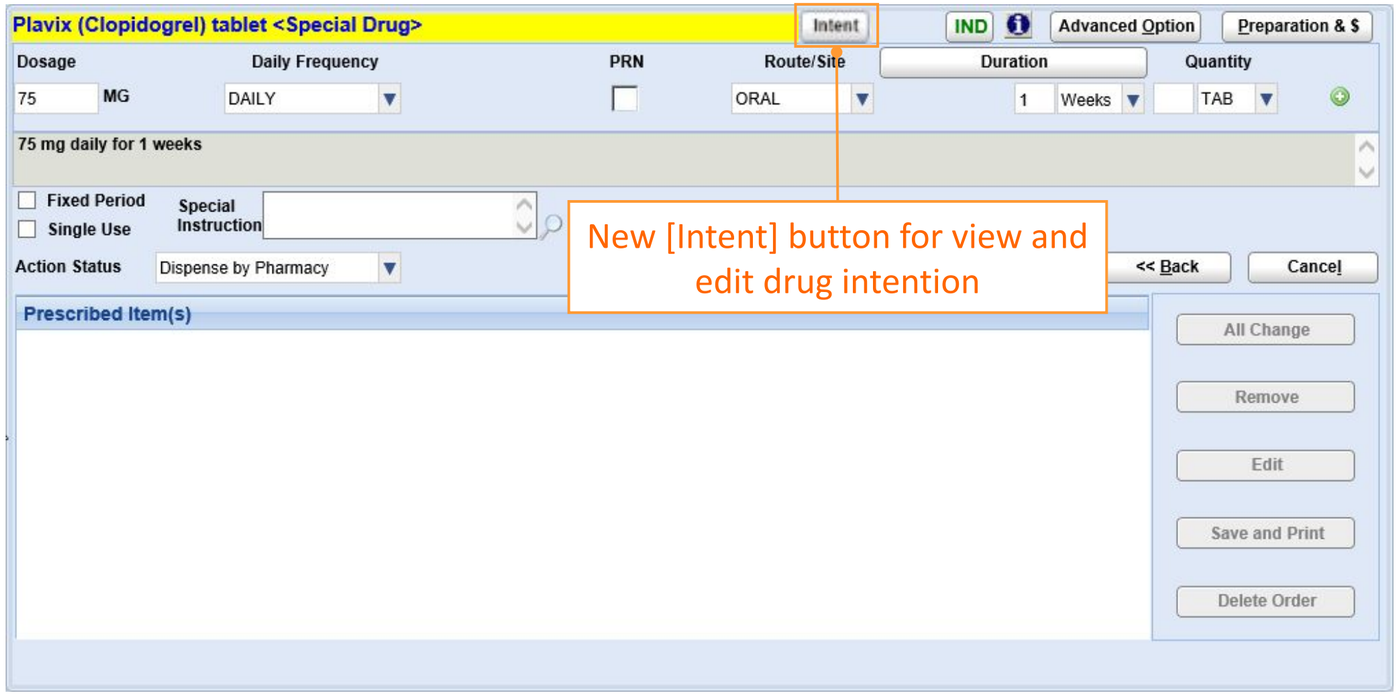
- Clinical indication (with CHA2DS2-VASc Score calculator)
- INR target
- Intended treatment duration



System Enhancements

“Clinical Intention” in MOE

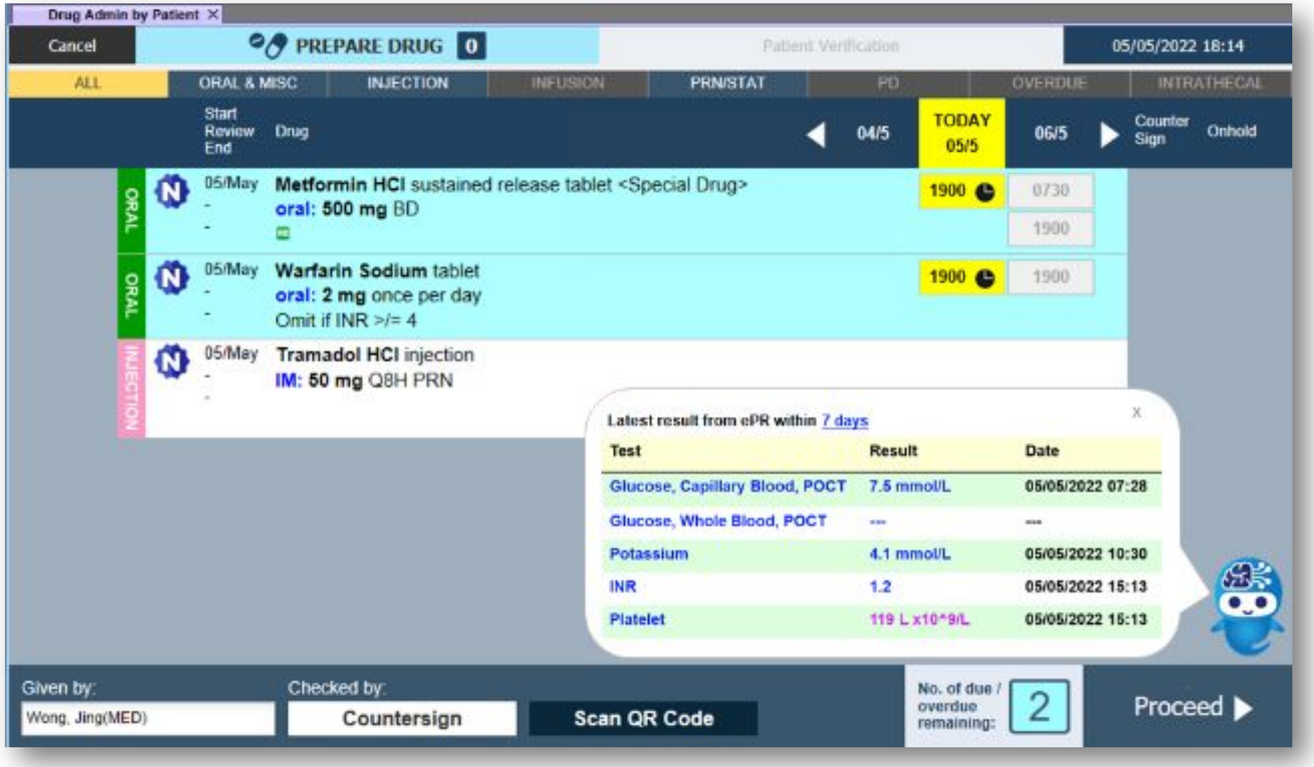
- Generic to all drugs.
- For specific drug and group. Priority for high risk medication with predefined template



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

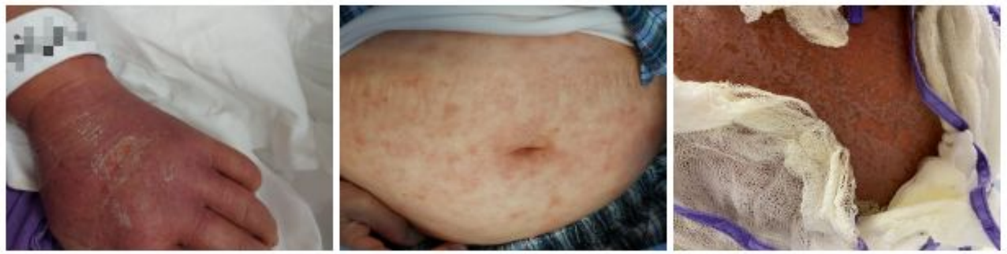


A case of

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

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*5801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

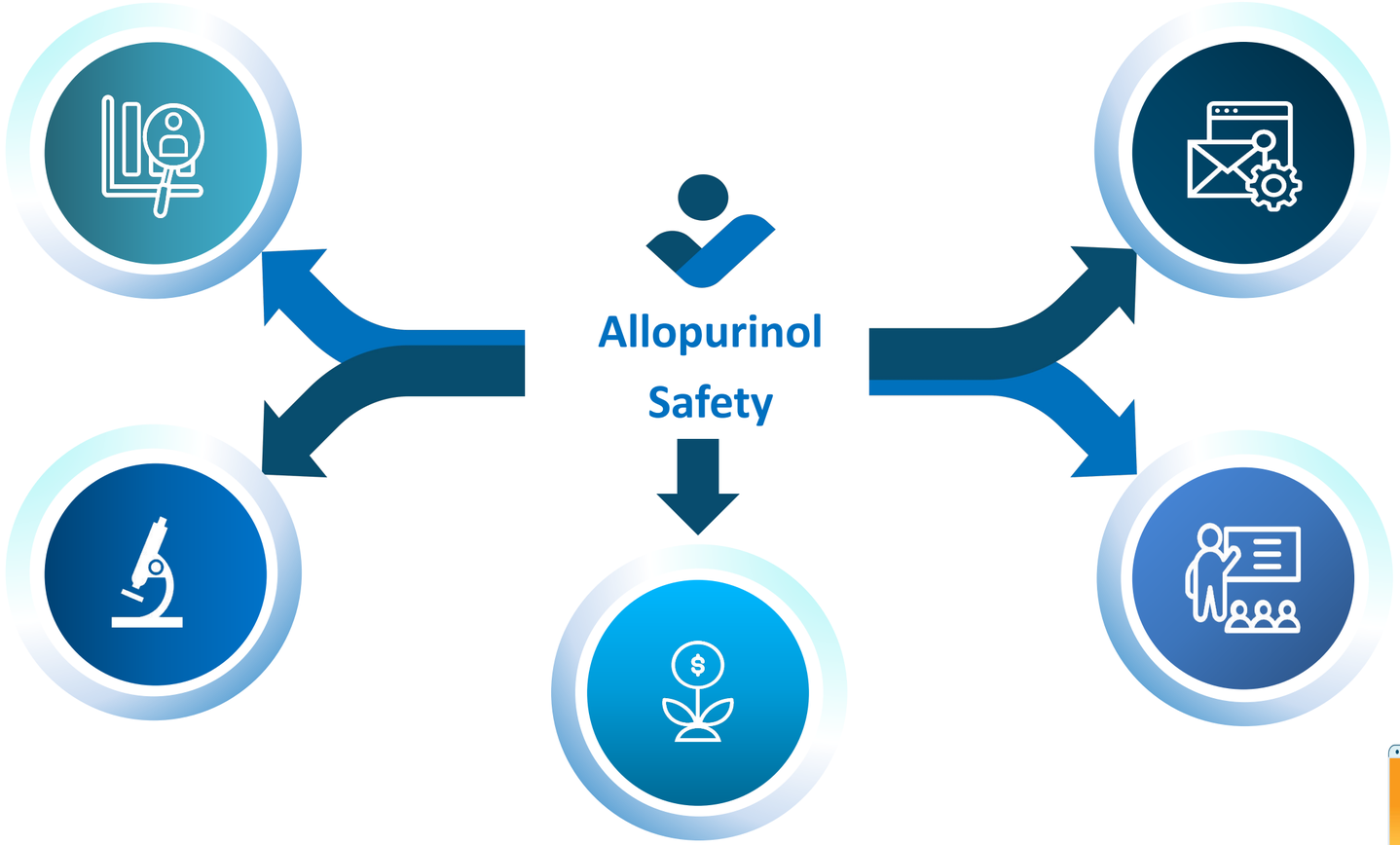
How can we best support clinicians to help our patients?

Corporate Perspective

HA Strategy in Enhancing Allopurinol Safety

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

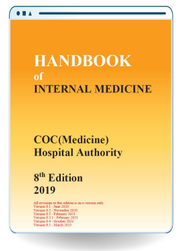
- Strengthening laboratory genetic testing service for HLA-B*58:01



- 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)

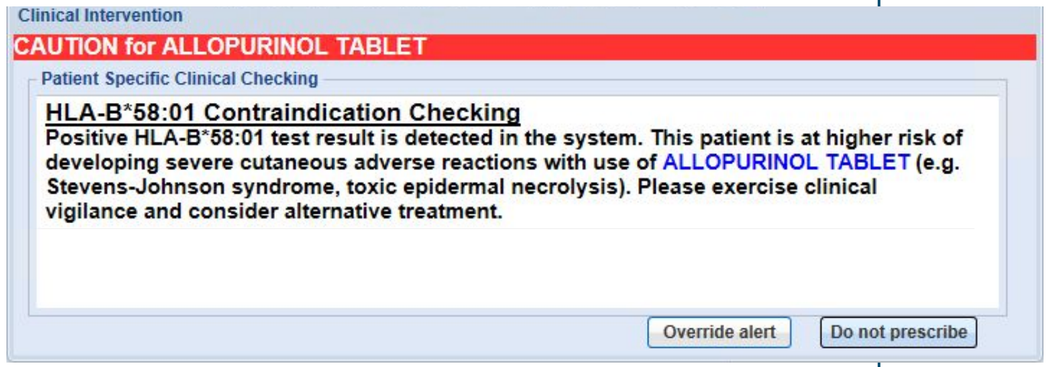
- Automatic alerts for doctors to verify a patient's HLA-B58:01 status prior to prescription of Allopurinol.

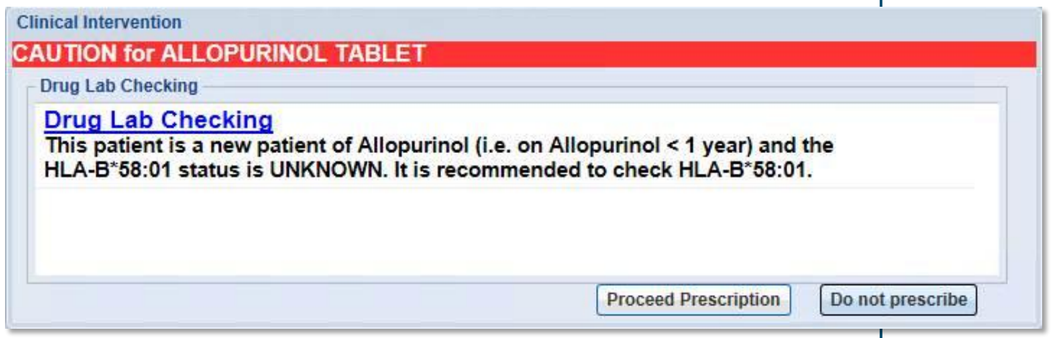
Positive Test Results

- 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.

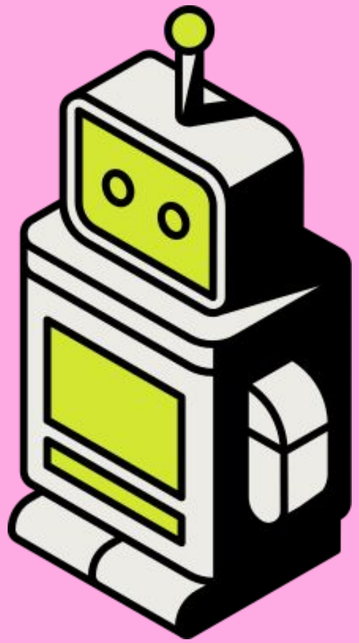




Conclusion

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

Thank you



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?

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

PS&RM 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	Policies to eliminate avoidable harm in health care	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	High-reliability systems	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	Safety of clinical processes	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	Patient and family engagement	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	Health worker education, skills and safety	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	Information, research and risk management	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	Synergy, partnership and solidarity	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.

醫院管理局
HOSPITAL AUTHORITY

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

Incident Management in HA

2007
Introduced
Sentinel Event (SE) Policy

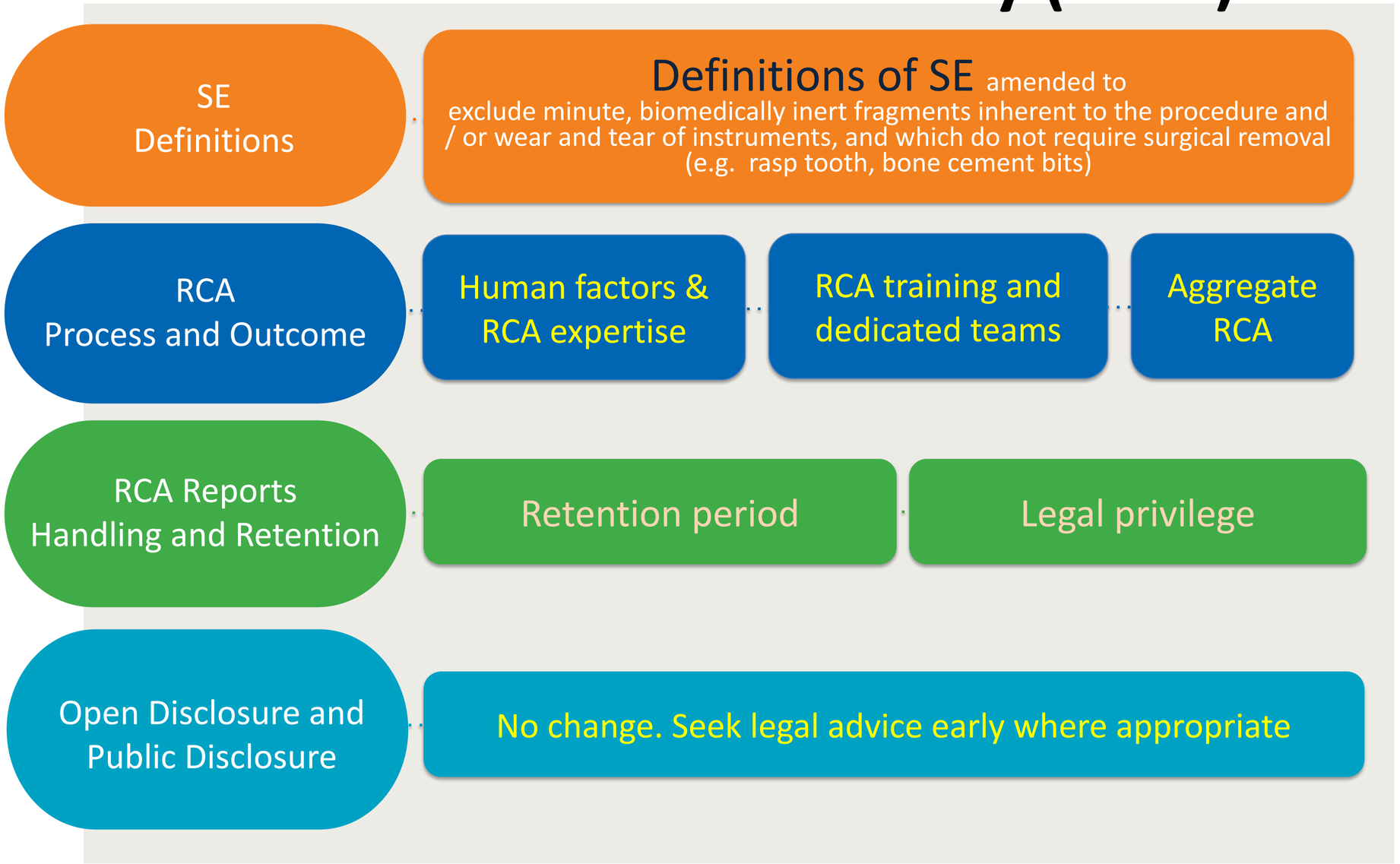
2010
Incorporated into the Policy
Serious Untoward Events (SUE)

2015
Clinical Incident Management Manual (CIMM v 1.0)

2019
Updated
CIMM v 2.0

2023/24
Review & Update
CIMM v 3.0

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.

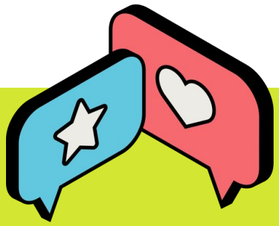
5. Analysis & Investigation: Understanding the causes.

6. Action: Implementing recommendations.

7. Feedback & Learning: Ensuring **system-wide improvements.**

Incident Management Guide. Australian Commission on Safety and Quality in Healthcare. Nov 2021.

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

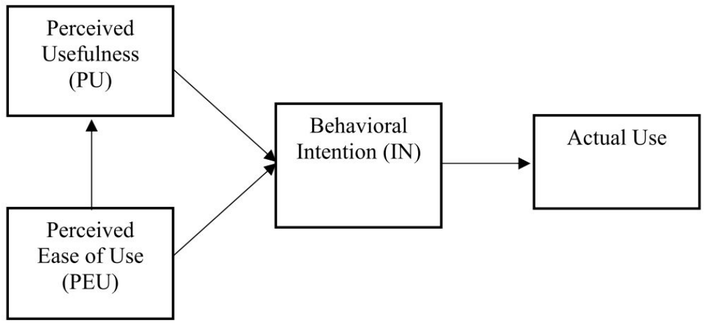
Management will support and reward reporting; Discipline occurs based on risk-taking

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).



Dependent variable	Independent variable	Pearson correlation coefficient	r^2
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.

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)

a) Structured part
- PATIENT INFORMATION
  - Age
  - Sex
- INCIDENT TIME
- INCIDENT LOCATION
- **CAUSES**
- **CONTRIBUTING FACTORS**
- **MITIGATING FACTORS**
- INCIDENT TYPE
- INCIDENT OUTCOME
- RESULTING ACTIONS
- REPORTER'S ROLE

b) Free text part

Source: World Health Organization

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 *Teamwork Within Units*)	Staff work together as an effective team, help each other during busy times, and are respectful.
Staffing and Work Pace (v1 *Staffing*)	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 *Nonpunitive Response to Errors*)	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 *Supervisor/Manager Expectations & Actions Promoting Patient Safety*)	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 *Feedback & Communication About Error*)	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 *Frequency of Events Reported*)	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 *Management Support for Patient Safety*)	Hospital management shows that patient safety is a top priority and provides adequate resources for patient safety.
Handoffs and Information Exchange (v1 *Handoffs & Transitions*)	Important patient care information is transferred across hospital units and during shift changes.

OECD Health Working Paper No. 168. Comparative assessment of patient safety culture performance in OECD countries (2024)

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).

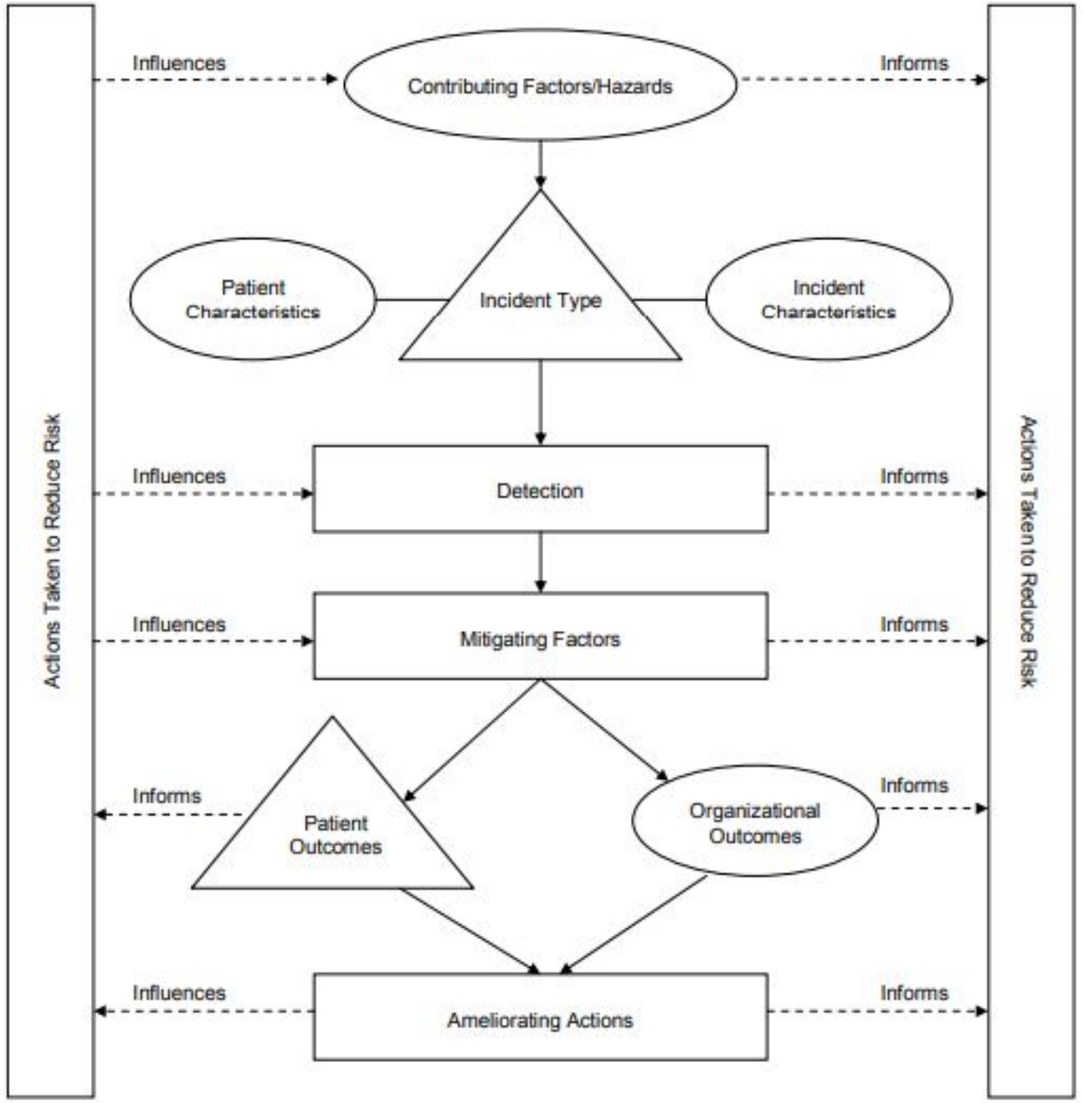
The perspective of patients and their families	Measures of harm	Measures of the reliability of critical safety processes
Information on practices that encourage the monitoring of safety	Information on the capacity to anticipate safety problems	Information on the capacity to respond to and learn from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

Beyond Analyzing Incidents

Other indicators and data used to assess safety.
At ward/unit and cooperate level.

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

Conceptual Framework for the International Classification for Patient Safety

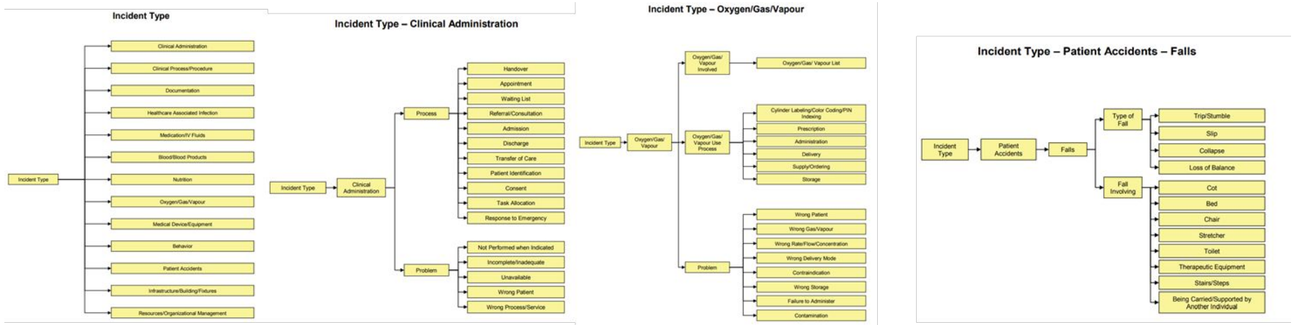


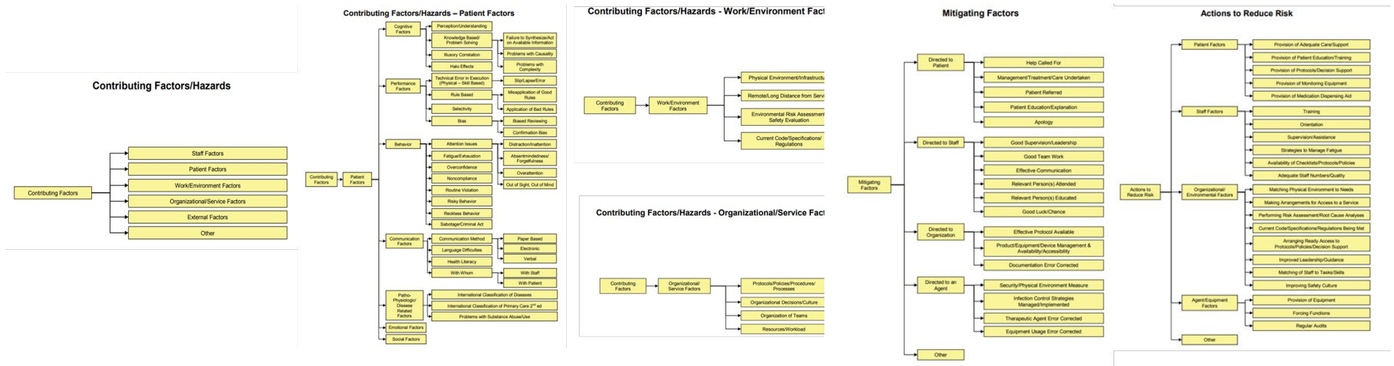
To define and group patient safety concepts into a classification that conduce learning and improve patient safety

WHO Patient Safety Final Technical Report January 2009.

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

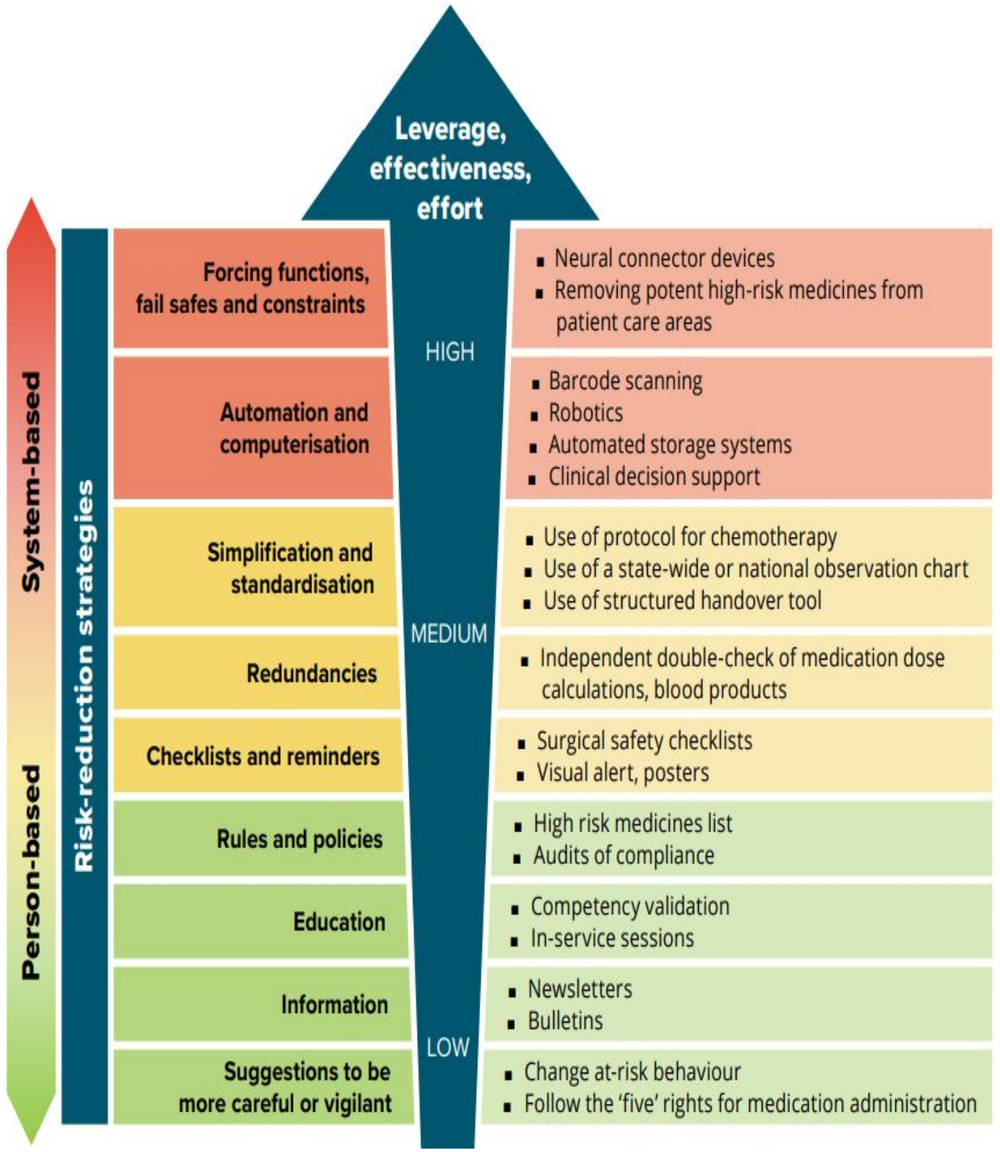
1. Hierarchy of Effectiveness: System-based vs. person-based strategies.
2. System-based Strategies: Examples include simplification, standardization, and automation.
3. **Implementation**: Driving improvements in incident management using recommended strategies.

‘Technical part’ (Intervention itself):

- Risk reduction action plan with due date of completion
- Prioritization
- Short/ medium/ long term measures

‘Management of Change’ part (Implementation of intervention):

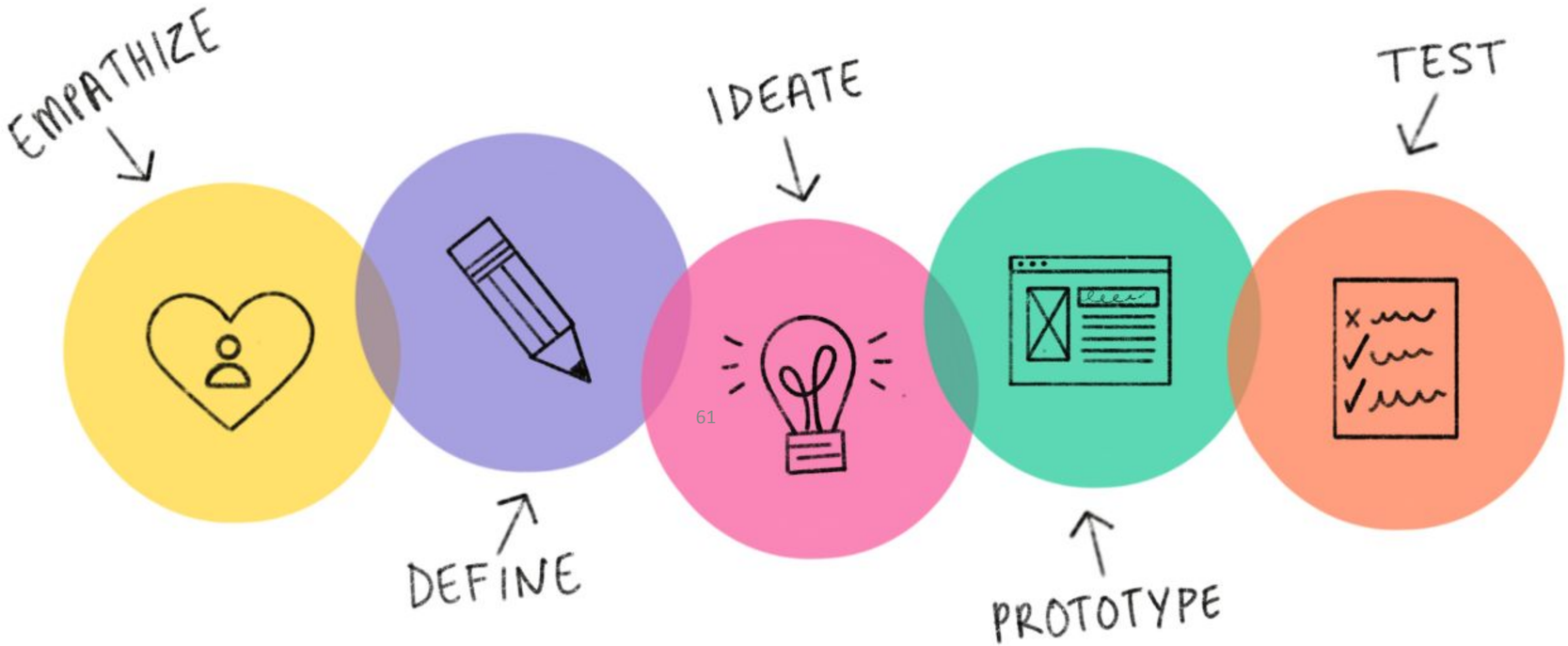
- Engagement
- Communications



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

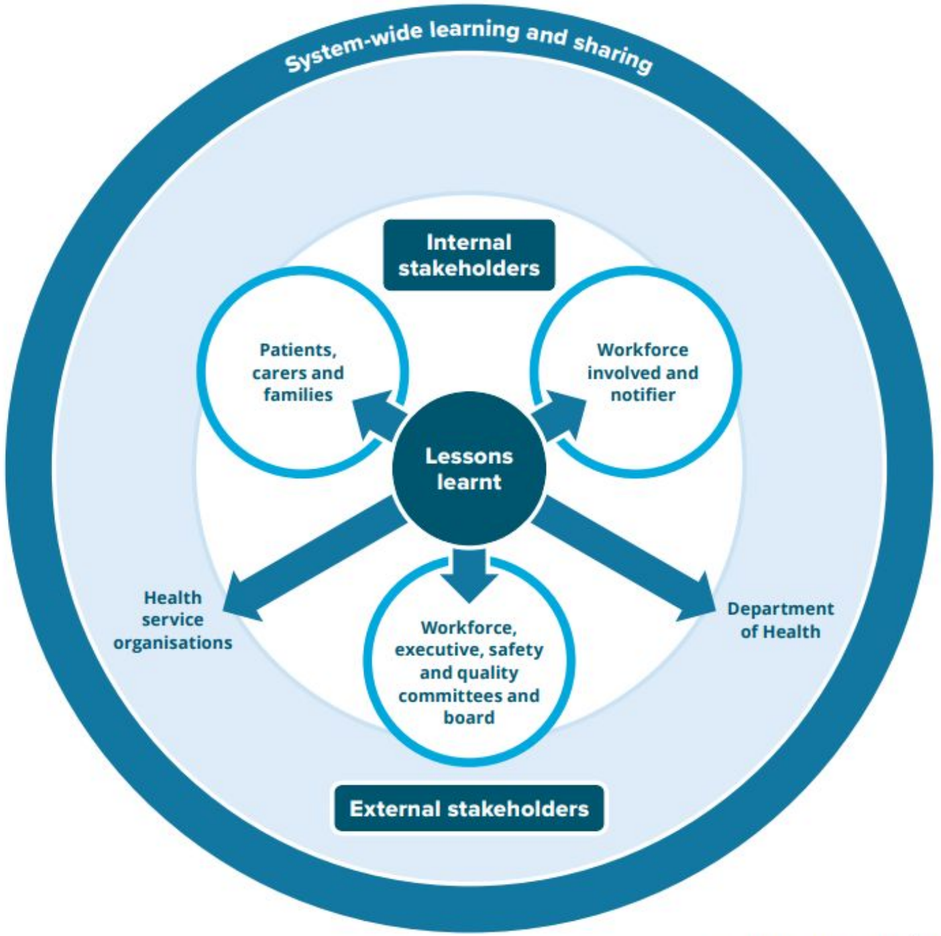
Safety and quality committees

Patients, carers and families

External stakeholders

Health service organisations

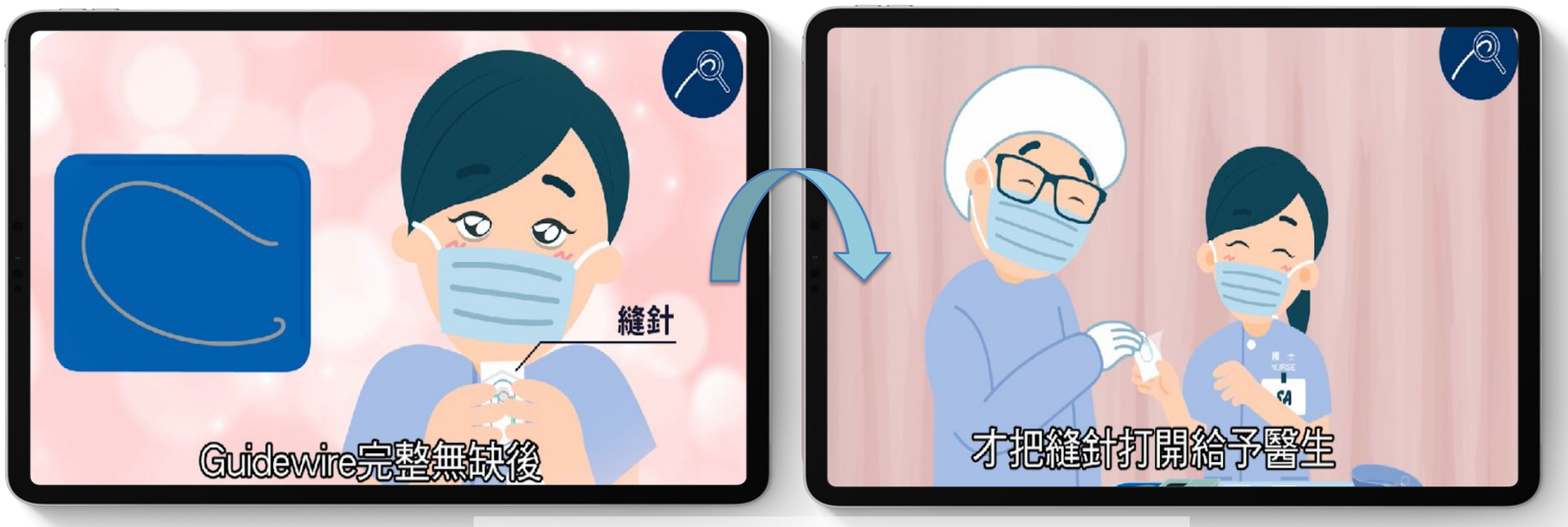
Department of Health

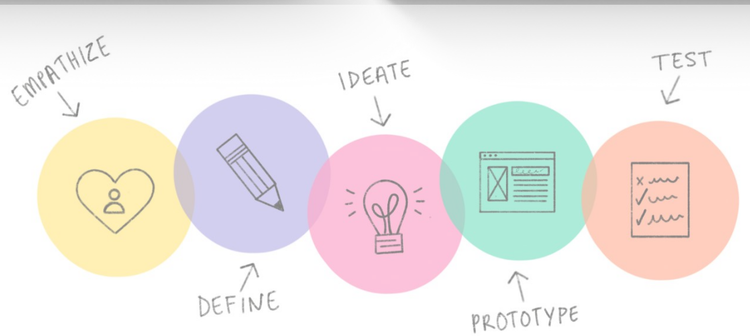


Incident Management Guide. Australian Commission on Safety and Quality in Healthcare. Nov 2021.

Prevention of Guide Wire Retention

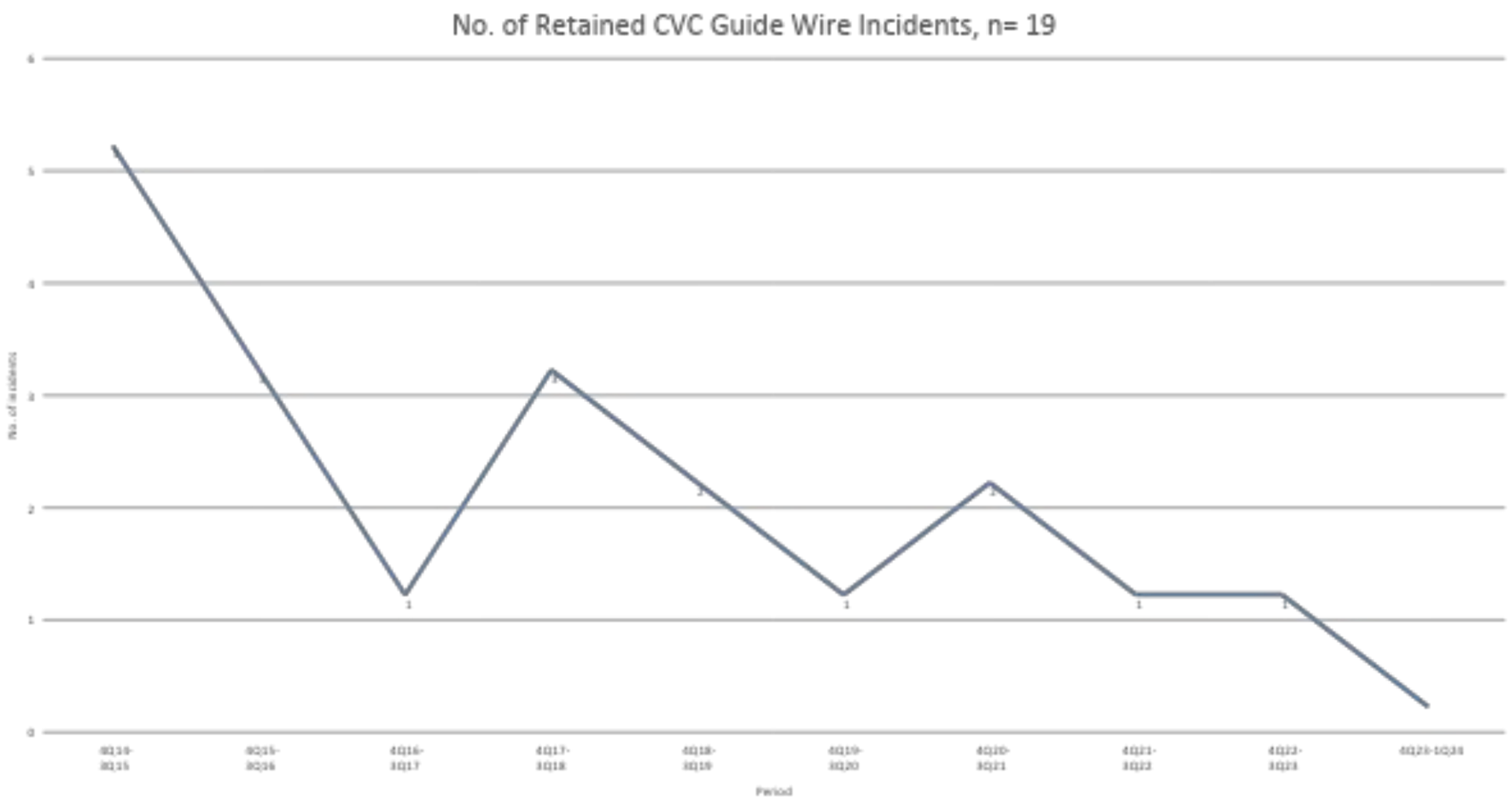
- Implementation of a system where the suture needle should not be provided unless guidewire counting is confirmed



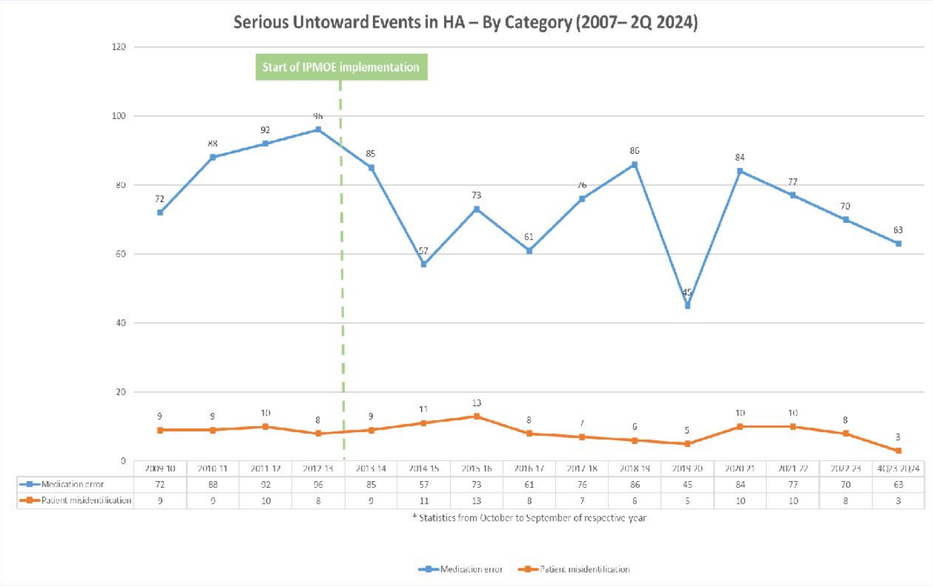


Examples of **Potential System Change** for Risk Reduction

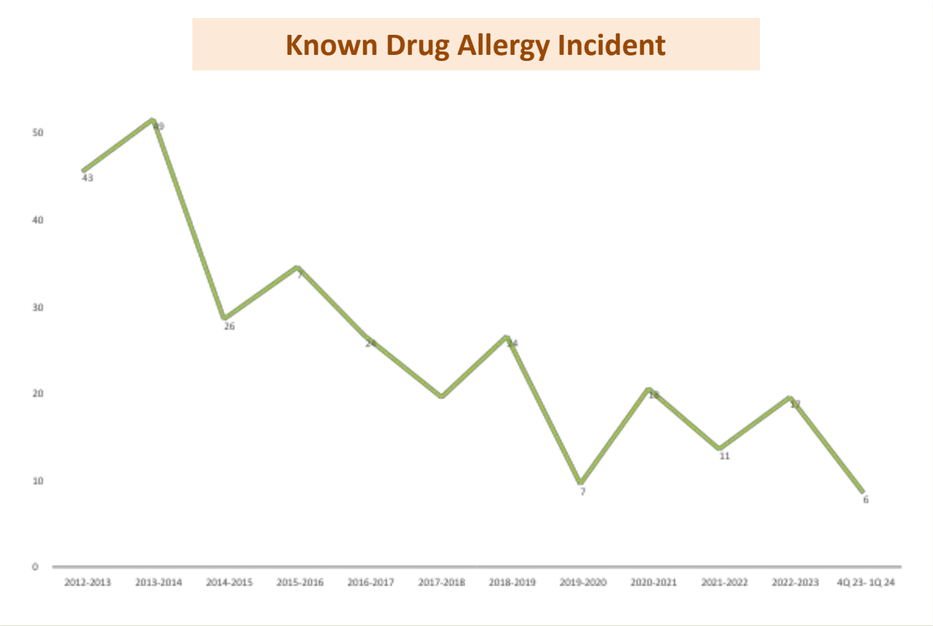
Retained Central Venous Catheter (CVC) Guide Wires (2014 - 1Q 2024)



Medication Incidents



	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
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

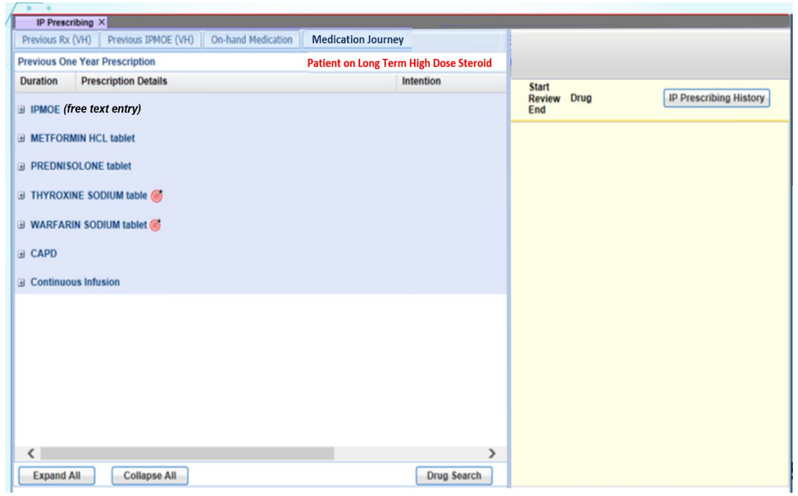


- Prescribing Errors
- Dispensing Errors
- Administration Errors
- Known Drug Allergy

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

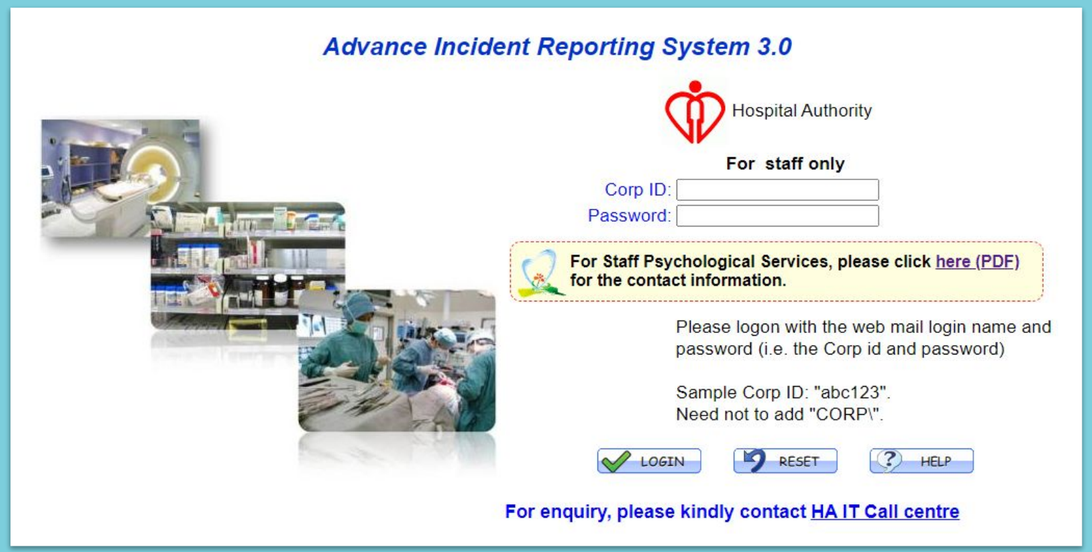
Prevent Medication Incidents

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



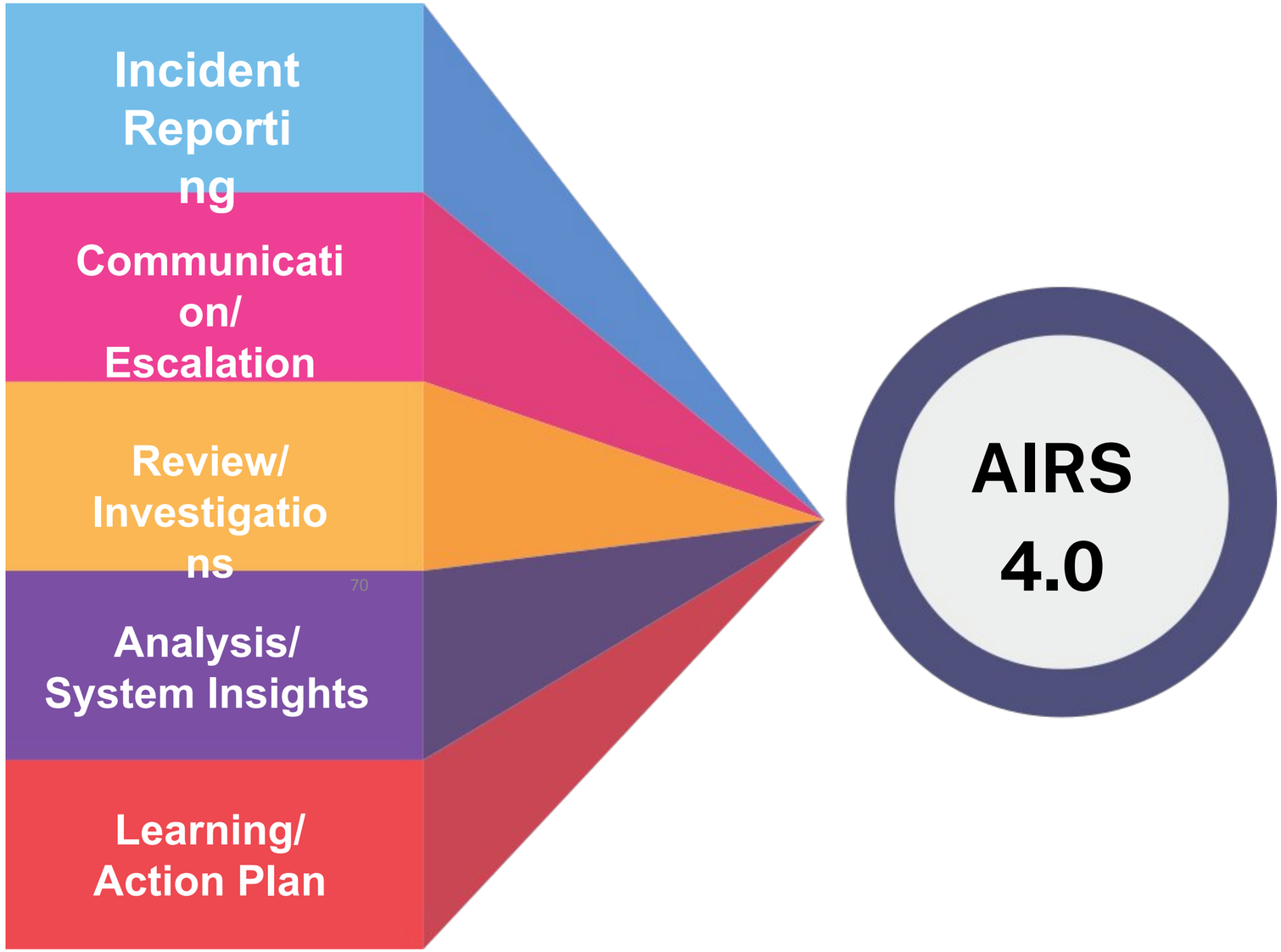
An electronic web-based reporting platform for reporting any types of incidents in HA

- **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

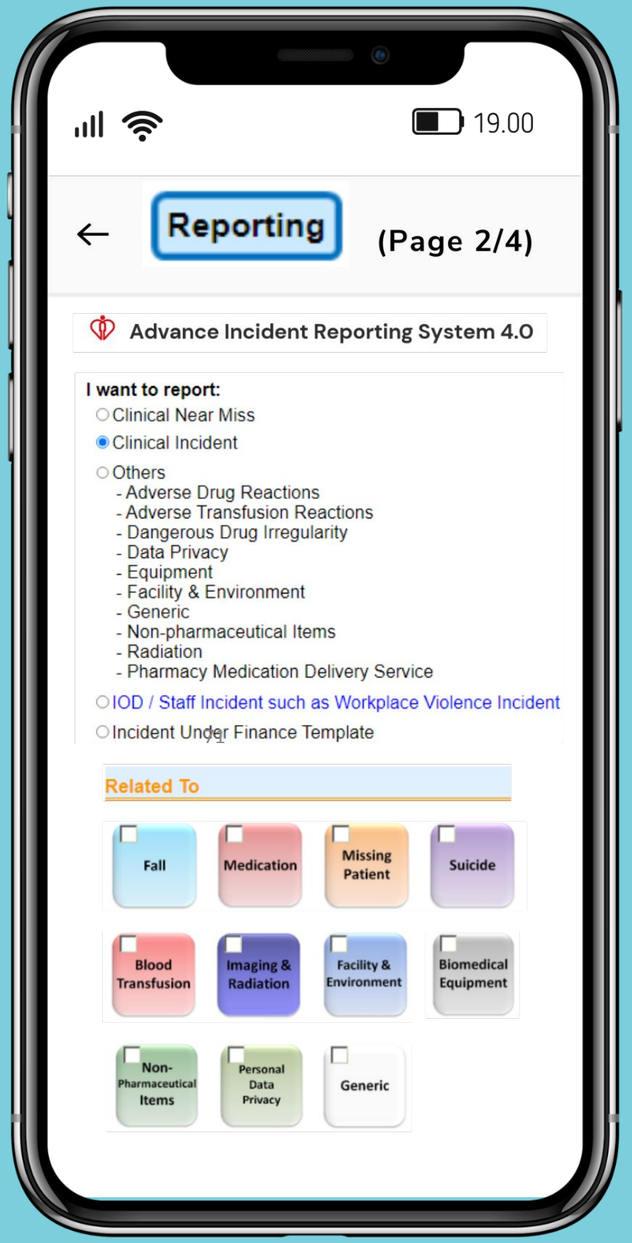
Advance Incident Reporting System - AIRS 4.0

A Close-loop Reporting and Learning System



AIRS 4.0

Mobile Friendly Interface



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

Escalate & alert top management

AIRS 4.0

Supervisor

- Follow up
- Provide information

Cluster Q&S/ Filter Person

- Classify, clarify
- Provide additional information/ Finding (if required)

PS&RM

- Review and provide feedback (if required)

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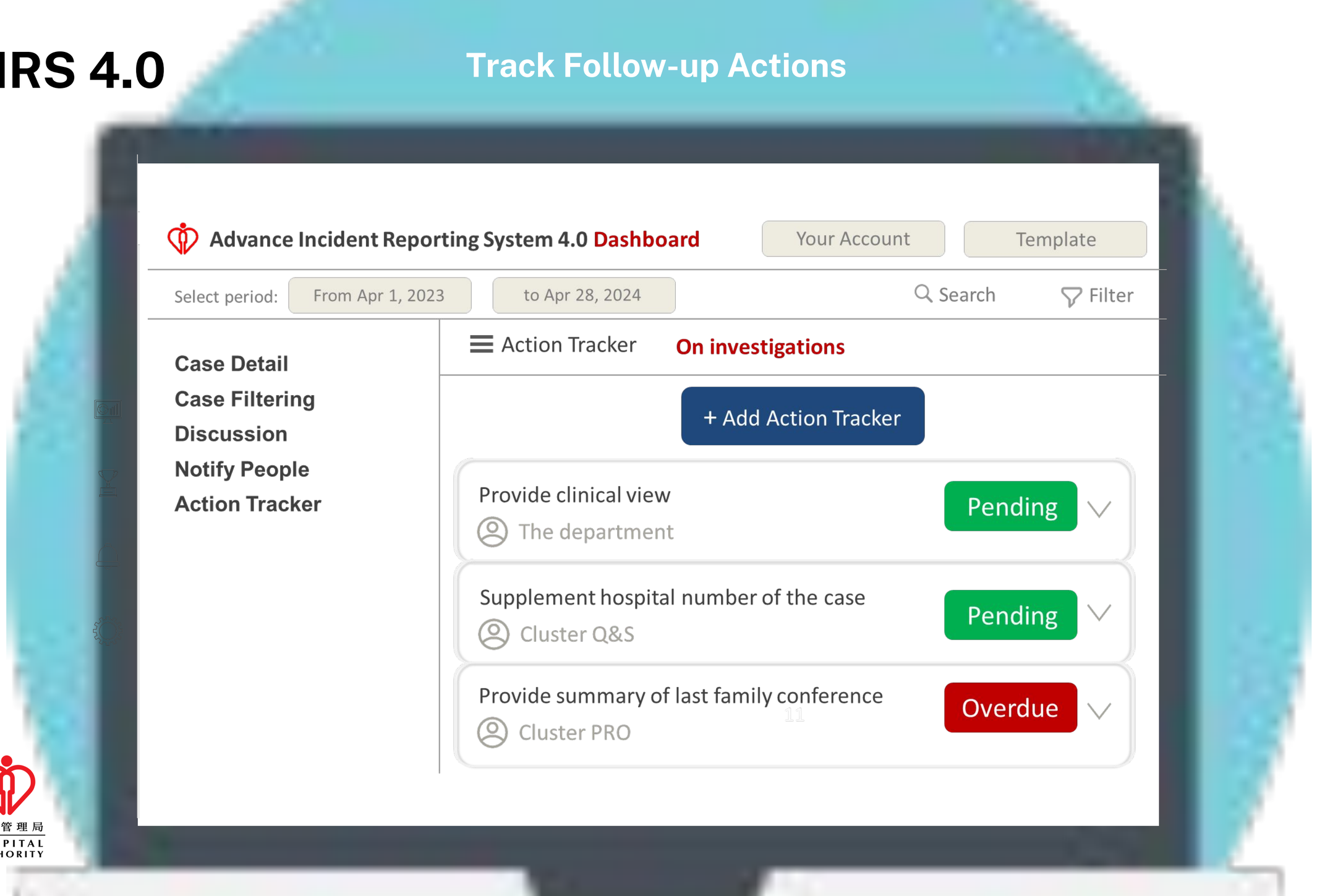
AIRS 4.0

Track Follow-up Actions



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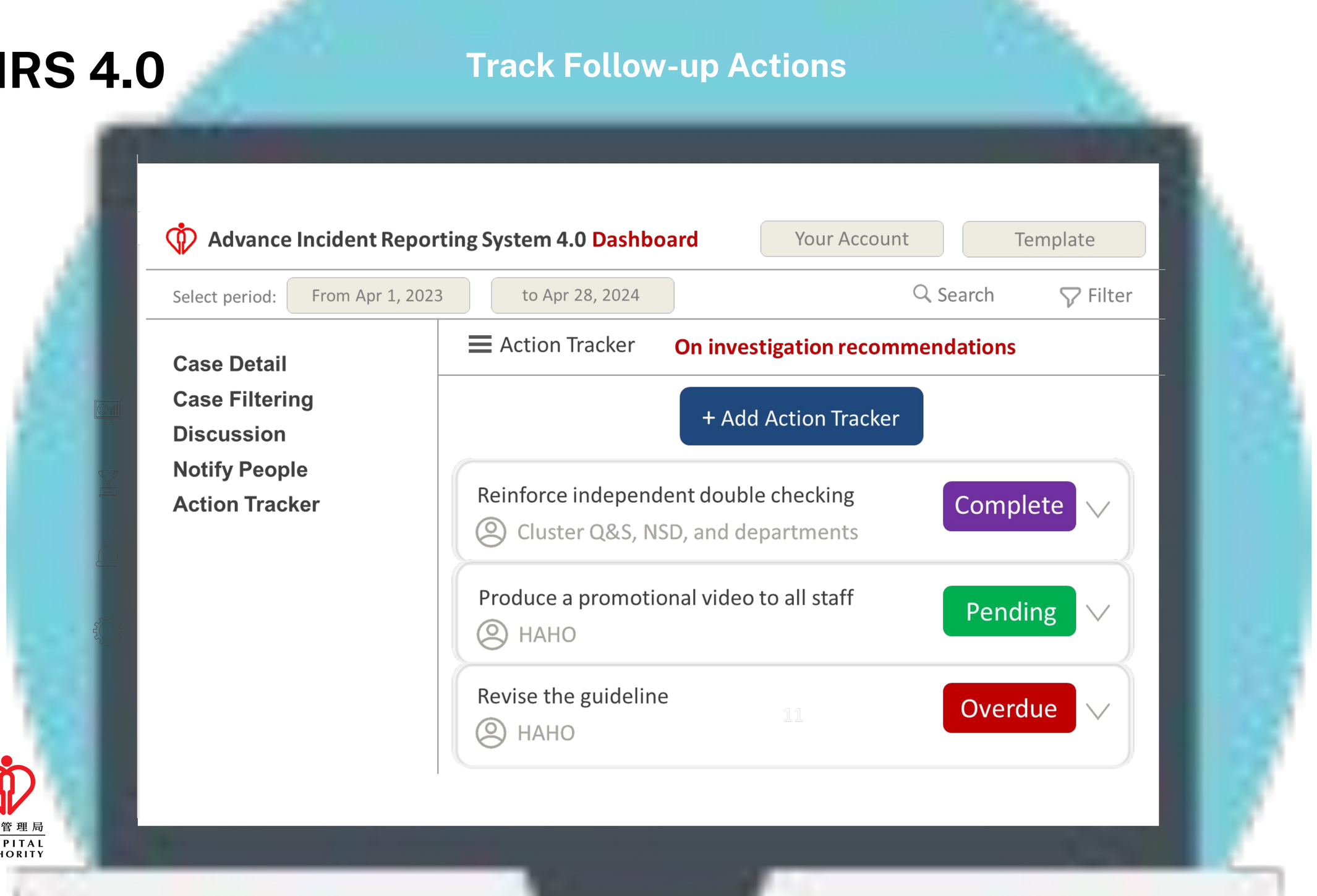
AIRS 4.0

Track Follow-up Actions



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AIRS 4.0

AI-Enhanced Data Aggregation and Analysis

Advance Incident Reporting System 4.0

Your Account | Template

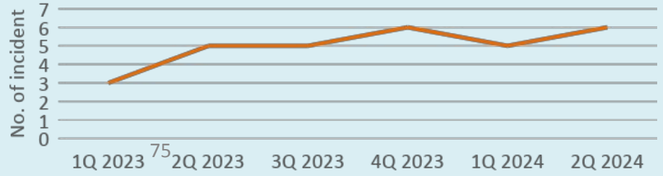
Select period: from Apr 1, 2023 to 28 Apr 2024 | Search... | Filter

Total Number of Incident	Fall	Medication	Facility & Environment
23	61%	21%	9%

HA Risk Alert

Analysis and Recommendation

Recurrent drug allergy medication incidents in patients with pseudo-ID



- **Promulgate new functi… …rgy in claimed HKID**

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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

76

E

Auto-generate summaries

F

System Integration

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

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