Singapore National Medication Safety Strategies

by
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SCOPE

- Background on National Medication Safety Strategy and Formation of National Medication Safety Taskforce (NMST), and it's achievements
- Sentinel Reported Events, National Medication Safety Indicators
- Renewed strategy , Formation of the National Medication Safety Committee (NMSC)
- Medication Safety Strategy Framework & Governance
- Medication Safety Work Plans

Sentinel Events Reported

- Based on the MOH Sentinel Event Reporting System, medication error was the **5th most common** type of event reported (2002 – 2010).

National Medication Safety Strategy

- In 2010, Standards and Quality Improvement Division (SQID), MOH received approval from the Director of Medical Services-Chairmen of Medical Boards to implement the National Medication Safety Strategy.
- National Medication Safety Taskforce (NMST) was formed to advise on, revise and implement the strategy.

NMST Achievements (2010 – 2013)

Strategy	Work Done
Standardise Practices	• Developed national medication safety-related guidelines • Piloted study on standardised user applied labels
Promote medication safety culture	• Organised National Medication Safety Forums (2 were organised) • Standardised medication safety outcome measures (under NSHC) • Analysed medication-related Serious Reportable Events • ISMP Medication Safety Self Assessement Survey (2010)
Patient medication safety awareness	• Medication consumer insight survey (to measure health literacy) • Developed recommendations for patient education materials
Enhance Medication Delivery Systems	• Established significant ground work for various national medication-related IT systems

ISMP Survey

A qualitative tool for understanding, evaluating, and systematically implementing medication use system safety improvements.

Key Elements of the Medication System

- Patient Information
- Drug Information
  - computer systems
  - formulary
- Communication
- Labeling, Packaging and Nomenclature
- Drug Storage, Stock, and Distribution
- Device Acquisition, Use and Monitoring
- Environmental Factors
- Staff Competency and Education
- Patient Education
- Quality Processes and Risk Management
  - RM/QI efforts
  - Infection Control

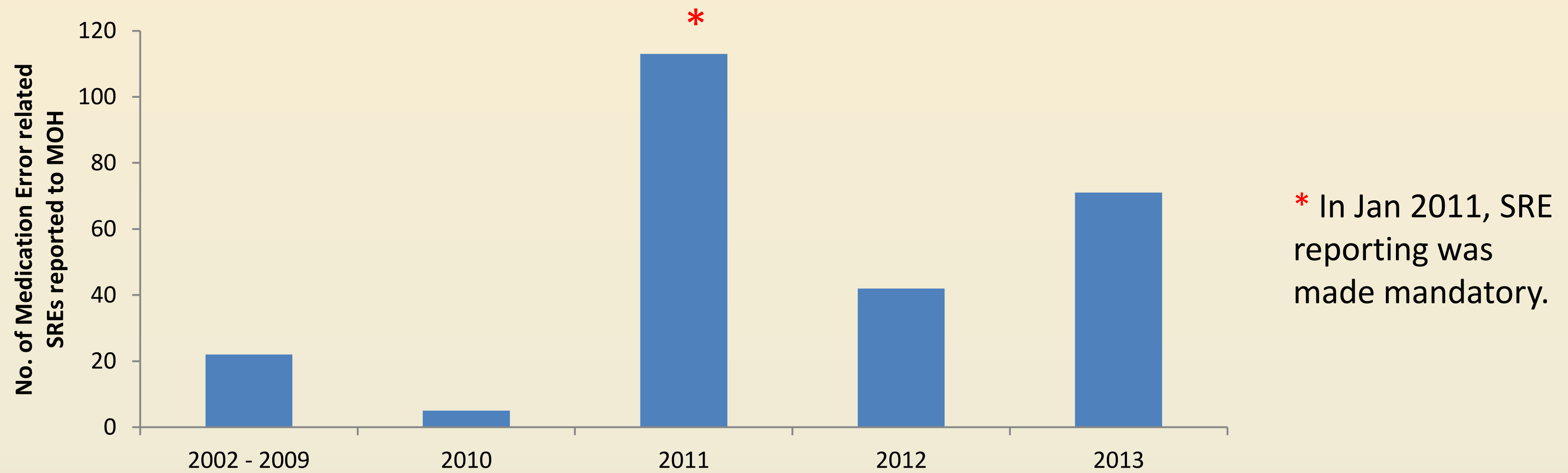
ISMP Survey Results 2010

- A qualitative tool for understanding, evaluating, and systematically implementing medication use system safety improvements.
- 17 institutions participated, including public and private acute hospitals and national specialty centres.

Key Element	% of Maximum Weighted Score[8] (Singapore)	% of Maximum Weighted Score (United States)
Medication Devices(Key 6)	44.3%	65.9%
Patient Information(Key 1)	46.0%	54.0 %
Drug Information(Key 2)	51.0%	59.3%
Communication of Drug Information(Key 3)	52.9%	58.7%
Patient Education(Key 9)	53.6%	60.7%

Sentinel Events Reported

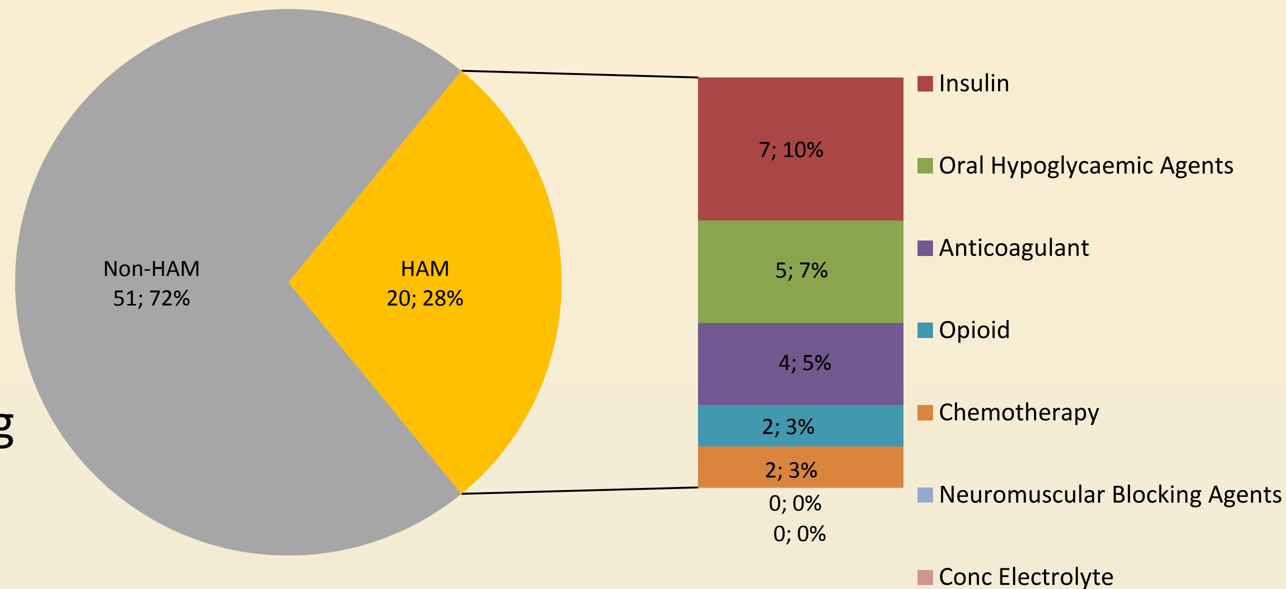
- In 2013, medication errors was the **2nd top Serious Reported Events**

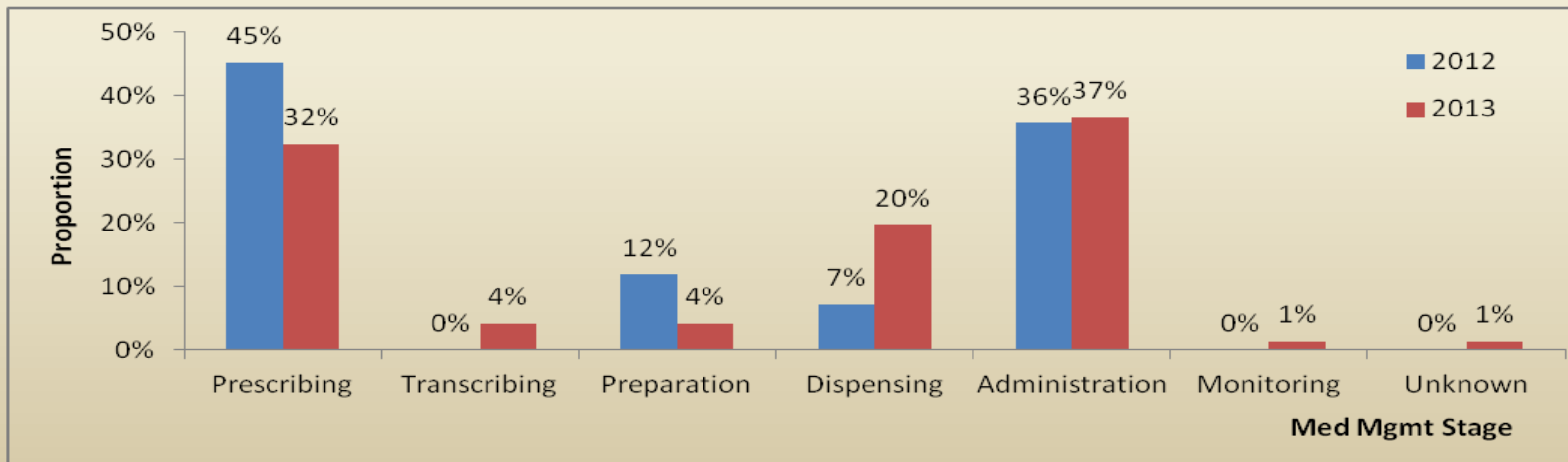


- Errors were generally due to failures in the medication use process

Serious Reported Events

- Need for High Alert Medication (HAM) Interventions
- Need for systemic improvement in prescribing, dispensing and administration processes





National Medication Safety Indicators

A. **Process indicators:**

- Proportion of patients with medication reconciliation done within 24 hours of admission
- Number of medication safety gaps identified and addressed through 3 yearly ISMP surveys

B. **Outcome indicators:**

- Number of medication errors (categories A to D)
- Serious reportable events related to medication safety (categories E to I)

Proposed National Medication Safety Outcome Indicators

Priority area is to focus is on Hypoglycaemic Agents

1. For Hospitals Only
   - No. of hypoglycaemic* episodes related to use of hypoglycaemic agents / No. of cases reviewed
   - Criteria : Serum glucose less than 2.5mmol/L + patient on insulin/OHGA
   - Review via sampling of all patients on insulin/OHGA
   - To be measured twice yearly
   - Track at hospital level

Proposed National Medication Safety Outcome Indicators

2. For Hospitals Only
   - No. of admissions (new & re-admissions) due to hypoglycaemia / Total no. of admissions
   - Criteria : Admissions tagged with ICD Codes for diabetic on hypoglycaemia + patient on OHGA/insulin
   - Regular monitoring
   - Track at national level

Proposed National Medication Safety Outcome Indicators

3. For All Healthcare Institutions
   - No. of Medication Errors related to Hypoglycaemic Agents / Total No. of Medication Errors
   - Classified by NCC MERP (Outcome Cat E-I)

   - Regular monitoring
   - Track at national level

Renewed Strategy & New Committee

- In Feb 2014, SQID received approval from Director of Medical Services to continue with the National Medication Safety Strategy and to renew NMST's term, with the new committee to be called National Medication Safety Committee (NMSC).
- Renewed strategy: Includes scaling up successful pilots, and initiatives to improve medication safety in intermediate and long term care (ILTCs) facilities and evaluation of medication safety initiatives.
- The new NMSC: Focuses on development of medication safety policies, guidelines and initiatives and engage other stakeholders for implementation.

National Medication Safety Committee

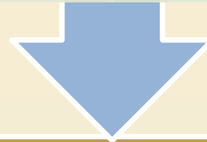
- **Appointment Term:** Mar 2014 – Feb 2017
- **Terms of Reference:**
  - To advise MOH on medication safety policy and strategy development and implementation
  - To assist and guide MOH in the analysis of medication safety related data derived from relevant policies and programmes
  - To assist in the development of appropriate measurable indicators / KPIs as required by MOH for monitoring policy implementation and quality improvement.
  - To advise and provide recommendations to MOH on medication use matters that are related to medication safety
  - To support and provide expert opinion in relevant stakeholder engagements

Strategy Framework

Development of **Strategy** using a Driver Diagram Approach

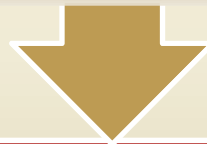
- Systematic approach to explore factors that need to be addressed in order to achieve overall goal

- Provides the basis for a measurement framework



Prioritisation of **Workplan** using Prioritisation Matrix

- Prioritising national initiatives based on timeline, impact and cost



Engagement of other Stakeholders to co-drive **Implementation**

- Partnership with other MOH divisions or Agencies to deliver workplan items

- Leverage on MOH governance & implementation tools (e.g. Licensing Requirements, National Standards for Healthcare)

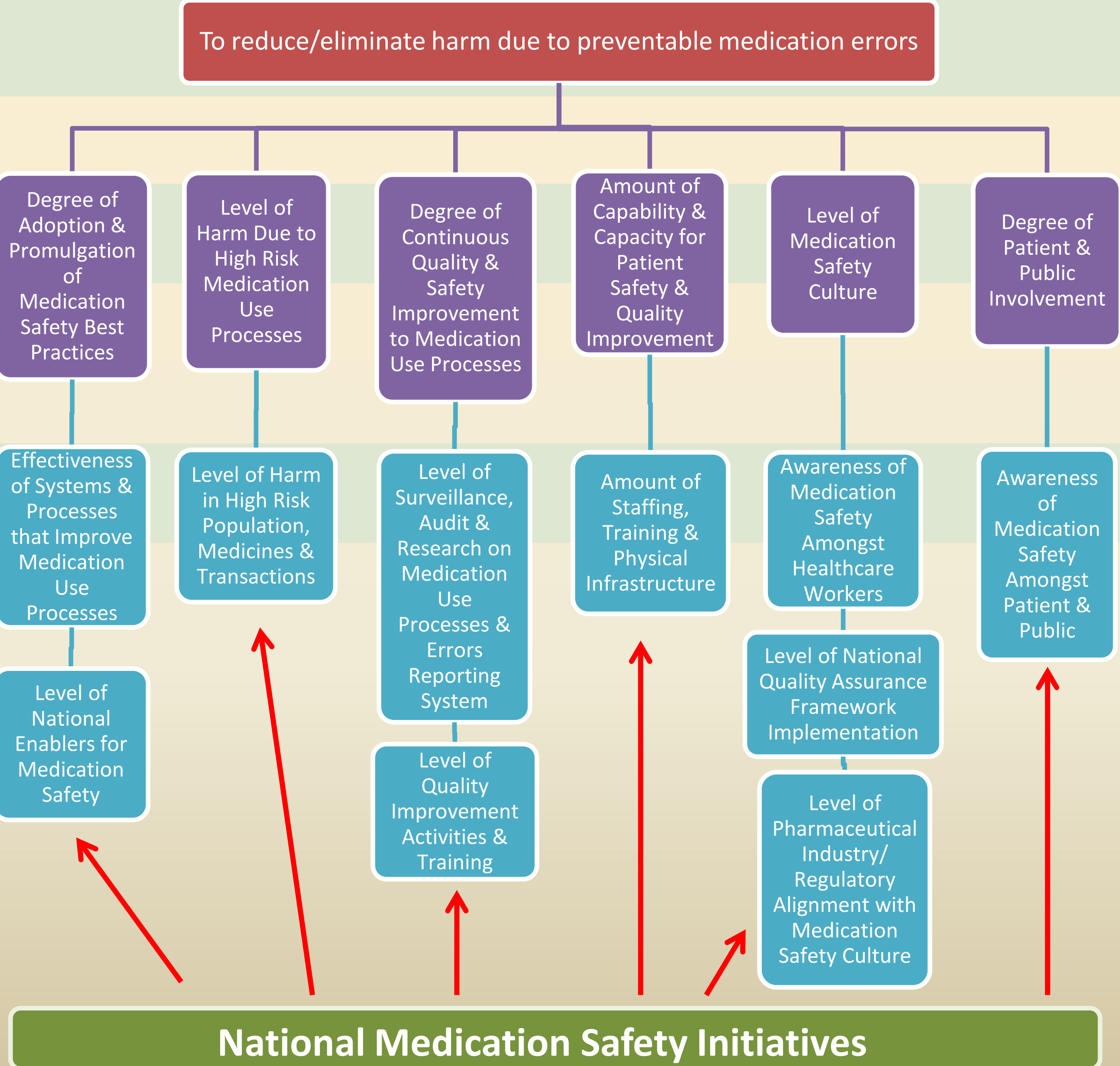
Medication Safety Driver Diagram

Outcome

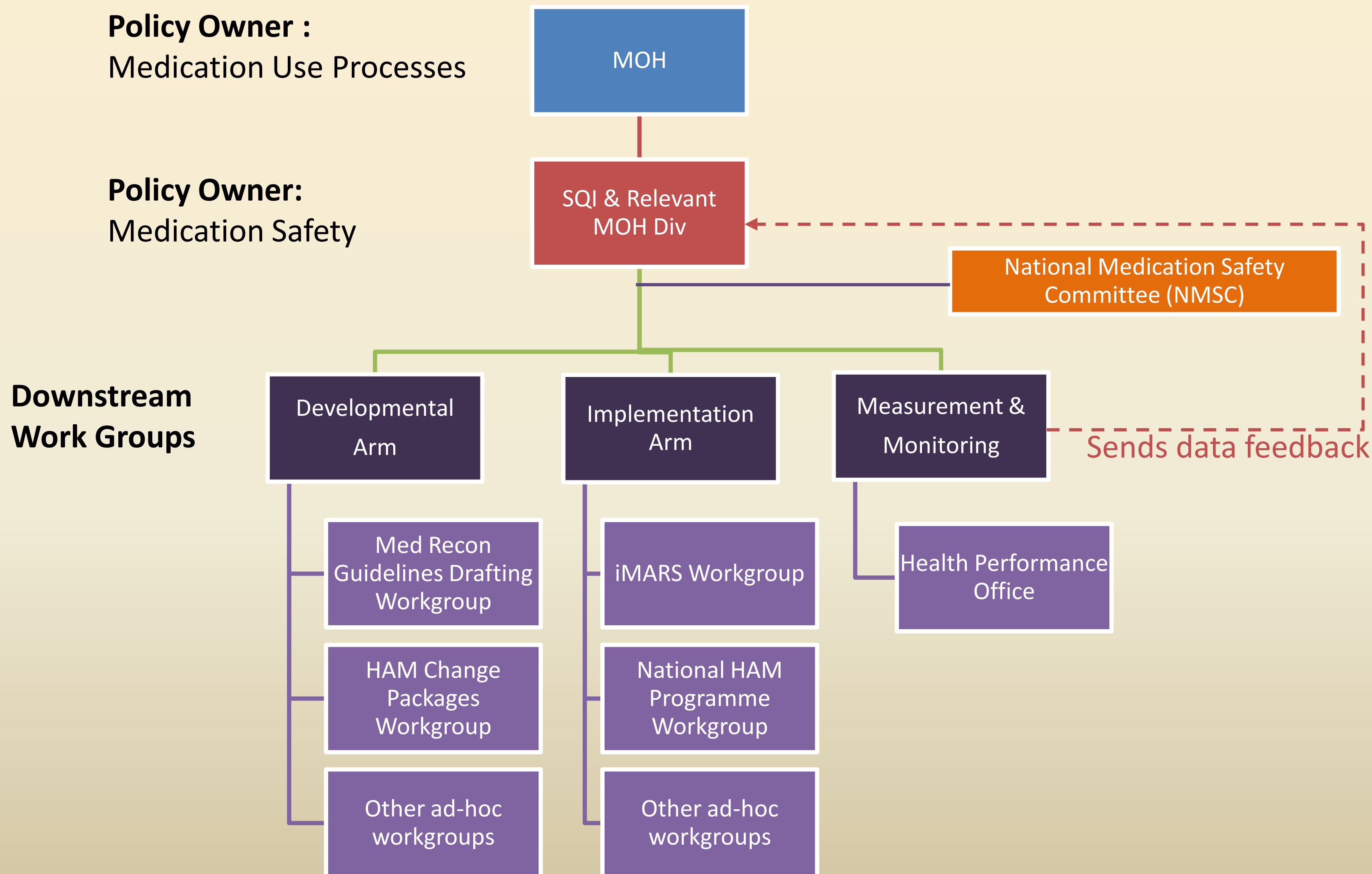
Primary Drivers

Secondary Drivers

Change Ideas



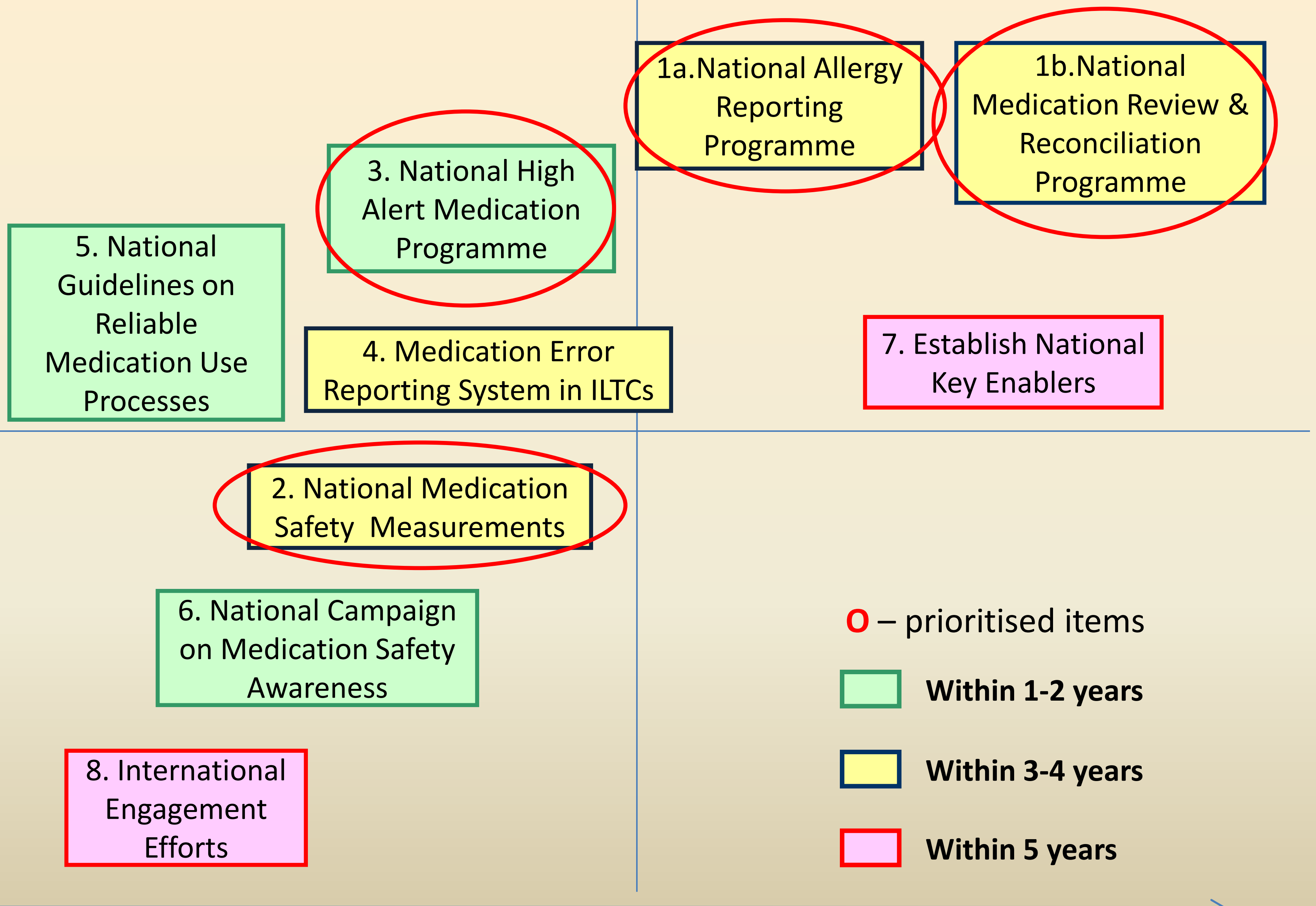
Governance Structure for Policy and Programme Implementation



Work Plans

No.	National Medication Safety Initiatives	Stakeholder Groups
1	**a) National Allergy Reporting Programme**: Redevelop Allergy Reporting System (CMIS replacement) **b) National Medication Review and Reconciliation Programme**: Establish National Guidelines on Med Review & Recon Practices, with emphasis on high risk population	Policy: SQI, MOHH Implementation: MOHH
2	**National Medication Safety Measurements**: a) ISMP Survey b) JCI Medication Management & Use (MMU) Processes Audit c) SRE RCA analysis d) National medication safety indicators	Policy: SQI Implementation: NMSC/SHINe
3	**National High Alert Medication (HAM) Programme**: a) Develop change packages for various HAMs b) Drive implementation of good clinical practice on HAM	Policy: SQI Implementation: SHINe
4	**Medication Error Reporting System in ILTCs:** Develop a medication error reporting system, including SREs, in community hospitals and nursing homes	Policy: SQI, APO Implementation: AIC
5	**National Guidelines on Reliable Medication Use Processes**: a) Infusion Pumps b) User Applied Labels c) Abbreviations list (TBC)	Policy: SQI Implementation: NMSC
6	**National Campaign on Medication Safety Awareness** Promotion of appropriate and responsible medication use (targeting patients, caregivers & public)	Policy: SQI Implementation: HPB
7	**Establish Key National Enablers:** a) Singapore Drug Dictionary b) Drug Image Database & Bar Coding c) Singapore Drug Formulary (under CP's office as part of National pharmacy landscape)	Policy: HSA, MOHH,SQI, CPO Implementation: HSA & MOHH
8	**International Engagement Efforts** Collaboration with IHI, ISMP, IMSN	Policy: SQI Implementation: SQI/NMSC

Prioritisation Matrix : Timeline - Impact – Cost



IMPACT

COST

Thank You