

THE SRI LANKA JOURNAL OF **MEDICAL ADMINISTRATION**

Volume 26 Issue 2 February 2026

Official Publication of the College of Medical Administrators of Sri Lanka



THE COLLEGE OF MEDICAL ADMINISTRATORS OF SRI LANKA



The Sri Lanka Journal of Medical Administration

“Managing Healthcare with Leadership Wisdom”
Through Academic Excellence, Managerial Excellence, and Emotional Intelligence

Volume 26 Issue 02
February 2026

**Official Publication of the College of Medical Administrators of
Sri Lanka**

ISSN 1391-2909



OUR OBJECTIVES

To guide the health development in Sri Lanka.

To assist in the implementation of national health policy.

To promote postgraduate studies in the field of medical administration.

To undertake health system research in the field of medical administration.

To promote and foster professional advancement of Medical Administrators.

To regularly review the status of Medical Administration in the country and analyse problems in the field.

To guide the Ministry of Health and private sector on human resources development and resources mobilization in the field.

To foster fellowship among the professionals engaged in the field of Medical Administration.

To publish a journal of professional Medical Administration.

Editor-in-chief

Dr. Samiddhi Samarakoon

Editorial Board

Dr. S. A. P. Gnanissara

Dr. Sarath Samarage

Dr. Neelamani Rajapaksha Hewageegana

Dr. Dinesh Koggalage

Editorial Assistance

Dr. A. M. Hasitha Attanayake

Dr. G. Paul Roshan

Dr. Rejinten Jayawardhana

Secretariat

Office of the College of Medical Administrators of Sri Lanka
Directorate of Health Care Quality and Safety
Castle Street Hospital for Women
Castle Street, Colombo 08.

www.cmasl.lk

TABLE OF CONTENTS

PRESIDENTIAL ADDRESS	iv
EDITORIAL	vi
COVER STORY	9
ORIGINAL ARTICLES	16
From Capacity to Action: Charting National Genomic Sequencing Services Roadmap for Precision Health in Sri Lanka	17
Use and Outcomes of the 1926 National Mental Health Helpline During the COVID-19 Pandemic in Sri Lanka	24
Streamlining Vehicle Parking in Teaching Hospital Batticaloa: A Strategic Approach	30
Providing Beds for All Inward Patients Admitted in Medical Units in the Teaching Hospital Batticaloa. A Strategic Approach	37
Availability and Functional Status of Essential Equipment, Tools, and Documentation for Non-Communicable Disease Screening at Healthy Lifestyle Centres in Badulla District, Sri Lanka	43
An Analysis of Food Waste in a Subsidized Employee Meal Program at a Sri Lankan Secondary Care Hospital	47
QUALITY IMPROVEMENT STUDIES	54
An innovative approach to reduce clinic waiting time at the District General Hospital, Matale	55
Enhancing Quality of Disaster Preparedness and Response System in A Tertiary Care Hospital Sri Lanka: Lessons from a Mass Casualty Incident Review at District General Hospital Kegalle	60
REVIEW ARTICLES	66
A Futuristic Vision for Patient-Centric Healthcare in Sri Lanka: Strengthening Primary Care and Empowering Communities	67
From Balance to Harmony: Reframing the Work–Life Interface for Healthier People and High-Performing Organizations, with Lessons for Sri Lanka	72
An Unsung Architect of Medical Administration: Life and Legacy of Dr. J.H.L Cumpston, First Director General of Health of the Commonwealth of Australia.	77
History of Indigenous Medicine in Sri Lanka	81
REPORTS	84
Cultivating Leadership Wisdom for Health Systems Development in Sri Lanka Perspective Report on the Pre-Congress I of the Annual Scientific Sessions 2025	85
The Engine of Delivery: Bridging the Policy-to-Practice Gap through Managerial Excellence in Health Systems Development Perspective Report on the Pre-Congress II of the Annual Scientific Sessions 2025	89
Beyond the Protocol: Institutionalizing Health Diplomacy and Administrative Resilience from the 78th WHO SEARO Regional Committee	94
PERSPECTIVES	98
From VUCA to BANI: A Dual-Lens Perspective on Resurrecting Sri Lanka's Medical Supply Chain (2023–2025)	99
Ensuring Tertiary Care Services to All: A Strategic Approach in the Socio-economic Context of Sri Lanka	103
Understanding the Sri Lankan Patient Psyche and Health Pluralism —A Strategic Imperative for Health System Leaders	107
PICTURE STORY	112
The Mind's Sanctuary The Journey of the National Institute of Mental Health, Sri Lanka: 1926 – 2026	113
APPRECIATION	126
Honouring Dr. Joe Fernando A Legendary Leader in Medical Administration	127

PRESIDENTIAL ADDRESS**Leadership Wisdom: The Triad of Academic Excellence, Managerial Excellence, and Emotional Intelligence***Dharmaratne GSK*<https://doi.org/10.4038/sljma.v26i2.5601>

It is with great honour and privilege that I extend a warm welcome to all distinguished guests, fellows, members, and participants to the 32nd Annual Scientific Sessions of the College of Medical Administrators of Sri Lanka.

I respectfully acknowledge and extend my sincere appreciation to our Chief Guest, Dr. Anil Jasinghe, Secretary to the Ministry of Health and Mass Media, whose presence reflects the strong and continuing partnership between national health policy leadership and professional medical administration. I am deeply honoured by the participation of our Keynote Speaker, Emeritus Professor Mohan De Silva, whose scholarly contributions and visionary leadership have profoundly shaped higher education and the health system of Sri Lanka.

I also extend a warm welcome to our Guest of Honour, Dr. Sidney Chandrasiri, Chief Executive Officer of the Australian Institute of Health Executives (AIHE), and Professor Luis Prado, Chief Academic Officer of AIHE. Their presence signifies the strengthening of international collaboration in health leadership and management. I am grateful to Dr. Shanti Dalpatadu, Past President of the College, who will deliver the Oration and continue the proud intellectual traditions of our institution.

I warmly acknowledge and sincerely appreciate the invaluable contributions of our Past Presidents, Fellows, Council Members, and Members of the College for their unwavering support towards the advancement of the College.

The theme for this year, “Managing Healthcare with Leadership Wisdom,” captures the essence of contemporary health administration. Leadership wisdom emerges from the integration of academic excellence, managerial excellence, and emotional intelligence—three essential pillars for navigating the increasing complexity of modern healthcare systems.

During the past year, the College has actively strengthened these pillars through a wide range of academic and professional development initiatives. In advancing academic excellence, guest lecture series, interactive learning sessions,

regional academic meetings, young trainers’ forums, overseas trainees’ forums, newsletters, and the College Journal have made significant contributions to continuing professional development and postgraduate training. The successful conduct of regional academic sessions across the Southern, Uva, and Central Provinces, with the active participation of provincial and institutional leadership, reflects our strong commitment to inclusive learning at the regional level.

In promoting managerial excellence, best practices in hospital administration were shared during regional sessions. Together with the Council, the College felicitates the best performers of the MSc and MD in Medical Administration by awarding Academic Excellence Awards, as a best practice to recognize members’ commitment to postgraduate higher education.

In addition, this year the College has initiated a Managerial Excellence Award, marking an important milestone in recognizing outstanding leadership and achievement in health administration. For the year 2025, the District General Hospital, Ampara, will be conferred this prestigious award in recognition of its outstanding achievement in winning the Gold Award at the National Environmental Presidential Awards Competition. This honour is dedicated to the late Dr. Lanka Jayasinghe, former Medical Superintendent, who pioneered the hospital's quality assurance programme several years ago and laid a strong foundation for sustained excellence. These awards are presented during the Inaugural Ceremony in appreciation of outstanding performance.

Through these initiatives, the College encourages Directors, Medical Superintendents, Regional Directors of Health Services, and Provincial Directors of Health Services to continually showcase managerial excellence to a wider audience. Such recognition serves to inspire innovation, accountability, and excellence across the health system.

The College has also placed strong emphasis on emotional intelligence, recognizing its vital role in effective leadership. Council outbound training programmes, leadership and emotional intelligence teaching sessions for PGIM trainees, mindfulness initiatives conducted across several regions, and philanthropic contributions to the National Health Development Fund reflect a value-driven and compassionate approach to leadership. These collective efforts embody the ethical and human dimensions of medical administration.

Over the next two days, the Annual Scientific Sessions will showcase scholarly work through oral presentations, poster presentations, and healthcare innovations, addressing critical areas such as quality improvement, governance, patient safety, workforce development, and service

innovation. These contributions highlight the growing academic maturity of the College and the commitment of medical administrators and trainees to evidence-based decision-making and system improvement.

In conclusion, the activities and scholarly contributions of this year reaffirm the College's unwavering commitment to academic excellence, managerial excellence, and emotional intelligence. Together, these pillars form the foundation of leadership wisdom, enabling the College of Medical Administrators of Sri Lanka to continue contributing meaningfully to the delivery of equitable, high-quality healthcare for all citizens.

I extend my sincere gratitude to our Chief Guest, Keynote Speaker, Guest of Honour, the council, members and all distinguished invitees for gracing this occasion. I wish the 32nd Annual Scientific Sessions every success and trust that the deliberations over these two days will inspire learning, collaboration, and innovation.

Dr. Sudath Dharmaratne

President

The College of Medical Administrators of Sri Lanka

EDITORIAL

From Volume to Value: Operationalizing Value-Based Healthcare in Sri Lanka

Samarakoon MASC¹¹Ministry of Health and Mass Media (samiddhisamarakoon@yahoo.com)<https://doi.org/10.4038/sljma.v26i2.5594>

As stewards of Sri Lanka's healthcare system, we stand at a critical juncture. The familiar pressures—rising rates of non-communicable diseases, escalating costs, constrained budgets, and ever-higher patient expectations—are converging into a single, inescapable question: Is our current model of healthcare delivery sustainable for the next decade?

For generations, we have excelled at managing volume. Our success has been measured in the number of patients seen, beds turned over, and procedures performed. This "activity-based" mindset has served a purpose, but it is increasingly showing its limitations. It rewards the quantity of care, not necessarily the quality of health outcomes. It is a system often consumed by managing sickness at the expense of proactively fostering health.

The global answer to this challenge is a fundamental paradigm shift known as Value-Based Healthcare (VBHC). At its core, VBHC is a simple yet transformative concept: to achieve the best health outcomes for patients at the lowest possible cost. Value is not defined by activity, but by results—by the patient's recovery, their functional status, and their quality of life.

This shift is not an abstract theory; it is the most practical vehicle to achieve the ambitious targets set forth in our National Policy on Health and Well-being. Whether the goal is reducing maternal mortality to a single digit, adding healthy years to our aging population, or

eliminating public health threats like rabies and leptospirosis, a volume-based system will struggle. A value-based system, focused on outcomes, is precisely the engine we need to turn these policy goals into tangible results for our people.

Some may argue that this is a luxury for wealthier nations, an impractical ideal for a system like ours. We contend the opposite. Precisely because our resources are finite, focusing on value is not a luxury; it is an imperative. Continuing on our current path is the truly unaffordable option. The transition will be complex, but Sri Lanka is uniquely positioned to adapt VBHC principles in a pragmatic, phased manner. We need not import a foreign model wholesale; we can build our own.

The Sri Lankan Pathway: A Pragmatic Pilot Approach

The journey from volume to value is not a single leap, but a series of deliberate steps. We can begin by identifying low-risk, high-impact areas for pilot programs:

- **Bundled Care Models for Elective Procedures:** Let us start with well-defined clinical pathways, such as cataract surgery or primary joint replacements. In the private sector, this may look like a "bundled payment" covering the entire cycle of care. In the public sector, this translates to allocating resources based on the full patient journey rather than departmental silos. This aligns incentives for efficiency and

coordination, rewarding providers for getting it right the first time and avoiding complications.

- ***Integrated Care Pathways for Chronic Diseases:*** Our greatest burden lies with conditions like Diabetes and Hypertension, which the National Policy explicitly targets for reduction, especially among our youth (20-39 age group). Here, we can shift from measuring simple clinic attendance to measuring long-term outcomes: rates of renal failure, amputations, and strokes. By creating multi-disciplinary teams—doctors, nurses, dietitians, community health workers—who are collectively accountable for the patient's health journey, we can directly contribute to the policy's goal of slashing the prevalence of these diseases and their devastating complications.
- ***Leveraging Technology as an Enabler:*** Telemedicine and mobile health are not mere conveniences; they are powerful tools for value-based care. They allow for continuous monitoring, timely interventions, and efficient follow-ups, improving access and outcomes while containing costs, especially for rural populations. Furthermore, this technology can be pivotal in achieving policy objectives like the universal screening of newborns for hearing loss and providing remote support for our aging population to reduce falls.

The Administrator's Call to Action: From Managers to Value Architects

This is where our role as Medical Administrators evolves from managers of the status quo to architects of the future. Clinicians drive clinical interventions, but we are the ones who must

build the ecosystems that allow those outcomes to flourish. Our call to action is threefold:

1. ***Become Data Champions:*** Value cannot be managed if it cannot be measured. We must lead the charge in developing the data infrastructure to track patient-reported outcomes and true costs of care. We must champion interoperable systems that allow a patient's narrative to flow seamlessly across care levels. This data is essential for monitoring our progress against the National Policy's clear, quantitative benchmarks—from reducing suicide rates to maintaining the elimination status of diseases like Lymphatic Filariasis and Malaria.
2. ***Serve as Process Architects:*** Our expertise in workflow, logistics, and supply chain must be directed at redesigning patient journeys. We must map and eliminate waste, reduce delays, and ensure seamless coordination between departments and care settings.
3. ***Embrace the Role of Change Leaders:*** Perhaps most importantly, we must be the bridge-builders. We must facilitate the crucial conversations between clinical teams, finance departments, and policymakers to align incentives and create a shared vision for value.

The shift to Value-Based Healthcare is no longer a theoretical debate found in international journals; it is the pressing agenda for our time. It is a journey that demands courage, collaboration, and a steadfast commitment to our fundamental purpose and the most credible pathway to fulfill our National Policy on Health and Well-being.

By championing this transition, we are doing more than just managing systems more efficiently. We are fundamentally reaffirming our commitment to the people of Sri Lanka, ensuring that every rupee spent and every effort made translates directly into a healthier, more productive life for the patients we serve. The future of our healthcare system depends on the choices we make today. For the sake of our patients and the sustainability of our nation's health, let us choose value.

Dr. M. A. S. C. Samarakoon

Editor

*The College of Medical Administrators of
Sri Lanka*

COVER STORY

Reflecting on the Virtues of Legendary Sri Lankan Medical Administrators in Service and in Spirit*Dr. Malinga Fernando Memorial Oration 2025**Dalpatadu KCS¹**¹Institute for Health Policy*<https://doi.org/10.4038/sljma.v26i2.5596>

Dr. Sudath Dharmaratne – President CMASL, Dr. Anil Jasinghe – Secretary, Ministry of Health and Mass Media, Prof. Mohan De Silva – Emeritus Professor of Surgery, Dr. Sidney Chandrasiri – Chief Executive officer Australian Institute of Health Executives, Members of the Head Table, Past Presidents and Fellows, Members of the College of Medical Administrators of Sri Lanka, family members of Dr. Malinga Fernando, distinguished invitees, ladies and gentlemen:

It is with great honour and profound respect that I stand before you today to deliver the Dr. Malinga Fernando Memorial Oration at the inauguration of the academic sessions of the College of Medical Administration. I consider this a privilege as he has been one of my role models and mentors for over three decades.

On this significant occasion, we gather to pay tribute to the legendary medical administrator, Dr. Sarikkalige Deepal Malinga Fernando, whose remarkable life and career continue to inspire us all.

Early Life and Education

Dr. Malinga Fernando was born to a well-to-do family on October 19, 1929, at "Sri Mahal" in Panadura, as the only child of Sarikkalige David Solomon Fernando and Gertrude Suddrikku Jayawickrema Gunasekera.

From an early age, he demonstrated a sharp intellect and an intense eagerness to learn. He completed his primary and secondary education at Sri Sumangala College, Panadura. It was during his school days that his curiosity and educational excellence became evident, establishing a strong foundation for his future accomplishments.

Academic Pursuits and Ascendancy

In 1949, Dr. Malinga Fernando began his higher education at the Faculty of Science at the University of Ceylon, Colombo. He later graduated from the Colombo Medical Faculty of the University of Ceylon in 1954 with honours. Thereafter, he joined the University of Colombo as a research assistant to the then Professor of Surgery Milroy Paul.

However, choosing a path less travelled, he was among a select group of doctors who decided to pursue a career in medical administration rather than the more highly sought-out clinical specialties. This important decision marked the beginning of a distinguished professional journey, during which he rose to prominent positions within the public health sector.

Dr. Fernando's initial appointment was as DMO

Weligama. Demonstrating exceptional ability, he quickly advanced through the ranks, serving as DMO Panadura, Medical Superintendent of Colombo South Hospital, Superintendent of the Colombo Group of Hospitals, Deputy Director of Health Services, and Director General of Health Services in May 1981. In September 1985, he became Secretary of the Ministry of Health.

After he retired from the Ministry of Health, he was appointed as the Team Leader to a group at the WHO, Geneva to support countries in greatest need. He retired from WHO in April 1996. His tenure at WHO headquarters was marked by both professional fulfilment and personal relaxation, free from the administrative pressures he had previously faced.

Personal Life

Beyond his professional achievements, Dr. Malinga Fernando's personal life reflected his unblemished character and values. He met his life partner, Nandani Chintha Perera, during their medical studies, and they married on February 12, 1959. Together, they raised two daughters: Neluka, now Chair Professor of Microbiology at the Faculty of Medical Sciences, University of Sri Jayawardenapura. The younger daughter Vindya now efficiently oversees the family's business interests.

Professional Excellence

Dr. Malinga Fernando was widely recognised for his exemplary administrative skills and steadfast discipline, both of which significantly enhanced the quality and efficiency of government health services. His influence reached far beyond national borders as he undertook several appointments with the World Health Organisation, including serving on its Executive Board. During his tenure in Geneva, he played a pivotal role in strengthening health systems in some of the world's least developed countries.

He was the first Director General of Health Services and became the first medical administrator from the Department of Health

Services to be appointed as the Secretary of Health.

Legacy and Distinguished Service

Dr. Fernando's legacy in medical administration is unparalleled. As the Secretary of the Ministry of Health, he demonstrated outstanding leadership and vision. Even after he retired from national service, he remained devoted to global health through his work with the WHO in Geneva for six years, and he continued to mentor those who sought his guidance and advice.

Personal Interests and Passing

In addition to his professional pursuits, Dr. Malinga Fernando had a passion for automobiles. He took pride in collecting and maintaining old automobiles and antiques and took pleasure in the finer aspects of life. He often found relaxation at the Nuwara Eliya Hill Club, where he enjoyed both the tranquility of the surroundings and the company of friends.

On January 9, 2008, Dr. Malinga Fernando passed away after a brief illness. He left behind a legacy that continues to inspire those involved in medical administration and public health, and his contributions are highly regarded. May his sojourn in "Sansara" be short and may he attain Nirvana.

President Dr. Sudath Darmaratne,

I would like to reiterate that it is with great honour and privilege that I deliver this oration in memory of the late Dr. Malinga Fernando, a mentor and a role model to me for more than thirty years.

The subject of my address this evening is "Reflecting on the Virtues of Legendary Sri Lankan Medical Administrators in Service and in Spirit."

This oration seeks to recognise the distinctive virtues that define legendary medical administrators in Sri Lanka—those who have served in various settings, curative, preventive, promotive, and rehabilitative sectors of the health services. It also pays tribute to Dr. Malinga Fernando, whose legacy as a legendary medical administrator continues to inspire generations. His career stands as a testament to unwavering commitment to efficient and effective healthcare delivery at the national, provincial, and regional levels, setting a benchmark for excellence in medical administration unique to the Sri Lankan context.

Excellence in Medical Administration

During my induction in 2016 as the President of this esteemed College, I spoke on the topic of "Excellence in Medical Administration" and the difference between being an excellent administrator and merely a good one.

I referenced survey results based on the perceptions of retired medical administrators concerning excellence among their peers, predecessors, and subordinates.

The most admired qualities included charisma, vision, task orientation, and a people-friendly approach. For those who retired before 2000, three names stood out: Dr. Malinga Fernando, Dr. Joe Fernando, and Dr. George Fernando.

Today, I aim to take this discussion a step further by examining the virtues that must be cultivated and demonstrated for one to be remembered as a medical administration legend.

Defining Legendary Virtues in Medical Administration

While it is easy to identify legends in fields such as cricket—where statistics underline greatness, as in the cases of Don Bradman or Sachin Tendulkar—or music, where popularity and album sales highlight stars like Elvis Presley or Michael Jackson, we often overlook how to recognise a legend in Medical Administration. Through my research, I realised that the benchmarks we should seek are the virtues that set these individuals apart from other medical administrators.

Virtue, in its purest sense, represents the moral excellence that guides a leader to act not only with skill, but also with character and compassion. In medical administration, virtue is demonstrated by

- Patience in adversity,
- Courage in advocating for change,
- Modesty in leadership.

As philosopher Marcus Aurelius wrote, "Waste no more time arguing about what a good man should be. Be one."

This is a powerful call to action for all of us as custodians of public health.

Who is a Legendary Medical Administrator?

A legendary medical administrator embodies a consistent pattern of virtues, which includes:

- Innovation and Adaptability
- Compassion and Empathy
- Integrity and Ethics
- Mentorship and Education

Leadership and Vision

At the heart of legendary medical administration lies exceptional leadership. The highest form of leadership goes beyond authority and is rooted in service. Such individuals lead by example, navigating crises, building consensus, and inspiring excellence. Their leadership is marked by

vision, decisiveness, and the courage to challenge the status quo in pursuit of better outcomes for patients and staff.

A legendary medical administrator is a visionary — someone who sees possibilities where others see only obstacles. When faced with daunting challenges, they remind us of the famous quote

“The best way to predict the future is to create it.” and in times of crisis, their calm serves as an example for all.

However, leadership must be paired with a true commitment to collaboration. A genuine legend creates a culture where every voice matters, encouraging open dialogue and empowering others to contribute solutions.

Their faith in collective wisdom turns ordinary meetings into dynamic forums for progress, ensuring that both challenges and successes are shared among colleagues.

“A leader is one who knows the way, goes the way, and shows the way.” — As philosopher Marcus Aurelius wrote.

Embracing Change: The Virtue of Innovation and Adaptability

The pursuit of innovation and adaptability is not a passing trend but a fundamental virtue of effective leadership and administration.

In today’s rapidly evolving healthcare landscape, administrators must foster a forward-thinking mindset to navigate complex environments shaped by technological advancements, shifting regulations, and changing patient expectations.

Legendary medical administrators understand that progress in medicine depends on innovation and adaptability. They

- Support change,
- Pioneer new approaches,
- Introducing groundbreaking technologies,
- Redesign care models,
- Promote interdisciplinary collaboration.

Their dedication to innovation ensured continuous improvement and resilience in health services.

“It is not the strongest of the species that survives, nor the most intelligent, but the one most responsive to change.” — Charles Darwin.

Readiness for the Unexpected

An adaptive mindset is crucial for preparing organisations to meet unforeseen challenges, such as public health crises and pandemics.

Administrators exemplify adaptability in such moments with a solution-oriented attitude, transforming crises into opportunities for creative problem-solving and growth. Their leadership through uncertainty not only protects patient care but also encourages teams to innovate and overcome obstacles together.

Albert Einstein once remarked, “The measure of intelligence is the ability to change.”

Anecdote: Innovation and Adaptability

Dr. Malinga Fernando, as Secretary to the Ministry of Health, played a pivotal role in establishing the State Pharmaceutical Manufacturing Corporation (SPMC). His vision and adaptability were critical in preparing and securing acceptance of the proposal, which was realised with a grant from the Japanese government in 1987. His leadership ensured the successful implementation of this essential drug-manufacturing entity, fulfilling the dreams of Professor Senaka Bibile and Dr. S. A. Wickramasinghe.

Dr. Fernando’s foresight in recognising the need for local pharmaceutical production, his ability to facilitate international collaboration, and his management of complex logistics exemplify the virtues of a legendary medical administrator. His story emphasises the necessity of innovative thinking and adaptability for lasting impact in healthcare.

Following the launch of the Expanded Programme on Immunisation (EPI) in 1978, Dr. Fernando, as Secretary of Health in 1985, personally reviewed the EPI program with all Medical Officers of Health across the country to ensure targets were met.

He held regular reviews, addressed issues directly, and promoted team confidence. His clarity of purpose spurred collective action, turning apprehension into shared success and contributing significantly to the program’s achievements.

This highlights Dr. Malinga’s visionary and innovative approach and demonstrates how he motivated and mobilised MOOHs to contribute toward achieving EPI targets.

As John Quincy Adams 6th President of USA aptly put it, “If your actions inspire others to dream more, learn more, do more and become more, you are a leader.”

Dr. Palitha Mahipala, former Secretary of Health, recalls another innovation credited to Dr. Fernando: his vision to reduce maternal mortality in Sri Lanka by improving maternal care through the initiation of institutional reviews of maternal deaths and strengthening health systems for safer, quality care for every pregnant woman.

“I have a strong recollection of my memory in participating in more than four such organised Institutional, District and National reviews with all relevant stakeholders, starting sharp at 8 am ending around 6 pm after going through all the details. I was privileged to witness his focus on the issues and his personal commitment, as he took immediate administrative actions to address those issues highlighted during the review. His wisdom in proposing practical solutions, ability to suggest a scientific way forward, and his close supervision during implementation were remarkable, outstanding and extraordinary”.

“As a result, the maternal mortality rate dropped from 60 per 100,000 live births in the 1980s to 40 in 2000, enabling Sri Lanka to achieve the Millennium Development Goal target ahead of schedule—the first country in the region to do so. His visionary and far-sighted leadership, practical wisdom, dedication to work and personnel commitment to monitoring the progress have inspired me so much and helped reshape my medical administrative carrier in later life”.

This anecdote demonstrates how a subordinate perceived his leader's innovative and holistic approach, which had made a significant mark in reducing MMR.

Compassion and Empathy

Empathy involves understanding the feelings of another person, while compassion is the desire to help alleviate suffering. Compassion and empathy are essential for strong leadership and effective administration.

Well-known psychologist and author of Emotional Intelligence, Daniel Goleman, explains that compassion begins with full attention—truly seeing the person in front of you. When we see others, empathy arises naturally; if they are in need, empathic concern compels us to act.

Compassionate action begins with this attention.

The greatest administrators never lose sight of the individuals behind the statistics—patients, families, and healthcare workers. Their unwavering commitment to service ensures care remains at the centre of every initiative. Beyond policies and procedures, compassion breathes life into medical administration.

Legendary medical administrators are distinguished by their profound compassion. Staff and patients often recall their open doors and hearts. There are many examples—such as personally visiting a staff member's family in crisis or walking the wards late at night to listen to concerns of staff and patients.

In addition to visible acts of kindness, these

leaders quietly ensure that systems and policies reflect deep respect for both patients and staff. Compassion is woven into every element of their leadership, apparent in daily interactions and broader organisational policies.

During vulnerable moments, true legends offer more than professional guidance—they extend genuine kindness, celebrating personal milestones and grieving losses alongside their teams. This empathetic approach creates a sense of belonging and trust, making their institutions not just workplaces, but communities where every individual feels valued and supported.

As distinguished American author Simon Sinek notes, “Leadership is not about being in charge. It is about taking care of those in your charge.”

Anecdotes: Compassion and Empathy

Dr. Susantha De Silva, former Deputy Director General (Planning), shares an incident that highlights Dr. Malinga Fernando's empathy and compassion toward subordinates. While serving as DMO Panadura, Dr. De Silva and his wife faced a major robbery at their home, forcing them to find new housing immediately. Upon hearing of their situation, Dr. Fernando generously offered his own house, where his mother lived, until they could secure a suitable place.

An incident in my career also highlights this virtue in him. Once, I met him to seek a transfer after ten years at the National Institute of Health Sciences (NIHS) where I was working as the Deputy Director of Training. Initially, he expressed reluctance to release me due to organisational needs of NIHS, when I strongly protested, I will be stagnating there; he understood my frustration and ambitions.

“He listened with the seriousness others reserved for speaking.” Rather than responding with anger, he took immediate steps to advertise the post of Director of Management Training at MDPU, which he has earlier suppressed. I was selected after an interview enabling me to progress in my career.

"These anecdotes depict how Dr Malinga's compassionate nature and empathetic concerns helped officers in times of need."

Integrity and Ethics

The integrity of medical administrators is the foundation of trust in healthcare delivery. Legendary administrators uphold the highest ethical standards, ensuring that every policy and decision reflects fairness, transparency, and respect for human dignity. Their commitment to ethical conduct serves as a moral compass for institutions and sets a standard for all who follow.

Integrity is the unwavering commitment to do what is right, even when no one is watching. This forms the bedrock of trust between administrators, clinicians, and the communities they serve. When resource allocation raises ethical questions or political pressures threaten decision-making, the leader of integrity stands firm, guided by principle rather than popularity.

“In matters of style, swim with the current; in matters of principle, stand like a rock.” — Thomas Jefferson, American Founding Father and the third president of the United States.

Trust is the “glue” that binds leaders, staff and the serving community. Integrity in leadership involves honesty, consistency, reliability, and accountability in all actions and communications, fostering a trustworthy environment.

“In looking for people to hire, you look for three qualities: integrity, intelligence, and energy. And if they don’t have the first, the other two will kill you.” – Warren Buffett. Famous American investor and philanthropist

Ethics in Decision-Making

Administrators emphasise strong systems, and their commitment to ethical conduct establishes a trustworthy environment for staff and patients. This often means making tough choices aligned with “what is right,” even when not easy. Ethical dilemmas in administration are inevitable—from resource allocation to upholding patient confidentiality in the digital age. Decisions must balance practicality with profound moral responsibility.

The foundation of medical ethics is beneficence and non-maleficence. An administrator’s integrity ensures these principles guide all decisions, from resource allocation to strategic planning. Ethical leadership requires courage to stand up for core values, ensuring ethical standards are upheld throughout the organisation, even when unpopular.

As one colleague recalled, Dr. Malinga Fernando once remarked, “The measure of our profession is not just in the statistics of survival, but in the dignity with which we serve.”

This statement encapsulates his unwavering commitment to doing what is right, even when no one is watching.

His colleagues and subordinates consistently praised his integrity and commitment to ethical standards. They noted that he remained steadfast in his principles, refusing to yield to political pressure or external influences when making decisions regarding service delivery or personnel matters.

Dr. Malinga Fernando's dedication to integrity and ethics sets standards for all of us to follow.

Mentorship and Education: Cultivating Future Generations

Legendary medical administrators recognise their responsibility as mentors and educators. They invest in the professional development of others, serving as role models and exemplifying the attitudes and actions necessary for success. By sharing wisdom and nurturing talent, these leaders create a legacy that extends far beyond their own tenure.

A mentor offers

- Wisdom,
- Understanding,
- Encouragement for growth.

Through mentorship, individuals gain clarity, confidence, and motivation to succeed. The value of mentorship extends beyond knowledge; it is rooted in relationships built on

- Trust,
- Respect,
- Mutual growth.

Such relationships accelerate personal and professional development. Mentors provide advice, support, and insight, drawing from their experience. They guide others through challenges, offer constructive criticism, share knowledge, and introduce new perspectives.

Mentors also support personal growth, offering guidance on work-life balance, stress management, and decision-making.

“A mentor is someone who allows you to see the hope inside yourself.” — Oprah Winfrey. — American television personality, actress, and entrepreneur

Bill Walsh wisely observed, “Your mentors in life are important, choose them wisely”. Selecting supportive mentors ensures their influence will help you navigate life’s challenges and achieve meaningful growth.

Anecdotes of Mentorship: Lessons from Dr. Malinga Fernando

Reflecting on mentorship, I am reminded of my experiences with Dr. Malinga Fernando. one of my mentors and role models, whose guidance

helped shape my career and my approach to service and life.

I first met Dr. Fernando as a young medical officer in 1973 during an evening shift at LRH OPD. His imposing presence was immediately recognisable. When I stood to greet him, he kindly asked me to finish attending to my patient before speaking. This casual yet respectful attitude contrasted with his reputation as a stern taskmaster, leaving a lasting impression.

The rapport I built with Dr. Fernando proved invaluable in my later career at the National Institute of Health Sciences in 1978. He treated me like a younger brother, offering guidance and approvals essential to developing NIHS, including the utilisation of USAID funds.

On another occasion, he recruited me as a Short-Term Consultant to Bhutan in 1993 to assist the Royal Institute of Health Sciences (RISH). This role greatly benefited my professional growth.

His mentorship was crucial to my achievements and enabled me to serve effectively in the Ministry of Health. When I chose to retire early due to an injustice, though many senior medical administrators insisted that I continue, Dr. Fernando was the only one to call and reaffirm my decision, as he knew me better.

The last time I saw him was two years before his passing in 2008, at Dr. Susantha de Silva's wife's almsgiving in Nawala. We sat outside together, and he shared key incidents from his career.

During our conversation, he recounted how he averted a major trade union action in Galle, due to the then political strong man in Galle created an incident at the Galle General Hospital, which I also knew as I was working as MOH Unawatuna at that time. He remembered subordinates from years ago, highlighting his ability to value individuals.

Dr. Fernando was renowned as a stern taskmaster and disciplinarian who expected excellence, but those who knew him also witnessed his compassion and generosity.

Few saw this side of him, but those who did witnessed a genuinely generous and thoughtful individual.

I recall a World Health Assembly meeting in Geneva with Dr. Ananda Herath, where Dr. Fernando hosted us for a sumptuous meal that he had prepared himself. On another occasion, he encouraged me to buy crystal-cut glass wine sets, reflecting his passion as a collector, something I am sure Neluka still cherishes. In Mongolia, when

I hesitated about purchasing a renowned Mongolian carpet, he assured me he would arrange for it to be airlifted as unaccompanied baggage.

These anecdotes show Dr. Fernando's genuine kindness and simplicity. His mentorship was invaluable to my growth, and it's clear that being recognised as both a role model and mentor by subordinates is essential to being called a legendary medical administrator.

As we reflect on the virtues of legendary medical administrators, let us remember the profound impact that mentorship and education have on individual lives and the wider community.

In Conclusion,

Dr. Malinga Fernando exemplifies the distinctive virtues that define medical administrators in any healthcare setting. His inspirational leadership career set a benchmark for efficient and effective healthcare delivery, establishing a uniquely Sri Lankan standard of excellence. That is why I would like to name him a legendary Medical Administrator.

The legacy of mentors like Dr. Malinga Fernando and other legendary medical administrators lies in their commitment to nurturing talent and fostering growth in others. Their influence endures through the generations of professionals they inspire, guide, and empower.

Relevance to Modern Medical Administration

As we navigate through complex and modern healthcare, with its technological advances, demographic shifts, and evolving patient expectations, the virtues exemplified by legendary administrators are more relevant than ever.

Today's leaders must balance,

- Administrative responsibility with compassionate care,
- Champion innovation while upholding ethical standards,
- and serve as mentors.

Though challenges have changed, the core virtues remain timeless. In pursuing excellence, let us look to these role models as guiding lights, reminding us that authentic leadership is defined by virtues highlighted in this oration.

To all present—whether you are beginning your journey in medical administration or continuing a lifelong career, I urge you to reflect on the examples set by those who came before us.

- Lead with courage,
- Innovate boldly,
- Serve with compassion
- Act with integrity,
- Commit to mentoring others.

In doing so, you will not only advance your career but also uplift your institution and the lives it touches.

The legacy of legendary administrators is not a distant ideal, but a living tradition for each of us to uphold and renew.



ORIGINAL ARTICLES



From Capacity to Action: Charting National Genomic Sequencing Services Roadmap for Precision Health in Sri Lanka

Singhaprathapa SWMKK¹, Dolamulla SS¹, Dharmatilake NH¹, Hewamanna SSK²

¹Ministry of Health and Mass Media, Colombo, Sri Lanka, ²Regional Directorate of Health Services, Monaragala.

Correspondence to:
SWMKK Singhaprathapa

E-Mail
dr.swmkks@gmail.com

Key Words:

Genomic sequencing,
roadmap, Sri Lanka,
precision health, capacity
building

Abstract

Introduction: Genomic sequencing (GS) is a powerful tool in modern medicine underpinning disease surveillance, precision diagnostics, antimicrobial resistance monitoring, and public health research. Sri Lanka has developed laboratory and research infrastructure, but lacks a unified national roadmap for GS services. This study aimed to assess GS capacity in Sri Lanka, identify key challenges, and prioritise strategies to guide roadmap development.

Methods: A cross-sectional descriptive study was performed in 2025 among professionals, including medical administrators (25%), consultants (30%), academics (20%) and laboratory technologists (25%). Data were collected via a validated self-administered questionnaire (Cronbach's $\alpha = 0.87$) and a resource mapping tool. Quantitative results were summarised using descriptive statistics; qualitative data were thematically synthesised. Proposed strategic actions were ranked using a Delphi-based scoring framework.

Results: Significant gaps emerged: infrastructure inadequacies (N=80; 68%), funding shortages (N=80; 72%), limited bioinformatics capacity (N=80; 25%), and weak inter-institutional coordination (N=80; 64%). Resource mapping revealed that while equipment was available in many institutions, 78% reported a critical shortage of trained personnel. The highest-priority strategies (mean scores out of 5) were: establishing national governance (4.8), workforce training (4.6), enhancing data sharing (4.5), integrating GS into health policy (4.3), strengthening ethical or legal frameworks (4.1) and developing sustainable funding (3.9).

Conclusions and Recommendations: Although Sri Lanka has foundational infrastructure for GS, critical gaps in human resources, governance, and financing constrain its utility. A coordinated roadmap addressing governance, capacity building, data integration, and sustainability is urgently needed to harness GS for health, research, and national health security.

Introduction

Background

Genomic sequencing is the process of determining the complete DNA or RNA sequence of an organism's genome. It reveals genetic information, including mutations, variations, and pathogen identity. This technology supports diagnostics, disease surveillance, research, and precision medicine by enabling targeted interventions and understanding of genetic and infectious disease patterns. GS is increasingly central to biomedical science and public health. It enables pathogen surveillance, genomic epidemiology, AMR tracking, precision oncology, and pharmacogenomics^{5,14}.

In global health emergencies such as the COVID-19 pandemic, countries with established GS systems gained a distinct advantage in real-time variant detection and evidence-based public health decision-making^{3,16}. In Sri Lanka, molecular diagnostics and limited next-generation sequencing (NGS) platforms exist in select research institutions and tertiary hospitals^{6,17}. However, these are isolated efforts, often dependent on external funding or academic projects, and lack integration into national health systems or public health policy¹⁸. Without a strategic framework, GS remains underutilised in disease surveillance, diagnostics, and health planning^{5,18}. Many LMICs face similar challenges, such as limited workforce, weak data systems and fragmented governance¹⁴. Nonetheless,

successful national genomic initiatives, such as the Africa CDC Pathogen Genomics Initiative^{3,16} and Thailand's National Genomics Infrastructure^{4,15}, show that governance, workforce training, sustainable financing, and ethical data systems are the key pillars of progress. Given Sri Lanka's evolving health research ecosystem and increasing emphasis on genomic resilience, a situational assessment is timely. This study assessed GS capacity, identified gaps and opportunities. Furthermore, the study prioritised the strategies to guide the development of a national GS roadmap for Sri Lanka.

Objectives

General Objective

To assess the current status and available resources to develop a strategic framework for genomic sequencing services in Sri Lanka.

Specific Objectives

- To evaluate the current status of genomic sequencing services in Sri Lanka, including infrastructure, technical capacity, and policy environment.
- To identify available resources and gaps critical to developing a strategic framework for national genomic sequencing services.
- To analyse key factors influencing the implementation and scalability of genomic sequencing in the context of precision health.
- To provide recommendations for establishing a comprehensive roadmap to enhance genomic sequencing capabilities for precision health initiatives in Sri Lanka.

Literature Review

Genomic Sequencing has emerged as a transformative technology in public health, enabling precision medicine, surveillance of infectious diseases, and genomic epidemiology¹. The World Health Organization has emphasised the integration of GS into national health systems to strengthen disease surveillance, outbreak response, and antimicrobial resistance monitoring². WHO's Global Genomic Surveillance Strategy (2022–2032) outlines the need for country-level capacity building, governance mechanisms, and prioritisation frameworks for effective implementation³.

Several countries, including the United Kingdom, Australia, and India, have successfully developed national genomic strategies focusing on infrastructure development, skilled workforce training, and data governance^{4–6}. These frameworks provide valuable models for low- and middle-income countries aiming to establish sustainable genomic programs.

Prioritisation tools have been used in many settings to identify strategic interventions in public health genomics, allowing systematic assessment of feasibility, impact, and readiness⁷. Tools such as the WHO's health technology prioritisation frameworks and resource mapping instruments assist policymakers in aligning genomic investments with national priorities⁸.

In Sri Lanka, genomic sequencing capacity remains limited, and systematic assessments of readiness and prioritisation have not been comprehensively undertaken. Thus, understanding global best practices and applying prioritisation approaches are essential for developing a national GS roadmap.

Methods

Study design

A descriptive cross-sectional mixed-method study design was conducted from January 2025 to July 2025. Reporting adheres to the STROBE guidelines for cross-sectional studies^{1,2,7,8}. Checklist items related to design, participants, variables, bias, study size, and analysis were systematically applied to ensure transparency^{11,12}.

Study setting

The study was conducted at national, regional, university, and hospital institutions engaged in laboratory services, public health, or research^{17,18} in Sri Lanka.

Study population

The study population comprised senior-level professionals in medical administration, clinical practice, academics, and laboratory services who were directly involved in GS-related governance, research, or diagnostic activities. Participants (n = 80) were purposively selected to represent four categories: Medical Administrators (25%), Consultants in laboratories (30%), Academics (20%), and Laboratory staff, including Medical Laboratory Technologists (25%).

Study instruments

The study employed three main instruments: an online Google Form, a Resource Mapping Tool, and a Prioritisation Tool.

A Self-Administered Questionnaire (SAQ)

The online Google Form was used as the primary data collection instrument to obtain information from key stakeholders across public, private, and academic institutions. It consisted of structured and semi-structured questions designed to capture data on institutional capacity, workforce expertise, laboratory facilities, and existing GS activities. SAQ was developed based on literature and expert input^{5,14,15,20}. It covered infrastructure, funding, workforce, bioinformatics, governance, policy environment, and collaboration. The pretest among 10 professionals achieved Cronbach's $\alpha = 0.87$, indicating high internal consistency.

The form utilised a five-point Likert scale to capture respondents' perceptions and levels of agreement with various statements. The scale consisted of 1 – Strongly Agree, 2 – Agree, 3 – Neutral, 4 – Disagree, and 5 – Strongly Disagree. This format enabled the study to measure the degree of consensus or divergence among stakeholders regarding existing capacities, challenges, and opportunities in the GS landscape. Additionally, open-ended questions were included to allow respondents to provide detailed explanations, examples, and

recommendations. The Google Form was distributed electronically to ensure broad participation across institutions and to facilitate convenient, time-efficient data collection while maintaining confidentiality and data integrity.

A Resource Mapping Tool (RMT)

The resource mapping tool was improved and tailored to the Sri Lankan context. It helps systematically document and analyse available infrastructure, human resources, laboratory capabilities, and data management systems relevant to GS. This tool assists in identifying the geographic and institutional distribution of resources and highlights existing gaps and overlaps.

A Prioritization Tool

This tool was designed to guide stakeholders in ranking strategic actions for the development of the national GS roadmap. Using predefined criteria such as feasibility,

impact, and sustainability, it enabled the systematic evaluation and prioritisation of proposed interventions through a participatory process. This instrument ensured comprehensive data collection, objective assessment, and evidence-based decision-making for roadmap formulation.

A Semi-Structured Questionnaire (SSQ)

A SSQ was developed to guide key informant interviews with experts and stakeholders engaged in genomic services in Sri Lanka. The tool was designed to obtain in-depth qualitative information on existing capacities, challenges, and opportunities related to genomic sequencing implementation. It allowed for flexibility in exploring emerging themes while ensuring consistency across interviews. Data were collected through direct interviews, either in person or online. They were analysed thematically to identify key insights and perspectives relevant to strengthening national genomic sequencing capacity.

Data collection and analysis

Data were collected through online Google Forms and Mentimeter software. Selected participants participated in key informant interviews to validate responses and enrich qualitative findings. Quantitative data were analysed using descriptive statistics; qualitative data were coded thematically. A Delphi-based scoring framework was utilised to prioritise proposed strategies^{9,10,13}.

Results

Participant profile

All 80 participants completed the survey. The response rate was 100%. The sample included medical administrators (20; 25%), consultants (24; 30%), academics (16; 20%), and laboratory technologists (20; 25%). Participants represented central, provincial, and institutional levels, ensuring comprehensive national coverage across diverse healthcare and academic settings.

Human resources availability (Table 1)

Human resource distribution across genomic sequencing institutions demonstrated variable capacity. The National Hospital of Galle (NHG) and National Hospital Kandy (NHK) had similar profiles with one consultant, one trained consultant, two medical officers, and several MLTs, indicating moderate operational capacity. The Medical Research Institute (MRI) had more consultants and a research officer, reflecting stronger research involvement. The National Cancer Institute (NCI)

Table 1. Availability of human resources for genomic sequencing services in Sri Lanka

Institution	Consultants using the Genomics	Trained Consultants	Medical Officers	Trained Medical Officers	Research Officers	Trained Research Officers	Bioinformatician	Trained Bioinformatician	MLTs	Trained MLTs
NHG	1	1	2	0	0	0	0	0	5	2
NHK	1	1	2	0	0	0	0	0	7	2
MRI	2	1	1	0	1	0	0	0	2	1
NCI	6	3	0	0	0	0	1	1	3	3
NSACP	2	1	1	0	0	0	0	0	3	3

had the highest consultant representation and the only trained bioinformatician, highlighting advanced analytical capability. The National STD/AIDS Control Programme (NSACP) showed balanced staffing with trained MLTs. Overall, trained personnel were limited, emphasising the need for workforce development. Most respondents (68%) rated infrastructure as inadequate. Only select universities and national laboratories had functional NGS platforms, with 61% having at least one sequencer. However, underutilisation was common due to reagent shortages, maintenance gaps, or downtime^{17,18,20}.

Availability of equipment and tests at institutes (Table 2)

Oxford Nanopore Technologies (ONT) and Illumina are currently the leading platforms for genomic sequencing, each employing distinct technologies with complementary strengths.

ONT devices, such as the Mk1C, utilise nanopore-based sequencing, enabling real-time, portable, and long-read analysis, which is particularly useful for field diagnostics and rapid outbreak investigations. Illumina platforms, including NextSeq and iSeq, use sequencing-by-synthesis technology to generate highly accurate short reads, making them ideal for large-scale genomic studies, clinical diagnostics, and transcriptomic analyses. In Sri Lanka, institutions such as the University of Colombo (UoC) and the University of Sri Jayewardenepura (USJP) have integrated these technologies into their genomic research

Table 2. Availability of equipment and tests for genomic sequencing services in Sri Lanka

Institution	Brand	Model	Funding	Responsibility of Reagent Procurement	Year of Installation	Service Agreement
NHG	ONT	Mk1C	Donation	No	2021	No
NHK	ONT	Mk1C	Donation	No	2021	No
MRI	ONT	Mk1C	Donation	No	2022	No
NCI	Illumina	NextSeq 1000	Donation	Yes	2022	Yes
NCI	Illumina	iSeq 100	Donation	Yes	2022	Yes
NSACP	Illumina	NextSeq 1000	Donation	Yes	2022	Yes
UoC	ONT, Illumina	-	-	-	-	-
USJP	ONT, Illumina	-	-	-	-	-

infrastructure. UoC has leveraged Illumina systems for high-throughput genomic projects, while USJP has piloted ONT devices for rapid pathogen surveillance and real-time outbreak monitoring. By combining the flexibility, portability, and rapid turnaround of ONT with the high accuracy and throughput of Illumina, these universities are enhancing national capacity in genomic surveillance, precision medicine, and translational research. This dual-platform approach provides a robust framework for strengthening both research and public health responses in Sri Lanka. A large majority (72%) identified funding constraints and dependence on short-term donor projects. Only a few institutions integrated GS into recurrent budgets, reflecting limited sustainability planning^{5,18,19}.

Availability of Storage and Backups (Table 3)

Assessment of data management systems revealed limited capacity for secure genomic data storage across institutions. NHG, NHK, and MRI relied mainly on computer hard disks without dedicated backup systems or LIMS databases, posing risks for data loss. In contrast, the National Cancer Institute (NCI) maintained more advanced infrastructure, using file servers, cloud storage, and a dedicated backup system. The National STD/AIDS Control Programme (NSACP) also had basic backup capacity through external hard drives. However, none of the institutions had an operational Laboratory Information Management System (LIMS) to link genomic sequences with metadata, indicating a critical need for digital integration.

Table 3. Availability of storage and backups for genomic sequencing services

Institution	Long-term data storage	Data backup storage	Sequence data backup location	Availability of LIMS database
NHG	Computer hard disk	No	None	No
NHK	File server, Computer hard disk	No	None	No
MRI	Computer hard disk	No	None	No
NCI	File server, Computer hard disk, Cloud storage	Yes	File server	No
NSACP	External hard drive, Computer hard disk	Yes	External hard drive	No

Strategic Priority Ranking (Table 4)

The prioritisation exercise identified key strategic areas for strengthening genomic sequencing (GS) in Sri Lanka. Establishing a national GS governance framework ranked highest (mean score = 4.8), emphasising the need for coordination and policy direction. Workforce training and capacity building (4.6) and an integrated data-sharing and bioinformatics hub (4.5) were also highly prioritised. Integration of GS into public health surveillance (4.3) highlighted the importance of linking sequencing to disease monitoring. Developing ethical and legal frameworks (4.1) for genomic data governance and ensuring sustainable funding and partnerships (3.9) were recognised as essential supporting elements for long-term implementation and system resilience. Weak coordination (64%) and absence of a national governance or ethical framework (81%) were significant gaps. Only 42% reported having institutional data protection policies, and 46% lacked standard procedures for data sharing^{18,19}.

Table 4. Priority strategies of genomic sequencing services in Sri Lanka

#	Strategy	Mean Score / 5 (n=80)
1	National GS governance framework	4.8
2	Workforce training or capacity building	4.6
3	Integrated data-sharing and bioinformatics hub	4.5
4	Integration into public health surveillance	4.3
5	Ethical or legal frameworks for genomic data	4.1
6	Sustainable funding and partnerships	3.9

Discussion

Summary of findings

This study presents the first structured national assessment of GS readiness in Sri Lanka, providing a comprehensive overview of the current landscape across health, academic, and research institutions. It identified critical gaps in governance, workforce capacity, technical expertise, data management, and sustainable financing, despite the presence of isolated equipment and limited operational initiatives^{6,17}. The findings underscore the urgent need for a coordinated national roadmap that aligns policy, infrastructure, and human resource development while fostering collaboration between health, academic, and research sectors to ensure effective and equitable integration of GS into Sri Lanka's public health system^{5,18}.

Comparison with other LMICs

Similar capacity constraints have been reported in other LMICs¹⁴, highlighting common challenges in infrastructure, technical expertise, and sustained funding. The Africa CDC Pathogen Genomics Initiative exemplifies how regional hubs can effectively pool resources, build workforce capacity, and harmonise operational standards across countries^{3,16}. Likewise, Thailand's national genomic centre model demonstrates the successful integration of sequencing technologies into disease surveillance and public health response networks^{4,15}.

Governance and policy implications

Effective governance is foundational to developing a sustainable genomic ecosystem. Establishing a National Genomic Steering Committee under the Ministry of Health could provide strategic oversight for regulation, ethical compliance, data sharing, and intersectoral coordination^{18,19}. Such a mechanism would promote accountability and policy coherence. Furthermore, adherence to the STROBE framework ensures scientific rigour, transparency, and robust translation of observational data into evidence-informed policies and national genomic strategies^{1,2,7,8,11}.

Workforce capacity and retention

The severe shortage of trained genomic experts highlights the urgent need for structured postgraduate training programs, continuous professional development, and attractive retention incentives to sustain national capacity. Establishing regional mentorship networks and implementing twinning arrangements with established international genomic hubs, as recommended in global genomics implementation models, can accelerate skill transfer, strengthen institutional capacity, and foster a sustainable workforce pipeline for genomic medicine and public health applications^{14,16,17}.

Data infrastructure and ethics

Establishing a national bioinformatics hub would enable centralised management of sequencing analysis, data storage, and controlled access, thereby improving efficiency, data security, and institutional governance^{18,19,20}. Such a hub would also facilitate standardisation of analytical pipelines and promote equitable data sharing across sectors. Ethical oversight mechanisms should be embedded within this framework, aligned with OECD and WHO genomic data protection and privacy standards to ensure responsible data use^{19,20}.

Funding and sustainability

Reliance on donor funding is inherently unsustainable for long-term genomic system development. Integrating GS activities into national health budgets, fostering strategic private sector partnerships, and establishing a dedicated national genomics innovation fund would ensure financial continuity and resilience^{5,15,18}. Moreover, implementing demonstration projects that showcase the cost-effectiveness and public health impact of GS applications such as AMR surveillance can build confidence and attract sustained stakeholder investment^{3,14}.

Phased implementation strategy

1. Establish governance and pilot coordination hub.
2. Build human resource capacity and regional sequencing units.
3. Integrate GS into surveillance, diagnostics, and research networks.
4. Scale nationally with evaluation and sustainability measures^{17,18,20}.

Limitations

As a purposive sample, the study's representativeness is inherently limited, and the reliance on self-reported data may have introduced response or recall bias. However, the methodological rigour maintained throughout the research process, particularly adherence to the STROBE framework, systematic data verification and triangulation of information sources enhances the credibility, reliability, and overall validity of the findings, providing a robust foundation for policy and programmatic interpretation^{1,2,7}.

Conclusions

Sri Lanka currently possesses partial infrastructure and research interest in genomic sequencing, but critical gaps in workforce, governance, and funding prevent its integration into health systems. A national GS roadmap founded on governance architecture, capacity building, data integration, and sustainable financing is urgently required. The prioritised strategies generated in this study provide a practical, stakeholder-informed foundation. Implementing these will strengthen diagnostic, surveillance, and research capabilities in Sri Lanka.

Recommendations

Based on the conclusions, the following recommendations are proposed

1. Establish a national governance and regulatory framework for genomic sequencing services in Sri Lanka.
2. Develop and implement a phased national genomic sequencing roadmap aligned with health system priorities in Sri Lanka.
3. Strengthen human resource capacity, with emphasis on bioinformatics and clinical genomics in Sri Lanka.
4. Improve bioinformatics infrastructure and data integration within national health information systems in Sri Lanka.
5. Ensure sustainable financing mechanisms to support long-term genomic sequencing services in Sri Lanka.

References

1. Von Elm E, Altman DG, Egger M, Pocock SJ, Gøtzsche PC, Vandenbroucke JP; STROBE Initiative. The Strengthening the Reporting of Observational Studies in Epidemiology (STROBE) statement: guidelines for reporting observational studies. *J Clin Epidemiol*. 2008 Apr;61(4):344-9.
2. Vandenbroucke JP, von Elm E, Altman DG, Gøtzsche PC, Mulrow CD, Pocock SJ, Poole C, Schlesselman JJ, Egger M. Strengthening the Reporting of Observational Studies in Epidemiology (STROBE): Explanation and Elaboration. *PLoS Med*. 2007 Oct;4(10):e297.
3. Africa Centres for Disease Control and Prevention. Pathogen Genomics Initiative: Strengthening Public Health Genomics Across Africa. Addis Ababa; 2022.
4. Thailand Centre of Excellence for Life Sciences. National Genomics Infrastructure: Strategies and Implementation. Bangkok, 2023.
5. WHO. Global strategy for genomics and health: Harnessing genomic technologies to improve public health worldwide. Geneva: World Health Organization; 2023.
6. Jayaweera K, Ranasinghe C, Jayasooriya S, et al. The Sri Lankan Twin Registry biobank: South Asia's first extensively phenotyped and genotyped cohort. *BMC Genet*. 2020;21:142.
7. Cuschieri S. The STROBE guidelines. *Saudi J Anaesth*. 2019;13(Suppl 1):S31-S34.
8. Abeysena C. Strengthening the reporting of observational studies in epidemiology (STROBE) statement: New guidelines for reporting observational studies. *J Coll Community Physicians Sri Lanka*. 2008;13(2):26-28.
9. Chan AW, Tetzlaff JM, Altman DG, et al. SPIRIT 2013 Statement: defining standard protocol items for clinical trials. *Ann Intern Med*. 2013;158(3):200-207.
10. Moher D, Liberati A, Tetzlaff J, Altman DG; PRISMA Group. Preferred Reporting Items for Systematic Reviews and Meta-Analyses: the PRISMA statement. *PLoS Med*. 2009;6(7):e1000097.
11. Benchimol EI, Smeeth L, Guttmann A, et al. The RECORD Statement: Extension of the STROBE Statement for studies using routinely collected health data. *PLoS Med*. 2015;12(10):e1001885.
12. Bossuyt PM, Reitsma JB, Bruns DE, et al. STARD 2015: an updated list of essential items for reporting diagnostic accuracy studies. *BMJ*. 2015;351:h5527.
13. Collins R, Bowman L, Landray M, Peto R. The magic of randomization versus the myth of real-world evidence. *N Engl J Med*. 2020;382(7):674-678.
14. Choudhary A, Srivastava S. Implementing genomics in developing countries: challenges and pathways. *Front Public Health*. 2023;11:1154329.
15. Tan DS, Koh WP. Precision medicine in Asia: Opportunities and policy considerations. *Lancet Region Health West Pac*. 2020;4:100043.
16. Githinji G, Mburu S, Miring'u G, et al. Building capacity for genomic surveillance in Africa. *Nat Commun*. 2022;13:484.
17. Singhapathapa SWMKK, Dolamulla SS, Dharmatilake NH, Hewamanna SSK. Situational Analysis of Genomic Sequencing Capacity in Sri Lanka (Unpublished internal MoH report) 2025.
18. National Science Foundation, Sri Lanka. Strategic Directions for Biotechnology and Genomics Research in Sri Lanka 2023-2030. Colombo, 2023.
19. OECD. Guidelines on the Protection and Use of Human Genomic Data. Paris, 2023.
20. World Health Organization. Laboratory Quality Management System: Handbook. 3rd ed. Geneva; 2011.



Use and Outcomes of the 1926 National Mental Health Helpline During the COVID-19 Pandemic in Sri Lanka

Wijewickrama BAO¹, Perera WMTM², Ranasinghe PK², Wijesinghe D², Pathirana CK²,
Fonseka TPM², Wijesiriwardene RM², Malkanthi MGS², Gunarathne WNS²

¹Post Graduate Institute of Medicine, University of Colombo, ²National Institute of Mental Health

Correspondence to:

BAO Wijewickrama

E-Mail

arosha24@gmail.com

Key Words:

COVID-19,
Mental health,
Helpline service,
Pandemic

Abstract

Background: The COVID-19 pandemic significantly impacted global mental health, necessitating accessible support services. In Sri Lanka, the 1926 National Mental Health Helpline played a crucial role during the pandemic and associated lockdowns. This study aimed to assess the mental health needs of its users and the outcomes of the helpline's interventions during this period.

Methods: A descriptive cross-sectional study was conducted with 401 users of the 1926 National Mental Health Helpline between March 20th and June 20th, 2020. Data were collected via interviewer-administered structured forms and a 10-item user satisfaction questionnaire. Statistical analysis was performed using SPSS version 23.0 to describe demographic characteristics, reasons for seeking help, interventions provided, and satisfaction levels.

Results: The majority of users were female (56.8%) and married (73.7%). Mental health concerns/information (50.8%), relationship issues (12.7%), and emotional issues (10.0%) were the primary reasons for seeking help. Reassurance (61.1%) and counseling (27.7%) were the most common interventions. A high proportion of users reported receiving the support they needed (72.1%), found operators polite and helpful (96.7%), and were overall satisfied with the service (85.0% extremely or very satisfied). Help-seeking for child mental health ($p=0.010$), relationship issues ($p=0.015$), and emotional issues ($p=0.034$) was significantly higher among females.

Conclusion: The COVID-19 pandemic severely impacted the mental health of the Sri Lankan population, with the 1926 helpline providing substantial support for diverse mental health needs. The high user satisfaction underscores its effectiveness and importance as an accessible mental health resource during crises. These findings highlight the need to strengthen and promote such services for future public health emergencies.

Introduction

The COVID-19 pandemic profoundly impacted global mental health, underscoring the need for accessible support services [1, 2]. Lockdowns and social isolation exacerbated existing mental health concerns, leading to potential long-term issues [3]. Telephone helplines emerged as crucial tools for timely and effective mental health management during this crisis, affecting all segments of the population, from the general public to frontline workers [4, 5]. Global studies revealed diverse helpline call patterns, with some focusing on quarantine issues [6] and others noting male callers with anxiety [7]. In Sri Lanka, the 24/7 National Mental Health Helpline (1926), launched in 2018 by the National Institute of Mental Health (NIMH), became instrumental during the COVID-19 outbreak [8]. This study aims to assess the use and outcomes of the 1926 Helpline during the pandemic in Sri Lanka, informing future crisis preparedness.

Design

This descriptive cross-sectional study provided a snapshot of mental health needs among 1926 helpline users and the effectiveness of its interventions during the COVID-19 pandemic and lockdown in Sri Lanka. This design efficiently collected data from a large sample, enabling the description of mental health patterns and helpline utility.

Methods

Study Setting

The study was based at the 1926 National Mental Health Helpline center in Angoda, Sri Lanka.

Study Population Users of the 1926 National Mental Health Helpline during the COVID-19 pandemic period.

Inclusion Criteria

1926 helpline users from March 20th to June 20th, 2020.

Exclusion Criteria Incomplete calls, untraceable callers, users aged below 18 years, and callers lacking capacity to consent.

Sample Size Calculation and Sampling Method

A simple random sampling method was used. The sample size was calculated using the formula by Lwanga and Lemeshow[9]: $N = \frac{Z_{1-\frac{\alpha}{2}}^2 p(1-p)}{d^2}$ With $Z=1.96$, $P=0.5$, $d=0.05$, the minimal sample size was 385. Adjusting for a 20% non-response rate, the total required sample size was 482. A total of 401 participants were included in the final analysis.

Study Instruments

1. Structured Data Collection Form: Captured demographics, reasons for accessing the helpline, and interventions.
2. 1926 National Mental Health Helpline User Satisfaction Questionnaire: A 10-item questionnaire assessing user satisfaction on a 6-item Likert scale.

Procedure of Data Collection

Trained data collectors identified eligible participants via phone calls, explaining the study. Consenting individuals spoke with the principal investigator for recruitment and received written information via post. Relevant caller sheets were traced, and data collectors administered both forms.

Data Analysis

Statistical analysis was performed using SPSS version 23.0. Descriptive statistics (frequencies, percentages) summarized demographics, reasons for seeking help, interventions, and satisfaction. Associations between demographic factors and reasons for seeking help were explored using appropriate statistical tests (e.g., chi-square tests), with $p < 0.05$ considered significant.

Ethical Considerations

Ethics approval was obtained from the Ethics Review Committee of the National Institute of Mental Health (NIMH), Sri Lanka. Permission was also sought from the Director of NIMH and the Consultant Psychiatrist in charge of the helpline. Verbally informed consent was obtained from all participants after assessing capacity. Confidentiality of data was ensured through secure storage and password protection.

Benefits and Risks to Participants.

Potential psychological distress during interviews was managed by providing adequate support and referral for psychiatric assessment when needed. No risks to researchers were identified.

Dissemination of Project Outcomes.

Outcomes were planned for publication in a peer-reviewed journal.

Conflict of Interest

None declared.

Results

This chapter details the demographic characteristics, reasons for contacting the helpline, interventions, and satisfaction levels of the 401 study participants.

Demographic Characteristics

Table 1 presents the demographic profile. The mean age was 44.86 years. Females constituted the majority (56.8%), and most participants were married (73.7%).

Table 1: Demographic Factors (N=401)

Demographic Factor	Frequency (n)	Percentage (%)
Age	(Mean) - 44.86	20-39 = 45.6 40-59 = 40.1 >60 = 14.3
Gender		
Male	173	43.3
Female	227	56.8
Marital Status		
Single	95	24.0
Married	292	73.7
Separated	6	1.5
Divorced	3	0.8

Figure 1 illustrates educational levels: A/L (45.4%), Tertiary (25.6%), O/L (22.6%), and up to Grade 8 (6.5%).

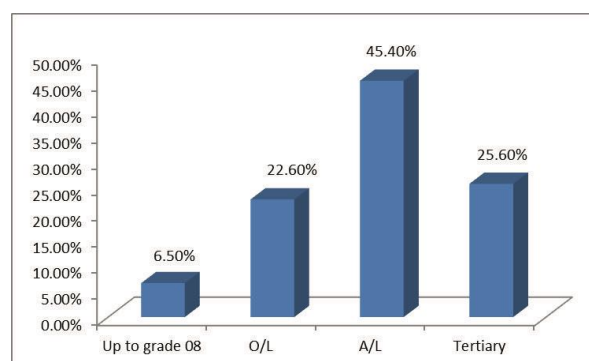


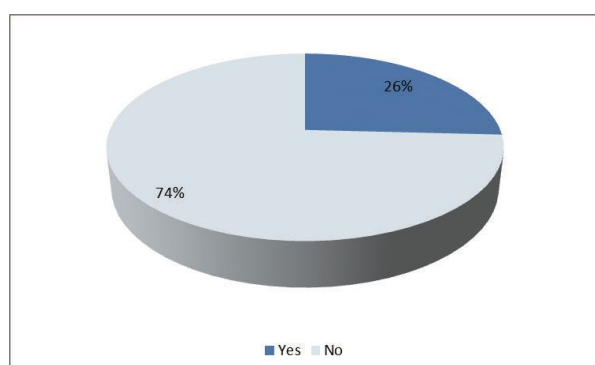
Figure 1: Distribution of Education Level

Table 2 shows occupations: Professional managers/technicians (28.5%), housewives (23.9%), and unemployed (16.3%) were the largest groups.

Figure 2 indicates that 74% had no prior psychiatric diagnoses, while 26% did.

Table 2: Type of Occupation (N=393, missing 8 responses)

Occupation	Frequency (n)	Percentage (%)
Professionals, Managers, Technicians	112	28.5
Clerical support workers	51	13.0
Skilled agricultural forestry fishery workers	37	9.4
Plant and machine operators	9	2.3
Elementary occupations	13	3.3
Armed forces occupations	13	3.3
Housewife	94	23.9
Unemployed	64	16.3

**Figure 2: Diagnosis of Psychiatric Illness**

Reasons for Seeking Help

Table 3 shows mental health concerns/information (50.8%), relationship issues (12.7%), and emotional issues (10.0%) were primary reasons. Suicidal ideation was reported by 6.0%.

Table 3: Reasons for Seeking Help (N=401)

Variable	Frequency (n)	Percentage (%)
MH concerns/Information	203	50.8
Domestic Violence	10	2.5
Information Regarding Other Services	51	12.7
Suicidal ideation	24	6.0
Child Mental Health	16	4.0
Information regarding media	40	10.0
Alcohol (Only alcohol takers)	22	5.5
Relationship issues	51	12.7
Ideas of harming others	7	1.7
Cyber related issues	1	0.2
Sexual Problems	4	1.0
Emotional issues	40	10.0
Psychological first aids	14	3.5
Other	17	4.2
Ambulance	18	4.5
Covid 19	13	3.2
Academic Related	2	0.5
Other Substances+Alcohol (Poly substance - cannabis)	14	3.5

Interventions Provided by the Helpline

Table 4 shows reassurance (61.1%) and counseling (27.7%) were most frequent. OPD referrals were 29.8%.

Table 4: Distribution of Intervention (N=401)

Intervention	Frequency (n)	Percentage (%)
OPD	117	29.8
Health care facility	41	10.2
Counseling	111	27.7
Call with MO (Medical Officer)	59	14.7
Call with Reg/SR (Registrar/Senior Registrar)	7	1.8
Call with consultant	10	2.5
Home visit	1	0.2
CPN/PSW (Community Psychiatric Nurse/Psychiatric Social Worker)	47	11.7
Listening /reassured	245	61.1
Police	14	3.5
GBV (Gender Based Violence)	6	1.5
Other	57	14.2

Helpline Accessibility and User Satisfaction

Table 5 details accessibility and perceptions. Most (77.3%) contacted on the first attempt. High percentages reported receiving needed support (72.1%), polite operators (96.7%), adequate time (90.3%), and understanding (84.0%). Most (87.5%) felt better able to cope, and 96.0% would recommend the service.

Table 5: Method of Helpline and its Accessibility (N=401)

Factor	F (n)	(%)
Method of finding out about the 1926 helpline		
Another person	98	24.7
Organization	81	20.4
Television	90	22.7
Newspaper	37	9.3
Internet	75	18.9
Other	16	4.0
Accessibility		
Ability to contact the helpline at individuals' first attempt at dialing	300	77.3
No. of participants tried more than one attempt to contact helpline	8	12.7
No. of individuals who were called back by helpline	2	33.3
No. of participants who received the support they needed	279	72.1
No. of participants who accepted that operator is polite and helpful	384	96.7
Calling for themselves or on behalf of someone else		
Self	249	62.3
Someone else	151	37.8
No. of participants accepted that they were given adequate time to talk about their difficulties	361	90.3
No. of participants accepted that the person who answered call understood their problem	336	84.0
No. of participants who were in a better position to cope with their problem after calling the helpline	351	87.5
No. of participants recommend this helpline to another person	383	96.0

Table 6: Satisfaction of Service of the 1926 Helpline (N=401)

Satisfaction Levels regarding the Service of the 1926 Helpline	Frequency (n)	Percentage (%)
Extremely satisfied	182	45.5
Very satisfied	158	39.5
Somewhat satisfied	40	10.0
Somewhat dissatisfied	5	1.3
Very dissatisfied	6	1.5
Extremely dissatisfied	9	2.3

Overall satisfaction levels are in Table 6. Most (85.0%) were extremely or very satisfied.

Associations between Demographic Factors and Reasons for Seeking Help (Selected Findings).

Age was significantly associated with relationship issues ($p=0.042$), with the 20-39 age group showing higher rates (16.9%). Gender significantly correlated with help-seeking for child mental health ($p=0.010$), relationship issues ($p=0.015$), and emotional issues ($p=0.034$), all higher among females (Table 9). The Internet was a common source for 20-39 year olds (26.5%), while television was for older groups (Table 8). Most males (61.0%) and females (63.0%) called for themselves. Age was significantly associated with relationship issues ($p=0.042$), with the 20-39 age group showing higher rates (16.9%). Gender significantly correlated with help-seeking for child mental health ($p=0.010$), relationship issues ($p=0.015$), and emotional issues ($p=0.034$), all higher among females. The Internet was a common source for 20-39 year olds (26.5%), while television was for older groups (Table 8). Most males (61.0%) and females (63.0%) called for themselves.

Discussion

The COVID-19 pandemic severely impacted global mental health, underscoring the vital role of accessible support services during crises [2, 10]. The 1926 National Mental Health Helpline served as a crucial resource in Sri Lanka, addressing diverse needs exacerbated by lockdowns and lifestyle changes [8, 11]. Our study found mental health concerns, relationship issues, and emotional distress were primary reasons for contact, aligning with the broader psychological impact of the pandemic.

Comparison with Similar Studies and Global Perspectives

Our findings resonate with global helpline studies. For instance, a Greek helpline reported distress from confinement and social changes [6], consistent with our observations on relationship and emotional issues. While a Bangladesh study noted male callers predominantly [7], our study found more female callers, particularly for domestic violence, child mental health, and emotional issues. This gender disparity may reflect Sri Lanka's socio-cultural context or higher prevalence of these issues among females during lockdown [12]. The significant proportion of professional managers and technicians seeking help (28.5%) offers a unique insight. While healthcare professionals globally faced immense mental health burdens [5], our focus on the general public suggests that remote work and reduced social interactions negatively impacted the well-being of other professional groups, likely a global phenomenon. Our finding that younger users accessed the helpline via the Internet, while older users preferred television, highlights universal trends in media consumption [13]. This underscores the need for multi-platform awareness campaigns to ensure equitable access to mental health services across all demographics. The high satisfaction reported by 1926 helpline users (85%) is consistent with the general efficacy of mental health helplines worldwide, which serve as accessible, low-barrier points of contact for individuals in distress [14]. This positive feedback indicates the helpline's crucial contribution during the pandemic.

Lessons for Medical Administrators/Health System Managers

This study offers critical lessons for medical administrators and health system managers:

1. **Proactive Mental Health Preparedness:** Helplines are vital for disaster preparedness. Administrators must advocate for and resource such infrastructure proactively.
2. **Strategic Resource Allocation:** Ensure sustainable funding and human resources for training operators, maintaining technology, and integrating helplines with broader mental health referral pathways.
3. **Data-Driven Service Improvement:** Utilize helpline data to identify needs, vulnerable

groups, and effective interventions, informing policy and resource allocation.

4. Multi-Channel Communication: Disseminate awareness campaigns through diverse media (Internet, television) to maximize reach across all demographics.
5. Addressing Staff Mental Well-being: Proactively implement support systems for healthcare staff to ensure workforce resilience.
6. Integration within Health System: Facilitate seamless integration of helplines with primary care, specialized mental health services, and social support networks for comprehensive, continuous care.

Limitations

This study's limitations include its cross-sectional design (limiting causality and temporal changes), data collection over a three-month period (limiting generalization to the entire pandemic), and a focus on reasons for contact rather than in-depth clinical assessment. The inability to explore reasons for dissatisfaction also presents a limitation. Despite these, the study provides valuable knowledge on mental health issues during COVID-19 and the helpline's effectiveness.

Conclusions

The COVID-19 crisis significantly impacted Sri Lankan mental health, with the 1926 National Mental Health Helpline providing substantial support for diverse needs. High user satisfaction underscores its effectiveness and importance as an accessible mental health resource during crises.

Recommendations

1. Strengthen and Promote Helpline Services: Continuously resource and promote the 1926 Helpline for sustained functioning during future crises.
2. Targeted Awareness Campaigns: Implement multi-platform campaigns to enhance accessibility across all demographics.
3. Address Gender-Specific Needs: Develop services catering to females for domestic violence, child mental health, relationship, and emotional issues.

4. Continuous Training for Operators: Ensure ongoing, in-depth training for helpline operators.
5. Policy Development: Guide policymakers with evidence-based findings to ensure accessible and comprehensive mental health support.
6. Future Research: Conduct qualitative and longitudinal research to explore dissatisfaction and long-term impacts.

References

1. Xiang, Y.-T., Li, W., Zhang, Q., et al. (2020) 'Timely research papers about COVID-19 in China', *Lancet*, 395, pp. 684–685.
2. International Journal of Social Psychiatry (2020) 'The outbreak of COVID-19 coronavirus and its impact on global mental health', *International Journal of Social Psychiatry*, 66(4), pp. 317–320.
3. Liu, N., Zhang, F., Wei, C., et al. (2020) 'Prevalence and predictors of PTSS during COVID-19 Outbreak in China hardest-hit areas: gender differences matter', *Psychiatry Research*, 287, pp. 112921-112927.
4. Prevalence of depression, anxiety, and insomnia among healthcare workers during the COVID-19 pandemic: A systematic review and meta-analysis (2020) *Brain, Behavior, and Immunity*, 88, pp. 901–907.
5. Holmes, E.A., et al. (2020) 'Multidisciplinary research priorities for the COVID-19 pandemic: a call for action for mental health science', *Lancet Psychiatry*, 7(6), pp. 547-60.
6. European Archives of Psychiatry and Clinical Neuroscience (2020) 'from economic crisis to the COVID19 pandemic crisis: evidence from a mental health helpline in Greece', *European Archives of Psychiatry and Clinical Neuroscience*, pp. 00406-020-01165-4.
7. Iqbal, Y., Jahan, R., Yesmin, S., Selim, A. and Siddique, S.N. (2021) 'COVID-19-related issues on tele-counseling helpline in Bangladesh', *Asia Pacific Psychiatry*, 13(2), p. e12407.
8. Pietrabissa, G. and Simpson, S.G. (2020) 'Psychological Consequences of Social Isolation During COVID-19 Outbreak', *Frontiers in Psychology*, 11, p. 2201.
9. Lwanga, S.K. and Lemeshow, S. (1991) *Sample size determination in health studies: A practical manual*. Geneva: World Health Organization.

10. Rogers, J.P., et al. (2020) 'Psychiatric and neuropsychiatric presentations associated with severe coronavirus infections: a systematic review and meta-analysis with comparison to the COVID-19 pandemic', *Lancet Psychiatry*, 7(7), pp. 611-27.
11. Ganson, K.T., et al. (2021) 'Job Insecurity and Symptoms of Anxiety and Depression Among U.S. Young Adults During COVID-19', *Journal of Adolescent Health*, 68(1), pp. 53-6.
12. Smith, L.E., et al. (2020) 'Adherence to and effectiveness of methods to reduce transmission of SARS-CoV-2', *BMJ*, 370, p. m3563.
13. Pew Research Center (2019) Social Media Use in 2018. Available at: <https://www.pewresearch.org/internet/2019/02/05/social-media-use-in-2018/> (Accessed: 19 July 2025).
14. Gould, M.S., et al. (2013) 'Youth suicide risk and the Internet: A meta-analysis', *Journal of the American Academy of Child & Adolescent Psychiatry*, 52(4), pp. 367-377.e2.



Streamlining Vehicle Parking in Teaching Hospital Batticaloa: A Strategic Approach

Mayuran N¹, Sasikumar T¹, Sasikumar S²

¹Post Graduate Institute of Medicine, University of Colombo, ²Teaching Hospital, Batticaloa

Correspondence to:

N Mayuran

E-Mail

nmayuran@gmail.com

Key Words:

Vehicle parking,
Teaching Hospital,
quality improvement

Abstract

Background: Teaching Hospital Batticaloa (THB), the largest tertiary care facility in Sri Lanka's Eastern Province, faces heavy daily traffic with over 400 motorcycles and 60 cars entering its premises. Disorganized parking has long caused congestion, delays in patient transfers, security concerns, and a poor institutional image.

Objective: To streamline the vehicle parking in Teaching Hospital Batticaloa through a strategic intervention.

Methods: A mixed-method intervention was conducted over three months (May–August 2025). Quantitative data were collected through daily observations using a structured checklist for a week pre- and post-intervention phase, while qualitative data were obtained through a Focus Group Discussion (FGD) with security officers and a Key Informant Interview (KII) with the hospital director at pre- and post-intervention phases. The intervention included (i) a vehicle pass system, (ii) an online tracking mechanism for monitoring violations, and (iii) identification of designated parking zones.

Results: Statistical analysis revealed a highly significant reduction in non-adherence to parking rules for both cars ($t = 13.43$, $p < 0.001$) and motorcycles ($t = 17.24$, $p < 0.001$). Thematic analysis showed improvements in vehicle organization, safety, staff and patient experiences, and hospital aesthetics. Unauthorized entries decreased by 80%, and no security incidents were reported during the study period.

Conclusions: The structured parking system markedly improved hospital order, safety, and professional image. This low-cost, governance-driven initiative demonstrates how systematic planning and digital monitoring can enhance operational efficiency and patient-centered service delivery in healthcare institutions.

Introduction

Background

Teaching Hospital Batticaloa (THB) is the largest tertiary care institution in the Eastern Province of Sri Lanka, serving a catchment population of more than two million across six districts. THB has a total staff strength exceeding 3,000 and caters to an average of 5,000–6,000 outpatient visits daily. The hospital also provides inpatient care to approximately 1,200 patients at any given time (1). As a teaching hospital, medical students and trainees add to the daily footfall.

Every day, thousands of patients, caregivers, and healthcare staff visit the hospital. With this large influx, vehicle parking has become a persistent challenge. Motorcycles and cars are often parked in undesignated spaces, leading to congestion, difficulty in transferring patients – particularly emergency and inward patients—and an overall unappealing hospital environment.

The hospital's primary mandate is to deliver timely and quality health services to patients. However, inadequate infrastructure for parking has inadvertently disrupted service delivery. Ambulances and patient transfer trolleys are sometimes obstructed by vehicles parked near entrances or corridors. Visitors and staff alike report frustration, and patients – already distressed by their health condition – face additional stress when navigating the crowded, unregulated parking areas. Furthermore, the absence of a systematic parking strategy has created security risks, as unidentified vehicles parked within hospital premises pose potential safety threats.

Streamlining vehicle parking is therefore not merely an issue of aesthetics or convenience. It is a matter of safety, efficiency, and patient-centered service delivery (2,3). This paper presents the rationale, methodology, and outcomes of an intervention to establish designated parking and vehicle pass systems at THB. The initiative aims to

balance staff convenience with patient needs, improve hospital security, and ensure efficient use of available space (4,5).

With such high demand, vehicles' entry has steadily increased over the years. Observations and preliminary surveys revealed that 375–425 motorcycles and 50–60 cars enter the premises daily. Parking spaces, however, are limited and unevenly distributed. Staff members often leave motorcycles near ward entrances, OPD corridors, or even ambulance bays near where they work.

Previously, minor attempts were made to control the issue, such as placing security personnel at entrances. However, without a structured system, these attempts failed to prevent misuse. Furthermore, the absence of clear signage and awareness campaigns is vital for proper parking of vehicles.

Given the hospital's central role in the province and the daily influx of vehicles, a comprehensive intervention was necessary. The project was conceptualized not only as a logistical improvement but also as part of strengthening hospital governance and patient-friendly services (6–8).

Justification

Designated parking areas in healthcare institutions are vital for maintaining smooth operations. At THB, the current practice of haphazard parking has multiple adverse effects.

- i. Patient transfer delays – Vehicles parked close to hospital entrances and corridors block stretchers, wheelchairs, and ambulances, jeopardizing emergency responses(7,8).
- ii. Poor institutional image – The cluttered, chaotic environment undermines the professional outlook of a teaching hospital. Visitors often perceive the hospital as disorganized (9,10).
- iii. Security concerns – Without a system to identify vehicles, unauthorized individuals may park within hospital grounds, raising risks of theft, violence, or even terrorist threats in a sensitive region (11,12).
- iv. Staff dissatisfaction – While some staff demand parking close to their duty stations, the limited availability makes this impractical and causes conflicts among departments (13).

Constraints also complicate the introduction of reforms. Staff unions often resist changes perceived as unfavorable to their members (14). Many staff insist on parking near their workstations rather than walking from a designated lot. Moreover, staff sometimes use vehicles registered under third-party names, complicating ownership verification. Despite these challenges, streamlining parking is essential for enhancing service delivery, patient safety, and institutional reputation.

Objective

General Objective

To streamline the vehicle parking in Teaching Hospital Batticaloa through a strategic intervention.

Specific objectives

1. To conduct an audit on current vehicle parking system in Teaching Hospital Batticaloa
2. To identify the gaps in current vehicle parking in Teaching Hospital Batticaloa
3. To design interventions to streamline the vehicle parking system in Teaching Hospital Batticaloa
4. To implement interventions to improve vehicle parking in Teaching Hospital Batticaloa
5. To assess the effectiveness of the intervention in improving vehicle parking system in Teaching Hospital Batticaloa

Methodology

Study Design

This study adopted a mixed-method design to evaluate the effectiveness of the new vehicle parking management system at Teaching Hospital Batticaloa (THB).

Outcome measures of this study are as follows

- Change in the mean number of vehicles non-adherent to designated parking areas (cars and motorcycles), measured through structured daily observations during pre- and post-intervention periods.
- Perceived changes in parking organization, safety, accessibility, staff and patient experiences, and institutional image, assessed through thematic analysis of FGD and KII data.

The effectiveness of the intervention was evaluated by comparing pre- and post-intervention levels of parking non-adherence using quantitative observational data, while qualitative methods were used to explore perceived changes in safety, accessibility, and institutional functioning.

Study Setting and period

The study was conducted at THB, a tertiary care institution in the Eastern Province of Sri Lanka.

Study period

Study period was four months from May to August 2025. Data was collected for a week pre- and post-intervention phases. The intervention was implemented in June, with evaluation conducted two months later using one-week observation periods.

Study Population

A purposive sampling method was used to select participants. One Focus Group Discussion (FGD) was conducted with security officers and key informant interview (KII) was conducted with the

Director of THB. Furthermore, Observational data were collected daily using a checklist to monitor vehicles parked in designated and undesignated areas.

Study Instruments

FGD Guide to facilitate discussion among security officers and KII Guide for structured input from the Director. Observational Checklist to record the number of vehicles, reported violations, and actions taken. Observers documented parking patterns, congestion, and unauthorized vehicle presence before and after intervention.

Evaluation was carried out two months after the introduction of intervention.

Data Collection and Management

FGDs and KII were audio-recorded with consent, and detailed notes were taken. Observational data were recorded systematically using a structured format. Data were stored securely with restricted access.

Ethical Considerations

Administrative approval was obtained from THB. Participation was voluntary, and informed consent was obtained from all participants. Confidentiality and anonymity were maintained, and no personal identifiers were reported.

Description of the Intervetntion

The intervention consisted of three main strategies.

(I) Vehicle Pass System

Permanent passes were issued to staff members who owned vehicles registered under their names and temporary passes were provided for vehicles registered under third-party names, valid for six



Figure 1: Vehicle Pass

months. This addressed practical realities where staff used family-owned or leased vehicles. Passes included vehicle number, staff ID, and color coding to differentiate motorcycles, cars, and service vehicles.

(II) Online Tracking system

Online tracking system was created for identifying vehicle owner in case of non-parking areas. They will receive a verbal warning by direct supervisor for parking in non-parking areas. In case, if he/she parks repeatedly in non-parking areas, he/she will be called for explanation in written.

NAME	
DESIGNATION	Nursing Officer
GENDER	Male
MOBILE NO	
DUTY ASSUMED IN THB	Apr 4, 2022
ATTACHED WARD/UNIT	A&E - SSU
TYPE OF VEHICLE	Motor Cycle
MAKE	YAMAHA
MODEL	Fazer
STATUS	Expired
DATE OF PASS HANDING OVER	

Figure 2: Online Tracker of Vehicles

(III) Identification of Parking Zones and Numbering

A survey of hospital premises identified suitable areas for parking that could accommodate the existing load of 375–425 motorcycles and 50–60 cars. Four hundred and thirty-five motorbike parking was identified and allocated. Parking zones were categorized into Zone A, B and C.

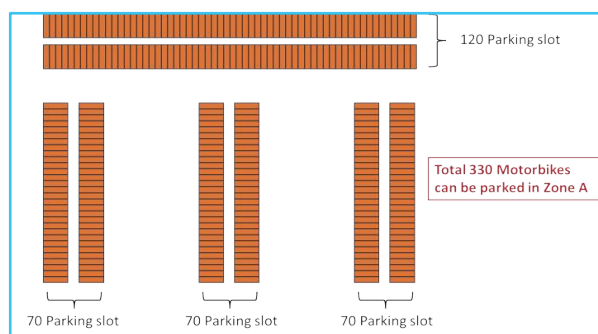


Figure 3: Zone A – Allocated for 330 motor cycles.

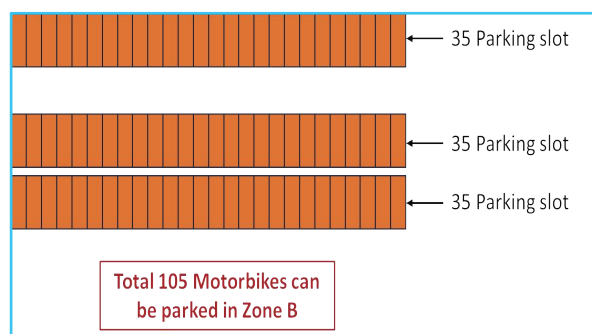


Figure 4: Zone B – Allocated for 105 motor cycles.

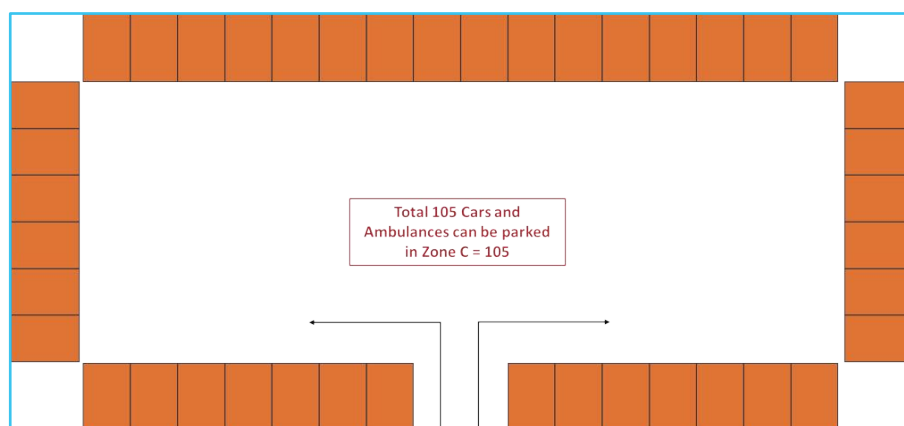


Figure 5: Zone C – Allocated for 60 Cars.

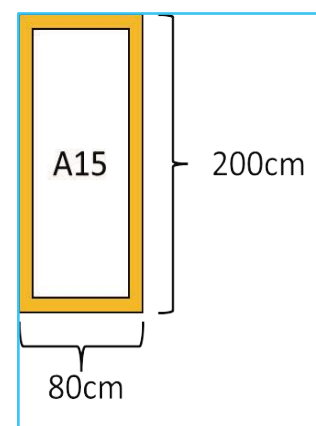


Figure 6: Motorbike Park Size

Clear signage and painted ground markings were introduced to guide users. Parking slots for motorcycles were standardized to 80 cm × 200 cm, with each slot individually numbered for easy identification. For example, in “Zone A,” slots were labeled sequentially from A1 to A330, while in “Zone B,” they were numbered from B1 to B105 (Figure 6)

Implementation of the Intervention

Strategies to be implemented

To streamline vehicle parking within the hospital premises, the following strategies were introduced:

1. **Formation of a Committee:** A multidisciplinary committee was established, comprising Medical Officers, Nursing Officers, Paramedical Staff (PSM), Development Officers, and other healthcare workers. Chairperson was Director of Teaching Hospital Batticaloa.
2. **Communication Platform:** A dedicated WhatsApp group was created for committee members to provide real-time updates on vehicle parking status and resolve issues promptly.
3. **Strengthened Gate Security:** Security personnel at entry points were instructed to strictly enforce access control, ensuring that only vehicles with valid parking passes were permitted.

4. **Monitoring and Enforcement:** Owners of vehicles found parked in non-designated areas were traced using the online system. First-time violators received verbal warnings through their direct supervisors, while repeated violations were subject to written explanation.
5. **Internal Circular:** An official memo was circulated to all staff, outlining the new parking policy. It emphasized the importance of displaying valid passes, adherence to designated parking slots, and the consequences for violations.

Log Model of the Intervention

Figure 7 illustrates the logic model underpinning the vehicle parking management intervention at Teaching Hospital Batticaloa.

The vehicle parking management intervention at Teaching Hospital Batticaloa was guided by a logic model linking inputs, activities, outputs, and outcomes to ensure alignment between objectives, implementation, and evaluation (Figure 7). Key input included hospital leadership commitment, a multidisciplinary parking management committee, security personnel, existing parking infrastructure, administrative support, and a digital vehicle tracking platform.

Using these inputs, core activities comprised introduction of a vehicle pass system, designation and marking of parking zones for cars and motorcycles, installation of signage, strengthening

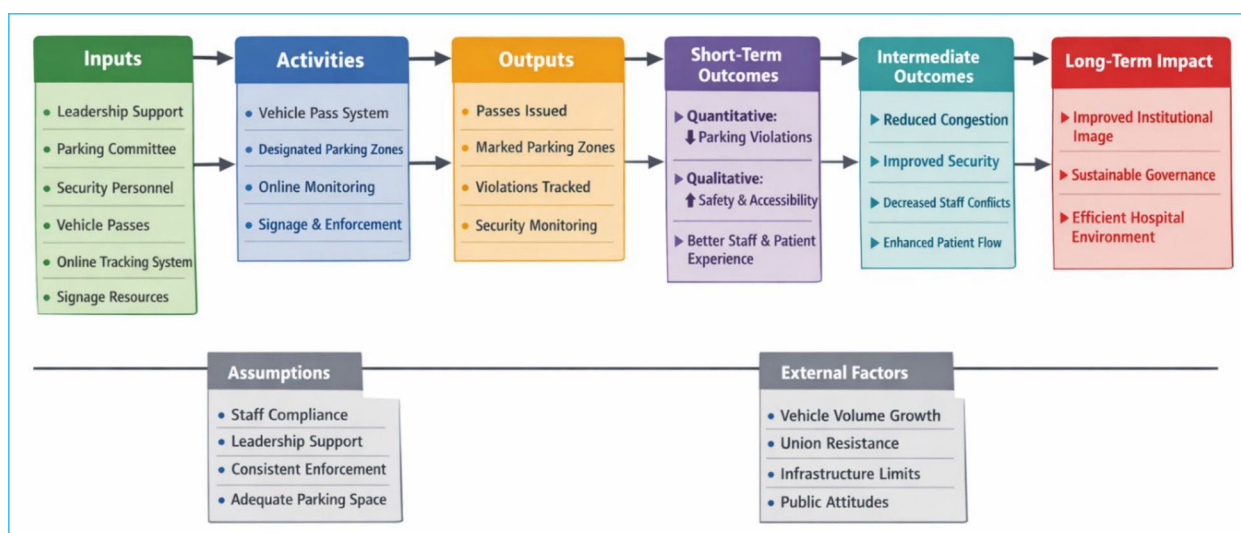


Figure 7: Log Model of the Interventions

of gate security, and implementation of an online monitoring and enforcement mechanism supported by continuous staff communication.

Immediate outputs included issuance of vehicle passes, clearly demarcated parking areas, systematic identification of violations, and improved monitoring of authorized vehicle entry. Short-term outcomes focused on improved compliance with parking regulations, measured quantitatively by reductions in non-adherent vehicles, and qualitatively by perceived improvements in safety, accessibility, and staff and patient experiences. Intermediate outcomes included reduced congestion, enhanced security, and smoother internal traffic flow. Long-term impacts were improved institutional image, strengthened governance, and a sustainable, scalable parking management model for public hospitals.

Results

The intervention resulted in a significant improvement in compliance with designated parking regulations. Qualitative findings further indicated perceived improvements in safety, accessibility, staff and patient experiences, and the overall hospital environment.

Quantitative Findings

There was a highly significant reduction in non-adherence to parking regulations following the intervention. Among cars, the mean number of non-adherent vehicles decreased markedly ($t = 13.44$, $p < 0.001$), while for motorbikes, non-adherence reduced even more significantly ($t = 17.24$, $p < 0.001$).

These findings demonstrate that the parking reorganization strategy effectively improved compliance with designated parking zones, even though the total vehicle volume remained stable. The results highlight the success of the intervention in fostering disciplined vehicle behavior and enhancing the overall hospital environment.

Summary

Across all themes, the intervention led to tangible improvements in efficiency, security, user satisfaction, and institutional image. The thematic analysis underscores the broader value of structured environmental interventions in hospital management—not only for operational efficiency but also for strengthening trust, morale, and professionalism.

Table 1: Demographic Factors (N=401)

Description	Pre-intervention		Post-intervention		P - value
	Total Number Of Vehicles (Mean ± SD)	Number of Non-adherence to Parking (Mean ± SD)	Total Number Of Vehicles (Mean ± SD)	Number of Non-adherence to Parking (Mean ± SD)	
Car	56.4 ± 3.6	6.7 ± 1.0	59.1 ± 4.1	1.7 ± 0.7	$t=13.43$ $p<0.001$
Motorcycle	405.9 ± 15.4	99.0 ± 10.4	400.7 ± 16.9	25.1 ± 5.7	$t=17.24$ $p<0.001$

Table 2: Thematic Analysis

Theme	Pre-intervention	Post-intervention
Vehicle Organization	Parking within the hospital premises was highly disorganized. Vehicles were frequently parked in random or restricted areas, blocking entrances and ambulance routes. Security personnel faced difficulties managing space allocation, and staff often competed for closer parking spots, creating daily tension.	Following the introduction of designated parking zones and signage, both staff and visitors demonstrated high adherence to the new system. Vehicles were systematically arranged, leading to smooth traffic flow within the premises. Security staff reported better control, and the overall environment became more orderly and predictable.
Enhancing Security and Safety	Lack of clear parking boundaries made it challenging for security officers to monitor unauthorized entry. Incidents of misplaced keys, blocked access points, and occasional thefts created a sense of insecurity. Ambulance and patient transport vehicles were sometimes delayed due to congestion.	The structured parking system and active monitoring enhanced both safety and surveillance. Unauthorized vehicle entry was reduced by nearly 80%. Security officers could easily identify unfamiliar or suspicious vehicles. No thefts or security breaches were reported during the post-intervention period, reflecting improved institutional safety culture.
Staff and Patient Experiences	Staff expressed frustration about the lack of fair parking allocation and the frequent conflicts that arose due to limited space. Patients and visitors faced difficulty navigating through crowded vehicle areas, sometimes leading to delays and distress.	Initially, staff resistance was noted due to relocation of parking spaces. However, as the system stabilized, staff recognized the benefits—reduced time spent searching for parking and fewer interpersonal disputes. Patients and visitors reported easier access to hospital entrances and wards, less confusion, and reduced stress during their hospital visits. Union representatives acknowledged the arrangement as more equitable, though they continued to advocate for proximity-based prioritization.
Aesthetics and Institutional Image	The hospital compound appeared cluttered and congested, projecting a chaotic and unprofessional image. Randomly parked vehicles obstructed pathways and diminished the aesthetic appeal of the premises.	With organized parking zones and improved visual order, the hospital grounds appeared cleaner and more spacious. Visitors and staff noted that the institution's overall image had improved—reflecting a more disciplined, patient-friendly, and professionally managed environment. The initiative also contributed to a sense of institutional pride among employees.

Summary

Across all themes, the intervention led to tangible improvements in efficiency, security, user satisfaction, and institutional image. The thematic analysis underscores the broader value of structured environmental interventions in hospital management—not only for operational efficiency but also for strengthening trust, morale, and professionalism.

Conclusion

This study demonstrated that a structured vehicle parking management intervention significantly improved compliance with parking regulations at Teaching Hospital Batticaloa, with perceived benefits in safety, accessibility, and institutional environment.

The intervention to streamline vehicle parking at Teaching Hospital Batticaloa (THB) demonstrated that even small, strategically planned administrative reforms can significantly enhance hospital efficiency, safety, and overall service quality. Before implementation, disorganized parking led to congestion, delayed patient transfers, staff frustration, and compromised security within the

hospital premises. Through the introduction of a vehicle pass system, online tracking system and clearly demarcated parking zones, these challenges were effectively addressed.

Quantitative findings revealed a highly significant reduction in parking non-adherence for both cars and motorcycles ($p < 0.001$), indicating strong compliance with the new system. Qualitative findings supported this improvement, showing enhanced vehicle organization, improved security, positive staff and patient experiences, and a more professional institutional appearance.

The initiative successfully balanced staff convenience with patient-centered service priorities while promoting fairness and accountability. Importantly, it also fostered a culture of shared responsibility and institutional pride among staff. The results highlight how effective governance, participatory planning, and consistent monitoring can drive sustainable improvements in hospital management.

In essence, streamlining vehicle parking at THB has transformed what was once a daily operational challenge into a model of structured, efficient, and safe hospital administration - setting an example for other tertiary care institutions across the country.

Recommendations

1. **Institutionalizing the parking policy:** The current parking system should be formalized through official hospital policy, with clear guidelines on pass issuance, parking zones, and disciplinary measures for non-compliance.
2. **Expand digital tracking system:** Upgrade the online tracking platform to integrate with CCTV and staff ID databases, allowing real-time monitoring and easier identification of violators.
3. **Periodic evaluation:** Conduct quarterly reviews of parking compliance, including staff feedback and security reports, to identify areas for continuous improvement.
4. **Awareness and orientation:** Include parking discipline and safety in staff induction and refresher programs. Continuous awareness campaigns can help sustain adherence and reinforce collective responsibility.
5. **Infrastructure enhancement:** Explore the feasibility of multi-level or shaded parking areas to accommodate future vehicle growth while ensuring accessibility for patients with mobility issues.
6. **Replication and scale-up:** The success of this intervention can serve as a pilot model for replication in other large hospitals across Sri Lanka. A simplified toolkit documenting procedures, forms, and digital templates could support implementation elsewhere.
7. **Sustainability:** Ensuring sustainability requires strong administrative support, continuous monitoring, and regular evaluation of parking practices. Periodic revision of the vehicle parking policy, based on feedback and data, will help maintain compliance, adapt to changing needs, and ensure long-term efficiency, safety, and order within the hospital premises.

References

1. Ministry of Health SL. Annual Health Bulletin 2022-2023. 2022.
2. Pendakur VS, Roer PO. ACCESS AND PARKING CRITERIA FOR HOSPITALS.
3. Garber MD, Benmarhnia T, Mason J, Morales-Zamora E, Rojas-Rueda D. Parking and Public Health. Vol. 12, Current Environmental Health Reports. Springer Science and Business Media Deutschland GmbH; 2025.
4. Soto-Ferrari M, Romero-Rodriguez D, Escorcia-Caballero JP, Daza-Escorcia JM, Chams-Anturi O. A Discrete-Event Simulation Approach to Assess the Benefits of Parking Technologies in Hospitals. International Journal of Operations and Quantitative Management. 2021 Jun 1;27(2):141–52.
5. Premnath N, Grewal US, Gupta A. Park the Parking. JCO Oncol Pract. 2020 May;16(5):215–7.
6. Nur Syuhada bt Mohd Zahari I, Zainuddin A. SUSTAINABLE PARKING MANAGEMENT STRATEGIES FOR PUBLIC HOSPITALS: A CASE STUDY OF TENGKU AMPUAN AFZAN HOSPITAL, KUANTAN AND SULTAN HAJI

AHMAD SHAH HOSPITAL, TEMERLOH. Built Environment and Technology. 2018.

7. Mason A. Hospital Car Parking: The Impact of Access Costs [Internet]. 2010. Available from: www.york.ac.uk/che
8. Mason. Hospital car parking the impact of access costs [Internet]. 2010. Available from: <https://eprints.whiterose.ac.uk/>
9. Suthanaya PA. Development of Parking Demand Model for Private Hospital in Developing Country (Case Study of Denpasar City, Indonesia). J Sustain Dev. 2017 Sep 29;10(5):52.
10. Kanaan GE. Parking and Access at General Hospitals. 1973.
11. Health at Glance. Health at a Glance 2023 [Internet]. OECD; 2023. (Health at a Glance). Available from: https://www.oecd.org/en/publications/health-at-a-glance-2023_7a7afb35-en.html
12. Ministry of Health. 2020 ANNUAL HEALTH BULLETIN MINISTRY OF HEALTH SRI LANKA [Internet]. 2020. Available from: www.health.gov.lk
13. Ministry of Health. Directorate of Planning Ministry of Health. 2024.
14. Jacobson GH, McCoin NS, Lescallette R, Russ S, Slovis CM. Kaizen: A method of process improvement in the emergency department. Vol. 16, Academic Emergency Medicine. 2009. p. 1341–9.



Providing Beds for All Inward Patients Admitted in Medical Units in the Teaching Hospital Batticaloa. A Strategic Approach

Mayuran N¹, Sasikumar T¹, Barthelot M²

¹Post Graduate Institute of Medicine, University of Colombo, ²Teaching Hospital, Batticaloa

Correspondence to:

N Mayuran

E-Mail

nmayuran@gmail.com

Key Words:

Bed occupancy rate,
admission policy,
medical wards,
Teaching Hospital
Batticaloa,
patient allocation

Abstract

Introduction: Teaching Hospital Batticaloa (THB), the only tertiary care center in the Eastern Province of Sri Lanka, serves over two million people across six districts. The hospital has a total bed capacity of 1,257, with the medical specialty comprising four units, including a professorial unit (242 beds). Despite this allocation, inequitable patient distribution resulted in persistent overcrowding in casualty and post-casualty wards (BOR >100%), while non-admission wards remained underutilized (BOR <65%).

Objective: To ensure that all inward patients admitted to medical units were allocated an inpatient bed by implementing a revised admission policy, and to evaluate its effect on BOR distribution across wards.

Methods: This was an interventional before-and-after study designed to evaluate the impact of implementing a revised admission policy on bed occupancy rate (BOR) in medical wards of THB. Secondary data on BOR were analyzed alongside key informant interviews with the Director, Consultant Physicians, and Emergency Physicians. A focus group discussion with nursing officers further informed the design of a "Revised Admission Policy for Medical Wards." The strategy directed daytime admissions (8.00 am–4.00 pm) based on patient category: Categories I–II to the casualty ward, and Categories III–IV alternately to non-admission (Sub-casualty wards) wards using two time slots. From 4.00 pm–8.00 am, all categories were admitted to the casualty ward.

Results: One-month post-implementation, BOR data showed a marked improvement in patient distribution. BOR in casualty and post-casualty wards, previously exceeding 100%, declined to 91.0% and 69.4% respectively, while sub-casualty and non-admission wards maintained BOR around 61–74%. Overall, all medical units operated below 100%, eliminating overcrowding and ensuring equitable bed allocation.

Conclusion: A structured admission policy improved equity in patient distribution, optimized bed utilization, and reduced overcrowding. Sustained implementation with periodic review is recommended, with potential applicability to other specialties facing similar challenges.

Introduction

Hospital bed availability is a critical determinant of healthcare delivery and patient satisfaction. Globally, overcrowding in medical wards is a persistent challenge in tertiary-care hospitals, often leading to compromised quality of care, poor patient outcomes, and staff burnout (1). In Sri Lanka, where the healthcare system is publicly funded and tertiary hospitals act as referral centers for large populations, the issue of optimal utilization of hospital beds becomes even more significant (2).

Teaching Hospital Batticaloa (THB), the only tertiary-care and teaching hospital in the Eastern Province, caters to over two million people across six districts. It has a total bed capacity of 1,257 and

a workforce of nearly 1,900 staff, delivering services in more than 20 subspecialties in addition to four major specialties. The medical specialty, one of the busiest departments, comprises four medical units including a professorial unit, with a combined bed strength of 242 (128 beds in male wards and 114 in female wards).

Despite this allocation, a major issue persisted: overcrowding in the casualty and post-casualty medical wards, with bed occupancy rates (BOR) consistently exceeding 100%, while two other medical wards remained underutilized with BORs below 50%. This uneven distribution of patients not only caused distress for patients and their families but also created significant strain on healthcare staff, particularly in casualty wards.

The root cause was the absence of a structured admission policy for medical patients. Casualty wards admitted the bulk of patients, while other units were perceived as "non-admission wards," receiving fewer patients despite available beds. This resulted in avoidable inequities in workload distribution, inefficient use of resources, and overcrowding-related patient safety risks.

Therefore, this study aimed to ensure that all inward patients admitted to medical units were allocated an inpatient bed by implementing a revised admission policy, and to evaluate its effect on BOR distribution across wards

Description of the Intervention

To address the problem, hospital leadership initiated a structured intervention "Revised Admission Policy for Medical Wards" after stakeholder engagement, categorization of patients, and the design of a rotational admission system. This policy was excluded for weekend and public holiday admissions and those day admissions remained same with previous admission policy (3).

"Revised Admission Policy for Medical Wards"

a. *Stakeholder Engagement:* Recognizing that any admission policy would impact multiple departments, a collaborative approach was adopted. Key informant interviews were conducted with the Hospital Director, Consultant Physicians, Consultant Emergency Physician, and a focus group discussion was held with in-charge nursing officers of the medical wards. Their perspectives helped identify challenges and practical solutions to ensure policy acceptance and sustainability.

b. *Patient Categorization:* Patients admitted through the Accident and Emergency (A&E)

Department were categorized based on clinical severity and urgency (Figure 1). This categorization allowed more efficient allocation of patients to appropriate wards.

c. *Principles of Revised Admission Policy of Medical wards:* The admission policy was designed with the following principles in figure 2. (*Sub-casualty ward – ward where the patients' categories III and IV are admitted time slot A and B.) Time slots were selected based on routine admission flow patterns in the medical units. The period from 08:00–16:00 represents peak hours for admissions and transfers following morning clinical rounds, investigations, and A&E decision-making. Therefore, this window was divided into two operational blocks (08:00–12:00 and 12:00–16:00) to allow equitable patient allocation between sub-casualty wards while maintaining feasibility for nursing and medical handovers. The period 16:00–08:00 was considered off-peak with limited staffing and was maintained as centralized admission to casualty wards to ensure safety and operational simplicity.

Time Slot A (8:00 am – 12:00 pm)

Category I and II patients were admitted to the casualty ward.

Category III and IV patients were admitted to Sub-casualty - 1 ward based on a rotational time-slot system:

Time Slot B (12:00 pm – 4 pm)

Category I and II patients were admitted to the casualty ward.

Category III and IV patients were admitted to Sub-casualty - 2 ward based on a rotational time-slot system:

Time Slot C (4:00pm – 8:00am)

All patients, irrespective of category, were admitted to the casualty ward to streamline admissions during off-peak hours.

Category	Description
Category I	Critically ill patients requiring immediate admission to a high-dependency setting.
Category II	Patients with acute but manageable conditions requiring close monitoring.
Category III	Patients with stable conditions requiring inpatient care but not intensive monitoring.
Category IV	patients with chronic or less urgent conditions requiring hospital observation.

Figure 1: Patient categorization at Triage

Wards	Time Slot A (8am – 12pm)	Time Slot B (12pm – 4pm)	Time Slot C (4pm – 8am)
Casualty ward	Category 1 and 2	Category 1 and 2	Category 1 – 4
*Sub-Casualty ward - 1	Category 3 and 4	No admission	No admission
*Sub-Casualty ward - 2	No admission	Category 3 and 4	No admission
Non-admission ward	No admission	No admission	No admission

Figure 2: Principle of revised admission policy of medical wards

d. *Categorization Responsibility:* The A&E Department team was responsible for assessing and categorizing patients before allocation, ensuring clinical appropriateness.

Responsibility of Roster

Medical Officer – Quality and Safety is the responsible person for preparing monthly roster. The intervention thus introduced equity into the admission process, optimized bed utilization across all medical wards, and reduced pressure on casualty wards.

Methods Used for the Evaluation

Study Design

This was an interventional before-and-after study designed to evaluate the impact of implementing a revised admission policy on bed occupancy rate (BOR) in medical wards of Teaching Hospital Batticaloa. No randomization or control ward was used, as the intervention was implemented as a hospital-wide service improvement initiative. (4).

Data Sources

- Secondary Data: Bed Occupancy Rate (BOR) data were retrieved from the hospital's online Hospital Statistics system for all four medical units. BOR is defined as the percentage of available beds occupied over a specific period.
- Qualitative Data: Perceptions and experiences of staff were collected during key informant interviews and focus group discussions.

Data Collection Period

- Pre-intervention: BOR of first quarter of 2025 was analyzed and gap identified.
- Post-intervention: Post-intervention BOR was assessed one month after implementation to capture the early operational effect of the intervention after stabilization of ward practices, while minimizing contamination by additional administrative changes (e.g., staffing transfers and bed reallocations) that typically occur over longer timeframes.

To reduce seasonal variation, pre-intervention BOR was taken from the first quarter of 2025, and post-intervention BOR was collected during the comparable routine service period immediately after implementation. No major outbreaks, disasters, or bed-capacity expansion occurred during the evaluation period. Weekend and public

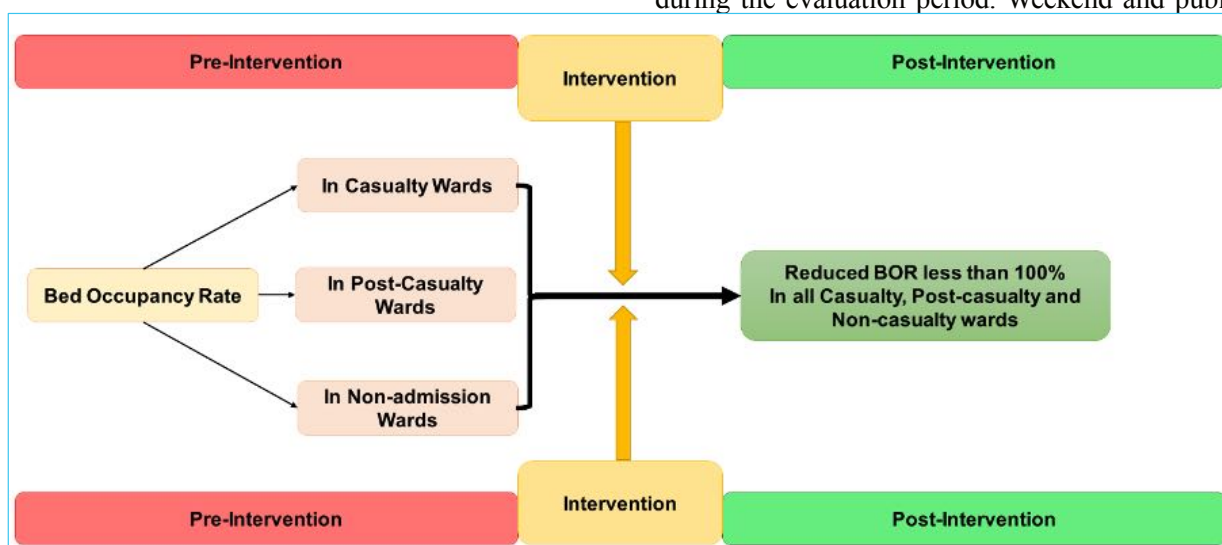


Figure 3: Schematic map of the project

Study Population

This study conducted in medical units in Teaching Hospital Batticaloa. Teaching Hospital Batticaloa consists of 4 Medical Units (Figure 4).

Unit	Category	Bed capacity
Unit 1	Male	29
	Female	33
Unit 2	Male	32
	Female	25
Unit 3	Male	35
	Female	23
Unit 4	Male	32
	Female	33
Total beds		242

Figure 4: Details of Medical wards in Teaching Hospital Batticaloa

holiday admissions were excluded from the intervention as the policy remained unchanged during these periods. However, residual confounding due to seasonal morbidity trends and patient inflow variation cannot be fully excluded.

Analysis

BOR trends were compared across the four medical units before and after implementation. Qualitative data were analyzed thematically to identify facilitators and challenges of policy implementation.

Ethical Considerations

This was a quality improvement initiative conducted within the hospital system. Data were anonymized, and the intervention was approved by hospital leadership as part of routine service optimization.

Results

Bed Occupancy Rate Trends during pre- and post-intervention phase

Across all four units, pre-intervention BOR consistently exceeded 100%, reflecting overcrowding and demand beyond the available bed capacity. After the intervention, BOR in almost all subgroups decreased to below 100%, suggesting that bed use returned to a more manageable level.

Overall, the combined BOR across the ward declined from 112.9 ± 17.6 pre-intervention to 91.0 ± 10.4 post-

Table 1. BOR in Casualty wards during Pre- and Post-intervention

Unit	Male/Female	Pre-intervention	Post-intervention
		BOR in % (Mean + SD)	BOR in % (Mean + SD)
Unit 1	Male	120.7 ± 25.0	95.2 ± 9.3
	Female	106.6 ± 16.4	81.2 ± 7.8
Unit 2	Male	103.1 ± 5.7	97.4 ± 9.4
	Female	126.0 ± 7.7	92.0 ± 11.9
Unit 3	Male	103.4 ± 9.1	86.9 ± 13.0
	Female	129.3 ± 25.7	87.8 ± 10.4
Unit 4	Male	115.0 ± 10.0	87.5 ± 5.0
	Female	100.8 ± 3.8	99.2 ± 4.5
Overall		112.9 ± 17.6	91.0 ± 10.4

Table 2. BOR in Post Casualty wards during Pre- and Post-intervention

Unit	Male/Female	Pre-intervention	Post-intervention
		BOR in % (Mean + SD)	BOR in % (Mean + SD)
Unit 1	Male	114.7 ± 20.2	56.9 ± 32.9
	Female	97.7 ± 11.4	38.6 ± 18.7
Unit 2	Male	105.6 ± 18.0	86.9 ± 28.4
	Female	124.0 ± 31.4	80.8 ± 29.7
Unit 3	Male	95.7 ± 7.2	82.9 ± 32.9
	Female	109.6 ± 5.7	80.0 ± 46.9
Unit 4	Male	106.7 ± 16.7	54.7 ± 18.5
	Female	102.3 ± 15.7	66.1 ± 11.4
Overall		107.5 ± 18.2	69.4 ± 30.9

Table 3. BOR in Non-admission during Pre-intervention and Sub-casualty ward during post-intervention

Unit	Male/Female	Pre-intervention	Post-intervention
		BOR in % (Mean + SD)	BOR in % (Mean + SD)
Unit 1	Male	67.0 ± 14.6	83.4 ± 39.9
	Female	70.3 ± 25.8	70.3 ± 29.3
Unit 2	Male	64.1 ± 30.8	43.1 ± 20.9
	Female	78.4 ± 27.4	44.0 ± 19.1
Unit 3	Male	57.1 ± 28.0	59.7 ± 29.5
	Female	62.1 ± 33.3	55.1 ± 28.5
Unit 4	Male	65.5 ± 22.1	66.0 ± 27.9
	Female	55.1 ± 21.6	65.2 ± 25.2
Overall		64.6 ± 26.0	61.7 ± 30.1

Table 4. Overall BOR during Pre- and Post-intervention phase

Unit	Pre-intervention		Post-intervention		P Value
	No. of Days	BOR in % (Mean + SD)	No. of Days	BOR in % (Mean + SD)	
Casualty ward	37	67.0 ± 14.6	40	83.4 ± 39.9	$t=6.58$, $df=57.5$ $p<0.001$
Post-Casualty ward	36	70.3 ± 25.8	38	70.3 ± 29.3	$t=6.50$, $df=60.5$ $p<0.001$
Sub-Casualty ward	-	64.1 ± 30.8	77	43.1 ± 20.9	-
Non-admission ward	79	78.4 ± 27.4	5	44.0 ± 19.1	-

intervention, confirming that the intervention effectively reduced overcrowding and brought BOR under 100%.

Overall BOR across post-casualty wards fell from $107.5 \pm 18.2\%$ before the intervention to $69.4 \pm 30.9\%$ after the intervention, demonstrating a clear reduction from overcrowding ($>100\%$) to undercapacity ($<100\%$).

At the overall level, the BOR averaged $64.6 \pm 26.0\%$ pre-intervention in the non-admission ward and $61.7 \pm 30.1\%$ post-intervention in the sub-casualty ward.

Importantly, unlike the casualty and post-casualty wards, BOR values in both non-admission and sub-casualty wards were consistently below 100%, indicating that these wards did not experience overcrowding either before or after the intervention.

The mean bed occupancy rate (BOR) in the Casualty ward showed a marked reduction following the intervention. The pre-intervention BOR was 112.9 ± 17.6 ($n=37$), which decreased to 91.0 ± 10.4 ($n=40$) post-intervention. This reduction was statistically significant ($t=6.58$, $p<0.001$).

Similarly, in the post-casualty ward, the mean BOR decreased from 107.5 ± 18.2 ($n=36$) before the intervention to 69.4 ± 30.9 ($n=38$) afterwards. The difference was highly significant ($t=6.50$, $p<0.001$). For the Sub-Casualty ward, only post-intervention data were available (mean BOR 61.7 ± 30.1 , $n=77$). Hence, no statistical comparison was possible; however, the descriptive statistics suggest a relatively lower occupancy compared to other wards.

In contrast, the non-admission ward demonstrated no significant change in BOR. The mean BOR increased slightly from 63.9 ± 26.1 ($n=79$) pre-intervention to 74.9 ± 24.1 ($n=5$) post-intervention. For the non-admission ward, post-intervention observations were limited ($n=5$), therefore only descriptive comparison is presented, and no valid statistical inference was performed.

Overall, the intervention was associated with a significant reduction in BOR in the Casualty and Post-Casualty wards, while no significant changes were observed in the Non-admission ward.

Summary

Pre-intervention, BOR showed significant

disparities

- Casualty and post-casualty wards: $>100\%$ (severe overcrowding).
- Other two medical wards: $<65\%$ (underutilization).

After one month of implementing the new admission policy:

- BOR across all four medical units was balanced and consistently maintained below 100%.
- Casualty ward BOR reduced significantly, easing overcrowding.
- Previously underutilized wards achieved more efficient bed use.

Staff Perceptions

- Hospital Director: Highlighted smoother patient flow and reduced complaints from patients' families regarding lack of beds
- Consultants: Expressed satisfaction with equitable case distribution, allowing fair teaching opportunities for medical students and trainees.
- Nursing Officers: Reported improved workload distribution, reduced stress, and better capacity to provide quality care.

Patient Care Outcomes

Although formal clinical outcomes were not measured, anecdotal reports indicated

- Reduced delays in bed allocation.
- Decreased incidence of patients being treated in corridors.
- Improved patient and family satisfaction.

Lessons Learned

1. Importance of Structured Admission Policies

The intervention demonstrated that clear admission guidelines can dramatically improve equity in bed allocation. Without structured policies, informal practices perpetuate imbalances, leading to overcrowding and inefficiency (5).

2. Stakeholder Engagement Ensures Sustainability

Early involvement of consultants, nurses, and hospital leadership was critical. Their ownership of the intervention fostered cooperation and adherence(6).

3. Flexibility is Key

The slot-based admission system allowed real-time redistribution of patients, ensuring no ward remained underutilized. However, night admissions

were centralized for efficiency, reflecting the importance of balancing flexibility with practicality(7).

4. Data-Driven Decision Making

Routine hospital statistics provided a valuable evidence base for identifying problems and evaluating interventions. Strengthening hospital information systems can thus support continuous quality improvement(8) (9) (10).

5. Potential for Replication

The success of this initiative suggests it can be replicated in other specialties facing similar challenges, such as surgical or pediatric units. At a broader level, structured admission policies may contribute to improving hospital efficiency across Sri Lanka's tertiary-care system (11) (12).

Conclusion

This study demonstrates that implementing a structured admission policy significantly improved bed utilization and reduced overcrowding in the medical units of Teaching Hospital Batticaloa. By balancing patient allocation across all medical wards, the intervention ensured that every inward patient received a hospital bed while optimizing existing resources. Lessons from this initiative highlight the importance of stakeholder engagement, data-driven decision-making, and flexible policy design in addressing common challenges in resource-limited health systems. Sustaining and scaling such interventions across other clinical areas can contribute to strengthening hospital service delivery and patient-centered care in Sri Lanka.

References

1. Health at Glance. Health at a Glance 2023 [Internet]. OECD; 2023. (Health at a Glance). Available from: https://www.oecd.org/en/publications/health-at-a-glance-2023_7a7afb35-en.html
2. Ministry of Health. 2020 ANNUAL HEALTH BULLETIN MINISTRY OF HEALTH SRI LANKA [Internet]. 2020. Available from: www.health.gov.lk
3. Rahimzadeh V, Setoodehzadeh F, Salavati S, Khosravi M. The Impact of Health Transformation Plan on Bed Occupancy Rate, Average Length of Stay, and Bed Turnover Interval in a Deprived Region of Iran: An Interrupted Time Series. *Health Scope*. 2023 Oct 21;13(1)
4. Youthao S, Chaimay B, Woradet S, Bouyam C, Ruang-On S. Migration Letters Data And Statistics Of Hospital Beds And Staffs To Manage Health Information To Formulate Policies To Increase The Number Of Beds And Staffs In Thailand. 2023; Available from: www.migrationletters.com
5. Siyoto S, Tule AR. Analysis of Bed Occupancy Rate (BOR) in Terms of Internal Factors (Procedures, Doctor, Nurse, Facilities and Infrastructure). *Glob J Health Sci*. 2019 Nov 13;11(13):77.
6. Bosque-Mercader L, Siciliani L. The association between bed occupancy rates and hospital quality in the English National Health Service. *European Journal of Health Economics*. 2023 Mar 1;24(2):209–36.
7. Stevenson Bn J, Anderson Bn S, Veach Bn K, Cert G, Management H, Hine BA, et al. Senior Lecturer, School of Nursing and Midwifery, Queensland University of Technology. Vol. 29, AUSTRALIAN JOURNAL OF ADVANCED NURSING. 2024.
8. Ministry of Health. GUIDELINES FOR ACCIDENT AND EMERGENCY CARE SERVICES IN GOVERNMENT HOSPITALS IN SRI LANKA. 2016.
9. Huang J, Carmeli B, Mandelbaum A. Control of Patient Flow in Emergency Departments, or Multiclass Queues with Deadlines and Feedback. *Oper Res [Internet]*. 2015;63(4):892–908. Available from: <http://www.jstor.org/stable/24540420>
10. Kim JK. Enhancing Patient Flow in Emergency Departments: A Machine Learning and Simulation-Based Resource Scheduling Approach. *Applied Sciences (Switzerland)*. 2024 May 1;14(10).
11. Scholarworks S, Jones JF. Strategies to Increase Emergency Department Patient Flow [Internet]. 2020. Available from: <https://scholarworks.waldenu.edu/dissertations>
12. Samadbeik M, Staib A, Boyle J, Khanna S, Bosley E, Bodnar D, et al. Patient flow in emergency departments: a comprehensive umbrella review of solutions and challenges across the health system. *BMC Health Serv Res*. 2024 Dec 1;24(1).



Availability and Functional Status of Essential Equipment, Tools, and Documentation for Non-Communicable Disease Screening at Healthy Lifestyle Centres in Badulla District, Sri Lanka

Thennakoon TMCLB¹, Sinhaprathapa SWMKK²

¹District General Hospital, Ampara, ²Provincial Directorate of Health Services, Central Province

Correspondence to: TMCLB Thennakoon

E-Mail
lakmal1985.01.28@gmail.com

Key Words:

Non-communicable diseases,
Healthy Lifestyle Centres,
Sri Lanka,
service readiness,
primary healthcare

Abstract

Introduction: Non-communicable diseases (NCDs) account for more than 75% of annual fatalities in Sri Lanka. The Healthy Lifestyle Centre (HLC) network is crucial in early detection and prevention, significantly lowering morbidity. Evaluating the accessibility, state of essential screening equipment, and documentation is key for assuring service preparedness.

Objective: To assess the availability and functional status of essential equipment, tools, and documentation for NCD screening at Healthy Lifestyle Centres (HLCs) in the Badulla District.

Methods: A descriptive cross-sectional survey was conducted at all functioning healthy lifestyle Centres (N= 53) in Badulla District in year 2022. Direct observational checklist based on the JICA - NCD Readiness Tool and WHO - SARA (2017) was used to collect data by principal investigator.

Results: Around 98 % of HLCs had BP meters, with 62.3% using manual and digital versions. All HLCs had functioning weighing scales, measuring tapes, and height measurement devices (stadiometers). Visual acuity checking tool called "Snellen charts" were available in 69.8% of facilities. However, only 11.3% and 28.3% of facilities had Peak Expiratory Flow Rate (PEFR) meters and tuning forks respectively. Glucometers and cholesterol meters were available in all HLCs, only 5.7% had urine reagent strips. Among those HLCs 94.3% had participant registers, whereas 49.1% updated follow-up registers.

Conclusions and Recommendations: Despite the availability of essential tools for NCD screening, several diagnostic and documentation gaps have been found. Enhancing inventory management, ongoing monitoring, and assuring a seamless supply chain are essential for improving preparedness and service delivery quality at HLCs in primary healthcare.

Introduction

About 71% of deaths worldwide are attributable to non-communicable diseases (NCDs), which include Cancer, Diabetes Mellitus, Cardiovascular disease, and Chronic Respiratory Conditions (1). They are responsible for over four out of every five mortalities in Sri Lanka each year (2).

These illnesses have placed a tremendous strain on the country's healthcare system, highlighting the importance of early detection and prevention through efficient primary care systems. As part of the National NCD Prevention Programme, the Ministry of Health introduced the Healthy Lifestyle Centre (HLC) project in 2011 to address this (3). Through population-based screening for those over 35 years, HLCs aims to identify modifiable risk factors, with a particular emphasis on behavioral risk assessments, blood pressure, blood sugar, cholesterol, and body mass index (BMI) (4). Service preparedness is contingent upon the

availability of operational equipment, supplies, and documentation systems (5). The WHO Service Availability and Readiness Assessment (SARA) framework offers a methodical approach to assessing these capabilities (6). Likewise, the Japan International Cooperation Agency (JICA) NCD preparedness tool, tailored to the context of Sri Lanka, delineates basic parameters for service provision (7). Nonetheless, evidence about the operational readiness of HLCs is few, especially in estate and rural contexts like the Badulla District. This study seeks to address the deficiency by evaluating the accessibility and state of essential supplies, tools, and records utilized for NCD screening.

Methods

Design

A descriptive cross-sectional study was conducted to assess the availability and functionality of necessary screening equipment, tools, and

documentation at all 53 Healthy Lifestyle Centres in the Badulla District, Sri Lanka.

Study Setting and Duration

From March until June of 2022, the research was carried out across all 53 HLCs that were operational and were under authority of the Regional Directorate of Health Services in Badulla.

Data Collection Tool

The JICA NCD Readiness Assessment Tool and the WHO SARA 2017 Manual served as the foundation for the development of this observational checklist. The availability of equipment for screening and its degree of functionalities were listed on the checklist and tools for diagnosis and laboratory work that are readily available. It is necessary to keep essential registers and paperwork updated.

Data Collection and Analysis

Trained observers conducted visits to each HLC and documented their findings. Data were input into Microsoft Excel and analyzed through descriptive statistics, including frequencies and percentages. The findings were displayed in tabular format for enhanced clarity.

Results

Thirty-three centres(62.3%), were equipped with both manual and digital blood pressure apparatus, whereas twenty centres(37.7%), depended primarily on digital apparatus. One hundred percent of the centres were equipped with weighing scales, measuring tapes, and height measuring machines. It was possible to obtain “Snellen charts” in 69.8 percent of the centres.

It was satisfactory that glucometers and cholesterol meters were among the available options. Despite this, only 11.3% of HLCs had PEFR devices, and only 5.7% had urine reagent strips, which severely restricted their ability to perform comprehensive NCD screening.

In virtually all of the centres, participant records were kept up to date; however, follow-up paperwork was updated in less than half of the centres (49.1%), which hinders the organisation of long-term patient tracking. The overall service utilization at HLCs were 34% and Male participation was 12% while female participation is 88% during the year 2022.

Table 1. Availability of Basic Screening Equipment

Type of Equipment	Frequency	Percentage (%)
BP apparatus available inside unit	41	77.4
BP apparatus shared from another unit	11	20.8
Not available	1	1.8
Total	53	100

Table 2. Availability of Diagnostic and Laboratory Tools

Equipment/Tool	Frequency	Percentage (%)
PEFR Device (Lung Function Test)	6	11.3
Tuning Fork	15	28.3
Ophthalmoscope	28	52.8
Glucometer (Functioning)	53	100
Glucometer Strips Adequate	48	90.6
Cholesterol Meter	53	100
Cholesterol Strips Adequate	50	94.3
Urine Strips (Protein/Ketone)	3	5.7

Table 3. Availability and Maintenance of Registers

Type of Register	Availability	Percentage (%)
Participant Register (Updated)	50	94.3
Follow-up Register (Updated)	26	49.1
Monthly Report (Updated)	40	75.5
Visitors' Book (Updated)	21	39.6

Discussion

As a result of this study, it was discovered that the majority of Healthy Lifestyle Centres in the Badulla District are equipped with the fundamental instruments required for preliminary NCD screening. Nevertheless, there are still limitations in diagnostic and documentation techniques, which are comparable to the findings of WHO SARA-based studies conducted in other low- and middle-income countries (8–10).

The availability of blood pressure apparatus and anthropometric instruments was very prevalent, which is evidence that HLC criteria were adhered to (11). There are deficiencies in the screening for chronic respiratory and kidney diseases components of the NCD package (12,13), as indicated by the absence of PEFR devices and urine strips.

Inadequacies in documentation, particularly in follow-up registers, weaken the continuity of care and make it more difficult to evaluate the results of therapy. A study conducted in the Western Province of Sri Lanka revealed similar findings, namely that there were gaps in follow-up and poor data entry at the primary care level (14). It is possible that delays in the procurement process and financial constraints are to blame for the frequent shortages of consumables like urine reagent strips and the restricted access to more sophisticated diagnostic instruments (15,16). In addition, assessments that were sponsored by JICA brought to light the necessity of enhancing the management of the supply chain for consumables (17).

The fact that glucometers and cholesterol meters are available in every single establishment demonstrates that donor-supported investments have been beneficial. The continued functionality, on the other hand, is contingent upon the timely replacement of strips and batteries, which necessitates improved forecasting at both the district and national levels (18). In accordance with global research based on SARA, these findings highlight the discrepancies that exist between basic and advanced service preparation in NCD programs (19–22). Integrating digital health reporting and enhancing accountability mechanisms through periodic audits might enhance the reliability of HLC service delivery (23–25).

Healthy Lifestyle Centres (HLCs) are scheduled preventive care services within primary healthcare institutions, according to Ministry of Health circulars and guidelines published since 2011. They require specific space, essential screening equipment, and basic infrastructure for NCD risk assessment and lifestyle counselling, but they do not require continuous or 100% service availability [26,27]. While maintaining the demand of regular,

functional clinic sessions supported by sufficient equipment and infrastructure rather than continuous operation, subsequent revisions culminating in the 2019 guideline reinforced standardised screening protocols, referral mechanisms, and data recording [28, 29].

In contrast to the national requirements for Healthy Lifestyle Centres in 2022, the majority of centres had access to basic NCD screening equipment and consumables. Nonetheless, reliance on shared equipment and limited access to other resources suggest a partial lack of adherence to thorough screening requirements. Poor updating of follow-up registrations and visitor books reveals gaps in continuity of care and efficiency monitoring, despite the fact that participant registers and monthly reports were generally kept up to date. In general, centres fulfilled national standards for complete evaluation and follow-up, although they were not adequately equipped for basic screening. It is very important to assess the service utilization at HLCs, but due to the prevailing COVID-19 pandemic situation service it was not possible due to tight movement restrictions imposed for people.

Conclusion

A satisfactory degree of readiness for noncommunicable disease screening is demonstrated by Healthy Lifestyle Centres in the Badulla District, notably with regard to the measurement of blood pressure, glucose, and cholesterol. In spite of this, the comprehensiveness of the service delivery is jeopardised by limitations in pulmonary function equipment, urine testing materials, and record maintenance. Strengthening the administration of logistics, improving supervision, and integrating digital reporting systems are all essential components in order to enhance the performance of HLC. Overall, limitations in comprehensive assessment tools and follow-up documentation limited full compliance with guideline expectations, even though Healthy Lifestyle Centres generally met national standards for baseline NCD screening in 2022. Although there are currently limited publicly available sources of national-district comparative consumption data, their availability would improve evaluations of Badulla District performance.

Recommendations

An inventory monitoring system that is centralized could be established at the district level. Maintain regular oversight and conduct readiness audits on a quarterly basis. A refresher training session on documentation requirements should be conducted for the HLC staff. Ensure that sufficient financing is available and that the supply chain is coordinated for consumables. For the purpose of HLC reporting and patient follow-up, electronic record systems should be implemented.

References

1. WHO. Global Status Report on Noncommunicable Diseases 2023. Geneva: World Health Organization; 2023.
2. Ministry of Health Sri Lanka. National NCD Strategic Plan 2022–2027. Colombo: MoH; 2022.
3. Jayasuriya R, Senaratne R. Implementation of Healthy Lifestyle Centres in Sri Lanka. *Asia Pac J Public Health*. 2018;30(3):210–8.
4. Herath T, et al. Utilization and barriers of Healthy Lifestyle Centres in Sri Lanka: a qualitative study. *BMJ Open*. 2023;13(7):e067464.
5. WHO. Package of Essential Noncommunicable Disease Interventions (PEN) for Primary Health Care. Geneva: WHO; 2020.
6. WHO. Service Availability and Readiness Assessment (SARA): Reference Manual. Geneva: WHO; 2017.
7. Japan International Cooperation Agency. NCD Readiness Assessment Tool. Tokyo: JICA; 2018.
8. Ghimire U, et al. Health system readiness to provide NCD services in Nepal. *BMC Public Health*. 2020;20(1):917.
9. Armstrong-Hough M, Kishore SP, Byakika S, et al. Disparities in availability of essential medicines for NCDs: a Poisson analysis using SARA data in Uganda. *PLoS One*. 2018;13(2):e0192332.
10. Paromita P, et al. Assessing readiness to manage NCDs using WHO SARA tool. *Int J Health Policy Manag*. 2021;10(3):142–51.
11. Perera S, et al. Readiness of primary care for NCD management in Sri Lanka. *BMC Health Serv Res*. 2019;19(1):104.
12. Thapa R, et al. Readiness of the health system to provide NCD services in Nepal. *Front Public Health*. 2024;12:11476966.
13. WHO. WHO Noncommunicable Disease Progress Monitor 2022. Geneva: WHO; 2022.
14. De Silva V, et al. Prescription and documentation errors in outpatient care in Sri Lanka. *Ceylon Med J*. 2018;63(4):171–8.
15. Wijesekara M, et al. Resource constraints in primary care facilities in Sri Lanka. *Health Serv Res Manag Epidemiol*. 2020;7:2333392820950205.
16. JICA Sri Lanka. Review of NCD programme readiness. Colombo: JICA; 2021.
17. Rathish D, et al. Health system capacity for chronic disease care. *Int J Non-Commun Dis*. 2019;4(2):40–7.
18. WHO SEARO. Health system strengthening for NCDs in South-East Asia. New Delhi: WHO SEARO; 2020.
19. Sharma A, et al. Readiness assessment for NCD care in India. *BMC Health Serv Res*. 2021;21(1):515.
20. Balasubramanian K, et al. Primary healthcare preparedness for NCDs in LMICs. *Lancet Glob Health*. 2020;8(6):e750–8.
21. Smith J, et al. Barriers to NCD care in rural primary care settings. *Health Policy Plan*. 2022;37(5):622–31.
22. WHO. Monitoring Framework for Universal Health Coverage. Geneva: WHO; 2019.
23. Gunawardhana A, et al. Strengthening district-level monitoring for NCD care. *SL J Med Admin*. 2022;9(1):22–9.
24. Wickramasinghe K, et al. Implementation gaps in NCD policy in South Asia. *Global Health Action*. 2019;12(1):1619672.
25. Bandara P, et al. Role of digital health in improving NCD monitoring in Sri Lanka. *Health Informatics J*. 2024;30(2):12–22.
26. Ministry of Health Sri Lanka. Guideline for the establishment of Healthy Lifestyle Centres (HLCs) in healthcare institutions. Colombo: Non Communicable Disease Unit; 2011.
27. Ministry of Health Sri Lanka. Operational guidelines for Healthy Lifestyle Centres. Colombo: Non Communicable Disease Unit; 2013.
28. Ministry of Health Sri Lanka. Guideline for Healthy Lifestyle Centres – revised edition. Colombo: Non Communicable Disease Unit; 2019.
29. Ministry of Health Sri Lanka. National policy and strategic framework for prevention and control of non-communicable diseases. Colombo: Ministry of Health; 2016.



An Analysis of Food Waste in a Subsidized Employee Meal Program at a Sri Lankan Secondary Care Hospital

Baminy N¹, Safiudeen T²

¹Postgraduate Institute of Medicine, University of Colombo, ²Base Hospital, Kalmunai North, Kalmunai

Correspondence to:

N Baminy

E-Mail

baminy2022@gmail.com

Key Words:

Food Waste,
Subsidized Meals,
Employee Economic Impact

Abstract

Introduction: In Sri Lanka, a severe economic crisis has exacerbated food insecurity, creating a stark contradiction with significant institutional food waste. This is particularly evident in government hospitals, which provide heavily subsidized meals for employees. While patient meal waste has been studied, employee-related food waste in these subsidized systems remains a critical, unaddressed gap.

Objective: This study aimed to quantify and analyze the patterns of food waste generated by employees in the subsidized meal service of a secondary care government hospital in Sri Lanka.

Methods: A descriptive cross-sectional study was conducted over four weeks (28 days) by analyzing routine dietary service records. Data on the quantity of meals ordered (prepared) and actually delivered (collected) were compared to identify discrepancies. Descriptive statistics were used to analyze daily waste patterns, variations by day of the week and menu type, and the subsequent financial impact.

Results: The analysis revealed a consistent pattern of waste, with 85.7% of days showing under-delivery (meals prepared but not collected). The average daily waste was 18.7 meals, representing 12.3% of total preparation. Waste peaked on Fridays (17.5% waste) and for less preferred vegetable-based dishes (15.8% waste). The calculated loss from raw materials alone totaled LKR 135,716 over 28 days, translating to an estimated annual loss of roughly LKR 1.77 million per hospital. This figure excludes other potential cost components.

Conclusion: The subsidized employee meal system generates significant and avoidable waste, driven by a misalignment between preparation and collection patterns, employee menu preferences, and a rigid ordering system. These findings, contextualized by the Theory of Planned Behavior, highlight an urgent need for operational reforms. Implementing flexible ordering, preference-based menu planning, and behavioral interventions is essential to align this vital welfare benefit with fiscal responsibility and ethical resource use amidst Sri Lanka's ongoing economic crisis.

Introduction

Food waste represents a critical global challenge with profound economic, environmental, and social implications. Approximately one-third of all food produced for human consumption is lost or wasted annually, accounting for nearly 1.3 billion tons worldwide [1]. This wastage exacerbates global hunger, intensifies greenhouse gas emissions, and creates significant financial burdens across food systems [2]. The paradox is particularly striking in low- and middle-income countries such as Sri Lanka, where rising levels of malnutrition and food insecurity coexist with substantial institutional food waste [3].

In Sri Lanka, this contradiction is especially evident within healthcare institutions. Government

hospitals provide a highly subsidized meal service for employees (SKS), presumably a category of minor staff or specific service personnel, at a nominal cost of Rs. 10 per month a valuable welfare benefit that nonetheless may inadvertently decouple consumption from economic reality. This system, operating within a context of severe economic crisis characterized by hyperinflation and deepened poverty [4], creates a complex environment where well-intentioned subsidies might inadvertently foster complacency and waste. Despite known high levels of food waste in hospital settings with studies indicating waste levels of 55-62% of prepared food at some Sri Lankan hospitals [5] employee-related food waste remains significantly understudied. This research addresses this critical gap by investigating food

order and delivery patterns and quantifying plate waste among hospital staff in a government hospital setting, with the aim of identifying sustainable solutions that align welfare benefits with resource efficiency.

Background

Sri Lanka's food waste crisis occurs within a context of broader waste management challenges. The country generates approximately 7,000 tons of solid waste daily, with biodegradable organic matter including food waste comprising about 65% of this total. Within institutional settings, particularly hospitals, food waste arises from complex interactions between dietary prescriptions, procurement systems, preparation methods, and consumption patterns. Previous research has documented substantial waste in patient meal services, with the National Hospital of Sri Lanka reporting food waste levels of 55% for breakfast, 62% for lunch, and 57% for dinner. The Colombo South Teaching Hospital similarly documented 500-600 kg of daily food waste before implementing intervention strategies [5].

Recent initiatives demonstrate the potential for improvement through systematic intervention. The Minimum Food Waste Toolkit piloted by the Dietitians Association of Sri Lanka achieved a 33% reduction in waste within 12 months through improved meal planning and staff training [6]. However, these efforts have primarily focused on patient meal services, leaving employee-related food waste largely unexplored. This gap is particularly significant given the unique dynamics of subsidized employee meal programs, where the minimal personal cost (Rs. 10/month) may reduce the perceived value of food and disincentivize waste reduction behaviors.

The current economic crisis in Sri Lanka has added urgency to addressing institutional food waste. With soaring food inflation and increased vulnerability to food insecurity [4], efficient use of resources in public institutions has become both an economic imperative and ethical obligation. Understanding the drivers and dynamics of employee plate waste in hospital settings is therefore essential for developing targeted interventions that can reduce waste while maintaining important staff welfare benefits. This study seeks to contribute to this understanding by examining the patterns and predictors of food waste in a government hospital canteen, with the ultimate goal of informing policies that promote both sustainability and equity in food service management.

Objective

The objective of this study is to quantify and analyze food waste generated by employees (SKS) in a secondary care hospital in Sri Lanka.

Justification

This research is rigorously justified by a confluence of critical factors specific to Sri Lanka's current socio-economic crisis and the identified gaps in public institutional management. The country's profound economic downturn has placed unprecedented strain on public health funding, rendering any operational inefficiency especially the unquantified financial drain of food waste from a heavily subsidized employee meal system a severe fiscal liability that demands immediate evidence-based intervention. Ethically, this wastage presents an untenable paradox, occurring within a state-funded institution while national surveys indicate a significant portion of the population faces food insecurity and compromised nutrition, thereby creating a moral imperative for resource equity and conscientious consumption. Environmentally, diverting organic waste from landfills is crucial for reducing methane emissions and aligning with broader national waste management goals, mitigating the public health hazards associated with disposal. Operationally, while initiatives like the Minimum Food Waste Toolkit exist for patient services, a definitive policy gap remains regarding employee-related waste in subsidized canteens. This study directly addresses this void, aiming to generate the essential empirical data needed by hospital administrators and the Ministry of Health to formulate targeted interventions, optimize supply chains, and establish sustainable national guidelines, thereby transforming a critical welfare benefit into a model of fiscal responsibility and ethical practice.

Literature Review

Food waste represents one of the most critical global challenges of the 21st century, with profound implications for food security, environmental sustainability, and economic stability. According to the United Nations Environment Programme (2021), an estimated 931 million tons of food waste were generated in 2019, with the food service sector—including institutions like hospitals—being a significant contributor. This wastage occurs amidst a backdrop of global hunger and resource depletion, where nearly 828 million people suffer from chronic undernourishment [3], making its reduction a key target of the United Nations Sustainable Development Goals (SDG 12.3). The environmental impact is particularly severe, as food waste in landfills generates methane, a potent greenhouse gas that contributes 8–10% of global emissions, while also representing a massive waste of land, water, and energy resources used in production [2].

Within institutional food services, including schools, universities, and hospitals, research has identified several consistent drivers of plate waste. These include oversized portions, lack of menu

variety and palatability, inflexible meal schedules, and low consumer awareness regarding the consequences of waste [7], [8]. The hospital setting introduces additional complexities through therapeutic diets for patients and structural separations between those who order food and those who consume it [9]. Studies across developed and developing nations reveal that hospital food waste ranges from 30% to 67% of meals served, with portion sizes, patient preferences, and limited menu flexibility being major determinants of waste [10], [11]. Research in Asian contexts, including Malaysia and India, further confirms that mismatches between consumer preferences and standardized menus significantly contribute to waste generation.

The Theory of Planned Behavior (TPB) [1] provides a robust psychological framework for understanding the determinants of wasteful practices. The model posits that behavior is driven by intention, which is influenced by three key factors: (1) attitudes, the individual's positive or negative evaluation of performing the behavior; (2) subjective norms, the perceived social pressure to perform or not perform the behavior; and (3) perceived behavioral control, the perceived ease or difficulty of performing the behavior. Studies applying the TPB to food waste have found that attitudes and perceived behavioral control are significant predictors of waste reduction intention [12]. A highly subsidized system, where the consumer bears minimal financial cost, can critically undermine all three constructs by diminishing the perceived value of food (negative attitude), removing financial disincentives (low perceived control), and potentially normalizing waste among peers (subjective norm).

The literature must be contextualized within Sri Lanka's severe socio-economic crisis, where the country faces a dual burden of high household food insecurity and significant institutional waste. Reports indicate that a substantial portion of the population has been forced to reduce meal frequency and quality due to rampant food inflation and poverty [4]. Concurrently, studies have documented alarming levels of food waste within Sri Lankan institutions. The country generates approximately 7,000 tons of solid waste daily, with food waste constituting 65-66% of this total [13]. Specific studies at the National Hospital of Sri Lanka found plate waste exceeding 55% across meal services, while Colombo South Teaching Hospital generated 500-600 kg of daily food waste before implementing mitigation strategies [5].

The government's response has included initiatives like the Minimum Food Waste Toolkit piloted by the Dietitians Association of Sri Lanka, which demonstrated that focused interventions could achieve a 33% reduction in waste within a year

through improved meal planning and staff training [6]. However, a critical research gap persists. While existing efforts have focused predominantly on patient meal services and municipal solid waste management, the specific domain of employee-related food waste in subsidized canteens remains almost entirely unexplored. This gap is particularly salient given that the employee meal system costing a nominal LKR 10 per month represents both a significant financial undertaking for the state and a potential hotspot for waste generation. The economic crisis has placed public health funding under extreme strain, making the efficient use of every resource an operational and ethical imperative that demands immediate research attention.

Most existing Sri Lankan studies are quantification-focused, offering limited insight into the behavioral, cultural, and operational drivers of waste in employee meal programs. Furthermore, despite Sri Lanka's commitment to the National Roadmap for Food Waste Reduction and its alignment with SDG 12.3, research linking hospital food waste reduction strategies to these policy objectives remains scarce. This study, therefore, addresses a critical knowledge gap by examining employee plate waste through both quantitative measurement and behavioral analysis, providing essential evidence for policy development and sustainable institutional food management in a resource-constrained setting.

Methodology

A descriptive cross-sectional study design was adopted to assess discrepancies between ordered and delivered food quantities in the dietary services of a government hospital in Sri Lanka. This design was chosen because it allows for the systematic evaluation of food service efficiency and potential sources of food waste within a defined four-week period.

The study was conducted in a secondary care hospital in Sri Lanka, providing both inpatient and staff dietary services. The hospital dietary unit prepares meals for both patients and employees, with employees (SKS) eligible to receive subsidized meals at a monthly cost of Rs. 10.

The study focused on dietary service records relating to the preparation of meals for hospital staff. Since the diet chart represents routine weekly food ordering and delivery records, consecutive sampling of all available days within the selected study period (Sunday to Saturday) was used.

Data were extracted from the weekly diet chart records prepared for this purpose. Information collected included:

- Food item (e.g., pumpkin, cucumber, chicken, fish, eggs, dhal, kankun, ash plantain, fried rice)
- Day of the week (Sunday–Saturday)
- Quantity ordered
- Quantity delivered

The study compared ordered versus delivered quantities for each food item, with discrepancies documented as either short supply, over supply, or exact match. This research analyzed supply chain efficiency by examining how the day of the week and type of food item (vegetables, proteins, cereals, pulses, leafy greens) influenced discrepancies between ordered and delivered quantities. The dependent variable was measured as the difference between ordered and delivered amounts.

Data were tabulated in Microsoft Excel 2019 and analyzed using descriptive statistics.

The study was conducted using routine dietary records without patient identifiers. Formal ethics committee approval was not required; however, administrative clearance was obtained from the hospital director. Confidentiality of institutional records was maintained.

Results

This chapter presents the findings from the analysis of meal preparation and collection data in the government hospital employee canteen. The results focus on the discrepancy between the number of meals ordered (prepared) by the kitchen based on expected attendance and the number actually collected by employees. Data were collected over a four-week period, covering 28 service days.

Overall Discrepancy Patterns

The analysis revealed a consistent pattern of under-delivery across the study period. Of the 28 days analyzed, 24 days (85.7%) showed instances of under-delivery (meals prepared but not collected), resulting in food waste. The average daily waste was 18.7 meals, representing 12.3% of total meals prepared.

Table 1: Overall Discrepancy Patterns

Occupation	Frequency (n)	Percentage (%)	Average Meals Affected
Under-Delivery (Waste)	24	85.7%	18.7
Over-Delivery (Shortage)	2	7.1%	8.5
Exact Delivery	2	7.1%	0

Day-Wise Analysis of Collection Patterns

Significant variations in collection patterns were observed across different days of the week (Figure 1). Fridays showed the highest rate of under-delivery (25.4 kg wasted), followed by Mondays (19.2kg wasted). Weekends (Saturdays and Sundays) demonstrated the most accurate collection patterns, with an average of only 6.3 kg wasted.

Table 2: Day-Wise Analysis of Meal Collection

Day	Avg. Ordered (kg)	Avg. Delivered (kg)	Avg. Waste (kg)	Waste Percentage
Monday	152	132.8	19.2	12.6%
Tuesday	148	133.5	14.5	9.8%
Wednesday	155	140.2	14.8	9.5%
Thursday	150	132.1	17.9	11.9%
Friday	145	119.6	25.4	17.5%
Saturday	98	91.7	6.3	6.4%
Sunday	85	79.2	5.8	6.8%

Food-Type Specific Wastage

The wastage patterns varied significantly based on the menu items served. Days featuring less preferred items (typically vegetable-based dishes) showed 23.4% higher wastage compared to days with preferred protein items (chicken or fish).

Table 3: Wastage by Menu Type

Menu Type	Avg. Daily Waste (Kg)	Waste Percentage	Most Affected Items
Vegetable-Based	22.3	15.8%	Pumpkin, Beetroot
Protein-Based	14.1	9.2%	Chicken, Fish
Pulses/Cereals	8.9	6.1%	Dhal, Rice

Financial Impact

The financial analysis revealed significant losses due to uneaten meals. Based on the calculated cost of LKR 259 per meal, the total financial waste over the 28-day period was LKR 135,716, projecting to an annual loss of approximately LKR 1,769,155 (approximately 1.77million).

Table 4: Financial Impact of Meal Waste

Metric	Value
Total Meals Wasted (28 days)	524
Average Daily Waste	18.7 Kg
Cost per Meal	LKR 259
Total Financial Waste for 28 days	LKR 135,716
Projected Annual Waste	LKR 1,769,155

Peak Waste Periods

Analysis of temporal patterns identified consistent peak waste periods:

- Highest waste occurs on Fridays before weekends
- Elevated waste on Mondays following weekends
- Lowest waste mid-week (Tuesday-Thursday)

These patterns suggest that employee attendance patterns and weekend plans significantly influence meal collection behavior, leading to predictable wastage trends.

The results demonstrate substantial inefficiency in the current meal preparation system, with significant financial losses due to inconsistent employee meal collection patterns, particularly around weekends and with less preferred menu items.

Discussion

This study provides the first empirical analysis of employee food waste within Sri Lanka's subsidized hospital meal system, revealing critical inefficiencies with substantial economic, ethical, and operational implications. The findings demonstrate that, although the system is well-intentioned, it generates significant avoidable waste due to a misalignment between meal preparation and employee collection patterns. This discussion interprets the key results, contextualizes them within theoretical frameworks and the national crisis, and highlights practical and policy implications.

A striking finding is the high frequency and volume of uncollected meals. On 85.7% of study days, prepared meals were discarded, with an average waste rate of 12.3%. This translates to a projected annual financial loss of over LKR 1.77 million per hospital a considerable burden amid Sri Lanka's ongoing economic crisis. Beyond financial losses, such waste represents a profound ethical issue, especially in a context where food insecurity is widespread.

Day-wise patterns further illuminate employee behavior. Waste peaked on Fridays (17.5%) and Mondays, suggesting that weekend-related scheduling, early departures, and irregular attendance influence collection rates. This aligns with global research indicating that institutional food waste is highly sensitive to temporal and weekly rhythms [8]. In contrast, weekend collections were higher, likely due to the presence of essential resident staff with limited dining alternatives.

Menu type also influenced collection behavior. Vegetable-based meals had higher waste (15.8%) compared to protein-based meals (9.2%), reflecting employee preferences. This supports findings from other institutional settings, where palatability is a primary determinant of plate waste [7]. Employees, exercising their limited choice, effectively "vote with their feet," avoiding meals they find less desirable.

The Theory of Planned Behavior provides a useful framework for understanding these results.

- **Attitude:** The nominal LKR 10 token payment reduces perceived value, lowering the psychological cost of waste.
- **Perceived Behavioral Control:** Employees face no consequence for non-collection, making it an easy decision to forgo meals.

- **Subjective Norms:** High frequency of non-collection normalizes the behavior, reinforcing waste within the employee community.

This analysis demonstrates how a subsidized system can unintentionally encourage waste by negatively influencing all three TPB constructs.

The issue extends beyond operational inefficiency. Amid national economic hardship, the annual loss of LKR 1.77 million per hospital could otherwise support critical healthcare needs, such as medicines or supplies. Ethically, routine disposal of nutritious food within government institutions is indefensible in a context where food insecurity persists. On average, 7.1% of meals went uncollected, and no day achieved 100% collection, revealing systemic inefficiencies consistent with global evidence that institutional food services are vulnerable to behavioral and operational drivers of waste.

Hospital food waste is well-documented among patient populations, with European and Asian studies reporting 30–67% of meals uneaten. Although employee meal waste in this study (7.1%) is lower, it represents a substantial daily loss of food, money, and resources in a low-resource public hospital. This aligns with evidence suggesting that staff meal programs, like patient meals, are vulnerable to wastage driven by menu acceptability, attendance, and rigid ordering systems.

The primary contributors to meal non-collection in the hospital setting include a combination of behavioral and operational factors. Employee absenteeism, irregular shift patterns, and early departures resulted in mismatches between meal preparation and actual attendance, directly reducing collection rates. Menu acceptability also played a significant role, as certain items, such as pumpkin, leaks, and kankun were consistently less preferred, highlighting the influence of palatability on plate waste. Additionally, the rigid pre-ordering system managed by the overseer limited the ability to adjust meals in response to last-minute absences, reflecting broader critiques of centralized food ordering in Sri Lanka. Collectively, these factors created a system where prepared meals frequently went uncollected, contributing to avoidable food waste.

Conclusion

This study provides the first empirical evidence of employee meal waste within Sri Lanka's subsidized hospital meal system, revealing significant operational inefficiencies with ethical, financial, and resource implications. On average, 7.1% of prepared meals went uncollected, with peak waste occurring on certain days and for specific menu items. Key drivers included attendance mismatches, menu acceptability, and rigid pre-ordering systems. The findings are

consistent with global evidence that institutional food services are vulnerable to behavioral and operational factors, and they underscore how subsidized systems can unintentionally promote waste through psychological and social mechanisms, as explained by the Theory of Planned Behavior. In the context of Sri Lanka's ongoing economic crisis, such avoidable waste represents not only a financial burden but also a moral concern, given the prevalence of food insecurity.

Recommendations

Hospitals should implement more flexible meal ordering systems that allow adjustments for absenteeism, shift changes, or last-minute cancellations, ensuring that preparation better matches actual demand. Menu planning should be optimized to reflect employee preferences, focusing on popular and nutritionally balanced options to minimize refusal rates. Behavioral interventions, including awareness campaigns and social incentives, can encourage meal collection and foster a culture of minimizing waste. Regular monitoring and feedback mechanisms should be established to track meal collection and waste patterns, allowing kitchen staff and management to refine operations continuously. Finally, employee meal schemes should be aligned with broader institutional and national food waste reduction policies, contributing to sustainability goals, efficient resource utilization, and ethical standards in public healthcare.

References

1. "Food Wastage Footprint - Impacts on Natural Resources – Summary report." Accessed: Sep. 02, 2025. [Online]. Available: <https://www.fao.org/sustainable-food-value-chains/library/details/en/c/266219/>
2. "UNEP Food Waste Index Report 2021 | UNEP - UN Environment Programme." Accessed: Sep. 15, 2025. [Online]. Available: <https://www.unep.org/resources/report/unep-food-waste-index-report-2021>
3. FAO, "Food wastage footprint," Fao, p. 62, 2013, Accessed: Sep. 02, 2025. [Online]. Available: www.fao.org/publications
4. "World Food Programme (WFP). (2023). Sri Lanka - Food Security and Vulnerability Update. Retrieved from <https://www.wfp.org/countries/sri-lanka> - Google Search." Accessed: Sep. 15, 2025. [Online]. Available: [https://www.google.com/search?q=World+Food+Programme+\(WFP\).+\(2023\).+Sri+Lanka+-+Food+Security+and+Vulnerability+Update.+Retrieved+from+https%3A%2F%2Fwww.wfp.org%2Fcountries%2Fsri-lanka&oq=World+Food+Programme+\(WFP\).+\(2023\).+Sri+Lanka+-+Food+Security+and+Vulnerability+Update.+Retrieved+from+https%3A%2F%2Fwww.wfp.org%2Fcountries%2Fsri-lanka&gs_lcrp=EgZjaHJvbWUyBggAEEUYOTIHCAEQIRiPAjIHCAIQIRiPAitBCTExNTNqMGoxNagCCLACAFEF86w3nzt0_64&sourceid=chrome&ie=UTF-8](https://www.google.com/search?q=World+Food+Programme+(WFP).+(2023).+Sri+Lanka+-+Food+Security+and+Vulnerability+Update.+Retrieved+from+https%3A%2F%2Fwww.wfp.org%2Fcountries%2Fsri-lanka&oq=World+Food+Programme+(WFP).+(2023).+Sri+Lanka+-+Food+Security+and+Vulnerability+Update.+Retrieved+from+https%3A%2F%2Fwww.wfp.org%2Fcountries%2Fsri-lanka&gs_lcrp=EgZjaHJvbWUyBggAEEUYOTIHCAEQIRiPAjIHCAIQIRiPAitBCTExNTNqMGoxNagCCLACAFEF86w3nzt0_64&sourceid=chrome&ie=UTF-8)
5. D. Rathnayake and S. Dalpatadu, "A systematic approach to reduce hospital food waste based on patient experience," *British Journal of Healthcare Management*, vol. 26, no. 10, Oct. 2020, doi: 10.12968/BJHC.2019.0100.
6. "Sustainability – Supporting Sustainability in Nutrition." Accessed: Sep. 02, 2025. [Online]. Available: <https://icdasustainability.org>
7. K. Silvennoinen, L. Heikkilä, J. M. Katajajuuri, and A. Reinikainen, "Food waste volume and origin: Case studies in the Finnish food service sector," *Waste Management*, vol. 46, pp. 140–145,
8. N. Cook, J. Collins, D. Goodwin, and J. Porter, "A systematic review of food waste audit methods in hospital foodservices: development of a consensus pathway food waste audit tool," *Journal of Human Nutrition and Dietetics*, vol. 35, no. 1, pp. 68–80, Feb. 2022, doi: 10.1111/JHN.12928.
9. P. Williams and K. Walton, "Plate waste in hospitals and strategies for change," *Eur J Clin Nutr Metab*, vol. 6, no. 6, pp. e235–e241, Dec. 2011, doi: 10.1016/J.ECLNM.2011.09.006.
10. H. J. Hartwell, P. A. Shepherd, and J. S. A. Edwards, "Effects of a hospital ward eating environment on patients' mealtime experience: A pilot study," *Nutrition and Dietetics*, vol. 70, no. 4, pp. 332–338, Dec. 2013, doi: 10.1111/1747-0080.12042.
11. S. Goonan, M. Miroso, and H. Spence, "Getting a taste for food waste: A mixed methods ethnographic study into hospital food waste before patient consumption conducted at three new Zealand foodservice facilities," *J Acad Nutr Diet*, vol. 114, no. 1, pp. 63–71, Jan. 2014, doi: 10.1016/J.JAND.2013.09.022.
12. I. Ajzen, "The theory of planned behavior," *Organ Behav Hum Decis Process*, vol. 50, no. 2, pp. 179–211, 1991, doi: 10.1016/0749-5978(91)90020-T.
13. "National roadmap for food waste reduction in Sri Lanka - IWMI Annual Report 2022." Accessed: Sep. 02, 2025. [Online]. Available: <https://2022.annual-report.iwmi.org/national-roadmap-for-food-waste-reduction-in-sri-lanka>



QUALITY IMPROVEMENT STUDIES and AUDITS



An innovative approach to reduce clinic waiting time at the District General Hospital, Matale

Fernando GHS¹, Niyarapola G¹, Basnayaka K², Meegahawatta M¹

¹District General Hospital, Matale, ²Post Graduate Institute of Medicine, University of Colombo

Correspondence to:

GHS Fernando

E-Mail

ghsfernando@gmail.com

Key Words:

Waiting times,
DGH Matale,
Quality Improvement

Abstract

Introduction: District General Hospital (DGH) Matale is the only tertiary care hospital in the Matale district. Those who need specialized care are being treated at the specialized clinic conducted by the Hospital. Normally, one consultant consults around 15 to 25 patients per clinic. Therefore, the clinic waiting time was more than 8 months for some specialties. During this period patient will not receive proper treatment and will default.

Justification: This project was implemented to reduce clinic waiting time to offer high-quality and efficient service to patients.

Objective: To reduce clinic waiting time at DGH- Matale in order to improve the quality of health care service.

Methodology: Quality-improving tools such as fishbone analysis, SWOT analysis, and nominal group technique were used to identify the main reasons for long waiting times at the clinics. Strategies were implemented after conducting several stakeholder meetings with the responsible members of the hospital, including consultants. Performance was reviewed monthly to assess the progress.

Result: Clinic waiting time of the almost all the clinics were reduced drastically with new strategies by April 2025. As example surgical clinic reduced from 10 months to one week, Neurology 13 weeks to 4-week, Medical clinic 1 week to 3 days.

Conclusion and recommendation: High waiting time for a clinic is a big issue to patients and they are suffering from the illness for long time. It directly affects the morbidity and the outcome of the patient. It reduces the quality of health care service of the hospital. By implementing simple quality improvement activities with good inter-sectorial coordination can reduced unnecessary waiting time at clinics.

Introduction

District General Hospital (DGH) Matale is the only tertiary care hospital in Matale district. More than 600000 people are catering to this hospital to take specialist treatment. At DGH-Matale the daily out-patient department admission is around 700 to 1000 and daily average hospital admission is around 200. Many patients are treated at the OPD and obtained drugs for three days. However, some patients are directly admitting the wards according to the severity of the illness. Those who do not need urgent attention but need specialized consultations are referred to the needy clinic conducted weekly. The specialist clinics conducted at the DGH. Matale are General Medical clinic, General Surgery, Pediatric, Gynecology and Obstetrics, Ear Nose and Throat (ENT), Orthopedic, Neurology, Nutrition, Oncology, Orthodontic, Endocrinology and Dermatology. The 1st visit of the patient directly consults by a specialist as red number.

Normally one consultant consults around 15 to 25 patient per clinic. However, at the time of this study, clinic waiting time was more than 8 months for some specialties. During this period patient will not receive proper treatment and deflated. Those who are economically stable, personally channel a consultant and get the treatment. But poor will suffer and may be ended with complication.

Justification

Few complaints were received from patients as well as staff regarding long waiting time at some clinics. Clinical audit was conducted by the quality management unit at DGH-Matale to see the actual situation of the clinic. The result shows many clinics are very heavy and patients are waiting in the list for more than 8 to 10 months. It showed that scheduled patients are not attending to clinic and some patients are admitted to the ward due to aggravation of disease. This badly affects the

outcome of the patient and ultimately gives a bad image to the hospital. Therefore, this quality improvement project was implemented.

Objective

To reduce clinic waiting time at DGH- Matale in order to improve the quality of health care service.

Methods

To conduct focal group discussion to identify the main causes for high waiting time.

To identify strategies to reduce waiting time of clinic patients.

To apply SWOT analysis to assess strength, weakness and threats of the organization to implement new strategies.

To implement new strategies to reduce clinic waiting time at DGH-Matale

6.Few referred patients are not coming to clinic due to delayed dates.

Methodological Issues

- 1.Lack of audit system
- 2.Lack of reviewing system
- 3.No proper guidelines
- 4.No system to see additional patients.
- 5.No system to have additional date.
- 6.No system to confirm the participation of patient to clinic at given date

Environmental Issues

- 1.Lack of clinic space
- 2.No motivational system
- 3.Lack of leadership

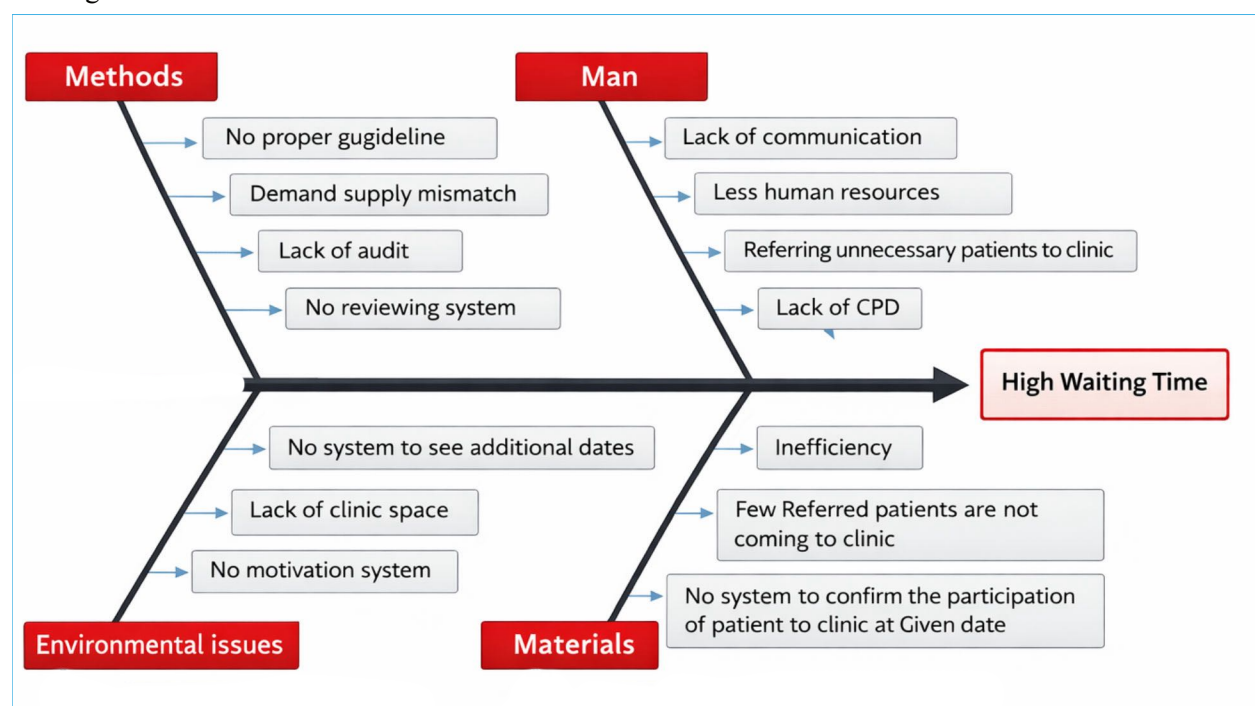


Figure 1: Fish bone analysis to identify the main reasons for high waiting time

Conduction of focal group discussion to identify the main causes.

A series of focal group discussions were conducted with all the stakeholders including clinic staff, consultants, and members of the quality unit. Fish bone tool was applied to identify all the possible reason for the issue.

According to the fishbone assessment several issues were identified as main factors for high clinic waiting time.

Human resource issues

- 1.Lack of human resources
- 2.Referring unnecessary patients due to lack of knowledge by referring staff
- 3.Inefficiency of staff
- 4.Lack of continuous professional development
- 5.Lack of communication among stakeholders

Table 1: Applying nominal group techniques to priorities the issues

Issue	Weightage of reason for high waiting time of individual participant										Total
	A	B	C	D	E	F	G	H	I	J	
Lack of human resources	5	6	8	8	8	5	6	8	8	8	70
Referring unnecessary patients due to lack of knowledge by Referring staff	10	9	10	8	10	10	9	10	8	10	94
Inefficiency of staff	7	6	8	7	7	7	6	8	7	7	70
Lack of continuous professional development	10	9	8	9	10	10	9	8	9	10	92
Lack of communication among stakeholders	10	8	8	9	9	10	8	8	9	9	88
Few referred patients are not coming to clinic due to long dates	10	9	10	9	9	10	9	8	10	9	93
Lack of audit system	10	9	9	9	10	10	9	9	9	10	94
Lack of reviewing system	9	8	9	9	10	9	8	9	9	10	90
No proper guidelines	9	7	8	8	8	9	7	8	8	8	80
No system to see additional patients	10	9	9	9	9	10	9	9	9	9	92
No system to have additional date	10	6	5	9	9	10	6	5	9	9	78
No system to confirm the participation of patient to clinic at given date	9	9	10	9	8	9	8	9	10	9	90
Lack of clinic space	7	8	6	9	6	7	8	6	9	6	72
No motivational system	10	9	7	8	8	10	9	7	8	8	84

Table 2: Main reasons for long waiting time at clinic according to priority order

Issue	Weightage of reason for high waiting time of individual participant										Total
	A	B	C	D	E	F	G	H	I	J	
Referring unnecessary patients due to lack of knowledge by Referring staff	10	9	10	8	10	10	9	10	8	10	94
Lack of audit system	10	9	9	9	10	10	9	9	9	10	94
Few referred patients are not coming to clinic due to long dates	10	9	10	9	9	10	9	8	10	9	93
Lack of continuous professional development	10	9	8	9	10	10	9	8	9	10	92
No system to see additional patients	10	9	9	9	9	10	9	9	9	9	92
Lack of reviewing system	9	8	9	9	10	9	8	9	9	10	90
No system to confirm the participation of patient to clinic at given date	9	9	10	9	8	9	8	9	10	9	90
Lack of communication among stakeholders	10	8	8	9	9	10	8	8	9	9	88
No motivational system	10	9	7	8	8	10	9	7	8	8	84
No proper guidelines	9	7	8	8	8	9	7	8	8	8	80
No system to have additional date	10	6	5	9	9	10	6	5	9	9	78
Lack of clinic space	7	8	6	9	6	7	8	6	9	6	72
Lack of human resources	5	6	8	8	8	5	6	8	8	8	70
Inefficiency of staff	7	6	8	7	7	7	6	8	7	7	70

Strategies adapted to reduced long waiting time

All issues were discussed with the stakeholders including consultants and took following steps in the operational level to address this issue. In-charged nursing sister of the clinic was given the responsibility to implement actions to address this issue. She fully involved to face this issue and made good inter-sectoral communication and gradually implemented planned operational level activities. All consultants and quality management unit helped to initiate the project. All strategies are listed at table 3.

Table 3: Strategies taken to face the Issue

#	Strategy	Responsibility
1	Conducting awareness and knowledge updating program by all the specialties to referring OPD doctors	Quality management unit and each consultant
2	Increasing numbers of new patients at a session	Clinic sister and consultants
3	Introduction of additional dates for clinic to reduce backlog	Clinic sister and consultants
4	Confirm the participation of scheduled patient	Clinic sister
5	Improved effective communication	Director, Consultants and sister
6	Delegation of responsibilities	Director
7	Develop leadership skill and motivation of staff	Quality management unit
8	Redistribution of clinic referred patient according to the specialty	Clinic sister
9	Development of human resources	Administration
10	Confirmation of participation of patient before clinic date	Clinic sister
10	Development of infrastructure	Sister of the clinic
11	Rescheduled clinic time to increased time period	Sister and consultants
12	Categorization of patients according to disease	Sister and consultants
13	Referring to clinic directly from the OPD same day if vacancy slot	Sister and consultant

Table 4: SWOT Analysis for implementation of strategies

Strengths 1. Staff is agreed to implement new strategies 2. Positive attitude of consultants 3. Availability of quality management unit 4. Good existing clinic system 5. Administrative support 6. Availability of communication system 7. Additional time slots for additional clinic	Weaknesses 1. Poor leadership 2. Ineffective communication 3. Poor inter-sectoral communication 4. Poor monitoring and evaluation of progress 5. No regular auditing system 6. Poor delegation 7. Poor motivation of staff 8. No regular CPD program
Opportunities 1. Support from the ministry of Health 2. Introduction of CPD program 3. Opportunity to present progress at different stakeholder meeting	Threats 1. Resistance from the staff 2. Resistance from community

Results**Table 5: Clinic waiting time before and after implementation of the project**

Name of Clinic	Before Implementation of Project [January 2025 (Weeks)]	After implementation of Project [April 2025 (Weeks)]
Surgical ward B	34	1
Dermatology clinic	26	13
Neurology clinic	13	4
Orthopedic clinic	30	13
Skin clinic	19	13
ENT	17	5
Gastroenterology	16	4
Breast clinic B	8	4
Gynecology clinic A	4	4days
Gynecology clinic B	4	3days
Breast clinic A	8	4days
Medical clinic A	7 days	3days
Medical clinic B	7days	3days
Endocrinology clinic	10 days	5 days

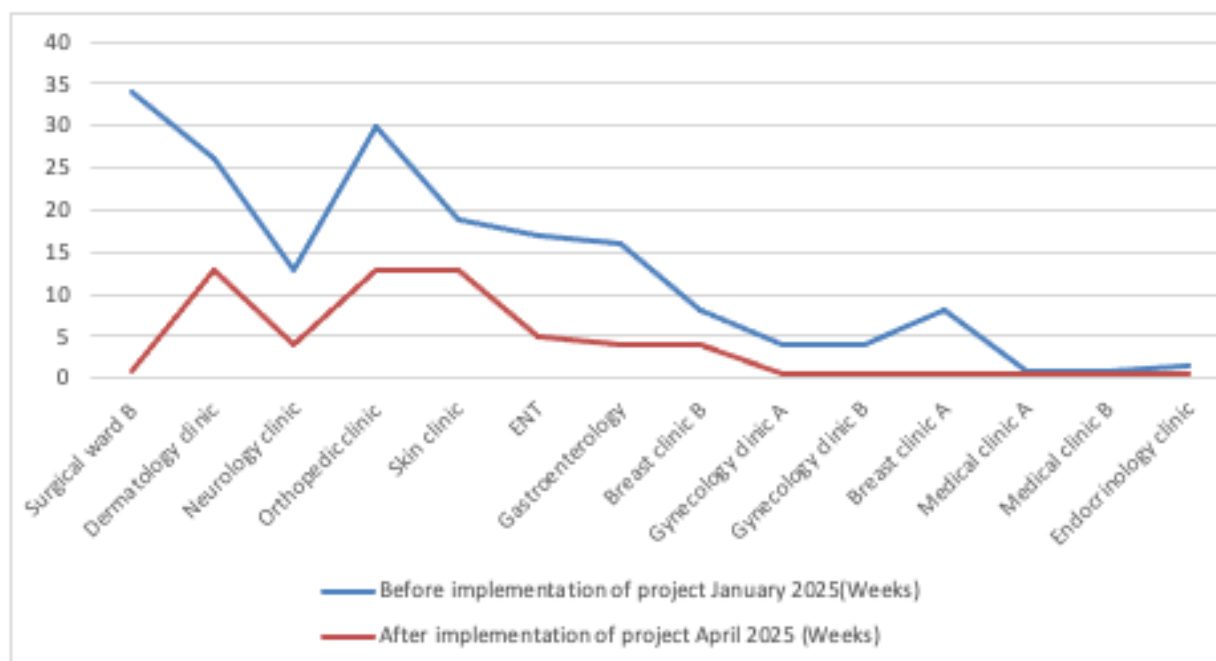


Figure 2: Graphical picture of progress of the quality improvement project

According to the results (Table 6 and 7) the quality improvement project is very successful. Surgical clinic B gained the maximum achievement and reduced waiting time from 37 week to less than one week.

outcome of the patient. It dictates the quality of health care service of the hospital. By implementing simple quality improvement activities with good inter-sectorial coordination can reduced unnecessary waiting time at clinics.

Discussion

Patients were suffered due to this long waiting time for the clinics at DGH Matale. This was badly affected the image of the hospital. At early days of the project, it was very difficult to initiate due to high patients load as well as due to staff shortage. However, staff were adapted to the situation with the success of project. Staff were further motivated by the administration to maintain sustainability. Patient were very satisfied, and they could attend the clinic early and could have got best treatment from the respective consultants. This project showed that by small intervention can improve the quality of health care service in government hospitals as well.

Sustainability of the project

In order to maintain the sustainability following steps were taken

1. Conducting progress review at every consultant and management committee meeting.
2. Collecting monthly return to quality management unit on clinic waiting time.
3. Regular supervision of quality management unit at clinic.

Conclusion and recommendation

High waiting time for a clinic is a big issue to patients and they are suffering from the illness for long time. It directly affects the morbidity and the



Enhancing Quality of Disaster Preparedness and Response System in A Tertiary Care Hospital Sri Lanka: Lessons from a Mass Casualty Incident Review at District General Hospital Kegalle

Remance MM¹, Pushpa Kumari HMN¹, Thennakoon TMCLB¹

¹Post Graduate Institute of Medicine, University of Colombo

Correspondence to:

MM Remance

E-Mail

mremance@gmail.com

Key Words:

Disaster management,
Disaster preparedness
and response plan,
Mass casualty incident
review,
Job description,
Job-role.

Abstract

This case study evaluates disaster preparedness and response at District General Hospital Kegalle, Sri Lanka, following a mass casualty incident. The study aims to assess hospital readiness, analyze gaps in existing protocols, and propose actionable improvements. Using a blend of post-event review meetings, key informant interviews, and document analysis, findings highlight prompt multidisciplinary engagement and director leadership as notable strengths. However, significant weaknesses were identified: low staff awareness of the Disaster Preparedness and Response Plan (DPRP), absence of job role cards, lack of regular drills, undefined disaster management responsibilities, and no formal allocation of these duties in medical officers' job descriptions. Infrastructure and communication limitations further hampered optimal response. Recommendations emphasize the need for the Ministry of Health to designate responsible units, formally integrate disaster management roles into job descriptions, and institutionalize drills and ongoing training. This study concludes that bridging policy and practice through clear human resource frameworks and targeted capacity building is vital to enhancing hospital resilience and effective mass casualty response in Sri Lanka.

Introduction and background

Disaster management in healthcare is generally categorized into four phases — mitigation, preparedness, response, and recovery. In the hospital setting, the immediate priority during a disaster is the response phase, where rapid emergency medical care must be delivered effectively. This requires all staff to possess appropriate knowledge, skills, and attitudes to respond efficiently under pressure.

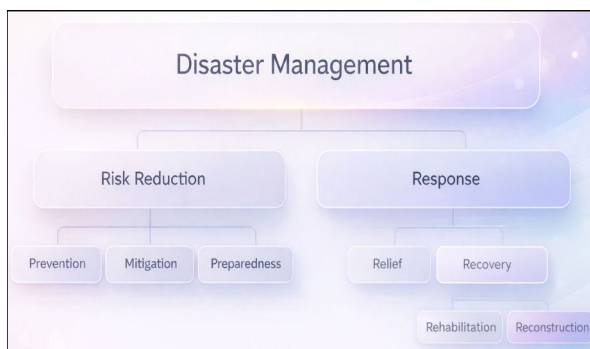


Figure 1: Phases of Disaster Management

In the context of disaster preparedness and response, an emergency refers to a situation requiring immediate intervention, while a casualty denotes a patient in need of urgent medical attention. A Mass Casualty Incident (MCI) is an event in which the number of casualties surpasses

the available resources of the initial responders (1). A disaster occurs when an incident overwhelms a community's capacity to cope with the situation using its own resources. The term coping capacity describes the ability of a facility or community to manage the adverse effects of an event using its existing skills and resources. The concept of disaster risk is often expressed as the relationship between the hazard and vulnerability, divided by capacity ($\text{Disaster Risk} = \text{Hazard} \times \text{Vulnerability} / \text{Capacity}$), reflecting the extent to which a system can withstand and respond to adverse events (2).

Duties of disaster management at tertiary care hospitals are as follows:

- Conduct risk assessments with relevant stakeholders.
- Prepare the DPRP in collaboration with stakeholders.
- Human resource development through regular drills, desk reviews, and simulation activities.
- Issue job role cards to assigned staff.
- Arrange for replacements when staff with specific roles are transferred out.
- Ensure appropriate infrastructure is in place.
- Ensure necessary equipment is always ready.
- Conduct timely post-disaster response review meetings and update the system as needed.

Objective

General objective

To enhance quality of Disaster Preparedness and Response system in A Tertiary Care Hospital, Sri Lanka.

Specific Objectives

- To analyse the existing emergency preparedness and response plan and its governance for development in the tertiary care hospital.
- To assess and identify the problems during the Incident Response and Post Mass Casualty Incident Review Meeting in the tertiary care hospital.
- To generate feasible recommendations to enhance the Disaster Preparedness and Response in Tertiary care Hospitals Sri Lanka.

Literature review

Disaster management within healthcare is commonly structured around four phases: mitigation, preparedness, response, and recovery. In hospital contexts, the response phase is critical, demanding swift, coordinated medical intervention when emergencies arise (3). Effective disaster response requires all staff to understand their roles, possess relevant competencies, and remain adaptable under pressure (1). In Sri Lankan tertiary care hospitals, the Disaster Preparedness and Response Plan (DPRP) form the backbone of institutional readiness, dictating actions during mass casualty incidents (MCIs) - events where patient volume exceeds available resources and initial response capacity.

Guidelines from the Ministry of Health Sri Lanka emphasize a clear framework for Accident & Emergency (A&E) preparedness, underscoring infrastructure, triage protocols, and team training as foundation elements (4). Literature reveals that MCIs often expose both strengths - such as rapid leadership actions and multidisciplinary engagement - and weaknesses, including gaps in human resource allocation, physical layout of triage areas, and communication systems. Studies by PAHO and WHO advocate for regular drills, simulations, and capacity-based reviews to validate protocols and maintain staff readiness. International best practice stresses the value of designated disaster management units within hospitals, formal job descriptions, and role cards distributed to all relevant staff—measures shown to improve accountability and streamline response (1).

Nationally, hospital job descriptions are collaboratively regulated by the Ministry of Health and the Public Service Commission, ensuring alignment with public sector standards and legal frameworks (5). Ongoing quality improvement mechanisms, such as after-action reviews and integration with CPD (Continuing Professional

Development) point systems, are recommended by the WHO Health Emergency Operations Center model to reinforce preparedness (6). Rewards, commendations, and formal psychosocial support for frontline responders further support resilience.

Overall, the literature highlights the importance of governance, infrastructure, ongoing staff training, cross-agency partnerships, and recognition systems in fostering disaster response capacity and boosting hospital resilience in Sri Lanka and beyond.

Methodology

This research employed a descriptive, qualitative case-study design conducted at District General Hospital (DGH) Kegalle. The target population consisted of staff members across multiple roles and departments. A convenient sampling approach was used, involving selected personnel from the Emergency Department (ED), Healthcare Quality and Safety (HQS) Unit, Administrative Unit (AU), and Planning Unit (PU). Interviews were also conducted with current and former Medical Officers (MOs) affiliated with the HQS Unit and those with disaster management training.

Within the ED, participants included the consultant emergency physician, medical officers, the nursing sister in charge, and nursing officers. Data from ED staff were collected through semi-structured key informant interviews focusing on disaster response roles, triage practices, space adequacy, communication flow, and familiarity with the Disaster Preparedness and Response Plan (DPRP). The physical infrastructure of the ED and hospital facilities related to the Accident and Emergency concept were systematically observed, guided by Ministry of Health recommendations, with attention to patient flow, entry points, triage space, and congestion.

Secondary sources, including DPRP documents, meeting minutes, and relevant bed head tickets (BHTs), were reviewed to assess plan availability, revision history, assigned responsibilities, activation procedures, and alignment with observed practices. Key informants such as the hospital Director, Deputy Directors, and the Administrative Officer were also interviewed to explore governance, decision-making, coordination mechanisms, and administrative challenges.

Data collection methods comprised direct observation, key informant interviews, desk reviews, focus group discussions (FGD), nominal group techniques (NGT), and document analysis. FGDs were used to identify system gaps and generate solutions, while NGT was applied to prioritize problems and conduct Why-Why root cause analysis. Data were analysed using thematic content analysis, with coding and triangulation

across data sources to identify recurrent patterns and system-level gaps.

Ethical clearance was obtained through institutional administrative approval. Verbal consent was obtained from all participants. No personal identifiers were recorded, anonymity was maintained, and data were used solely for academic and quality-improvement purposes in accordance with institutional policy.

Case Distription

Hospital Context

DGH Kegalle is a tertiary care hospital with 801 beds, 84 units, and 1,560 staff, providing 24 specialty services. Annual activity includes 76,687 admissions and 264,568 OPD visits. Facilities include 18 wards, 32 clinics, 9 ETU bays, 10 operating theatres, 2 ICUs, 3 NICUs, 13 labour rooms, a dialysis unit, an oxygen plant, and a blood bank.

Despite this considerable service capacity, the hospital does not have a dedicated Accident & Emergency (A&E) building. The current ETU functions as the A&E but is poorly located for optimal emergency and disaster response.

The specialist cadre includes an Emergency Physician, two General Surgeons, two Orthopaedics Surgeons, an Eye Surgeon, an ENT Surgeon, a Transfusion Physician, an Oral and Maxillofacial Surgeon, a psychiatrist, two Anesthetists, two Radiologists, and a Judicial Medicine Consultant.

This combination of strong clinical capacity and structural limitations defines the hospital's coping ability during disasters and underlines the need to ensure that the DPRP activation threshold is accurate and evidence-based.

Incident and Review Meeting Overview

A major road traffic accident occurred in the Galigamuwa area-under the Kegalle Police Division-when a private bus on the Kegalle to Ratnapura route collided with a Sri Lanka Transport Board (SLTB) bus traveling from Weragoda to Kegalle. The incident resulted in multiple casualties, with the first patient arriving at District General Hospital (DGH) Kegalle at 5:47am. Among the 28 individuals admitted, seventeen were initially managed in the Emergency Treatment Unit (ETU) - serving as the hospital's Accident and Emergency (A&E) facility - while the remaining eleven were admitted directly to wards.

Triage in the ETU classified patients as follows: four patients were assigned to Category 1 (Life threatening), four to Category 2 (Imminently Life threatening), and nine to Category 3 (Potentially Life threatening). Once initial stabilization was completed, patients were allocated to Surgical-Female Ward and Surgical Male Ward, with others directed to Casualty Operating Theatre-C and

Major Surgical Operating Theatre-B as required.

To ensure a timely and coordinated response, a review meeting was organized within 24 hours of the incident, held on 22 July 2025. This meeting was chaired by the hospital Director and attended by Deputy Directors, the Administrative Officer, consultants, and representatives from the involved wards. The agenda focused on evaluating patient flow and clinical management, identifying challenges encountered during the response, discussing practical solutions and recommendations, and enhancing disaster preparedness and response plan for future mass casualty events.

Results

Post-Mass Casualty Incident Review Meeting (PMCI RM) Findings

Strengths:

- Timely meeting enabling accurate event recall.
- Multidisciplinary participation encouraged open dialogue.
- Identification of equipment shortages (e.g., spinal boards).
- Agreement to update DPRP.
- Supportive leadership of Director DGH Kegalle

Weaknesses:

- Lack of awareness among staff members on existing DPRP during the meeting
- MCI is not compared with existing DPRP during the meeting.
- Absence of key stakeholders limited review comprehensiveness.
- No formal commendations or psychosocial support to frontline staff.
- Limited external agency involvement (police and public transport sectors).

Key informant interview findings

- Most staff were not aware of the DPRP.
- Job role cards were not issued to relevant staff
- Activation of mass casualty response was not declared as specified in the DPRP
- There was no officially allocated responsibility for disaster management duties such as developing the DPRP and conducting drills and simulations
- Nursing staff in the ETU perceived that the space in the ETU was inadequate to respond to mass casualties.
- Consultants emphasized the inadequacy of space for conducting proper triage.

Documentary reviews findings

- DPRP has been developed on 2019 and redeveloped on 2021 by medical officers who were trainees in the Diploma in Disaster Management.

- The mass casualty activation message was prepared, but the telephone operator was not ready to disseminate it as specified in the DPRP.
- No formal circulars were issued, and no units were formally, systematically, or directly assigned disaster management functions by the Ministry of Health.
- Disaster management duties, such as preparing the DPRP and conducting drills and simulations, are not included in the duty list of any specified unit medical officer by the Ministry of Health

Observation findings:

- The casualty patient flow path to the ETU was not suitable for rapid movement, as recommended by the Ministry of Health's A&E concept.
- The entrance for patients to both the ETU and OPD was the same, causing congestion.
- Construction of the master-planned A&E building was discontinued without completion.

Problems analysis

Identified problems:

1. Lack of awareness of DPRP among key stakeholders
2. No updates or drills conducted on DPRP
3. Absence of key stakeholders in the post-event meeting
4. Comparison against the existing DPRP did not clearly occur in the post-event meeting
5. Limited external agency involvement (ambulance, police)
6. Inadequate communication systems during incident response
7. Lack of triage performance at the time of the incident
8. Inadequate space for triage
9. Improper activation of mass casualty incident

Problem prioritization:

Nominal group technic has been used to prioritization of problem. Key stakeholders have been involved in this process and "Lack of awareness among staff members on existing DPRP" has been selected as a prioritized problem.

Root cause analysis of prioritized problem:

Root cause analysis was conducted using a Why-Why analysis approach during the Nominal Group Technique session, systematically exploring underlying reasons related to human resource governance, communication gaps, training deficiencies, and the absence of formal role allocation.

Recommendations

Based on the prioritized problem and findings from the Post-Mass Casualty Incident Review

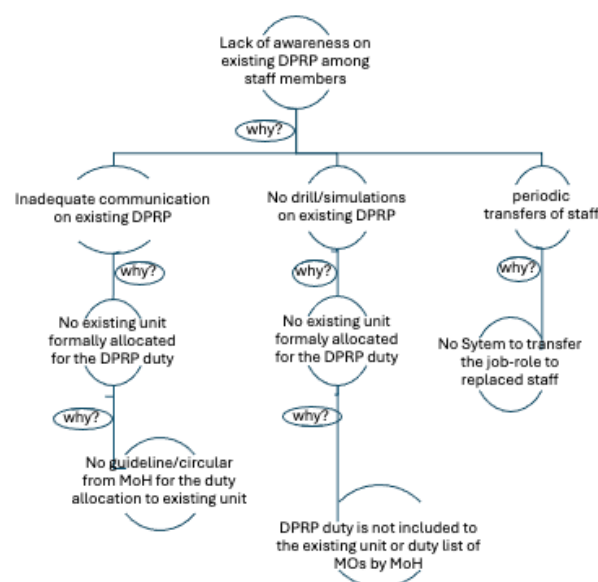


Figure 2: Root cause analysis; 'Why-Why' Diagram

Meeting, key informant interviews, document review, and observations, the following recommendations were developed through a focus group discussion with an expert panel.

Recommendations Based on PMCIRM Findings

1. Future post-incident review meetings should ensure participation of all relevant internal and external stakeholders, including ambulance services and police.
2. The existing "Commendation and Censures" mechanism should be utilized to formally recognize staff involved in mass casualty responses.
3. Formal psychosocial support mechanisms should be established for healthcare workers following mass casualty incidents.
4. After-action reviews should be embedded into ongoing hospital quality improvement processes in alignment with WHO HEOC guidance.

Recommendations Based on Key Informant Interview Findings

5. The Ministry of Health (MoH) should officially designate a responsible unit at the tertiary care hospital level to coordinate disaster management functions.
6. Disaster management responsibilities should be formally incorporated into job descriptions of Medical Officers and relevant staff, with guidance from the Disaster Preparedness and Response Division or Health Emergency Operations Centre.
7. Internal hospital-level appointments for DPRP roles should be formalized through official appointment letters issued by the Head of Institution, with clear handover and cancellation mechanisms when staff are transferred.

Recommendations Based on Document Review Findings

8. Regular disaster related capacity building activities, including drills, simulations, desk reviews, and workshops should be institutionalized and linked to the national CPD points system.
9. DPRP activation criteria and thresholds should be reviewed and validated through capacity-based drills.

Recommendations Based on Observation Findings

10. Completion of the planned Accident and Emergency (A&E) building should be prioritized within the annual capital budget.

Discussion

This audit's findings align with both international and national literature on hospital disaster preparedness and mass casualty incident (MCI) response. Best practices emphasize timely, multidisciplinary reviews and continuous equipment and protocol updates—strengths observed in this setting. WHO and PAHO guidance similarly identify early after-action reviews and coordinated team responses as critical for accurate recall and system improvement (1,3). However, several gaps emerged. Limited staff awareness of the Disaster Preparedness and Response Plan (DPRP), absence of job role cards, and inconsistent activation of MCI protocols mirror challenges reported in developing health systems. Comparable deficiencies in staff familiarity with disaster plans have been documented in hospital-based MCI evaluations (1,6).

A notable deviation from guidelines is the absence of formal disaster management units and official job descriptions for disaster-related roles (6). Literature indicates that such job descriptions should originate from the Ministry of Health and be incorporated into duty lists of medical officers assigned to relevant units, such as the Healthcare Quality and Safety or Planning Units (7). WHO HEOC guidance likewise stresses that clearly defined organizational structures and written role assignments are essential for sustained preparedness and accountability (6).

Limited involvement of external agencies and weak communication systems, highlighted in global recommendations, are compounded locally by administrative and resource constraints. WHO and PAHO guidance emphasize intersectoral coordination with ambulance services, police, and transport authorities during MCIs—an area found to be weak in this case study (1,3). Additional constraints, including frequent staff rotations without systematic handover and incomplete infrastructure development (e.g., discontinued A&E buildings), further reduce disaster readiness, reflecting challenges commonly reported in low- and middle-income country hospital settings (3,4).

Conclusion

This case study evaluated disaster preparedness and response at a tertiary care hospital in Sri Lanka, analyzing operational readiness during a mass casualty incident and subsequent review meeting. The objectives—to assess emergency plans, identify gaps, and generate actionable recommendations—were met through observation, interviews, and document review.

Key findings highlight prompt multidisciplinary engagement and leadership commitment as strengths. However, gaps persist in staff awareness of the Disaster Preparedness and Response Plan (DPRP), absence of job role cards, lack of updates and drills, and unclear disaster management responsibilities, particularly among medical officers. Disaster duties were not systematically included in unit job descriptions, and formal circulars on disaster roles were lacking.

The key insight is the need for the Ministry of Health to clearly assign responsibility within existing hospital units (such as the Healthcare Quality and Safety or Planning Units) and formally include disaster management duties in medical officers' job descriptions. Addressing these gaps, alongside improving communication, updating activation protocols, and strengthening capacity building, will enhance institutional readiness.

Overall, aligning hospital practice with national policy and international standards through clear governance and human resource frameworks is essential for effective preparedness and response to future mass casualty incidents.

References

1. Dr. Roslyn Bascombe-Adams (Bermuda), Mr. Peter Burgess (Barbados). Mass Casualty Management System Course Manual [Internet]. Canada; 2019 [cited 2025 Oct 12]. Available from: <http://iris.paho.org>.
2. Carter WNick. Disaster management: a disaster manager's handbook. Asian Development Bank; 2008. 417 p.
3. World Health Organization. Health Emergency and Disaster Risk Management Framework [Internet]. 2019 [cited 2025 Oct 12]. Available from: <https://www.who.int/publications/i/item/9789241516181>
4. Ministry of Health. GUIDELINES FOR ACCIDENT AND EMERGENCY CARE SERVICES IN GOVERNMENT HOSPITALS IN SRI LANKA [Internet]. 2016 [cited 2025 Oct 8]. Available from: <https://www.health.gov.lk/wp-content/uploads/2022/08/A-E-Guidelines2016.pdf>
5. Ministry of Health. Job Description_SHO-MO. 2023;
6. World Health Organization. Handbook for Public Health Emergency Operations Center Operations and Management [Internet]. 2021. Available from: <http://apps.who.int/bookorders>.
7. Directorate of Health Quality and Safety. Functions_Hospital Quality Mx Unit. 2013;



REVIEW ARTICLES



A Futuristic Vision for Patient-Centric Healthcare in Sri Lanka: Strengthening Primary Care and Empowering Communities

Panapitiya PWC^{1*}, Wijewickrama BAO²

*lalpanapitiya@gmail.com

¹Ministry of Health and Mass Media, Sri Lanka, ²Post Graduate Institute of Medicine, University of Colombo

Abstract

While Sri Lanka's historical success in public health is well-documented, the current system stands at a precipice. The demographic transition towards an aging population and the epidemiological shift to Non-Communicable Diseases (NCDs) have exposed the rigidities of a hospital-centric model. To sustain our health indicators into the next decade, we must move beyond the celebration of past victories and aggressively pivot towards a primary care model that is not just a gatekeeper, but a cornerstone of community wellness. To address these issues and propel the nation towards a more resilient and responsive future, a paradigm shift is required. This article outlines a futuristic vision for a patient-centric healthcare model in Sri Lanka, grounded in the revitalization of Primary Health Care (PHC) through integrated PHC with community empowerment. Key proposed reforms include the structural reorganization of PHC through a "Shared Care Cluster System," the establishment of Family Medical Clinics as the cornerstone of community health, strengthening of emergency care and the integration of specialized care pathways for vulnerable groups such as the elderly and children with special needs. Central to this vision is the leveraging of technology, particularly telemedicine, which links peripheral emergency and other patient care services with specialist expertise, and the empowerment of communities to take an active role in their own health. By strengthening the primary care foundation and fostering integrated, holistic, and community-oriented service delivery, Sri Lanka can overcome current fragmentation and build a sustainable system that ensures efficient, high-quality, equitable, and patient-centric Universal Health Coverage for generations to come.

Introduction

Sri Lanka, an island nation in the Indian Ocean, has a healthcare system that stands as a testament to its commitment to public welfare. The nation's health indicators are on par with the Western world and are among the best in the South Asian region, an achievement gained with minimal healthcare expenditure [1, 2] and remarkable efficiency from its dedicated healthcare staff. Following independence in 1948, the country adopted a free health policy, providing care for all citizens and contributing to a high Human Development Index.

This success has deep roots, evolving from a pre-historical system based on nature and spirituality to a sophisticated model under ancient kings who established hospitals and integrated indigenous wisdom with Ayurvedic principles [3]. The colonial periods introduced Western medicine, with the Portuguese, Dutch, and British eras each contributing to the establishment of medical institutions and public health infrastructure that laid the foundation for the modern system. A steadfast commitment to universal healthcare, the expansion of primary care services, and the successful control of communicable diseases has defined the post-British era.

Despite these historic achievements, the system faces significant contemporary challenges. A major issue is the concurrent overcrowding of clinics and wards in secondary and tertiary care institutions, which compromises the quality of care, alongside the chronic underutilization of the Primary Health Care (PHC) network. This imbalance is exacerbated by an epidemiological transition towards non-communicable diseases (NCDs) like cardiovascular

disease, diabetes, and cancer, which have become a growing concern and a huge burden on the health sector [4]. Furthermore, Sri Lanka is experiencing a significant demographic shift; with 12.3% of its population aged 60 or older, it has the highest proportion of elderly citizens in South Asia, a group with unique and complex healthcare requirements [5]. These realities necessitate a move beyond the traditional models of care toward a more integrated, efficient, and patient-focused approach.

This article presents a futuristic vision for Sri Lanka's health service, aimed at lowering the burden on secondary and tertiary care by fundamentally strengthening primary care services and empowering communities. It outlines a comprehensive model for integrated patient care, featuring reforms in emergency services, the establishment of step-down and day-care facilities, and specialized pathways for elderly care and children with special needs, as well as family medical services. By focusing on a holistic, patient-centric approach supported by robust clinical governance and community participation, this vision charts a course for a more resilient, equitable, and sustainable healthcare future for all Sri Lankans.

The Cornerstone of Reform: Revitalizing Primary Health Care (PHC)

The ultimate goal of primary health care is better health for all. The ideal model, adopted in the Alma Ata Declaration of 1978, defines PHC as essential healthcare made universally accessible to individuals and families in the community through their full participation [6]. To address the current underutilization of its curative PHC institutions, Sri Lanka must embark on a comprehensive

revitalization effort grounded in these foundational principles.

Structural Reorganization:

The Shared Care Cluster System A key strategy for strengthening PHC is the reorganization of the delivery system into a "Shared Care Cluster System" [7]. In this model, Primary Medical Care Institutions (PMCI)s—which include Divisional Hospitals and Primary Medical Care Units—are grouped into clusters around a nearby secondary or tertiary care institution, designated as the "Apex Hospital". This structure facilitates the sharing of specialist care, laboratory services, and other resources for the populations empaneled to the PMCI)s within that cluster [8]. A critical first step in this process is population empanelment, where the total population of a Grama Niladhari (GN) division is formally affiliated with a single, designated PMCI closest to their residence. This creates a defined catchment area for each institution, enabling proactive health management and clear referral pathways. Following empanelment, families are to be registered, screened, and entered into a database with a unique Personal Health Number (PHN), and a paper-based Personal Health Record (PHR) is issued, allowing for continuity of care and robust data collection. This structural reform moves away from a fragmented system towards an organized, geographically defined network capable of delivering coordinated care.

The Family Medical Clinic Model: A Holistic Hub for Community Health

At the heart of the revitalized PHC model is the proposal to transform the Out-Patient Departments (OPDs) of all hospitals, including divisional hospitals, into comprehensive Family Medical Clinics (FMCs) [9]. These clinics will serve their registered and empaneled populations, providing holistic, patient-centered care that goes beyond treating acute illnesses. FMCs will be managed by Family Medicine specialists or trained Medical Officers in Family Medicine and will be networked through a database containing the health details of all screened families.

This model offers several advantages. Firstly, it establishes a framework for the long-term follow-up of patients with chronic NCDs, a significant burden on the current system. Uncomplicated cases can be managed at the PHC level, with necessary medications and diagnostic facilities made available, thereby reducing the workload of specialist clinics in overburdened secondary and tertiary hospitals. Secondly, it provides a platform for integrated care, where services like Maternal and Child Health (MCH), family planning, and screening through Healthy Life Centres (HLCs) can be delivered collectively. By creating a single, trusted point of contact for families, the FMC model fosters continuity of care and empowers primary care providers to manage health proactively across the life course [10].

Strengthening Emergency Care at the Primary Level through Telemedicine

A major reason for bypassing primary care institutions is the public perception that they lack the capacity to handle emergencies. To counter this, the vision proposes a significant upgrade of emergency services at the PHC level. All PMCI)s will be equipped to function as Level IV Accident & Emergency (A&E) units, essentially a well-equipped Emergency Room (ER) staffed by trained personnel (Medical Officers and Nursing Officers), making them reliable first contact points for emergency management.

The transformative element of this reform is the integration of telemedicine to link these peripheral ERs directly with Consultant Emergency Physicians at the apex hospitals [11, 12]. This technology allows for rapid access to specialized care, enabling first responders and PHC medical officers to receive immediate guidance on resuscitation and stabilization within the critical "Platinum 10 Minutes of the Golden Hour". Telemedicine transcends geographic boundaries, significantly reducing response times (door-to-needle time) and preventing delays in receiving adequate healthcare [13, 14]. By bringing expert advice virtually to the patient's locality, this system improves pre-hospital care, facilitates informed and prioritized referrals, and builds public confidence in the capabilities of their local healthcare facility. During the COVID-19 pandemic, telemedicine was successfully utilized for home-based care, pre-hospital care, and consultations, proving its viability and importance in the Sri Lankan context.

Integrated Patient Care Pathways for Comprehensive Service Delivery

A truly patient-centric system requires seamless care pathways that cater to the specific needs of diverse patient populations, particularly those requiring long-term management. An Integrated Care Service (ICS) aims to provide comprehensive and coordinated care across different healthcare settings and disciplines, reducing fragmentation and improving patient outcomes. This involves establishing clear care pathways and leveraging the revitalized PHC system to support patients transitioning from specialized hospital care back to their homes in the community [15]. An obstacle to overcome in the primary level of care is a lack of Consultant coverage. Arranging review visits regularly by Consultants to the primary level may not be feasible long-term. However, this could be overcome by the use of telemedicine linking the Consultants to the Medical Officers in Primary Care. This is not limited only to Emergency Care. It could be utilized in many of the specialties.

The Step-Down Care Concept

Due to accommodation pressures, patients requiring long-term care, such as those recovering from a stroke or major orthopedic surgery, are often discharged from tertiary hospitals within a few days. The step-down concept proposes using underutilized wards in divisional hospitals as intermediate care centers for these patients. In these centers, patients can receive continued medical supervision and rehabilitation during a transit period before being

discharged home. These units would be managed by medical officers and nurses trained in rehabilitation and palliative care, under the direct supervision of specialists from higher centers, who can provide guidance either through physical visits or virtually via telemedicine. This model ensures a safer, more gradual transition, provides crucial rehabilitation services closer to home, and trains family members as caregivers, ultimately improving recovery outcomes and reducing re-hospitalizations. It could be further expanded with a community-based rehabilitation process coordinated by Public Health Nursing Officers (PHNO) attached to Family Medicine Clinics and Community Psychiatry Nursing Officers (CPN) attached to Mental Health Clinics. This would reduce the burden on families, and care is delivered to the home setting.

A Focus on the Aging Population: Comprehensive Geriatric Care

With a rapidly aging population, establishing comprehensive geriatric and disability care is a national priority [16]. An integrated care pathway for the elderly is essential to manage common issues such as chronic NCDs, frailty, multi-morbidity, and cognitive impairments [17].

This pathway begins with early identification and screening at the primary care level through FMCs and Healthy Life Centres. Elderly patients with chronic diseases can be followed up holistically at their local FMC, avoiding the need to visit multiple specialist clinics. For those requiring hospitalization, the step-down model provides an ideal setting for post-acute care and rehabilitation. A vital component of this pathway is Home-Based Care, supported by trained family members and monitored by PHNOs or FMC staff, with telemedicine facilitating remote consultations for patients with limited mobility and ongoing illness through call center facilities.

Furthermore, to promote active aging and combat social isolation, the establishment of Day Care Centers for Elders at the community level is proposed [18]. These centers, potentially located in underutilized hospital spaces, would offer mechanical gyms, recreational areas, and support groups, providing a space for social interaction and engagement that enhances the overall quality of life.

Addressing the Needs of Children with Special Needs

There is a significant need for a structured service to screen, diagnose, and manage children with developmental defects, birth defects, and learning difficulties. The proposed vision addresses this through the deployment of Consultant Community Pediatricians to lead multi-disciplinary teams that extend from tertiary centers into the community.

This service would be organized in a tiered structure to ensure comprehensive coverage. A national apex referral center would provide the highest level of specialized care. Each province would have a specialist center designed for diagnosis and assessment. The final tier would consist of peripheral follow-up centers at the regional level, where visiting teams or tele-consultations would provide ongoing management and rehabilitation. The follow-up of the

diagnosed children will be arranged through Child Development Centers manned by Medical Officers and Nursing Officers who have received training at the specialist center. This creates an integrated pathway that connects specialized expertise with community-based support, ensuring children with special needs receive timely and continuous care.

Strengthening Community Mental Health Services

Mental health is a critical component of holistic care that must be integrated at the primary level [19]. The revitalized PHC system provides an ideal platform for this. Screening for mental health issues can be incorporated into routine check-ups at FMCs and HLCs, especially for vulnerable groups like the elderly. Follow-up and management of stable psychiatric conditions can be decentralized to the primary care level, reducing the stigma associated with seeking care at specialized institutions. Furthermore, underutilized wards in divisional hospitals can be repurposed as day centers for psychiatric patients, offering therapeutic activities and support in a community setting, mirroring the model proposed for elderly care.

Enabling the Vision: Governance, Empowerment, and Quality

Implementing this futuristic vision requires more than just structural changes; it demands a foundation of strong governance, an empowered community and workforce, and an unwavering commitment to quality and safety.

The Role of Community Empowerment

Community empowerment is the process of enhancing the capacity of individuals and communities to take control of their lives and influence decisions that affect their health [20]. It transforms community members from passive recipients of care into active partners. This vision proposes a comprehensive community empowerment program with several key activities. This begins with community needs assessments to identify local health priorities and barriers to care. Based on these findings, health promotion campaigns and workshops can be organized to disseminate vital information and build health literacy. To facilitate active participation, community health committees will be established, giving communities a formal platform for engaging in health-related decision-making and monitoring the health of their own members.

Job Enrichment for Frontline Health Workers

The Public Health Midwife (PHM) is a cornerstone of Sri Lanka's domiciliary health services, traditionally focused on maternal and child health. The integrated care model calls for a significant job enrichment of the PHM's role [21]. It is proposed that their scope be expanded to cover the entire family's health issues, including follow-up for NCDs, monitoring of elderly patients in home-based care, and supporting community-based rehabilitation. This evolution would position the PHM as a versatile community health worker, acting as the crucial link between the Family Medical Clinic and the

households it serves, thereby strengthening the entire primary care ecosystem. Similarly, the Public Health Inspectors (PHI) should be trained to take up a greater role in the Environmental and Occupational Health sphere. Medical Officers of Health and Assistant Medical Officers of Health should be given training to expand their supervisory role of the new paradigms introduced to frontline health workers.

Clinical Governance and Quality Assurance

Strong leadership and effective communication are the main pillars that underpin resilience and quality in a health system. Clinical Governance is the framework through which healthcare organizations are accountable for continuously improving the quality of their services and safeguarding high standards of care [22]. This includes implementing and adhering to clinical audits, management protocols, and safety guidelines. To ensure a uniformly high standard across the country, it is essential to establish a formal hospital/ health institution accreditation program. Accreditation serves as a mechanism to assess institutions against predefined quality and safety standards, driving continuous improvement and building public trust. A system of accredited hospitals not only guarantees better patient outcomes but is also a prerequisite for positioning Sri Lanka as a destination for medical tourism, which can serve as an alternative source of revenue generation for the health sector.

Ensuring Good Governance and Patient Safety

Ultimately, all reforms must be anchored in the principles of good governance: accountability, transparency, participation, integrity, and stewardship. This is critical for building trust among the public and ensuring that the health system is responsive to the needs of the people it serves. Regulatory bodies, most notably the Sri Lanka Medical Council (SLMC), have a foremost responsibility in this domain. The SLMC's role in setting professional standards, ensuring ethical practice, and overseeing the quality of medical education and practice is fundamental to guaranteeing that patient safety is given paramount importance throughout the health system [23]. Strong, independent governance is the bedrock upon which a safe, effective, and patient-centric healthcare service is built.

Conclusion

The vision for the future of Sri Lanka's healthcare system is one of transformative change, moving decisively away from a hospital-centric, fragmented model towards a holistic, integrated, and community-based system. The cornerstone of this transformation is the comprehensive revitalization of Primary Health Care. By reorganizing the primary care network into shared care clusters, establishing Family Medical Clinics as the hubs of community health, and leveraging technology like telemedicine to enhance emergency response, the foundation is laid for a system that is both more accessible and more resilient.

Building upon this foundation, integrated care

pathways for the nation's most vulnerable populations—the elderly, children with special needs, and those with chronic mental and physical conditions—ensure that care is continuous, coordinated, and tailored to the individual. This patient-centric approach is further strengthened by the active empowerment of communities, turning passive recipients into engaged partners in health, and by enriching the roles of frontline workers like Public Health Midwives to serve the complete health needs of the family.

Achieving this vision requires an unwavering commitment to quality, underpinned by robust clinical governance, a national accreditation system, and the steadfast oversight of regulatory bodies to ensure patient safety remains the highest priority. While the path to reform presents challenges, the proposed model offers a clear, strategic, and sustainable roadmap. By embracing this futuristic vision, Sri Lanka can build upon its historic successes to create a healthcare system that not only meets the complex demands of the 21st century but also realizes the ultimate goal of Universal Health Coverage for all its citizens.

References

1. Ministry of Health. Annual Health Bulletin 2020. Colombo: Medical Statistics Unit, Ministry of Health; 2022.
2. Institute for Health Policy. Sri Lanka Health Accounts: National Health Expenditure 1990-2019. Colombo: Institute for Health Policy; 2021.
3. Urugoda CG. A History of Medicine in Sri Lanka - from the earliest times to 1948. Colombo: Sri Lanka Medical Association; 1987.
4. Jayawardena R, Ranasinghe P, Byrne NM, et al. Prevalence and trends of the diabetes epidemic in South Asia: a systematic review and meta-analysis. *BMC Public Health*. 2012;12:380.
5. World Bank. Sri Lanka: Addressing the Needs of an Aging Population. Washington, DC: World Bank Group; 2008.
6. World Health Organization. Declaration of Alma-Ata. International Conference on Primary Health Care, Alma-Ata, USSR, 6-12 September 1978. Geneva: World Health Organization; 1978.
7. Ministry of Health, Nutrition and Indigenous Medicine. Reorganizing Primary Health Care in Sri Lanka: Preserving Our Progress, Preparing for Our Future. Colombo: Ministry of Health; 2018.
8. Asian Development Bank. Sri Lanka: Health System Enhancement Project. Report No. 51107-002. Manila: Asian Development Bank; 2018.
9. Perera S. Primary health care reforms in Sri Lanka: aiming at preserving universal access and ensuring effective coverage of good quality care. *WHO South-East Asia J Public Health*. 2012;1(2):118-30.
10. Starfield B, Shi L, Macinko J. Contribution of primary care to health systems and health. *Milbank Q*. 2005;83(3):457-502.
11. Kulatunga GG, Hewapathirana R, Marasinghe RB. A review of Telehealth practices in Sri Lanka in the

- context of the COVID-19 pandemic. *Sri Lanka J Biomed Inform.* 2020;11(1):8-15.
12. Marasinghe RB. The use of mobile technologies for health (mHealth) in Sri Lanka. *Sri Lanka J Bio-med Inform.* 2012;3(2):47-53
 13. Thaddeus S, Maine D. Too far to walk: maternal mortality in context. *Soc Sci Med.* 1994;38(8):1091-110.
 14. Guevara CJ, Moreno-Walton L. The Golden Hour: A review of the literature. *Int J Emerg Med.* 2016;9(1):1-12.
 15. Godamunne P, Jayawickrama H. The concept of 'Shared Care': a review of the literature and its relevance to Sri Lanka. *Ceylon Med J.* 2003;48(4):124-7.
 16. United Nations Population Fund (UNFPA). Ageing Population of Sri Lanka: Emerging Issues, Needs and Policy Implications. Colombo: UNFPA Sri Lanka; 2017.
 17. World Health Organization. World Report on Ageing and Health. Geneva: World Health Organization; 2015.
 18. Samaraweera D, Maduwage S. Elderly care in Sri Lanka: An overview. *Sri Lanka J Med.* 2016;25(1):12-16.
 19. Samaraweera S, Sumathipala A, Siribaddana S, et al. The prevalence of common mental disorders in Sri Lanka. *Ceylon Med J.* 2013;58(3):99-103.
 20. World Health Organization. Community empowerment for health promotion. Geneva: World Health Organization; 2009.
 21. Samarasinghe K. The role of the Public Health Midwife in the healthcare system of Sri Lanka. *Int J Nurs Pract.* 2008;14(1):69-75.
 22. Scally G, Donaldson LJ. Clinical governance and the drive for quality improvement in the new NHS in England. *BMJ.* 1998;317(7150):61-5.
 23. Kohn LT, Corrigan JM, Donaldson MS, editors. *To Err Is Human: Building a Safer Health System.* Washington (DC): National Academies Press (US); 2000.



From Balance to Harmony: Reframing the Work–Life Interface for Healthier People and High-Performing Organizations, with Lessons for Sri Lanka

Jayawardhana R^{1*}, Karunarathne P²

*rejie2007@gmail.com

¹Post Graduate Institute of Medicine, University of Colombo, ²Hemas Hospital, Wattala

Introduction

The traditional concept of "balancing" two separate spheres of work and life no longer captures the reality of modern healthcare delivery, where flexible schedules, digital connectivity, and diverse life-stage demands intersect. A more relevant question is whether the overall pattern of work and life feels coherent and sustainable—whether it enables recovery, focus, and meaning—rather than whether hours are perfectly divided each day. Meta-analysis evidence demonstrates that extended off-hours availability undermines individual recovery and well-being, while organizational studies link well-crafted work–life arrangements to stronger recruitment, attendance, retention, and motivation, particularly when leaders model healthy boundaries and prioritize outcomes over hours worked. In Sri Lanka's health sector, pandemic and economic pressures have intensified workload and administrative demands. Local research documents high burnout and psychological strain, making harmony-driven policy design a priority for quality care, patient safety, and workforce sustainability [1–4].

Core Concepts in Work-Life Research

Balance emphasizes separating work and personal life to protect recovery time and attention. However, this approach often feels like a zero-sum compromise and proves difficult to sustain in knowledge-intensive or shift-volatile settings such as healthcare.

Integration blends work and personal roles to capture convenience and synergy, which can enhance engagement when employees have high autonomy. Without clear norms, however, integration easily becomes boundary erosion and constant availability.

Harmony reframes success as healthy rhythms and alignment over time. The goal is not equal hours, but an energizing pattern that adjusts to fluctuating workloads and life demands across different stages.

The work–life interface operates bidirectionally: work can either drain or enrich home life, and home can similarly affect work. Effective design amplifies positive transfers (skills, support, meaning) while limiting negative ones (overload, work-related worry at home).

Boundary management involves the daily practice of setting and maintaining limits around time (when one is available), space (where work occurs), and technology (how reachable one is). Outcomes improve when individuals' preferred boundary style—whether keeping roles separate or blending them—aligns with what workplace and home circumstances allow [1,2,5,6].

Theoretical Foundations That Guide Practice

Role-strain perspectives explain how multiple high demands deplete finite time and energy, creating conflict unless work demands and availability are bounded and buffered by adequate recovery and resources.

Role-expansion perspectives demonstrate how multiple roles can enrich one another through skill development, confidence, and social capital when demands remain reasonable and supports are available.

Boundary and border theories position transitions as critical intervention points: clear on-off cues, structured handover rituals, and shared protocols around after-hours communication function as health and safety measures, not merely etiquette.

Conservation of resources theory conceptualizes workplace supports such as flexible scheduling, leave policies, adequate staffing levels, and supervisor support as tangible resources that serve dual protective and developmental functions—buffering employees against resource depletion while facilitating resource accumulation. This framework explains why well-designed policies may fail when organizational stigma suppresses their use or when workload demands remain unchanged despite policy implementation.

Signalling theory clarifies why employees avoid using available benefits. When workers fear that using flexible work options or taking leave signals reduced commitment, they either refuse these benefits or overcompensate by remaining

continuously available. Either response negates the intended protective effects [1,2,5,7].

Contemporary Evidence on Work-Life Harmony

A meta-analysis demonstrated that extended availability—remaining reachable outside standard work hours—predicts diminished recovery, reduced well-being, and poorer work-life balance, even when certain performance metrics show improvement. These negative effects are moderated by individual segmentation preferences, suggesting that interventions such as designated "quiet hours" and emergency-only contact protocols may be particularly beneficial. A separate meta-analysis found that work-life arrangements improve organizational performance by enhancing recruitment, attendance, retention, and employee motivation. However, these effects vary by industry sector and employee level, highlighting that the quality of policy design and implementation is critical. Reviews of remote and hybrid work during the COVID-19 pandemic revealed that outcomes depend on workload intensity, employee autonomy, household responsibilities, and technology-use expectations. These findings indicate that the ability to control work-life boundaries—rather than physical work location—is the key determinant of both work-life balance and productivity [5–7].

Systematic and scoping reviews document a conceptual shift from "balance" toward "blending" and harmony, calling for clearer constructs, improved measurement tools, and context-sensitive designs across regions and job types [2–5].

Technology's Double-Edged Role

Smartphones, messaging applications, and collaboration platforms enable flexibility, hybrid staffing models, and asynchronous teamwork. However, these same tools invite constant availability when organizational norms are vague and escalation pathways unclear. Teams that specify response windows, define emergency criteria and escalation protocols, and route non-urgent issues to scheduled blocks protect recovery time without compromising safety or service quality. In practice, technology amplifies existing organizational culture: in trust-based, output-focused environments, digital tools support harmony; in presenteeist cultures, they intensify conflict and fatigue [1,3,6,7].

Culture, Leadership, and Policy Implementation

Organizational culture acts as a multiplier: when trust, psychological safety, and norms that

prioritize outcomes over hours worked are present, policies translate into genuine boundary control for healthcare workers—otherwise, they remain unfulfilled promises on paper. In the Sri Lankan health sector, ward managers and clinical leaders shape daily realities through the working hours they model, their use of after-hours communication channels, and their responses to reasonable boundary requests. Importantly, these leadership behaviors can be developed through training and predict policy success. Comprehensive policy bundles—including predictable duty rosters, protected leave, accessible mental health support, and expectations around disconnection from work—are effective when integrated into concrete clinical workflows with clear protocols and accompanied by workload redistribution. It is through this systematic implementation that the performance benefits documented in meta-analyses can be realized in practice [1,4,7].

Equity and Contextual Moderators

Caregiving responsibilities and gender norms continue to shape who manages after-hours work demands and who can effectively use flexible arrangements. Equitable policy design, therefore requires predictable shift schedules, ensuring that using flexibility or leave does not disadvantage career progression, and providing targeted support for women in mid-career stages. Generational differences also matter: younger healthcare workers prioritize autonomy, well-being, and meaningful work, and are more likely to leave organizations that fail to modernize boundary management practices. This makes work-life harmony not just a wellness issue but a talent retention strategy. Job characteristics play a decisive role: high-autonomy positions such as administrative or research roles may accommodate some work-life integration, whereas shift-based, location-dependent roles—which characterize most hospital services in Sri Lanka—require stronger work-life segmentation, comprehensive handover protocols, and adequate staffing levels to protect recovery time between shifts [2,4,6].

The Sri Lankan Context: Signals, Gaps, and Opportunities

Research conducted in Sri Lanka documents significant burnout and psychological distress among postgraduate trainees and intern medical officers, with measurable effects on self-reported patient care quality and personal health behaviors. These findings indicate system-level failures in boundary management and workload distribution rather than individual resilience deficiencies. Cross-sectional studies from COVID-19 units in Anuradhapura identified high burnout rates, with early-career status and excessive workload emerging as key risk factors—both of which can be addressed through organizational interventions.

Beyond healthcare settings, studies of military and prison staff demonstrate that burnout compromises operational safety and organizational commitment, suggesting that boundary-aware policy design has relevance across diverse workforce sectors.

Sri Lanka's research capacity in this area has strengthened through the adoption and local validation of standardized instruments such as the Maslach Burnout Inventory-General Survey (MBI-GS). Incorporating these alongside measures of boundary control, work-life conflict, and work-life enrichment into regular organizational audits would enable targeted interventions and longitudinal tracking of improvements. Recent evidence from factory workers shows that work-life strain and burnout contribute to disengagement behaviors, strengthening the economic rationale for predictable scheduling and supervisor training programs across manufacturing and service sectors as the economy recovers [8–14].

A Harmony-First Framework for Healthcare Organizations

A practical approach involves planning for harmony—healthy, values-aligned rhythms—while maximizing genuine boundary control within job constraints. Implementation should begin by making availability expectations explicit (standard response windows, emergency-only exceptions, clear escalation pathways), then aligning coverage and handovers to ensure these expectations are realistic, and coaching supervisors to model and enforce them consistently [1,3–5].

Four Implementation Levers:

- 1. Boundary architecture:** Define time windows, communication channels, and escalation rules; route routine issues to scheduled blocks; implement protected handovers that end shifts cleanly [3,7].
- 2. Workload realism:** Cap continuous duty hours; protect post-call recovery periods; use float pools and cross-coverage to absorb workload volatility; reduce administrative burden through standardized orders and team-based workflows [4,7].
- 3. Leadership behaviors:** Train managers to grant autonomy, clarify priorities, and model disconnection and recovery; ensure that boundary-supportive use of leave and flexibility remains career-neutral [1,4].

- 4. Measurement and learning:** Track perceived boundary control, work-life conflict and enrichment, burnout, retention, sickness absence, and quality indicators; iterate and scale interventions that demonstrably improve both people and performance [4,14].

Action Steps for Sri Lanka's Health Sector

Scheduling and staffing should prioritize predictable rosters, caps on continuous duty hours, protected post-call time, and reliable cross-coverage to reduce chronic strain and risk for frontline clinicians [9–11].

Boundary norms should be formalized and practiced—quiet hours, emergency criteria, and shift-end cutoffs—with institutional monitoring to ensure protected leave is honored across public and private facilities.

Supervisor capability building can be delivered through short, scenario-based training for consultants and middle managers focusing on autonomy-granting, prioritization under pressure, and boundary modeling during surges and shortages.

Support services should expand confidential counseling, peer forums, and coaching with targeted outreach to interns, registrars, and early-career trainees, with attention to uptake barriers, stigma reduction, and outcome monitoring.

Policy pilots—flexible clinic scheduling where feasible, compressed work weeks in suitable services, and administrative offloading through scribes and standardized order sets—can reduce after-hours backlog. Each pilot should include clear boundary rules and pre-post measurement.

Evaluation frameworks should pair locally validated burnout instruments with boundary-control, availability, and workload indicators. Sharing results across hospitals can build a Sri Lanka-specific implementation playbook for scale-up [1,3,4,6,7,11,12,16,17].

Future Directions

Test interventions at scale: Conduct multi-site, longitudinal pilots of roster redesign, right-to-disconnect protocols, and supervisor coaching; track staff health, turnover, and patient safety outcomes; embed these evaluations into existing quality and safety programs to ensure institutional learning.

Design for equity from the outset: Assess how policy changes affect women and caregivers; pilot predictable shifts, childcare partnerships, and flexibility options that do not compromise career progression, tailored to local workload patterns and cultural norms.

Enhance measurement capacity: Combine brief staff surveys on work boundaries with objective metrics such as duty hours and rotation predictability; establish simple triage protocols to protect off-hours time without compromising clinical safety.

Collectively, these steps provide a feasible pathway to test, equitably implement, and reliably track a harmony-first approach across Sri Lankan hospitals and healthcare services [9–11].

Conclusion

Planning for harmony—rather than merely "balance"—requires designing work itself to protect recovery, focus, and belonging while delivering reliable service and safe patient care. The evidence is consistent: clear boundaries and genuine control reduce conflict and fatigue, while thoughtful rostering, supportive leadership, and continuous measurement improve both staff well-being and organizational performance [3–5].

Sri Lanka's own research makes the case both urgent and concrete. A roadmap exists to be tested and scaled—unit by unit, quarter by quarter—across hospitals and beyond [8–11].

References

- Vaziri H, Casper WJ, Wayne JH, Matthews RA. A process-oriented, multilevel, multidimensional conceptual framework of work–life balance support: A multidisciplinary systematic literature review and future research agenda. *Int J Manag Rev*. 2021;23(2):188–211.
- Li J, Sun W, Gong Y, Wang S. Seeing the forest and the trees: A scoping review of empirical research on work–life balance. *Sustainability*. 2023;15(4):2875.
- Van Laethem N, van Vianen AEM, Derks D. The association of work-related extended availability with recuperation, well-being, life domain balance and work: A meta-analysis. *Work Stress*. 2022;36(4):360–82.
- Tanpipat W, Lim A, Anyim P. How is work–life balance arrangement associated with organisational performance? A meta-analysis. *Int J Environ Res Public Health*. 2020;17(12):4446.
- Wibowo A, Rachmawati R, Rachmawati IK. Antecedents and outcomes of work–life balance while working from home: A review of the research conducted during the COVID-19 pandemic. *Front Psychol*. 2022;13:955408.
- Syrek C, Kühnel J, Vahle-Hinz T. The concept of "Work-Life-Blending": a systematic review. *Front Psychol*. 2023;14:1150707.
- Salazar M, Gomez-Leal R, Martino S. Factors associated with work–life balance and productivity before and during work from home. *Int J Environ Res Public Health*. 2021;18(18):10023.
- Panagioti M, Geraghty K, Johnson J, et al. Association between physician burnout and patient safety, professionalism, and patient satisfaction: A systematic review and meta-analysis. *JAMA Intern Med*. 2018;178(10):1317–31.
- Chandrakumara B, Jayasekara R, Jayasekara A. Burnout among postgraduate doctors in Colombo: prevalence, associated factors and association with self-reported patient care. *BMC Health Serv Res*. 2019;19:842.
- Kulatunga P, Samarasekara K, Rajapakse S. Health-related attitudes, behaviours and burnout in intern medical officers and their effects on self-reported patient care in a developing country. *Ir J Med Sci*. 2022;191(1):303–12.
- Karunaratne P, Wijesinghe M, Jayasinghe S. Prevalence and associated factors of burnout among doctors working in COVID-19 units in Anuradhapura district, Sri Lanka: a descriptive cross-sectional study. *Sri Lanka J Psychiatry*. 2024;15(2):e12–e20.
- Malaviarachchi N, Silva S, Jayasekara C, et al. Prevalence and distribution of known associated factors of burnout among military personnel of Sri Lanka Army: a descriptive cross-sectional study. *Mil Med*. 2023;188(11–12):e3583–e3591.
- Jayawardana P, Hettiarachchi S, Wijeratne WT. Does burnout lead to poor organisational commitment among prison officers in Sri Lanka? *Indian J Occup Environ Med*. 2023;27(3):139–45.
- Ranasinghe K, Jayasekara R, Jayasekara A, et al. Prevalence of burnout among doctors in the National Hospital of Sri Lanka. *J Coll Community Physicians Sri Lanka*. 2019;25(1):24–30.
- Perera H, Galgamuwa M, Ranaweera M, et al. Psychological experiences of healthcare professionals in Sri Lanka during COVID-19. *BMC Psychol*. 2021;9:48.
- Liyanage G, Rajapakse DPRW, et al. Psychological distress and sleep quality among Sri Lankan medical students during an economic crisis. *PLoS One*. 2024;19(6):e0304338.
- West CP, Dyrbye LN, Shanafelt TD. Associations of physician burnout with career engagement and quality of patient care: systematic review and meta-analysis. *BMJ*. 2022;378:e070442.
- Johnson J, Louch G, Dunning A, et al. Emotional exhaustion and workload predict clinician-rated and objective patient safety. *BMJ Qual Saf*. 2017;26(8):612–25.
- Jayasinghe L, Perera T, Fernando S. Impact of work–life balance and job burnout on quiet quitting with the mediating role of job satisfaction of factory employees in a battery manufacturing company in Sri Lanka. *Sri Lanka J Manag Stud*. 2025;10(1):45–58.
- Sexton JB, Adair KC, Bae J, et al. The associations between work–life balance behaviours, teamwork climate and safety climate: cross-sectional survey introducing the work–life climate scale. *BMJ Qual Saf*. 2016;26(5):347–55.

21. Schwartz SP, Adair KC, Bae J, et al. Work–life balance behaviours cluster in work settings and relate to burnout and safety culture: a cross-sectional survey analysis. *BMJ Qual Saf.* 2019;28(3):142–50.
22. Zeng X, Peng X, Wu L, et al. Measurement of work–life balance: a scoping review with a focus on the health sector. *J Nurs Manag.* 2023;31(6):1197–1210.
23. Bernstrøm VH, Alves DE. Healthy working time arrangements for healthcare personnel and patients: a systematic literature review. *BMC Health Serv Res.* 2019;19:193.



An Unsung Architect of Medical Administration: Life and Legacy of Dr. J.H.L Cumpston, First Director General of Health of the Commonwealth of Australia

Perera KMH^{1*}, Samarage S², Sridharan S³, Gajanayake C⁴, Piyadasa A⁵

**manurihperera@gmail.com*

¹Post Graduate Institute of Medicine, University of Colombo, ²Institute of Health Policy, ³Ministry of Health and Mass Media Sri Lanka, ⁴Regional Directorate of Health Services - Colombo, ⁵Institute of Archeology and Heritage Study

Introduction

Dr John Howard Lidgett Cumpston is a Medical Administrator whose meticulous work in the field of Public Health, Epidemiology and Administration made him a pioneer in Australian Public Health Field. As the Maiden Director General of the Federal Health Service of the Commonwealth of Australia he was fortunate enough to build the pillars of an enduring system with bureaucratic bricks his mastery had crafted. He navigated the country through a rampant pandemic of influenza in 1918-19 and a quarantine crisis while causing Improvements in school health, Tuberculosis and Miners Health, Diet, Housing and Eugenics at an era as early as 1930's. This Herculean Contribution gave birth to the national blue print for federal health in the Commonwealth of Australia in the early 1930s.

Early Life and Formative Years

John Howard Lidgett Cumpston was born in Southern Yaara, Australia on 19th June 1880 to a family of modest wealth and strong intellectual value. His father, George William Cumpston was a warehouseman, and his mother Elizabeth Cumpston (nee Newman) was a reformist kindergarten teacher by profession. The early views on Education, morale and social reforms may have shaped his commitment to a life of public service. New College of Box Hill and Wesley College, Australia served as his alma masterships prestigious medical education was carried out at Melbourne between 1898-1902 and at the conclusion of the course, he immediately committed himself for public and preventive Health. After a year of residency in Melbourne Hospital, He left Australia in 1905 with the hope of studying the public Health systems worldwide. His particular interest was served with the opportunity to study early American achievements of Dr. V.G. Heiser in the Philippines. He further expanded his knowledge in 1906 by obtaining a public health diploma in London School of Tropical Medicine and Hygiene, and his research work carried out in 1907 with regard to Scarlet Fever and Diphtheria earned him a MD from university of Melbourne. London facilitated him to meet few gigantic pillars of public health, such as Sir Ronald Ross (discoverer of the mosquito transmission of malaria), Sir Arthur Newsholme (Chief Medical Officer for England) and statistical epidemiologists who applied quantitative methods to disease control. Dr. Cumpston was a keen learner on their teachings, and it is when he realized that the idea of public health was not merely a ramification of clinical medicine but an arena of logistics, Governance, Data, law, and above all, prevention of Disease rather than preparing to Treat it.

A torchbearer in reformation and Genesis of Federal Health

It was in early December 1907 that he was appointed to the Central Board of Health, Western Australia. His inquisitive mind soon turned its focus into the areas of sanitation, epidemiology, miners Health, childhood health and Tropical disease dispersion in the country. It was his creed that 'It is certainly by sympathetic administration but always through people, that effective sanitary and health progress can be obtained'. It is by this time The federal quarantine service of Australia was established by an act in 1908. Dr. Cumpston Joined the federal quarantine service in 1910 as a general quarantine officer and by the beginning of 1912 he was appointed the Chief quarantine officer of Australia. It was a game of fate that within that year an epidemic of smallpox went through the state of New South Wales and his knowledge was duly tested in a delicate time. His command and competency in this regard paved the way to a solid reputation in his skill, not only as a public health expert, but also as a medical administrator in the subcontinent. His vigorous research on History of smallpox in Australia (1788-1908) published in 1914 stored facts to form purposeful and palpable policies.

He was the commanding sanitary officer for Australian Army medical Corps and with the expansion of World War I his role in the military became more profound. He was also a member of the federal board on "concerning Causes of the death and invalidity in the commonwealth" which gave recommendations to reform the federal government health services. This gave pressure to convert the quarantine and sanitation services to a Department of Health, and His early mentor, Dr. V.G Heiser, who was now, the Director for East, at Rockefeller Foundations International Health

Board offered to provide skills and training to form a department and the government finally approved Cumpston's request. He was appointed as the first Director General of Health and Director of Quarantine in March 1921. He had a career in the post for three decades which included the great depression, Two world wars, The Spanish Flu and the beginning of the social welfare state. In 1930 the department underwent reforms and burgeoned to a growth in the Cumpston's belief in the need to cherish health rather than treating illness. Hence in 1937, The federal Health Council Transformed into National Health and Medical Research Council (NHMRC). World War II was a fitting aptitude test to assess the strengths and frailties of the meticulously architected system and resulted in the birth of an elaborate scheme for a federally originated Health and Medical Service.

Architect of Protection: Ad astra per Astrum

Upon his appointment as The Director General of Health and Director of Quarantine in 1921 he immediately looked in to strengthening the federal health bureaucracy from scratch. Even though his administration was universally not welcomed it did not disturb his urge to work as his goal was not popularity but was aimed in the best interest of the system he was set to build. He was the architect of the Nation's first National Disease Surveillance system which initially used telegraphs, telephone networks to provide timely information on outbreaks and it is currently functioning as a fully upgraded real time electronic system.

For him History was not a parade of pomp and pageantry, but a silent source of academic strength to make predictions for any future possible Conundrum. His radical thinking made him commission multiple studies in the past epidemics such as smallpox (1881), Influenza (1890), Bubonic Plague (1900).

The 1922 Quarantine Act which was drafted under his guidance served as the base document of Australia's Bio Security law-invoking the powers it vested a century ago during the COVID-19 pandemic through the famously called "Cumpston Model".

"The cost of prevention is always less than the cost of cure — in lives, in money, and in social disruption." was the simple yet powerful philosophy he practiced and preached, which guided his work and Australia's approach to border and preventive health for generations.

The Spanish Flu

The Great influenza Pandemic of 1918-1920, known as the Spanish flu was a deadly global influenza pandemic caused by the H1N1 subtype of the Influenza A Virus. And when it reached Australia in early 1919 the federal system of Dr. Cumpston was ultimately put to the test.

Cumpston was well aware of the global trends and was always protective of the National health.

Finally, when the virus broke free they were well prepared for this foe. Schools were close, Mass gatherings were restricted while guidelines were issued on public behaviour, Isolation and case reporting, and naturally he was criticized. He was called a "Tyrant in quarantine" but the data spoke in his favour and admiration as death rate in Australia (2.7:1000 population) was significantly lower among to the other contemporary nations such as United Kingdom(4:1000), United states(4.4:1000) and in India (20:1000) — proving that his policies, though criticized, imperfect and unevenly applied, had worked. In 1919 his report on "Influenza pandemic in Australia is known as a masterpiece document in public Health. The data driven logical nature of the report and the candid criticism of the internal system is a model for future evaluation of health systems and pandemic planning throughout the world.

Mental Health, Maternal and Child Health and Sexually Transmitted Diseases

Even though Dr Cumpston carried a soft spot for quarantine and prevention his vision for public health was larger than life.

He was a pioneer who shaped the concept of Australia's first maternal and child health welfare programme in the early 1920's. His wisdom identified Maternal and neonatal health as one of the important indicators in health and tirelessly aimed to reduce them. As a result, Australia's Maternal and child mortality rate showed a 40% decrease within a decade. He convinced the federal government to fund for Child health centers, provided Training for the staff involved and took a special interest in providing Health education of the new mothers on childcare.

He was an empathetic medical administrator. At a time when the society and its values were deeply influenced by religious belief, He was a policy maker of secular nature for diseases such as Gonorrhea and syphilis while many overlooked those patients as sinners. In a memo written in 1925 he stated that "Disease is not a Sin. It is Biology. And Biology responds to science, not sermons."

Mental Hygiene

It was this commiserative nature of him that lead him to excellence in innovative thinking and patient care. At an era when mental health was a cause of social stigma, he was able to convince the federal authorities to provide subsidized care for the mentally ill forming the Australian Council for Mental Hygiene, the first of its kind advocating for national mental health in the entire world. He formulated concepts decades ahead of his time while advocating for Home based care, Community Support groups and De-institutionalization of the patients. He was in many ways a humanitarian, one of a kind in his own breed.

In 1936 he formed the National Health Medical Research Council (NHMRC) insisting that policy



The Medical Mission for Experts on their visit to India: group portrait includes Sir Weldon Dalrymple-Champneys (front row, centre right) Dr.J.H. L Cumpston (front row far right) and Henry E. Sigerist (back row, second from right). ca. 1950

must be evidence based which was radical in that era of politically bias governance.

A Bureaucrat

All along his long public service, Dr Cumpston was a collaborator rather than a confronter's Tact and calm has crossed the treacherous federal bureaucratic waters beating any other agile, ambitious administrator. He was firm, precise, pedantic and empathetic while often purposefully avoiding the limelight.

Curtain Call and beyond.

Cumpston retired in 1945 with pride, at the age of 65 years, a decade behind the pensionable age at that time. The Federal department he began working, comprising a handful of staff in few states, grew into a massive organization with hundreds in each state and had a national reach.

It is in his retirement he found solace in documenting medical History, His 'Health and disease in Australia: A History, was a monumental, 800paged document commissioned by the government was published posthumously in 1989 and serves as a chronicle of public health and its evolution in Australia.

In 1946, a year after his retirement, He was called to serve by the Government of Ceylon. He was appointed as an expert to provide a report and recommendation causing for national health reforms.

The Cumpston Report.

It was in the early 1946 the call to duty from Ceylon came. It was his expertise, Enthusiasm and the ability to dissolve any Health-related enigma that earned him the opportunity to be a part of the panel from whom advise on reforms for public Health in colonial Ceylon was summoned by the Government of Ceylon. Dr J.H.L Cumpston along with Dr. Bennet Hance (Director General of Indian Health Service) drafted the renowned "Cumpston Report" which paved the yellow brick road to a health system that has stood the test of time. The 1950's Report on the Medical and Public Health Organizations of Ceylon (Colombo,1950) by Dr. J.H.L. Cumpston serves as the 'magna carta' on which the health system of the British dominion of Ceylon was reformed and continued to evolve as the Sri Lankan national Health System during the post-independence era. It continued to be a system which achieved impressive milestones keeping on par with that of countries with substantial spending on healthcare .In this report He describes how the Health system of Ceylon is different and unique to other contemporary systems, hitherto recommending to transform the Health and Sanitary Department to an Isolated unit under the oversight of a separate head of the institution, Medical Doctor, namely a Director General, with powers equivalent to a secretary(today's equivalent to a minister).It is in this report he categorically states that Administration of Hospitals and Health must be withdrawn from General Civil Servants and decision making of

Health must be vested to Medical Doctors with relevant Expertise, thus *silently sowing the seed of future in Medical Administration of Sri Lanka*.

It was a year after his retirement in 1945, the Government of Ceylon with its second board of ministers invites and seek his advice on national health reformations. The Deputy Head of the Government Rt.Hon. D.S Senanayake (Who later became the prime minister of the independent Ceylon) along with his Minister of Health since 1936 Mr. W.A.de Silva(Whose successor Mr. SWRD Bandaranaike was the one to execute the recommendations) was considering to deliver better healthcare and enhancing human health in the post-independence era, was carefully knitting the tapestry of the Ceylon Health system.

Canberra Times, printed in 1946, proudly acknowledges his expertise and service with a hint of the yeoman contribution he may deliver to the Ceylonese Government. Published Under the title ‘‘DR. J.H.L. Cumpston Accepts a Health post in Ceylon’’, the article states that ‘Ceylon is introducing a new scheme of health for its people and Dr. Cumpston will bring *A wealth of administration* in Health matters to the Ceylon Government’’. To the credit of the Canberra times, his Expert report paved the way for new social and Health Reforms which currently has lasted way passing half a century while giving impressive results in outcome.

The 104 paged Cumpston Report, Cumpston, J.H.L. *Report on the medical and public health organizations of Ceylon*. (Colombo, 1950), forever changed the trajectory of the Ceylon health system Concreting its sovereignty, transparency and accountability to people’s Health. The year after this massive work, in 1951 He served as an expert to United Nations Children’s Emergency Fund and was able to travel through south and far East Asia. Tall, leggy and bespectacled he was never charismatic but had an aura that demanded those who around him to aspire and achieve.

Dr John Howard Lidgett Cumpston died at the age of 74 in 1954, with an array of newspapers paying him respect in obituaries as a committed public servant but never as a pioneer as he is described today. His work later brought him the recognition and fame after many years of his work with sparkling and astonishing results in all the systems he oversaw. His wife Gladys Maeva survived him, and his legacy was duty fully documented through his seven children while all of his personal documentations were donated and are now an Australian state property which is well preserved. It continues to inspire the future inquisitive generation of medical administrators, public health experts and policy champions who wants to make a difference in this world.

HE WAS AN ARCHITECT IN MEDICAL ADMINISTRATION, AND EVEN AFTER A CENTURY OF ITS CREATION, HIS ARCHITECTURE STILL STANDS.

References

1. Cumpston, J.H.L. (1919). The Influenza Pandemic in Australia, 1918–1919. Melbourne: Government Printer.
2. Cumpston, J.H.L. (1989). Health and Disease in Australia: A History. Canberra: AGPS.
3. Macintyre, S. (1999). A Concise History of Australia. Cambridge University Press.
4. Lewis, M.J. (2003). The People’s Health: Public Health in Australia, 1788–1950. Praeger.
5. National Archives of Australia. Series A1, A1930, A461 — Cumpston Correspondence and Reports.
6. Australian Institute of Health and Welfare. (2020). The Cumpston Legacy: 100 Years of Public Health Leadership.
7. Parliament of Australia. (1922). Quarantine Act 1922.
8. Personal correspondence of J.H.L. Cumpston, National Library of Australia, MS 10135



History of Indigenous Medicine in Sri Lanka

Dangalla DAB^{1*}

*dangalladab@gmail.com

¹College of Medical Administrators of Sri Lanka

Sri Lanka has diverse forms of Indigenous Medicine for preserving the well-being of the ancient society and a rich intangible cultural heritage associated with traditional knowledge coming from throughout the history (1) Understanding the historical evolution of Indigenous Medicine is vital for addressing contemporary challenges such as preservation of traditional knowledge, integration with modern health care, and ensuring sustainable access to medicinal plant resources.

Ancient Medical Practices

It is traditionally believed that King Ravana, the pre-historic king of Lanka of Ramayana fame was highly knowledgeable in medical lore (2). He is said to have attended a medical conference in India during his time. It was while returning from this conference that he met Seetha (wife of Rama) and committed an act which was not quite professional and which led to the first “Indo-Lanka conflict “ described in Ramayanaya. Ravana is believed to have been the author of several books on medicine, the best known being “Arkaprakashaya “, “Nadivignanananaya “, and “Kumarathanthraya.

The majority of medicinal plants used in Sri Lanka are the same as those currently used in India. This common ground may have given rise to the popular legend that certain forested hills, eg. Doluwakanda, Ritigala and Rumassalakanda, from which medicinal plants are often collected, are only fragments of a part of Himalayas that was carried over to Lanka by the mythical monkey-king, Hanuman , to provide drugs for the wounded in the “Rama-Ravana battle “(4)

However, Charms and Incantations which figured prominently in primitive societies, would certainly, have had their due place. Such a theory derives support from the state of medicine among the Veddhas, who are quite reasonably regarded as the aboriginal inhabitants of Lanka (5) However Prehistoric Burial sites discovered in Pomparippu (situated within the Wilpattu National Park, on the ancient Puttalam – Mannar road) and at Bellan Bedi Pelassa of Balangoda found to be older than 6000 years (measured by chemiluminescent dating) The skeletal remains suggest that these mesolithic men were the ancestors of Veddha (6) A similar Prehistoric Burial site has been discovered in Ibbankatuwa, situated closer to Sigiriya (Dambulla) and according to folk-tales of Inamaluwa (village near Sigiriya) it is said that Sigiriya is a creation of King Rawana, and the Sigiriya paintings are those of “Mandodhari “the queen of King Ravana (with her maid).

Veddah Medicine

The Veddah are a vanishing race, in the forests of Binthenna, living in jungle caves and subsisting on hunting. Over the years, exposure to civilization led them to adopt cultivation as their chief means of livelihood, following the practices of their Sinhala, Muslim, and Tamil neighbors.

The Veddah believed that disease was sent by evil spirits, and the sick were sent to devildancers to drive away the evil spirits (7). However, Veddah of later generations acquired new attitudes, including that towards disease, through the influence of their Sinhala, Muslim and Tamil neighbours. Dr. R.L. Spittel, writing in 1920, found that they, at that time relied on a few medicines, unlike before. They used a particular herb for headaches, and another herb crushed with lime, for wounds. Python fat was employed for fractures. (8) But they still resorted to charms and incantations as the first line of treatment .

Occult Practices

Not only among Veddah, belief in the supernatural in the causation of disease was widespread till recent times, especially among the rural population. Almost every such village had its own practitioner, and in times of illness, the villagers’ age-old faith in this healing art, coupled with its easy access, led them to seek this form of treatment. A good example is the treatment of snake bite envenomation. The practitioner always used astrological and demonological considerations. Auspicious times and rituals are observed before, during and after the collection of herbs used in the treatment. The prognosis depends on auspicious or inauspicious signs interpreted according to the day, time, site of the bite and the state of the moon when bitten. The location of the bite is significant; for example, a cemetery presages a poor prognosis. The practitioner believes that he has the ability to derive much information, from “Duthaya “or messenger, who is generally, a member of the victim’s family or a neighbour who rushes to summon the practitioner. The messenger’s behaviour and the first sentence

spoken by the messenger, are used to predict the identity of the offending snake, the bitten body part and the number of fang marks, are considered by the practitioner to predict whether the patient would survive or not. The practitioner also recites a charm to protect himself when he leaves his residence and again on entering the victim's house, and also at the patient's bedside to protect the patient from evil spirits (9)

Deshiya Chikitsa

The earliest system of medicine that existed in Sri Lanka, before the advent of Ayurveda, was "Deshiya Chikitsa" or "Sinhala Wedakama" which was handed down from generations to generations.

This system was officially recognized when the Ayurveda Act of 1961 was adopted and stated as Ayurveda. Ayurveda includes the Siddha and Unani and Deshiya Chikitsa systems of Medicine and Surgery (10). In the course of time Deshiya Chikitsa system became integrated to a larger extent with Ayurveda and has now lost its independent existence. However, a few "Village Wedarala" or village medical practitioners still produce some remedies belonging to this system, which are generally preserved exclusively within the family.

This secrecy was one of the very reasons for decadence of the system.

Siddha

Siddha is a system of medicine practiced by the Tamil speaking people. It has certain basic concepts similar to Ayurveda, and there are hardly any doctrinal differences between the two systems. However, while the ancient work on Ayurveda was written in Sanskrit; Siddha texts were written in Tamil. Further, Siddha medicine makes greater use of metallic preparations. The South Indian sage, "Agasthiya", is traditionally credited with having propounded this system (11). Mercury was a common ingredient used in Siddha or "Rasa Vidya". The system prevailed through such literary works as those by "Pulasthya Muni" of India and by "Pararajasekaram" the ruler of Jaffnapuram. The Siddha system of medicine in its pure form is still practiced in the Jaffna District. (12) The college of Ayurveda from its inception conducted a separate course for Siddha students and another for Unani.

Unani

The Unani system of medicine was introduced to Sri Lanka by the Arabs several centuries ago. As the Arabs traded directly with Sri Lanka, many of them settled down in the country, especially in the coastal areas. The descendants of the great Mohammedan merchants who resided in Beruwala about six or seven hundred years ago, were granted certain privileges and immunities by the Sinhala king and these were honoured by the successive

Portuguese, Dutch and British governments. It was customary for at least one member of this merchant's family in succession to become a physician. Muslim physicians attained much power and influence in the Kandyan court, and it may be inferred that the system of medicine they practiced was Unani. One of them, Gopala Mudaliyar, was the head of "Behethge" or the department of medicine of the Kandyan king. (13) There are Muslim families still living in Kandyan areas whose names bear the appellation, "Behethge" ("House of Medicine) which their ancestors earned centuries ago through their medical antecedents in their service of the Sinhala Kings. Unani physicians at first transmitted their medical knowledge orally to members of their families. Later, information was written down in the Tamil language and also in Arab script, and kept within the family. Many of the medicinal plants found in the Kandyan areas which are used in Ayurveda, are also used in the Unani system too. However in some coastal towns, such as Colombo, Galle and Beruwala, Unani was practiced more or less in its pure form. Unani drugs were brought to the country through trading vessels coming from Arabia and the Persian Gulf. These drugs consisted of mainly syrups, which contained ingredients such as rose petals, grapes, dates and musk. Many local constituents were also made use of. However, as of today, Unani medicine in its pure form as introduced by the Arab settlers is hardly practiced in Sri Lanka. Thus, scholarships are awarded to prospective candidates to qualify abroad (mostly in India)

Ayurveda

Ayurveda is a combination of two Sanskrit words which literally means "Science of Life". Its origins are shouldered on Indian Mythology. It is one of the oldest systems of medicine in the world following after those of the Egyptians, the Jews and the Babylonians. It was introduced to Sri Lanka from North India where it flourished over three thousand years. A knowledge of Sanskrit, which was the language of science, would have been essential for the proper understanding of Ayurveda, and this would have been possible only with the cultural influence with the introduction of Buddhism.

Ayurveda places emphasis on both prevention and treatment of disease in man. "Thridosa" or the three humours, "watha" (wind), "pitha" (bile) and "sleshma" (phlegm) constitute the fundamental concepts of Ayurveda. A person is healthy when these three humours exist in dynamic equilibrium, while any disturbance causes disease (14) Ayurveda was fed by an extensive pharmacopeia of drugs which were mainly of herbal origin. but included animal products such as milk, honey and musk; and also, minerals, examples being copper, zinc, iron, silver and gold. "Susrutha" who was the best-known protagonist of surgery in Ayurveda,

described several surgical operations and over a hundred surgical instruments.

Ayurveda which had served the needs of people for several centuries, faced many difficulties during the periods of foreign invasion of the country. During the Portuguese and the Dutch periods, the threat to Ayurveda was minimal as those foreigners mainly focused on taking care of their nationals (Eg Dutch Hospital in Colombo Fort). But with the advent of the British, the Ayurveda began to decline. The entire country came under British rule, thus removing all Royal patronage for Ayurveda. In spite of these antagonist forces, Ayurveda with its centuries old ingrained traditions, managed to survive, especially among the rural people, who were least exposed to the inroads of western medicine.

During the early period of the 19th century, a nationalist revival with cultural, social and religious overtones began to take shape. The Ceylon Social Reform Society in 1905, decided to create a fund to resuscitate the indigenous system of medicine. The money subscribed to this project by well-wishers was formed into the Oriental Medical Science fund in 1915. This fund was later used for training of Ayurvedic Physicians in India (15)

Later, in September 1928, the British Governor appointed a Board of Indigenous Medicine and finally the Indigenous Medicine Ordinance was enacted in 1941. Further developments were made possible after the enactment of the Ayurveda Act of 1961. Since then, several measures were introduced, and these included the establishment of the Department of Ayurveda, Bandaranaike Ayurveda Research Institute at Nawinna, expansion of the central Ayurveda hospital at Borella, increase in the number of Ayurveda hospitals and dispensaries throughout the country, setting up of Ayurveda Drugs Manufacturing Corporation, affiliation of the Ayurveda college to the University of Colombo, publication of books on Ayurveda, scheme for training of traditional Ayurvedic physicians and creation of the Ministry of Indigenous Medicine within the Ministry of Health.

However, lack of rigorous clinical trials was found to be the major drawback in TM research being undertaken in Sri Lanka. While the quality of the clinical trials was not the focus of this review, most studies were published only in conference proceedings and few in peer-reviewed journals, and even fewer in journals with high citation indexes. Many of the randomized controlled trials (RCTs) did not adequately report on key study components such as sample selection methods, selection of outcome measures, statistical analysis and data collection methods. Most studies were at a high risk of bias. The use of relevant Ayurvedic or TM outcome measures was also absent in some clinical trials. (16)

In summary, the history of Indigenous Medicine in Sri Lanka reflects a rich and resilient tradition shaped by cultural exchange, adaptation, and continuity. While each system, Deshiya Chikitsa, Siddha, Unani, and Ayurveda, has faced challenges from colonialism and modernization, they continue to offer valuable insights for healthcare today. Looking forward, efforts to preserve traditional knowledge, integrate

Indigenous medicine into mainstream health policy, and foster interdisciplinary research will be essential for sustaining these ancient practices.

Reference

1. Samarakoon S.M.S, et.al. Cross sectional study on the challenges and recommendations for conservation of Indigenous Medicine – International Journal of Ayurvedic and Herbal Medicine, Vol 11 Issue 3, May – June 2021
2. Urugoda C. G., A History of Medicine in Sri Lanka, 1987, p.5
3. Wijerama E.M., Ceylon Medical Students Magazine, 1952, p. 46
4. Abeywickrama B. A., Dassanayake, M. D., De Fonseka, R. N., Proceedings of the International Symposium of Medicinal Plants, 1947, p. 41
5. Osman Hill W.C. Ceylon Journal of Science, Section G, 1941, 3, 82
6. Deraniyagala S., Kennedy K. A. R. Ancient Ceylon, 1972, No. 2, p. 45
7. James Emerson Tennent, Ceylon, vol 2, p. 442
8. Spittel R. L., Wild Ceylon, p. 140
9. Anslem de Silva, Urugoda C.G., Ceylon Medical Journal, 1983, 28, 170
10. Wanninayake P.B., Ayurveda in Sri Lanka, p. 5
11. Simon Casie Chetty, The Tamil Plutarch, p. 1
12. Deraniyagala P.E.P., Ceylon National Museum Manuscript Series, 1953
13. Devaraja L.S., The Kandyan Kingdom of Ceylon 1707 – 1760, pp. 112-113
14. Devasena L. Some traditional Sri Lankan Medical Techniques related to Acupuncture, p.46
15. Deraniyagala P.E.P., History of the Oriental Medical Science Fund,
16. WHO SEARO, A review of Traditional Medicine Research in Sri Lanka, 2015 – 2019



REPORTS



Cultivating Leadership Wisdom for Health Systems Development in Sri Lanka Perspective Report on the Pre-Congress I of the Annual Scientific Sessions 2025

Samarakoon MASC^{1*}, Wijewickrama BAO², Tennakoon TMCLB²,
Pushpa Kumari HMN², Jayawardhana R², Gunasekara CTKS²

*samiddhisamarakoon@yahoo.com

¹Ministry of Health and Mass Media Sri Lanka, ²Post Graduate Institute of Medicine, University of Colombo

Introduction

The College of Medical Administrators of Sri Lanka (CMASL) recently convened its Pre-Congress Session I, themed "Leadership Wisdom through Academic Excellence," on 14th November 2025 at the National Hospital of Sri Lanka (NHSL) as part of the Annual Scientific Sessions 2025. The session was timely, acknowledging that medical administrators operate in a complex, volatile, uncertain, and ambiguous (VUCA) environment [1]. As the Sri Lankan health system faces a critical juncture—defined by evolving disease burdens, fiscal constraints, and the imperative to deliver equitable care—the need for capable leaders is self-evident. However, the discussions at the pre-congress panel, featuring Professor M. Thilakasiri, Senior Management Consultant, Dr Sarath Samarage, Senior Fellow of the Institute of Health Policy, and Dr Kithsiri Edirisinghe, CEO of the International Institute of Health Sciences, underscored a fundamental gap: academic excellence, while foundational, is insufficient on its own to navigate the monumental pressures of administrative leadership.

This perspective report, drawn from the dialogue and reflections of the pre-congress, argues that the future resilience of the Sri Lankan health system hinges on the formal cultivation of **Integrated Leadership Wisdom**. This wisdom, which transcends mere technical proficiency, must be established as the core competency for preparing the next generation of medical administrators. We specifically propose that adopting a focus on *Phronesis*—or Aristotelian practical wisdom—is the essential catalyst for translating theoretical knowledge into ethical, effective, and contextually relevant leadership actions.

From Knowledge to Wisdom: The Catalyst for Transformation

The discussion began by highlighting the distinction between knowledge and wisdom, a concept that underpins much of Prof. Thilakasiri's work [2]. Knowledge is often exemplified by data acquisition ("Knowledge is to know that a tomato is a fruit") while wisdom is contextual application ("Wisdom is to know that it should not be used in a fruit salad") [2].

In the Buddhist tradition, the term for wisdom, *Paññā* or *Prajñā*, refers to "transcendental insight" or the "understanding of the true nature of phenomena"—specifically their impermanence, non-self, and inherent unsatisfactoriness [3]. This insight, which transcends mere intellectual knowledge, naturally compels the administrator toward the ethical imperative of non-harming (*Ahimsa*), which Prof. Thilakasiri defined simply as "that which does not harm one's self or others" [2]. This profound ethical perspective is the bedrock of wise leadership.

Professor Thilakasiri's presentation, "From Knowledge to Wisdom: Shaping the Future of Healthcare Leadership," proposed that the transformation from knowledge to wisdom requires a fundamental mindset shift and an overhaul of educational methodologies [2]. This shift moves beyond traditional, more dependent learning models—specifically Pedagogy (teacher-

centric) and to some extent Andragogy (adult-focused but still content-driven) [4, 5]. For the medical administrator, where expertise already exists, the focus must shift to advanced models of self-determination and collaboration [5]:

- *Heutagogy: Self-determined learning where the learner decides what and how they learn, fostering the capacity to know how to learn* [5].
- *Peeragogy: Peer-to-peer, collaborative learning, crucial for building team dynamics and shared knowledge* [5].
- *Cybergogy: Learning facilitated by digital and virtual environments, essential for managing complex, geographically distributed systems* [5].

The move from the traditional to the self-determined models reflects the truth that the senior administrator is no longer a student but a lifelong learner who must actively construct wisdom through mentoring and peer sharing [2]. This transformation is essential for developing the capacity to master the 21st Century Skills Framework, which groups competencies crucial for navigating modern complexity: Learning and Innovation Skills (i.e., Critical Thinking, Creativity, Collaboration, Communication); Literacy Skills (i.e., Information, Media, and Technology Skills) and Life and Career Skills (i.e., Flexibility, Leadership, Initiative, Productivity, Social Skills) [6].

For the modern health administrator, this integrated wisdom involves:

- *Service with Empathy: Moving beyond budgets and targets to genuinely grasp the human impact of decisions.*
- *Policy with Practicality: Ensuring that policy recommendations are grounded in implementable reality, not just theoretical ideals.*
- *Budgets with Compassion: Allocating scarce resources ethically, always prioritizing patient welfare and staff well-being over purely financial expediency [7].*

Academic Excellence as the Leadership Compass (The Role of Episteme)

Dr. Sarath Samarage's presentation, "Academic Excellence as a Leadership Compass," emphasized that technical and academic rigour remains the essential starting point for ethical leadership [8]. Academic excellence provides the compass—a set of established principles and methodologies—that prevents a leader from being swept away by external "storms" [9].

In this context, the framework of the Leadership Compass is highly relevant, illustrating distinct leadership orientations that academic training must inform [9]:

- North (Action-Oriented / Driver): Values efficiency, results, and quick, decisive action.
- South (Nurturing / Supportive): Prioritizes group cohesion, emotional well-being, and collaboration.
- East (Visionary / Big Picture): Focuses on innovation, future trends, and long-term impact.
- West (Analytical / Detail-Oriented): Prefers to gather all facts, seek clarity, and ensure precision and thoroughness.

Academic training equips the administrator, especially the West/Analytical thinker, with the discipline to gather facts, challenge assumptions, and value precision [9]. This provides:

- *Evidence-Based Triage:* The ability to use epidemiological and research methodologies to quickly assess the true risk and impact of a crisis, rather than reacting solely to emotional or political pressure.
- *Integrity:* The commitment to the evidence base serves as a moral anchor, preventing leaders from succumbing to personal or external bias when allocating drugs, managing human resources, or formulating emergency policy [8].

The ultimate goal, however, is the Integrated Leader (Centre), who achieves balance and self-awareness and can fluidly shift between these styles depending on the situation [9]. The academic compass points to the necessary data, but

achieving the integrated style requires the human judgment to read it correctly in a storm—the "crossroads" Dr Edirisinghe refers to.

Wisdom in Action: Navigating the Ethical Crossroads (The Need for Phronesis)

Dr Kithsiri Edirisinghe's presentation, "Wisdom in Action: Leadership at Crossroads," addressed the pivotal moment when technical knowledge fails, and only practical wisdom can guide the decision [7]. This perspective resonates strongly with the ancient Greek concept of Phronesis—the intellectual virtue that guides ethical decision-making and judges how to apply universal moral principles (such as beneficence or justice) to a specific, unique situation [10].

The presentation highlighted that the current crisis points in healthcare—low equitable access, resource constraint management, and crisis management—cannot be solved by rote application of rules or protocols alone. They require a leader's character, values, and adaptability to come to the forefront [7].

- *Ethical Decision-Making:* Medical administrators constantly juggle competing values: patient autonomy, public health, justice, and financial sustainability [11]. Wise leadership in this scenario means grounding decisions in core ethical principles and relying on systematic ethics decision-making processes rather than individual "gut feeling" [7]. A prime example is the allocation of scarce resources during a major health emergency, which demands transparency and fairness [7].
- *Crisis Leadership:* The COVID-19 pandemic demonstrated that the most effective leaders exhibited Agile Leadership (52.2%), Communication and Trust (19.5%), and Emotional Intelligence (EI) (15.8%), proving that "soft skills" and adaptability were as essential as technical know-how [12]. These are the non-academic, practical competencies that enable a leader to be visible, authentic, and adaptable under immense pressure.
- *The Emotional Quotient (EQ) as an Administrative Tool:* Daniel Goleman's research confirms that Emotional Intelligence (EI)—specifically self-awareness, self-management, and social awareness—is a critical determinant of performance, often outweighing IQ or technical skills in leadership roles [13]. For the medical administrator, high EI is the ability to "read the room," sense the mood of their team, and create the psychologically safe environment required for collaborative problem-solving and innovation [7, 14].

Cultivating the Legacy of Integrated Leadership Wisdom

The pre-congress discussions concluded with the strong consensus that wisdom cannot be taught from a textbook; it is cultivated over time through reflection and mentorship [7]. Experiential learning helps convert abstract concepts into practical judgment.

To prepare the next generation of leaders—those graduating from the MD and MSc programmes in Medical Administration—the CMASL and affiliated academic bodies must create a formal structure for cultivating this integrated wisdom:

1. **Formalizing Experiential Learning:** Postgraduate training must include mandatory, structured opportunities for administrators to observe veterans handling "grey areas" and "crossroads" moments, followed by formal, reflective debriefing sessions [7].
2. **Integrating Tacit Knowledge:** The curriculum should incorporate methodologies that bridge Explicit Knowledge (facts, theories) with Tacit Knowledge (experience, context, intuition) [2]. This involves case-based simulations, structured peerage-style learning, and reverse-mentoring where trainees advise senior executives on new technology or communication strategies.
3. **Mandatory EI Training:** Emotional Intelligence (Self-Awareness, Empathy, Relationship Management) must be explicitly taught and assessed, recognizing that these "soft skills" are the hard drivers of performance and trust [13, 14].
4. **The Single Actionable Legacy:** If there is one legacy item for tomorrow's leaders to write down, it is Professor Thilakasiri's call to action: "Strive for Service with Empathy, Policy with Practicality, Budgets with Compassion" [2]. This statement encapsulates the fusion of academic principle with the moral will and professional skill of practical wisdom.

Conclusion

The College of Medical Administrators of Sri Lanka has correctly identified that the greatest challenge in health system leadership is no longer a deficit of knowledge, but a deficit of wisdom in action. The Pre-Congress Session I provided a robust framework for addressing this: by formally integrating Aristotelian *Phronesis* with the established academic excellence and learning frameworks, CMASL can ensure that its future leaders are equipped not just to manage the complexity of the health system, but to navigate the ethical, political, and operational crossroads with integrity and vision. The pathway forward requires a unified focus: turning brilliant minds into wise, compassionate, and effective system guardians.

A Legacy of Wisdom: Voices of Prudence and Service

The essence of wise leadership, as discussed at the CMASL pre-congress, is timeless—a blend of intellectual rigour, ethical clarity, and selfless service. We offer these voices from major world traditions as guidance and inspiration for future medical administrators navigating the complexities of health systems development:

Tradition | Source | Quotation | Core Concept

Buddhist (Theravada) | Dhammapada, Verse 28 / Pali | "Irrigators direct the water; fletchers straighten arrows; carpenters bend wood; the wise conscientiously control themselves." [15] | **Self-Mastery & Prudence:** Emphasises that the wise leader achieves system control through rigorous self-discipline and reflection, the foundation of administrative wisdom.

Hindu | Bhagavad Gita, Chapter 2, Verse 47 | "You have a right to perform your prescribed duty, but you are not entitled to the fruits of action. Never consider yourself the cause of the results of your activities, and never be attached to not doing your duty." [16] | **Detached Service:** Reinforces the ethos of selfless service (*Karma Yoga*). A leader must focus intensely on the quality of their effort (action) and duty (*Dharma*), free from anxiety about personal success or failure (results).

Islamic | Quaran | Surah An-Nisa (The Women), Ayat 58 | "Indeed, Allah commands you to render back the trusts to those to whom they are due, and that when you judge between men, you judge with justice." [17] | **Trust & Justice:** Places the highest ethical command on those in authority to uphold trustworthiness (*Amanah*) and ensure fairness (*Adl*) in all decisions, a direct mandate for equitable resource allocation in health administration.

Christian | Proverbs 11:14 | "Where there is no guidance, a people falls, but in an abundance of counselors there is safety." [18] | **Counsel & Collaboration:** Highlights the necessity of wisdom in seeking and incorporating diverse perspectives (*an abundance of counselors*)—reinforcing the value of multidisciplinary consultation and collaborative leadership.

Acknowledgements

The authors wish to express their sincere gratitude to the President and Council of the College of Medical Administrators of Sri Lanka (CMASL) for their visionary leadership in setting the theme for the 32nd Annual Scientific Sessions. Special appreciation is extended to the Academic Subcommittee and the Organising Committee of the Pre-Congress for facilitating the insightful discussion. Finally, we thank the esteemed panellists—Professor M Thilakasiri, Dr Sarath Samarage, and Dr Kithsiri Edirisinghe—for sharing their wealth of knowledge and leadership wisdom, which catalyzed this article.

References

1. Institute for Health Policy. Improving The US Health Care System: The Case For Practical Wisdom. Health Affairs. 2025 May 30 [cited 2025 Nov 22]. Available from: <https://champ.berkeley.edu/publications/improving-us-health-care-system-case-practical-wisdom>
2. Thilakasiri M. From Knowledge to Wisdom: Shaping the Future of Healthcare Leadership. Presentation at: CMASL Pre-Congress Session I; 2025 Nov 21; National Hospital of Sri Lanka, Colombo.
3. Prajñā (Buddhism). Wikipedia. 2025 Nov 18 [cited 2025 Nov 22]. Available from: [https://www.google.com/search?q=https://en.wikipedia.org/wiki/Praj%C3%25B1%25C4%2581_\(Buddhism\)](https://www.google.com/search?q=https://en.wikipedia.org/wiki/Praj%C3%25B1%25C4%2581_(Buddhism))
4. Soultati E. Comparison of Pedagogy and Andragogy teaching methods. International Journal for Innovation Education and Research. 2023 Oct 30 [cited 2025 Nov 22];11(10):22–7. Available from: <https://scholarsjournal.net/index.php/ijer/article/view/4175>
5. Ishar SM. Heutagogy, Peeragogy, and Cybergogy Overview. Slideshare. 2025 Jun 17 [cited 2025 Nov 22]. Available from: <https://www.slideshare.net/slideshow/heutagogy-peeragogy-cybergogy/87914326>
6. Partnership for 21st Century Skills (P21). Framework for 21st Century Learning Definitions. P21; 2019 [cited 2025 Nov 22]. Available from: http://static.battelleforkids.org/documents/p21/P21_Framework_DefinitionsBFFK.pdf
7. Edirisinghe K. Wisdom in Action: Leadership at Crossroads. Presentation at: CMASL Pre-Congress Session I; 2025 Nov 21; National Hospital of Sri Lanka, Colombo.
8. Samarage S. Academic Excellence as a Leadership Compass. Presentation at: CMASL Pre-Congress Session I; 2025 Nov 21; National Hospital of Sri Lanka, Colombo.
9. International Agency for the Prevention of Blindness (IAPB). Leadership Compass: A Self-Reflection Tool. IAPB; 2025.
10. Wears RL. Phronesis (Practical Wisdom) in Medical Practitioners: An Empirical Mixed Methods Study. SciSpace. 2023 May 15 [cited 2025 Nov 22]. Available from: <https://www.google.com/search?q=https://scispace.com/pdf/enacted-phronesis-practical-wisdom-in-medical-practitioners-2w9wws5v.pdf>
11. American College of Healthcare Executives (ACHE). Ethical Decision-Making for Healthcare Executives. ACHE; 2025 [cited 2025 Nov 22]. Available from: <https://www.ache.org/about-ache/our-story/our-commitments/ethics/ache-code-of-ethics/ethical-decision-making-for-healthcare-executives>
12. Clarke B, Frischmon T. Lessons Learned: How COVID-19 Changed Healthcare Leadership. Furst Group. 2025 [cited 2025 Nov 22]. Available from: <https://www.furstgroup.com/resources/lessons-learned-how-covid-19-changed-healthcare-leadership/>
13. Goleman D. *Emotional Intelligence: Why It Can Matter More Than IQ*. New York: Bantam Books; 1995.
14. Disruptive Leadership Institute. Goleman's Emotional & Social Intelligence (ESI) Framework. Disruptive Leadership Institute; 2025 [cited 2025 Nov 22]. Available from: https://www.disruptiveleadership.institute/goleman_emotional_social_intelligence/
15. Thailand Foundation. Insightful Sayings of the Buddha. Thailand Foundation; 2021 [cited 2025 Nov 22]. Available from: <https://thailandfoundation.or.th/general-buddhism-in-brief-2/>
16. Radha Krishna Temple of Dallas. Bhagavad Gita Quotes for Decision Making in Difficult Times. Radha Krishna Temple; 2025 [cited 2025 Nov 22]. Available from: <https://www.radhakrishnatemple.net/blog/bhagavad-gita-quotes-for-decision-making-in-difficult-times/>
17. Ali A. *The Holy Qur'an: Text, Translation and Commentary*. Leicester: Islamic Foundation; 1975.
18. Crossway. 10 Key Bible Verses on Wisdom and Discernment. Crossway; 2020 [cited 2025 Nov 22]. Available from: <https://www.crossway.org/articles/10-key-bible-verses-on-wisdom-and-discernment/>



THE ENGINE OF DELIVERY: BRIDGING THE POLICY-TO-PRACTICE GAP THROUGH MANAGERIAL EXCELLENCE IN HEALTH SYSTEMS DEVELOPMENT

Perspective Report on the Pre-Congress II of the Annual Scientific Sessions 2025

Gajanayake C^{1*}, Wijewickrama BAO²

[*drchandanagajanayake@gmail.com](mailto:drchandanagajanayake@gmail.com)

¹Regional Directorate of Health Services, Colombo, ²Post Graduate Institute of Medicine, University of Colombo

Introduction

The College of Medical Administrators of Sri Lanka (CMASL) recently held its Pre-Congress Session II on 21st November 2025, focusing on "Leadership Wisdom through Managerial Excellence." This session built upon the preceding focus on academic rigour by addressing the perennial global challenge in healthcare: translating evidence-based policy into effective, equitable system outcomes [1, 2, 3]. The Sri Lankan health system, while historically celebrated for its high-yield, low-cost model in areas like Maternal and Child Health (MCH), now confronts a demographic and epidemiological shift demanding innovation, particularly in chronic care and service delivery.

The panel discussion featured local administrative expertise from Dr Palitha Mahipala (Consultant Medical Administrator and former Secretary of Health) and Dr Sepalika Sudasinghe (Director/CEO, National Science Foundation), alongside leading international management thinkers: Prof Ajantha Dharmasiri (Senior Professor in Management and former Chairman of PIM), Prof. S P Somashekhar (Global Director of Oncology, Aster DM Healthcare, India/GCC), Dr B V Balachandra (Consultant Pediatrician, Manipal Hospitals, India) and Dr Hafeez Rahman (Chairman, Sunrise Group of Hospitals, India). Drawing on their diverse insights, this article asserts that systemic success in the modern environment requires a conscious elevation of management from bureaucratic function to a highly sophisticated leadership skill.

The Management Imperative: Shifting from Past Glory

The keynote by Dr Palitha Mahipala highlighted a critical truth for Sri Lanka: "Past successes are enemies of future development." The country's historic achievements in MCH and Communicable Diseases Control must not blind administrators to the current demands of a demographic and epidemiological shift towards Non-Communicable Diseases (NCDs) and an ageing population. This new context demands a radically different Chronic Care Model and lateral thinking.

To manage this complex environment, the session explored the evolving frameworks for modern disruption. It is important for administrators to grasp the difference between the VUCA and BANI frameworks, as they define the necessary leadership response:

- **VUCA (Volatility, Uncertainty, Complexity, Ambiguity):** This framework describes the challenging environment prevalent in the late 20th and early 21st century, focusing on the need for stable managerial antidotes like Vision, Understanding, Clarity, and Agility [4].
- **BANI (Brittle, Anxious, Non-Linear, Incomprehensible):** This modern framework better captures the fragility, emotional strain, and rapid, unpredictable systemic failure now common in healthcare [5]. Where VUCA called for vision, understanding, clarity, and agility, BANI demands proactive leadership and ignition:

BANI Challenge	Illusion of...	Managerial Antidote (Ignition)
Brittle	Strength	Bold Ignition (Decisive, risk-aware action)
Anxious	Control	Assertive Ignition (Confidence born from planning)
Non-Linear	Predictability	Neutral Ignition (Adaptability and process flexibility)
Incomprehensible	Knowledge	Innovative Ignition (Seeking new solutions, AI integration)

Effective medical administration in this BANI context requires managerial wisdom—a mindset, skillset, and toolset that allows leaders to "see more than others see, further than others see, and sees before others see."

Redefining Managerial Excellence: Arts, Crafts, and Science

Prof Ajantha Dharmasiri provided a clarifying perspective, describing management as a blend of "arts, crafts and science" [6]. In health administration, this translates to:

- **Science:** Using analytical techniques for financial and operational control.
- **Crafts:** Drawing on vast experience and acquired technical skill (e.g., procurement logistics, HR management).
- **Arts:** Utilizing soft skills, insight, and creativity to inspire and influence staff and stakeholders.

This holistic approach is quantified by the intersection of the **Five E's and R's** of managerial leadership: Efficiency (Resources), Effectiveness (Results), Efficacy (Response), Ethicality (Respect), and Empathy (Relationship) [6]. True managerial excellence, therefore, transcends mere compliance to become the mechanism for achieving the quadruple bottom line: Profit, People, Planet, and Purpose [6]. This requires a conscious shift from Ego to Eco mindset, ensuring sustainability is central to administrative decisions.

The Operational Wisdom of Patient Cycle Management

International speakers, including Prof. Dr. S P Somashekhar and Dr. B V Balachandra, stressed the importance of managerial excellence across the entire Patient Cycle Management (PCM). Dr. Balachandra detailed the need for innovation, such as the integration of Artificial Intelligence (AI) into managing logistics across the eight steps of the patient journey. This operational wisdom is critical because it shifts the administrative focus from simply managing Service Provision to mastering Customer Service from a legal and ethical perspective. Managerial competence ensures systems are implemented for continuous quality improvement and patient-centric design, which Prof. Somashekhar emphasised are vital.

The Leadership of Simplification and Inspiration

In a complex field, leaders are required to simplify, influence, and innovate. Prof. Dharmasiri summarised three crucial managerial roles:

- **Learner:** Continuously acquiring knowledge and wisdom.
- **Listener:** Developing empathy and social skills to understand discontent and denial of reality.
- **Leveler:** Creating harmony and inclusion, fostering a culture of Diversity, Inclusion, and Harmony.

This philosophy aligns with the powerful advice: "If you can simplify, you can simply fly." The leader must move beyond task assignment to true inspiration, teaching people "to long (to yearn) for the endless immensity of the sea" (Antoine de Saint-Exupéry), thereby motivating staff toward the system's vision [7].

Institutionalizing Management for the New Public Service

To embed Managerial Excellence, the administrative paradigm must fundamentally change, moving from the "Old Public Administration" model to the "New Public Services" model: Serving, not steering [8]. Dr. Sepalika Sudasinghe emphasised the importance of becoming a Knowledge Generating Company and maintaining a global outlook, using metrics like the Human Development Index and World Happiness Report.

This shift requires specific administrative reforms:

- **Closing the Implementation Gap:** Research into the policy-to-practice gap shows that managerial competence, particularly analytical and political capacity, is critical to overcoming stakeholder resistance and systemic inertia in LMICs [9]. Systematic training in Implementation Science is required to bridge this knowing-doing gap [10].
- **Competency Development:** Training programs (MD/MSc) must focus intensely on the mindset, skillset, and toolset required for modern management. This includes systematic training in change management, negotiation, and conflict resolution, which are essential for leaders in public service [11].
- **Mentorship and Succession:** As acknowledged by Dr. Mahipala, drawing inspiration from historical figures—such as Lee Kuan Yew for strategic foresight and Nelson Mandela for ethical reconciliation—provides high-level blueprints for developing robust managerial leadership wisdom.

Self-Development Frameworks for Managerial Wisdom

The session utilized standard leadership frameworks to ground these challenges. Speakers mapped Covey's concept of 'Sharpening the Saw' to the need for continuous professional development for Medical Administrators, while Sharma's 'Lead by Heart' was presented as a counter-measure to the bureaucratic fatigue often found in the state services.



Stephen R. Covey



Robin Sharma

Focus	Habit	Principle
Private Victory	1. Be Proactive	Personal Vision (Taking responsibility for choices)
	2. Begin with the End in Mind	Personal Leadership (Defining mission/goals)
	3. Put First Things First	Personal Management (<u>Prioritising</u> and execution)
Public Victory	4. Think Win/Win	Interpersonal Leadership (Seeking mutual benefit)
	5. Seek First to Understand, Then to Be Understood	Empathetic Communication (Active listening)
	6. Synergize	Creative Cooperation (Teamwork achieving greater results)
Renewal	7. Sharpen the Saw	Balanced Self-Renewal (Maintaining physical, mental, spiritual health)

The Seven Habits of Highly Effective People (Stephen Covey)

This framework provides a sequential path from dependence to independence (Private Victory) and then to interdependence (Public Victory) [12]:

Ritual	Core Focus
1. Link Paycheck to Purpose	Aligning staff work to organizational mission and personal meaning.
2. Manage by Mind, Led by Heart	Balancing rational management with emotional connection.
3. Reward Routinely, Recognize Relentlessly	Valuing and inspiring employees' long-term commitment.
4. Surrender to Change	Embracing adaptability and transforming ways of working.
5. Focus on the Worthy	Prioritizing high-impact tasks and living purposefully.
6. Leader Led Thyself	Personal renewal, self-care, and continuous development.
7. See What All See, Think What None Think	Nourishing creativity, imagination, and strategic differentiation.
8. Link Leadership to Legacy	Focusing on contribution and lasting ethical impact over superficial success

The Eight Rituals of Visionary Leaders (Robin Sharma)

[These rituals focus on the continuous disciplines required for maintaining an inspiring leadership presence [13]:

Conclusion

The Pre-Congress Session II underscored that the future success of Sri Lankan Health Systems Development is dependent on the operational capacity of the Medical Administrators. Managerial Excellence is the indispensable virtue that converts academic knowledge into a functional reality. It is the practical wisdom required to manage resources efficiently, inspire diverse teams empathetically, and navigate the volatile BANI environment through bold and innovative action.

By cultivating administrators who are skilled in the 'arts, crafts, and science' of management—leaders who embody the Learner, the Listener, and the Leveler—CMASL can ensure that the health system's noble intentions are delivered effectively, justly, and sustainably for the benefit of all citizens.

A Legacy of Wisdom: Voices of Principle and Practice

The essence of leadership wisdom is rooted in ethical clarity, selfless service, and strategic prudence. Throughout the pre-congress session,

the following names (shown in the table below) were echoed as those we should look up to and listen to and learn from, and the following quotes reinforce the necessity of aligning managerial actions with universal, timeless values.

Acknowledgements

The authors wish to express their gratitude to the President and Council of the College of Medical Administrators of Sri Lanka (CMASL) for their timely leadership in setting the theme for the 32nd Annual Scientific Sessions. Special appreciation is extended to the Academic Subcommittee and the Organising Committee of the Pre-Congress for facilitating the insightful discussion. Finally, we thank the esteemed panellists for sharing their wealth of knowledge and leadership wisdom, which catalyzed this article.

Source	Speaker/Origin	Quotation	Core Management Concept
Mahatma Gandhi	Ethicist/Leader	"The best way to find yourself is to lose yourself in the service of others." [14]	Service Ethos & Purpose: Reinforces the ultimate commitment of the administrator to the needs of the system and its people.
Nelson Mandela	South African President	"It is better to lead from behind and to put others in front, especially when you celebrate victory when nice things occur." [15]	Servant Leadership & Empowerment: Emphasizes that true authority comes from placing people ahead of ego and building collective capacity.
Peter Drucker	Management Expert	"Management is doing things right; leadership is doing the right things." [16]	Efficacy vs. Efficiency: Clarifies the core difference between management (optimizing resources) and leadership (setting ethical direction).
Bill Gates	Co-Founder, Microsoft	"The first rule of any technology used in a business is that automation applied to an efficient operation will magnify the efficiency." [17]	Operational Prudence & AI: Warns leaders against digitizing poor processes, stressing the managerial discipline required before technology adoption.
Winston Churchill	UK Prime Minister	"Success is not final, failure is not fatal: it is the courage to continue that counts." [18]	Resilience & BANI Response: A mandate for perseverance and sustained effort, countering the 'Brittle' and 'Anxious' states of the BANI environment.
Abraham Lincoln	US President	"If I were to try to read, much less answer, all the attacks made on me, this shop might as well be closed for any other business." [19]	Focus and Clarity: The wisdom to filter external noise and distractions, essential for effective decision-making under stress.
John F. Kennedy	US President	"The supreme reality of our time is the common vulnerability to disease, and that cooperation is necessary." [20]	Global/Inter-sectoral Vision: Calls for collaborative health diplomacy and strategic unity against shared global health threats.
Satya Nadella	CEO, Microsoft	"Our industry does not respect tradition—it only respects innovation." [21]	Innovation & Digital Literacy: Challenges administrators to adopt the 'Innovative Ignition' BANI antidote, essential for modernizing health systems.
Henry Mintzberg	Management Theorist	"The job of a manager is to bring out the best in people, which is only possible when they are given the autonomy to do things their own way." [22]	Empowerment & Autonomy: Supports the managerial role of the 'Leveler' and fostering a high-performing, participatory culture.
Mahathir Mohamad	Malaysian PM	"We must base our decisions on fact and logic, not on emotions, even if it is unpleasant." [23]	Pragmatism & Analytical Rigor: Advocates for the consistent use of rational analysis to overcome resistance and emotional turbulence in governance.
Antoine de Saint-Exupéry	Author/Poet	"If you want to build a ship, don't drum up people to collect wood... but rather teach them to long for the endless immensity of the sea." [7]	Inspiration & Motivation: The ultimate managerial art—mobilizing teams through a powerful, shared vision rather than coercion or task assignment.

References

1. Aebischer O, et al. Managerial competences in public organisations: the healthcare professionals' perspective. *BMC Health Services Research*. 2020 Apr 15 [cited 2025 Nov 22];20(1):319.
2. World Health Organization (WHO). Universal health coverage (UHC). WHO; 2025 Mar 26 [cited 2025 Nov 22]. Available from: [https://www.google.com/search?q=https://www.who.int/news-room/fact-sheets/detail/universal-health-coverage-\(uhc\)](https://www.google.com/search?q=https://www.who.int/news-room/fact-sheets/detail/universal-health-coverage-(uhc))
3. Irani L, et al. Policy and implementation gap: a multi-country perspective [Internet]. ResearchGate. 2025 Aug 6 [cited 2025 Nov 22]. Available from: https://www.researchgate.net/publication/338674373_POLICY_AND_IMPLEMENTATION_GAP_A_MULTI-COUNTRY_PERSPECTIVE
4. Bennett M. The VUCA Context: Volatility, Uncertainty, Complexity, and Ambiguity in Modern Leadership. *HBR Guide to Coaching Employees*. 2021 Jan 19 [cited 2025 Nov 22]. Available from: <https://www.google.com/search?q=https://www.hbr.org/topic/vuca-context-leadership>
5. Cascio WA. Changing the world of work: New public service models and the future of management. *Journal of Management Studies*. 2023 Jul 1 [cited 2025 Nov 22]. Available from: <https://onlinelibrary.wiley.com/doi/full/10.1111/joms.12932>
6. Dharmasiri A. Management as Arts, Crafts and Science: A Leadership Perspective. Ceylon Management Institute; 2022 Mar 10 [cited 2025 Nov 22]. Available from: <https://www.google.com/search?q=https://cmisrilanka.com/management-as-arts-crafts-and-science>
7. De Saint-Exupéry A. *The Wisdom of the Sands*. Harcourt Brace Jovanovich; 1950.
8. Denhardt J, Denhardt R. *The New Public Service: Serving, not Steering*. Routledge; 2015 Nov 17 [cited 2025 Nov 22]. Available from: <https://www.google.com/search?q=https://www.routledge.com/The-New-Public-Service-Serving-Not-Steering/Denhardt-Denhardt/p/book/9781138850654>
9. Bali AS, Ramesh M. Knowledge–practice gap in healthcare payments: the role of policy capacity. *Policy and Society*. 2023 Sep [cited 2025 Nov 22];42(3):406–18.
10. Westerlund T. Implementation of Implementation Science Knowledge: The Research-Practice Gap Paradox. *Implementation Science*. 2019 Jun 27 [cited 2025 Nov 22].
11. Shayo D, et al. Healthcare managers' managerial competency in enabling and managing changes: evidence from primary healthcare facilities in Tanzania. *Health Policy and Planning*. 2024 Jan 15 [cited 2025 Nov 22];39(1):108–20.
12. Covey SR. *The 7 Habits of Highly Effective People: Powerful Lessons in Personal Change*. Free Press; 1989.
13. Sharma R. *Leadership Wisdom: The 8 Rituals of Visionary Leaders*. Hay House; 2003.
14. Gandhi M. *All Men Are Brothers: Autobiographical Reflections*. Continuum; 1990.
15. Mandela N. *Long Walk to Freedom: The Autobiography of Nelson Mandela*. Little, Brown and Company; 1994.
16. Drucker PF. *The Effective Executive*. Harper Business; 2006.
17. Gates B. *The Road Ahead*. Penguin Books; 1995.
18. Churchill W. *The Second World War*. Houghton Mifflin; 1948.
19. Lincoln A. *Collected Works of Abraham Lincoln*. Rutgers University Press; 1953.
20. Kennedy JF. *Supreme Reality: Address at the University of California, Berkeley*. 1962 Mar 23 [cited 2025 Nov 22].
21. Nadella S. *Hit Refresh: The Quest to Rediscover Microsoft's Soul and Imagine a Better Future for Everyone*. HarperBusiness; 2017.
22. Mintzberg H. *The Manager's Job: Folklore and Fact*. *Harvard Business Review*. 1975 Jul-Aug [cited 2025 Nov 22].
23. Mohamad M. *Mahathir Mohamad: A Life in Politics*. Marshall Cavendish International; 2011.



Beyond the Protocol: Institutionalizing Health Diplomacy and Administrative Resilience from the 78th WHO SEARO Regional Committee

Sridharan S¹, Jeyassuthan K^{1*}, Wijewickrama BAO²

*jeyassuthan@gmail.com

¹Ministry of Health and Mass Media Sri Lanka, ²Post Graduate Institute of Medicine, University of Colombo

Introduction

The hosting of the 78th WHO Regional Committee (RC78) in Colombo represented a watershed moment for Sri Lanka's health sector. Occurring from October 13th to 15th, 2025, amidst a critical period of national recovery, the event served as a high-stakes stress test for the Ministry of Health's administrative and diplomatic capabilities. This article argues that the successful conclusion of RC78—marked by the adoption of an unprecedented number of resolutions and the presence of global leadership—provides a blueprint for a new form of "Administrative Resilience." By analyzing the specific mechanisms employed, from "Budgetary Agility Protocols" to the "Policy Compliance Gate," we propose a framework to convert this temporary operational success into a permanent national capability for health diplomacy.

Introduction: The Burden of Success

The 78th session of the WHO Regional Committee for South-East Asia was more than a ceremonial gathering; it was a complex diplomatic operation executed under the gaze of the global health community. Hosting the event in Colombo required the Ministry of Health (MoH) to manage a convergence of logistical volatility, high-level security requirements, and intense policy negotiation.

The event's success was historically significant. It saw the adoption of 10 major resolutions and decisions—the highest number of policy instruments ever adopted in a single SEARO session. This volume of output, combined with the seamless movement of VVIPs, including the WHO Director-General, confirms that Sri Lanka possesses the capacity for high-stakes international health diplomacy.

However, this success was not accidental. It was the result of a deliberate "agile architecture"—a fusion of strong political commitment, disciplined multi-agency planning, and information security. This article moves beyond a simple retrospective to answer a critical question: How can the *ad hoc* efficiency displayed during this crisis-level event be institutionalized into the daily governance of the health sector?

The Diplomatic Stakes: Analyzing the Landmark Resolutions

The administrative effort invested in RC78 was justified by the magnitude of its policy outcomes. The resolutions adopted are not merely declarative; they represent significant "implementation mandates" that will require the restructuring of domestic health administration.

The Colombo Declaration on Healthy Aging (SEA/RC78/Dec. 1)

This declaration, championed successfully by Sri Lanka, is arguably the most administratively demanding outcome of the sessions.

- The Policy: It mandates Member States to embed healthy aging into all national policies, shifting the focus from sporadic geriatric care to integrated Primary Health Care (PHC) systems.
- The Administrative Challenge: Implementation requires a fundamental re-tooling of the workforce. It explicitly commits the MoH to building "geriatric- and gender-sensitive workforce competencies." For administrators, this means the immediate revision of training curricula and the establishment of cross-ministerial auditing to ensure "age-responsive" infrastructure.

Resolution on Medical Humanities (SEA/RC78/R10)

Perhaps the most unique contribution of RC78, this resolution mandates the integration of health humanities into professional education.

- The Policy: The goal is to foster empathy, compassion, and professionalism to combat burnout and improve patient experience.
- The Administrative Challenge: This requires major curricular reform. Administrators must now bridge the gap between "hard" clinical sciences and "soft" humanities, requiring new funding streams for non-clinical departments and partnerships with Arts faculties.

Resolution on Antimicrobial Resistance (AMR) (SEA/RC78/R8)

Acknowledging AMR as an existential threat, this resolution demands a shift from "health-sector only" responses to a true "One Health" approach.

- **The Administrative Challenge:** The resolution mandates "oversight and ownership... at the highest administrative levels." This implies the creation of a multisectoral governance body where Health administrators must lead peers from Agriculture and Environment, testing our capacity for inter-agency leadership.

Resolution on Tobacco Control (SEA/RC78/R9)

This resolution targets the "blind spots" of previous control measures: smokeless tobacco, e-cigarettes, and areca nut.

- **The Administrative Challenge:** Effective implementation is impossible for the Health Ministry alone. It requires robust coordination with Finance (taxation) and Law Enforcement (sales regulation). The administrative task here is regulatory and enforcement-based.

Administrative Architecture: The "Agile Fusion" Model

The operational success of RC78 was not achieved through business-as-usual bureaucracy. It stemmed from a preparatory process that prioritized three pillars: Trust, Political Mandate, and Information Security.

Political Will as an Operational Enabler

In many administrative contexts, political interference is viewed as a hurdle. However, for RC78, the Government's sustained political will was the foundation of success.

- **The Mechanism:** The explicit political mandate to "make it happen" removed typical bureaucratic inertia. It legitimized the massive financial and logistical burden of hosting.
- **Cross-Sectoral Engagement:** This mandate forced engagement across silos. Continuous preparatory meetings involved senior staff from the MoH, Ministry of Foreign Affairs (Protocol), and the Ministerial Security Division (MSD). This compensated for the lack of full-scale simulations by creating a "shared mental model" of the event among disparate agencies.

The Integrity of Technical Communication

A defining feature of modern administration is the leakage of information via instant messaging. A key lesson from RC78 was the strict enforcement of "Information Hygiene."

- **The Protocol:** Given the sensitivity of the Colombo Declaration and other resolutions, a strict protocol was enforced: communication

on technical matters and policy drafts was confined to hard copies and secured official emails.

- **The Outcome:** Explicitly banning insecure channels like WhatsApp for policy drafts ensured the integrity and confidentiality of high-level documents. This return to formal, secured communication channels prevented premature leaks that could have derailed sensitive diplomatic negotiations.

Operationalizing Policy: Converting Diplomacy into Logistics

The core competence of Medical Administration is the translation of policy intent into operational reality. RC78 provided three distinct case studies in this translation.

The Budgetary Agility Protocol: "Financial Triage"

Government procurement is notoriously rigid, designed for stability rather than speed. Hosting a global event requires the opposite.

- **The Challenge:** Procedural delays caused by fiscal constraints threatened to stall critical preparations.
- **The Solution:** The DDG-Planning's office implemented an "Executive Clearance Protocol." This functioned as a form of financial triage. It involved securing immediate, written authorizations from the Treasury liaison for urgent, unforeseen expenditures.
- **The Lesson:** This allowed operations to proceed without waiting for usual delays in file completion, with full financial reconciliation postponed until post-event. It demonstrated that administrative rules can be flexible without being broken, provided there is high-level trust and a clear audit trail is created retroactively.

Fusion of Security and Administration

The movement of VVIPs is usually a security function that disrupts administration. RC78 inverted this, making security a part of the administrative flow.

- **Mandatory Advance Mapping:** The logistics team did not just accept security routes; they required advance route mapping discussions involving Police and Highway Security. This allowed the health team to align their schedules with security realities.
- **Pre-Vetted Clearance:** Instead of reactive, on-site security checks which cause delays, the team utilized pre-cleared access lists and WHO-standardized IDs. This shifted the security burden to the "pre-event" phase, allowing the event itself to run smoothly.

The "Policy Compliance Gate": The Liaison as Strategist

Usually, Liaison Officers act as "concierges," handling logistics for VIPs. In RC78, this role was elevated to "Strategic Gatekeeper."

- The Mechanism: The administrative team established a "Policy Compliance Gate." The liaison team was mandated to filter requests and schedule working hand in hand among liaison officers appointed by the Ministry of Health and the World Health Organization Country Office.
- The Shift: If a meeting or visit did not advance the Ministry's policy goals (like the Colombo Declaration), it was deprioritized. This transformed the Liaison function from a logistical support role into a strategic administrative unit.

Conclusion: A Blueprint for Institutionalization

The successful hosting of the 78th RC provides the Ministry of Health with a unique, high-yield opportunity. We have proved we can operate at a world-class level during a crisis or a high-stakes event. The challenge now is to make this "exceptional" performance routine."

The core lesson is that organizational resilience is not an accident; it is a design choice. It flows from empowered, adaptive, and disciplined administration.

Policy Mandates for Institutionalization

To ensure the institutional memory of RC78 is not lost, we propose the following concrete mandates:

1. Mandate Health Diplomacy Training: Immediate integration of a "Health Diplomacy Protocol" module into the training for Medical Administrators and Community Medicine trainees.
2. Formalize VVIP Crisis Protocols: The DDG-Planning's office must lead the creation of a Standing Order: "VVIP Protocol for Diplomatic Health Events," institutionalizing the "Budgetary Agility" and "Security Fusion" models.
3. Harness the Medical Humanities Mandate: The DDG-ETR must actively secure dedicated funding to implement the Medical Humanities Resolution, positioning administrative leadership as a central agent of cultural change.
4. Create a Standing "Health Diplomacy Crisis Roster": Establish a pre-vetted roster of administrators and coordinating officers from the MoH, MoFA, and Police/MSD who excelled during RC78. This creates a "Rapid Response Team" for future high-stakes events.

References

1. World Health Organization. Provisional Agenda: Seventy-eighth Session of the WHO Regional Committee for South-East Asia. New Delhi: WHO Regional Office for South-East Asia; 2025. Document No.: SEA/RC78/1.
2. World Health Organization. Colombo Declaration on Healthy Ageing through strengthened primary health care. New Delhi: WHO Regional Office for South-East Asia; 2025. Document No.: SEA/RC78/Dec. 1.
3. World Health Organization. Resolution on Strengthening health emergency preparedness and response in the South-East Asia Region (SEARHEF 2.0). New Delhi: WHO Regional Office for South-East Asia; 2025. Document No.: SEA/RC78/R7.
4. World Health Organization. Resolution on Accelerating the fight against antimicrobial resistance in the South-East Asia Region. New Delhi: WHO Regional Office for South-East Asia; 2025. Document No.: SEA/RC78/R8.
5. World Health Organization. Resolution on Regional Strategic Framework for combating smokeless tobacco, novel nicotine products and areca nut. New Delhi: WHO Regional Office for South-East Asia; 2025. Document No.: SEA/RC78/R9.
6. World Health Organization. Resolution on Health humanities in health professional education. New Delhi: WHO Regional Office for South-East Asia; 2025. Document No.: SEA/RC78/R10.
7. World Health Organization. WHO South-East Asia Regional Committee concludes with landmark decisions and commitments to accelerate health for all [Internet]. New Delhi: WHO SEARO; 2025 Oct 15 [cited 2025 Dec 20]. Available from: <https://www.who.int/southeastasia/news/detail/15-10-2025-who-south-east-asia-regional-committee-concludes-with-landmark-decisions-and-commitments-to-accelerate-health-for-all>.
8. World Health Organization Regional Office for South-East Asia. Report of the Seventy-eighth Session of the Regional Committee. New Delhi: WHO-SEARO; 2025.



PERSPECTIVES



From VUCA to BANI: A Dual-Lens Perspective on Resurrecting Sri Lanka's Medical Supply Chain (2023–2025)

Dias WDCU^{1*}, Wijewickrama BAO²

*dedunudias.lk@gmail.com

¹Ministry of Health and Mass Media Sri Lanka, ²Post Graduate Institute of Medicine, University of Colombo

Abstract

The Medical Supplies Division (MSD) of Sri Lanka acts as the logistical heartbeat of the nation's universal health coverage. However, between 2023 and 2024, this heart nearly stopped beating, subjected to an existential stress test driven by a sovereign debt crisis and deep-seated systemic fragilities. While the VUCA (Volatility, Uncertainty, Complexity, Ambiguity) framework provides a traditional lens for such disruptions, this perspective article argues that the severity of the Sri Lankan experience necessitates a more modern, post-pandemic framework: BANI (Brittle, Anxious, Nonlinear, Incomprehensible). Drawing on the direct operational experience of the MSD directorate, we dissect how a monolithic reliance on the State Pharmaceuticals Corporation rendered the supply chain Brittle, while legal controversies surrounding falsified medicines paralyzed decision-making with Anxiety. We further explore how the premature deployment of the 'Swastha' digital system created an Incomprehensible data landscape. Finally, we detail the strategic roadmap—anchored by the "90/90/1 Rule" and a focus on human resource resilience—that allowed the MSD to successfully finalize 2026 procurement orders by January 2025. This paper posits that surviving such crises requires shifting from reactive firefighting to "antifragile" system design.

Introduction

For decades, the Medical Supplies Division (MSD) of the Ministry of Health has operated as the foundational entity ensuring the equitable provision of pharmaceuticals and surgical consumables across Sri Lanka. Its mandate is vast, supplying everything from basic analgesics to radioactive isotopes for cancer care. Under normal circumstances, the MSD navigates the typical friction of a developing nation's supply chain. However, the period spanning 2023 to 2024 was not "normal" by any metric. It was a perfect storm that threatened the Ministry's vision of universal health coverage.

The immediate catalyst is well-known: the national economic crisis [1]. The evaporation of foreign currency reserves crippled the import-dependent healthcare sector, extending procurement timelines from a manageable 11 months to an indefinite horizon. Yet, to attribute the breakdown solely to economics is a comforting but incomplete fiction. The crisis acted as a contrast dye, revealing long-standing structural fractures: opaque procurement pathways, the absence of an integrated digital ecosystem, and the weakening of peripheral management structures like Hospital Drugs and Therapeutics Committees (DTCs).

As administrators governing this division, we found that traditional management theories were insufficient to navigate this chaos. The standard VUCA framework (Volatility, Uncertainty, Complexity, Ambiguity) accurately described the *external* economic environment [2], but it failed to capture the *internal* systemic collapse and the psychological toll on our workforce. To truly

understand the "anatomy of the crash" and the subsequent recovery, we must apply a dual-lens approach. We overlay the VUCA framework with the darker, more nuanced BANI framework (Brittle, Anxious, Nonlinear, Incomprehensible) to provide a comprehensive autopsy of the crisis and a blueprint for the resilience that followed [3].

The External Environment: A VUCA Storm

The macroeconomic landscape of 2023–2024 was a textbook manifestation of a VUCA environment, battering the MSD from the outside.

Volatility was defined by the precipitous fluctuation of resources. Foreign exchange did not just become scarce; its availability became erratic. A Letter of Credit (LC) approved on Monday might be rejected by Friday due to currency shifts. This volatility shattered the standard procurement cycle, forcing us into a reactive mode where "emergency procurement"—often at higher costs and with higher quality risks—became the default rather than the exception.

Uncertainty dismantled our forecasting capabilities. In a stable system, historical consumption predicts future demand. However, the economic crisis shifted patient behaviors; patients who typically sought private care flocked to the free state sector, spiking demand in unpredictable ways. Simultaneously, the uncertainty of international shipping routes and supplier solvency made it nearly impossible to predict *when*—or *if*—a consignment would arrive.

Complexity arose from the tangled web of stakeholders. The MSD is merely one node in a network involving the National Medicines Regulatory Authority (NMRA), the State Pharmaceuticals Corporation (SPC), and hundreds of hospital units. Operational inefficiencies in one area—such as a backlog in NMRA registration dossiers due to manual processing—cascaded through the system. A delay in registration meant a delay in tendering, which meant a delay in ordering, amplifying the "bullwhip effect" until it hit the patient as a shortage.

Ambiguity was the fog of war. Without a unified digital backbone, we lacked a "single source of truth." Conflicting reports would surface: a hospital might claim a stock-out while the central warehouse system showed availability. This ambiguity obscured accountability. Was a shortage caused by a supplier failure, a funding delay, or a distribution error? In the absence of real-time data, the root causes remained hidden, leading to a culture of blame rather than resolution.

The Internal Reality: A BANI Breakdown

While VUCA describes the storm, the BANI framework—coined by Jamais Cascio as a successor to VUCA—describes how the ship began to crack. The internal reality of the MSD during this period transitioned from complex to chaotic.

1. Brittle: The Illusion of Strength

A brittle system looks solid on the surface but lacks the elasticity to bend under stress; instead, it shatters. For years, the Sri Lankan medical supply chain appeared robust because of its established, monolithic reliance on the State Pharmaceuticals Corporation (SPC). This single-channel procurement was efficient in peacetime but fatal in a crisis [4]. When the SPC faced credit blockades due to the country's sovereign rating downgrade, the MSD had no diversified "Plan B." We could not easily pivot to other suppliers or procurement methods because the system was designed for a single pathway. This singular dependence revealed the inherent brittleness of our architecture; when the SPC stalled, the entire nation's supply chain fractured.

2. Anxious: The Paralysis of Decision Making

Anxiety in the BANI context is not just stress; it is the fear that *any* decision you make will be the wrong one, leading to passivity. This was palpably felt within the MSD corridors, exacerbated significantly by the legal and ethical firestorm surrounding the falsified medicines scandal (notably the Human Immunoglobulin incident). This event resulted in high-profile legal actions and cast a shadow of suspicion over the entire

procurement apparatus. The result was a crippling "decision paralysis"[5]. Technical Evaluation Committees (TECs) and procurement officers, fearing future litigation or audit queries, hesitated to sign off on tenders. Routine approvals that once took days dragged into weeks as staff sought excessive assurances. In supply chain logistics, speed is life; this anxiety-induced stagnation delayed life-saving drugs just as effectively as a funding cut.

3. Nonlinear: The Disproportionate Disconnect

In a nonlinear world, cause and effect are disjointed. Small actions can trigger massive disasters, and massive efforts can yield zero results. We observed this clearly in inventory fluctuations. The disconnect between "ordering" and "receiving" became extreme. A minor delay in opening an LC for a raw material could halt local production entirely, leading to a critical stock-out. Conversely, panic-driven emergency orders placed months prior would suddenly arrive all at once, overlapping with late standard shipments, pushing items from "zero stock" to "expiry risk" in a matter of weeks. This nonlinearity made the standard re-order formulas in the *Manual of Management of Drugs* (MoMD) temporarily irrelevant.

4. Incomprehensible: The Fog of Data

We try to find answers in data, but in a BANI world, more data often creates more confusion. A prime example was the rollout of the 'Swastha' information management system. The intent—digitization—was correct. However, introducing a complex, nascent software platform into an already volatile environment created an "incomprehensible" operational picture [6]. Staff who were already exhausted by manual firefighting were suddenly navigating a system with teething issues. Data entry errors and integration gaps meant that digital dashboards often contradicted the physical stock in the warehouse. Instead of providing clarity, the early phase of Swastha added a layer of "digital fog," making it difficult for decision-makers to comprehend the true status of national inventory.

Strategic Interventions: From Survival to Resurrection

Recognizing that we were trapped in a BANI cycle, the MSD directorate, in conjunction with the Ministry of Health, initiated a series of strategic pivots. We realized that we could not "manage" our way out of this with standard tools; we had to engineer resilience.

1. Breaking the Paralysis: The "90/90/1 Rule"

To shatter the anxiety and inertia, we adopted a disciplined management philosophy adapted from the "90/90/1 Rule"[7].

- **The Concept:** For the next 90 days, the first 90 minutes of the workday are dedicated exclusively to the single most critical goal (the "1").
- **The Execution:** We identified that the "1" was the procurement backlog. Senior administrators and procurement teams instituted a "protected time" block each morning. During this window, no routine administrative clutter was allowed—only the unblocking of tenders, the signing of estimates, and the fast-tracking of approvals.
- **The Outcome:** This focused burst of energy broke the deadlock. By January 2025, the MSD achieved a historical milestone: we released *all* SPC orders for the procurement year 2026. This was done exactly in accordance with the Manual of Management of Drugs timelines—a feat of planning that had been impossible just two years prior. It proved that even a brittle system could be jump-started with disciplined focus.

2. Addressing Complexity: SOP Harmonization and Delegation

To tackle the complexity of the stakeholder web, we moved to streamline the "rules of engagement." We developed and updated internal Standard Operating Procedures (SOPs) and, crucially, worked to harmonize them with the NMRA and SPC. This reduced the friction at the handover points between agencies. Furthermore, we enforced a clear Delegation of Duties. By explicitly defining which officer was responsible for which specific file or tender, we removed the ambiguity of accountability. This was not about policing staff, but about empowering them to own their slice of the supply chain.

3. Restoring the Human Element: Welfare as Strategy

Perhaps the most distinct deviation from traditional crisis management was our focus on the workforce [8]. We recognized that an "Anxious" system is made of anxious people. We invested in Staff Welfare Strengthening. This included reintroducing social outings, team gatherings, and structured team-building exercises. While seemingly trivial in the face of a drug shortage, these interventions were vital. They rebuilt the "psychological safety" of the team. By restoring interpersonal trust, we reduced the fear of decision-making. A team that feels supported is less likely to succumb to paralysis. This "soft power"

strategy was a key driver in the productivity surge that met the 2026 targets.

4. Moving to Radical Transparency

To solve the "Incomprehensible" data landscape, we doubled down on the digital transformation—but with a focus on usability. We moved to integrate the Swastha system more robustly, ensuring that it provided real-time visibility into stock levels, tender statuses, and distribution movements. We also revitalized the reporting mechanisms, encouraging informal "early warning" channels (e.g., direct feedback from hospital pharmacists) alongside formal reports. This allowed us to triangulate data and see through the fog.

The Way Forward: Towards Antifragility

The stabilization achieved by early 2025 is a victory, but it is fragile. To ensure the MSD does not slide back when the next crisis hits, we must institutionalize these changes. The future lies in Comprehensive Digitization and Diversification. We must transition from a "Brittle" single-supplier model to a diversified sourcing strategy, fostering local manufacturing to create supply buffers. The *Manual of Management of Drugs* must evolve from a static text to a dynamic digital platform, capable of updating guidelines instantly as the environment changes.

Conclusion

The crisis of 2023-2024 was a crucible for Sri Lanka's Medical Supplies Division. Viewed through the VUCA lens, it was a logistical nightmare; viewed through the BANI lens, it was a systemic and psychological fracture. However, the resurrection of the supply chain proves that recovery is possible. It requires leadership that is willing to apply rigid discipline (the 90/90/1 rule) to processes, while simultaneously applying empathy to the people who run them. We have moved from a state of paralysis to a state of proactive planning. The ultimate goal now is not just to survive, but to build a system that is "Antifragile"—one that gets stronger, not weaker, under pressure.

References

1. Epidemiology Unit, Ministry of Health, Sri Lanka. The impact of the economic crisis on health systems. *Quarterly Epidemiological Bulletin*. 2023;50(3).
2. Bennett N, Lemoine GJ. What a difference a word makes: Understanding threats to performance in a VUCA world. *Business Horizons*. 2014;57(3):311-17.
3. Cascio J. Facing the Age of Chaos. *Medium*. 2020. Available from: <https://medium.com/@cascio/facing-the-age-of-chaos-b00687b1f51d> [Accessed 20th Dec 2025].
4. Sri Lanka Association of Clinical Pharmacology and Therapeutics. Challenges and barriers for effective supply of medicines to the state sector

- and recommendations to the Ministry of Health Sri Lanka. Colombo: SLACPT; 2023.
5. Wickremasinghe S, Dias R. Effective communication strategies in crisis management for public health organizations. *Sri Lanka J Med Admin.* 2024;7(1):34–45.
 6. Kumar S, Singh RK. Blockchain Technology in Pharmaceutical Supply Chain Management: A Review. *J Med Syst.* 2023;47(1):1–15.
 7. Sharma R. The 5 AM Club: Own Your Morning. Elevate Your Life. New York: HarperCollins; 2018.
 8. World Health Organization. Exploring workforce health and resilience in supply chains. Geneva: WHO; 2025.



Ensuring Tertiary Care Services to All: A Strategic Approach in the Socio-economic Context of Sri Lanka

Panapitiya PWC^{1*}, Wijewickrama BAO²

*lalpanapitiya@gmail.com

¹Ministry of Health and Mass Media Sri Lanka, ²Post Graduate Institute of Medicine, University of Colombo

Abstract

Sri Lanka's health system is internationally recognized for achieving impressive health indicators at a relatively low cost, a testament to its robust primary and secondary healthcare networks. However, a significant challenge remains in ensuring equitable access to high-cost, technology-intensive tertiary care services, which are often concentrated in major urban centers. This disparity poses a barrier to the nation's commitment to Universal Health Coverage (UHC). This perspective article analyzes existing frameworks and proposals within the Sri Lankan health system to outline a strategic approach for decentralizing and democratizing tertiary care. We argue that instead of replicating high-cost infrastructure, Sri Lanka can adopt a more sustainable and efficient model based on networked resources, digital integration, and strengthened care pathways. Key strategies explored include the development of "hub-and-spoke" models for high-technology services like cardiology and oncology, where district-level resources are shared among multiple institutions to maximize utilization. Furthermore, we examine the critical role of telemedicine and digital platforms in extending specialized expertise in fields like emergency medicine, community paediatrics, and mental health to peripheral settings. The National Organ Donor Coordination Programme is presented as a case study in effective, resource-conscious national coordination. The article concludes that by integrating these strategies—underpinned by robust Health Technology Assessment—Sri Lanka can create a resilient, equitable, and economically viable model for tertiary care delivery that aligns with its socio-economic context and reinforces its commitment to health for all.

Key Words: Tertiary Care, Universal Health Coverage (UHC), Health Service Delivery, Sri Lanka, Telemedicine, Networked Resources, Integrated Care

Introduction

The Democratic Socialist Republic of Sri Lanka has long been a paradigm of effective public health policy, achieving health indicators comparable to developed nations despite modest economic investment [1, 2]. This success is largely attributed to a foundational commitment to free health and education, resulting in a well-established network of primary and secondary curative and preventive health institutions accessible to the majority of the population. The country's health system is structured with a decentralized service delivery model through nine Provincial Ministries of Health, while the central Ministry of Health provides stewardship and manages major tertiary and specialized institutions.

Despite these strengths, a critical challenge persists: the inequitable distribution of tertiary care services [3]. Tertiary care, which involves specialized consultative healthcare, usually for inpatients and on referral from a primary or secondary health professional, relies on advanced medical technology and highly specialized personnel. Consequently, services such as advanced cardiac interventions, radiotherapy, complex diagnostic imaging, and sub-specialty paediatric and psychiatric care have traditionally been concentrated in national and teaching hospitals in major cities. This centralization creates significant geographical and financial

barriers for a large portion of the population, undermining the core principle of Universal Health Coverage (UHC), which aims to ensure all people have access to quality health services without suffering financial hardship.

The conventional solution of replicating comprehensive tertiary care centers in every district is not financially viable within Sri Lanka's low-cost, resource-conscious model. Therefore, a more strategic, innovative, and integrated approach is required. This review article aims to analyze and synthesize various proposals and existing frameworks within the Sri Lankan health system to formulate a cohesive strategy for extending tertiary care services to all citizens. We will explore models based on networked resources, the strategic use of digital health platforms, the strengthening of care pathways, and national coordination programs that maximize efficiency while upholding quality and equity.

The Foundational Strategy: Integrating the Care Pyramid

Before tertiary services can be effectively decentralized, the entire care pyramid must be strengthened to manage patient loads appropriately. The current system is often characterized by the underutilization of Primary Health Care (PHC) institutions and concurrent

overcrowding of secondary and tertiary care centres. A key strategy to alleviate the burden on tertiary care is to empower PHC and secondary care institutions to manage conditions effectively, ensuring that only the most complex cases are referred upwards [4].

This is achievable through an Integrated Care Services (ICS) model, which aims to provide comprehensive and coordinated care across different healthcare settings and disciplines. The establishment of Family Medical Clinics within PHC institutions, staffed by trained medical officers and supervised by Family Medicine specialists, serves as the cornerstone of this model [5, 6]. These clinics would manage the long-term follow-up of uncomplicated non-communicable diseases (NCDs) and other chronic conditions, which currently consume a significant portion of tertiary clinic resources.

A robust, formal referral and back-referral mechanism is critical to this integration. Patients identified at the primary level requiring specialist assessment would be referred to the designated "Apex" secondary or tertiary hospital within their cluster. Crucially, once stabilized, these patients would be referred back to their local Family Medical Clinic/ primary medical care unit for continued management, with clear communication and shared care protocols. This not only ensures continuity of care but also reserves specialist time at tertiary centers for complex cases, reducing waiting lists and improving overall efficiency. This process of step-down care is extremely useful for the elderly and those with disabilities where services could be extended to home based care and community-based rehabilitation provided by skilled staff under the supervision of the specialists at tertiary care services.

A Hub-and-Spoke Model for High-Technology Services

For capital-intensive diagnostic and therapeutic services, a "hub-and-spoke" or networked resource model is the most pragmatic approach for a low-resource setting [7]. This involves establishing advanced facilities at a central "hub" institution within a district or region, which then serves multiple "spoke" hospitals.

This model will ensure access to all while curtailing the costs incurred. It also an important mechanism to ensure that Specialist within the district do not have a loss of skills due to non-usage where the specialists can be given time slots to practice at the specialized hub to cater to the patients of his/her catchment area.

Cardiology and Radiology

Cardiovascular diseases are a leading cause of morbidity and mortality. While cardiologists may be posted at multiple District General and Base Hospitals, access to interventional facilities like

Cardiac Catheterization Laboratories (Cath Labs) is limited. A strategic approach involves establishing a single, fully equipped Cath Lab at a designated tertiary or secondary hospital within a district. This shared resource could then be utilized by all consultant cardiologists in the region on a rotational basis, with dedicated time slots. This model maximizes the return on investment for the expensive equipment, ensures a high case volume to maintain staff expertise, and provides equitable access for patients across the district without the need for long-distance travel to a national hospital.

The same principle applies to advanced radiological services. The proposal to equip each district with a CT scanner and each province with an MRI scanner is a significant step towards equitable access. These units, placed strategically, can serve a network of surrounding hospitals, which can refer patients for scans, with results transmitted digitally for interpretation by radiologists.

Oncology

Cancer management often requires radiotherapy, a highly specialized and capital-intensive service. Centralizing radiotherapy units at key provincial or district-level oncology centers creates hubs of expertise. Patients from surrounding areas can be referred to these centers for their treatment course. This model ensures that expensive linear accelerators and planning systems are used to their full capacity and that care is delivered by experienced, specialized teams, which is critical for safety and efficacy in radiation oncology.

Laboratory Specialties

With the constant developments and upgrading of the technology and scientific knowledge of the laboratory specialties, including Hematology, Microbiology, Chemical Pathology and Histopathology as well as the more focused areas of Virology, Mycology, Parasitology and Immunology it is recommended to develop a central lab at District General Hospital level to cater to the needs of the District is accessible to all the relevant Consultants placed within the district.

Extending Specialized Expertise through Digital Health

The most significant barrier to accessing tertiary care is often the scarcity of specialized human resources. Digital health and telemedicine offer a powerful, cost-effective solution to bridge this expertise gap, projecting the knowledge of tertiary-level specialists into peripheral settings.

Strengthening Emergency Care

A major focus has been on the strengthening of Emergency Treatment Units (ETUs) at the PHC

level to serve as the first contact point for emergencies. However, medical officers at this level often face complex cases requiring immediate specialist input.

Telemedicine integration is a revolutionary solution, enabling a direct link between a medical officer in a rural ETU and an Emergency Physician or relevant specialist at a tertiary center [8, 9]. Through a video call, the specialist can guide the initial resuscitation, interpret an ECG, or advise on stabilizing a patient for transfer. This "tele-consultation" can prevent the three critical delays in emergency management: the delay in deciding to seek care, the delay in reaching care, and the delay in receiving *adequate* care [10]. This model reduces unnecessary and risky inter-hospital transfers and ensures that life-saving interventions begin within the "golden hour".

Specialized Child Health and Mental Health Services

Sub-specialties like Community Paediatrics and Child and Adolescent Psychiatry are crucial for managing developmental disorders and complex mental health issues in children, but specialists are few and centrally located. The proposed model for Community Pediatric Services exemplifies a functional hub-and-spoke system enhanced by technology. A tertiary-level Community Pediatrician based at a district general/teaching center would conduct diagnostic and assessment clinics for referrals from a wide network of Medical Officer of Health areas, schools, and primary care doctors.

Crucially, follow-up care can be decentralized to peripheral clinics closer to the child's home. The specialist can support these peripheral centers through a combination of physical visiting clinics and tele-consultative sessions to review progress with local medical officers, therapists, and families. This tiered system ensures that specialized tertiary assessment is available to all, while the long-term management is integrated into the community, reducing the travel burden on families and promoting continuity of care. A similar model can be applied to mental health services, linking tertiary-level psychiatrists with community mental health teams and primary care physicians through digital platforms, supplemented by existing resources like the 1926 mental health hotline.

"Healthnet" to monitor the needs

A systematic reporting system of requirement technology, equipment, human resources on the centralized platformed that can be monitored at each level of governance is also critical. This would allow policy makers at the central and provincial level to make decisions based on real time updated data and allow rational usage of resources.

A National Model for Coordination: The Organ Donor Programme

The National Transplant Programme represents another facet of tertiary care—one that depends less on physical infrastructure and more on sophisticated coordination, public awareness, and a robust legal and ethical framework [11]. Strengthening this program to suit Sri Lanka's resources involves creating a centralized coordination system that can efficiently manage the process from donor identification to organ retrieval and allocation [12].

This involves training transplant coordinators in major hospitals, establishing a national donor registry, and streamlining communication between ICUs across the country. A key, low-cost innovation is the proposal to integrate organ donor status into national documents like the driving license, which can significantly increase donor identification rates. This program serves as an excellent case study of a highly specialized tertiary service that can be made more effective not through massive capital investment, but through intelligent system design, process optimization, and public engagement.

The Role of Health Technology Assessment (HTA)

Underpinning all decisions related to the expansion of tertiary care in a low-resource setting must be a rigorous process of Health Technology Assessment (HTA) [13]. The proposal to establish a dedicated HTA and Improvement Unit is a critical step towards ensuring that investments are strategic and sustainable [14]. This unit would be responsible for scientifically evaluating new and existing technologies, projects, and proposals for their cost-effectiveness and benefit-for-cost. By providing evidence-based guidance, the HTA unit would ensure that decisions to procure expensive equipment like MRI machines or to establish new specialized units are based on actual need and proven value, preventing wasteful expenditure and ensuring that resources are allocated for maximum impact on public health.

Discussion

The challenge of providing equitable tertiary care in Sri Lanka is not insurmountable. The solution lies not in abandoning the country's successful low-cost public health model, but in adapting it with strategic innovation. The models reviewed here—networked resources, digital health integration, strengthened care pathways, and national coordination—collectively form a blueprint for a more equitable and efficient system. This approach moves away from a paradigm of "building more" to one of "connecting better."

By creating shared-resource hubs for technology-intensive services, the system can achieve economies of scale and ensure high utilization rates. By leveraging telemedicine, the system can "transport" expertise, not just patients, overcoming geographical barriers and empowering healthcare providers at the primary and secondary levels. By strengthening the entire care pyramid and implementing formal referral pathways, the system ensures that tertiary centers can focus on their core mandate: managing the most complex and critical cases.

However, the implementation of these strategies is not without challenges. It requires robust governance and coordination between central and provincial health authorities. Significant investment is needed in digital infrastructure, including reliable internet connectivity in rural areas. Furthermore, it necessitates a cultural shift among both healthcare providers and patients, fostering trust in peripheral centers and embracing new models of care delivery. Continuous professional development is essential to equip staff at all levels with the skills needed to function within this integrated system.

Conclusion

Ensuring equitable access to tertiary care is the next frontier for Sri Lanka's health system in its journey towards comprehensive Universal Health Coverage. The country's socio-economic context demands a strategy that is intelligent, integrated, and innovative rather than merely capital-intensive. By strategically networking high-technology resources, extending specialist expertise through digital platforms, strengthening the entire continuum of care, and making evidence-based investment decisions through Health Technology Assessment, Sri Lanka can successfully deliver advanced healthcare to all its citizens. This approach not only promises better health outcomes but also provides a sustainable and resilient model for other developing nations striving to achieve similar goals.

References

1. Halstead SB, Walsh JA, Warren KS. Good health at low cost. Proceedings of a conference held at the Bellagio Conference Center, Italy. New York: The Rockefeller Foundation; 1985.
2. Balabanova D, Mills A, Conteh L, et al. Good Health at Low Cost 25 years on: lessons for the future of health systems strengthening. *Lancet*. 2013;381(9883):2118-33.
3. Weerasinghe MC, Konara P. Evaluating spatial access to primary care and health disparities in a rural district of Sri Lanka. *PLOS Glob Public Health*. 2024;4(2): e0002891.
4. Ministry of Health, Nutrition and Indigenous Medicine. Reorganizing Primary Health Care in Sri Lanka: Preserving Our Progress, Preparing for Our Future. Colombo: Ministry of Health; 2018.
5. Perera S. Primary health care reforms in Sri Lanka: aiming at preserving universal access and ensuring effective coverage of good quality care. *WHO South-East Asia J Public Health*. 2012;1(2):118-30.
6. Asian Development Bank. Sri Lanka: Health System Enhancement Project. Report No. 51107-002. Manila: Asian Development Bank; 2018.
7. Elrod JK, Fortenberry JL Jr. The hub-and-spoke organization design: an avenue for serving patients well. *BMC Health Serv Res*. 2017;17(Suppl 1):457.
8. Kulatunga GG, Hewapathirana R, Marasinghe RB. A review of Telehealth practices in Sri Lanka in the context of the COVID-19 pandemic. *Sri Lanka J Biomed Inform*. 2020;11(1):8-15.
9. Haniffa R, De Silva AP, Beane A, et al. An Innovative Telemedicine Initiative from Sri Lanka: The Value of Volunteerism in a Resource-Constrained Scenario. *Asia Pac J Public Health*. 2022;34(5):560-563.
10. Thaddeus S, Maine D. Too far to walk maternal mortality in context. *Soc Sci Med*. 1994;38(8):1091-110.
11. De Silva NIL, Gunawardena K, Gunawardena N, et al. Deceased Donor Organ Donation in a Developing Country: An Early Experience in a Tertiary Care Center in Sri Lanka. *Transplantation*. 2017;101: S52.
12. Wijerathne B, Dassanayake V. Brainstem Death and Organ Donation. *Sri Lanka J Anaesthesiol*. 2009;17(2):95-98.
13. Abeysena C. Health Technology Assessment (HTA) and health policy making: a narrative review. *J Coll Community Physicians Sri Lanka*. 2020;26(1):1-8.
14. World Health Organization. Health technology assessment survey 2015: global, regional and country reports. Geneva: World Health Organization; 2017.



Understanding the Sri Lankan Patient Psyche and Health Pluralism — A Strategic Imperative for Health System Leaders

Nandasena S^{1*}, Wijewickrama BAO², Samarakoon MAS³

*sumalnandasena@gmail.com

¹Provincial Directorate of Health Services – Western Province, ²Post Graduate Institute of Medicine, University of Colombo, ³Ministry of Health and Mass Media, Sri Lanka

Abstract

The Sri Lankan government healthcare system is currently facing a "double burden" of disease and a demographic shift that threatens to overwhelm its capacity. While the system is technically robust, it faces mounting pressure from complex patient health-seeking behaviours that often appear irrational to the biomedical administrator. This perspective article argues that medical administrators and policymakers must look beyond the formal allopathic health system to understand the deep-rooted sociocultural factors—or the "patient psyche"—that govern decision-making. We synthesize recent evidence, including the 2025 "Ecology of Healthcare" study in Gampaha, through the lens of Arthur Kleinman's framework of health pluralism. Evidence suggests that while symptom prevalence in the community is high (93%), only a minority (45%) seek professional care, with a distinct preference for private services for outpatient interactions despite the availability of free state care. This reveals a patient who acts as a savvy consumer, balancing free allopathic care with traditional systems and a willingness to pay for a "humane" experience. We conclude by offering strategic imperatives for health leaders: to humanize the patient experience, to engage openly with medical pluralism for safety, and to invest in "digital listening" to build a people-centric health system that survives the challenges of the next decade.

Key Words: health pluralism, health-seeking behaviour, patient experience, Sri Lanka, health administration

Introduction

The Sri Lankan health system has long been the envy of the developing world. Built on a foundation of universal free access, it has achieved indicators in maternal and child mortality that rival high-income nations. Yet, for the modern medical administrator sitting in a Provincial Directorate or a hospital boardroom, these historical accolades offer little comfort against the daily reality of the present. Our Out-Patient Departments (OPDs) are not just busy; they are besieged. The increasing burden of NCDs suggests that demand for outpatient care will continue to rise, further straining an already congested system [1].

However, the "crowded OPD" is only one visible symptom of a much more complex ecosystem. We often observe behaviours that seem puzzling from a purely logistical standpoint. Why do patients bypass a functional Primary Medical Care Unit (PMCU) to wait six hours at a Tertiary Hospital for a simple fever? Why do low-income earners, who can barely afford daily essentials, bypass the free government dispensary next door to pay 1500 rupees at a private GP practice? And perhaps most critically, why do our patients nod compliantly when we prescribe antihypertensives, only to go home and secretly supplement them with herbal decoctions (*kasaya*) suggested by a neighbour?

These behaviours are not "irrational." They are the logical outcomes of a decision-making process deeply embedded in Sri Lanka's unique sociocultural fabric [2]. For too long, health administration in Sri Lanka has been "facility-

centric"—focused on beds, drugs, and cadres. We have largely ignored the "person-centric" reality: the complex psychological and cultural journey the patient takes before they ever step foot in our institutions.

This perspective article synthesizes recent evidence on health-seeking behaviour to argue that a profound understanding of **health pluralism** is no longer an academic exercise for sociologists. It is a core competency for modern health administration. By applying Arthur Kleinman's explanatory models [3] to recent local data, we can chart a roadmap for a health service that is not only clinically efficient but culturally resonant.

A System in Transition: The Mismatch

Before dissecting the patient's psyche, we must contextualize the arena in which they seek care. Sri Lanka is grappling with a difficult "double burden." On one hand, the tide of non-communicable diseases (NCDs)—diabetes, hypertension, ischaemic heart disease—has become the primary driver of morbidity and mortality [4]. On the other hand, the threat of infectious diseases like dengue requires unwavering vigilance.

Simultaneously, our successes in Maternal and Child Health (MCH) have birthed a new challenge: a rapidly ageing population. We have reached a fundamental architectural mismatch. The Sri Lankan health system was designed for the 20th century—to treat acute infections and deliver babies. It is an episodic care model. However, the

21st-century patient suffers from chronic conditions requiring lifelong management, lifestyle modification, and sustained engagement.

Continuing to operate this outdated framework is financially unsustainable. We are trying to manage 2025's problems with 1980's tools. The imperative for today's health leader is to ask: *How do we adapt?* The answer lies not just in new buildings, but in a new philosophy that understands where our patients actually are.

The Three Sectors of Health: A Sri Lankan Lens

To comprehend the patient's journey, we must accept a humbling truth: the hospital is often the last stop, not the first. Kleinman's model postulates that healthcare in any society is a composite of three overlapping sectors: the **Popular**, the **Folk**, and the **Professional** [3].

1. The Popular Sector: The "Hidden" Giant

This is the lay, non-professional domain consisting of the individual, the family, and the community. It is the largest and most influential sector, yet it appears in almost no Ministry of Health annual reports. In Sri Lanka, the "popular sector" is where the diagnosis is actually made. When a child develops a fever, it is the grandmother who decides if it is "heatiness" (*ushna*) requiring a cooling food, or "illness" requiring a doctor. Today, this sector has been supercharged by technology. The "village well" has been replaced by the WhatsApp group. A patient entering our OPD today has likely already consulted "Dr. Google" or seen a Facebook post about the side effects of statins. This digital layer provides unprecedented access to information (and misinformation), empowering patients but creating friction with providers who are used to unquestioned authority.

2. The Folk Sector: The Enduring Role of Tradition

This sector comprises traditional healers, religious rituals, and spiritual interventions. In many Western nations, this is a fringe alternative. In Sri Lanka, it is a parallel mainstream [5]. Concepts of *Deshiya Chikithsa* and Ayurveda are woven into the national consciousness. It is not uncommon for a patient to view a stroke not just as a blood clot (biological) but as a karmic or energetic imbalance. These healers offer something the biomedical consultant often does not: a culturally resonant explanation for *why* the illness happened, and a remedy that feels "natural."

3. The Professional Sector: The Official Silo

This is our domain—the allopathic system and professionalized Ayurveda. It is governed by scientific theory, hierarchy, and legality. A critical disconnect arises when we, as administrators, view this sector as the *only* legitimate source of care [6]. We tend to view the other two sectors as obstacles to be overcome ("ignorant patients" or "quacks"), rather than powerful forces to be engaged with.

What the Data Tells Us: The Savvy Consumer

This theoretical framework is not just abstract philosophy; it is supported by hard data. The recent "Ecology of Healthcare" study by Withana et al. (2025) in the Gampaha district provides a granular snapshot of the modern Sri Lankan patient [1]. The findings are a wake-up call for administrators.

The "Iceberg" of Illness

The study revealed an extremely high sensitization to illness. Over 93% of the population reported at least one symptom over a one-month period. However, of this vast number, only 45.1% sought treatment from a healthcare institution [1]. The majority (54.9%) managed their condition entirely within the **Popular Sector**—through self-treatment, home remedies, or advice from family. This single statistic is vital. It proves that the "Popular Sector" is the primary filter of our health system. If this filter fails—if people stop self-managing minor ailments—our hospitals will collapse within days.

The Vote for "Experience"

For those who did seek professional walk-in care, the data shows a clear preference: 55.7% chose the private sector, compared to 35.7% for the free public sector [1]. Why would a patient in an economic crisis pay for something they can get for free? The literature suggests the decision is not about clinical quality. Studies consistently show that public and private sectors in Sri Lanka perform similarly on technical clinical quality [7]. The difference lies in the **non-clinical experience**. Patients in the private sector receive longer consultations, more explanations, and higher interpersonal satisfaction [8]. They are paying for dignity. They are paying to be listened to. In the public sector, the "price" is free, but the "cost" is often long wait times and a perceived lack of empathy from overworked staff.

The Inpatient Reversal

However, the data reveals a fascinating reversal when the illness becomes serious. Over 91% of hospital admissions were to public hospitals [1]. This reveals a highly pragmatic, savvy patient psyche. They prefer the private sector for the convenience and comfort of minor outpatient care,

but they implicitly trust the state sector for serious, high-tech, inpatient treatment. They know the state has the best specialists and equipment. They just don't like the "front door" experience.

Strategic Imperatives for the Modern Administrator

Understanding this psyche changes the job description of the medical administrator. We can no longer be mere logisticians of medicine; we must be designers of care systems.

1. Compete on Experience, Not Just Price

The exodus of outpatient care to the private sector is a market signal we cannot ignore. It is a critique of our service delivery model. While we cannot easily reduce patient numbers, we can innovate the **process**. Administrators must champion low-cost, high-impact interventions.

- *Queue Management*: Why must patients stand in physical lines for hours? Digital token systems or simple tiered seating can reduce the physical strain of waiting
- *Frontline Soft Skills*: The security guard and the admission clerk are the "face" of the hospital. Investing in their training—teaching them to de-escalate anxiety with empathy rather than authority—can do more for patient satisfaction than buying a new MRI machine.
- *Dignity by Design*: Simple changes, like ensuring privacy screens are actually used and that doctors introduce themselves, re-establish the human connection that patients crave.

2. Operationalize Pluralism for Safety

Ignoring the "Folk Sector" is dangerous. We know patients use traditional remedies alongside western drugs. A patient on Warfarin may be taking a herbal decoction that increases bleeding risk, but they will never tell their consultant because they fear being scolded. We must move from a policy of "don't ask, don't tell" to one of open dialogue. Administrators should train clinicians to ask a simple, non-judgmental question: *"What other remedies or supplements are you using for this condition?"* The goal is not to endorse unproven therapies, but to ensure patient safety. By acknowledging the patient's pluralistic reality, we build trust. When a doctor says, *"I understand you want to take the herbal medicine, but please stop it for three days while we give this antibiotic so they don't react,"* the patient is likely to comply. If the doctor simply says *"Stop all that rubbish,"* the patient will likely stop the antibiotic instead.

3. Rebrand Primary Care: The HLC Opportunity

The data shows that 54% of people self-manage symptoms [1]. This indicates a readiness to use accessible, local care. Yet, our Primary Medical Care Units (PMCU) and

Healthy Lifestyle Centres (HLCs) are often bypassed. We need to reposition the HLCs. Currently, they are viewed as "screening centres" for the sick. They should be rebranded as "Wellness Hubs" for the community—the first trusted point of contact. This requires a shift in hours (opening evenings/weekends for working populations) and a shift in attitude. If primary care can capture the "minor ailments" currently clogging tertiary OPDs, the system efficiency gains would be immense [9].

4. Listen to the "Digital Popular Sector"

Finally, health leaders must enter the 21st century of surveillance. The "Popular Sector" is now online. Administrators should invest in "Digital Listening." This does not require expensive software; it requires a designated officer to monitor public social media chatter, local community groups, and search trends. Are people in the district complaining about a rude staff member? Is there a rumour spreading that the local hospital has run out of insulin? Is there a surge in posts about "fever remedies"? This real-time intelligence allows administrators to be proactive—to issue clarifications, to restock drugs before a panic starts, and to address service gaps before they become newspaper headlines.

The Implementation Gap: A Note on Reality

It is easy to write about "empathy" and "patient-centricity" in a journal; it is much harder to implement it in a peripheral unit with understaffed cadres and limited budgets. Staff burnout is the single biggest barrier to this vision. Asking a medical officer who has worked a 24-hour shift to "smile more" is not leadership; it is disconnect. Therefore, the shift towards a people-centric system must start with staff-centricity. Administrators must ensure that the basic needs of their teams—rest, safety, and recognition—are met. A cared-for staff member is the only one capable of caring for a patient. The "patient experience" and the "employee experience" are mirror images.

Conclusion

The Sri Lankan patient is not a passive recipient of state benevolence. They are active, discerning navigators of a vibrant and complex healthcare marketplace. Their journey is shaped by the wisdom of their grandmothers, the discussions in their WhatsApp groups, and a pragmatic assessment of a dual-track professional system.

To continue providing "good health at low cost" in the face of the NCD tsunami, medical administrators must evolve. We must become sociologists as much as managers. We must realize that our competition is not the private hospital

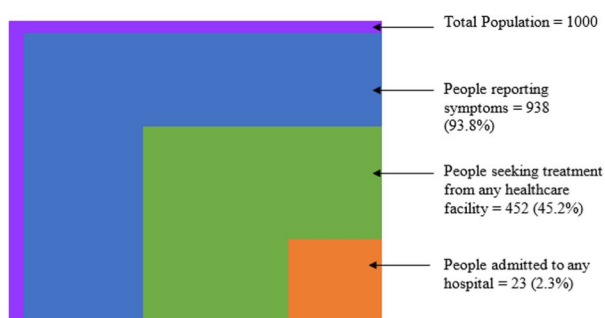


Figure 1: From: Ecology of healthcare in an urban and rural area of Gampaha district of Sri Lanka: a community-based prospective study on symptom prevalence and healthcare utilization

down the road, but the misinformation on a smartphone and the silence of a patient who does not trust us enough to tell the truth.

By understanding the deep-seated psyche of the people we serve, we can build a public healthcare system that is not only clinically excellent but profoundly human. That is the only way to turn the "crowded OPD" from a crisis into a community.

References

1. Withana SS, Mendis K, Liyanage UP, et al. Ecology of healthcare in an urban and rural area of Gampaha district of Sri Lanka: a community-based prospective study on symptom prevalence and healthcare utilization. *BMC Health Services Research*. 2025;25(1):1123.
2. ones M, Liyanage C. Traditional Medicine and Primary Health Care in Sri Lanka: Policy, Perceptions, and Practice. *Asian Review of World Histories*. 2018;6(1):157–184.
3. Kleinman A. Patients and healers in the context of culture: an exploration of the borderland between anthropology, medicine, and psychiatry. Berkeley: University of California Press; 1980
4. Karunarathna U, Dharmagunawardene D, Mediwaka M, Chandrasiri A, Samaraweera S, Hinchcliff R. Improving Health Seeking Behaviour for Non-Communicable Diseases in Sri Lanka through Health Promotion Interventions. *Asia Pacific Journal of Health Management*. 2025;20(2).
5. Ekanayake P R, Wanniarachchi I. Historical Pathway of Medical Pluralism in Sri Lanka. *Akyana Narrations*. 2022;7(2):1-15.
6. Nandasena S. Health care beyond professional health systems: The sociocultural context. *Journal of the College of Community Physicians of Sri Lanka*. 2020;26(1):1-2.
7. Pallegedara A, Grimm M. Demand for private healthcare in a universal public healthcare system:

empirical evidence from Sri Lanka. *Health Policy and Planning*. 2017;32(9):1267–1278.

8. Rannan-Eliya RP, Wijemanne N, Liyanage IK, Jayanthan J, Dalpatadu S, Amarapala A. The quality of outpatient primary care in public and private sectors in Sri Lanka—how well do patient perceptions match reality, and what are the implications? *Health Policy and Planning*. 2015;30(Suppl 1):i59-i74.
9. The World Bank. Project Appraisal Document on a Proposed Loan to the Democratic Socialist Republic of Sri Lanka for the Primary Health Care System Strengthening Project. Report No. PAD2793. Washington, D.C.: World Bank Group; 2018
10. Medical Statistics Unit, Ministry of Health. Annual Health Bulletin 2022. Colombo: Ministry of Health; 2024.



PICTURE STORY



The Mind's Sanctuary

The Journey of the National Institute of Mental Health, Sri Lanka: 1926 – 2026

Wijewickrama BAO^{1*}, Gunasekara CTKS¹, Sheriff MR², Mettananda MKUP³, Allahapperuma D⁴

*arosha24@gmail.com

¹Post Graduate Institute of Medicine, University of Colombo, ²Ministry of Health and Mass Media, ³Castle Street Hospital for Women, ⁴National Institute of Mental Health

Introduction

Mental Health is an integral part of the Health and Well-being of Humanity. The National Institute of Mental Health, Sri Lanka, remains a beacon of hope and a leader to the nation in the provision of Mental Health Services. The World Health Organization (WHO) conceptualizes mental health as a “state of well-being in which the individual realizes his or her own abilities, can cope with the normal stresses of life, can work productively and fruitfully, and is able to make a contribution to his or her community”.

History reveals that therapeutic measures for mental illness were practiced in Sri Lanka in the 4th century BC. The new medical treatment began in the 1800s in hospitals. The laws related to involuntary treatment is under the “Lunatic Ordinance of 1873”, which was amended nine times till 1956, when the wording was substituted as “Mental Diseases Act – Act no 27 of 1956”.

January 31, 2026, marks a profound milestone in Sri Lanka's healthcare history: the centenary of the National Institute of Mental Health (NIMH). From its origins as the **Mental Asylum, Angoda** in 1926, this institution has navigated a remarkable evolution, transitioning from an asylum model to a leading national institute for mental healthcare.

This pictorial essay, drawing insights from the recently compiled Sinhala history book, traces its journey, reflecting shifts in societal understanding, medical advancements, and the unwavering dedication of those who have championed mental well-being in the nation.

840 bed capacity and another hospital was opened in Pelawatta of 3507 bed capacity. Mulleriyawa Unit 2 was open for patients with chronic mental illness who stayed longer and in 1962, 284 patients were there.

Beginning of allopathic medical care in Mental Health

The first mental asylum was the Leprosy Hospital, Hendala, a hospital for leprosy patients, and an area had been separated for the mentally ill. Then, as the inpatient count had gone up markedly, the services were expanded to asylums in Borella and Jawatta.

In 1917, to expand the in-patient space for the mentally ill, it was decided by the then government to build another hospital in Angoda to accommodate 1800 patients. The Angoda Mental Asylum was declared open on 31st January 1926 for 1728 patients. In April 1942, during the Second World War, the Angoda Mental Asylum was bombed by the Japanese by mistake. Seventy patients were injured, while ten died. As compensation, they decided to build a hospital in Mulleriyawa. As the patient numbers were rising heavily, the bed strength was upgraded from 1800 to 2125 in 1954. Mulleriyawa Unit 1 was opened to host less disturbed patients with open wards of



Figure 1: Mental Health Treatment before the Allopathic Era



Figure 2: Modern Day Arcade was once a Mental Asylum



Figure 4: Iconic Main Building in Early Days



Figure 5: Closed Ward setup with a garden in the middle!



Figure 7: Agricultural Fields



Figure 9: Ward-Based Gardening



Figure 3: The First Medical Superintendent



Figure 6: Agricultural Fields



Figure 8: Bakery



Figure 10: Old Name Board of Mental Hospital

The Early Years: Asylum and Custodial Care (1926 - Mid-20th Century)

Formal mental health services in Sri Lanka saw a significant development with the completion of the Mental Hospital Angoda in 1926. Established to alleviate overcrowding in earlier, smaller asylums under the Lunacy Ordinance of 1839, it was designed with a capacity of 1728 beds, making it one of the oldest psychiatric hospitals in South Asia. The initial focus was custodial, providing inpatient care for a growing number of mentally ill patients. Drawing from the NIMH's historical records, we understand the challenging conditions of the time, marked by overcrowding and limited treatment modalities, often focused on sedation and recreational therapy. Despite these limitations, it represented a centralized effort to address mental illness on a larger scale. Vocabulary from this era include “රාළුනාමි” for Male Care Givers and Health Service Aids, “නාමිනෙ” for Female Care Givers and Health Service Aids, heard in the speech of the older long-term patients to this day, referring to the police like control they had over the patient during this custodial care era. Till around 2015, the concept of “පාටි යනවා” was in existence, referring to the rewarding of patients with “good behavior” by allowing them to leave the closed wards in party of workers deployed to work in the fields, bakery, pottery shop, carpentry shop, or the kitchen. The H8 Docket Form, which is the Admission Bed Head Ticket of the Hospital, is still in use, and the very first docket is still available in the record room as each of these BHTT are considered a medico-legal form and thus cannot be condemned or destroyed, similar to court documents.



Figure 11 An old cricket team made up of staff

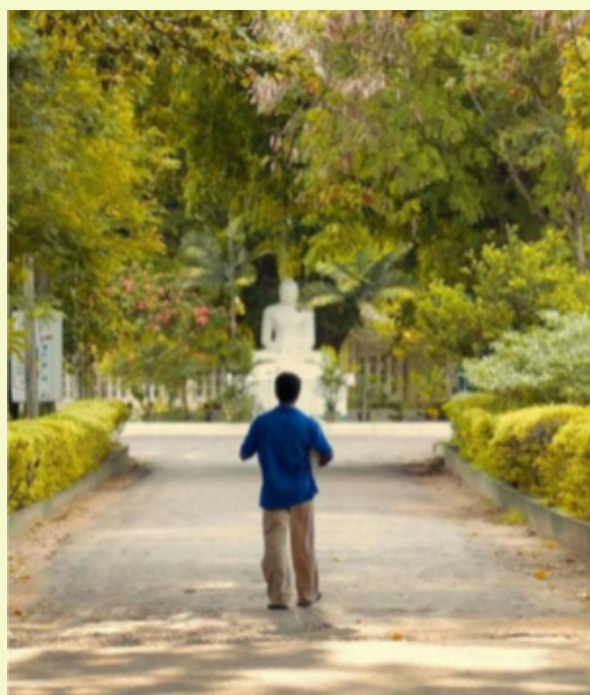


Figure 12: Iconic Entrance to the Hospital after the Buddha Statue was installed



Figure 13: Water Purification System built by the British Engineers is still functional



Figure 14: Children under the care of staff



Figure 15: Crowded Ward setting



Figure 16: Earliest provision of Electro Convulsive Therapy

Emerging Therapies and Shifting Paradigms (Mid-20th Century - Early 21st Century)

The mid-20th century brought gradual, significant changes to the Mental Hospital Angoda. By the 1940s, newer forms of treatment began to emerge, moving beyond purely custodial care. The establishment of the first neuropsychiatric clinic at the Colombo National Hospital in 1943, and later, the development of regional mental health services, signaled a broader shift away from purely institutionalized care. However, the Angoda facility continued to be the primary hub, often bearing the stigma associated with mental illness. Challenges such as persistent overcrowding were highlighted in various reports. Nevertheless, the hospital remained critical, incorporating a wider range of therapeutic interventions and a comprehensive approach to patient management, details of which may be elucidated in the historical records. Chlorpromazine (Largactil) was the first Antipsychotic that came into regular use in 1950's. The infamous quotation “අපිට ලුණුයි ලාගැන්විලුයි නිබ්බාම ඇති” among more senior nursing and supportive staff was a common sentiment whenever newer therapeutic measures were introduced. The earliest integration of Occupational Therapy and Psychiatric Nursing Care is also noted in this era.



Figure 19: Group Activities under OT care



Figure 21: OT based care



Figure 17: Insulin Therapy Ward/ ECT Ward



Figure 18: Group Activities in Occupational Therapy Unit



Figure 20: OT based care

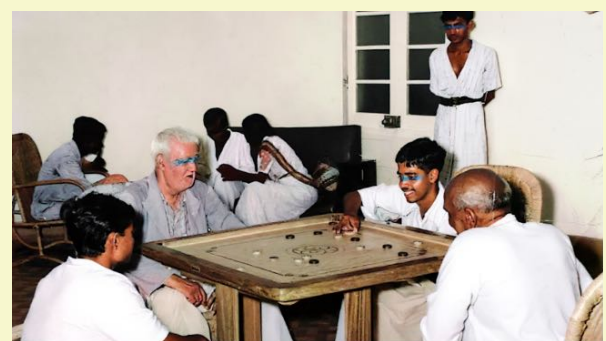


Figure 22: Recreational Activities

Transformation of Mental Health Care

A Mental Health Policy was drafted in collaboration with the Sri Lanka College of Psychiatrists and approved by the Government in 2005. Then, the mental health services were decentralized, and community psychiatry services were established, and the establishment of a National Institute for Mental Health was proposed.

Angoda Mental Hospital was upgraded to National Institute of Mental Health, Sri Lanka, to be the nerve centre for clinical care and for specialized services and training & research in mental health by a Cabinet decision on 31st October 2008, and was published in the health sector with a letter by the Director General of Health Services in January 2009. The Mulleriyawa Unit 2 was renamed as “Halfway Home” in 2008 and

restructured to host clients for rehabilitation and social reintegration. Then over the years inpatient total was taken down from 2000 to around 400 by reintegrating them into society.

The current Vision and Mission and the strategic framework were developed by the representation of all the staff categories in 2017 and approved by the Director General of Health Services. The institution has also developed internal policy guidelines with regard to patient safety and quality of care since 2009. This is in line with the international recommendations as per the “Principles for the Protection of Persons with Mental Illness and the Improvement of Mental Health Care” adopted by UN General Assembly resolution 46/119 of 17 December 1991. It also stems from the statutory requirements of care as per the Mental Diseases Act.

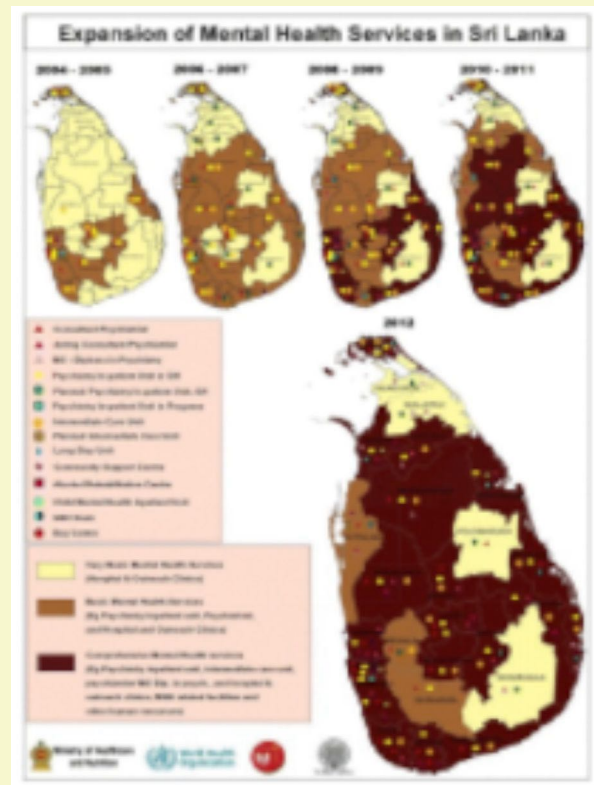


Figure 23: Decentralization of Mental Health Care



Figure 24: Upgrade as a National Institute

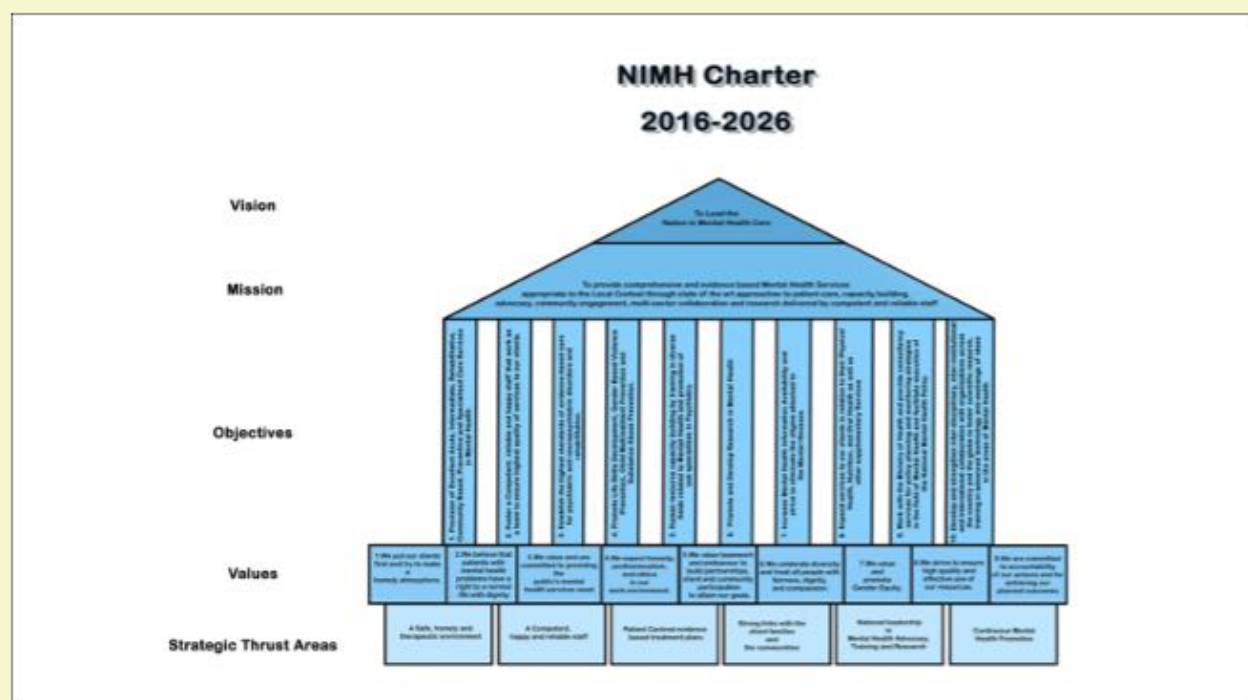


Figure 25: NIMH Charter

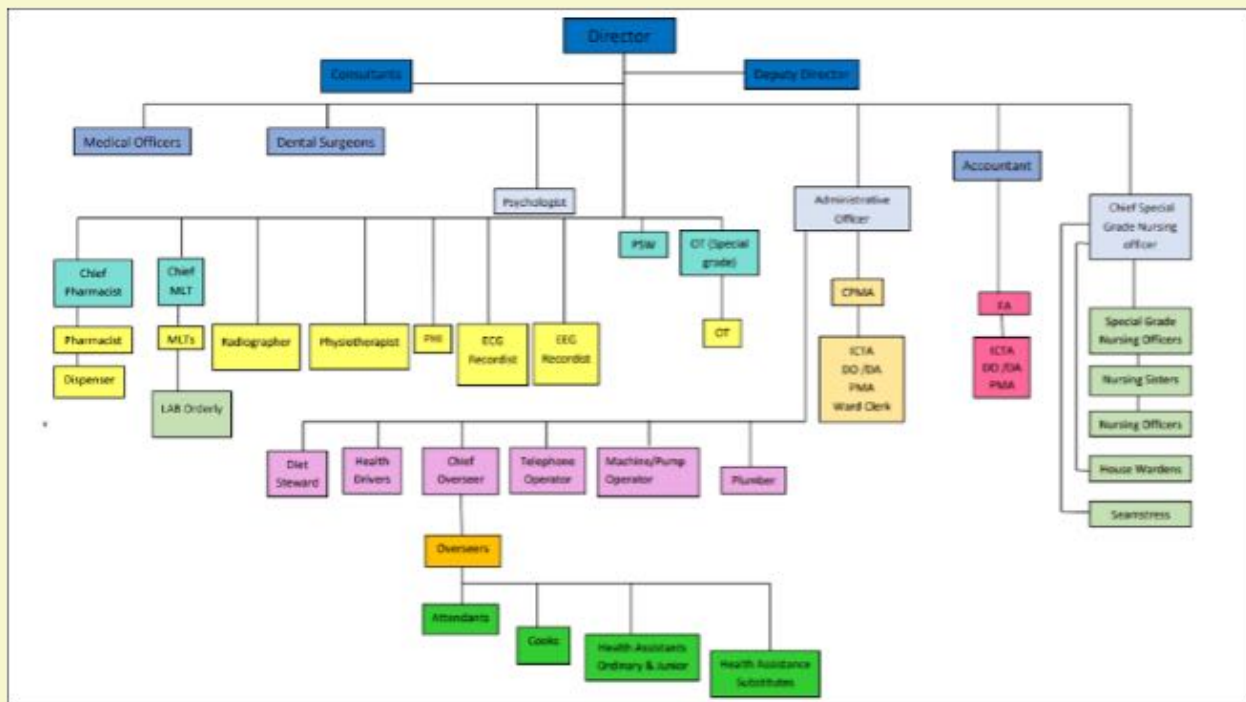


Figure 26: NIMH Organogram

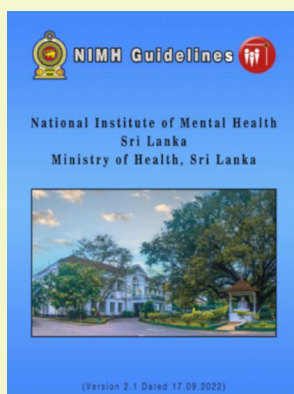


Figure 27: NIMH Internal Guidelines Cover Page



Figure 29: NIMH Logo



Figure 28: NIMH Angoda Survey Plan

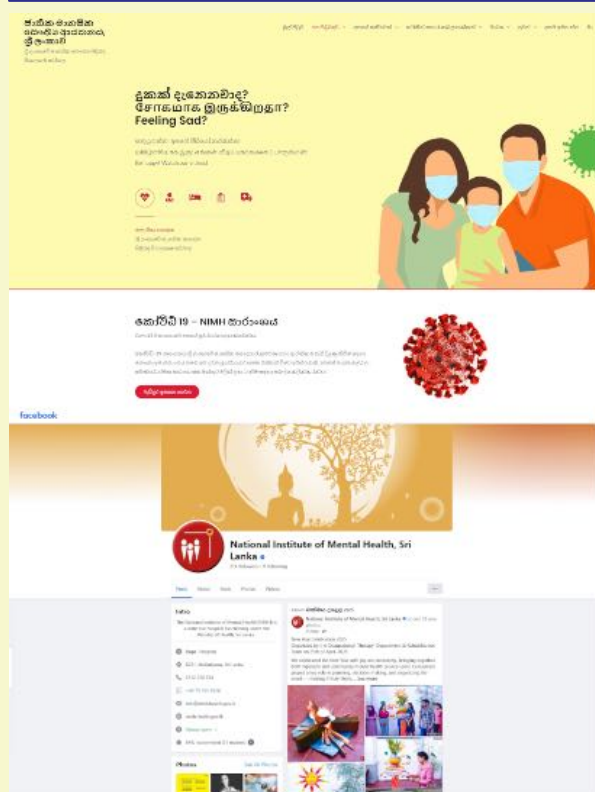


Figure 30: NIMH has an active presence in social media with a website, Facebook® page, and YouTube® channel.



Figure 31: NIMH Staff Training



Figure 33: Planning & Development Unit, 2016 to 2023



Figure 35: Launch of 1926 - National Mental Health SMS Line, 2020

The National Institute of Mental Health: Modernization and Integration (2008 - Present)

A pivotal moment arrived in October 2008 when the former Mental Hospital Angoda was upgraded and officially designated the National Institute of Mental Health (NIMH). This marked a profound institutional and philosophical transformation, signifying a national commitment to advanced mental healthcare. Under this new mandate, NIMH became the largest tertiary care hospital for mental illness in Sri Lanka, focusing on acute, intermediate, and long-term care, alongside specialized services. Its role expanded to become the main training center for undergraduate and postgraduate psychiatry, as well as allied health fields. In recent years, NIMH has embraced community-based care, established specialized units (e.g., peri-natal, psycho-geriatric, adolescent, learning disability, forensic psychiatry, gender-based violence prevention), and significantly improved infrastructure, laboratory capabilities, and overall patient environments. The ongoing efforts reflect a continuous drive towards modern, compassionate, and evidence-based mental healthcare, achievements likely detailed and illustrated in the written history books regarding the institution. Establishment of a Planning and Development Unit in 2016 and the launch of Health Information and Management System (HIMS) in 2019 are major milestones in the development of the institute.



Figure 32: Opening of Planning & Development Unit, 2016



Figure 34: Launch of 1926 - National Mental Health Helpline, 2019

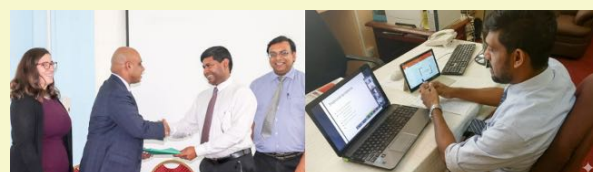


Figure 36: ECHO eLearning agreement with the University of New Mexico, Health Sciences Center



Figure 37: Celebrations of World Mental Health Days, 2017 to 2024



Figure 38: Launch of NIMH History Book, 2018



Figure 39: Launch of NIMH Flag and Anthem 2024



Figure 40: Places of Worship for all major religions are present at NIMH



Figure 41: New Year Celebrations, 2024

The COVID-19 Pandemic brought unprecedented challenges to the NIMH. During COVID-19 NIMH was recognized as the National Quarantine Center for Psychiatry Patients; thus, a well-organized, near-standard Isolation facility was established by converting an existing old building through the Sri Lanka Army. With the increase in cases, NIMH also had to create Mental Health COVID Treatment Units to care for patients having the dual burden of COVID-19 infection and active psychiatric illness. This was a time of great peril, and the perseverance of the staff and leadership of the management navigated this institute through this pandemic whereas international scenarios in similar settings speak of a much grimmer tale.



Figure 42: NIMH Kitchen serves ~3500 meals per day; is renovated & refurbished as a modern kitchen



Figure 43: NIMH regularly holds religious activities



Figure 44: Covid-19 & Mental Health

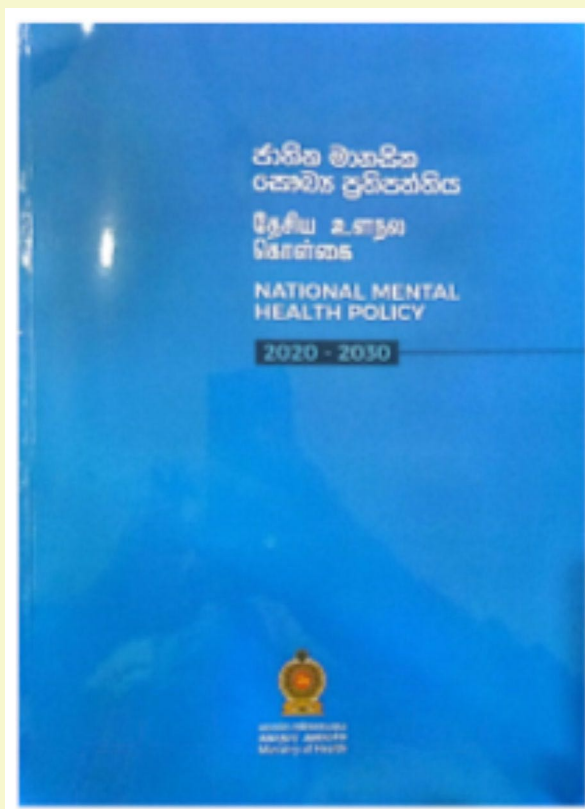


Figure 45: Mental Health Policy Book, 2020 - 2030

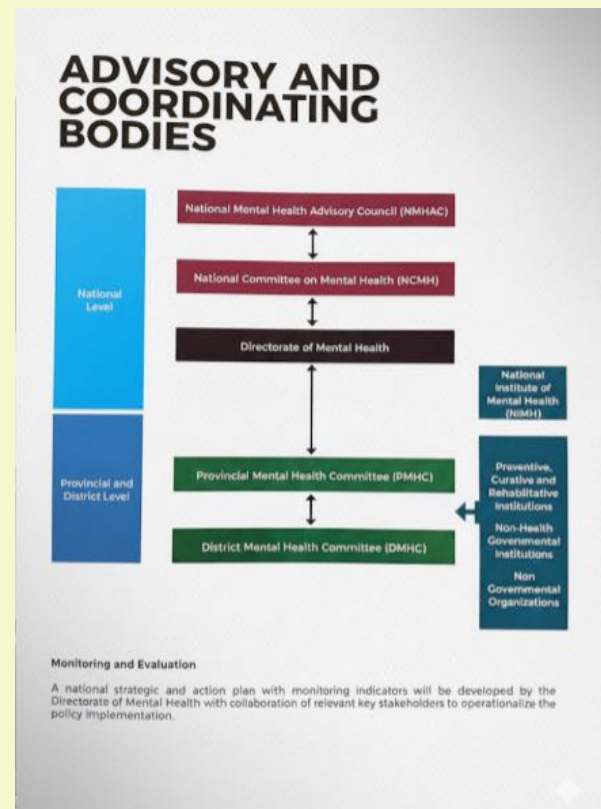


Figure 46: NIMH as the National Level Center of Care

In 2020 the Ministry of Health, Sri Lanka, launched a new Mental Health Policy. Within the Nation's march for better Mental Health Services the National Institute of Mental Health, Sri Lanka remains a steadfast pillar of strength with engagement in tertiary level care services including focus on Patient Safety and Innovative Patient Management, Specialized Care, Community Engagement, Rehabilitation and Social integration, Presence in the digital platform and as a national center for Training and Research in Mental Health.



Conclusion: A Legacy of Healing and Hope

For a century, from the Mental Asylum, Angoda to the esteemed National Institute of Mental Health, this institution has been central to the nation's mental health journey. Its evolution, meticulously documented in its history, mirrors the broader societal shift from stigmatized isolation to integrated, holistic care. As NIMH celebrates its centenary, it stands as a profound testament to progress, resilience, and the unwavering dedication to fostering mental well-being for all Sri Lankans. Its legacy of healing continues to inspire, pointing towards a future of even greater understanding, compassion, and innovation in mental healthcare.

Acknowledgement

NIMH Media Unit, History Book of NIMH – “Suwa Diviyata Suwa Manasak” by Ms C S N Withanage , AI tools have been used to enhance some of the older photos received from the NIMH Archives.



APPRECIATION



Honouring Dr. Joe Fernando A Legendary Leader in Medical Administration

Dalpatadu KCS^{1*}, Mahipala PG²

[*dr.shanti.dalpatadu@gmail.com](mailto:dr.shanti.dalpatadu@gmail.com)

¹Institute of Health Policy, ²College of Medical Administrators of Sri Lanka

Dr. Joe Fernando's life and career exemplify the spirit of service, integrity, and visionary leadership in medical administration. This appreciation honours his enduring contributions to Sri Lanka's healthcare system and inspires all those dedicated to public health and medical administration.

Early Life and Family Roots

Dr. Joe Fernando was born in 1931 in the scenic town of Marawila, Sri Lanka. Raised in a family deeply connected to the local community, his father was both a lawyer and a landowner. Growing up amid the lush coconut estates of Marawila and Chilaw, Dr. Fernando developed a deep appreciation for his homeland and a strong sense of family unity. These values continued to shape his life, as he maintained close relationships with his relatives and emphasised serving the community.

Educational Journey

Dr. Fernando began his education at a Sinhala school in Marawila, establishing a solid foundation for his future. He then attended St. Mary's College in Chilaw at the age of eight and later moved to St. Benedict's College in Colombo as a boarder at the age of twelve. These formative educational experiences not only broadened his knowledge but also instilled in him camaraderie, resilience, and a commitment to serving others—qualities that guided him throughout his life.

Medical Training in Ireland

In 1952, at age 21, Dr. Fernando continued his family's tradition by travelling to Dublin, Ireland, to study medicine, following in his father's footsteps from 1917. The journey, a four-day flight with several stops, marked the beginning of a significant chapter. He excelled both academically and culturally during his nine years in Dublin, including his time working as a Medical Officer after graduation. Ireland held a special place in his heart, and he often expressed his fondness for the country and its people. The song "Galway Bay" became symbolic of his affection for Ireland, the Emerald Isle, and he cherished family gatherings where the song was played or sung, making it a memorable part of his life's story.



Return to Sri Lanka and Early Career

Upon returning to Sri Lanka, Dr. Fernando experienced a homecoming and a new set of challenges. His first position as Medical Officer at Gokeralla Peripheral Hospital exposed him to the basic healthcare facilities available to the community, a stark contrast to the advanced systems he had seen in Ireland. This experience strengthened his resolve to improve healthcare standards in Sri Lanka.

He was subsequently transferred to Kurunegala, where he served in the Outpatient Department (OPD). During this time, he met Dr. Mahalakshmi Nagasunderam, another healthcare professional equally committed to medicine. Their shared dedication to patient care and community health laid the foundation for their relationship. Together, they raised three children: their eldest daughter, Dr. Angela de Silva, who serves as Regional Advisor at SEARO, WHO; their second daughter, Ramani Hapugalla, an accountant; and their son, Patrick Fernando, who is both a Senior instructor Pilot and Chief Technical Officer at Sri Lankan Airlines.

As Dr. Fernando's career progressed, he assumed more prominent roles, including District Medical Officer (DMO) in Gampola and positions in Kuliyaipitiya and Chilaw. While working in Chilaw, he travelled to the United Kingdom, where he earned a Diploma in Public Health from the University of Liverpool. This step demonstrated his commitment to enhancing healthcare quality for the communities he served.

Distinguished Service and National Impact

After returning from the United Kingdom, Dr. Fernando was appointed to the Institute of Hygiene in Kalutara, which is now known as the National Institute of Health Sciences. He then served as Medical Superintendent in Badulla for four years, and his career continued to flourish with positions such as Superintendent of Health Services in Galle, Director of the National Hospital of Sri Lanka, and roles within the Ministry of Health. Ultimately, he rose to become Director General of Health Services and Secretary of Health. Dr. Fernando was a visionary leader whose integrity and compassion inspired many in the field of public health and medical administration.

Championing Maternal and Child Health

Dr. Fernando made significant contributions to reducing maternal and infant mortality in Sri Lanka. Through strategic initiatives and persistent advocacy, he played a vital role in advancing maternal health and child welfare, making profound strides in improving public health outcomes. His legacy is seen in the healthier futures and lives saved across the country.

Dedication for provision of curative care services

While serving as Director General of Health Services and later as Secretary of Health, he took it upon himself to closely oversee the delivery of curative services nationwide to maintain continuous care. Thanks to his dedication, all essential medical services were consistently provided in the Northern and Eastern provinces, even amidst civil unrest.

Dr. Fernando's Contribution to Maravilla Hospital

Dr. Fernando played a pivotal role in transforming Maravilla Hospital, working tirelessly to elevate it to the status of a Base Hospital. This achievement was driven by his personal dream to provide Secondary care services to the community in his native town.

Dr. Fernando frequently reflected on his childhood experiences, recalling visits to Maravilla Hospital with his father whenever health issues arose. These

memories fueled his passion and commitment to improving the hospital for future generations.

Even after retiring, Dr. Fernando remained dedicated to the hospital's progress. With the support of philanthropic donors, he further enhanced the hospital's status. He took great pride in visiting Maravilla Hospital whenever he returned to his hometown, celebrating the strides the institution had made under his guidance.

Family Values and Personal Principles

Dr. Fernando's devotion to his family was central to his life. He ensured his family accompanied him to every duty station, encouraging them to experience life in various regions of Sri Lanka. His children attended local schools, fostering a strong sense of belonging and appreciation for their cultural heritage.

He was celebrated for his principles regarding patient care, work ethics, and integrity. Dr. Fernando never accepted payments or gifts for his medical services, believing that healthcare was a vocation driven by compassion rather than financial reward. He refrained from using his influence for personal benefit, exemplifying moral character and setting a standard for others. Despite lacking formal leadership or ethics training, he became a respected leader through his example and experience.

Influence and Mentorship

Dr. Fernando's natural leadership style encouraged teamwork and ethical practice among his colleagues. He fostered open communication, empowering peers to share ideas and concerns, thereby strengthening teamwork and improving patient care. He served as both a mentor and a role model, profoundly influencing the professional and personal development of many in the healthcare sector, and became a father figure to those he guided.

Continued Service After Retirement

Following his retirement, Dr. Fernando remained committed to advancing community health initiatives. He dedicated his time to volunteering with organisations focused on public health education, leading free medical camps, and engaging in community discussions regarding preventive healthcare strategies. His enduring legacy is defined by the profound impact he made on individuals and the broader community, rather than by formal titles.

Legacy and Lasting Impact

Dr. Fernando valued family life, celebrated significant milestones, and instilled in his children the principles of diligence, integrity, and empathy. He fostered open communication and provided

guidance characterised by wisdom and composure. Despite facing health challenges later in life, he demonstrated notable resilience, maintaining a positive outlook and sense of humor. Dr. Fernando continued to offer support and inspiration to family and friends, encouraging a perspective that views challenges as opportunities for personal development.

The far-reaching effects of Dr. Fernando's service are reflected in the appreciation expressed by his patients, the young physicians he mentored, and the enhanced well-being of families across Sri Lanka. His substantial contributions are integral to the fabric of the nation's healthcare system and will be recognised for generations to come.

Conclusion:

Dr. Joe Fernando's career exemplifies dedication, integrity, and compassion in healthcare. Through his practice of servant leadership, he motivated others to pursue excellence and to place patient welfare at the forefront of their efforts. His contributions have established a significant legacy, providing enduring inspiration for future generations of healthcare leaders.

As we honour his memory in the Journal of CMASL, though his journey has ended, we reaffirm our commitment to the values he championed: compassion, integrity, and dedication to service. Dr. Fernando's unwavering vision and ethical standards demonstrate how an individual's leadership can impact on the health and welfare of an entire nation.

He passed away on 14th November 2025, following a long and accomplished life spanning more than 90 years.

May he rest in Peace.

