

ADDRESSING THE CHALLENGE OF MEDICATION SAFETY : EXPERIENCES FROM SRI LANKA

3rd Global Ministerial Summit on Patient Safety

13th -14th April 2018

Expert Panel discussion on Patient safety needs for
achieving Universal Health Coverage in LMICs

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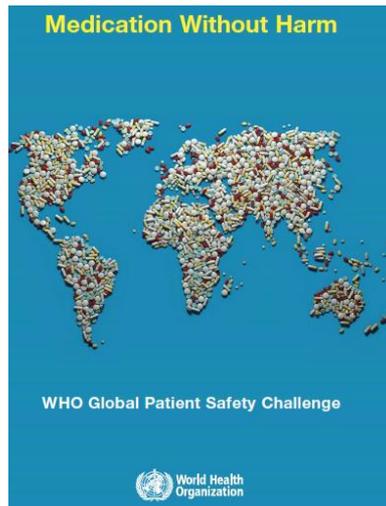
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GLOBAL LAUNCH

GLOBAL PATIENT SAFETY CHALLENGE ON MEDICATION SAFETY

29 March 2017, Bonn, Germany



Objective : To prevent serious patient harm due to medication errors by 50% in the next 5 years (by 2022)

Medication Without Harm



Medication Without Harm: WHO's Third Global Patient Safety Challenge

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Four key areas identified by WHO

- Patients
- Healthcare professionals
- Medicines
- Systems and Practices

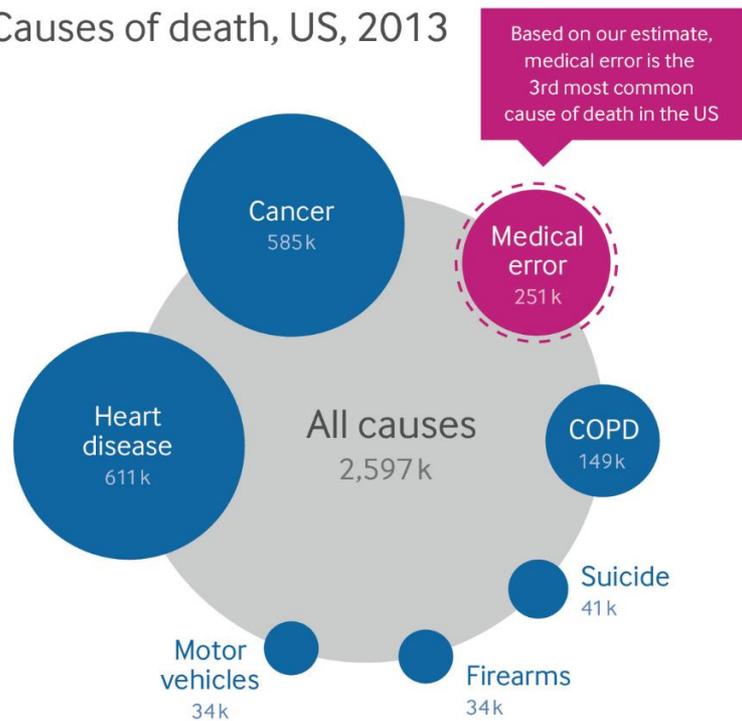
Objective of National Plan on medication safety

- **To prevent serious patient harm due to medication errors by 50% by 2022 in SL**
- **Using data from Sri Lanka on the 4 key areas on**
 - Problems identified in these areas
 - Possible interventions and key stakeholders

Medical error—the third leading cause of death in the US

Medical error is not included on death certificates or in rankings of cause of death. **Martin Makary** and **Michael Daniel** assess its contribution to mortality and call for better reporting

Causes of death, US, 2013



However, we're not even counting this - medical error is not recorded on US death certificates

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Data source:
http://www.cdc.gov/nchs/data/nvsr/nvsr64/nvsr64_02.pdf



BMJ 2016;353:i2139 doi: 10.1136/bmj.i2139 (Published 3 May 2016)

- **180 000 iatrogenic deaths per year !**
- **51% - 78% are preventable**
- **What about SL ?**
- **Any data ?**

Fig 1 Most common causes of death in the United States, 2013²

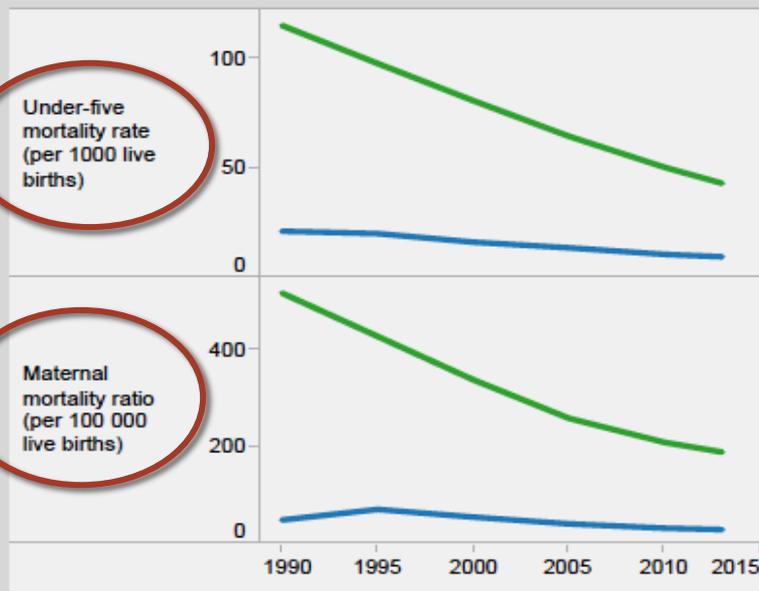
Sri Lanka – key demographics and MDG

- Population – 22 million
- MIC – GDP – 3759 USD



Life expectancy (years), 2012

		Country	WHO region	World Bank income group
Life expectancy	At birth	75	67	66
	At age 60	20	17	17
Healthy life expectancy	At birth	65	59	57



Country
WHO region

Millennium Development Goals (MDGs)

Sri Lanka:
Achieving Pro-Poor
Universal Health Coverage
without Health Financing Reforms

Table 1. Tracer Universal Health Coverage Indicators

	Sri Lanka (%)	Lower-Middle Income (%)
<i>Prevention and Health Promotion</i>		
Family planning	68	46
Antenatal care	99	86
Skilled birth attendance	99	74
DPT3 immunization	99	86
Tobacco nonuse	85	78
Access to improved water	94	83
Access to improved sanitation	92	59
<i>Treatment</i>		
Antiretroviral therapy	19	29
Tuberculosis	86	82
Hypertension	21	27
Diabetes	10	11

Medication safety in SL ?

- **Systematic review relevant to medication safety in SL**
 - Publications from Google scholar and Medline using key words
 - medication errors, medication incidents, prescribing errors, adverse events, adverse drug reactions, Sri Lanka
 - Manual search of abstracts in Annual academic sessions of professional colleges in last 10 years - SLMA, CCP, PSSSL, CMA
- **Total of 30 publications screened**
 - Excluded – 16 (not relevant – 10, duplication - 2, review articles – 2, case reports – 2)
 - Full publications – 12 reviewed
 - Conference proceedings – 3
- **Data pertaining to the 4 areas identified**

1. (A) Patients in SL

- Medication literacy – only 46%
 - Despite literacy rate of 92% - Highest in South Asia
- High rates of self medication – 35%
 - Allopathic medicines self medication 8-12%
- Discharge summaries in native language improved knowledge score on medicines
- Providing written medication plan in native language improves knowledge
 - *Perera T, et al Knowledge of prescribed medication information among patients with limited English proficiency in Sri Lanka. BMC research notes. 2012 Nov 29;5(1):658.*
 - *Wijesinghe PR, et al Prevalence and predictors of self-medication in a selected urban and rural district of Sri Lanka.*
 - *Perera KY, et al . Medium of language in discharge summaries: would the use of native language improve patients' knowledge of their illness and medications?. Journal of health communication. 2012 Feb 1;17(2):141-8.*
 - *Galappaththy P et al Comparison of providing written vs verbal information on medication plan in improving knowledge of patients on the prescribed medicines: a randomised study SLMA Annual Academic sessions 2017*

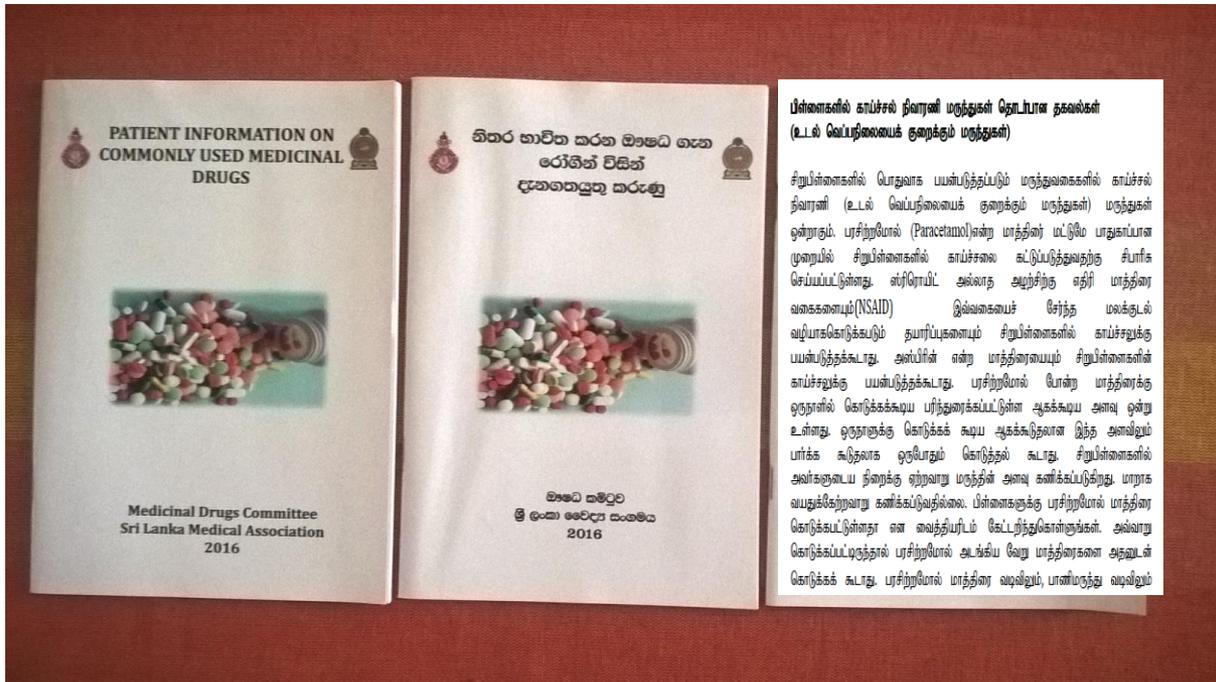
1. (B) Action plans for Patients

• Improve medication literacy

• Patient information booklets/leaflets

- SLMA Drugs committee patient information booklets in all 3 languages
- Available online through the SLMA website(WWW.SLMA.LK)

• News paper articles in local languages



Media campaigns for patient education

- Media campaign targeting improving patients knowledge using electronic and print media
 - Media seminar in September 2017 for patient safety day







Media Seminar for World Patient Safety day - 17th September 2017
Focussing on Medication Safety

Organised by the Health Education Bureau (HEB), in collaboration with the
Drugs Committee of the Sri Lanka Medical Association (SLMA)
Directorate of Healthcare Quality and Safety of the Ministry of Health
Sri Lanka Association for Clinical Pharmacology and Therapeutics (SLACPT)
On 13th September 2017 at the HEB Auditorium

Key Messages to the Public on Safe Medication Use

1. Know the 5 essential information of each medicine prescribed
 - i. Name of the drug (eg. metformin)
 - ii. Indication or for what purpose the drug is taken (eg. metformin for diabetes mellitus)
 - iii. Dose of the drug (eg. 500mg and not as 1 tablet)
 - iv. How many times to take (eg. 3 times a day, or at a particular time interval eg. every 8 hourly)
 - v. Any special instructions (eg. take with breakfast, lunch and dinner or take after meals, or take with a lot of water)

Additional knowledge better to have

 - i. Some side effects and what to do if you develop those (eg. insulin can cause low

2. (A) Healthcare professionals in SL

Issues in prescribing

- Legibility – 49.5%
- Prescriptions legible with effort - 65 % illegibility - 9%.
- Potential drug interactions – in 53%
- Unapproved and error-prone abbreviations use – 69%
- Prevalence of drug related problems (DRP)- 80-92%
 - clinical pharmacists identified 83-86% DRP
- Prescriptions with an antibiotic in OPD – 43.4%
- Generic prescribing – 36% in private sector
 - *Rathish D et al Drug utilization, prescription errors and potential drug-drug interactions: an experience in rural Sri Lanka. BMC Pharmacology and Toxicology. 2016 Jun 25;17(1):27.*
 - *Samaranayake NR, The Pattern of Abbreviation Use in Prescriptions: A Way Forward in Eliminating Error-Prone Abbreviations and Standardisation of Prescriptions. Current drug safety. 2014 Mar 1;9(1):34-42.*
 - *Galappaththy et al Medicines availability and prescribing indicators in government and private sector Proceedings of annual academic sessions of SLMA 2016*

Sentinel event

- Calcium tablets prescribed as CaCO₃ - dispensed lithium tablets
- Lithium toxicity with renal failure requiring dialysis

2. (A) Healthcare professionals in SL- ctd

Issues with dispensing

- Drugs adequately labeled - 3- 24%
- Average dispensing time - 0.8- 1.2 minutes
- Unqualified personnel dispensing in private pharmacies
- Poor training of community pharmacists

- *Menik HL. A survey: Precepts and practices in drug use indicators at Government Healthcare Facilities: A Hospital-based prospective analysis. Journal of Pharmacy and Bioallied Sciences. 2011 Jan 1;3(1):165*

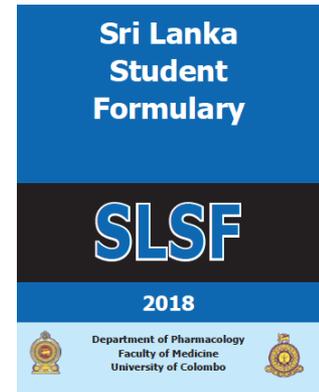
Sentinel event

- Patient prescribed metformin 500mg bd was dispensed methotrexate 5mg twice/day in the private sector
 - Patient developed agranulocytosis and died
 - Illegible prescription and lack of pharmacist knowledge contributed

2. (B) Action plans for HCP

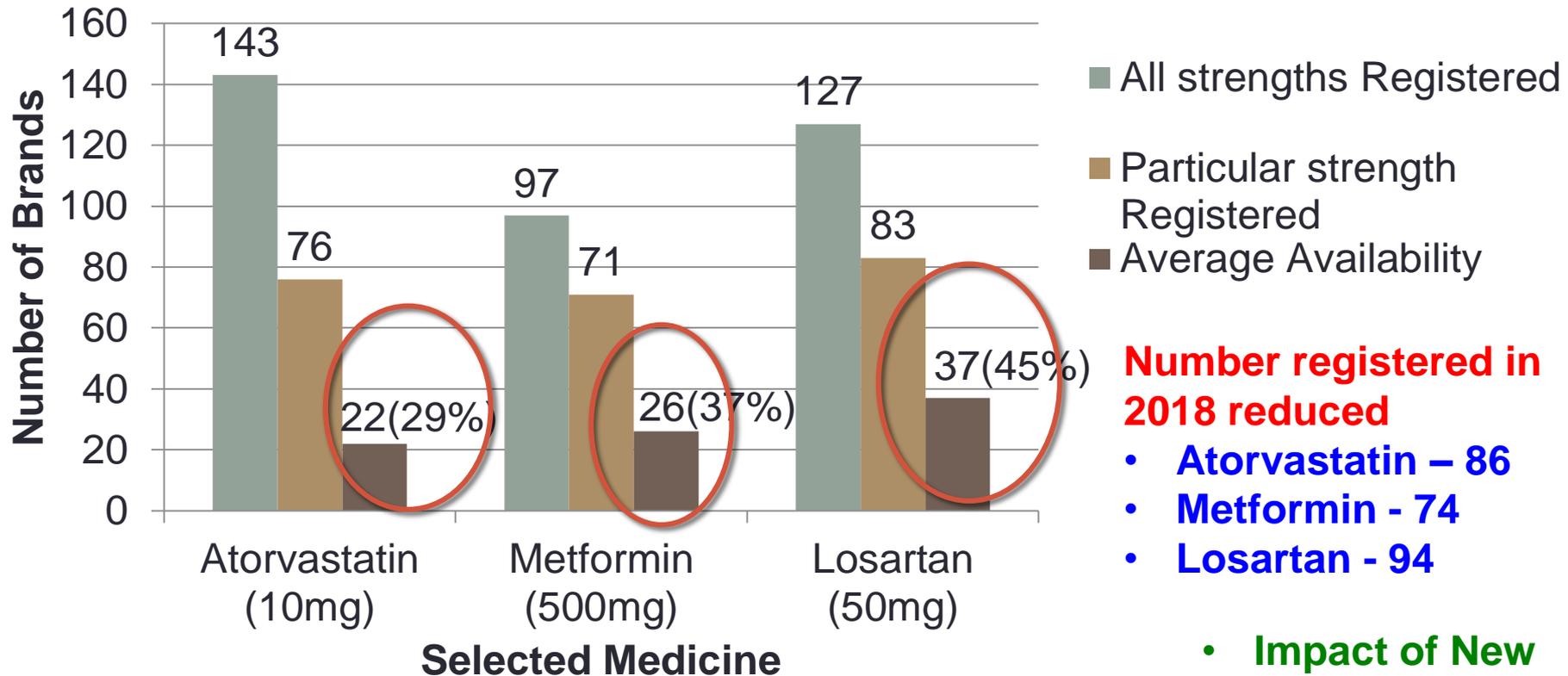


1. **Introduce WHO medication safety curriculum** Into Medical, Pharmacy and nursing curricula
2. **Multi/Inter-professional workshops for HCP**
 - (nurses, pharmacists, and doctors) on medication safety and incident reporting- already started
 - Both for government and private sector (pharmacists)
 - Legibility, adequate labeling, double checking
3. **Online Diploma in Healthcare quality and safety**
 - started in 2017
4. **Publish a local student formulary – Now in print**
5. **Focus high-risk and high alert medicines, LASA medicines, most commonly prescribed medicines, polypharmacy, transitions of care, and actions for reducing AMR**



3. (A) Medicines in SL

Registration status and availability of the most commonly prescribed 3 medicines in private sector in Sri Lanka -2015



Number registered in 2018 reduced

- Atorvastatin – 86
- Metformin - 74
- Losartan - 94

• **Impact of New Drug regulatory Authority (NMRA) and Act - 2015**

- **Generic prescribing – 36 % in private sector**
- **With several brands - more prone to errors**

Warfarin 1mg, 3mg and 5mg tablets of same color registered and available in government pharmacies



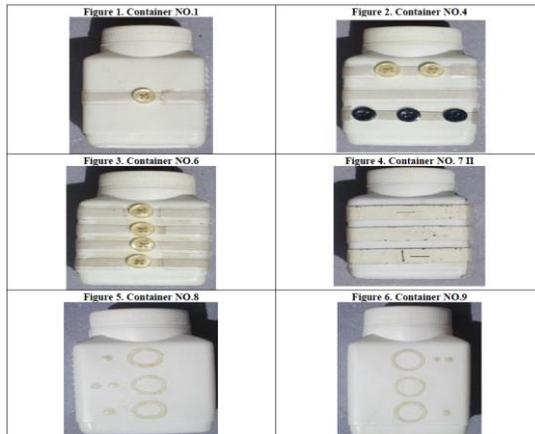
Patient admitted with bleeding and INR of 14

3. (B) Action plans for medicines

1. Stringent regulation by NMRA to reduce large number of generic drugs registered
2. Improve detection methods of quality failures
3. Attention to aspects of medication safety during registration
 - Packaging, look like medicines, lettering
4. WHO pre-qualification programme to ensure quality of key medicines – eg vaccines
5. Identify LASA medicines and take appropriate action to prevent errors
6. Publicize information on most commonly prescribed medicines and high-risk medicines

Low cost innovative methods to minimize errors

- Labeling and storage of LASA medicines through HQS units



- Labeling for partially sighted and blind
- C Weeratne et al Internationa J of Pharmacy review and research 2015*

4.(A) Systems and practices in SL

Key challenges

- Poor safety culture - improving with establishment of Directorate of Healthcare Quality safety in MoH
- Limited incident reporting, learning and prevention
- Lack of Clinical Pharmacy services despite having graduate pharmacists
- Lack of electronic prescribing
- Staff shortages, heavy workload for HCP
- Poor regulation of Private sector pharmacies
- Establishing safe patient practices needed
 - *Amarapathy M et al Factors affecting patient safety culture in a tertiary care hospital in Sri Lanka. Int J Sci Technol Res. 2013 Mar 25;2:3.*
 - *Shanika LG et al Acceptance and attitudes of healthcare staff towards the introduction of clinical pharmacy service: BMC Health Services Research. 2017 Jan 18;17(1):46.*
 - *Jayawardena AS. The Electronic Hospital Information System Implemented at the District General Hospital Trincomalee-An Experience of Business Process Reengineering. J Community Med Health Educ S. 2014;2:2161-0711*

4. (B) Plans on Systems and practices

1. Working group/task force on medication safety with all stakeholders
 - To be implemented as part of national action plan
2. Introduce medication incident reporting system
 - In progress as a MD medical administration project
3. Strengthen Drug and Therapeutics Committees
4. Develop a medication safety practice package
 - Development initiated and subsequent implementation
5. Identify local medication safety Indicators
 - Development and subsequent assessment
6. Introduce electronic prescribing where possible
7. Introduce clinical pharmacy services with graduate pharmacists – Difficult at present

Stakeholders for activities

- Directorate of Healthcare Quality and Safety, MoH
- Professional bodies – SLMA, SLACPT, PSSSL, CCP
 - Sub committees – Expert committee on HQS, Drugs Committee
 - Medication safety curriculum development committee, SLACPT
- University Departments of Pharmacology
- State Pharmaceuticals Corporation
- National Medicines Regulatory Authority
- Medical Supplies Division
- Patients and Patient groups for patient safety
- Private Healthcare Regulatory Authority
- Nursing Council in Sri Lanka

Summary on plans

1. Patients

- Improve medication literacy by a variety of means

2. HCP

- Implement patient safety curriculum and CPD activities
- Legible prescribing/electronic prescribing
- Dispense labeled medicines

3. Medicines

- Ensuring quality and safety and limit the drugs registered
- Focus on high risk, commonly used and LASA medicines

4. Systems and practices

- Medication incident reporting and preventive action
- Establish Clinical pharmacy services

