NATIONAL ACTION PLAN ON MEDICATON SAFETY FOR SRI LANKA

Prepared by

Directorate of Healthcare Quality and Safety

Ministry of Health

Sri Lanka

December 2021

This document will be subjected to revision as needed during implementation.

National Action Plan on Medication Safety for Sri Lanka

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Edited By:

Dr. G.S.K. Dharmaratne,
Former Director, Healthcare Quality and Safety,
Ministry of Health, Sri Lanka

Dr. Dewanee Ranaweera,
Director (Covering Up), Directorate of Healthcare Quality and Safety,
Ministry of Health, Sri Lanka.

Prof. PriyadharshaniGalappatthy
Department of Pharmacology,University of Colombo

Dr. Priyantha Liyanage,
Consultant Community Physician,Directorate of Healthcare Quality and Safety,
Ministry of Health, Sri Lanka.

Dr.D.G.A.S.Prabha,
Medical Officer,Directorate of Healthcare Quality and Safety,
Ministry of Health, Sri Lanka.

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Directorate of Healthcare Quality and Safety

Premises of Castle Street Hospital for Women, Castle Street, Colombo 08.

Telephone: 011-2678598, Fax: 011-2698602

Email:dhqualitys@gmail.com / dirhqs@health.gov.lk

Web: www.quality.health.gov.lk

MESSAGE FROM THE SECRETARY, MINISTRY OF HEALTH

With the growing reliance on medication therapy as the primary intervention for most illnesses, patients receiving medication interventions are exposed to potential harm as well as benefits. Medication-related errors are a significant cause of morbidity and mortality around the world. It can occur in all settings and may or may not cause an adverse drug event (ADE). Medications with complex dosing regimens and those given in specialty areas (e.g., intensive care units, emergency departments, and diagnostic and interventional areas) are associated with increased risk of ADEs.

Lack of appropriate policies, procedures, and protocols can have a greater impact on medication safety. Therefore, developing a national action plan on medication safety is a timely intervention and I would like to convey my sincere gratitude to the team involved in developing this document. I hope it will help to provide better outcomes in our healthcare services.

Dr. S.H. Munasinghe

Secretary

Ministry of Health

MESSAGE FROM ADITIONAL SECRETARY (MEDICAL SERVICES)

Throughout the history of mankind, medicines of various forms and medical interventions, have played a crucial role in treating and preventing diseases. Further,their multitude of physical, chemical, and biological characteristics, pharmaceutical and therapeutic properties also have been developed into their current status, thanks to the efforts and commitment of large number of professionals representing different professions involving technologies, experiments, heavy financial and other resource investments.

It is also a well-known fact that medicines similar to any other natural or manmade substance used by humans also can produce hazards, errors or may lead into adverse or undesirable effects or outcomes.

Therefore, it is a responsibility of a sound health system to establish and adopt a scientific and practical medication safety mechanism to ensure a more safer health service at each level of care.

In this context Directorate of Health Care, Quality and Safety has taken a pragmatic approach to formulate a national action plan on medication safety, based on four major strands, system and practices, medicines, healthcare professionals and patients in accordance with international standards.

As Additional Secretary Medical Services, I do highly appreciate this endeavor, with the assurance of my fullest support for its successful implementation.

Dr.A.K.S. De Alwis

Additional Secretary (Medical Services)

Ministry of Health

MESSAGE FROM THE DIRECTOR GENERAL OF HEALTH SERVICES

Sri Lanka has made remarkable progress in improving the health status of our population. Since 1920s, the country has made dramatic strides on key outcome indicators such as life expectancy and maternal & child mortality, following delivery of productive and efficient healthcare free of charge.

Considering the further improvement of quality and safety of healthcare, prevention of medication errors is a priority area, as currently it is one of the leading causes of patient harm globally. Although most are preventable errors they occur and recur at an alarming rate. Inadequacy of awareness among both healthcare providers and patients regarding medication safety and also unavailability of accurate statistics give a major contribution towards the occurrence of more and more drug related issues in patient management.

It is a timely initiative to develop a National Action Plan on Medication Safety for Sri Lanka to minimise the medication related errors in both public and privet sector. Therefore, I appreciate the efforts of the team of Directorate of Healthcare Quality and Safety and all the contributors for developing this national action plan on medication safety for Sri Lanka.

Dr.AselaGunawardana

Director General of Health Services

Ministry of Health

MESSAGE FROM THE DEPUTY DIRECTOR GENERAL MEDICAL SERVICES I

Sri Lanka holds a unique position in South Asia as one of the first developing nations to provide universal health. The Health Ministry and the Provincial Health Services provide a wide range of promotive, preventive, curative and rehabilitative health care. With all these efforts despite being a lower middle-income country, Sri Lanka has achieved commendable health indicators.

Having achieved better outcomes in relation to maternal and child health and communicable diseases, Ministry of Health has now focused to improve the quality and safety of care provided by health sector, which will lead to further improvements in health indicators as well as the satisfaction of the patents. Prevention of medication errors and establishment of medication safety, play a major role in that purpose, since considering the unacceptably high number of deaths and disabilities associated with it. A National action Plan on Medication Safety is therefore a timely requirement for Sri Lanka in achieving future targets.

My sincere appreciation goes to the Directorate of Healthcare Quality and Safety, Professor PriyadarshaniGalappatthy and all the other stakeholders for their contribution in development of this national action plan.

Dr. Lal Panapitiya

Deputy Director General Medical Services I

Ministry of Health

Message from Senior Professor of Pharmacology, University of Colombo

Medication errors have become a global concern and a large number of preventable deaths and serious harm occur globally due to medication errors. World Health organization(WHO) has given leadership in preventing serious patient harm due to medication errors by launching 'Medication without harm' as the 3rd global patient safety challenge in 2017. To achieve this ambitious, yet achievable objective, each country was requested to develop individualized national action plans to ensure medication safety.

The WHO expert working group on medication without harm identified four main strands to focus during development of national action plans, the systems and practices, healthcare persons, medicines and patients in each country with 3 further flagship areas, medication safety in poly pharmacy, high risk situations and transitions of care, also to be covered.

Sri Lanka has achieved remarkable indices in universal health coverage which are far above the rates achieved by other countries in WHO region and the world bank income group. The next step for Sri Lanka is to target safer care and quality care. With a high overall literacy rate in Sri Lanka, this is achievable with development of well-coordinated action plans and proper monitoring of implementation of such action plans. The Directorate of Healthcare quality and safety of the Ministry of Health is taking an enormous effort to achieve this goal to take Sri Lanka to the next level in healthcare. Taking the responsibility and giving leadership to the development of this national action plan on medication safety is one such step taken by the Directorate. Involving all relevant stakeholders has made this national action plan a collective effort of all stakeholders. As the initial draft was made based on studies and observations relevant to medication safety in Sri Lanka, this action plan is unique to Sri Lanka and covers the 4 strands and the 3 flagship areas identified by the WHO.

We hope and are confident that all the stakeholders who contributed to development of this national action plan will be taking steps to implement the activities assigned, to prevent serious patient harm and deaths due to medication errors in Sri Lanka.

Professor PriyadarshaniGalappatthy

Senior Professor of Pharmacology

Faculty of Medicine, University of Colombo

FOREWORD

Medication safety has become a global concern since medication errors are associated with high number of mortality and morbidity around the world. Therefore, considering the WHO request at the second ministerial summit on patient safety, the Ministry of Health, Sri Lanka decided to give the contribution to develop a national action plan on medication safety through Directorate of Healthcare Quality and Safety.

The Directorate of Healthcare Quality and Safety functions as the focal point of National Quality Assurance Programme of the country. It gives technical direction and guidance to the various level of hospitals through Medical Officer of Quality (MO-QMU) network connecting the centre with the line ministry health care organizations and MO-QMU units of each district.

In 2019, the Directorate of Healthcare Quality and Safety started conducting consultative meetings to develop the national action plan on medication safety based on the draft prepared by Professor PriyadarshaniGalappatthy, senior Professor in Pharmacology, Faculty of Medicine, University of Colombo, who is a member of the WHO expert working group on medication safety, at WHO Headquarters in Geneva.

After conduction of six consultative meetings with relevant stakeholders and other necessary steps, the document was finalised and the Secretary, Ministry of Health was given the approval for the final document.

I wish to express my sincere gratitude and appreciation to all the technical experts comprised of officials of Ministry of Health, Professional Collages & other organizations for their valuable contributions in developing this National Action Plan on Medication Safety. I express my special thanks to WHO country office, Sri Lanka, for their contribution in this national endeavour. Proper implementation of this plan by all the relevant authorities is of paramount importance to improve the quality and safety of healthcare services. .

Dr.Dewanee Ranaweera,

Director (Covering Up), Healthcare Quality and Safety,

Ministry of Health, Sri Lanka.

LIST OF CONTRIBUTORS

1. Dr. Lal Panapitiya, DDG/MS 1, Ministry of Health
2. Dr.Sudath K. Dharmaratne, Former Director, DHQS
3. Prof. PradeepaJayawardhana, Professor in Pharmacology, MDC/SLMA
4. Prof. Nirmala Wijekoon, Professor in Pharmacology, University of Sri Jayewardenepura
5. Prof. Rohini Fernandopulle, Professor in Pharmacology, KDU
6. Prof.ChamilaMeththananda, Professor in Pharmacology, Faculty of Medicine, University of Kelaniya
7. Prof. Shalini Sri Ranganathan, Professor in Pharmacology and Consultant Paediatrician, University of Colombo
8. Prof. ChandaniWanigathunga, Professor in Pharmacology, University of Sri Jayewardenepura
9. Prof. PradeepaJayawardana, Professor in Pharmacology, University of Sri Jayewardenepura
10. Prof. ManikHettihewa, Professor in Pharmacology, University of Ruhuna
11. Dr. T.K. Kalubowila, Director –DGH-Kalutara
12. Dr. Pradeep Ratnasekara, Deputy Director,CSHW
13. Dr.PriyanwadaJayalath, Deputy Director-Laboratory Services
14. Dr.SanathHettige, Consultant Family Physician
15. Dr.IreshaWalawage, Consultant Anaesthetic
16. Dr. S.J. Balasingham, Consultant Community Physician- HEB
17. Dr.Priyantha Liyanage , Consultant Community Physician, DHQS
18. Dr. Nilantha C. Ratnayake, Consultant Community Physician-Institute of Oral Health
19. Maharagama
20. Dr.Jayaindradra Fernando, Consultant Surgeon
21. Dr.SuranthaPerera, Consultant Paediatrician
22. Dr.SaradhaKannangara, Consultant in Obstetrics & Gynaecology – GMOA
23. Dr.Thushara Matthias, Senior Lecturer Grade II and Consultant Physician Department of Medicine
24. Dr. T. S. Navaratinaraja, Senior Lecturer in Pharmacology, Faculty of Medicine, University of Jaffna
25. Dr.NethushiSamaranayaka, Senior Lecturer in Pharmacology, Faculty of Medicine, University of Sri Jayewardenepura
26. Dr.ChamariWeeraratne, Senior lecturer in Pharmacology, Colombo
27. Dr.Priyanga Ranasinghe, Member- SLACPT
28. Dr HimaliWijegunasekara, SR – Medical Administration
29. Dr. Y. M. M. Priyangani, Senior Registrar- DHQS

30. Dr. Nirmala Loganaden, SR – Medical Administration
31. Dr.SanthushSenapathi, Registrar in Medical Administration
32. Dr.AvanthiRubasingh, Registrar in Medical Administration
33. Dr. N. T. Wellapuli, National Coordinator- WHO
34. Dr. K.C. D. Banneheka MO/QMU- NHSL
35. Dr.CharuniKohambange, Medical Officer, DHQS
36. Dr.Nirmali de Silva, Medical Officer, DHQS
37. Dr. Sinha De Silva, Registrar, Community Medicine
38. Dr.V.P.Eranga, Medical Officer, DHQS
39. Dr.M.R.Najidiyardeen, Medical Officer, DHQS
40. Dr.NipunDasanayake, Medical Officer, DHQS
41. Ms. P.D. Solomon, Assistant Director, MSD
42. Mr. J.R.S. Kumara, Assistant Director, MSD
43. Mr. Dineth Silva, Assistant Director-QA- Emergency Life Science
44. Ms. K.S.K.Weerasekara, Assistant Director, Surgical MSD
45. Mr. Nalin Kannangara, Managing Director-SLPMA
46. Ms. SuranganiePerera, Deputy General Manager, Marketing, State Pharmaceuticals Corporation
47. Mrs. M.B.S. Samanmalee, Director nursing Medical Service
48. Mrs. Rajapaksha, Director Public Health Nursing
49. Ms. I. M. P. S. Ilankon, Lecture- USJP
50. Mr. D.P.M. Perera, Superintendent of Custom- SL Custom
51. Mr. Krishantha De Silva, Pharmasist-NMRA
52. Mr. MahanamaDodampegama,The Sri Lanka Chamber of the Pharmaceutical Industry
53. Mr. Jayalanka Senanayake, Pharmacist- MSD
54. Ms. ChamindikaPerera, Pharmacist – NMRA
55. Mrs. A. Raveendran,Chief- Pharmacist NHRD
56. Ms. IndunilWaliwaththa, Pharmacist- MSD
57. Mr. S. PriyankaraPerera, The society of government pharmacist
58. Ms. Wasana Bandara, CSTH- Kalubowila
59. Mr. K.U. R. Wickramasinghe, Scientific officer- NDDCB
60. Mr. ShalithAthauda, President- PSSL
61. Mr. R. BuddhikaLakmal, Nursing officer- Government Nursing Officers
62. Mr. Hemantha Wijesekara, AIPPOA
63. Mr.ShamilaThennakoon, AIPPOA
64. Mr. R. Mahendrathna, AIPPOA
65. Mr. AmithPerera, Chief. FQMI
66. Christine Perera, Patient Society
67. Mr. A.P. Attapattu, Development Officer, DHQS
68. Mrs. W.A.C. Niroshani, Development Officer, DHQS
69. H M R I Tennakoon, Development Officer, DHQS
70. C R A Somanayaka, Graduate Trainee, DHQS
71. Mrs. H.A.D.P. Hettiarachchi, Public Relation Assistant, DHQS

LIST OF ABBREVIATIONS

AIPPOA	All Island Private Pharmacy Owners Association
AMS	Association of Medical Specialists
CCP	Ceylon Collage of Physicians
CMCC	Ceylon Medical College Council
CME	Continuous Medical Education
DHQS	Directorate of Healthcare Quality and Safety
ET&R	Education, Training & Research
FDC	Fixed Dose Combinations
GDSA	Government Dental Officers Association
GMOA	Government Medical Officers Association
HPB	Health Promotion Bureau
LASA	Look Alike Sound Alike
MDC	Medicinal Drugs Committee
MoH	Ministry of Health
MSD	Medical Supplies Division
NDDCB	National Dangerous Drugs Control Board
NDTC	National Drug Therapeutic Committee
NMQAL	National Medicinal Quality Assurance Laboratory
NMRA	National Medicinal Regulatory Authority
PHRA	Private Healthcare Regulatory Authority
PoM	Prescription only Medicines
PSSL	Pharmaceutical Society of Sri Lanka
QMU	Quality Management Unit
RDHS	Regional Director of Health Services
SLACPT	Sri Lanka Association of Clinical Pharmacology and Therapeutics
SLADA	Sri Lanka Anti-Doping Agency
SLCP	Sri Lanka Collage of Paediatricians
SLDA	Sri Lanka Dental Association
SLGP	Sri Lanka Collage of General Practitioners
SLMA	Sri Lanka Medical Association
SLNA	Sri Lanka Nurses Association
SLSF	Sri Lanka Student Formulary
SOP	Standard Operating Procedures
SPC	State Pharmaceutical Corporation
SPHI	Supervising Public Health Inspector
TOR	Terms of Reference

INTRODUCTION

Medication safety has become a global issue contributing to unacceptably high number of deaths and disabilities in the world. Medical error is the third leading cause of death in United State of America with 180,000 deaths occurring annually. Errors occurring in lower- and middle-income countries are considered much higher than these reported figures from high income countries.

Major causes of medication errors include communication errors, including oral and written communication; confusion with the name, such as look-alike and sound-alike drug names; labelling errors; errors due to human factors, such as knowledge deficits and dose miscalculations; and errors related to the improper packaging or design of the drug product.

Taking these factors in to consideration, the World Health Organization (WHO) launched medication safety as a global patient safety challenge at the 2nd Ministerial Summit on patient safety in 2017. At this international summit, all countries were requested to make a pledge to reduce medication errors and develop national action plans to reduce severe harm due to medication errors by 50% within 5 years

Professor PriyadarshaniGalappatthy, Senior Professor of Pharmacology, Faculty of Medicine, University of Colombo, who is a member of the WHO expert working group on medication safety, at WHO Headquarters in Geneva has taken the initiative to develop a draft national action plan on medication safety for Sri Lanka and submitted it to the Ministry of Heath for necessary action.

The Directorate of Healthcare Quality and Safety, Ministry of Health as the focal point, conducted six consultative meetings with relevant stakeholders to finalize the draft, with the financial and technical support provided by the WHO.

The draft was re-circulated to all relevant stake holders and considering all the inputs and recommendations received, final document was prepared. Approval was taken from secretary of health to publish this prepared document as the National Action Plan on Medication Safety.

NATIONAL ACTION PLAN ON MEDICATION SAFETY FOR SRI LANKA

Action Plan on Medication Safety for Sri Lanka (2021-2025)

Plan based on the WHO global patient safety challenge on "Medication without harm", by targeting the four strands identified by the WHO.

Objective: To minimize serious medication errors in public and private healthcare sectors in Sri Lanka

WHO Objective: To prevent serious medication errors by 50% within 5 years.

Activities to be conducted targeting both the public and private sector healthcare institutions through the following;

Public sector – Directorate of Healthcare Quality and Safety (DHQS)
National Medicinal Regulatory Authority (NMRA)
Medical Supplies Division (MSD)
Medical and Allied Health Faculties of Universities
Director Education and Training (ET and R)
Ministry of Health

Private sector Hospitals – Private Healthcare Regulatory Authority
Ministry of Health (MoH)

Private sector pharmacies – Through State Pharmaceutical Corporation (SPC)
National Medicines Regulatory Authority (NMRA)

Other – Professional Associations, Colleges and patient groups

NATIONAL ACTION PLAN ON MEDICATION SAFETY FOR SRI LANKA (2021-2025)

NATIONAL ACTION PLAN ON MEDICATION SAFETY FOR SRI LANKA (2021-2025)

Strand	Proposed activity	Time frame	Sub activities	Key Performance Indicators (KPIs)	Stakeholders/ Persons/Institutions /Organizations responsible	Responsibility for implementation
1. Systems and practices	1.1 Introduce medication incident reporting system into hospitals and implement action plans to prevent occurrence of similar events.	2021 – 2023	1. Introduce a separate medication incident reporting form. 2. Integrate the medication incident reporting in to adverse event reporting process in hospitals. 3. Issue a circular from DGHS introducing the medication incident reporting form to all hospitals including private hospitals and encourage reporting with reporting guidelines, which would indicate assessment of reports in a no blame culture. 4. Use MSMIS electronic system to report in hospitals where these facilities are available. 5. Reinforce establishment and function of Drugs and therapeutic committee in all hospitals where reported incidents are	1. Percentage of hospitals having a functional Incident reporting system. 2. Number of medication safety incidents reported 3. Number of sentinel events reported 4. Number of near misses reported	Director General of Health Services (DGHS), Deputy Director General / Medical Services -1 (DDG/MS -1), DDG/MS - 11, DDG/Dental Services, Director - Medical Supplies Division (MSD), Directorate of Healthcare Quality and Safety (DHQS), Quality Management Units (QMU) in hospitals, Government Pharmacists, Sri Lanka Medical Association (SLMA), Sri Lanka Dental Association (SLDA), Ceylon College of Physicians (CCP), Sri Lanka College of Pediatricians (SLCP), Sri Lanka College of General Practitioners (SLGP),	Director- DHQS Heads of Institutions Medical Officer - Quality Management Units in hospitals The Society of Government Pharmacists All Island Private Pharmacy Owners Association (AIPPOA) State Pharmaceutical Cooperation

			discussed to take preventive actions. 6. Distribution of medication incident reporting guidelines to all colleges and display it in the websites. 7. Encourage reporting from private pharmacies. 8. Establishment of a national incident reporting database. 9. Initiating an Incident reporting systems from private sector hospitals/pharmacies. 10. Development of a guideline on how to process incident reports and giving feedback. 11. Encouraging mechanism to acknowledge the incident reporters.		Pharmaceutical Society of Sri Lanka (PSSL), The Departments of Pharmacology in Universities, Sri Lanka Association of Clinical Pharmacology and Therapeutics (SLACPT) Consultants in Clinical Pharmacology and Therapeutics	
	1.2 Discuss serious errors firstly at quarterly basis, at local hospital QMU and forward to DHQS.	2021 - 2023	**1.** QMUs of hospitals and DHQS to actively collect reports and discuss at Institutional levels to identify contributory factors and preventive actions to be taken.	1. Number of sentinel events discussed at Medication Safety Steering Committee and NDTC.		Director – DHQS Academics from Departments of Pharmacology, and pharmacy in universities

	Establish a National Medication Safety Steering Committee at Ministry of Health to discuss the incident reports and to suggest preventive actions. The reports and proposed actions to be forwarded to National Drugs and Therapeutics Committee (NDTC)		**2.** Forward the reports to DHQS for discussion at National Medication Safety Steering Committee. 3. Establish a National Medication Safety Steering Committee in the DHQS to discuss reports and to suggest preventive actions. 4. Quarterly institutional meetings and national steering committee meetings to be held at D/HQS to discuss incidents and reports to be sent to NDTC. 5. Medication safety incidents to be discussed at NDTC meetings maintaining anonymity of reporters and staff involved. 6. A report of medication safety steering committee meeting to be attached to the NDTC meeting minutes. 7. Introduce the concept of "Medication Safety Newsletter" which will be circulated to all hospitals. Only the incident and preventive measure to be discussed in the newsletter. 8. Publish key incidents with suggested preventive	2. Number of circulars issued to standardize safety practices. 3. Number of medication safety newsletters/reports published.		Medicinal Drugs Committee (MDC)/SLMA The Society of Government Pharmacist Director Nursing - Medical Service NMRA MSD

			actions in Sri Lanka Prescriber.			
	1.3 Implement the necessity of placing the seal (with Name & SLMC registration number) of responsible consultant (eg: VP-OPD) on the prescription to identify the prescriber, to improve legibility of handwriting; by Issuing a circular mentioning not to issue drugs from hospital pharmacies without the accurate seal.	2021 - 2023	1. Circular issued on "A Doctor's name stamps mandatory pre-requisite to dispense drugs"	1. Percentage of OPD and clinic prescriptions with a stamp. 2. Rate of legibility of prescriptions identified in prescription audit.	DGHS, National Drug Therapeutic Committee (NDTC) - MoH Director - DHQS, DDG - MSD, Government Medical Officers Association (GMOA), Association of Medical Specialists (AMS), Sri Lanka Dental Association (SLDA), Government Dental Surgeons Association (GDSA)	DHQS GMOA SLDA GDSA Professional Colleges
	1.4 Prepare a list of standard abbreviations that could be used	2021 – 2023	1. Develop accepted "Standard abbreviations" list and list of "Never use abbreviations" 2. Circulate the lists to all hospitals	1. Percentage availability of the List of "approved abbreviations" and the List of "never use		Academics from Pharmacology and Pharmacy Departments of Universities and others who have done/doing work in this area

				abbreviations" in hospitals.		
	1.5 Prepare high risk medication list	2021 - 2023	1. Develop a List of high-risk drugs " 2. Develop Standard Operating Procedures (SOP) for handling and storage of high-risk medicines	1. Percentage of hospitals practicing SOPs on high-risk medicines		Academics from Pharmacology and Pharmacy Departments of Universities and others who have done/doing work in this area
	1.6 Implement the necessity for a prescription to dispense escription only Medicines" M) in the private sector. .	2021 – 2022	1. A circular to be issued making it necessary to display a list of "Over the counter medications" at each pharmacy. 2. A poster identifying "Over the counter drugs list" displayed at all pharmacies by Collaboration with the All-island Pharmacy Owner's Association (AIPPOA) 3. Create the Drug Inspector Cadre 4. Prepare TOR for Drug Inspectors. 5. Once in 2 months meetings of steering committee to discuss medication	1. Percentage of Pharmacies dispensing medicines without a prescription. 2. Number of pharmacies displaying "Over the counter medications" list.	NMRA, Food & Drug Inspectors (F&DI) of Regional Director of Health Services (RDHS), Supervising Public Health Inspectors (SPHI)	AIPPOA NMRA

			incidents reported and issues at MoH and report to be sent to "National Medication Safety Steering Committee".			
	1.7Assign a medication safety pharmacist to each QMUs established in major hospitals and have assigned activities	2021 - 2023	1. Prepare Terms of Reference (TOR) for medication safety liaison pharmacist for QMU and implement appointing liaison pharmacist through a ministry circular. 2. Develop the job descriptions for this post.	1. Percentage of QMUs with an assigned liaison pharmacist dedicated to medication safety activities 2. Number of medication safety activities done by the pharmacist	Director - DHQS Government pharmacists The Society of Government Pharmacists	Director, HQS, Heads of each QMU in hospitals and Directors of hospitals
	1.8 Encourage private sector to use electronic prescriptions by all consultants, through a circular by Private Healthcare Regulatory Unit of Ministry of Health	2021 - 2023	1. Issuing a circular for consultants to use electronic prescribing when available. 2. Appreciation of private sector for implementing electronic prescribing. 3. Development of a software for General Practitioners for electronic prescribing.	1. Percentage of private hospitals with electronic prescription facilities.	Private Healthcare Regulatory Authority (PHRA), MoH	Private Healthcare Regulatory Authority, College of GPs, Director/Information Health -MOH
	1.9 Encourage accreditation of private sector hospitals, with	2021 - 2025	1. Mechanism to appreciate the private sector hospitals which are internationally accredited.	1. Number of accredited Hospitals.	PHRA, MoH, DDG / MS - 2	Private Healthcare Regulatory Authority MoH, DDG MS 2

	incentives for getting accredited (e.g. JCI, ACHS)					
	1.10 Encourage electronic prescriptions in government hospitals where computerization of records is done as a pilot project	2021 - 2025	1. Introduce "Electronic Prescribing" to as many hospitals as possible.	1. Number of hospitals with electronic prescribing facilities.	MoH	Director - Health Information
	1.11 Employ graduate pharmacists as clinical pharmacists to the wards to attend medication reconciliation at transitions of care; providing information and taking preventive actions, for medication safety.	2023 - 2025	1. Create cadre positions, increase training of graduate pharmacists. 2. Build consensus through trainings and workshops. 3. Suggest introduction of a Special degree, Postgraduate diplomas and MSc in "Clinical Pharmacy" at university level.	1. Number of hospitals with clinical pharmacists.	MoH, Government Pharmacists Association, PSSL	Ministry of Health Government Pharmacists Association PSSL
	1.12 Introduce appropriate processes for	2021 - 2025	1. Translations to brail/pictograms.	1. Number of hospitals that have established this	School for Deaf and blind	Academics, researchers and other healthcare workers

	safe medication use among patients with visual, hearing and other disabilities.		2. Pictorial/brail labels available to be used in special groups.	safe medication use services for disabled patients.		involved in work in these areas
	1.13 Identify a list of minimum practices for hospitals to ensure medication safety. (A medication safety practice package for use throughout the drug management cycle)	2021 - 2025	1. Development of "Standard practices package for medication safety" for hospital settings and private pharmacies.	1. Number of hospitals implementing the practice package.	Director -DHQS, Academic Departments of Pharmacology and Pharmacy in Universities.	Academics, researchers and other healthcare workers involved in working in these areas
	1.14 Identify medication safety indicators for Sri Lanka.	2021 - 2025	1. Identification of indicators	1. percentage of hospitals using the medication safety indicators.	Director - DHQS, Academic Departments of Pharmacology and Pharmacy in Universities.	Academics, researchers and other healthcare workers involved in working in these areas
	1.15 Strengthening a Drug quality assurance program to tackle poor	2022 - 2025	1. Strengthening the Drug quality assurance program.	1. Number of quality failures reported. 2. Number of quality	National Medicinal Quality Assurance Laboratory (NMQAL), NMRA, Society of government pharmacists	NMQAL-Head, NMRA-chairman, Govt Pharmacists

	quality medicines			testing done.		
	1.16 Determine the extent of problems associated with online prescribing and dispensing and take appropriate action.	2022 - 2025	1.Develop guidelines and regulations for online prescriptions and dispensing. 2.NMRA to take action on online dispensing.	1. Number of "online Pharmacies" detected. 2. Number of instances action taken.		NMRA, AIPPOA Academics, researchers and other healthcare workers involved in work in these areas
2. Medicines	2.1 Activities to identify look alike sound alike (LASA) medicines and take steps to prevent mix ups; i. Use Tall man lettering to identify LASA drugs ii. Storing separately iii. Scrutinize during registration of medicines by the NMRA	2021 - 2024	1. Developing a list of Look Alike Sound Alike (LASA) drugs used in the Sri Lankan settings and recommend tall man lettering for those. 2. Distribution of the list of identified LASA drugs to hospitals through DHQS. 3. Sending a request to hospitals to store LASA medicines separately. 4.Establishing a mechanism to prevent allocating "Sound alike" brand names at the point of registration of medicines by the NMRA. 5.Establishing a mechanism at NMRA; to prevent registering critical medicines (such as warfarin tablets) with same color for different strengths; registering drugs (Eg:	1. Number of hospitals practicing "Tall man lettering" for LASA drugs. 2. Number of hospitals storing LASA medicines separately. 3. Number of incidents identified and prevented from allocating sound alike brand names at the point of registration by the NMRA. 4. Number of similar looking medicines	Government Pharmacists, PSSL, DHQS, NMRA, SLMA, SLDA, CCP, Other professional colleges	Academics, researchers and other healthcare workers involved in work in these areas

			Paracetamol) with same color for different strengths; and registering drugs having similar appearance. (Eg. KCL, NaCl)	prevented registration by the NMRA.		
	2.2 Taking action to prevent unregistered medicines being available in the market through surveillance.	2022 - 2025	1. Ensuring that NMRA drug registration details are up to date. 2.Publishing timely up to date list of registered medicines in the website of NMRA. 3.Establishment of an automated electronic response system from NMRA regarding registered drugs. 4.Carrying out market surveillances by authorized officers.	1. Number of detections made by the authorized 2. officers regarding 3. unregistered medicines. 4. Number of complaints received by the NMRA regarding unregistered medicines. 5. Number of investigations conducted by NMRA against complaints on unregistered medical products.	NMRA, SPC, PSS,L AIPPOA.	NMRA, AIPPOA.
	2.3 Limit the large number of brands available of the same drug, by stringent evaluation of	2021 - 2024	1. Steps taken to limit the number of brands registered under a single generic product by NMRA.	1. Number of brands registered pertaining to single generic product.	NMRA, MSD	NMRA, MSD.

	quality to avoid confusion between different brands.					
	2.4 Prepare a list of "high risk medicines" for serious errors. i. Identify through incident reporting. ii. From published literature on high-risk medicines. iii. Educate Health Care Personnel on "high risk medicines" and take preventive actions. (Eg. Individual packaging, Colour cording whenever possible)	2021 - 2024	1. Preparing a List of "high-risk medicines". 2. Preventing use of; same color code for different strengths of products, which can be confusing during registration by NMRA. **3.** Develop specifications when calling for tenders; such as color cording, limiting strengths, individual packages etc. whenever possible.	1. Availability of "List of high-risk medicines" at the relevant institutions. 2. No. of Institutions that have been informed about serios errors due to high-risk medicines (to prevent similar errors in the future) 3. Number of medication incidents reported regarding high – risk medicines.	Through medication error reporting system – D/HQS CCP, SLCP, SLGP, PSSL, SLDA, University academics, NMRA, MSD, AIPPOA.	Academics, researchers and other healthcare workers involved in work in this area
	2.5	2021 –	1. Asking for suitable changes in the label when	1. Number of problems in	Govt. pharmacists, NMRA,	NMRA, MSD

	Requesting necessary formulation adjustments, labeling changes, specifications of medicines, when calling for tenders for prevention of medication errors	2025	necessary at the point of registration and calling for tenders. 2. Not-registering irrational fixed dose combinations (FDC). (Such as antidiabetics with anti-hypertensives, FDC including paracetamol etc.)	formulations identified and rectified. 2. Information on the details made available through the newsletter	MSD, AIPPOA.	SPC, Govt Pharmacists, AIPPOA.
	2.6 Identify and publicize the list of most commonly prescribed medicines in the private and public sector and common errors noted to educate health care professionals and public on these medicines	2021 - 2022	1. Steps taken to inform about the most commonly prescribed medicines and errors noted, at Continuous Medical Education (CME) activities and articles published.	1. Number of CME activities and articles published focusing on, commonly prescribed medicine and common errors noted.	Universities, SLACPT, SLMA drugs committee, SLDA, PSSL, AIPPOA, SGP	Academics, researchers and other healthcare workers involved in working in this area
	2.7 Provide more facilities, resources and surveillance, for detection of quality failure and counterfeit medicines (Eg. using a QR	2022 - 2025	1. Increase the number of collecting Post market samples and analysis for quality of the drugs. 2. Market surveillances for counterfeit medicines and products with quality failures.	1.Number of Post market samples collected and analyzed during a certain time period. 2.Number of market surveillances	NMRA, MSD, NMQAL.	Academics, researchers and other healthcare workers involved in work in these areas, Head of NMQAL, Chairman, CEO of the NMRA, Govt pharmacists AIPPOA.

	codes) and taking action when identified.		3. Actions taken to withdraw stocks due to quality failures. 4. Actions taken to prevent purchase of medicines from supplies with quality failures	done by authorized officers. 3.Number of batch - withdrawals and product-withdrawals. 4.Number of products blacklisted.		
3.Health care professionals	3.1 Incorporating "WHO patient safety curriculum" on medication safety into the undergraduate and higher diploma curricula of all faculties of medical, pharmacy and nursing.	2021 - 2023	1. Adopting the "WHO patient safety curriculum on medication safety" in to universities, degree programs and higher diploma curricula. 2 Incorporating medication safety into Good Intern training program and Registrar training.	1. Number of universities, degree programs and higher diplomas, adopted the "WHO patient safety curriculum on medication safety" in to their curricula.	Medical Faculties of Universities Sri Lanka Association of Clinical pharmacology and Therapeutics (SLACPT), All Allied Health Faculties of Universities conducting courses in pharmacy and nursing through the respective universities. Education Training & Research (ET&R) Unit. SLACPT, medical Allied Health – Pharmacy (AHSP) Allied Health – Nursing (AHN)	Academics of Departments of Pharmacology and Pharmacy in Universities, Deans of Allied Health Faculties, Director, ET and R, Director Nursing Principles of Pharmacy and nursing schools,

	3.2 Activities to improvement of legibility of handwritten prescriptions.	2021 - 2025	1. Conducting different types of awareness programs for health professionals on consequences of illegible prescriptions: • Good Intern training program • Registrar training • College of General Practitioners programs • All professional colleges 2.Introduction of the uniform prescription format for Sri Lanka to be used in hospitals. 3.Issue a ministry circular to hospitals to incorporate electronic prescriptions. 4. Pictorial/brail labels available to be used in special groups.	1. Level of Legibility of prescriptions shown in prescription audits. 2. Survey results on number of hospitals using computerized prescriptions and printed dispensing labels.	SLACPT, Society of Govt. Pharmacists, PSSL, SPC, MoH, GMOA, Sri Lanka Nursing Association, SLMA, SLDA, The Society of Govt. Dispensers Union.	Academics, researchers and other healthcare workers involved in work in these areas
	3.3 Dispensing medicines with labels and print information in all 3 languages/ pictorials/brail le method.	2022 - 2025	1. Introduction of a uniform dispensing label format for Sri Lanka. 2.Issuing of a Circular from Ministry of Health. 3.Regulation on essential information to be provided in all 3 languages on dispensing labels. 4.Facilitating printing of dispensing labels.	1. Survey results on medicines dispensed with complete dispensing labels. 2. Number of patients who were given pictorial /braille labels in pharmacy for	Society of Govt. Pharmacists, PSSL, AIPPOA, SPC.	Academics, researchers and other healthcare workers involved in work in these areas, Govt pharmacists, AIPPOA.

			5.Pictorial/brail labels available to be used in special groups.	dispensing to needy patients.		
	3.4 Not dispensing unclear prescriptions.	2021 - 2025	1. Introducing a standard operating procedure (SOP) to tackle illegible prescriptions. 2.Training programs for pharmacists on "assertive communication" when handling illegible prescriptions. 3. Issuing an awareness circular from the Ministry of Health on "Do Not Use abbreviations" and "Standard abbreviations" for HPs.	1. Availability of a standard operating procedure (SOP) to tackle illegible prescriptions. 2. Number of training programs conducted for pharmacists on "assertive communication " when handling illegible prescriptions. 3.Availability of a circular issued from the Ministry of Health on "Do Not Use abbreviations" and "Standard abbreviations" for HPs.	SLACPT, Society of Govt. Pharmacists. PSSL, SPC, MoH, GMOA, SLNA, SLMA, SLDA. The Society of Dispensers Union, GMOA, SLNA, SLMA, The Society of Dispensers Union	Academics, researchers and other healthcare workers involved in work in these areas, Govt pharmacists, AIPPOA.
	3.5 Providing essential	2021 - 2025	1. Establishing patient-medication counseling facilities in hospitals.	1. Number of hospitals with fully functional	SLACPT, Society of Govt. Pharmacists,	Government Pharmacists Association, AIPPOA

	information to patients with medication counselling.		2.Utilizing translations/brail/ Pictograms in medication counselling.	patient counseling facility/ pharmaceutical care units.	PSSL, SPC, MoH, GMOA, SLNA, SLMA, SLDA, The Society of Dispensers Union.	
	3.6 Postgraduate courses to have inputs on medication safety and training workshops on medication safety.	2022 - 2025	1. Conducting workshops on medication safety for postgraduate students. 2. Providing inputs on medication safety to postgraduate courses.	1. Number of training workshops conducted on medication safety.	PGIM, Universities, SLACPT, Diploma in Healthcare quality and safety, UoC, DHQS.	SLACPT, Specialty Board in Clinical Pharmacology in PGIM
	3.7 Encourage medication incident reporting by all categories of HCP	2021 - 2025	1.Conducting awareness programs on importance of incident reporting. 2.Conducting meetings on processing incident reports at hospitals and nationally. 3.Organization of symposiums on medication safety best practices.	1.Number of awareness Programs conducted on importance of incident reporting.	DHQS, Professional Associations (CCP, SLGP, SLCP, PSSL, SLMA, SLDA, SLNA + 3.2)	Medication incident evaluation central committee of the steering committee
	3.8 Include "medication error prevention	2021 - 2023	1. Including medication safety as a compulsory area for portfolios in undergraduate and post graduate training courses.	1. Number of PG training courses which have included medication safety	ET & R, Govt. Pharmacists, MoH, CMCC,	Director ET and R, Pharmacy tutors and academics teaching in pharmacology and pharmacy

	strategies employed", as one compulsory area of portfolio entries in log books; by intern pharmacists, trainee nurses, medical students and post graduate medical trainees.			as a compulsory area for portfolios.	Department of Pharmacology, UoC.	
	3.9 Emphasize on minimum of Five Rights (right patient, right drug, right dose, right route and right time at all stages of medication process) and other Rights (right for information, right to refuse etc.) to include during all training programs.		1. Conducting awareness programs/ measures or training on checking 5 rights among HPs. 2 Development of SOPs for each point of care.	1. Number of awareness programs/ measures or training on checking 5 rights among HPs. 2. Availability of SOPs at each point of care.	All professional Associations, Universities, Pharmacists and nurses training schools.	Academics, researchers and other healthcare workers involved in working in this area

	3.10 Disseminate the Sri Lanka student formulary (SLSF) 2018 which focuses on "most commonly prescribed medicines currently in the country and highlighting high risk medicines", aimed at all categories of students trained as health care professionals. (To be updated once in 5 years)	2021 - 2025	1. Disseminating the medicines formularies to libraries of universities. 2. Disseminating the drug formulary to hospitals. 3. Disseminating the drug formulary to private pharmacies	1. Number of universities with the SLSF available in their libraries. 2.Number of hospitals where formulary is available. 3. Number of private pharmacies using the SLSF. 4. Number of total copies distributed	Department of Pharmacology, UoC MSD, MoH.	Formulary committee of the Department of Pharmacology University of Colombo
	3.11 Regular training programs and workshops aimed at healthcare professionals (nurses, pharmacists, and medical officers) on medication safety	2021 - 2025	1. Conducting regular workshops on medication safety. 2.Improving the coverage of workshops in the country.	1. Number of training programs and workshops conducted on medication safety to different healthcare professionals. 2. Number of healthcare workers who attended	DHQS, SLMA Drugs Committee, SLDA, SLACPT, and Universities. to give expertise	Directorate HQS, University Departments

				training programs 3. Coverage of workshops in the country.		
	3.12 Training courses/ workshops on preventing medication errors for external Pharmacists and sales assistants working in the private sector pharmacies.	2022 - 2025	1. Conducting training courses /workshops on preventing medication errors for external Pharmacists and sales assistants in the private sector pharmacies.	1. Number of training courses conducted for external and private sector pharmacists.	University Departments of Pharmacology, ET&R, SLMA Drugs Committee, SLDA, SPC, Pharmaceutical Society of Sri Lanka (PSSL)	SLMA Drugs committee, Govt Pharmacists, AIPPOA
	3.13 CPD activities with other relevant Colleges to ensure medication safety targeting doctors - Liaise with 3.11	2021 - 2023	1. Conducting CPD activities for doctors on Medication safety in collaboration with Colleges.	1. Number of CPD activities conducted in collaboration with Colleges.	SLMA, SLDA, CCP, PSSL, College of Medical Administrators, College of Anesthetists.	SLMA and other Colleges
	3.14 Activities to minimize polypharmacy to reduce medication errors.	2021 - 2025	1. Ensuring the availability of updated treatment guidelines for HPs. 2. Conducting awareness programs on polypharmacy in	1. Number of drug use studies conducted in respective hospitals to assess polypharmacy	Professional Associations and Colleges, Medical Faculties, Allied Health Faculties,	Academics, researchers and other healthcare workers involved in working in this area

			collaboration with other colleges. 3. Ensuring the availability of explicit criteria for assessment on polypharmacy prescriptions. 4.Conducting education and awareness programs on rational and ethical practices to doctors.	2. Number of DTCs initiating studies on polypharmacy with established benchmarks 3.Number of awareness programs conducted on polypharmacy.	Ministry of Health, PSSL.	
	3.15 Training course for nurses through Post Basic School of Nursing on "Prevention of medication errors" during administration of medicine.	2022 - 2025	1. Conducting training courses at Post Basic School of Nursing on "Prevention of medication errors" during administration of medicine.	1. Number of post-basic nursing schools conducting these training courses for trainees. 2. Survey results on safe admin practices of. nursing officers	Post Basic School of Nursing.	Director/Nursing
	3.16 Initiate a sustainable Clinical Pharmacy training program	2022 - 2024	1. Initiating training of pharmacy students on "Clinical pharmacy" in the undergraduate curriculum. 2. Making opportunities available for further training in clinical pharmacy for graduates.	1. Number of universities training pharmacy students on "Clinical pharmacy" in the undergraduate curriculum. 2.Number of Training of	Ministry of Health, Allied health faculties, SLCPT, University Grants Commission. SGP, PSSL.	Academic Departments conducting Pharmacy curricula

			3. Ensuring availability of "Training of Trainers" programs on clinical pharmacy for selected graduates joining the state sector. (in collaboration with clinical pharmacists) 4. Establishing pharmaceutical care units /clinics in hospitals in state sector. 5.Establishing a cadre position for clinical pharmacists.	Trainers" programs on clinical pharmacy conducted for selected graduates joining the state sector. 3.Number of DRPs detected and resolved by clinical pharmacy services identified by studies 4.Number of hospitals in the state sector with pharmaceutical care units /clinics. 5.Number of patients receiving pharmaceutical care services. 6.Number of potential hospital re-admissions prevented through clinical pharmacy services.		

4. Patients	4.1 Collect available studies conducted to assess patients' knowledge on medicines and methods to improve the knowledge. Carrying out new studies on Patient Safety and correct use of patients' own medications	2021-2022	1.Identifying gaps of the previous studies with the involvement of postgraduate trainees and convey the identified research priorities to Director, Education, Training & Research (ET& R) –Ministry of health	1. Number of studies conducted on patient safety and correct use of medications.	University Departments of Pharmacology/pharmacy	Academics, researchers and other healthcare workers involved in working in this area
	4.2 Activities to improve medication literacy of patients by variety of methods i. Publishing books in Sinhalese and Tamil on commonly used medicines ii. Providing labeled medicines iii. Providing leaflets on correct use	2021-2026	1.Translating patient formularies into Sinhala and Tamil. 2.Conducting patient counseling sessions and educational programs/ workshops on safe Medication use for patients, at institutional level 3.Conduct Seminars/awareness programs for, i. School children ii. Elderly iv.Pregnant mothers 4.Education programs for special groups (Visually impaired, Hearing impaired)	1. Number of booklets proving information to patients 2. Number of leaflets provided to patients on medicines 3. Survey of literacy rate in patients after interventions 4. Survey on number of patients asking questions about their medications. 5. Number of articles in newsletters educating patients on medicines	i. SLMA Drug committee ii. SLDA iii. Health Promotion Bureau (HPB) iv. Patients for patient safety – Ms Christine v. University Departments of Pharmacology/ pharmacy vi. SLACPT vii. PSSL viii. Society of Government pharmacists ix. SPC x. Media – print and electronic	Academics, researchers and other healthcare workers involved in working in these areas, SLMA

	of medications for high risk medicines and other drugs requiring specific information. E.g.: GTN, ORS, Warfarin, Alendronate, Methotrexate, BB cream iv. Workshops for doctors, nurses and pharmacists to train them on providing information to patients v. Media campaigns targeting patients using television, radio programs and print media (e.g. Posters) to increase medication literacy through Health		5. Educating patients on how to discard left pills. 6. Writing medication names in patients' native language (Sinhala or Tamil) on the package /envelope of medications. 7.Use teach back technique to ensure patients' understandability of their medications (at least 5 rights and purpose of taking the medications.) 8.use short video clips in patients' waiting area to educate patients on correct use of medications	6. Number of media campaigns done 7. Number of medical and pharmacy students providing information on medicines to their patients identified in surveys.	xi. National Dangerous Drugs Control Board (NDDCB) Sri Lanka Antidoping Agency (SLADA), Ministry of Sports	

	Promotion Bureau (HEB) focusing on 5 must know facts on medicines. vi. Providing medication plan in patients own language (eg; writing the names of medications in Sinhala or Tamil on the envelop/on the package) with the help of pharmacy and medical students.					
	4.3Involvement of pharmacists in private sector and QMUs of government hospitals in education of patients especially on high alert medicines to prevent serious errors	2021-2025	1.informing of High alert medications (HAM) and LASA medicines when dispensing by pharmacists to educate patients 2.Listing HAM and LASA lists in the pharmacy units to remind pharmacists to educate patients. 3. Medication reconciliations to be done by doctors for patients at discharge	1. Number of pharmacists educating patients on HAM and LASA medicines on dispensing these 2. Number of pharmacies having Lists of HAM and LASA lists to remind pharmacists to educate patients	1. SPC 2.PSSL 3.Universities 4. QMUs of government hospitals	Academics, researchers and other healthcare workers involved in working in these areas

			4.Conducting educational workshops, seminars for patients.	3. Survey on number of patients who are aware that they are taking High Alert medications 4.Number of workshops /seminars conducted for patients.		
	4.4Emphasize on five moments of medication safety (starting a medication, taking my medication, adding a medication, reviewing my medication, stopping my medication)		1. Empowering patient/caregiver on five moments for medication safety to reduce the risk of harm associated with the use of their medications.	1. Number of awareness programs conducted to empower patients/caregivers.	All professional Associations, Universities, Pharmacists and nurses training schools.	Academics, researchers and other healthcare workers involved in working in this area