



MINISTRY OF HEALTH MALAYSIA

A BREATH FOR THE FUTURE: Malaysia's National Lung Health Initiative



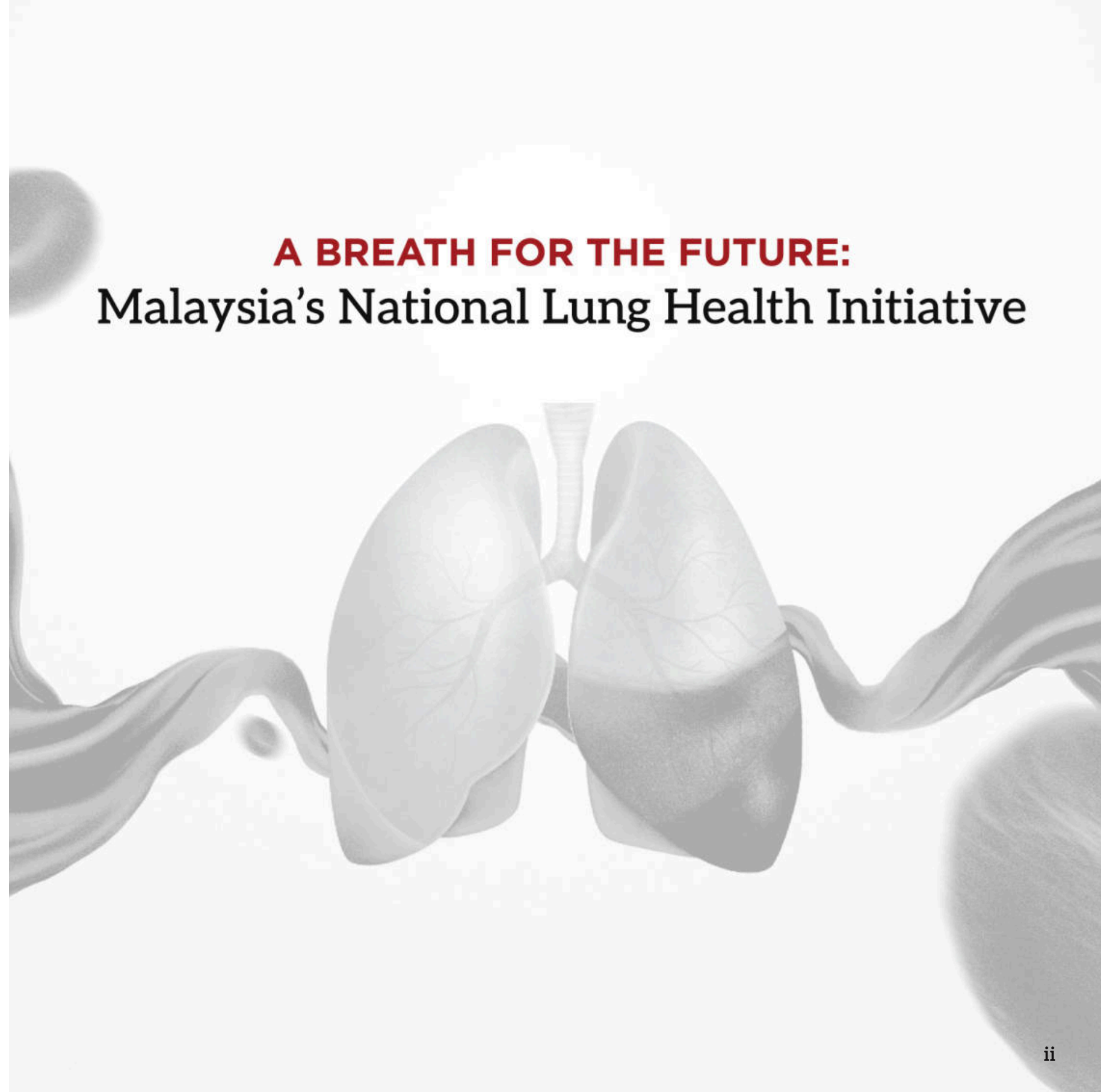
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A BREATH FOR THE FUTURE: Malaysia's National Lung Health Initiative





His Royal Highness
Sultan Nazrin Muizzuddin Shah
Ibni
Almarhum Sultan Azlan Muhibbuddin Shah Al-Maghfur-Lah
Sultan of Perak Darul Ridzuan

Graced the launch of the

**A BREATH FOR THE FUTURE:
MALAYSIA'S NATIONAL LUNG HEALTH INITIATIVE**

coffee table book

on

5 September 2026



Her Royal Highness
Tuanku Zara Salim
Raja Permaisuri of Perak Darul Ridzuan

Graced the launch of the

**A BREATH FOR THE FUTURE:
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FOREWORD





Director- General of Health Malaysia

Malaysia's health landscape is undergoing profound change. We are facing the realities of an ageing population, a rising epidemic of noncommunicable diseases, the persistent threat of communicable diseases, and the growing impact of environmental challenges, including climate change and air quality. These are not isolated pressures—they are converging forces that require us to rethink how we design, deliver, and sustain our health system.

In response, the Ministry of Health Malaysia, together with the Government, has committed to a transformation agenda that prioritises integration, efficiency, and patient-centred care. Central to this is the need to bridge longstanding divides—across levels of care, across specialties, and importantly, across the public and private health sectors. Ultimately, all parts of our system must function together to deliver better outcomes for Malaysians. Within this broader transformation, the Lung Health Initiative represents an important and timely platform for change.

The lung is a uniquely integrative organ. It connects multiple disciplines—primary care, emergency medicine, respiratory medicine, radiology, oncology, palliative care, and public health. It also sits at the intersection of prevention and treatment. As such, it provides a practical and powerful lens through which we can strengthen integration across the health system.

Through this initiative, we are piloting new models of care, strengthening collaboration across specialties, and improving

coordination between providers. At the same time, we are addressing key upstream determinants—particularly tobacco use and environmental exposures—which remain among the most significant drivers of lung disease. This effort brings together the full spectrum of care, from prevention to long-term management. Importantly, this work is being guided by the principles of implementation science. We are testing, learning, refining, and scaling—ensuring that what we develop is grounded in evidence and works in real-world settings. This is not a single intervention, but an ongoing process of system improvement.

This publication documents the first year of that journey. It captures not only progress, but the process—how Malaysia is approaching lung health as a catalyst for broader health system transformation.

As we move forward into the 2025–2030 phase, we remain committed to building a more integrated, resilient, and responsive health system. We are proud to be part of this effort—and equally committed to ensuring that it delivers meaningful and lasting impact for the people of Malaysia, and through the lessons from our experiences to our colleagues and peoples all across the world.

**Datuk Dr Mahathar
bin Abd Wahab**

WHO Representative to Malaysia, Brunei Darussalam and Singapore World Health Organization



Lung health has become one of the defining public health concerns for countries and health systems today. Across all regions, communicable and noncommunicable lung diseases continue to affect individuals, families, communities and health services. Tuberculosis, pneumonia, influenza, COVID-19, chronic obstructive pulmonary disease, asthma, pulmonary fibrosis and lung cancer are not isolated conditions. They are shaped by shared risks, including air pollution, tobacco use, vaping, occupational exposure, poverty, poor housing, overcrowding and delayed access to diagnosis and care.

The adoption of the World Health Assembly resolution (WHA78/A78.R5) on promoting and prioritising an integrated lung health approach is therefore a momentous achievement. It reflects the collective recognition by Member States that lung health must be elevated from a disease-specific concern to a coherent, integrated public health priority. Many countries face similar challenges: shortages of healthcare workers, fragmented pathways, late diagnosis, unequal access to care, preventable exposure and insufficient integration between disease programmes, cancer screening and care, occupational health and environmental action.

Malaysia deserves recognition for its leadership and initiative in advancing this agenda. Its engagement has shown how national experience, technical commitment and policy leadership can contribute meaningfully to national and global health action. The Malaysian experience also demonstrates why lung health must be approached through systems, communities, workplaces,

schools, environmental action and primary care, rather than through specialist medical services alone.

It is heartening to see Malaysia continue to take a forward-looking role as the agenda moves from resolution to implementation. The development of national learning, implementation-oriented analysis and case studies can provide important lessons not only for Malaysia, but also for other Member States facing similar lung health challenges.

WHO remains committed to supporting countries in translating resolutions into action. This includes facilitating learning across Member States, strengthening implementation capacity, supporting evidence-informed approaches, and helping countries adapt integrated lung health models to their own health-system contexts. Equally important is the sharing and propagation of knowledge so that lessons from one setting can inform progress in another.

I am pleased that this publication forms part of that broader process of learning, documentation and shared implementation. It provides an opportunity to reflect on how lung health can be better understood, better organised and better delivered as an integrated public health agenda. I hope it will contribute to continued dialogue, stronger collaboration and practical progress in Malaysia, across the Region and beyond.

Dr Rabindra Abeyasinghe



Minister of Health Malaysia

The story of lung health is, in many ways, the story of life itself. From the first breath we take to the final moment we exhale our last, it is the lung that sustains our existence. Yet, unlike many other organs, the lung stands at the frontline of exposure—constantly interacting with the world around us. It is shaped not only by biology, but by the environments we inhabit, the air we breathe, the work we undertake, and the choices we make as individuals and as a society.

Today, lung health lies at the convergence of some of the most defining public health challenges of our time. Communicable diseases such as tuberculosis and respiratory infections continue to exert a disproportionate burden on vulnerable populations. At the same time, non-communicable diseases—including asthma, chronic obstructive pulmonary disease (COPD), and lung cancer—are rising steadily, driven by urbanisation, environmental change, and evolving lifestyles. Underpinning many of these conditions remains one of the most persistent threats to public health: tobacco, in its many forms, both traditional and emerging.

Malaysia has chosen not to respond to these challenges in isolation. Instead, we have taken a deliberate and strategic step to reframe our approach—to build a unified national narrative around lung health. This is not merely a clinical or programmatic shift. It represents a broader transformation in how we organise our health system, how we align our policies, and how we mobilise society.

By placing the lung at the centre of our efforts, we are breaking down traditional silos and moving towards a truly integrated model of care—one that connects prevention, early detection, diagnosis, treatment, and long-term management across the continuum. In doing so, we are not only addressing lung diseases; we are shaping a new way of thinking about health system transformation itself.

Malaysia has also stepped forward on the global stage, contributing meaningfully to the elevation of lung health within international discourse and supporting collective efforts to strengthen global commitments in this area. As we move into the next phase of implementation, our focus is clear: to translate ambition into action, to test and refine solutions, and to scale what works—responsibly, sustainably, and equitably.

This publication captures more than progress. It reflects intent. It reflects the discipline of implementation. And most importantly, it reflects a nation that has chosen to act.

Over the past year, we have not remained static. We have worked across ministries, alongside non-state actors, and in partnership with industry to catalyse change—not only within the health system, but across society. We recognise that lung health, like all health, is shaped far beyond the walls of our hospitals and clinics.

We share this journey openly, in the spirit of collaboration and collective learning. Malaysia stands ready to contribute—to support, to partner, and to lead where we can—within the global community of nations committed to improving health outcomes for all.

But beyond policy, systems, and programmes, this work speaks to something larger.

It speaks to the kind of future we are choosing to build.

It speaks to the responsibility we carry—not only to respond to today's challenges, but to shape the conditions for better health for generations to come.

And in that sense, this is not simply a record of what has been done.

It is part of a legacy in the making.

A legacy of a health system that chose to transform.

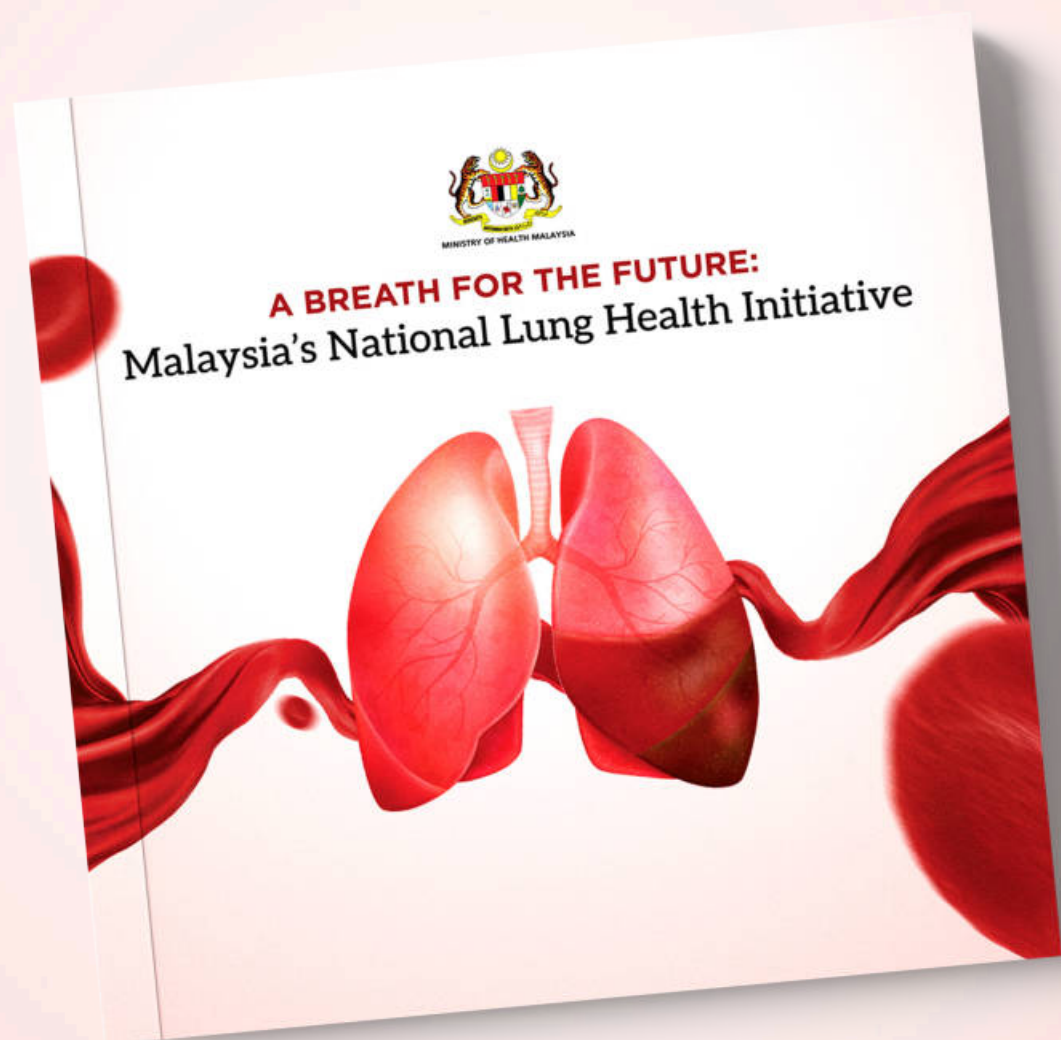
A legacy of a nation that chose to lead.

And a legacy of people who chose to breathe better, live longer, and thrive.

His Excellency Datuk Seri Dr Dzulkefly Ahmad



ABOUT THIS BOOK



A Breath For The Future : Malaysia's National Lung Health Initiative is a chronicle of Malaysia's national journey towards advancing lung health as a public health priority and contributing to the achievement of World Health Assembly Resolution WHA78.5. More than a documentation of milestones, the book captures the evolution of a movement, one that began with a single roundtable discussion and grew into a unified national effort driven by collaboration, policy leadership, scientific dialogue, and collective responsibility.

Set against the backdrop of growing global concern surrounding communicable and noncommunicable diseases affecting the lungs, the book traces the key conversations, partnerships, and strategic engagements that shaped Malaysia's approach to lung health. It highlights the critical moments where healthcare professionals, policymakers, civil society organisations, academia, industry leaders, and community advocates came together to recognise the urgent need for stronger action in prevention, awareness, screening, policy development, and healthcare delivery.

Through powerful narratives and reflections, A Breath For The Future showcases Malaysia's whole-of-government and whole-of-society approach in addressing the determinants of lung health across sectors. From bilateral meetings and stakeholder consultations to grassroots engagement and national implementation strategies, the publication demonstrates how meaningful progress can be achieved when collaboration transcends institutional boundaries. The book also underscores the importance of integrating lung health into broader conversations surrounding non-communicable diseases, environmental health, tobacco control, infectious diseases, and equitable healthcare access.

At its core, the publication serves as both a historical record and a strategic reflection of Malaysia's commitment towards building a healthier and more resilient future. It highlights the nation's dedication to evidence-based policymaking, multi-sector partnerships, and sustainable health advocacy while reinforcing the belief that lung health is not solely a medical issue, but a societal responsibility. A Breath For The Future is ultimately a testament to the power of unity, dialogue, and national resolve. It reflects how conversations can spark transformation, how partnerships can shape policy, and how a shared vision can inspire lasting change for future generations. As Malaysia continues to strengthen its leadership in public health and preventive care, this book stands as an enduring symbol of the country's aspiration to create a future where every individual has the opportunity to breathe healthier, live better, and thrive.



CHAPTER 1

Introduction

Lung health must be understood not merely as the absence of respiratory disease, but as a dynamic equilibrium shaped by biological resilience, environmental exposure, occupational risk, behaviour, and the performance of health systems.¹⁻³ The lungs are a direct interface between the human body and the external environment, and every breath brings the possibility of exposure to infectious agents, particles, allergens, tobacco smoke, industrial pollutants, or other inhaled hazards. This makes the lung both essential to life and highly vulnerable to the conditions people live, work, and age in.

Historically, lung diseases have often been organised through disease-specific silos. Tuberculosis (TB) programmes have evolved separately from asthma and chronic obstructive pulmonary disease (COPD) care; lung cancer is frequently managed within oncology pathways; occupational lung disease may sit within labour or regulatory systems; and air pollution is often framed primarily as an environmental issue. However, the global respiratory health literature has consistently shown that the major respiratory diseases share common risk factors, pathways, service needs, and system constraints.⁴ A person does not experience lung health according to programme categories. A person may experience breathlessness, cough, impaired function, delayed diagnosis, treatment costs, and the long-term consequences of fragmented care at any point during their life; and sometimes even all at the same time.

A broader systems-based perspective is therefore required. Lung health should be positioned as a unifying framework across communicable disease, noncommunicable disease (NCD), occupational and environmental health, primary care, specialist services, rehabilitation, palliative care, and public health policy.²⁻⁴ Such a framework does not replace disease-specific expertise. Rather, it connects that expertise within a coherent pathway so that prevention, early detection, diagnosis, treatment, long-term management, rehabilitation, and palliative care function as one integrated system.

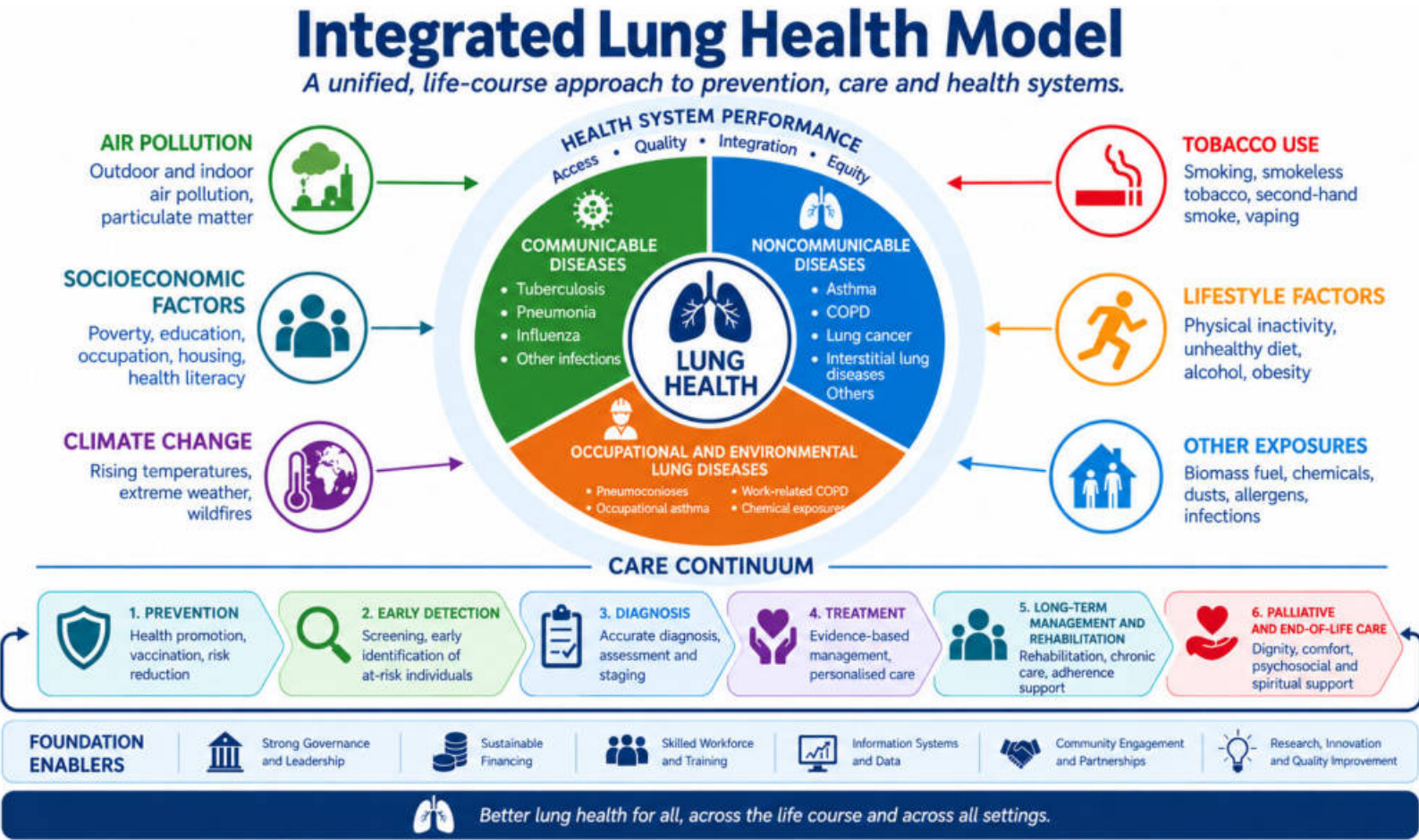


Figure 1.1: Conceptual representation of lung health positioned at the centre of an interconnected system comprising communicable diseases, NCDs, occupational and environmental exposures, and health-system functions

Conceptual Dimensions of Lung Health

Lung health can be understood across three interdependent domains: communicable respiratory diseases, noncommunicable respiratory diseases, and occupational and environmental lung diseases.^{1,3,4} These domains are neither discrete nor sequential. They overlap across risk factors, symptoms, diagnostics, treatment pathways, long-term outcomes, and the health system capacities required to respond effectively.

Noncommunicable respiratory diseases, particularly COPD and asthma, require sustained and guideline-based care. The Global Initiative for Chronic Obstructive Lung Disease (GOLD) guidance emphasises prevention, diagnosis, assessment, management, and exacerbation reduction for COPD, while the Global Initiative for Asthma (GINA) guidance emphasises structured asthma management and the need to avoid unsafe patterns of care.^{5,6} Fact sheets from the World Health Organization (WHO) on COPD and asthma similarly identify these conditions as major public health concerns requiring long-term management and risk reduction.^{7,8} In practice, the management of these diseases rely on much more than medicine alone: they need early recognition, spirometry or appropriate functional assessment, inhaler technique support, smoking cessation, vaccination, rehabilitation, self-management education, and follow-up.

Communicable respiratory diseases remain equally central. Pneumonia and influenza continue to generate major morbidity, particularly among vulnerable groups, and they place recurrent pressure on health systems.^{9,10} TB remains a major global infectious disease challenge, and its consequences extend beyond microbiological cure.¹ Post-infectious lung disease, especially post-TB lung disease, demonstrates how an infectious episode may become the starting point for chronic impairment, reduced lung function, and diminished quality of life.^{11,12}

Cancer must also be placed within the lung health framework.

Global cancer surveillance identifies lung cancer as one of the most important cancers worldwide, with substantial mortality and major implications for prevention, early detection, diagnostics, oncology, palliative care, and survivorship.^{13,14} This reinforces why lung health cannot be reduced to respiratory medicine alone. It crosses public health, oncology, imaging, pathology, surgery, radiotherapy, systemic therapy, and end-of-life care.

Interaction between dimensions of lung health

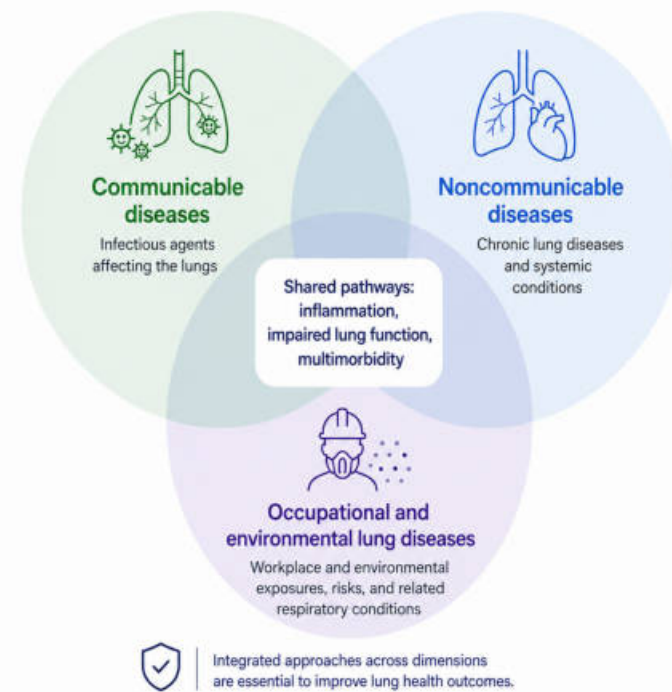


Figure 1.2: Interaction between lung health dimensions illustrating the overlapping relationships between communicable, noncommunicable, and occupational/environmental lung health

Communicable Respiratory Diseases

Communicable respiratory diseases remain foundational to lung health. TB requires sustained investment in prevention, detection, treatment, contact management, and health system strengthening.¹ Pneumonia remains an important cause of illness and death, particularly among children, older persons, and people with underlying vulnerabilities.⁹ Influenza contributes to seasonal waves of disease and exposes weaknesses in preparedness, vaccination coverage, early treatment, and service surge capacity.¹⁰

The long-term consequences of infection are critical. Post-TB lung disease is now increasingly recognised as an under-addressed global challenge, with survivors experiencing chronic breathlessness, cough, bronchiectasis, airflow obstruction, restrictive defects, and reduced quality of life.¹¹ A global reappraisal of TB burden has also highlighted the importance of post-TB sequelae in estimating the lifetime burden of disease.¹² These findings are important for policy because they make clear that treatment completion is not always equivalent to restoration of lung health.

The practical implication is that communicable respiratory disease programmes should not end at acute treatment. A mature lung health system should ask whether the patient can breathe, function, return to work, avoid recurrent disease, and receive appropriate follow-up after treatment. This is especially important in settings where TB, pneumonia, smoking, air pollution, and occupational exposures coexist. Integrated symptom-based care, as has been detailed in WHO's Practical Approach to Lung Health, remains relevant because respiratory symptoms do not arrive neatly labelled as one disease or another.²

Noncommunicable Respiratory Diseases

Noncommunicable respiratory diseases are a growing and increasingly dominant component of the respiratory health burden. COPD, asthma, and lung cancer require sustained attention across prevention, diagnosis, treatment, rehabilitation, and long-term management.^{5-8,13,14} These conditions should not be understood solely as specialist clinical concerns. They are concerns of the health system because they require primary care detection, diagnostic access, referral pathways, continuity of care, patient education, and long-term monitoring.

COPD illustrates the need for integrated care pathways. Diagnosis requires clinical assessment supported by spirometry where available, while management includes smoking cessation, vaccination, pharmacological treatment, pulmonary rehabilitation, exacerbation prevention, and attention to comorbidities.^{5,7} Asthma similarly requires structured management, appropriate anti-inflammatory treatment, adherence support, patient education, and avoidance of unsafe reliance on short-acting bronchodilators alone.^{6,8}

Lung cancer illustrates another dimension of lung health: the link between prevention, timely diagnosis, treatment access, and palliative care. Tobacco control remains central, but lung cancer pathways also depend on risk recognition, imaging, diagnostic confirmation, staging, multidisciplinary treatment, and support for patients and families.^{13,14} The patient journey for lung cancer is therefore a powerful example of why lung health must include more than disease awareness - it must also include the ability of the system to move patients through complex care pathways without avoidable delays.

Occupational and Environmental Lung Health

The lung is an organ which is at risk of many different types of exposure. Tobacco and tobacco-related products including e-cigarettes and newer devices remain one of the most important preventable drivers of respiratory disease and cancer, with WHO categorically having identified tobacco as a major public health threat with wide-ranging health consequences.¹⁵ Air pollution is another central determinant. WHO describes air pollution as a major environmental risk to health, with ambient and household pollution linked to respiratory and cardiovascular disease burdens.¹⁶⁻¹⁸ These exposures do not sit outside lung health, they are among its most important upstream drivers.

The wider pollution literature reinforces this point. The Lancet Commission update on pollution and health describes pollution as a major and preventable cause of disease and premature death.¹⁹ Climate change adds a further layer of risk, with implications for heat, wildfire smoke, air quality, infectious disease patterns, food systems, and health-system resilience.²⁰ For lung health, climate and pollution are not abstract environmental issues. They are direct determinants of respiratory vulnerability and service demand.

Occupational exposures complete this upstream picture. The official American Thoracic Society and European Respiratory Society statement on the occupational burden of non-malignant respiratory diseases identifies the role of workplace exposures in asthma, COPD, chronic bronchitis, and other respiratory outcomes.²¹ The National Institute for Occupational Safety and Health (NIOSH) guidance on the hierarchy of controls emphasises that prevention should begin at the source: eliminate hazards where possible, substitute safer processes, apply engineering controls, use administrative controls, and only then rely on personal protective equipment.²² This hierarchy is essential for lung health because it shifts the emphasis from treating damage after exposure to preventing exposure before damage occurs.



The Lung Health Care Continuum

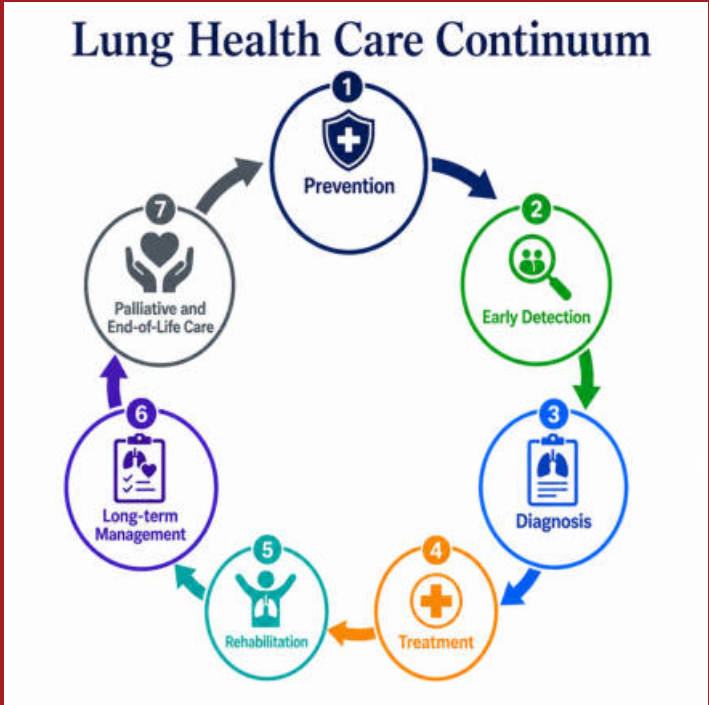


Figure 1.3: Lung health care continuum, from prevention and early detection to diagnosis, treatment, rehabilitation, long-term management, and palliative care

A comprehensive lung health framework must include the full care continuum: prevention, early detection, diagnosis, treatment, rehabilitation, long-term management, and palliative care.¹⁻⁸ This continuum should not be imagined as a simple straight line. For chronic respiratory disease, it is cyclical. Patients move between stable disease, exacerbation, recovery, monitoring, rehabilitation, and renewed prevention. For infections, acute treatment may be followed by persistent impairment. For cancer, early detection as well as diagnosis, treatment, palliation, and survivorship require different parts of the system to work together.

The oft-repeated phrase “Prevention is the foundation” continues to hold true in the case of lung health, as it does in other public health settings. Tobacco control, vaccination, clean air, safe workplaces, household energy improvements, and climate-sensitive public health policies all reduce disease risk before the clinical intervention is needed.^{9,10,15-22}

Early detection is the next critical step. Many lung diseases begin with common symptoms including cough, breathlessness, wheeze,

sputum, chest pain, fever, fatigue, or reduced exercise tolerance. A symptom-based pathway must be able to consider infection, asthma, COPD, malignancy, occupational disease, and other conditions without forcing the patient to navigate disconnected services.

Diagnosis requires clinical assessment, imaging, laboratory testing, pulse oximetry, spirometry, bronchoscopy, pathology, specialist review, and referral pathways that are proportionate to risk and available resources.^{2,5,6} Treatment then spans antimicrobial therapy, inhaled medicines, smoking cessation support, occupational exposure control, pulmonary rehabilitation, oncology, surgery, radiotherapy, systemic therapy, oxygen assessment, and palliative care. Long-term management must support function, quality of life, adherence, and prevention of exacerbations. A mature lung health system does not stop at the question, ‘Was the disease treated?’ It asks whether the person can breathe, live, work, and participate in society.

Cross-cutting Determinants of Lung Health

Lung health is shaped by cross-cutting determinants that influence both exposure and access. Tobacco, air pollution, occupational hazards, socioeconomic position, housing, education, ageing, and health literacy all influence who in society becomes unwell, when people seek care, what care they receive, and how well they recover.¹⁵⁻²² These determinants are not peripheral to lung health. They are central because they shape the conditions in which disease emerges and the capacity of people to navigate care.

Socioeconomic conditions influence the likelihood of living in polluted environments, working in higher-risk occupations, facing delayed diagnosis, and experiencing difficulty with transport, time off work, treatment costs, or long-term follow-up. Environmental conditions influence population exposure before any individual clinical decision is made. Workplace conditions determine whether workers are protected or repeatedly exposed. In this sense, lung health is a bridge between clinical care and the broader social architecture of health.

A unified lung health agenda must therefore be multisectoral by design. Hospitals and clinics can diagnose and treat disease, but they cannot alone deliver clean air, safe workplaces, tobacco-free environments, climate resilience, or equitable living conditions. The health sector must function not only as a provider, but also as a steward, convener, regulator, advocate, and catalyst. This is the essence of a modern lung health approach: it treats breathing not only as a biological act, but as a public health outcome shaped by systems.



Healthcare professionals and key stakeholders gathered for a roundtable discussion on lung health at the Malaysian Medical Association





Towards a Unified Lung Health Framework

A unified lung health framework brings together respiratory diseases, cross-cutting determinants, care pathways, system functions, and implementation experience.¹⁻⁴ It places the individual at the centre while recognising that outcomes depend on the wider system surrounding them, including: prevention policy, clinical pathways, diagnostics, workforce capacity, financing, data systems, referral networks, partnerships, and community support.

This approach is valuable because it offers both a disease-specific and a systems-wide perspective. Disease-specific expertise remains essential, but becomes more powerful when organised within an integrated pathway. TB control can be linked to chronic respiratory follow-up. COPD and asthma management can be linked to smoking cessation and air quality interventions. Lung cancer care can connect to prevention, imaging, diagnostics, oncology, and palliative services. Occupational health can similarly be linked to exposure prevention and early detection.

For Malaysia and other countries with mixed public-private systems, this framework is particularly relevant. It can provide a platform for demonstrating how public health prevention, primary care detection, specialist diagnostics, hospital treatment, rehabilitation, palliative care, and community follow-up can function more as a part of an integrated system. The goal is not simply to create another programme. It is to use lung health as a practical model for demonstrating integration, testing innovation, measuring outcomes, and scaling effective approaches.

COVID-19: A Unifying Lens for Lung Health Systems

The COVID-19 pandemic represents one of the most consequential global health events of the modern era and provides a powerful lens through which lung health can be understood as a unified system rather than a collection of fragmented disease areas. Caused by the novel coronavirus SARS-CoV-2, COVID-19 is fundamentally a respiratory disease with systemic consequences, affecting the lungs directly through viral pneumonitis, acute respiratory distress syndrome (ARDS), and longer-term pulmonary sequelae.^{23,24}

From the outset, COVID-19 demonstrated how communicable respiratory disease can rapidly engage the entire health system. Surveillance, testing, contact tracing, primary care triage, hospital admission pathways, intensive care capacity, oxygen supply systems, and rehabilitation services were all activated simultaneously. This required unprecedented coordination across public health, clinical medicine, laboratory systems, logistics, and policy-making.²³

Importantly, COVID-19 did not remain confined to the communicable disease domain. It exposed the vulnerability of individuals with noncommunicable respiratory diseases such as asthma, COPD, and lung cancer, who were shown to have higher risks of severe outcomes.^{25,26} It also highlighted the role of environmental and occupational exposures, with emerging evidence linking air pollution to increased COVID-19 morbidity and mortality.²⁷ Frontline workers, particularly those in healthcare and essential services, experienced elevated exposure risks, reinforcing the importance of occupational and environmental lung health within respiratory health frameworks.²⁸

The pandemic also underscored the importance of prevention. Public health measures—including masking, ventilation, physical distancing, and vaccination—became core tools for reducing transmission and protecting lung health at population level.^{23,29} These interventions, while developed for an infectious disease, have broader relevance for respiratory health more generally, particularly in relation to airborne transmission and environmental control.

Another critical insight from COVID-19 is the importance of the full continuum of care. Early detection through testing, timely diagnosis, escalation of care, critical care management, and post-acute rehabilitation all became essential components of response systems. Long COVID further demonstrated that respiratory illness may persist beyond the acute phase, with ongoing symptoms such as breathlessness, fatigue, and reduced lung function requiring structured follow-up and multidisciplinary care.^{24,30}

From a systems perspective, COVID-19 revealed both strengths and weaknesses in health-system performance. Countries with integrated primary care, strong public health infrastructure, and coordinated referral systems were better able to manage surges and maintain continuity of care. Conversely, fragmented systems struggled with delays, resource constraints, and inequities in access.^{23,29} The pandemic therefore provided real-world evidence that integration across sectors and services is not optional—it is fundamental to resilience.

In this context, COVID-19 can be understood as one of the first large-scale demonstrations of a unified lung health framework in practice. It brought together communicable disease control, chronic disease vulnerability, environmental risk, occupational exposure, prevention strategies, acute care, and long-term management within a single, globally shared experience. As such, it provides a powerful impetus for embedding lung health as an organising principle for health-system transformation.

Implementation implications

Keeping all the different parts of this complicated jigsaw puzzle in mind, it is thus quite critical to ensure a laser-focused approach to implementation. A national lung health effort should define who is at risk, how they are identified, where they enter the system, what tests are available, what referral triggers are used, how treatment is initiated, and how long-term outcomes are monitored. This requires practical indicators: time to diagnosis, completion of investigations, treatment initiation, smoking cessation uptake, rehabilitation access, exacerbation rates, patient-reported outcomes, and household cost.

It also requires an implementation science mindset. Policy intent does not automatically translate into better outcomes. Solutions must be piloted, measured, refined, and scaled according to evidence and context. This is especially important where health systems face resource constraints, workforce limitations, parallel public and private services, and variable access to diagnostics. Lung health is well suited to this approach because it offers measurable points across the entire continuum.

The success of a lung health initiative should therefore not be judged only by activities completed. It should be judged by whether it changes the operating logic of care: whether it reduces avoidable exposure, detects disease earlier, links patients to diagnostics, shortens referral delays, improves chronic care, generates usable data, and improves the experience of patients and families. In that sense, lung health becomes a platform not only for respiratory improvement, but for health-system learning.



A healthcare worker administering vaccines during a community outreach programme



Nurses at a public health facility coordinating to deliver effective patient care

Summary

Lung health is a complex systems challenge. It cannot be adequately addressed through fragmented disease pathways, isolated campaigns, or disconnected clinical services. It requires an integrated framework that recognises the interaction between communicable and noncommunicable disease, occupational and environmental exposures, social determinants, and health-system performance.^{1-4,15-22}

The central message is simple but powerful: the lung is not only an organ of disease; it is an organ of connection. It connects people to their environment, workers to their workplaces, communities to public policy, patients to health systems, and nations to the global challenges of pollution, climate change, ageing, and equity. Protecting lung health therefore requires action across the full spectrum of public health and health care.

A stronger lung health agenda can help countries build more integrated systems, reduce preventable disease burden, improve patient journeys, and strengthen health-system resilience. It can also serve as a model for how health systems respond to other complex conditions in an era of demographic, epidemiological, environmental, and social change. In this sense, lung health is not only a clinical priority. It is a pathway towards better health systems and a healthier society.



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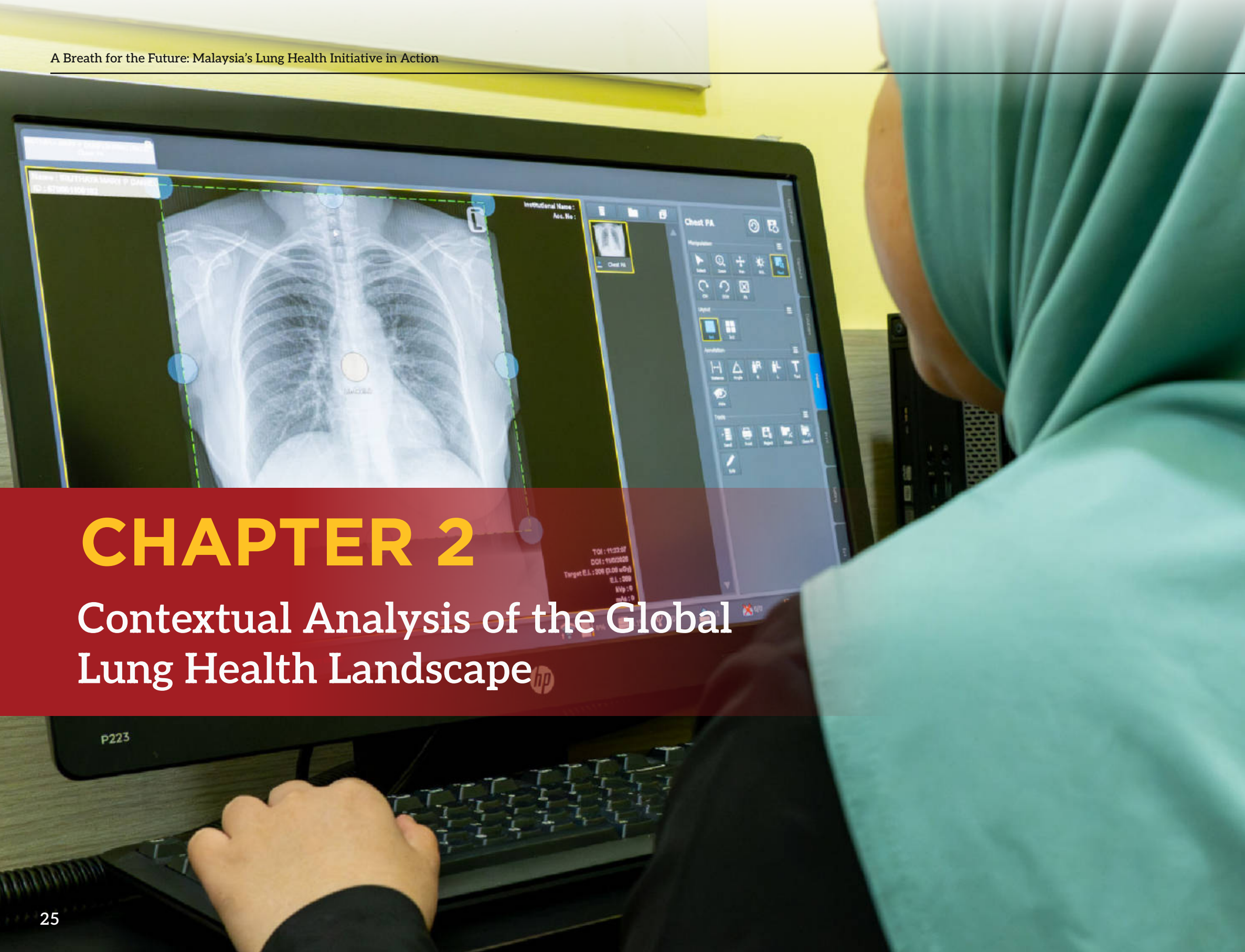
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CHAPTER 2

Contextual Analysis of the Global Lung Health Landscape

Lung health can no longer be viewed merely as a condition managed within specialist respiratory services. It is a population health domain shaped by the air people breathe, the homes and places in which they live and work, the infections they acquire, the commercial products to which they are exposed, and the capacity of health systems to diagnose and manage disease before irreversible loss of function occurs.

Lung health today must be viewed within a broader population health perspective; encompassing not only the wide range of diseases such as chronic obstructive pulmonary disease (COPD), asthma, lung cancer, tuberculosis (TB), post-TB lung disease, lower respiratory infections, and occupational and environmental lung disease, but also the upstream exposures and determinants that shape these conditions across the life course.^{1,2}

The scale of the problem is substantial, but the deeper policy concern is that the burden is both preventable and unevenly distributed. Chronic respiratory diseases contribute significantly to global mortality and disability. COPD and asthma illustrate the combined burden of fatal and non-fatal disease; while lung cancer remains a high-mortality cancer. TB remains important not only as an infectious disease, but as a cause of chronic respiratory impairment long after the initial infection is cured.³⁻¹¹

In this sense, lung health is not a single disease programme. It is a continuum of cumulative injury, delayed recognition, and fragmented response.

The determinants of this continuum are already well described. Tobacco use remains a major driver of COPD, lung cancer, and respiratory mortality; pollution remains a major environmental determinant of cardiopulmonary disease; occupational exposures continue to produce preventable respiratory harm; and e-cigarettes and vaping have introduced a newer regulatory challenge, especially among younger populations.¹²⁻¹⁶ These risks do not operate in isolation. They cluster in poorer communities, rapidly urbanising environments, under-regulated workplaces, and health systems where primary-care diagnostic capacity is often weaker than the burden demands.

Unpacking the global health landscape is the first step towards shaping and driving effective action across the system. It provides the foundation to approach lung health as a strategic public health agenda rather than merely a collection of respiratory diagnoses.



Epidemiological Perspective: Lung Health as a Continuum of Exposure, Disease, and Disability

The epidemiological burden of lung disease is best understood as a continuum of exposure, disease, and disability. COPD, asthma, lung cancer, TB and post-infectious lung disease differ clinically, but they are linked by common upstream determinants: tobacco exposure, ambient and household pollution, occupational hazards, infection, ageing, and social inequality.

Evidence from the Global Burden of Disease (GBD) repository has repeatedly shown that respiratory diseases are major contributors to death, disability, and health-system demand, even though much of this burden is preventable as demonstrated by risk factor analyses.¹⁻⁴

Disease area	Incidence	Prevalence	Mortality
Asthma	41.56 million incident cases worldwide, 2021 ⁷	358.2 million prevalent cases, 2015 ³	0.40 million deaths, 2015 ³
COPD	16.21 million incident cases worldwide, 2019 ⁶	391.9 million people aged 30–79 years, 2019 ⁵	3.20 million deaths, 2015 ³
Tuberculosis	9.65 million incident cases, 2019 ⁹	8.9 million prevalent cases, 2019 ⁹	1.40 million deaths, 2019 ⁹
Lung cancer	2.20 million new cases, 2020 ⁸	Not Available	1.80 million deaths, 2020 ⁸

Table 2.1: Selected global lung-health burden indicators^{3,5-9}

COPD and asthma, for example, provides a useful contrast within the broader landscape of chronic airway disease. The GBD 2015 chronic respiratory disease analysis estimated 358.2 million prevalent asthma cases and 0.40 million asthma-related deaths in 2015, while a more recent GBD 2021 analysis reported approximately 41.56 million incident asthma cases worldwide in 2021.^{3,7} COPD, on the other hand, was estimated by GBD-based modelling to comprise of 16.21 million new cases in 2019, while a separate analysis in the same year estimated that approximately 391.9 million people aged 30–79 years were living with COPD.^{5,6} These data show that COPD is more strongly associated with mortality, cumulative exposure, and ageing, whereas asthma is often more prevalent and contributes substantially to years lived with disability.

Lung cancer illustrates a different dimension of the respiratory disease burden as this disease differ from COPD and asthma in both prevalence and mortality profile. While its global prevalence is lower than that of COPD or asthma, its mortality profile remains severe. The Global Cancer Observatory (GLOBOCAN) 2020 estimated approximately 2.2 million new lung cancer cases and 1.8 million lung cancer deaths worldwide, making it the leading cause of cancer mortality that year.⁸

Meantime, TB remains indispensable to any account of lung health because its consequences extend far beyond the resolution of infection. The GBD 2019 TB analysis reported approximately 9.65 million new TB cases in 2019 when human immunodeficiency virus (HIV)-negative and HIV-positive TB estimates were combined. Approximately 8.90 million prevalent TB cases were estimated and 1.40 million TB-related deaths were also reported.⁹ Lifetime-burden analyses and clinical reviews further show that post-TB sequelae may include airflow obstruction, bronchiectasis, reduced exercise capacity, and recurrent respiratory morbidity.^{10,11}



A patient using an inhaler for respiratory care

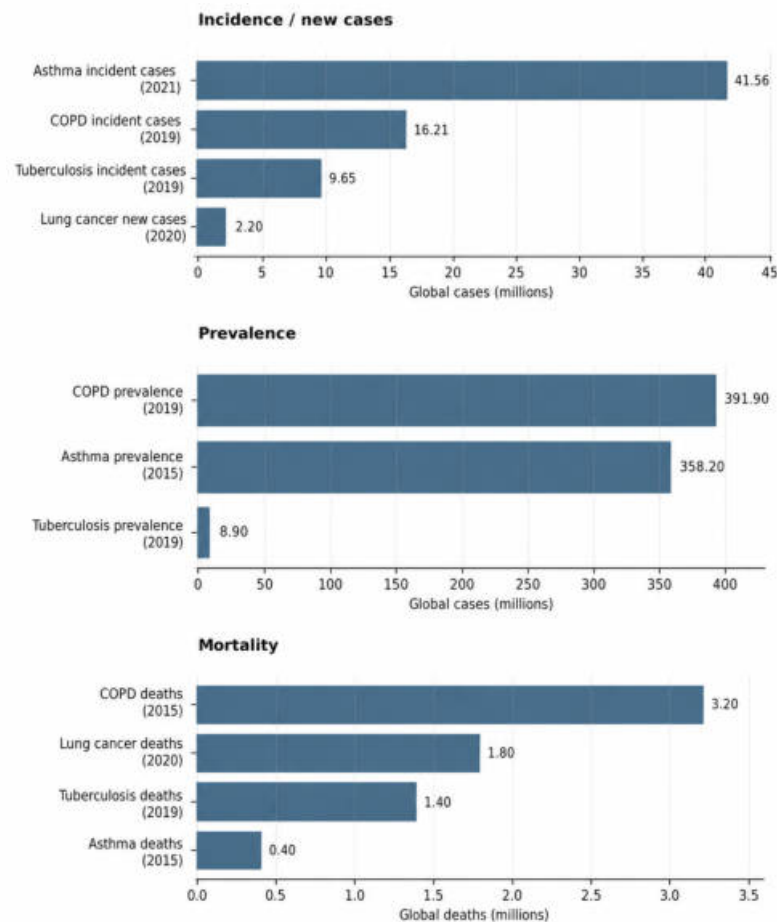


Figure 2.1: Global lung-health burden by epidemiological measure^{3,5-9}

Note: Incidence, prevalence and mortality variables are separated so that dissimilar measures are not presented onto a single axis.

The epidemiological lesson from these indicators is not simply that respiratory diseases are common. It is that lung disease accumulates across the life course. Childhood infection, poor air quality, biomass exposure, adult smoking, occupational dust, TB, and delayed diagnosis can each contribute to later respiratory impairment.

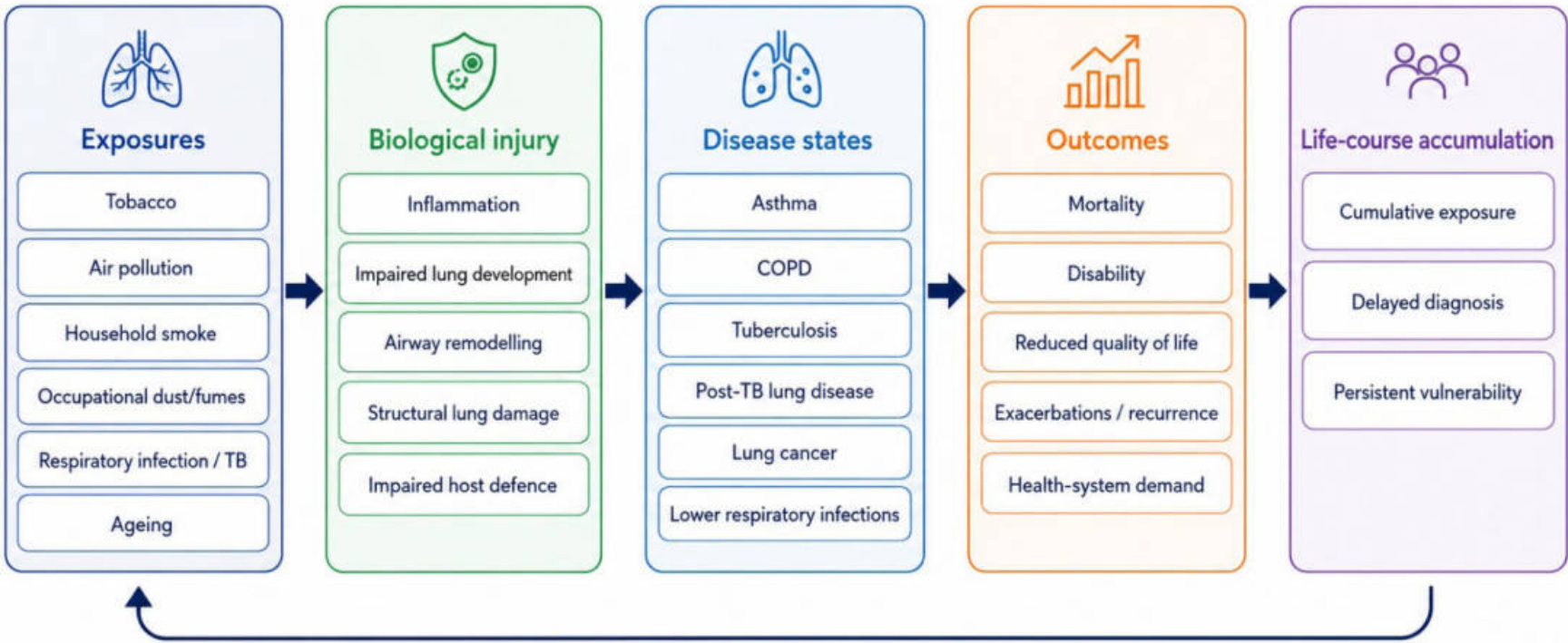
In many health systems, particularly in low- and middle-income country (LMIC) settings where communicable and noncommunicable burdens coexist, using the term “epidemiological transition” to describe respiratory disease patterns can be misleading. Many LMICs continue to experience an incomplete transition in which TB and lower respiratory infections persist even as COPD, asthma, and lung cancer expand.^{3,5-11}

Underlying the epidemiological landscape of lung health is a hidden and complex network of cumulative exposures and biological injury. Tobacco use, air pollution, household smoke, occupational hazards, and infection interact across the life course to contribute to disease, disability, mortality, and increasing demands on the health system.

The conceptual continuum presented here illustrates how these exposures and determinants interact to shape respiratory disease, health outcomes across the life course.

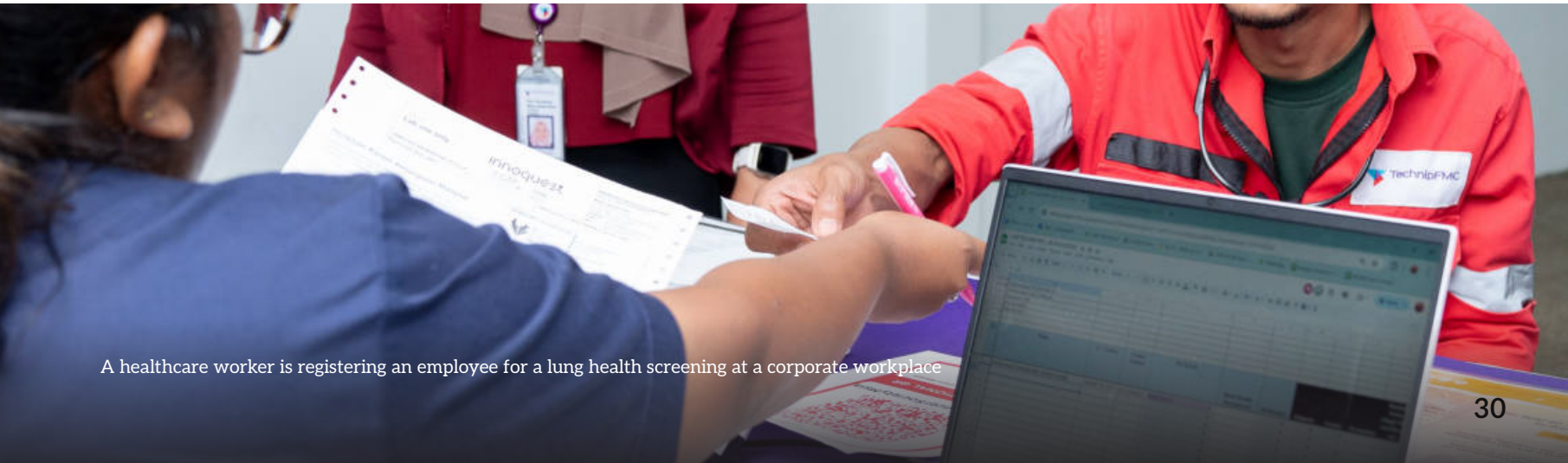
Exposure–injury–disease–disability continuum in lung health

How cumulative exposures translate into disease states and long-term outcomes.



Repeated exposure, delayed diagnosis and incomplete recovery amplify damage across the life course.

Figure 2.2: Exposure–injury–disease–disability continuum in lung health



A healthcare worker is registering an employee for a lung health screening at a corporate workplace

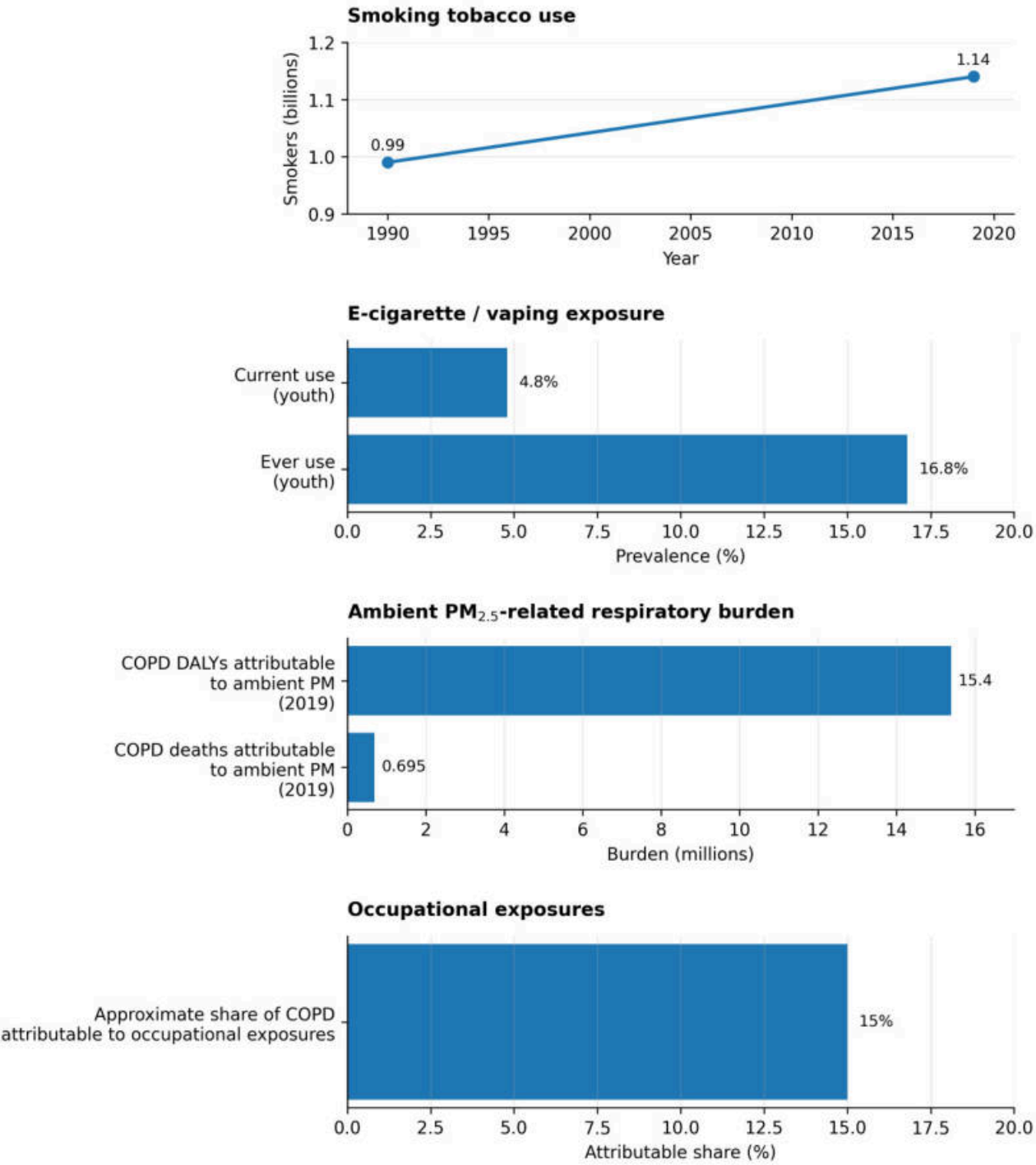


Figure 2.3: Major upstream exposure and attributable-burden indicators relevant to lung health ^{12,14-16}

Tobacco use, air pollution, occupational hazards, and both traditional and newer nicotine products are core determinants of lung health. Clear data from the GBD tobacco analysis quantified the persistence of tobacco use and its attributable disease burden across 204 countries and territories; while peer-reviewed evidence on air pollution demonstrates its critical role of mortality within the lung health context. ^{12,13}

While occupational exposures are less prominent in routine health statistics, the joint American Thoracic Society and European Respiratory Society statement emphasises that non-malignant occupational respiratory disease remains both preventable and substantial.¹⁴ Increasing evidence also supports the view that reduced lung function itself should be treated as an adverse population-health outcome. The Prospective Urban Rural Epidemiology (PURE) study demonstrated that impaired Forced Expiratory Volume in 1 second (FEV1), which measures lung function, was associated with mortality and cardiorespiratory morbidity across a large international community-based sample.¹⁷ The policy implication is that reducing preventable mortality cannot be the only goal of lung health systems - preserving functional capacity, reducing disability, and minimising avoidable dependence on hospital-based care are equally important.



Patient receiving a chest X-ray at a medical facility

Health-System Challenges: Diagnosis, Access, Financing, and Service Design

No health system is immune to pressure. A rising chronic disease burden, ageing populations, workforce constraints, financing pressures, and unequal access to care all continue to strain lung health systems worldwide. Importantly, many of these challenges are not poorly understood. Extensive peer-reviewed evidence from multiple settings has identified the structural weaknesses affecting lung health systems, while implementation frameworks to address them are also well established. The central challenge therefore goes beyond recognising the problem but translating evidence into coordinated action. In practice, this means moving from episodic respiratory care towards integrated primary care and public health systems.¹⁸

Within the lung health systems, diagnosis remains one of the most immediate bottlenecks. Confirming COPD, for example, requires spirometry; yet the availability, quality assurance, and clinical interpretation of spirometry remain inconsistent across many health systems.¹⁸ Similarly, the diagnosis of asthma depends on symptom history, variability and – where possible – objective testing. However, under-recognition and misclassification continue to occur, particularly in overburdened primary-care settings with limited respiratory instrumentation.¹⁸ Lung cancer diagnosis depends on imaging and referral capacity, while TB diagnosis, despite advances in molecular testing, continues to be shaped by delays in care seeking and health-system response.⁸⁻⁹

The resulting pattern is predictable. Patients often enter the health system only when symptoms become severe, when functional loss has already occurred, and when treatment is more expensive, more specialised, and less likely to restore health. This is a classic health system failure; when preventable exposure and delayed detection leads to cost-draining chronic burdens on secondary or tertiary healthcare systems, namely hospitals. A lung health strategy that does not strengthen primary-care recognition, chronic cough pathways, spirometry access, and referral quality will thus remain reactive rather than preventive.¹⁸

Access to medicines is another major constraint across many health systems. Even where asthma and COPD are correctly diagnosed, treatment may remain inaccessible without reliable access to affordable inhaled medicines. This weakens the ability of health systems to deliver effective respiratory care to patients and raises questions of equity and justice. Reviews and cross-country studies have documented limited availability, affordability, and access to essential respiratory medicines across numerous low- and middle-income health-system settings.¹⁹⁻²² Large-scale initiatives, including the Chronic Respiratory Diseases Medicines Survey, have further reinforced the importance of procurement, pricing, and supply-chain systems in determining whether guideline-based care can be delivered in practice.²³

Primary-care redesign is therefore not a marginal reform. Evidence on COPD strategies in LMICs emphasises that prevention, diagnosis, and long-term management must be embedded within first-contact care rather than left to hospital-centred systems – a principle that applies across the lung health landscape.²²



Patient pathway and health-system bottlenecks in lung health

Where delays, fragmentation and access barriers emerge across the care pathway.

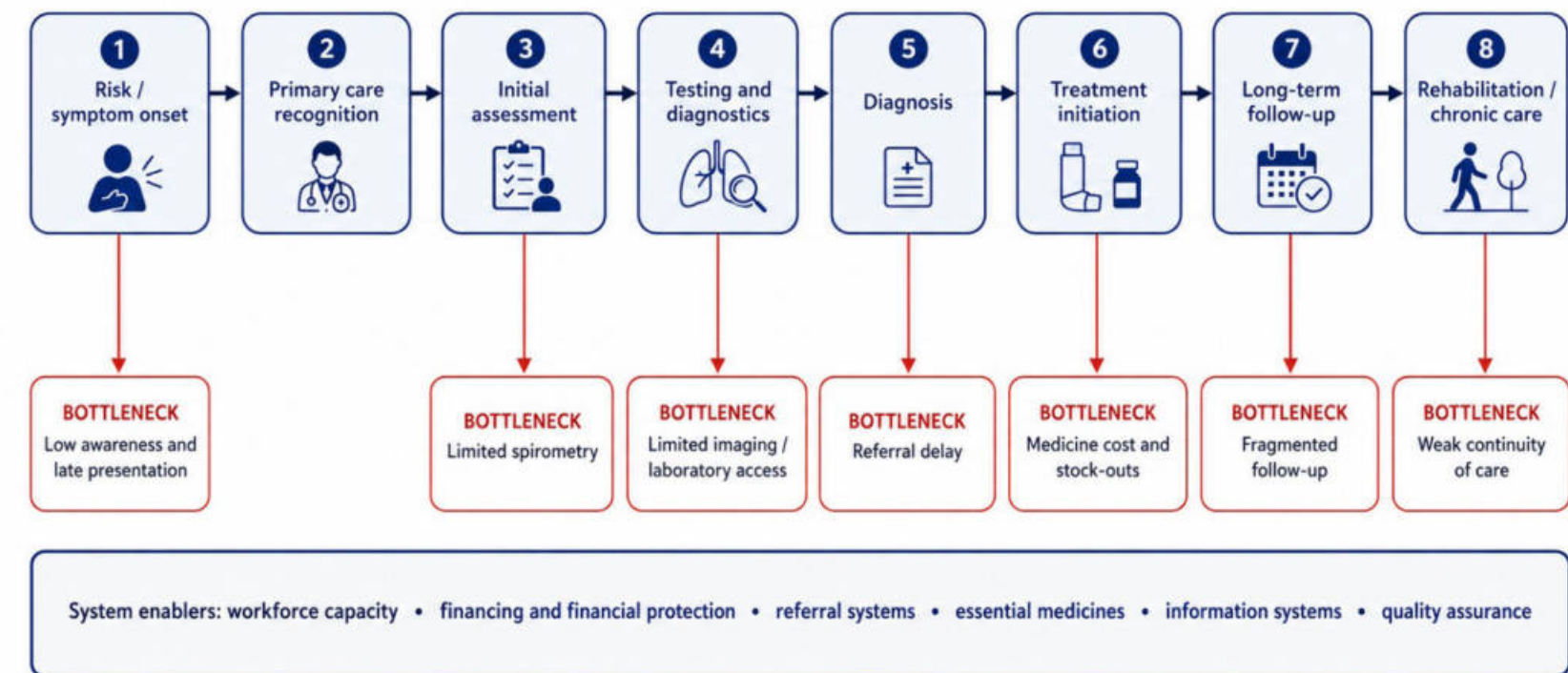


Figure 2.4: Patient pathway and health-system bottlenecks in lung health¹⁸⁻²³

The pathway diagram in Figure 2.4 identifies common points at which patients with respiratory disease may experience delay or fragmentation, from symptom onset through diagnosis, treatment initiation, follow-up, and long-term management. It also highlights the system enablers that determine whether care remains coordinated, continuous, and effective.

Other major structural challenges affecting lung health system include health financing, workforce capacity, and fragmentation.

Sustainable health financing remains a major challenge across many health system today amid ongoing social, political, economic, and geopolitical pressures. Financing arrangements strongly influence whether patients seek care early or delay treatment until symptoms become severe. Chronic respiratory diseases often require repeated visits, inhaled medicines, monitoring, education, and rehabilitation. Where these costs fall heavily on households through out-of-pocket (OOP) expenditures, patients may underuse treatment or forgo preventive maintenance therapies altogether, relying on acute hospital-based care during severe exacerbations. This pattern is both inefficient for health systems and harmful for patients because it converts manageable chronic disease into repeated exacerbations, hospital admissions, and avoidable mortality.¹⁹⁻²³

Workforce constraints extend beyond shortages of respiratory specialists. The more strategic question is whether respiratory competence is embedded in the first level of care. Pulmonologists, respiratory therapists, and pulmonary rehabilitation services are frequently concentrated in urban or tertiary centres. Primary-care clinicians may therefore be expected to manage asthma, COPD, chronic cough, TB sequelae, and inhaler technique without adequate diagnostic support or referral feedback. For conditions this common, respiratory capacity cannot remain confined to specialist services alone.^{18,22}

Fragmentation remains another major structural weakness within lung health systems. Patients are often separated into disease-specific silos and managed in relative isolation. Some health systems may have well-developed TB programmes but comparatively weaker chronic respiratory disease services, while occupational health remains disconnected from routine clinical care. Although administratively convenient, this arrangement is poorly aligned with patient experience. A person with previous TB, persistent breathlessness, smoking exposure, and occupational dust exposure requires a single pathway that recognises overlap rather than forcing care into a single programme category.^{10-11,18}

Examples of how these bottlenecks manifest across lung health systems, together with their policy implications, are presented in the following table.

Bottleneck	How it manifests within the lung health landscape	Policy implications
Diagnostic capacity	Limited access to spirometry, imaging, and structured respiratory assessment	Invest in primary care diagnostic pathways, chronic cough assessment, and referral protocols
Workforce and training	Respiratory expertise concentrated in specialist centres; while primary-care respiratory capacity and confidence remain variable	Strengthen primary-care training teams in COPD, asthma, TB sequelae recognition, and inhaler technique
Medicine access	Essential inhaled therapies may be unavailable, unaffordable, or inconsistently supplied	Include essential respiratory medicines within procurement systems and financial protection schemes
Service fragmentation	TB, noncommunicable disease (NCD), cancer, and occupational health services often operate in isolation	Develop integrated lung health pathways rather than disease-specific silos
Regulatory environment	Exposure reduction depends on effective tobacco control, air quality regulation, and occupational health protections	Treat lung health as a multisectoral policy priority rather than solely a clinical service issue

Table 2.2: Health system bottlenecks and policy implications¹⁸⁻²³





Behavioural and Social Determinants: Exposure, Choice, and Constrained Agency

The framing of behavioural determinants as matters of individual choices is incomplete. It minimises the role of social determinants in shaping both lung health and health outcomes. Tobacco use, vape use, exposure to household and environmental air pollution, occupational hazards, delayed care-seeking, and non-adherence to medication are shaped by broader social, economic, commercial, and policy determinants. These include affordability, education, housing, regulation, workplace conditions, and commercial determinants. Strategies and policies to influence behaviour therefore cannot focus solely on individual-level interventions. They must also address the structural conditions that shape exposure and decision-making, including housing, workplaces, urban environments, and broader policy systems. Efforts to transform lung health outcomes must therefore consider not only what people do, but also the environments and systems that make those behaviours more or less likely.^{12,15,24,25}

Tobacco control illustrates both major public health achievement and unfinished policy work. Taxation, smoke-free laws, marketing restrictions, plain packaging, cessation support, and protection from industry influence are now established tools in most national settings, yet implementation and enforcement remain uneven. Where tobacco products remain cheap, visible, and socially normalised, smoking cessation becomes substantially more difficult. Similarly, where cessation support is not integrated into routine care, important opportunities to reduce future COPD, lung cancer, and cardiovascular risk are lost.¹²

E-cigarettes and vaping introduce a newer challenge. Use among young people continues to rise globally, despite ongoing uncertainty regarding the long-term burden of disease attributable to these products. A recent BMJ review concluded that e-cigarettes have respiratory effects that warrant caution, although the long-term consequences remain uncertain, particularly among young people and never-smokers.²⁴ As evidence on the harms of these products continues to evolve, precautionary regulatory approaches should be considered while ensuring that preventive strategies remain grounded in scientific evidence rather than reactive public discourse.

On the other hand, air pollution and household exposure illustrate why individual behavioural advice alone is insufficient without broader structural action. People cannot easily choose clean air when cities are polluted, workplaces are hazardous, or cleaner household energy is unaffordable. Pollution is therefore not only an environmental issue, but also a major lung health and health-system issue because preventable exposure ultimately manifests as respiratory and cardiopulmonary disease within clinics and hospitals.^{13,16} Occupational exposure follows the same logic. If dust, fumes, and asthmagens are not controlled at the source, downstream health services will remain focused on managing preventable disease rather than preventing exposure in the first

place.¹⁴

Treatment adherence should also be understood through a systems lens. Non-adherence to inhaler therapies is not simply a behavioural issue, but may reflect financial barriers, limited understanding of controller therapy, device complexity, stigma, side effects, medicine stock-outs, or even weak continuity of follow-up.

A narrative review of adherence in asthma and COPD reported that non-adherence is associated with poorer outcomes, reduced quality of life, and avoidable healthcare costs. Where inhaled medicines are unaffordable or inconsistently supplied, poor adherence reflects not merely patient behaviour, but failures in access, financing, and continuity of care.¹⁹⁻²³

The following diagram reframes behaviour as context-dependent rather than purely individual. It shows how regulation, affordability, commercial influence, household energy, workplace conditions, education, and social norms shape smoking, vaping, help-seeking behaviour, treatment adherence, and continued exposure across the broader lung health continuum.

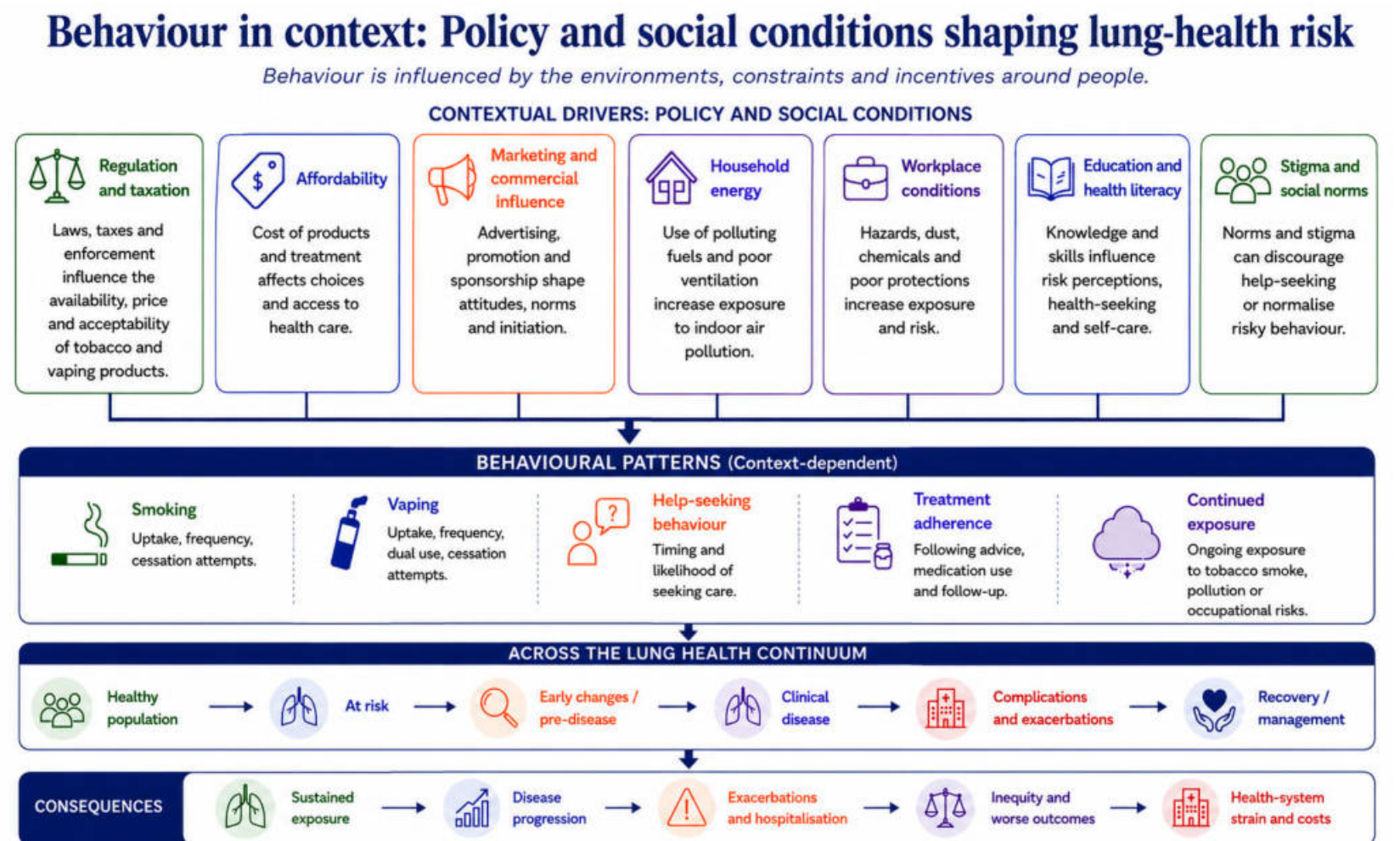


Figure 2.5: Behaviour in context: How policy and social conditions shaping lung-health risk

Patterns of behaviour are strongly shaped by social determinants. Marmot and colleagues argued that health inequities arise from the conditions in which people are born, grow, live, work, and age.²⁵ For lung health, these conditions include housing quality, household energy, education, transport, occupation, income security, and access to primary care. These determinants do not merely accompany disease; they shape exposure, delay diagnosis, and influence whether individuals receive timely and sustained treatment.

The following table outlines how these determinants influence lung health outcomes and identifies potential health-system responses to mitigate their effects.

Determinant	Mechanism	Policy-relevant response
Smoking	Direct tobacco exposure contributing to COPD, lung cancer, and broader respiratory morbidity	Taxation, smoke-free laws, cessation integration, and protection from industry influence ¹²
E-cigarettes and vaping	Emerging source of nicotine exposure and potential respiratory harm, particularly among young people	Surveillance, youth-focused regulation, and clear communication of uncertainty ^{15,24}
Household and ambient air pollution	Chronic exposure to particulate matter 2.5 (PM2.5) and combustion-related pollutants	Clean household energy, urban air-quality standards, and pollution-control enforcement ^{13,16}
Occupational exposure	Exposure to dust, fumes, and asthmagens in workplace environments	Workplace monitoring, regulatory enforcement, and routine occupational history-taking ¹⁴
Medication non-adherence	Interrupted controller therapy, poor inhaler technique, and inconsistent long-term disease control	Affordable medicines, patient education, inhaler-technique support, and continuity-of-care systems ^{19-23,34}

Table 2.3: Behavioural and social determinants of lung health





Spotlight Malaysia: Transitional Lung-Health Pressures in a Middle-income System

Sitting within a transitional policy and epidemiological space, Malaysia is a useful case study for understanding how communicable and noncommunicable respiratory burdens coexist within middle-income health systems. It has a comparatively developed public health system, an established national survey infrastructure and long-standing experience in disease control. Yet, it continues to face persistent tobacco exposure, urbanisation, occupational risks, chronic disease integration challenges, and uneven patient experiences.

Like many other LMICs, Malaysia's lung health landscape reflects the coexistence of communicable and noncommunicable disease burdens within a middle-income setting. COPD, asthma, TB, post-TB lung disease, lung cancer, occupational lung disease, and exposure-related respiratory morbidity all remain relevant to national health planning, yet they are not consistently organised within a unified lung-health agenda.^{3,8-9,11,14} Malaysia therefore reflects a broader middle-income-country reality; the existence of services does not necessarily translate into early diagnosis, integrated care, or equitable respiratory outcomes.

Tobacco use remains the clearest measurable behavioural risk. A peer-reviewed analysis of Malaysian national survey data reported current smoking prevalence among Malaysians aged 15 years and older at 23.1% in 2011, 22.8% in 2015, and 21.3% in 2019, indicating a modest decline but continued substantial population exposure.²⁶ Data from the Global Adult Tobacco Survey (GATS) Malaysia 2023 further showed a decline in smoking prevalence to 19.0% in 2023.²⁷ Smoking therefore remains a major preventable driver of future COPD, lung cancer, and respiratory mortality, and it sits at the centre of Malaysia's lung-health risk profile.^{12,26}

Vaping has emerged as an additional nicotine-related concern. The GATS Malaysia 2023 data also indicated that current e-cigarette use among Malaysian adults was 5.8%.²⁷ Malaysian studies focusing on adolescents reported an increase in e-cigarette use from 9.8% in 2017 to 14.9% in 2022, suggesting that vaping is becoming increasingly prominent among younger populations.²⁸ This creates a dual challenge for lung health; vaping may contribute to new nicotine dependence among young people while also complicating smoking cessation, tobacco-control messaging, and surveillance of tobacco-product exposure.^{15,24,27-28}



Trends of Smoking Prevalence in Malaysia

Percentage of current smokers aged ≥15 years

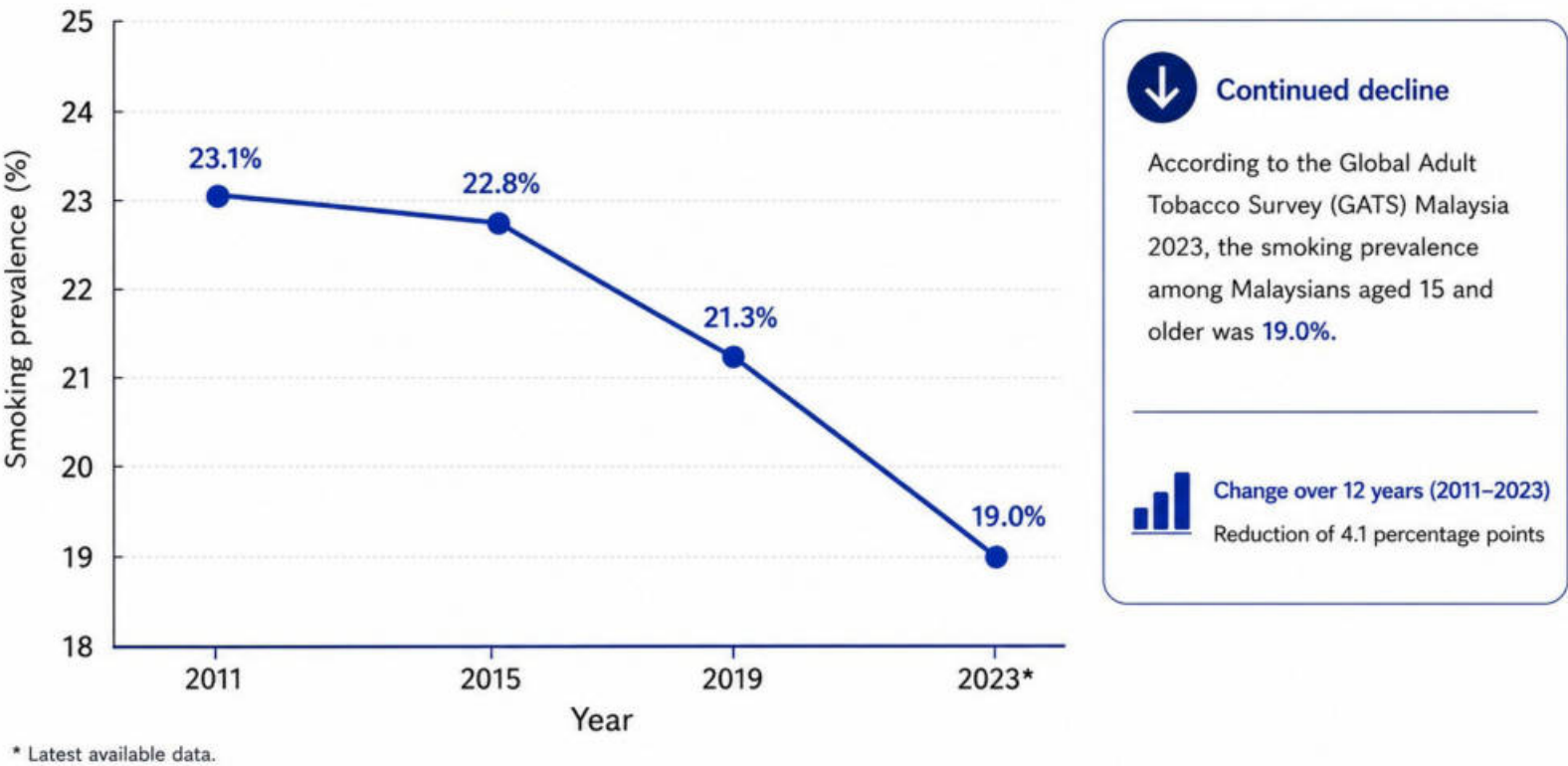


Figure 2.6: Trends in smoking prevalence among Malaysians aged 15 years and above, 2011–2023 ^{26,27}

Vaping as an Emerging Lung-Health Concern in Malaysia

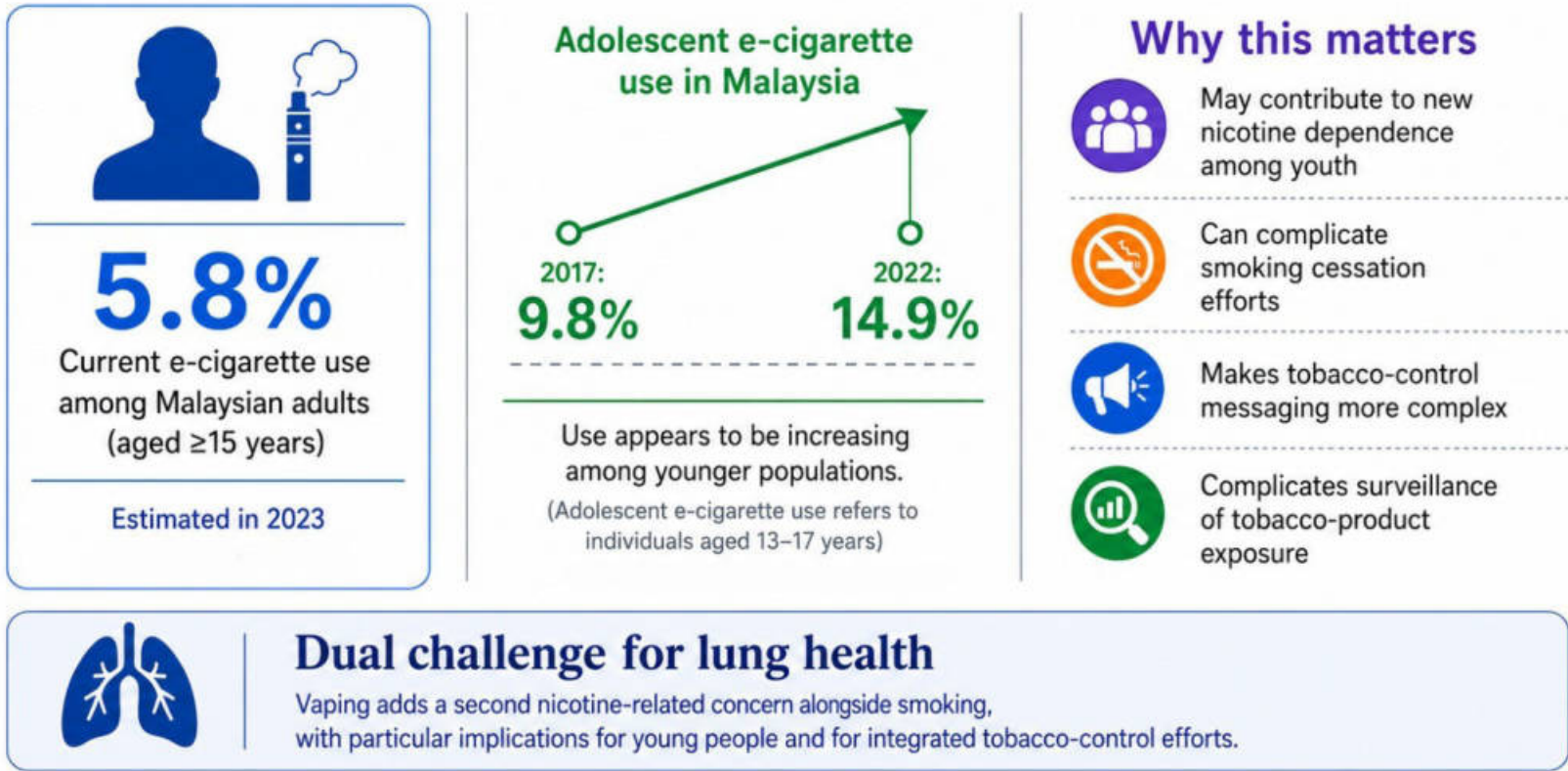


Figure 2.7: Vaping as an emerging lung health concern in Malaysia^{15,24,27-28}

Lung cancer represents the point at which tobacco exposure, delayed diagnosis, imaging access, and specialist referral converge. The Malaysia National Cancer Registry (MNCR) report identifies lung cancer as the second most common cancer among men and the third most common cancer among women in Malaysia, while screening and early detection remain important unresolved challenges.²⁹

A Malaysian study among high-risk current and former smokers in Sabah reported high stated willingness to undergo low-dose computed tomography (CT) screening, but also identified important barriers including lung-cancer stigma, limited knowledge of symptoms, financial concerns, preference for traditional medication, and distance from screening facilities.³⁰ The same study further described lung cancer care pathways as being suboptimal; with a five-year relative survival rate of about 11% and approximately 90% of cases diagnosed at late stages.³⁰ Lung cancer therefore represents not only an oncological condition, but also a lung-health system gap involving prevention, symptom recognition, imaging pathways, referral timeliness, and equitable access to diagnosis.



TB also remains part of Malaysia's lung-health landscape because it is both an infectious disease and a contributor to long-term respiratory impairment. Global clinical evidence shows that post-TB lung disease can include airflow obstruction, bronchiectasis, impaired exercise capacity, and chronic respiratory symptoms after microbiological cure.¹⁰⁻¹¹ In Malaysia, TB should therefore not be understood only as an acute infection-control programme; it also has important implications for chronic respiratory follow-up, rehabilitation, and integration with primary care.^{10-11,18}

The chronic respiratory disease burden in Malaysia remains difficult to define precisely. Recent nationally representative, spirometry-confirmed COPD estimates are not consistently available in the peer-reviewed literature, and asthma estimates vary depending on whether studies use symptoms, physician diagnosis, medication use, spirometry or administrative records.²⁹ This surveillance limitation is itself a major gap because it weakens planning for diagnostic capacity, inhaler access, workforce needs, and long-term disease control. Malaysian qualitative evidence also suggests inequities in chronic respiratory disease care at primary-care level, including barriers related to access, patient experience, and continuity of care.³⁰

Occupational and environmental exposures add further complexity. Peer-reviewed literature has clearly identified occupational exposures as contributors to non-malignant respiratory diseases, including occupational asthma and COPD, which is relevant to Malaysia's industrial, construction, agricultural, and informal work sectors.¹⁴ However, efforts to address these attributable risks often remain fragmented and insufficiently integrated into broader lung-health systems. Although pollution is a recognised determinant of lung health, Malaysia-specific respiratory attribution estimates should be used cautiously, as more clearly defined datasets and methods are needed to better quantify population impact.^{13,16}

Equity across the lung health continuum also remains an important concern. Recent Malaysian evidence points to inequities in chronic respiratory disease care. A 2026 primary-care study using an adapted Photovoice approach described inequities in chronic respiratory disease care in Malaysian primary-care settings.²⁹ Evidence of this kind is important because health-system inequity is not always visible in national prevalence estimates alone. It is often experienced through waiting times, medicine access, referral barriers, patient understanding, transport constraints, and the practical burden of repeated care-seeking. Malaysia's respiratory health context also includes important subnational and population-specific vulnerabilities. A 2024 study of Orang Asli communities in Tasik Chini examined factors related to lung function, underlining the importance of environmental, and social context in respiratory assessment.³⁰ A 2025 Penang study of adults with asthma, COPD, and TB examined sarcopenia and related factors, reminding policymakers that respiratory disease often interacts with nutrition, frailty, physical function, and broader chronic disease vulnerability.³¹ Regional mortality analysis in selected Asian countries further supports the need to interpret Malaysia within a wider Asian respiratory and demographic context.³²

From a systems perspective, Malaysia's challenge is not simply whether services exist, but whether they are integrated across the patient pathway. The use of, or exposure to tobacco smoke, chronic cough, possible TB history, asthma symptoms, COPD risk, and occupational exposure should not be assessed in isolation. A stronger lung-health approach would use primary care as the entry point for symptom recognition, smoking cessation, inhaler review, TB follow-up, occupational history-taking, and referral triage. This is the type of integration required to strengthen continuity, coordination, and long-term respiratory outcomes across the Malaysian lung health system.

A summary overview of the Malaysian lung-health system is presented in the diagram below.

A Snapshot of the Current Malaysian Lung Health Landscape

A middle-income case study of converging risks, service pathways and pressure points.

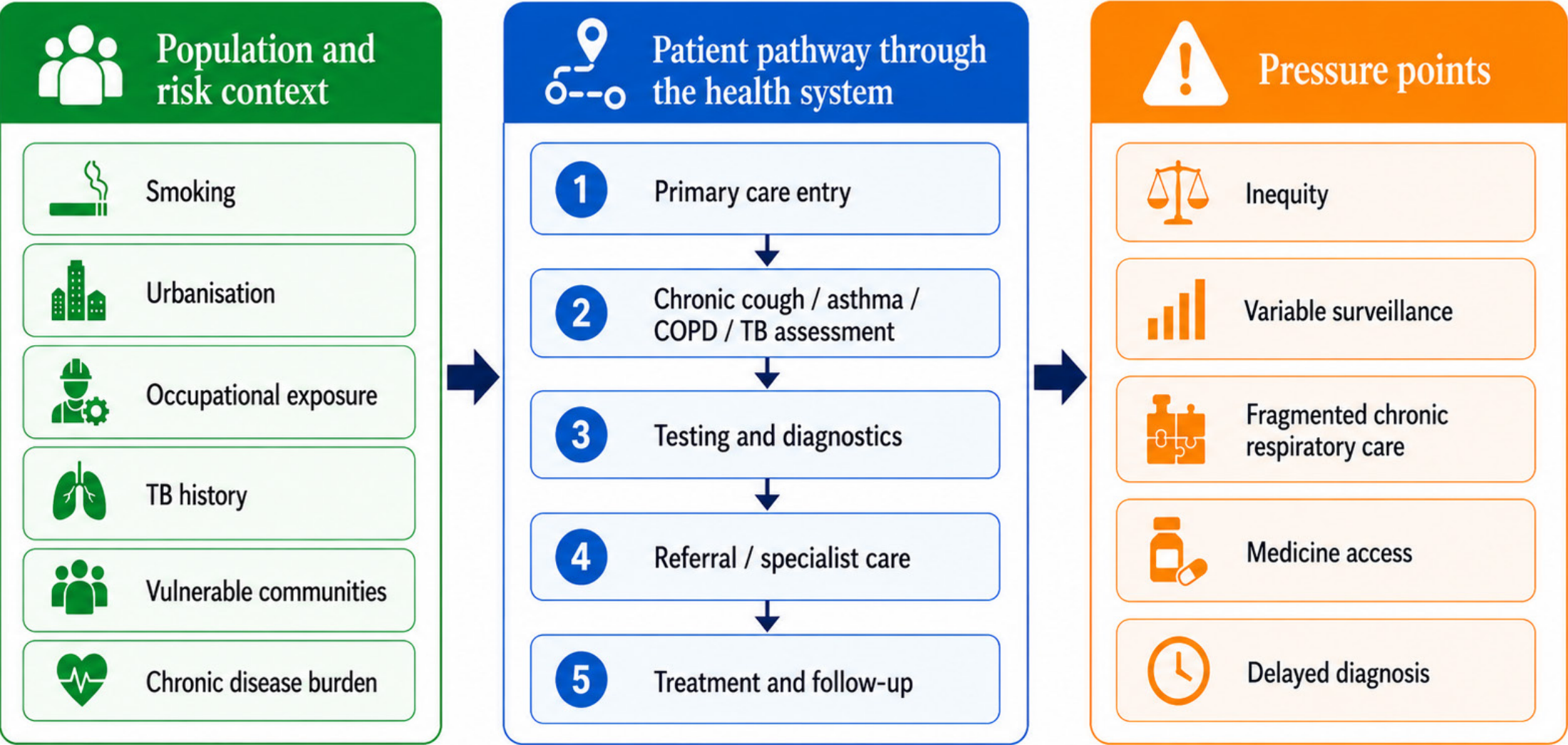


Figure 2.8: A snapshot of the current Malaysian lung health landscape^{15,24,27,28}

This model positions Malaysia as a middle-income respiratory-health case study. It links population risk context, the patient pathway through primary care and diagnostics, pressure points in chronic respiratory disease care, and Malaysia-specific evidence signals.





Gap Identification Across the Lung Health Landscape

Overall, lung health is often recognised clinically but remains insufficiently organised as a broad-based, cross-cutting integrated public health solution. Across countries, respiratory disease is still frequently divided into separate programmes for TB, asthma, COPD, lung cancer, occupational disease, tobacco control, and air pollution. This fragmentation obscures the fact that many lung diseases share common determinants, including tobacco exposure, environmental pollution, occupational inhalational risks, poverty, infection, poor housing, and delayed access to care^{1-4,12-14,18}

The first global gap is therefore an **integration gap**. Lung health is not yet consistently treated as a continuum spanning prevention, early detection, diagnosis, treatment, rehabilitation, and long-term follow-up.¹⁸ Patients do not experience respiratory illness as separate diseases. A person with chronic cough may also have smoked, or been exposed to tobacco smoke, post-TB sequelae, asthma, COPD, occupational exposure, or lung cancer risk. Managing these overlapping conditions requires a pathway capable of recognising and responding to multiple intersecting risks rather than forcing the patient into a single disease silo.^{10-11,14,18}

The second gap is a **diagnostic gap**. Respiratory symptoms are common, but access to diagnostic or confirmatory services varies substantially across health systems and even within different geographical settings of the same health system. COPD requires spirometry for accurate diagnosis, yet spirometry access, quality assurance, and interpretation remain limited in many primary-care settings, especially in LMICs.²² Asthma diagnosis is similarly vulnerable to under-recognition, misclassification, and poor follow-up upon weak objective testing, structured assessment, and continuity of care.^{31,33} Lung cancer diagnosis depends on timely imaging, referral, and specialist assessment, while TB diagnosis requires reliable laboratory access and effective linkage to treatment.^{8,9} The result is a recurring pattern of late presentation, with patients entering care when disease is advanced, exacerbations are frequent, or treatment options are narrower. This gap is not simply technical; it reflects underinvestment in primary-care respiratory capacity, referral systems, and diagnostic infrastructure.^{18,22,33}

The third gap is a **medicines and technology access gap**. Effective treatment exists for many respiratory conditions, but availability, accessibility, and affordability remain inconsistent. Peer-reviewed evidence from LMICs settings reveal persistent barriers in access to essential inhaled therapies, including inhaled corticosteroids and bronchodilators for asthma and COPD.^{19,23} These access constraints undermine disease control, contribute to exacerbations and shift care towards emergency and hospital-based treatment. Chronic respiratory disease relies on long-term management rather than episodic treatment. Where inhalers are unaffordable, unavailable,

or poorly explained, poor adherence should not be interpreted only as a patient behaviour problem; it also reflects failures in financing, procurement, delivery, and health-literacy.^{19-23,34}

The fourth gap is a **prevention and exposure-control gap**. Tobacco remains a dominant preventable driver of COPD, lung cancer, and respiratory mortality, while e-cigarettes and vaping create new regulatory and behavioural uncertainty, particularly among adolescents and young adults.^{12,15,24} Air pollution remains one of the major environmental determinants of cardiopulmonary disease, while at the same time, occupational exposures remain an under-addressed contributor to other chronic respiratory diseases including COPD and occupational asthma.^{13,14,16} These risks are often discussed separately, yet they cluster socially and geographically. Poorer populations may face higher exposure to household air pollution, unsafe work, poor housing, outdoor pollution, and reduced access to preventive care.^{13,14,25} The gap is therefore not only that exposures persist, but that exposure control is often treated as external to the health system rather than as a central lung-health function.^{13,14,18}

The fifth gap is an **equity gap**. Lung disease is not evenly distributed. It is shaped by the conditions in which people live and work, including housing, income, education, occupation, energy access, urban environment, and health-system access.²⁵ TB illustrates this clearly because its burden is linked to poverty, crowding, undernutrition, HIV, diabetes, and health-system access.⁹ Chronic respiratory diseases show similar inequities: people with fewer resources are more likely to experience harmful exposures, delayed diagnosis, poor continuity of care, and financial barriers to treatment.^{18,19,25} Equity is therefore not an optional lens; it is central to understanding why preventable respiratory disease persists.

The sixth gap is a **data and surveillance gap**. Many countries lack high-quality respiratory surveillance that combines symptoms, spirometry, exposure history, smoking and vaping history, occupational history, tuberculosis history, treatment access, and patient-reported outcomes.^{18,31} This weakens planning because health systems cannot manage what they do not measure. It also makes cross-country comparison difficult: asthma, COPD, and post-TB lung disease estimates vary widely depending on definitions, diagnostic tools, and survey methods.^{11,31,33} Data gaps are especially important for post-TB lung disease, occupational lung disease, vaping-related respiratory risk, and long-term quality-of-life loss after respiratory illness.^{11,14-15,24}

Taken together, these gaps show why lung health needs to be understood as a systems problem rather than as a set of isolated diagnoses. The global burden is sustained not only by biology or individual behaviour, but by fragmented programmes, weak diagnostics, inconsistent medicine access, preventable exposure, inequity, and inadequate surveillance.^{1-18,25,31,33,34}

Identifying Gaps in the Lung Health Landscape

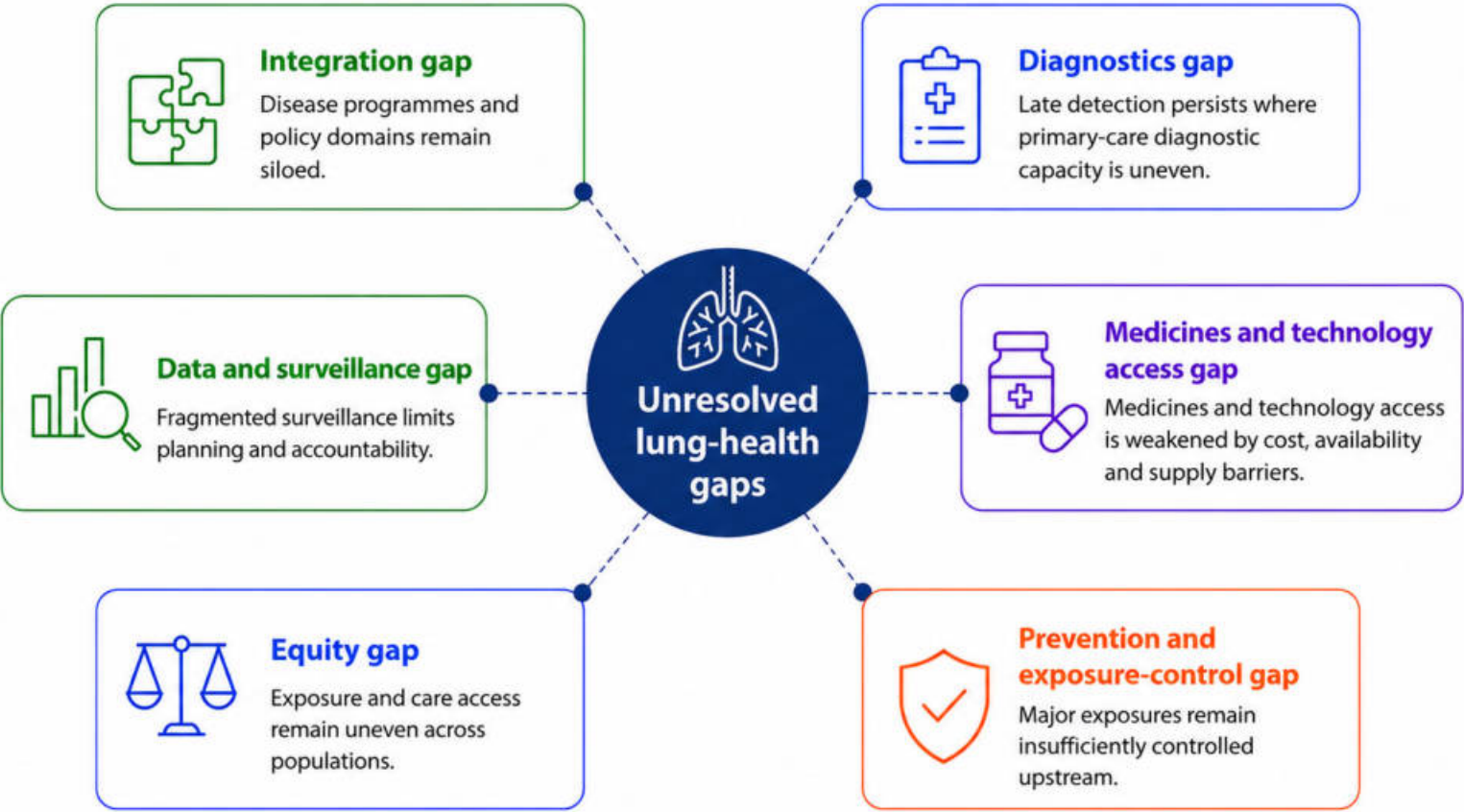


Figure 2.9: Identifying gaps in the lung health landscape

This figure summarises the gaps identified within the healthcare landscape at present. It is quite clear that lung health sits at the intersection of environmental exposure, commercial determinants, infectious disease control, chronic disease management, and health-system design. The landscape faces persistent gaps in integration, diagnosis, medicine access, upstream prevention, equity, and data systems – but on the other hand, opportunities abound for action.



Ambulances at a public hospital facility, reflecting the role of Malaysia's tertiary healthcare system in supporting emergency response, patient transfer, and continuity of specialist care



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CHAPTER 3

From Gaps to Opportunity: Building a Malaysia's National Lung Health Initiative and Advancing a Global Resolution

The development of the Malaysia's National Lung Health Initiative and the subsequent World Health Assembly Resolution WHA78.5 emerged from recognition of a broader structural problem: respiratory disease continued to be managed through fragment programmes despite overlapping determinants, patient pathways, diagnostic needs, and long-term system demands. Tuberculosis (TB), chronic respiratory disease, lung cancer, occupational exposure, tobacco control, and environmental risk were frequently addressed through separate policy and service structures even though patients often experienced these conditions through shared symptoms, delayed recognition, and fragmented care pathways.

The initiative therefore sought to reposition lung health as an integrated systems issue rather than as a collection of isolated diseases. The objective was not to replace disease-specific expertise, but to connect communicable disease control, noncommunicable disease (NCD) management, environmental and occupational health, primary care, diagnostics, referral systems, and long-term follow-up with a coherent implementation framework. This chapter traces how that conceptual shift evolved into a national implementation architecture and subsequently informed the development of WHA 78.5 on promoting and prioritising an integrated lung health approach.

Momentum for strengthening lung health in Malaysia accelerated following passage of The Control of Smoking Products for Public Health Act 2024 (Act 852), Malaysia's first stand-alone tobacco control legislation. The coalitions, technical engagement, and policy alignment developed during this period subsequently created an opportunity to widen the national focus beyond tobacco control alone and towards a broader lung-health and systems agenda.

The marshalled capabilities and advocacy networks that had supported passage of Act 852 were then directed towards ensuring that the Act - a comprehensive piece of legislation aimed at regulating all smoking products, including tobacco, vapes, and e-cigarettes - would not remain a 'paper tiger', but would be meaningfully implemented on the ground.

It became increasingly apparent that tobacco control alone could not fully address the wider respiratory burden facing the population. Chronic respiratory disease, TB, occupational exposure, environmental risk, and lung cancer also shared overlapping determinants, patient pathways, and long-term implications for the health system.

From this broader impetus and consensus emerged the concept for a more integrated national lung-health framework. Malaysia already has many of the necessary building blocks: public health infrastructure, TB services, tobacco surveillance, primary care, cancer pathways, clinical expertise, and national survey capacity. The strategic challenge was to connect these assets into a coherent Malaysia's National Lung Health Initiative, rather than allowing lung health to remain distributed across separate disease, exposure, and administrative silos. Together, this was done quite quickly since there was nationwide passion and drive. As the national framework began taking shape, discussions also emerged around whether Malaysia could contribute to shaping a broader global policy conversation on integrated lung health, led by the national leadership of our Minister of Health, H.E. Datuk Seri Dr Dzulkefly Ahmad.

In collaboration with multiple counterparts, technical partners, and international stakeholders, discussions evolved towards advancing a global effort around integrated lung health, including supporting the Malaysia-led proposed Resolution. These efforts ultimately contributed to the adoption of World Health Assembly Resolution WHA78.5, "Promoting and prioritizing an integrated lung health approach," at the Seventy-eighth World Health Assembly on 27 May 2025.



A volunteer conducting a community health screening consultation with a participant

From Gaps to Solutions: The Pathway to a Malaysia’s National Lung Health Initiative

Lung health was particularly suited to an integrated systems approach because it sat at the intersection of communicable disease, NCD, environmental exposure, occupational health, tobacco control, and primary-care delivery. Across the patient pathway, many respiratory conditions shared common determinants, overlapping symptoms, delayed recognition, fragmented referral systems, and long-term follow-up needs. The challenge was therefore not simply the management of individual diseases, but the organisation of health-system functions around prevention, early detection, diagnosis, treatment, rehabilitation, surveillance, and continuity of care.

The first step to formulate and develop a national lung health framework involved the identification of gaps within the current lung health landscape and identify opportunities for practical system integration and implementation.

Six unresolved gaps in the global lung-health landscape had been identified (as detailed in the previous chapter), namely: an integration gap, a diagnostic gap, a medicines and technology access gap, a prevention and exposure-control gap, an equity gap, and a data and surveillance gap. Subsequently, contextualised local solutions were developed to address and overcome these gaps within the Malaysian lung health landscape.



Table 3.1 below summarises the proposed solutions, their operational logic, and their intended domains for implementation.

	Gap identified	Proposed solution	Real-world application of solution	Solution domain
1	Integration gap: lung health divided across TB, asthma, chronic obstructive pulmonary disease (COPD), lung cancer, tobacco control, occupational health, and environmental programmes	Create a national framework within which separate lung-health diseases and risk factors could be managed together.	A Ministry of Health-led platform linking communicable, noncommunicable, occupational, and exposure-related lung conditions through one policy frame, shared technical oversight, and common implementation architecture.	National integrated lung-health governance framework
2	Diagnostic gap and fragmented patient pathway; diagnostic and care-quality gaps	Convert symptoms and risk factors into a structured entry point for early detection and referral.	Chronic cough, breathlessness, wheeze, smoking or vaping exposure, previous TB, and occupational exposure used as triggers for structured risk assessment, screening, diagnosis, and referral. AI-assisted chest X-ray (AI-assisted CXR), conventional chest X-ray (CXR), spirometry, TB testing, low-dose computed tomography (LDCT) pathways, molecular, or biomarker testing and standard referral criteria.	Primary-care lung-health entry pathway; integrated screening and diagnostic package(s)
3	Medicines and technology access gap	Ensure that diagnosis is linked to medicine access, referral, on-time treatment, rehabilitation, and palliative care.	Inhaled medicines, TB medicines and diagnostics, oxygen, vaccines, diagnostic technologies, imaging access, rehabilitation, and access pathways.	Essential lung-health package
4	Prevention and exposure-control gap; occupational exposure gap and weak linkage between workplace exposure and clinical care	Move lung health upstream by addressing smoking, vaping, air pollution, occupational exposure, environmental risk, and vaccination.	Tobacco and vaping prevention, cessation referral, public communication, vaccination linkage, and targeted outreach for high-risk or vulnerable groups; air-pollution risk communication, alignment with environmental health action, and linkage of clean-air concerns to respiratory prevention, screening and surveillance; workplace risk profiling, occupational exposure screening, occupational health services, and referral pathways for exposed workers.	Upstream prevention package; an environmental lung-health platform; a workplace lung-health programme
5	Equity gap: risk that national averages mask vulnerable groups, occupational risk groups, underserved communities, or people facing access barriers	Ensure that national averages does not mask vulnerable groups, occupational risk groups, underserved communities, or people facing access barriers.	An integrated package suitable for patients across diseases and exposure profiles.	Service-delivery model(s)
6	Data and surveillance gap	Make implementation measurable through data systems, dashboards, indicators, and feedback loops.	Digital forms, a national database, dashboard, indicators, and an end-to-end system from screening through diagnosis, referral, and outcomes.	Lung-health data ecosystem

Table 3.1: Conceptualising solutions for identified gaps across the Malaysian lung health landscape

These solutions were brought together to become a formal architectural solution comprising multiple, linked system functions i.e. a National Lung Health Framework. Together, these components formed the foundations of the National Lung Health Initiative.

In operational terms, the framework was designed to move individuals through a coordinated lung-health pathway rather than through isolated disease programmes. Individuals identified through primary care, workplace outreach, or community-based screening could undergo structured risk assessment, chest imaging, spirometry or TB testing before referral into integrated diagnostic and treatment pathways. Screening status, referral outcomes, and follow-up could then be monitored through shared surveillance and reporting systems, strengthening continuity across prevention, diagnosis treatment, rehabilitation, and long-term management. Implementation across a national health system requires adaptation to different operational settings. Diagnostic capacity, workforce distribution, referral-pathway coordination, digital infrastructure, and access to technologies remain uneven across settings, particularly between urban and rural environments, and between public and private sectors. The Initiative therefore required implementation in phases, continuous monitoring and evaluation as well as adaptation according to the capacity of local health systems, the available resources, and readiness of implementation.



A man smoking in a public area in Malaysia, in front of a displayed “No Smoking” sign



Malaysia's National Lung Health Initiative

Based on the solution architecture and framework described in the previous section, the Malaysia's National Lung Health Initiative was conceptualised.

Formulated as a national integrated framework rather than a single vertical disease programme, the National Lung Health Initiative laid out a comprehensive roadmap – one that outlines a national implementation framework that strengthens integration across prevention, screening, diagnosis, treatment, rehabilitation, and long-term respiratory care.¹⁻³

Its early disease focus comprised lung cancer, COPD, asthma, and TB, while its shared risk-factor focus included smoking, occupational exposure, and environmental factors.¹⁻³ This disease-and-risk-factor pairing was central to the framework as the Initiative was not built around one diagnosis, but around the common determinants, patient pathways, and system functions that connected several lung conditions.

The Initiative also incorporated promotion, prevention, screening, diagnosis, treatment, rehabilitation, palliative care, monitoring, and evaluation for lung health within a single implementation structure, including a lung-health registry and indicators to measure outputs and outcomes.¹⁻³

An Implementation Guideline translated the strategic directives into a standard implementation template to be implemented across the country.³ It defined the approach as prevention, early screening, accurate diagnosis and continuity of treatment, while also specified the areas in which these activities were to be carried out: namely, government health facilities, high-risk occupational settings, and outreach activities targeting smokers, exposed workers, symptomatic individuals, and vulnerable groups.³



Figure 3.1: Front-cover snapshots of key documents from Malaysia's National Lung Health Initiative



Framework Components of the Malaysia's National Lung Health Initiative

Disease scope

The Initiative comprised a defined disease platform for priority lung conditions. In its early phase, the National Strategic Plan will be focused on lung cancer, COPD, asthma, and TB.³ This was not a narrow clinical selection. These diseases represented the main epidemiological and system categories identified by key local stakeholders: high-mortality cancer, chronic airway disease, variable and often under-recognised asthma, communicable lung disease, post-infectious lung impairment, and shared exposure-related risk. This will be widened and expanded to include the larger group of lung diseases from diverse conditions. The initiative also recognised lung health as spanning noncommunicable diseases and communicable diseases, including lung cancer, COPD, asthma, and lower respiratory tract infections such as pneumonia, TB, Coronavirus disease 2019 (COVID-19), and influenza.¹⁻³

Shared risk-factor scope

The Initiative also comprised of an upstream risk-factor architecture. Smoking and use of other tobacco products, occupational exposure, and environmental factors were identified and categorised as the major shared risk factors targeted by the early phase of the Initiative. The Initiative therefore treated risk reduction as part of lung-health delivery, rather than waiting for disease to manifest before intervention. Tobacco and vaping control, workplace exposure reduction, air-pollution awareness, and vaccination were therefore positioned as health-system functions, not merely external public-health messages.¹⁻³

Delivery settings

The Initiative comprised three principal delivery settings. In the early phase, implementation would take place in i) health facilities, including public and private primary care providers, and hospitals; ii) high-risk workplaces, especially in the private sector; and iii) via outreach activities to those rural, remote, and underprivileged populations; and targeting of high-risk groups such as smokers, exposed workers, symptomatic people, and vulnerable populations.¹⁻³

Continuum of care

The Initiative is designed to encompass the full continuum of care. It specifies promotion and prevention, screening, diagnosis, treatment, rehabilitation, and palliative care, with monitoring and evaluation to measure outputs and outcomes; leveraging on working through the public, private, and community sectors with a focus on cross-sector partnerships.¹⁻³

Governance and technical coordination

The Initiative comprised governance structures that linked technical planning to implementation. The Implementation Guideline described a Technical Working Group for the National Lung Health Initiative whose functions included identifying implementation issues in promotion, prevention, screening, early detection, diagnosis, treatment, rehabilitation, palliative care, surveillance, epidemiology, and the lung-health registry; identifying and formulating actions based on evidence and technical reports; and reporting implementation issues to the Ministry of Health Malaysia (MOH) NCD Technical Committee. Within the implementation guidelines, state-level implementation and its governance, including the establishment of monitoring committees chaired by State Health Directors, are provided for in detail.³

Integrated screening and diagnostic package(s)

The Initiative comprises the development and roll-out of integrated screening and diagnostic packages across the lung health landscape. For the early phase, screening tools to be utilised include conventional CXR or AI-assisted CXR, spirometry, TB detection tests, and LDCT.¹⁻³ The Initiative also describes improved diagnostic capacity through spirometry, AI-assisted CXR, LDCT, and molecular testing, including rapid molecular testing, to support early detection of respiratory diseases.¹⁻³ Screening, within the Initiative, therefore was disease-blind and structured around risk. Screening within the Initiative at the primary care level was therefore structured around risk rather than around single diseases. This is achieved by bringing together symptoms, imaging, airflow assessment, and TB testing to provide a complete picture of an individual before escalation into integrated diagnostic pathways.

Referral, treatment access, and patient navigation

The Initiative also comprised of referral and treatment-access mechanisms. It describes end-to-end screening, diagnostic, and referral tracking, while also including the impetus to discover innovative strategies that would ensure eligible patients received timely and equitable access to essential therapies when access was limited by regulatory, financial, or procurement barriers. This component was essential because early detection would have limited value without timely referral and treatment initiation. The Initiative therefore connected screening to referral, referral to diagnosis, diagnosis to treatment, and treatment to follow-up.¹⁻³

Rehabilitation and palliative care

The Initiative comprised rehabilitative and palliative care as part of lung-health management rather than as an afterthought. It identified rehabilitative and palliative care as a strategic pillar to support patients with chronic lung diseases, improve quality of life and reduce health-system burden, and included these components within the implementation guidelines. This ensured that the framework was not limited to detection and acute care, but recognised long-term function, symptom burden, advanced disease, and supportive care.¹⁻³

Data, registry, dashboard, and monitoring

The Initiative also provides for data and monitoring architecture. The Initiative describes the development of an integrated national database and an interactive dashboard, enabling recording and tracking of screening results, diagnostic tests, and referrals from end-to-end. Its monitoring indicators will include the proportion of high-risk individuals screened, outreach screening, smokers screened, individuals referred for further investigation, individuals detected with lung cancer, pulmonary TB, asthma, and COPD, and individuals diagnosed with lung cancer within established timelines for the screening programme.^{1,3}

Partnerships, workplace integration, and whole-of-society delivery

The Initiative also comprises of a partnership and workplace-health architecture. It calls for and will ensure coordinated implementation across public health sectors and hospitals within the MOH and through public-private partnerships with government agencies, non-governmental organisations (NGOs), and private entities.¹⁻³ This would translate the whole-of-society principle, which underpins the moral impetus of this entire Initiative into practical delivery settings.

Operationally, this required governance structures capable of uniting technical oversight, implementation planning, data systems, occupational health engagement, referral coordination, and community-level delivery across sectors. The MOH would function as the central coordinating body, while technical working groups, implementation partners, professional societies, and external agencies contributed to workforce development, operational delivery, surveillance, and public communication. The objective goes beyond simply multisectoral participation towards coordinated implementation around shared lung-health priorities.

The subsequent figure illustrates the breadth and depth of the entire developed operational framework.

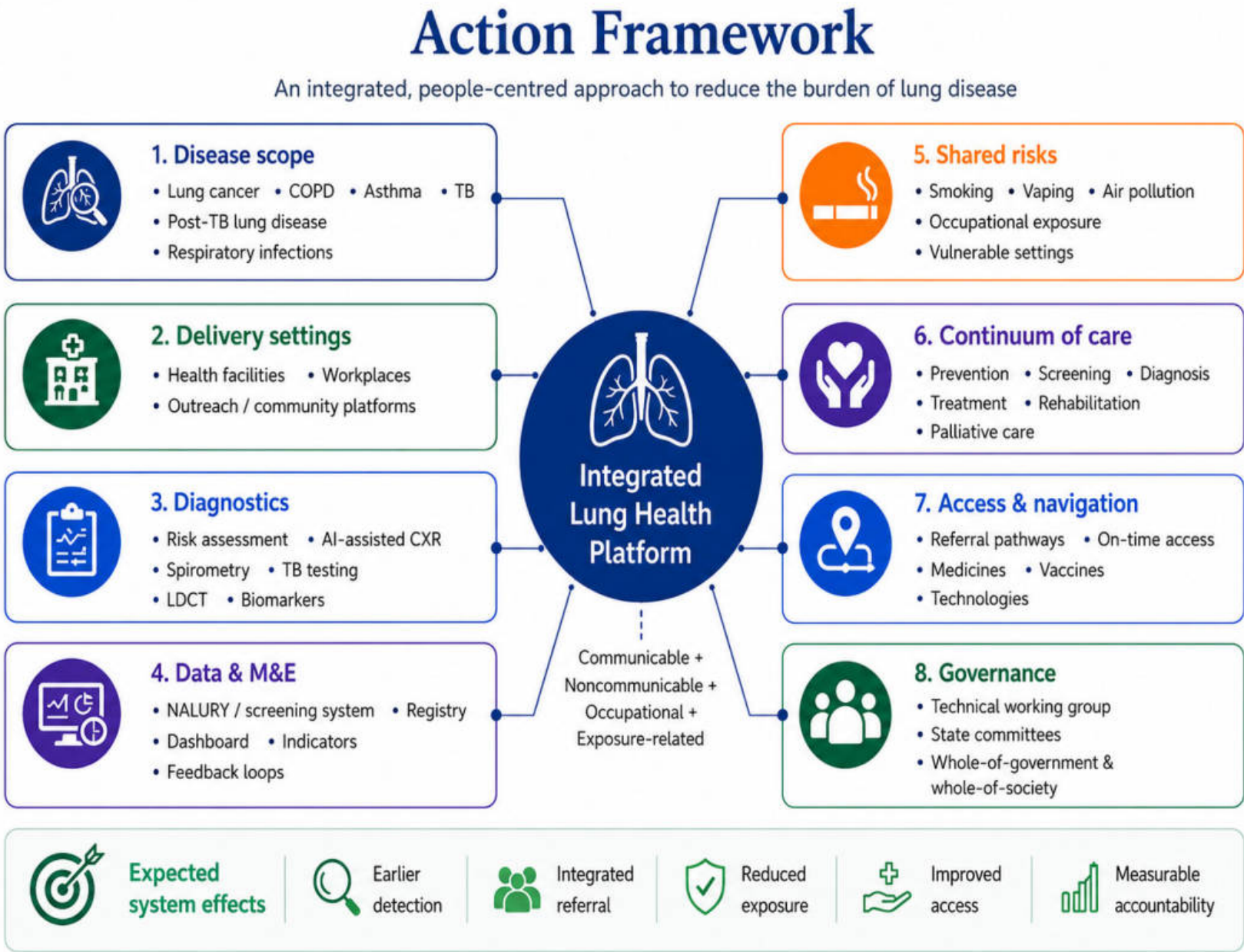


Figure 3.2: Action framework of the Malaysia's National Lung Health Initiative



A medical officer and outreach project coordinator discussing approaches to strengthen community lung health screening efforts through a comprehensive, multi-pronged approach



A Patient Access Programme executive sharing information on the On-Time Access Programme under the Lung Health Initiative Malaysia 2025-2030



What the Solution Framework Looked Like in Practice

In practical terms, the Malaysia’s National Lung Health Initiative was a framework for connecting several previously separate functions. It linked disease programmes to shared risks; it linked primary care to referral and tertiary diagnosis; it linked workplace and outreach platforms to clinical assessment; and it linked screening to a national database and monitoring indicators. The Initiative was therefore better understood as a system design than as a single programme.

The prevention component addressed the exposure side of the Chapter 2 problem. It included tobacco and vaping control, occupational lung-health risk reduction, environmental health communication, and prevention of respiratory infections where relevant.³⁻⁶ The screening component addressed the problem of late presentation by placing risk assessment and early detection into primary care, outreach, and workplace settings.¹⁻³ The diagnostic component addressed the need for objective tools, including AI-assisted CXR, spirometry, TB testing, LDCT, and molecular testing.³ The treatment component addressed the risk that screening would become disconnected from care by linking patients to referral, On-Time Access, patient navigation, and specialist pathways.^{1,2}

The data component was particularly important because it transformed the Initiative from a set of activities into a learning system. The Implementation Guideline’s digital screening system and indicator set enabled screening, diagnostic tests, and referral to be tracked end-to-end.³ This was aligned with the WHA78.5 requirement for evidence-based information mechanisms for for policymaking, programme monitoring, evaluation, and learning.³ The Malaysian framework therefore not only reflect the Resolution; but also provided a practical national example of how its component could be operationalised within a health system

Framework mechanism	Gap addressed	Operational expression	Intended system effect
Governance and coordination	Fragmented programmes	National framework, technical working group, state-level implementation structures	Lung health managed as an integrated agenda rather than isolated disease activity
Primary-care and outreach entry	Late recognition and diagnostic delay	Risk assessment and screening in health facilities, workplaces, and outreach	Earlier identification of high-risk or symptomatic individuals
Diagnostics and technology	Limited objective assessment and referral capacity	AI-assisted CXR, spirometry, TB tests, LDCT, and molecular testing	Clearer movement from suspicion to diagnosis
Access and referral	Diagnosis not linked to timely treatment	Referral pathways, On-Time Access, navigation, and continuity of care	Reduced delay between detection and treatment initiation
Prevention and exposure control	Persistent upstream risks	Tobacco/vaping control, occupational risk reduction, environmental health action	Risk reduction embedded into the lung-health framework
Data and accountability	Weak surveillance and fragmented data	Digital forms, database, dashboard, and indicators	Programme performance and outcomes made measurable

Table 3.2: Operability of the Malaysia’s National Lung Health Initiative framework



Klinik Kesihatan Kuala Lumpur, one of Malaysia's public healthcare facilities supporting accessible community health services.

From Local to Global: Seizing the Opportunity to Move a Global Resolution

As the National Lung Health Initiative began taking substantive form, different international partners began to advocate to Malaysia that the country should take up the cause of lung health and advocate for it globally; including moving for a global resolution on the issue.

The rationale for advancing the advocacy from local to global was not that Malaysia's lung-health challenges were unique. It was precisely because they were not unique. Malaysia made visible a wider structural pattern: lung health is present everywhere in the health system, but organised nowhere as a unified public-health agenda.

The opportunity to go global emerged when this national pattern was recognised as internationally relevant. Malaysia's National Lung Health Initiative could organise the domestic response, but a World Health Assembly resolution could create policy legitimacy, shared terminology, and accountability beyond one country.

The proposal gained traction because many countries were facing similar structural challenges: rising chronic respiratory disease burden, persistent TB, environmental exposure, tobacco-related disease, fragmented referral systems, and increasing pressure on primary care as well as hospital services. Positioning lung health as an integrated systems issue allowed the resolution to bridge communicable disease, NCD, occupational and environmental health, and health-system strengthening within a single policy

framework. This provided the Initiative broader relevance beyond respiratory medicine alone.

Moving such a global resolution also created an opportunity for nations to recognise that communicable and noncommunicable lung diseases, including COVID-19, were among the leading causes of mortality in 2021 and had caused more than 18 million deaths globally. It names TB, pneumonia, influenza, COVID-19, COPD, pulmonary fibrosis, asthma, and lung cancer as conditions requiring an integrated approach within primary health care and universal health coverage. Emerging in the post-COVID policy environment also added the urgency and impetus to strengthening the respiratory-system, integrated respiratory care, and health-system preparedness.

A global resolution also mattered also because it proposed clearly to shift lung health away from a narrow respiratory-specialist frame and places it within public health, primary care, universal health coverage, and multisectoral prevention. It also validates the same determinants that emerged through the Malaysian analysis: tobacco, vaping, indoor and outdoor air pollution, occupational exposures, crowded living conditions, poor ventilation, and stigma affecting access to early detection and care. The urgency for a comprehensive lung health resolution has never been more apparent, making it critical for Member States of the WHO to unite in addressing this global health priority. The resolution is timely and a practical approach given the wide spectrum of diseases, risk factors, and age groups, and a rethinking of traditional boundaries in the management of both acute and long-term lung health conditions through collaborative care.



Nurses at a public health facility providing consultation and support to patients

Why a Global Resolution was Important?

A global resolution was important for three reasons. First, it would provide political recognition. Many lung-health components had already existed within separate global agendas: TB, NCDs, tobacco control, cancer, air pollution, occupational health, primary health care, and access to medicines. What was missing was a single global frame that brought these elements together as integrated lung health.

Second, the resolution translated alignment into action. In what later became structured as WHA78.5 - Promoting and prioritizing an integrated lung health approach, Member States were urged to develop an integrated national policy for lung health, incorporate an integrated approach into primary healthcare services, strengthen air-quality awareness and monitoring, create and enforce regulations protecting workers from occupational risks, strengthen tobacco and vaping control, reduce indoor and outdoor air-pollution exposure, update evidence-based clinical and public-health guidelines, develop information mechanisms for policymaking and monitoring, and improve access to medicines, vaccines, and health technologies.⁴

Third, a global resolution created an accountability pathway for all health systems, led by the WHO. Through the WHO, global resources and technical expertise could be harnessed to augment and enhance roll-out; through mandating WHO to work on the mapping of existing strategies, road maps, and WHO instruments; identifying gaps and needs in prevention, diagnosis, treatment and rehabilitation; providing evidence-backed recommendations and key components to strengthen integrated lung health; ideating and developing a tracking framework with measurable targets; supporting Member States in strengthening primary healthcare systems; and, most importantly, reporting on progress to the World Health Assemblies, earliest in 2027. Without such a mandate, integrated lung health could remain an appealing concept without a measurable programme of work. Furthermore, ensuring close collaboration among WHO departments is essential to deliver cohesive action, particularly in the context of WHO's current financial constraints.



Dr Eliana Ahmad presenting the Lung Health Initiative Malaysia 2025-2030



Datuk Fabian Bigar, Secretary General of the Ministry of Digital, delivering a speech during Southeast Asia's Premier Healthcare and Pharma Show (SEACare) 2025



Headquarters of the World Health Organization (WHO) in Geneva, Switzerland



Hospital Kuala Lumpur, Malaysia, one of the Malaysia's major public hospitals providing comprehensive hospital-based healthcare services

Why there was Global Alignment?

Global alignment was possible because integrated lung health sits at the intersection of several existing priorities. It aligns with universal health coverage because lung diseases require primary care, referral systems, diagnostics, medicines, and long-term follow-up. It aligns with TB control, as TB remains both an infectious disease and a cause of long-term respiratory impairment.^{5,6} It aligns with the NCD agenda because COPD, asthma, and lung cancer contribute to chronic disease burden, disability, and mortality.⁷⁻⁹

It aligns with tobacco control because tobacco-related lung disease remains a major preventable burden and because vaping has introduced new regulatory uncertainty.¹⁰⁻¹² It aligns with environmental health because pollution contributes to cardiopulmonary disease and requires multisectoral action.¹³ It aligns with occupational health because workplace exposures contribute to chronic respiratory disease and are preventable through regulation and workplace protection.¹⁴ It aligns with equity because lung disease is shaped by housing, income, occupation, geography, energy access, stigma, and the ability to access care.¹⁵

The National Lung Health Initiative is best understood as the operational bridge between gap identification and implementation. Malaysia already has disease-control programmes, tobacco surveillance, primary care, cancer pathways, TB services, and clinical expertise. What is needed is a framework that connects these assets around the patient pathway and the exposures that drive disease. The Initiative would provide that framework.

The development of the Malaysia's Lung Health Initiative and WHA78.5 demonstrated how lung health could be repositioned from a fragmented concern of mainly clinical into an integrated health-systems agenda. The process united contextual analysis, systems-gap identification, implementation architecture, multisectoral governance, and global policy alignment within a coherent policy framework.

More importantly, the Initiative demonstrated that lung health could function as a practical model – and avenue – for broader health-system integration. Communicable disease control, chronic respiratory disease management, occupational and environmental health, diagnostics, referral systems, surveillance, and long-term follow-up were not treated as isolation functions, but as interconnected components of a coordinated continuum of care.

Thus, the significance of the Initiative extends beyond respiratory disease alone. It can be an example of how complex health changes could be approached through integrated implementation, system coordination, and multisectoral action across prevention, early detection, diagnosis, treatment, rehabilitation, and long-term management. The resolution, a groundbreaking policy on improving lung health is the first comprehensive commitment from the WHO to address the full spectrum of respiratory diseases.



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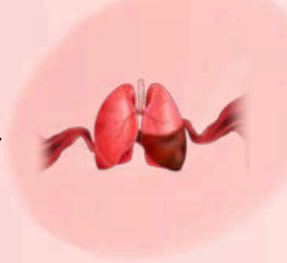


CHAPTER 4

From Kuala Lumpur to Geneva

The journey from recognising a national health challenge to shaping a global resolution is rarely linear. It is often iterative, requiring persistence, alignment and the convergence of science, policy, and diplomacy. For Malaysia, the development of the Lung Health Initiative and the advancement of an Integrated Lung Health Resolution represented such a journey that unfolded deliberately over time, anchored by evidence, driven by leadership, and sustained through collaboration.

This chapter traces that journey. It documents the roadmap from early stakeholder engagement in Kuala Lumpur to the global stage in Geneva, while illustrating how political commitment, strategic partnerships and multisectoral collaboration transformed an idea into a coordinated movement. It is a narrative of progression where each milestone built upon the previous, culminating not only in international recognition but also in concrete implementation at the national level.



2024



2025

Laying the Foundation: The First Convergence of Minds

7 June 2024 - First roundtable discussion hosted by the Malaysian Medical Association (MMA) in Kuala Lumpur

The roadmap began on 7 June 2024, with the first roundtable discussion hosted by the MMA in Kuala Lumpur. This gathering marked a critical starting point. It brought together key stakeholders from the Ministry of Health (MOH), academia, and non-governmental organisations (NGOs), each contributing unique perspectives on lung health.

The importance of this meeting lay not only in its content, but in its composition. For the first time, stakeholders across disciplines and sectors were convened to examine lung health as a unified issue. Discussions centered on shared challenges including late-stage diagnosis, fragmented service delivery, and the absence of an integrated framework. Equally important, however, was the collective recognition that these challenges could not be addressed in isolation.

This initial convergence established a foundational principle that would guide the entire roadmap: that lung health required a whole-of-government and whole-of-society approach.

This principle reflected a broader recognition that respiratory disease could no longer be managed effectively through isolated programme structures alone. Tuberculosis (TB), chronic respiratory disease, lung cancer, occupational exposure, tobacco control, and environmental risk frequently overlapped across determinants, symptoms, patient pathways, and long-term care needs. The challenge therefore extended beyond treating individual diseases towards the organisation of health-system functions around prevention, early detection, diagnosis, treatment, rehabilitation, and long-term care.

Lung health was increasingly positioned not only as a disease-specific agenda, but also as a broader systems issue requiring the integration of previously fragmented respiratory pathways. The meeting and discussion created opportunities for earlier recognition and coordinated management across communicable and noncommunicable disease, occupational health, and environmental exposure frameworks.

Securing Political Commitment: The Turning Point

8 June 2024 - Proposal of Lung Health Initiative

The following day, 8 June 2024, marked one of the most pivotal moments in the roadmap. The proposal for the Lung Health Initiative was presented to the Minister of Health Malaysia, H.E. Datuk Seri Dr Dzulkefly Ahmad, in Port Dickson, Negeri Sembilan.

This engagement was not merely procedural but rather transformative. Political commitment at the highest level was essential to move the initiative beyond technical discussions into actionable policy. The Health Minister's role extended beyond endorsement - it was instrumental in shaping the direction, urgency, and visibility of the initiative.

Through this engagement, lung health was elevated from a sectoral concern to a national priority. The Health Minister's support provided a mandate for further development, signaling to all stakeholders that this initiative carried both strategic importance and political backing.

Crucially, this moment also marked the beginning of political advocacy. The Health Minister became not only a supporter but a champion tasked with mobilising support across government and representing Malaysia's position on international platforms.



From Concept to Structure: Developing the Roadmap

18 June 2024 - Development and discussion of the Zero Draft for the Roadmap for Lung Health Initiative within the MOH

With political endorsement secured, the focus shifted towards structuring the initiative. On 18 June 2024, an internal meeting within the MOH was convened to develop the Zero Draft of the Roadmap for Lung Health Initiative. This marked the transition from strategic endorsement towards operational planning and framework development.

This phase represented the translation of ideas into a formal framework. The Zero Draft sought to articulate the vision, define priorities, and outline strategic directions for the initiative. It integrated inputs from earlier discussions while aligning with national health priorities.

As the roadmap evolved, the focus was increasingly on translating these strategic priorities into operational respiratory pathways across different levels of care. Specifically, how respiratory services could function more cohesively across tobacco cessation, screening, diagnostics, referral systems, rehabilitation, long-term follow-up, and surveillance. This included efforts to strengthen continuity between primary care, imaging, specialist referral, workplace screening, and community-based respiratory follow-up.

28 June 2024 - Presentation of the Zero Draft to the Health Minister at the Post-Cabinet Meeting for mandate to pursue

The development process was iterative. On 28 June 2024, the Zero Draft was presented to the Health Minister during a Post-Cabinet Meeting. This step was critical in securing formal mandate not only to refine the roadmap but to advance it as a national initiative.

Refining Through Collaboration: Strengthening the Vision

1-2 July 2024 - Roundtable discussion with stakeholders (MOH, NGOs, Academia) on the Zero Draft

The next phase focused on refinement through broader stakeholder engagement. Between 1 and 2 July 2024, a second roundtable discussion was held at Seri Pacific Hotel, Kuala Lumpur. This session expanded participation, bringing together representatives from MOH, NGOs, and academia to review and strengthen the Zero Draft.

These discussions were characterised by both technical depth and strategic foresight. Stakeholders examined key components of the roadmap, including prevention strategies, screening mechanisms, diagnostic as well as referral pathways, and long-term care.

Importantly, they also explored implementation challenges and opportunities for integration. Discussions increasingly extended beyond disease-specific priorities towards practical questions of implementation, coordination, and service delivery. One example is how respiratory screening, smoking cessation support, diagnostic access, referral processes, workplace engagement, and long-term follow-up could be better aligned within existing healthcare structures.

The operational barriers affecting implementation were considered across different settings. These included variability in diagnostic access, referral coordination, workforce distribution, respiratory expertise, and continuity of follow-up. This highlighted the importance of building implementation structures that can support better coordinated respiratory services towards the broader lung-health agenda.

This collaborative process ensured that the roadmap was not only comprehensive but also grounded in practical realities. It reinforced the principle that effective policy must be co-created drawing on diverse expertise and experiences.

26-28 July 2024 - Write-up session for the Roadmap for the Lung Health Initiative

The momentum continued with a dedicated write-up session from 26 to 28 July 2024, where the roadmap was further developed into a structured document.

August 2024 - Presentation of the First Draft of the Roadmap for the Lung Health Initiative to the Health Minister

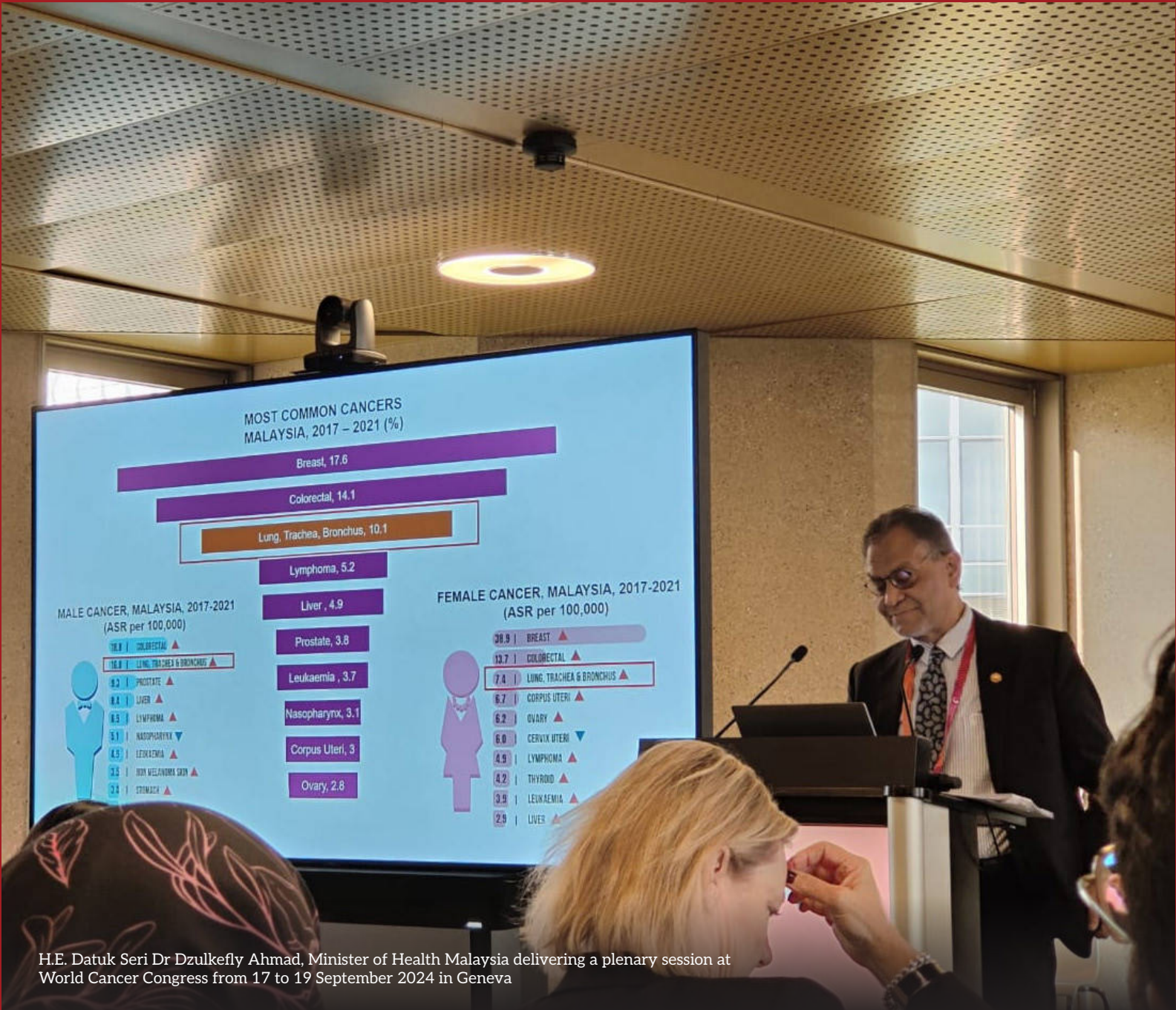
By August 2024, the first draft was ready for presentation to the Health Minister, marking a significant milestone in the evolution of the initiative.



Multilevel stakeholders gathered for a roundtable discussion on the Zero Draft of the Roadmap for Lung Health Initiative at Seri Pacific Hotel, Kuala Lumpur, from 1 to 2 July 2024.

ROADMAP

Lung Health Initiative Malaysia 2025–2030



H.E. Datuk Seri Dr Dzulkefly Ahmad, Minister of Health Malaysia delivering a plenary session at World Cancer Congress from 17 to 19 September 2024 in Geneva

Formalising the Vision: The First Draft

1 September 2024 - First Draft of the Roadmap for Lung Health Initiative Malaysia 2025 – 2030

On 1 September 2024, the first draft of the Roadmap for Lung Health Initiative Malaysia 2025–2030 was completed. This document represented the consolidation of earlier consultations, technical discussions, and strategic planning activities throughout the development process.

The roadmap outlined strategies across prevention, screening, diagnosis, treatment, rehabilitation, and long-term respiratory care, workforce development, surveillance, and multisectoral collaboration.

More than a policy document, the roadmap served as a blueprint for transformation. It provided a structured direction for implementation while retaining flexibility for adaptation according to the needs of local operations and evolving priorities.

From National to Global: Elevating the Agenda

17-19 September 2024 - World Cancer Congress with the Minister of Health in Geneva

With a national framework in place, the focus shifted towards positioning lung health within broader regional and global health discussions. This transition was reflected through Malaysia's participation in the World Cancer Congress from 17 to 19 September 2024 in Geneva, where the Health of Minister Malaysia engaged in plenary sessions and roundtable discussions with the WHO, Member States, and Non-State Actors.

These engagements provided an opportunity to introduce integrated lung health as a broader health-systems agenda. Malaysia's discussion emphasised the intersection of the various exposure factors, risks, diseases, as well as the pathway from screening to long-term care. The positioning also aligned with wider international concerns on prevention, continuity of care, and health-system resilience.

The discussions in Geneva further contributed to growing interest within the international community in advancing lung health through a formal global resolution framework.

21-25 October 2024 - Bilateral session with Brunei Darussalam during 75th Western Pacific Regional Committee Meeting

Subsequent engagements continued to strengthen this direction. During the 75th Western Pacific Regional Committee Meeting in Manila from 21 to 25 October 2024, Malaysia conducted bilateral discussions with Brunei Darussalam, which subsequently agreed to co-sponsor the proposed resolution. This represented an important early step in building the regional support and diplomatic alignment towards broader multilateral engagement.

Diplomatic Advocacy: Building Global Consensus

28 October 2024 - Engagement session with WHO, Member States, and Non-State Actors

The development of the Lung Health Resolution required sustained diplomatic engagement. On 28 October 2024, an engagement session was organised by Malaysia’s Permanent Mission to the United Nations in Geneva. This session brought together WHO representatives, Member States, and Non-State Actors to discuss the draft resolution titled “Towards a WHA Resolution on Integrated Lung Health”. Similar to the discussions at the World Cancer Congress 2024, this engagement expanded the initiative from national policy development into broader multilateral discussions involving WHO and Member States.

November 2024 - January 2025 - Informal consultations for the draft resolution with WHO secretariat and Member States

Following this was a series of informal consultations with the WHO Secretariat and Member States, beginning on 1 November 2024 and continuing through several rounds in November 2024 and January 2025. These consultations focused on refining the draft resolution, addressing technical and policy concerns, and strengthening broader consensus around the proposed approach.

The process required negotiation, adaptability, and strategic communication. Each iteration of the draft reflected both Malaysia’s priorities and the perspectives of participating Member States. This collaborative approach helped align the resolution with the priorities and perspectives of participating Member States.

25 November 2024 - 3 February 2025 - Expansion of bilateral engagement between Egypt and Member States

Bilateral engagements further expanded support for the initiative. Discussions with countries including Egypt, alongside continued dialogue with other Member States, contributed towards the development of a coalition of sponsors. By 3 February 2025, a draft decision on promoting and prioritizing an integrated lung health approach had been proposed by Malaysia, Bangladesh, Brunei Darussalam, China, Egypt, Ghana, Guatemala, Kuwait, Palestine, Romania, Thailand, and Vanuatu, reflecting increasing multilateral support for the initiative.

4-11 February 2025 - 156th Executive Board Meeting

From 4 February to 11 February 2025, the 156th Executive Board Meeting agreed for the resolution to be forwarded to the Health Assembly for adoption.



H.E. Datuk Seri Dr Dzulkefly Ahmad, Minister of Health Malaysia, delivering remarks during an engagement session with WHO representatives, Member States, and Non-State Actors in Geneva, in support of the draft resolution “Towards a WHA Resolution on Integrated Lung Health”



Delegates from various countries during a meeting at the WHO office to discuss Malaysia’s Lung Health Initiative



Parallel Progress: Advancing Local Implementation

6 – 7 November 2024 - MOH meeting on implementation plan

While global advocacy efforts continued, implementation planning at the national level also progressed in parallel.

On 6 – 7 November 2024, the MOH convened meetings to further develop the implementation plan for the Lung Health Initiative. Discussions focused on translating the roadmap into actionable programs, identifying implementation priorities, and aligning available resources.

20 December 2024 - First engagement with the Malaysian Industrial Safety and Health Association (MISHA) on the implementation of the Lung Health Initiative in high-risk workplace settings

Engagement with key sectors was also initiated. On 20 December 2024, MISHA was engaged to explore implementation within high-risk workplace settings. This reflected broader recognition that occupational and workplace respiratory risks needed to be incorporated into the wider lung-health agenda.

26 February 2025 - Memorandum of Understanding (MoU) signing with strategic partners for the Lung Health Initiative Malaysia

A further milestone was achieved on 26 February 2025 with the signing of a MOU with strategic partners from NGOs, academia, and the private sector. The MOU represented the formalisation of multisectoral collaboration to support implementation across different components of the initiative.

These collaborations supported implementation across prevention, screening, diagnosis, treatment, navigation, workforce development, and community engagement. Professional societies and academic institutions contributed to training, technical guidance, research, evidence generation, and capacity building, helping to ensure that the initiative remained grounded in scientific rigour and continuous learning.

Civil society organisations supported awareness, patient navigation, smoking cessation, screening, advocacy, and community outreach activities, while workplace and occupational-health partners facilitated implementation within employment settings. Partners in the private sector contributed to diagnostics, technology support, treatment access, operational scalability, and implementation support across different levels of care.

Collectively, these partnerships operationalised the whole-of-society approach and enabled the Lung Health Initiative to extend beyond conventional healthcare delivery towards a broader systems-based implementation model.

Strategic Partners for Lung Health Initiative:

- National Cancer Society Malaysia (NCSM)
- Malaysian Industrial Safety And Health Association (MISHA)
- Persatuan Mencegah Dadah Malaysia (PEMADAM)
- Translab (M) Sdn. Bhd.
- JNTL (Malaysia) Sdn. Bhd.
- Astrazeneca Sdn. Bhd.
- Johnson & Johnson Sdn. Bhd.
- Axios International Malaysia Sdn. Bhd.
- Universiti Malaya
- Malaysian Academy of Pharmacy (MAP)
- Malaysian Green Lung Association
- Malaysian Pharmacists Society (MPS)
- Pertubuhan Ayah Jangan Merokok (AJM)
- Health4u Solutions Sdn. Bhd.
- Malaysian Medical Association
- Malaysian Dental Association (MDA)
- Academy of Medicine of Malaysia (AMM)
- Rhazes Telehealth International Sdn. Bhd.



Sustaining Momentum: Communication and Accountability

24 March 2024 - Progress update on Lung Health Initiative Malaysia to the Health Minister

As implementation progressed, maintaining political oversight, public communication, and implementation transparency became increasingly essential.

On 24 March 2025, a progress update on both the Lung Health Resolution and the National Lung Health Initiative was presented to the Health Minister. This supported continued political oversight, implementation coordination, and alignment with broader national health priorities.

4 May 2025 - Media briefing on implementation plan of Lung Health Initiative Malaysia

Public communication was also prioritised. On 4 May 2025, a media briefing was held to present the implementation plan and communicate the broader objectives of the initiative. Beyond public awareness, the engagement also reinforced transparency, accountability, and strengthened support for the initiative.



Madam Datin Seri Azlin Hezri, spouse of Health Minister; H.E. Datuk Seri Dr Dzulkefly Ahmad, Minister of Health Malaysia; and Dr Ismuni bin Bohari, Deputy Director-General of Health (Public Health), during the launch of Program Kembara Beraya bersama Cik Era at IOI City Mall, Putrajaya



The Global Milestone: Adoption at the World Health Assembly

19-27 May 2025 - Adoption of Promoting and Prioritizing an Integrated Lung Health Approach Resolution at WHA78 2025

A major milestone was achieved between 19 and 27 May 2025 during the 78th World Health Assembly (WHA78), where the resolution on *Promoting and Prioritising an Integrated Lung Health Approach* was formally adopted.

The adoption of the resolution reflected the progression of the initiative from a national policy agenda towards broader multilateral recognition and support. It also reinforced the importance of sustained collaboration between governments, international organisations, professional bodies, civil society, and implementation partners in advancing lung health within global health discussions. Side events held during the Assembly further amplified the initiative, providing platforms for knowledge exchange, and partnership building.

H.E. Datuk Seri Dr Dzulkefly Ahmad, Minister of Health Malaysia, interacting with global health leaders during a side event at the 78th World Health Assembly (WHA78) 2025 in Geneva

World Health Assembly Resolution WHA78.5: Promoting and Prioritizing an Integrated Lung Health Approach

Adopted by the Seventy-eighth World Health Assembly on 27 May 2025, under Agenda item 13.1.

These images show excerpts from documents on Promoting and Prioritizing an Integrated Lung Health Approach



Headquarters of the World Health Organization (WHO) in Geneva, Switzerland



The 78th World Health Assembly, held from 19 to 27 May 2025 in Geneva under the theme “One World for Health”, brought together Member States to deliberate key global health priorities

Recognizing that radon exposure is one of the leading causes of lung cancer after smoking in countries with known data, and acknowledging the lack of prevention and mitigating actions for radon exposure, as well as limited public awareness concerning radon risks;

Re-emphasizing that over 45% of tobacco-related deaths are due to lung diseases, totalling 3.3 million deaths in 2021,⁵ and acknowledging that exposure to second-hand smoke causes cancer and that vaping aerosols can be harmful to lung health, which underscores the importance of primary care services for prevention of tobacco smoking, particularly tobacco and vaping control;

Noting the substantial contribution of workplace exposures to the burden of both infectious and chronic respiratory diseases;

Acknowledging the impact of stigma associated with lung cancer, tuberculosis and chronic obstructive pulmonary disease on access to early detection and access to treatment, noting advances in lung screening and its effectiveness in reducing mortality rates in high-risk populations;^{6,7}

Recalling United Nations General Assembly resolution 74/2 (2019) and its commitment to strengthen efforts to address noncommunicable diseases as part of universal health coverage, the political declaration of the high-level meeting of the General Assembly on the prevention and control of non-communicable diseases,⁸ the political declaration of the third high-level meeting of the General Assembly on the prevention and control of non-communicable diseases of 2018,⁹ which reaffirms the primary role and responsibility of governments in responding to the challenge of noncommunicable diseases by developing adequate national multisectoral and participative responses for their prevention and control, and the Rio Political Declaration on Social Determinants of Health (2011), considering that health inequalities are an important aspect for respiratory diseases;

Recognizing resolution WHA72.2 (2019) on primary health care, in which the Health Assembly urged Member States to implement the commitments of the Declaration of Astana, resolution WHA60.26 (2007) on workers' health: global plan of action, through which Member States were urged to work towards full coverage of all workers with essential interventions and basic occupational health services for primary prevention of occupational and work-related diseases and injuries, and the significant progress in implementing WHO's global action plan for the prevention and control of noncommunicable diseases 2013–2020, endorsed by the Health Assembly in resolution WHA66.10 (2013), including the 2022 update of Appendix 3 to that global action plan, endorsed by the Health Assembly in decision WHA76(9) (2023), and the adoption of the related implementation roadmap 2023–2030 through decision WHA75(11) (2022), as well as the WHO global strategy on health, environment and climate change, noted through decision WHA72(9) (2019), resolution WHA68.8 (2015) on health and the environment: addressing the

⁵ [Institute for Health Metrics and Evaluation](#). Global Burden of Disease study, 2021 data (accessed 26 February 2025).

⁶ [Stigma experiences in people with chronic obstructive pulmonary disease: an integrative review](#). *Int J Chron Obstruct Pulmon Dis*. 2021; 16:1647–1659 (accessed 26 February 2025).

⁷ [Interventions to reduce lung cancer and COPD-related stigma: a systematic review](#). *Annals of Behavioural Medicine* 2024; 58(11):729–740 (accessed 26 February 2025).

⁸ United Nations General Assembly resolution 66/2 (2011).

⁹ United Nations General Assembly resolution 73/2 (2018).



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health impact of air pollution, and its roadmap, welcomed by the Health Assembly in decision WHA69(11) (2016), and resolution WHA70.12 (2017) on cancer prevention and control in the context of an integrated approach;

Recalling resolution WHA71.3 (2018) on preparation for a high-level meeting of the General Assembly on ending tuberculosis, which reaffirmed commitment to end the tuberculosis epidemic by 2030, and the resulting political declaration of the high-level meeting on the fight against tuberculosis (2023),¹⁰ as well as resolution WHA67.1 (2014) on the global strategy and targets for tuberculosis prevention, care and control after 2015, which set ambitious targets for reducing tuberculosis incidence and mortality; and emphasizing the importance of the WHO multisectoral accountability framework for tuberculosis to enable universal access to good-quality services, and to address all determinants and drivers of tuberculosis, such as poverty, inequalities, undernutrition, HIV infection, noncommunicable diseases and inadequate housing and living conditions, as an integral part of the universal health coverage agenda, including in the context of health and humanitarian emergencies;

Recalling also resolution WHA76.5 (2023) on strengthening diagnostics capacity, resolution WHA72.8 (2019) on improving the transparency of markets for medicines, vaccines, and other health products, the global strategy and plan of action on public health, innovation and intellectual property, adopted by the Health Assembly through resolution WHA61.21 (2008) and resolution WHA67.22 (2014) on access to essential medicines;

Reaffirming resolution WHA73.1 (2020) on the COVID-19 response, which emphasized the need for equitable access to quality, safe, efficacious, effective and affordable diagnostics, therapeutics, medicines and vaccines for the COVID-19 response consistent with the provisions of relevant international treaties, including the provisions of the Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS Agreement) and the flexibilities within the Doha Declaration on the TRIPS Agreement and Public Health;

Noting resolution WHA72.6 (2019) on global action on patient safety, which is crucial in the management of both communicable and noncommunicable lung diseases;

Recalling the WHO Framework Convention on Tobacco Control and reaffirming the principles of primary healthcare as the basis for strengthening health systems;

Building on the successes of the integrated approaches to disease management, including WHO’s existing instruments such as the Practical Approach to Lung Health, the WHO package of essential noncommunicable disease interventions for primary health care and Integrated Management of Childhood Illness in improving health outcomes, and their potential for integrated lung health programmes,

1. URGES Member States,¹¹ considering national context and priorities, and in alignment with relevant policies on addressing communicable, noncommunicable and occupational lung diseases:

(1) to develop integrated national policy for an integrated approach to lung health, encompassing both communicable and noncommunicable lung diseases, through multisectoral collaboration and multidisciplinary collaboration and by incorporating

¹⁰ United Nations General Assembly resolution 78/5 (2023).

¹¹ And, where applicable, regional economic integration organizations.



Exterior view of the headquarters of the United Nations in Geneva, a key international centre for global diplomacy and multilateral cooperation



A delegate addressing the plenary session of the 78th World Health Assembly

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whole-of-government and whole-of-society approaches, ensuring engagement from all relevant sectors including health, environment, labour, education and finance;

(2) to incorporate an integrated approach to lung health into primary healthcare services towards the attainment of universal health coverage, inclusive of comprehensive lung health services, with effective referral pathways to secondary and tertiary care, when appropriate;

(3) to strengthen awareness of the health impacts of air pollution and enhance national air quality standards and monitoring capacity;

(4) to create and enforce adequate regulations protecting workers from occupational risk factors impacting lung health;

(5) to strengthen existing, or establish new, comprehensive integrated approach lung health programmes including:

(a) strengthening health promotion, primary preventive services – particularly tobacco and vaping control, reducing indoor and outdoor air pollution exposure – and vaccination programmes for preventable respiratory infections;

(b) updating or developing evidence-based clinical and public health guidelines for cost-effective measures for early detection, diagnosis and treatment of communicable and noncommunicable lung diseases, including the use of innovative technologies;

(c) updating or developing evidence-based information mechanisms for policy-making and programme monitoring, evaluation and learning;

(6) to strengthen national capacities for an integrated approach on lung health, considering adaptation of relevant existing and evidence-based WHO tools to create an evidence-based and cost-effective integrated lung health package of interventions suitable for all patients, according to their individual needs;

(7) to improve access to and affordability and availability of safe, effective and quality medicines, vaccines and health technologies using the WHO Model List of Essential Medicines and the WHO Model List of Essential In Vitro Diagnostics with an emphasis on cost-effectiveness, sustainable allocation of resources and evidence-based approaches including by increasing national capacities, and with a focus on building effective regulatory systems, manufacturing capacities and/or procurement strategies and policies for fair pricing to address both communicable and noncommunicable lung diseases, including tuberculosis, pneumonia, influenza and COVID-19, as well as chronic obstructive pulmonary disease, asthma, pulmonary fibrosis and lung cancer;

2. REQUESTS the Director-General:

(1) to map existing strategies, road maps and WHO's normative work and instruments relating to relevant lung conditions and risk factors, thereby helping to inform an integrated lung health approach and identify existing gaps and needs in addressing prevention, diagnosis and treatment of and rehabilitation from communicable and noncommunicable diseases;

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(2) to provide an initial report with recommendations and key components to further strengthen an integrated lung health approach, to consider steps to improve implementation of existing strategies and plans in the context of an integrated lung health approach and to consider new initiatives, including a framework for tracking implementation of such strategies, plans and new proposals with clear measurable targets in consultation with Member States and other relevant stakeholders in line with the Framework of Engagement with Non-State Actors, as applicable, and to submit the report for consideration by the Eightieth World Health Assembly in 2027;

(3) to collaborate with relevant stakeholders in line with the Framework of Engagement with Non-State Actors, as applicable, to mobilize commitment and resources, build capacity and foster collaborative research on the integrated lung health approach;

(4) to provide support to Member States in strengthening their primary healthcare systems to effectively deliver integrated lung health services to strengthen universal health coverage, promoting a life-course approach to lung health;

(5) to strengthen the capacity of the Secretariat to provide support for the implementation of cost-effective interventions and country-adapted models of care for both communicable and noncommunicable lung diseases, including tuberculosis, pneumonia, influenza and COVID-19, as well as chronic obstructive pulmonary disease, asthma, pulmonary fibrosis and lung cancer;

(6) to report on progress made in implementing this resolution to the Eightieth World Health Assembly in 2027 and the Eighty-first World Health Assembly in 2028.

Seventh plenary meeting, 27 May 2025

A78/VR/7



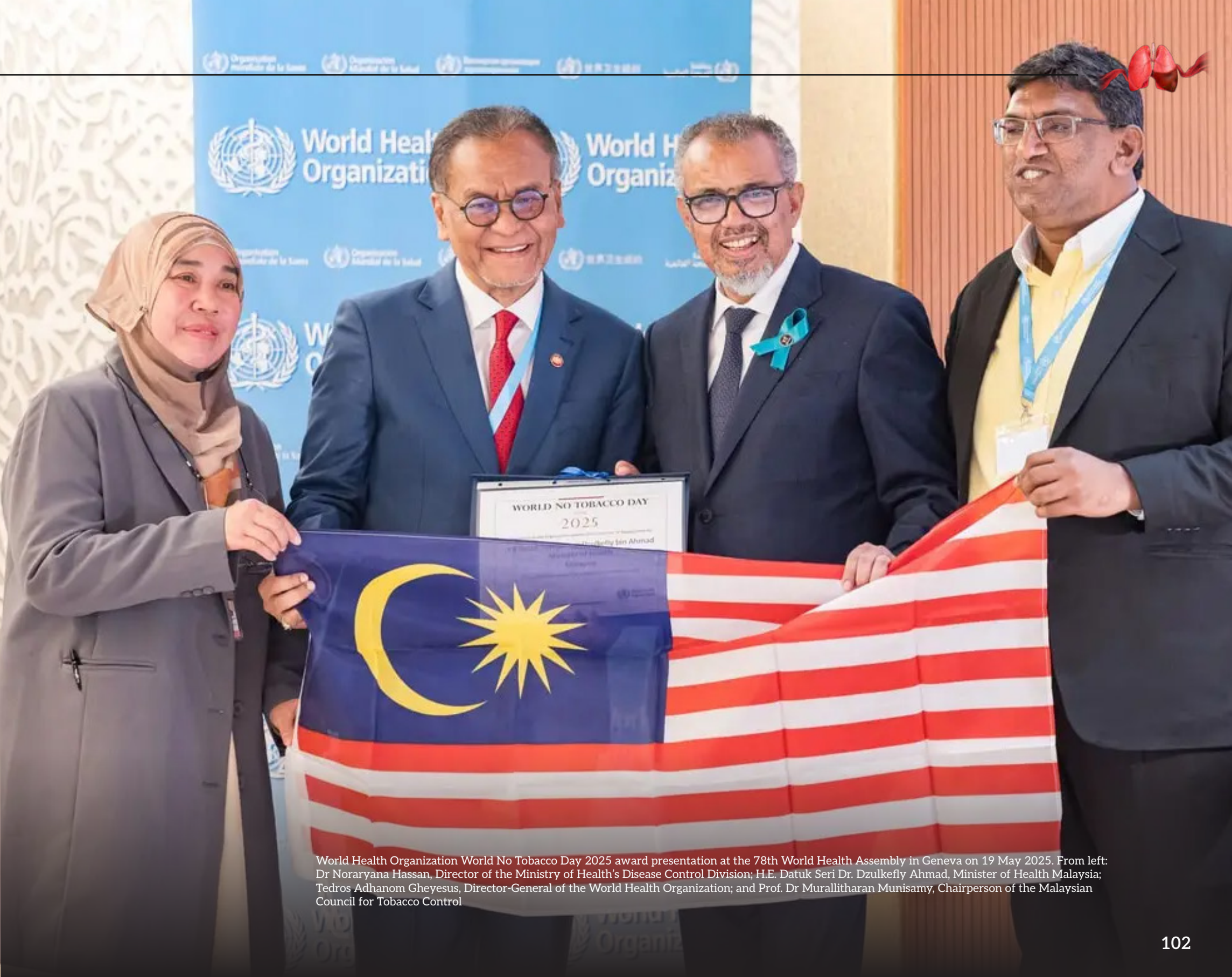
Formal adoption of WHA78.5, promoting an integrated approach to lung health, at the 78th World Health Assembly

Health Minister H.E. Datuk Seri Dr Dzulkefly Ahmad, MOH's Dr Noraryana and Malaysian Council for Tobacco Control (MCTC)'s Prof. Dr Murallitharan Win WHO Tobacco Control Award

While achieving a global milestone at WHA78 through the adoption of the resolution, Health Minister H.E. Datuk Seri Dr Dzulkefly Ahmad, together with Malaysian tobacco control leaders, was recognised with the WHO World No Tobacco Day 2025 Award.

In addition to the Minister, the award was also presented to Dr Noraryana Hassan, MOH's Director of Disease Control Division, and Prof. Dr Murallitharan Munisamy, Chairperson of MCTC.

The award, conferred upon the Malaysian trio for the Western Pacific Region, recognised the leadership and contributions of the MOH and national tobacco control stakeholders in the successful passage of the Control of Smoking Products for Public Health Act 2024 (Act 852), further reflecting Malaysia's continued commitment to advancing public health and tobacco control efforts at both national and global levels.



World Health Organization World No Tobacco Day 2025 award presentation at the 78th World Health Assembly in Geneva on 19 May 2025. From left: Dr Noraryana Hassan, Director of the Ministry of Health's Disease Control Division; H.E. Datuk Seri Dr. Dzulkefly Ahmad, Minister of Health Malaysia; Tedros Adhanom Ghebreyesus, Director-General of the World Health Organization; and Prof. Dr Murallitharan Munisamy, Chairperson of the Malaysian Council for Tobacco Control

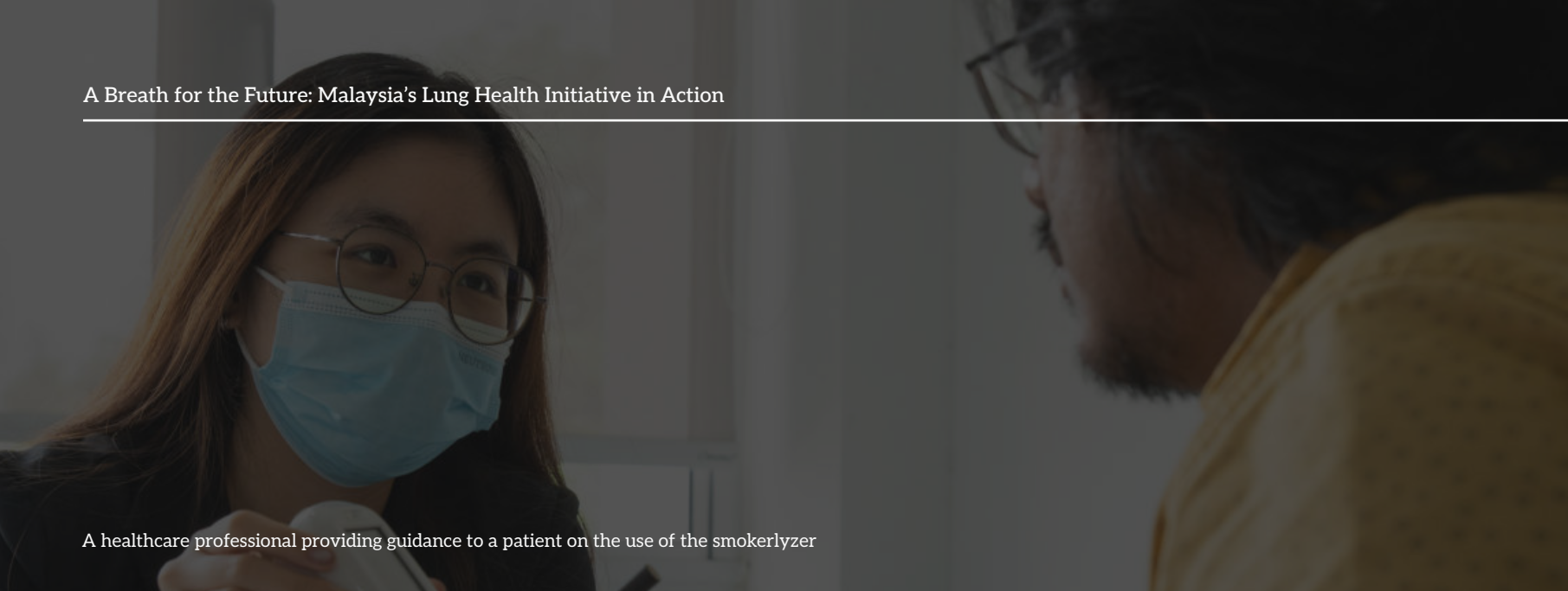


The Central Role of Political Leadership

Throughout the development of the Lung Health Initiative and the Integrated Lung Health Resolution, political leadership remained an important enabling factor. The Minister of Health's support was instrumental in sustaining policy momentum, advancing stakeholder engagement, and supporting Malaysia as a leader in global health.

This political engagement also extended beyond national borders. Through continued dialogue with other Member States and international organisations, Malaysia was able to strengthen support for the proposed resolution and advance broader multilateral engagement around lung health. The process also underscored the importance of sustained political commitment in advancing complex public-health initiatives requiring coordination across multiple sectors and institutions.

H.E. Datuk Seri Dr Dzulkefly Ahmad, Minister of Health Malaysia delivering his speech on the Lung Health Initiative and the Integrated Lung Health Resolution at the Ministry of Health Malaysia

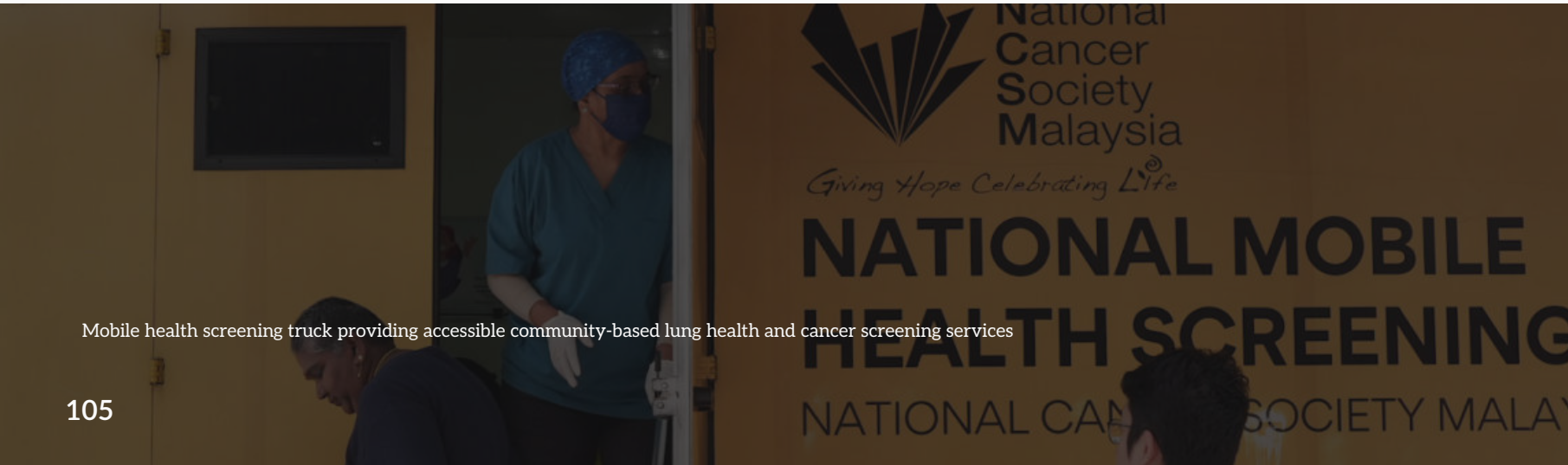


A healthcare professional providing guidance to a patient on the use of the smokerlyzer

Achieving a Whole-of-Government and Whole-of-Society Approach

The roadmap also demonstrated how multisectoral collaboration could support implementation across different settings and sectors. Government ministries contributed across areas relating to prevention, healthcare delivery, occupational health, environmental exposure, and public-health coordination. Civil society organisations, academia, professional societies, and private sector collaborators supported implementation across community engagement, research, training, diagnostics, smoking cessation, public awareness, and operational support activities.

The involvement of multiple sectors also strengthened coordination between implementation activities occurring across healthcare, workplace, academic, and community settings. This broader implementation structure supported the continued development of the Lung Health Initiative across different levels of engagement.



Mobile health screening truck providing accessible community-based lung health and cancer screening services



A representative from the National Cancer Society of Malaysia (NCSM) presenting on the LungShield initiative and its role in promoting early lung cancer screening services in Malaysia

From Roadmap to Reality

By the time the resolution was adopted at WHA78, implementation activities under the Lung Health Initiative had already begun progressing within Malaysia.

Screening activities were being expanded, partnerships operationalised, awareness efforts strengthened, and implementation planning advanced across several components of the Initiative. Engagements involving smoking cessation activities, workplace implementation, diagnostics, referral coordination, and community outreach were also already underway in parallel with the broader policy and diplomatic process.

Thus, the roadmap increasingly functioned not only as a strategic policy document, but also as a practical reference framework supporting implementation planning, coordination, and ongoing programme development.



A Breath for the Future: Malaysia's Lung Health Initiative in Action

Stakeholders from the government and private sectors together with José Luis Castro, WHO Director-General's Special Envoy for Chronic Respiratory Diseases, during a lung health engagement event in Malaysia



H.E. Datuk Seri Dr Dzulkefly Ahmad, Minister of Health Malaysia, led the Malaysian delegation to the 78th World Health Assembly (WHA78) held in Geneva, Switzerland, in 2025



Dr Rabindra Abeyasinghe, World Health Organization Representative to Malaysia, Brunei Darussalam and Singapore; Dr Noraryana Hassan from the Ministry of Health Malaysia; and Prof. Dr Elil Renganathan, Professor of Public Health and Policy at Monash University, serving as panellists during a forum session at the Lung Health Initiative Malaysia Dinner



Summary: A Journey of Transformation

The development of the Lung Health Initiative and the Integrated Lung Health Resolution was not a singular event, but a reflection of a sustained process of policy development, stakeholder engagement, implementation planning, and international collaboration extending across national, regional, and multilateral levels.

From the earliest consultations in Kuala Lumpur through to the adoption of the resolution at the WHA in Geneva, each step reflected a deliberate effort in sustained collaboration, technical engagement, and political commitment across national and international levels. At its core, this journey demonstrated the importance of aligning national commitment with regional and global collaboration in advancing complex public-health priorities. The roadmap, therefore, is not merely a record of events, but a reflection of the collective effort undertaken across sectors, disciplines, and institutions to advance lung health.

And as Malaysia continues to implement the Lung Health Initiative, this roadmap will serve not only as an important reference point for guiding implementation, coordination, and future development efforts, but also as a reminder of the collective efforts that made it possible.



CHAPTER 5

Operationalising Lung Health: From Matrix to Implementation

The adoption of the Promoting and Prioritising an Integrated Lung Health Approach resolution in May 2025 marked a defining milestone in Malaysia's journey towards transforming lung health. Spearheaded by the Ministry of Health Malaysia, the resolution was not intended to remain a high-level declaration. Rather, it was conceived as a practical and actionable framework that could guide Member States in translating commitments into measurable outcomes across the continuum of lung health.

Central to this effort was the development of a structured resolution matrix. This matrix served as both a strategic tool and a monitoring instrument. It translated the broad principles of the resolution into clearly defined domains, actionable checklists, and measurable indicators of progress. For Malaysia, it also became a mechanism to track implementation, ensure accountability, and demonstrate leadership through tangible results.

From Resolution to Action: The Purpose of the Matrix

Global health resolutions often articulate important priorities, but their impact depends on how effectively they are operationalised at the country level. Recognising this, Malaysia took a deliberate step to bridge the gap between commitment and execution.

The resolution matrix was developed to serve three primary purposes:

First, it translated policy into action by breaking down the resolution into key domains that reflect the continuum of lung health. These domains provided a structured approach to implementation, ensuring that all critical areas from prevention to palliative care were addressed systematically.

Second, it functioned as a monitoring and evaluation tool, allowing progress to be tracked over time. By defining specific activities within each domain, the matrix enabled stakeholders to assess what had been achieved, what remained in progress, and where further attention was needed.

Third, it supported accountability and transparency, both within Malaysia and at the global level. As a country that had spearheaded the resolution, Malaysia carried a responsibility not only to implement its provisions but also to demonstrate measurable progress. The application of the resolution matrix in Malaysia revealed a comprehensive and multi-layered approach to lung health. Implementation was not confined to a single sector or level of care. Instead, it reflected a coordinated effort across prevention, screening, diagnosis, and treatment supported by partnerships across government, academia, and the private sector.

Forming the structural backbone of Malaysia's National Lung Health Initiative

The diagnosis domain focused on improving both capacity and efficiency through investments in imaging, laboratory services, and streamlined referral pathways. These efforts reduced delays between screening and definitive diagnosis, while digital health systems improved coordination and information sharing across different levels of care.

The treatment domain emphasised a multi-sectoral approach involving public healthcare institutions, private healthcare providers, and workplace settings. Public sector initiatives strengthened access to evidence-based treatment and timely care, while collaboration with the private sector expanded specialised diagnostics and advanced therapies. Workplace programmes further extended intervention efforts by supporting early detection, occupational risk reduction, and the management of lung diseases in professional environments. Together, these efforts ensured that treatment services extended beyond hospitals into communities and workplaces.

Another critical domain was partnerships, which enabled a whole-of-society approach to implementation. NGOs supported community outreach and engagement, particularly among underserved populations, while the private sector contributed resources, innovation, and scalability. Academic institutions strengthened implementation through research, evaluation, and evidence-based guidance, ensuring continuous refinement of strategies and interventions.

The monitoring domain functioned as both a mechanism for tracking progress and a catalyst for continuous improvement. Through systematic documentation of achievements and gaps, the resolution matrix supported informed decision-making, adaptive planning, and accountability among stakeholders. This framework enabled Malaysia to translate global lung health commitments into measurable national action while strengthening implementation over time.

Together, these domains formed the structural backbone of Malaysia's National Lung Health Initiative, creating an integrated framework that connected diagnosis, treatment, collaboration, and monitoring to drive sustainable impact in lung health.

ACTION DOMAINS

Action domains serve as the foundation for the case studies presented in this chapter, highlighting how integrated lung health approaches are being translated into practical initiatives, policies, partnerships, and community-driven efforts across different settings.



1 Integrated national policy and whole-of-government / whole-of-society collaboration

Develop an integrated national policy for lung health covering both communicable and non-communicable diseases through multisectoral and multidisciplinary collaboration, aligned with UN General Assembly Resolution 78/5 (2023) and, where applicable, regional economic integration organisations.

Apply whole-of-government and whole-of-society approaches, engaging all relevant sectors, including health, environment, labour, education, and finance.



2 Incorporation of integrated lung health into primary healthcare and universal health coverage (UHC) pathways

Incorporate an integrated approach to lung health into primary healthcare services to support universal health coverage, ensuring comprehensive lung health services, and effective referral pathways to secondary and tertiary care when appropriate.



3 Air-pollution awareness, standards, and monitoring

Strengthen awareness of the health impacts of air pollution and enhance national air quality standards and monitoring capacity.



4 Occupational lung-health protection

Create and enforce adequate regulations to protect workers from occupational risk factors that impact lung health.



5 Strengthen comprehensive integrated lung health programmes



5a Health promotion and primary prevention, including tobacco and vaping control, environmental exposure reduction, and vaccination for preventable respiratory infections

Strengthen health promotion and primary preventive services – particularly tobacco and vaping control, reduction of indoor and outdoor air pollution exposure, and vaccination programmes for preventable respiratory infections.



5b Evidence-based clinical and public-health guidance, early detection, diagnosis, and treatment, including innovative technologies

Update or develop evidence-based clinical and public health guidelines for cost-effective early detection, diagnosis, and treatment of communicable and non-communicable lung diseases, including the use of innovative technologies.



5c Evidence-based information mechanisms for policy-making, monitoring, evaluation, and learning

Update or develop evidence-based information mechanisms to support policy-making and programme monitoring, evaluation, and learning



6 National capacity-strengthening and integrated lung-health packages

Strengthen national capacities for an integrated approach to lung health by adapting relevant World Health Organization (WHO) tools to develop an evidence-based and cost-effective integrated lung health package of interventions, tailored to the individual needs of all patients.



7 Access to safe, effective, and quality medicines, vaccines, and health technologies

Improve access to, affordability, and availability of safe, effective, and quality medicines, vaccines, and health technologies using WHO Model Lists, with an emphasis on cost-effectiveness and sustainable resource allocation.

Strengthen national capacities, regulatory systems, manufacturing and/or procurement strategies, and fair pricing to address communicable diseases (e.g. tuberculosis, pneumonia, influenza, coronavirus disease 2019 (COVID-19)) and noncommunicable lung diseases (e.g. chronic obstructive pulmonary disease, asthma, pulmonary fibrosis, and lung cancer).



CASE STUDY 1

International Advocacy: Advancing Integrated Lung Health through ASEAN (Association of Southeast Asian Nations) and OIC (Organisation of Islamic Countries) Platforms

Action Domains Covered (WHA78.5)

1. Integrated national policy and whole-of-government / whole-of-society collaboration
2. Incorporation of integrated lung health into primary healthcare and universal health coverage (UHC) pathways
3. Air-pollution awareness, standards, and monitoring
4. Occupational lung-health protection
- 5a. Health promotion and primary prevention, including tobacco and vaping control, environmental exposure reduction, and vaccination for preventable respiratory infections
- 5b. Evidence-based clinical and public-health guidance, early detection, diagnosis, and treatment, including innovative technologies
- 5c. Evidence-based information mechanisms for policy-making, monitoring, evaluation, and learning
6. National capacity-strengthening and integrated lung-health packages
7. Access to safe, effective, and quality medicines, vaccines, and health technologies

Programme Objectives

- To position lung health as a regional and international policy priority
- To use ASEAN and OIC platforms to translate WHA78.5 into regional dialogue
- To showcase Malaysia’s National Lung Health Initiative as an integrated implementation model
- To promote peer learning, technical collaboration, and country adaptation
- To build political support for integrated lung-health policies across communicable diseases, noncommunicable diseases, tobacco and vaping control, occupational health, and environmental risk reduction

From Strategy to Impact

Malaysia’s international advocacy case study demonstrates how a national lung-health initiative can be extended into regional and multilateral policy platforms.

Following the adoption of WHA78.5 on 27 May 2025, Malaysia used ASEAN and OIC engagement to promote integrated lung health as a shared public-health agenda rather than a single-country programme.

The Ministry of Health (MOH) Malaysia used these platforms to introduce Malaysia’s National Lung Health Initiative as an integrated model covering lung cancer, chronic obstructive pulmonary disease (COPD), asthma, and tuberculosis (TB), while also addressing smoking, environmental pollution, and occupational exposure.

The advocacy highlighted AI-assisted chest X-ray screening, integrated referral pathways, the On-Time Access Programme, public-private-community partnerships, and the need for regional learning.

At the ASEAN level, Malaysia engaged through the 19th ASEAN Senior Officials Meeting on Health Development and related ASEAN Senior Officials Meeting on Health Development and related ASEAN Health Cluster processes, organised on June 30, 2025 at Sheraton Petaling Jaya, Malaysia. This was strategically appropriate because the ASEAN Post-2015 Health Development Agenda 2021-2025 already included health priorities directly relevant to lung health, including prevention and control of NCDs, reduction of tobacco use, occupational health, environmental health, universal health coverage, digital health, and health information systems. Malaysia’s side-event engagement therefore placed lung health within existing ASEAN priorities rather than presenting it as an isolated new agenda. These engagements contributed to the inclusion of lung health policy within the ASEAN Workplan 2026-2030.

Malaysia also extended the advocacy to the OIC platform by proposing a regional action-plan approach for Member States. The proposed OIC engagement focused on policy dialogue, country innovation sharing, peer learning, and integration of lung health into OIC strategic health cooperation. This was consistent with the wider OIC health agenda, which has emphasised systemic gaps, pandemic preparedness, climate-related health risks, and alignment with global health frameworks..

Taken together, the ASEAN and OIC advocacy work shows how Malaysia sought to convert WHA78.5 from a World Health Assembly resolution into an implementation movement across regional communities.

Implementation Insights

- Regional advocacy works best when lung health is mapped onto existing regional health priorities, rather than being introduced as a competing agenda.
- WHA78.5 gave Malaysia a legitimate global mandate to convene policy dialogue on integrated lung health.
- The ASEAN platform was especially relevant because lung health intersects with NCDs, tobacco control, occupational health, environmental health, UHC, and digital health.
- The OIC platform offers a complementary route for South-South cooperation, peer learning, and adaptation across countries with diverse health-system capacities.
- The strongest future evidence for this case study would be documentary confirmation of ASEAN Workplan 2026-2030 language, formal OIC meeting records, and any agreed regional statements or technical cooperation outputs.



Regional engagement on integrated lung health through ASEAN platforms, including the 9th ASEAN Health Cluster 1 Meeting in Manila, Philippines, and the Senior Officials Meeting on Health Development (SOMHD) at Sheraton Petaling Jaya, Malaysia.



CASE STUDY 2

Technical Working Group for Malaysia’s National Lung Health Initiative – Establishing the Foundation for the National Lung Health Initiative

Action Domains Covered (WHA78.5)

1. Integrated national policy and whole-of-government / whole-of-society collaboration
2. Incorporation of integrated lung health into primary healthcare and universal health coverage (UHC) pathways
- 5b. Evidence-based clinical and public-health guidance, early detection, diagnosis and treatment, including innovative technologies
- 5c. Evidence-based information mechanisms for policy-making, monitoring, evaluation, and learning
6. National capacity-strengthening and integrated lung-health packages

Programme Objectives

- To establish a multidisciplinary technical platform to guide development of the National Lung Health Initiative
- To define the strategic vision, mission, and implementation priorities for integrated lung health
- To ensure that the initiative was evidence-based, operationally feasible, and aligned with WHA78.5
- To strengthen collaboration across public health, clinical medicine, academia, civil society, and specialist services
- To build national ownership and consensus around integrated lung-health governance

From Strategy to Impact

The establishment of the Technical Working Group (TWG) was one of the earliest foundational activities underpinning the Lung Health Initiative Malaysia. Recognising that lung health spans communicable diseases, noncommunicable diseases, environmental exposure, occupational risk, prevention, diagnostics, and long-term care, the Ministry of Health (MOH) Malaysia convened a multidisciplinary platform to provide scientific, clinical, and implementation guidance.

The TWG brought together public health medicine specialists, respiratory physicians, family medicine specialists, radiologists, pathologists, oncologists, academicians, and civil society representatives. This composition reflected the principle that integrated lung health cannot be designed within a single disease programme or specialty. Public health experts contributed perspectives on prevention, surveillance, policy, and population-level implementation. Respiratory and family medicine clinicians highlighted frontline challenges in delayed diagnosis, referral, chronic disease management, and continuity of care. Radiology and pathology experts strengthened the diagnostic pathway, while oncology, academia, and NGO participation ensured that treatment access, evidence generation, and community perspectives remained visible.

Core and contributing members included representatives from the Disease Control Division, Ministry of Health Malaysia; occupational and environmental health; cancer prevention and control; respiratory medicine; thoracic radiology; anatomical and molecular pathology; family medicine; oncology; academia; and civil society.

Members included Dr Noraryana binti Hassan; Dr Nik Khairol Reza bin Md Yazin; Dr Eliana binti Ahmad; Dr Diana binti Mahat; Dr Muhamad Hairul Nizam bin Abd. Hamid; Dr Norhayati binti Omar; Dr Ahmad Riadz bin Mazeli; Dr Noor Emillia binti Illa; Dr Hamiza binti Ngah; YBhg. Dato’ Dr Haji Mat Zuki Mat Jaeb; Prof. Dr Elil Renganathan; Dr Arvindran Alaga; Prof. Dr Ahmad Izuanuddin bin Ismail; Dr Norlen Mohamed; Dr Nurhaliza binti Zakariah; Dr Nor Hazlin binti Talib; Dr Ros Suzanna binti Ahmad Bustaman; Dr Siti Hafsah binti Abd Halim; Dr Siti Mariam binti Ja’afar; Dr Suzana Md Hashim; and Kol. Bersekutu (PA) Prof. Dr Murallitharan M.

The TWG met formally every quarter, with monthly updates conducted through virtual calls. It reported twice yearly to the NCD Technical Committee chaired by the Director-General of Health. Formal technical subcommittees were structured according to specialty areas, including respiratory medicine, thoracic radiology, anatomical pathology, public health, family medicine, oncology, academia, and NGO participation.

Through this structure, the TWG functioned as a consensus-building platform. It helped define the vision, mission, strategic priorities, and operational direction of the Lung Health Initiative Malaysia 2025–2030, while ensuring alignment with the broader WHA78.5 integrated lung-health agenda. Its establishment created a governance and technical foundation rooted in inclusivity, scientific rigour, multisectoral collaboration, and collective ownership.

Implementation Insights

- Integrated lung-health governance requires multidisciplinary technical leadership from the earliest stages of programme development.
- Consensus-building across specialties and sectors improves policy coherence and implementation feasibility.
- Quarterly formal meetings, monthly virtual updates and twice-yearly reporting to the NCD Technical Committee directly to the Director General of Health, Malaysia created a structured accountability rhythm.
- Specialty-based subcommittees allowed technical depth while preserving one shared national lung-health architecture.
- Inclusion of civil society and frontline healthcare perspectives strengthened practical relevance and community responsiveness.
- The TWG provided the bridge between the global WHA78.5 agenda and Malaysia’s national implementation reality.

Technical Working Group Member

- **Dr Noraryana binti Hassan**
Public Health Medicine Consultant,
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- **Dr Nik Khairol Reza bin Md Yazin**
Public Health Medicine Consultant,
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Occupational Safety and Health Sector,
Disease Control Division,
Ministry of Health Malaysia
- **Dr Eliana binti Ahmad**
Public Health Medicine Specialist,
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Disease Control Division,
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- **Kol. Bersekutu (PA) Prof. Dr Murallitharan Munisamy**
Managing Director,
National Cancer Society Malaysia
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Professor of Practice,
Faculty of Medical and Life Sciences,
Sunway University



Technical Working Group members convening for a formal meeting to discuss the implementation of Malaysia’s National Lung Health Initiative



CASE STUDY 3

National Strategic Plan for Lung Health Initiative Malaysia 2025-2030 and Guideline on Implementation of the Lung Health Initiative

Action Domains Covered (WHA78.5)

- 1. Integrated national policy and whole-of-government / whole-of-society collaboration
- 2. Incorporation of integrated lung health into primary healthcare and universal health coverage (UHC) pathways
- 3. Air-pollution awareness, standards, and monitoring
- 4. Occupational lung-health protection
- 5a. Health promotion and primary prevention, including tobacco and vaping control, environmental exposure reduction, and vaccination for preventable respiratory infections
- 5b. Evidence-based clinical and public-health guidance, early detection, diagnosis, and treatment, including innovative technologies
- 5c. Evidence-based information mechanisms for policy-making, monitoring, evaluation, and learning
- 6. National capacity-strengthening and integrated lung-health packages
- 7. Access to safe, effective, and quality medicines, vaccines, and health technologies

Programme Objectives

- To establish Malaysia’s long-term strategic direction for integrated lung health
- To translate WHA78.5 into a national implementation framework
- To move from fragmented disease-specific responses towards a coordinated continuum of prevention, screening, diagnosis, treatment, rehabilitation, and palliative care
- To standardise implementation pathways across health facilities, workplaces, and outreach settings
- To strengthen primary-care implementation, referral, follow-up, and national capacity-building across all states

From Strategy to Impact

The National Strategic Plan for Lung Health Initiative Malaysia 2025–2030 and its accompanying Guideline on Implementation marked a major transition from concept to operational delivery for Malaysia’s National Lung Health Initiative. The Strategic Plan set the national direction for integrated lung health, while the Guideline translated that direction into practical implementation pathways for prevention, screening, diagnosis, referral, treatment, rehabilitation, follow-up, and monitoring.

The work began with a roundtable discussion with stakeholders from the Ministry of Health (MOH), non-governmental organisations (NGOs), and academia on 1–2 July 2024 at Seri Pacific Hotel, Kuala Lumpur, where the Zero Draft Roadmap for Lung Health was discussed. This was followed by a dedicated write-up session from 26–28 July 2024 to develop the Roadmap for the Malaysia’s National Lung Health Initiative. On 6–7 November 2024, a MOH meeting was convened to discuss the implementation plan.

The next major milestone was the workshop held on 3–5 November 2025 for the development and finalisation of the National Strategic Plan for Lung Health Initiative Malaysia 2025-2030 and its Implementation Guideline. A postmortem session was subsequently held on 13–15 February 2026, one year after the resolution process, to review progress and strengthen the implementation direction.

Implementation was then taken to the states through the Lung Health Initiative roadshow for primary-care implementation. The roadshow was conducted in phases from 7 April to 6 May 2026, covering all states in Malaysia. It supported shared understanding, implementation readiness, and practical alignment across state and primary-care teams. These roadshows supported shared understanding, implementation readiness, and practical alignment across state and primary-care teams.

The Strategic Plan and Guideline together created a bridge between policy and service delivery. They positioned primary healthcare as the frontline platform for early detection and coordinated care, while supporting access to tools such as spirometry, AI-assisted chest X-ray (CXR), low-dose computed tomography (LDCT), and tuberculosis (TB) testing. The process also embedded multisectoral collaboration and implementation learning into Malaysia’s national lung-health architecture.

Implementation Insights

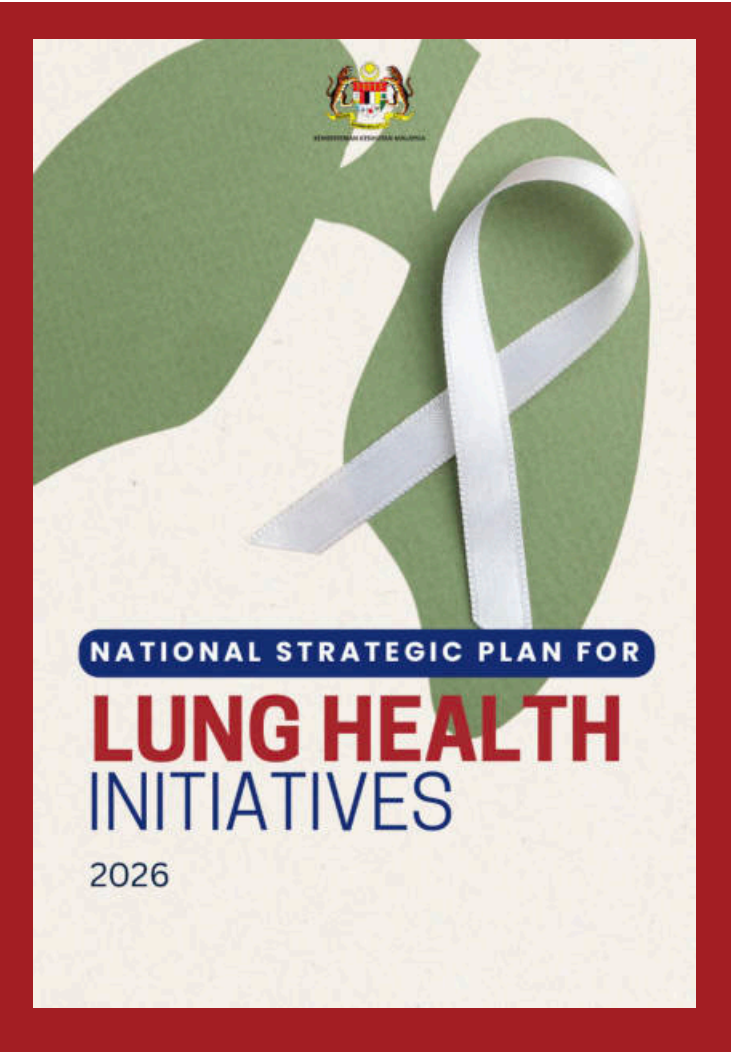
- The development process was phased, beginning with stakeholder consultation, moving into roadmap writing, then implementation planning, finalisation, review, and state-level roll-out.
- Strategic documents are strongest when linked to operational guidance and implementation roadshows.
- Primary-care readiness requires structured engagement with state teams, not only national-level policy approval.
- The sequence from roadmap to strategic plan to guideline helped convert WHA78.5 principles into practical Malaysian implementation architecture.
- Regular review and postmortem processes strengthened implementation learning and accountability.
- Zonal and state-level engagement helped ensure that integrated lung health was understood as a delivery model, not merely as a policy document.

Implementation Chronology

Date	Action carried out
1-2 July 2024	Roundtable discussion with MOH, NGOs, and academia on the Zero Draft Roadmap for Lung Health at Seri Pacific Hotel, Kuala Lumpur
26-28 July 2024	Write-up session for the Roadmap for Malaysia’s National Lung Health Initiative
6-7 November 2024	MOH meeting on the implementation plan
3-5 November 2025	Workshop on the development and finalisation of the National Strategic Plan for Lung Health Initiative Malaysia 2025–2030 and Implementation Guideline
13-15 February 2026	Postmortem session held one year after the resolution process
7 April–6 May 2026	Lung Health Initiative roadshow conducted in phases across all states in Malaysia to support primary-care implementation



Discussions and workshops to develop the National Strategic Plan for Lung Health Initiative Malaysia 2025-2030 and Implementation Guideline, alongside Lung Health Initiative roadshows, capacity-building sessions, and briefings on the implementation of Malaysia's National Lung Health Initiative



National Strategic Plan for Lung Health Initiative Malaysia 2025-2030



Guideline on Implementation of the Lung Health Initiative, 2026



CASE STUDY 4

Strengthening Tobacco Control and Lung Health Protection in Malaysia through the Control of Smoking Products for Public Health Act 2024 [Act 852]

Action Domains Covered (WHA78.5)

1. Integrated national policy and whole-of-government / whole-of-society collaboration
2. Incorporation of integrated lung health into primary healthcare and universal health coverage (UHC) pathways
4. Occupational lung-health protection
- 5a. Health promotion and primary prevention, including tobacco and vaping control, environmental exposure reduction, and vaccination for preventable respiratory infections
6. National capacity-strengthening and integrated lung-health packages

Programme Objectives

- To modernise Malaysia’s tobacco and vaping control framework under a dedicated public-health law
- To reduce exposure to tobacco smoke, vape aerosols, and emissions from smoking products
- To protect children and adolescents from initiation, access, marketing, and normalisation of smoking and vaping products
- To support the National Lung Health Initiative by embedding prevention into national law, enforcement systems, and public-health messaging
- To strengthen whole-of-government enforcement involving health, customs, police, domestic trade, local authorities, and other relevant agencies

From Strategy to Impact

Malaysia’s Control of Smoking Products for Public Health Act 2024 [Act 852] represents a major legislative pillar within the country’s wider lung-health prevention architecture. The Act provides a dedicated legal framework for regulating tobacco products, smoking substances, substitute tobacco products, electronic cigarettes, and vaping-related products. It modernises Malaysia’s tobacco-control approach by extending regulation beyond conventional cigarettes to newer smoking products that have become increasingly visible among young people and retail markets.

Act 852 came into force in phases beginning on 1 October 2024, with full enforcement marked on 1 October 2025 through Operasi Selamat Paru-Paru, or Ops Selamat PaPa. The phased approach allowed industry, retailers, and enforcement agencies time to adjust while progressively tightening compliance requirements. The Act covers product registration, advertising, promotion and sponsorship, sale and display, packaging and labelling, pricing, non-smoking areas, offences involving minors, enforcement powers, and penalties.

A central prevention feature is the protection of minors. The Act prohibits sale or provision of regulated smoking products and smoking-related services to minors, and also restricts purchase and use by minors. It further controls advertising, promotion, and

sponsorship, preventing products from being marketed in ways that encourage smoking or present smoking products as cessation products. Packaging and labelling regulations introduced under Act 852 strengthen health-warning requirements and regulate product presentation, including controls relevant to smoking substances and nicotine concentration.

Operationally, Act 852 has been implemented through whole-of-nation enforcement. Ops Selamat PaPa was conducted nationwide and in an integrated manner, involving the Ministry of Health (MOH) Malaysia, Royal Malaysian Customs Department, Royal Malaysia Police, Ministry of Domestic Trade and Cost of Living, local authorities, and other enforcement partners. Enforcement has focused on non-compliant sale, display, distribution, registration, packaging, and labelling of smoking products, including electronic cigarettes and vape products.

From June 2026, additional regulations are expected to be introduced to further tighten and increase controls over tobacco and vaping products across the country. Within the National Lung Health Initiative, this represents the next phase of prevention strengthening: moving from legislative establishment and initial enforcement towards more comprehensive regulation of product availability, marketing, retail practice, and exposure reduction.

Implementation Insights

- Tobacco and vaping control must be treated as a core lung-health intervention, not merely a behavioural risk campaign.
- Act 852 shows how national legislation can create the enabling environment for integrated lung-health prevention.
- Phased enforcement can help move a new law from gazettement to operational compliance while allowing enforcement systems to mature.
- Whole-of-government enforcement is essential because tobacco and vaping regulation spans health, trade, customs, policing, retail practice, and local-authority control.
- Youth protection is a central implementation priority, especially in the context of electronic cigarettes, vaping products, and product display.
- The planned June 2026 regulatory strengthening should be presented as part of Malaysia’s continuing Lung Health Initiative implementation pathway, showing that prevention policy is being progressively tightened rather than treated as a one-off legislative event.



H.E. Datuk Seri Dr Dzulkefly Ahmad, Minister of Health Malaysia, participating with local enforcement officers in Ops Selamat PaPa 2025 in Putrajaya to mark the full enforcement of the Control of Smoking Products for Public Health Act 2024 [Act 852]



CASE STUDY 5

Advancing Tobacco Dependence Treatment: Malaysia’s Integrated Smoking Cessation Ecosystem, JomQuit and Cik Era AI

Action Domains Covered (WHA78.5)

- 1. Integrated national policy and whole-of-government / whole-of-society collaboration
- 2. Incorporation of integrated lung health into primary healthcare and universal health coverage (UHC) pathways
- 5a. Health promotion and primary prevention, including tobacco and vaping control, environmental exposure reduction, and vaccination for preventable respiratory infections
- 5c. Evidence-based information mechanisms for policy-making, monitoring, evaluation, and learning
- 6. National capacity-strengthening and integrated lung-health packages
- 7. Access to safe, effective, and quality medicines, vaccines, and health technologies

Programme Objectives

- To strengthen tobacco dependence treatment as a core component of Malaysia’s integrated lung-health strategy
- To improve accessibility, continuity, and responsiveness of smoking cessation support across healthcare facilities, community platforms, and digital systems
- To integrate smoking cessation into primary healthcare, preventive health services, and the Lung Health Initiative
- To reduce smoking-related lung disease burden, including COPD, lung cancer, and other chronic respiratory conditions
- To leverage digital innovation, including Cik Era AI, as an AI-enhanced assistant software supporting quit attempts and relapse prevention
- To operationalise WHO FCTC Article 14 through a coordinated national cessation ecosystem

From Strategy to Impact

Malaysia’s smoking cessation ecosystem represents a major preventive pillar of Malaysia’s National Lung Health Initiative. Rather than treating tobacco dependence only as an individual behavioural issue, Malaysia has positioned cessation as a structured public-health intervention linked to primary care, digital access, community engagement, and national tobacco control.

The ecosystem is anchored by the mQuit programme, which has evolved since 2015 as a national platform integrating public and private providers. Cessation services are delivered through Ministry of Health clinics and supported by private general practitioner clinics, dental clinics, community pharmacies, professional bodies, and strategic partners. Services include behavioural counselling, pharmacotherapy, structured follow-up, and referral to trained cessation providers.

The JomQuit platform strengthens access by offering information, quit-support tools, and pathways into cessation services. Digital access has also been expanded through MySejahtera appointment pathways, allowing individuals to seek help more conveniently and reducing barriers related to uncertainty, stigma, and time.

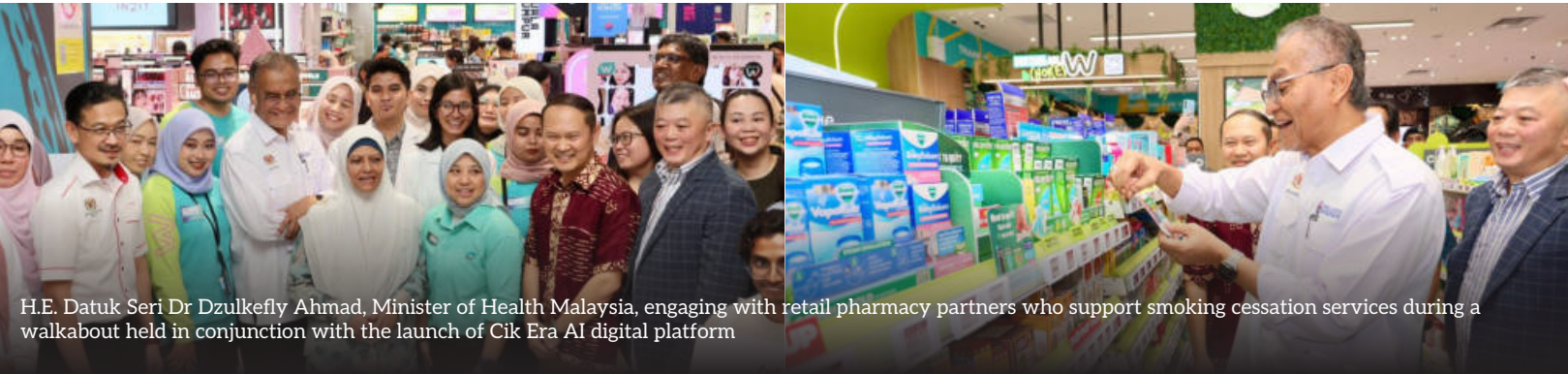
A major implementation innovation is Cik Era AI, now upgraded from an earlier chatbot model into AI-enhanced assistant software within the JomQuit ecosystem. Cik Era AI is available 24 hours a day and functions as a virtual companion for smokers and vapers who are trying to quit. It provides real-time guidance, motivational support, practical coping strategies, information on quit methods, and direction towards nearby JomQuit services or smoking cessation providers.

Public reporting has described Cik Era AI as supporting individuals during high-risk moments such as cravings and stress, while also helping assess nicotine dependence and recommend suitable quit pathways. This addresses a key service gap, as many people need support between clinic visits, especially during relapse-prone periods.

Under Phase 4 of mQuit for 2025–2030, the cessation ecosystem has been strengthened through a whole-of-nation approach involving government, academia, professional societies, civil society, and private-sector partners. This positions cessation not as a standalone activity, but as part of the National Lung Health Initiative’s integrated strategy to reduce lung-disease risk, strengthen prevention, and support healthier behaviour across the population.

Implementation Insights

- Smoking cessation is most effective when embedded within primary healthcare and the broader lung-health system.
- Digital platforms can lower access barriers by allowing people to seek support privately, conveniently, and repeatedly.
- Cik Era AI demonstrates how AI-enhanced assistant software can complement clinical care by providing continuous support outside clinic hours.
- AI-enabled cessation support should guide, motivate, and refer users, while clinical decisions remain with trained healthcare professionals.
- Whole-of-nation collaboration expands service reach and strengthens sustainability.
- Integrating smoking cessation, vaping support, and digital behavioural assistance strengthens Malaysia’s prevention architecture under the Lung Health Initiative.
- Future strengthening should focus on quality assurance, outcome tracking, provider training, and linkage between digital engagement and confirmed quit outcomes.



H.E. Datuk Seri Dr Dzulkefly Ahmad, Minister of Health Malaysia, engaging with retail pharmacy partners who support smoking cessation services during a walkabout held in conjunction with the launch of Cik Era AI digital platform



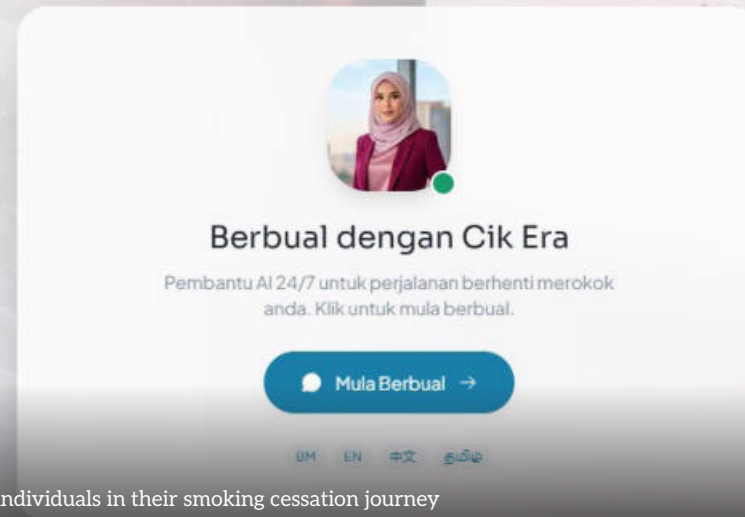
Bersedia untuk berhenti merokok?

Cik Era sedia membantu anda 24/7. Ajukan sebarang soalan berkaitan perjalanan berhenti merokok anda.

Berbual Sekarang

Kenapa Berhenti? →

The JomQuit.my platform provides digital access to Cik Era AI, supporting individuals in their smoking cessation journey



H.E. Datuk Seri Dr Dzulkefly Ahmad, Minister of Health Malaysia, officiating the launch of the Cik Era AI digital platform



H.E. Datuk Seri Dr Dzulkefly Ahmad, Minister of Health Malaysia, and the Ministry of Health team distributing promotional materials for the Cik Era AI platform during a walkabout at a retail shop in a petrol station



CASE STUDY 6

The Lung Cancer Network Malaysia Surgical Consensus Recommendations for Early-Stage Resectable Non-small cell lung cancer (NSCLC) – Building National Clinical Alignment within the Malaysia Lung Health Initiative

Action Domains Covered (WHA78.5)

- 1. Integrated national policy and whole-of-government / whole-of-society collaboration
- 2. Incorporation of integrated lung health into primary healthcare and universal health coverage (UHC) pathways
- 5b. Evidence-based clinical and public-health guidance, early detection, diagnosis, and treatment, including innovative technologies
- 6. National capacity-strengthening and integrated lung-health packages

Programme Objectives

- To establish locally contextualised peri-operative guidance for early-stage NSCLC
- To standardise multidisciplinary lung cancer care pathways in Malaysia
- To strengthen integration between respiratory medicine, thoracic surgery, oncology, pathology, and radiology
- To support early detection, staging, biomarker testing, and treatment continuity
- To align lung cancer management with the broader National Lung Health Initiative

From Strategy to Impact

The publication of the Surgical Consensus Recommendations for Early-Stage Resectable NSCLC in Malaysia represented a major milestone in strengthening evidence-based lung cancer management within the Initiative.

The guideline was developed through collaboration among thoracic surgeons, respiratory physicians, oncologists, radiologists, pathologists, and multidisciplinary experts across Malaysia. According to the publication, a local expert committee convened between February and July 2024 using a modified Delphi process combining systematic evidence review and local consensus-building.

The recommendations addressed screening, diagnosis, staging, biomarker testing, peri-operative therapy, multidisciplinary tumour board decision-making, and long-term surveillance. Importantly, the consensus emphasised low-dose computed tomography (LDCT) screening, multidisciplinary coordination, and integration of precision medicine approaches into local care pathways.

This directly aligned with the National Strategic Plan for Lung Health Initiative Malaysia 2025–2030, which positioned lung cancer as one of the four major priority disease areas during the Initiative’s early implementation phase.

The guideline also reflected the broader integrated philosophy of the Lung Health Initiative by strengthening continuity between screening, diagnostics, specialist referral, surgery, oncology treatment, and follow-up care. It demonstrated how national technical consensus documents can function as implementation tools supporting WHA78.5 action domains related to evidence-based guidelines, integrated referral systems, and equitable access to quality lung-health services.

Official LCNM Guideline Page: <https://www.lungcancer.net.my/cpg-for-peri-operative-management-of-resectable-early-stage-nsclc/>

The paper was subsequently published in Translational Lung Cancer Research (TLCR) and described publicly as Malaysia’s first dedicated lung cancer clinical practice guideline initiative.

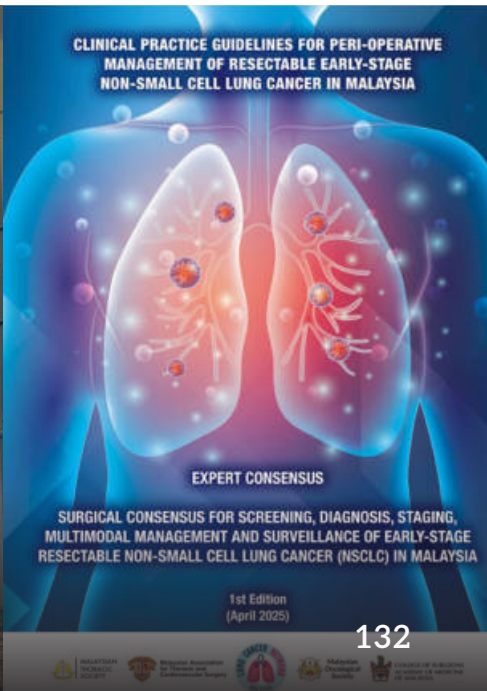
Translational Lung Cancer Research (TLCR) paper: <https://pubmed.ncbi.nlm.nih.gov/40799423/>

Implementation Insights

- National consensus guidelines improve standardisation of care pathways.
- Multidisciplinary collaboration strengthens continuity and quality of lung cancer management.
- Precision medicine and biomarker testing are increasingly central to modern thoracic oncology.
- Guideline development can operationalise broader integrated lung-health policy frameworks.
- Locally contextualised recommendations improve feasibility and implementation relevance.
- Linking screening, diagnostics, surgery, and oncology pathways reduce fragmentation of care.



The launch of the Clinical Practice Guidelines for Peri-operative Management of Resectable Early-stage Non-small Cell Lung Cancer in Malaysia





CASE STUDY 7

Civil Society Improvement of Awareness: The JOM Family of Platforms for Tobacco Control, Vape Prevention, and Lung-Health Awareness

Action Domains Covered (WHA78.5)

1. Integrated national policy and whole-of-government / whole-of-society collaboration
3. Air-pollution awareness, standards, and monitoring
- 5a. Health promotion and primary prevention, including tobacco and vaping control, environmental exposure reduction, and vaccination for preventable respiratory infections
- 5c. Evidence-based information mechanisms for policy-making, monitoring, evaluation, and learning
6. National capacity-strengthening and integrated lung-health packages

Programme Objectives

- To socialise the National Lung Health Initiative beyond clinical and policy circles by making tobacco control, vape prevention, cessation support, and healthy living visible to communities
- To strengthen public awareness of Act 852 and support citizen participation in tobacco and vape control enforcement
- To provide accessible digital entry points for smoking cessation, school-based prevention, and community health literacy
- To create a civil-society-led family of public platforms that can be used by schools, parents, students, community leaders, health advocates, and enforcement partners
- To strengthen the prevention and exposure-control arm of the National Lung Health Initiative through awareness, reporting, referral, and behavioural change

From Strategy to Impact

Civil society has played a central role in translating Malaysia’s National Lung Health Initiative from a technical policy agenda into a community-facing public movement. The JOM family of platforms, comprising JomQuit, JomLapor, and JomSihat, represents a practical example of how civil society can support implementation by building awareness, providing digital access, mobilising communities, and strengthening social accountability around tobacco and vape control.

JomQuit is the cessation-facing pillar. The public JomQuit portal presents itself as a digital smoking cessation platform by the Ministry of Health (MOH) Malaysia and provides access to Cik Era AI, a 24/7 artificial intelligence assistant that supports people during the quitting journey. It also directs users to mQuit services and provider pathways. Within the broader civil-society implementation narrative, JomQuit complements the National Lung Health Initiative by connecting awareness to action. A person exposed to tobacco-control messaging can move directly into cessation support, rather than being left with only information. Because smoking cessation has already been described in a separate case study, this case study treats JomQuit mainly as one part of the wider JOM prevention ecosystem.

JomLapor is the citizen enforcement and social accountability pillar. The platform focuses on advocacy for enforcement of the Control of Smoking Products for Public Health Act 2024 (Act 852). It enables individuals and community advocates to submit photographic evidence of suspected violations while protecting identity and anonymity. Reports are intended to be channelled to relevant authorities, including the Ministry of Health, local authorities, and related agencies. The platform covers violations such as smoking or vaping in prohibited areas, sales to persons under 18, online sales, prohibited displays, advertising promotions, sponsorship, and sales of smoking products in prohibited settings. JomLapor turns community awareness into enforcement intelligence. It can help identify hotspots, guide enforcement focus, and create community pressure against normalisation of tobacco and vape use. Ongoing roadshows and communication activities further encourage people to understand Act 852 and use the platform responsibly.

JomSihat is the school and community health-literacy pillar. It functions as a multilingual digital resource and activity platform for schools, colleges, universities, and community programmes. Its public-facing structure includes a digital library, activity updates, and a mechanism for uploading local activities. Within this case study, JomSihat is positioned as the prevention education platform for nutrition, healthy living, tobacco and vape prevention, and age-appropriate communication with students, teenagers, parents, and educators. It provides a shared pool of materials that can be used across the country, rather than requiring every school or community group to create resources from scratch.

Together, the JOM family demonstrates how civil society can complement government-led lung-health policy. It supports the National Lung Health Initiative by making prevention upstream, building public literacy, creating citizen participation, strengthening cessation referral, and making tobacco and vape control part of everyday community action.

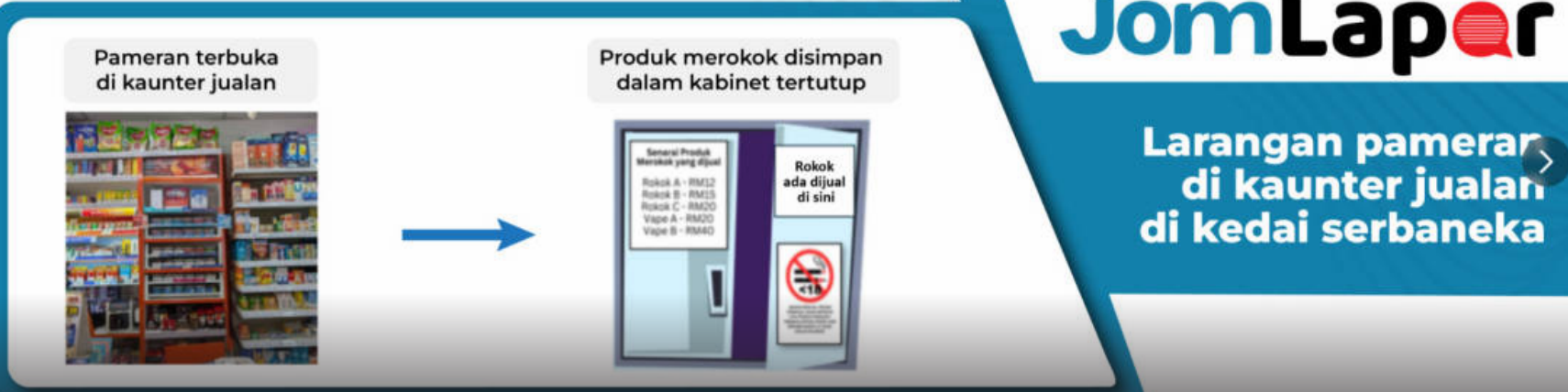
Implementation Insights

- Civil society platforms can translate national policy into community behaviour change by making lung health visible, practical, and locally usable.
- Awareness alone is not sufficient; the JOM family links awareness to action through quitting support, public reporting, and reusable education materials.
- JomLapor shows how citizen reporting can complement formal enforcement by highlighting patterns, hotspots, and emerging violations, including online sales and point-of-sale display issues.
- JomSihat strengthens prevention by reaching students, parents, educators, and youth environments before tobacco or vape use becomes normalised.
- Digital platforms can expand reach nationally, but impact depends on continued roadshows, community trust, responsible reporting, feedback loops, and coordination with enforcement agencies.
- The JOM family gives the National Lung Health Initiative a public-facing architecture: quit, report, and learn.

Key Links

- JomQuit: Digital smoking cessation support: <https://jomquit.my/>
- JomLapor: Public reporting for tobacco and vape control enforcement: <https://jomlapor.com/>
 - What Can Be Reported: <https://jomlapor.com/what-to-report>
 - How to Report: <https://jomlapor.com/how-to-report>
- JomSihat: Health literacy and prevention resources: <https://jomsihat.com.my/>

Produk merokok adalah dilarang untuk dipamerkan di kaunter jualan kecuali mengikut tatacara yang dibenarkan oleh KKM di dalam kabinet legap dan tertutup.
(Tindakan penguatkuasaan bermula 1 Oktober 2025)



Larangan pameran di kaunter jualan di kedai serbaneka

JomLapor website: a digital platform for reporting smoking and tobacco-related violations

Jika anda mengesan mana-mana premis yang tidak mematuhi larangan ini,

Sebuah inisiatif komuniti oleh:



JomSihat

Laman pendidikan dan kesedaran mengenai kesan tabiat mengguna rokok/vape terhadap kesihatan awam

JomSihat website: a digital health literacy platform supporting education on smoking, vaping, and healthy living

WWW.JOMSIHAT.MOH.GOV.MY

Sebuah inisiatif komuniti oleh:



H.E. Datuk Seri Dr Dzulkefly Ahmad, Minister of Health Malaysia, delivering his speech at the launch of the JomQuit website



CASE STUDY 8

National Cancer Screening Registry (NCSR) Lung Digital Health Application: Building a Mini Electronic Medical Record (Mini-EMR), Teleradiology, and Patient Navigation Engine for the National Lung Health Initiative

Action Domains Covered (WHA78.5)

- 2. Incorporation of integrated lung health into primary healthcare and universal health coverage (UHC) pathways
- 5b. Evidence-based clinical and public-health guidance, early detection, diagnosis, and treatment, including innovative technologies
- 5c. Evidence-based information mechanisms for policy-making, monitoring, evaluation, and learning
- 6. National capacity-strengthening and integrated lung-health packages
- 7. Access to safe, effective, and quality medicines, vaccines, and health technologies

Programme Objectives

- To provide a digital screening registry for lung-health screening, beginning with lung cancer, and expandable to integrated lung-health conditions
- To function as a mini electronic medical record where patient data, screening results, and X-ray images can be stored and retrieved
- To strengthen AI-assisted chest X-ray screening through remote radiologist verification
- To support patient-facing navigation, allowing individuals to access results and next-step instructions after screening
- To complement and feed structured information into the Ministry of Health’s (MOH) public-sector registry and monitoring ecosystem
- To bridge public, private and civil-society screening platforms, including general-practice clinics, outreach programmes, and workplace-based screening

From Strategy to Impact

The National Cancer Screening Registry (NCSR) Lung Digital Health Application was developed as a practical digital engine for Malaysia’s National Lung Health Initiative. Its value lies not only in storing screening records, but in connecting screening, image capture, artificial intelligence (AI)-assisted interpretation, radiologist verification, patient feedback, and referral navigation within a single operational pathway.

The platform functions as a mini health information system for lung screening. It allows patient data to be captured, stored, and retrieved, and supports storage of digital chest X-ray films. This is particularly important because many chest X-rays performed in primary care or outreach settings may not routinely receive specialist radiology reporting. The NCSR lung module strengthens this gap by creating a structured reporting pathway in which a chest X-ray can be uploaded digitally, screened by AI, and then verified by a radiologist through a telehealth backend.

The teleradiology component is central to the case study. Radiologists are able to log in remotely, review the AI-assisted findings, verify or correct the interpretation, and issue a final report. This gives the system a dual quality-assurance mechanism: AI improves triage and sensitivity, while specialist review preserves clinical accountability. Public reporting of National Cancer Society Malaysia’s

(NCSM) mobile screening workflow described NCSR as the programme’s digital backbone, with X-ray images uploaded to the registry, AI flagging possible abnormalities and remote radiologists issuing signed reports within minutes.

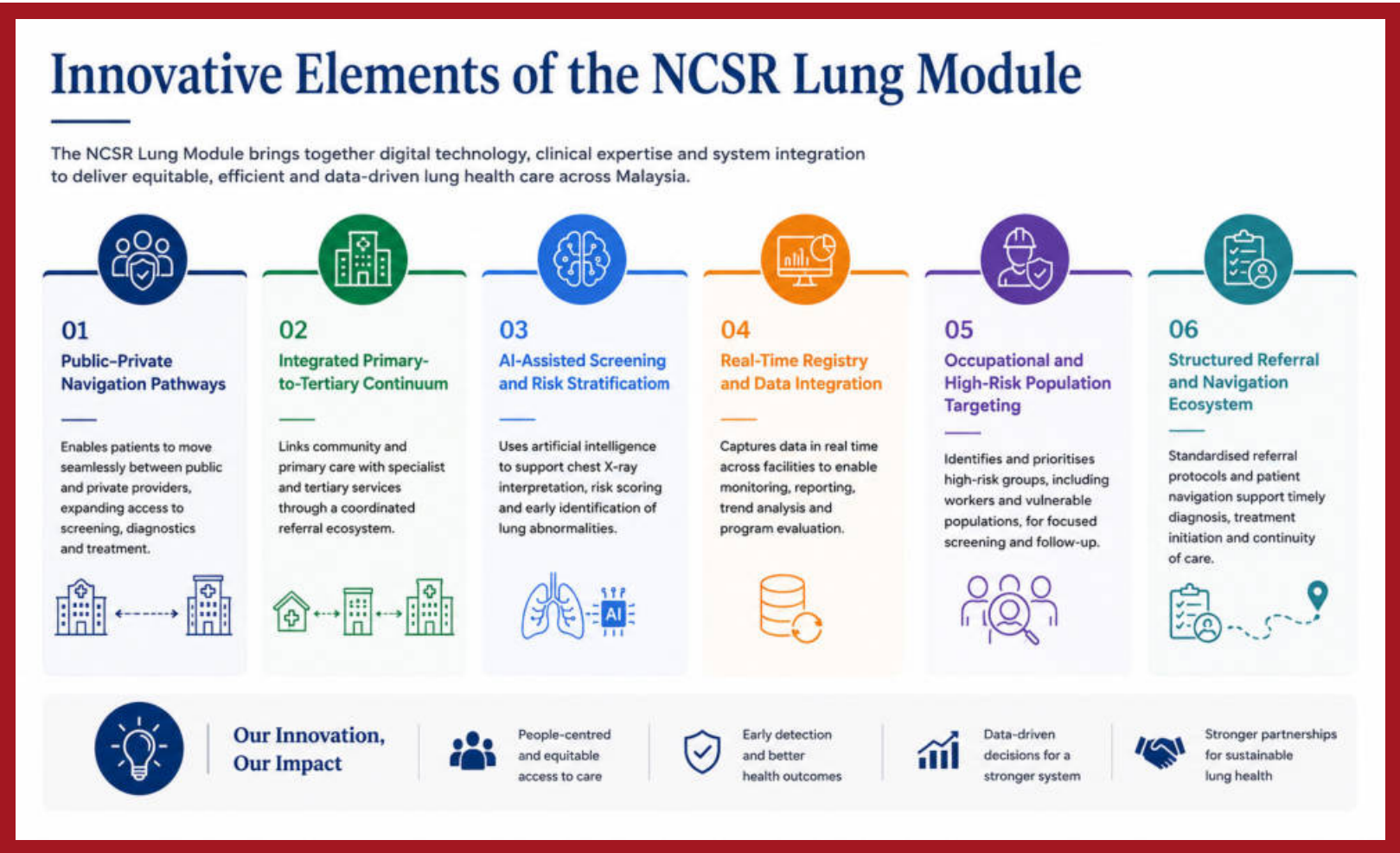
The platform also has a patient-facing function. Patients can log in to view information, receive their screening outcome, and be directed to the next step in the pathway. When a concerning finding is identified, the system supports referral and navigation towards low-dose computed tomography (LDCT), biopsy, staging, or follow-up care. In this way, the registry becomes more than a database; it becomes a digital navigation tool that helps prevent screening from becoming a disconnected activity.

The NCSR lung segment was built first around early lung cancer screening and diagnosis, but its architecture is relevant to the wider integrated lung-health agenda. Over time, the same platform can support broader lung-health screening by linking risk assessment, chest imaging, spirometry, tuberculosis testing, referral pathways, and outcome tracking. It therefore complements the MOH’s public-sector monitoring ecosystem by providing an implementation-facing digital layer across civil-society, private primary care, public-sector, and outreach delivery settings.

National Cancer Screening Registry application: <https://ncsr.cancer.org.my/app/>

Implementation Insights

- Digital registries are most useful when they connect screening to diagnosis, referral, and follow-up, not when they simply store data.
- AI-assisted chest X-ray becomes safer and more credible when paired with radiologist verification and a clear reporting workflow.
- Teleradiology can improve access to specialist interpretation for primary care, outreach, and workplace screening sites.
- Patient-facing digital navigation helps individuals understand results and complete the next step in the pathway.
- A mini-EMR linked to image storage creates continuity across multiple delivery settings, including private primary care clinics.
- The NCSR lung module offers a bridge between civil-society innovation, private-sector service delivery, and national public-sector monitoring of the entire programme.
- The next stage should expand the platform from lung cancer screening towards integrated lung-health screening, including chronic obstructive pulmonary disease (COPD), asthma, tuberculosis, and occupational or exposure-related lung disease.



A featured publication in The Lancet outlining a new approach to lung health in Malaysia and the evolving direction of national respiratory health reform



World Report

history of cancer. For tuberculosis, the criteria are being in close contact with a person with tuberculosis, living with HIV, and medical conditions with an increased risk of tuberculosis reactivation, such as poorly controlled type 2 diabetes, or those on long-term steroids, immunosuppressants, or biologic therapies.

Despite bureaucracy, Ranganathan said implementation was moving forward. He told *The Lancet*, “It’s a sound approach. There needs to be continued political commitment and support. But I’m optimistic. The Minister and the leaders are committed to this initiative.”

Just how useful CXR is for lung cancer screening has been a subject of study. The evidence from high-income countries shows that low-dose CT (LDCT) screening has much better evidence on reducing mortality in lung cancer than CXR, with a lung cancer-related mortality benefit of 20–24% for annual CT screening. The Prospective Lung Colorectal and Ovarian Cancer Screening Trial showed that annual screening with chest radiographs over a 4-year period did not significantly decrease lung cancer mortality compared with usual care.

However, these data are now relatively old; trial enrolment began in 1993, and the technology used for CXR has improved considerably. “All chest x-rays may be better again, we just don’t know yet,” says David Baldwin, Honorary Professor in the School of Medicine at the University of Nottingham, UK, and a consultant respiratory physician specialising in lung cancer who advises the UK National Screening Committee.

For lung cancer, LDCT is the screening of choice, being used in national programmes in Australia, Canada, the USA, South Korea, and Europe. Typically, those eligible are older than 50–55 years with risk factors such as current smoker or history of smoking, because of the relatively lower risk of lung cancer in younger individuals and the risk of

false positives and over-investigation. Egypt has introduced AI to analyse CXR performed in routine practice to aid the earlier detection of lung cancer but has also screened 10 million people using a digital risk questionnaire, of which 80 000 were referred for LDCT. Japan is one of the few other countries that uses CXR as part of an organised lung cancer screening programme.

The AI-assisted CXR system being used in Malaysia, called qXR, is currently being evaluated in seven hospitals in the UK in the lungIMPACT trial, with publication expected shortly. It is investigating whether the immediate availability of AI can reduce

“...we are trying to cast a wider net—rather than being a lung cancer screening programme, we are trying to pick up other lung diseases as well”

the time to diagnosis of lung cancer by at least 10 days.

The approach being used in Malaysia was devised following a systematic review by the Malaysian Health Technology Assessment Section on the value of computer-aided detection or AI for CXR in the early detection of tuberculosis. Besides, Malaysia’s MOH says their Lung Health Initiative is a wider programme than cancer screening and is designed to operate in a different way: structured as a lung health assessment initiative for individuals with recognised risk factors. AI is used as an add-on to support the identification of incidental pulmonary nodules, with the explicit aim of guiding timely and appropriate LDCT. An additional benefit of targeting screening would lead to early diagnosis of other lung diseases, particularly interstitial lung disease and bronchiectasis.

Muralitharan Munisamy, a Public Health Physician who is Managing Director of partner charitable organisation the National Cancer Society Malaysia (NCSM), explained that

the tool has advantages for a middle-income country with a high respiratory disease burden. He told *The Lancet*: “Unlike Australia, we are trying to cast a wider net—rather than being a lung cancer screening programme, we are trying to pick up other lung diseases as well: TB, airway diseases such as asthma and COPD, fibrosis and infections.”

There is a resource component: in a population of almost 36 million, there are 62 respiratory consultants working in public hospitals and 30 in public universities, with approximately 100 working in the private sector. By comparison, the UK’s National Health Service, admittedly with double the population, has 1800. Major and specialist hospitals have LDCT, but this is not guaranteed in public hospitals with specialist services. Only approximately 15% of public health clinics have spirometers.

Baldwin, who was the lead lung specialist on the UK CT lung cancer screening trial, said the idea of trying to detect communicable disease as well as non-communicable diseases at an earlier stage and action the results was “an interesting development...a worthy aim, but somewhat experimental”.

The key question, he said, was how the MOH intended to evaluate the data. To be meaningful, he recommended measuring the change in late-stage detection of lung cancer, not how many extra early cases they find. For tuberculosis, a reduction in mortality, hospital bed days, or treatment given should be measured, he advised. “They shouldn’t be just thinking about detection at an early stage, they should be thinking about the impact of that early detection. That’s the crucial thing. If they do that, this could produce some very useful data.”

Mat Zuki Mat Jaeb, Malaysia’s National Head of Respiratory Medicine, said that an analysis of screening performance, any associated issues, and the way forward will be done after 3 years.

The pathway in the public sector works like this: at-risk patients

are assessed using a screening questionnaire. If COPD is suspected, they will be offered spirometry in the clinic; if the concern is lung cancer or tuberculosis, the AI-CXR is recommended. If necessary, patients are referred on to specialists in six public referral hospitals across Kedah, Penang, Selangor, Kelantan, Sabah, and Pahang.

To scale up, the MOH has partnered with the NCSM to introduce the AI-CXR into the NCSM’s existing health and wellness outreach activities in the corporate and community environment. 800 private general practitioners have also joined the programme. In the first 30 days since the partnership began in October, the NCSM screened 1000 people over 14 sessions.

On the corporate side, the NCSM team works in business centres or industrial plants, giving companies the chance to offer their employees annual health checks, although private individuals can take up the opportunity too. In one factory, 200 employees were screened over 4 days in November. Users take out a micro-insurance plan that covers the health screening and any subsequent diagnostics.

In the community, the team operates free outreach screening in various highly populated but remote locations. The portable AI-CXR machine is small enough to take as hand luggage on an aeroplane. “We do the pop ups in rural areas, at festivals, night markets, carnivals, the furthest away was 45 minutes by boat. Two weeks ago, we did a wedding where there were 500 people—and we screened 100 of the guests”, Munisamy said.

The NCSM has wider criteria than the public programme, with younger people allowed to be screened. Munisamy says that encouraging screening in a society where people only attend if they feel unwell is a positive intervention. Many smokers do not accept they are at risk; others think they could not possibly have tuberculosis due to stigma, he says.

Offering the screen can destigmatise these issues and pick up asymptomatic cases. Also, he cites evidence that nearly all young female lung cancer patients in Malaysia are never-smokers.

Saunthari Somasundaram, President-Elect of the Non-Communicable Disease Alliance in Malaysia and President of the NCSM, says an additional factor is that screening affects 10 times more people than the individual taking part. “It brings awareness, it destigmatises the whole idea of going for a checkup and normalises that behaviour that we need to look after our health.”

So far, more than 3700 people have been screened in the three settings. Although the data have not been

““We do the pop ups in rural areas, at festivals, night markets, carnivals, the furthest away was 45 minutes by boat.”

evaluated yet, the Ministry of Health says more tuberculosis has been identified than lung cancer. Jaeb said “Up to now, although the data has not been fully evaluated, preliminary findings from the screening program have shown that other lung diseases especially TB were picked up more than lung cancer.”

Finding asymptomatic tuberculosis and other infectious disease has additional benefits. Helmy Haja Mydin, a consultant respiratory physician at the public Pantai Hospital, Kuala Lumpur, who is taking part in the programme, says, “This has a knock-on effect in terms of public health, because you’re catching them before they become contagious.”

Cardiothoracic radiologist and lung cancer screening researcher Scott J Adams, an Assistant Professor at the University of Saskatchewan, Saskatoon, Canada, welcomed the initiative. “The burden of lung disease is very substantial across the world. Targeted initiatives to improve lung health are tremendously important. The policymakers should be applauded.”

He said the insurance model system for the outreach programme run by NCSM helped safeguard patients from health-care costs. “I am glad they are thinking about implementation. When a chest X-ray leads to further testing such as CT or biopsy, that’s a costly cascade. Most of the patients are going to end up with a benign aetiology, and at the end of all that, they might feel frustrated by the financial burden as a consequence of the screening process.”

Next year, the scope of the initiative is increasing. An additional 150 klinik kesihatan health clinics should have access to the AI-CXR, and the proportion with spirometry increase from 15% to 50%, the MOH said. The NCSM is planning approximately 1000 screening sessions, with increased scope—it aims to introduce AI-assisted spirometry to diagnose asthma and COPD into its outreach once a new device has regulatory approval.

WHO says that chronic respiratory conditions are hugely underdiagnosed, and its Director-General has appointed a Special Envoy for Chronic Respiratory Diseases, José Luis Castro, to raise awareness. In November he met with Munisamy and Ranganathan in Kuala Lumpur to discuss the initiative. He told *The Lancet* what Malaysia was doing was an important milestone, not only for the country but also for global respiratory health, an example of bringing together prevention, screening, diagnosis, treatment, and rehabilitation for tuberculosis, COPD, asthma, and lung cancer.

“Malaysia is one of the first countries to translate the new WHO Resolution on promoting and prioritising integrated lung health into a concrete national framework”, he said. “This early implementation, with AI-enabled chest X-rays and strong links to tobacco control, show how a middle-income country can use innovation and primary care to expand early detection and access to care.”

Janqui Thornton

World Report

A featured publication in The Lancet outlining a new approach to lung health in Malaysia and the evolving direction of national respiratory health reform

A featured publication in The Lancet outlining a new approach to lung health in Malaysia and the evolving direction of national respiratory health reform



CASE STUDY 9

On-Time Access Programme for Lung Cancer: Improving Equitable Access to Targeted Therapy for Patients in Ministry of Health Hospitals

Action Domains Covered (WHA78.5)

- 2. Incorporation of integrated lung health into primary healthcare and universal health coverage (UHC) pathways
- 5b. Evidence-based clinical and public-health guidance, early detection, diagnosis, and treatment, including innovative technologies
- 5c. Evidence-based information mechanisms for policy-making, monitoring, evaluation, and learning
- 6. National capacity-strengthening and integrated lung-health packages
- 7. Access to safe, effective, and quality medicines, vaccines, and health technologies

Programme Objectives

- To improve equitable access to targeted lung cancer treatment for eligible patients treated within Ministry of Health (MOH) hospitals
- To reduce financial barriers that prevent low-income and middle-income patients from starting or sustaining prescribed lung cancer therapy
- To ensure that access support is means-tested, transparent, and stratified according to ability to pay
- To enable patients to begin treatment after oncologist prescription without prohibitive upfront payment delays
- To demonstrate how government, civil society, international access expertise, and industry can collaborate to close treatment-access gaps under the National Lung Health Initiative

From Strategy to Impact

The On-Time Access (OTA) Programme for lung cancer was developed as a treatment-access mechanism under Malaysia’s broader National Lung Health Initiative. While early detection is essential, screening alone has limited value if patients are unable to move rapidly from diagnosis to treatment. This programme therefore addressed one of the most difficult parts of the lung cancer pathway: access to high-value targeted therapy for patients receiving care in MOH hospitals.

The programme brought together four major partners. The MOH provided the public-sector clinical platform through which eligible lung cancer patients were diagnosed, assessed, and treated. The National Cancer Society of Malaysia served as the civil society partner supporting access, patient navigation, financing, and programme coordination. Axios International contributed specialised expertise in designing and managing patient access programmes, including financial assessment, patient support, and structured access models. AstraZeneca participated as the pharmaceutical partner providing the targeted lung cancer medicine, Osimertinib, a third-generation targeted cancer medication used to treat non-small cell lung cancer (NSCLC) with specific epidermal growth factor receptor (EGFR) mutations, at a subsidised cost.

Clinical decisions remained entirely under the control of the treating oncologist. Patients diagnosed with lung cancer were assessed by their oncology team, and treatment was prescribed according to clinical indication and specialist judgement. Once a patient was considered eligible for the medicine, the access component was activated. Patients underwent a structured means-testing process to assess their ability to pay. Based on this assessment, patients received tiered subsidy support. Those with the greatest financial need could receive very high or complete subsidy support, while other patients received partial subsidy levels such as 75%, 60%, or other tiered support according to affordability and programme rules.

The model was designed to prevent cost from becoming the decisive barrier between prescription and treatment initiation. In practical terms, patients paid an amount ranging from zero to a subsidised contribution, depending on their financial status. This allowed patients in low-income and middle-income groups to access originator targeted therapy that would otherwise be unaffordable or severely delayed.

OTA is a model that helps patients begin treatment without delay after receiving a prescription and reduces upfront financial barriers.

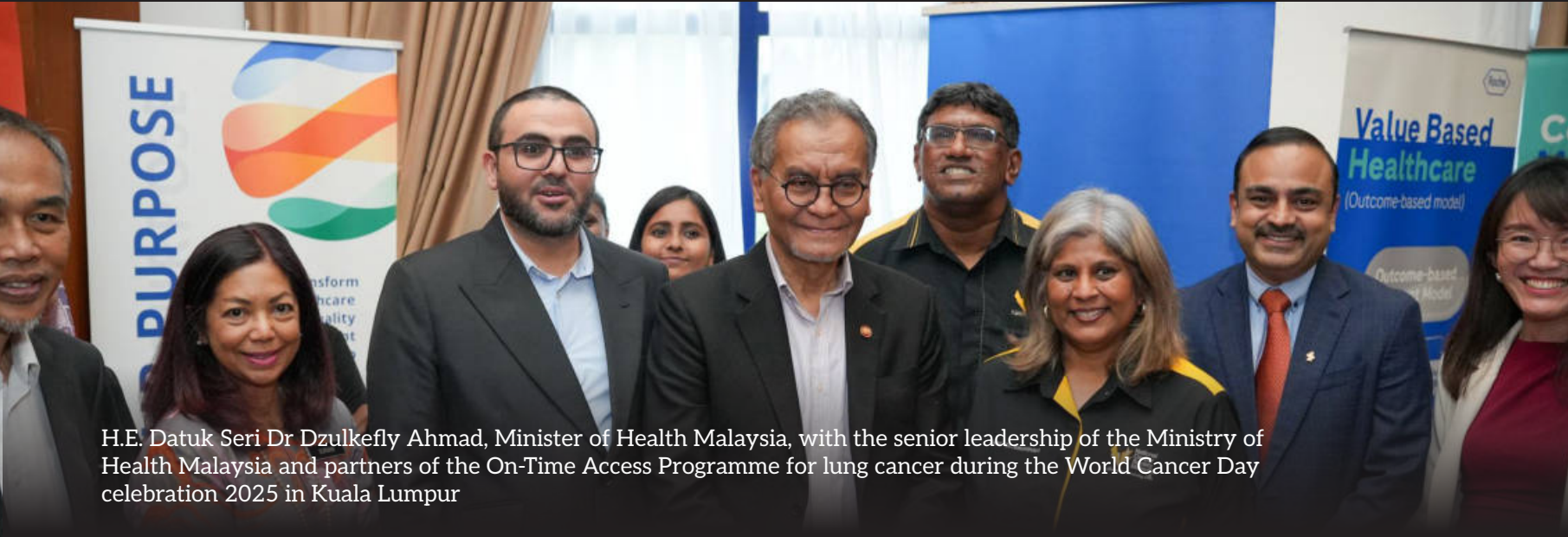
This is directly aligned with the National Lung Health Initiative’s treatment-access pillar, which seeks to connect screening, diagnosis, referral, and treatment into one functioning continuum of care. The programme therefore illustrates how equitable access can be operationalised through a practical, multi-partner mechanism rather than remaining only a policy aspiration.

Implementation Insights

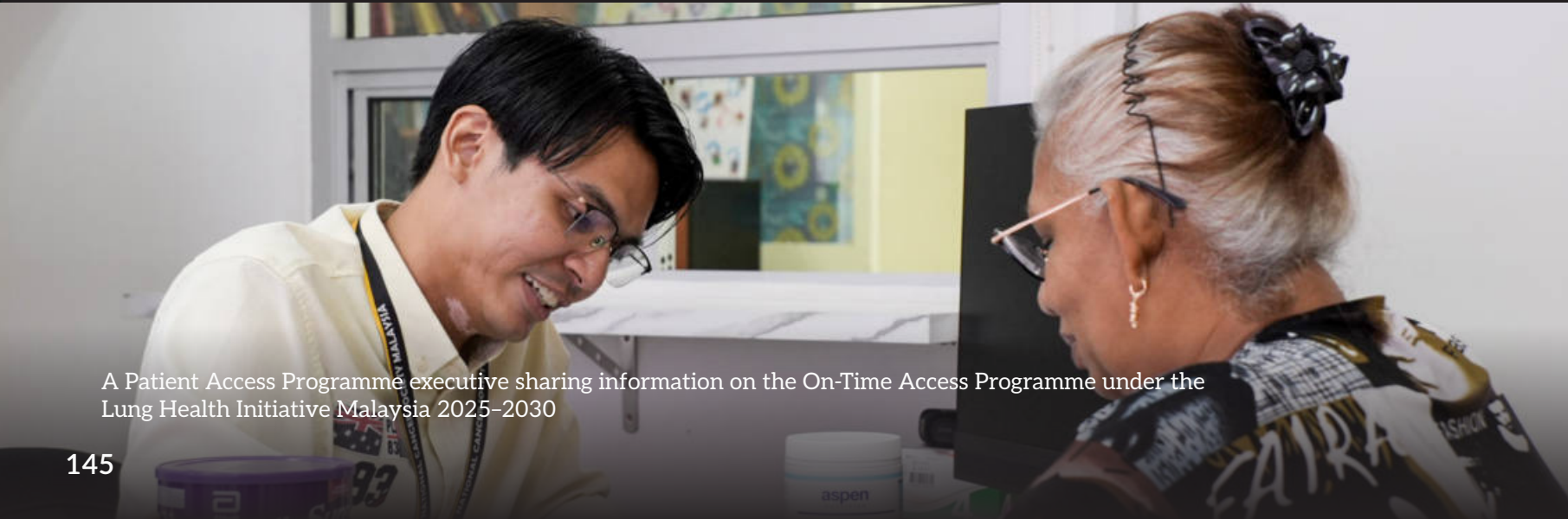
- Treatment access must be built into lung-health pathways from the outset; screening without affordable treatment risks widening inequity.
- Means-tested subsidy models can target support to patients according to need while preserving a structured and accountable access pathway.
- Public-sector clinical governance is strengthened when prescribing decisions remain fully with MOH oncologists.
- Civil society can function as a trusted bridge between patients, government services, and access partners.
- International access organisations can contribute technical systems for affordability assessment, documentation, and access programme management.
- Pharmaceutical partnership can improve access to high-value targeted therapy when embedded within transparent, patient-centred governance.
- The OTA model complements the National Lung Health Initiative by ensuring that earlier diagnosis is linked to timely, equitable, and clinically appropriate treatment.



Panellists sharing perspectives on equitable and patient-centred healthcare access during the “Equity in Motion: The Role of Policy and Collaboration” forum, held in conjunction with the National Cancer Congress Malaysia 2025



H.E. Datuk Seri Dr Dzulkefly Ahmad, Minister of Health Malaysia, with the senior leadership of the Ministry of Health Malaysia and partners of the On-Time Access Programme for lung cancer during the World Cancer Day celebration 2025 in Kuala Lumpur



A Patient Access Programme executive sharing information on the On-Time Access Programme under the Lung Health Initiative Malaysia 2025–2030





CASE STUDY 10

Occupational Health Services Expansion (MyOHS-PS): Strengthening Workplace-Based Lung Health Protection for the Public Sector

Action Domains Covered (WHA78.5)

1. Integrated national policy and whole-of-government / whole-of-society collaboration
4. Occupational lung-health protection
- 5a. Health promotion and primary prevention, including tobacco and vaping control, environmental exposure reduction, and vaccination for preventable respiratory infections
- 5c. Evidence-based information mechanisms for policy-making, monitoring, evaluation, and learning
7. Access to safe, effective, and quality medicines, vaccines, and health technologies

Programme Objectives

- To extend structured occupational health services beyond Ministry of Health (MOH) personnel to other public-sector agencies with high-risk occupational exposures
- To strengthen medical surveillance, early detection of occupational disease, and targeted workplace intervention through a systematic risk-based approach
- To support employers in meeting their occupational safety and health responsibilities without replacing their legal duty of care
- To embed workplace prevention within Malaysia's National Lung Health Initiative, particularly for hazards affecting respiratory health
- To pilot a scalable hub-and-spoke model that can be expanded nationally in alignment with OSHMP30

From Strategy to Impact

MyOHS-PS was developed as a strategic expansion of occupational health services for the Malaysian public sector. Under Malaysia's Occupational Safety and Health Act 1994, employers carry the primary responsibility for safeguarding worker health. The MyOHS-PS model reinforces this principle by enabling public-sector employers to access structured health surveillance, technical expertise, and coordinated care pathways for workers exposed to occupational hazards.

The MOH had long maintained occupational health services for its own workforce, particularly healthcare workers exposed to biological, chemical, and physical hazards. This created a foundation of occupational health expertise within selected health facilities. MyOHS-PS builds on this foundation by extending risk-tailored surveillance and early detection beyond the healthcare workforce to other public agencies whose personnel face comparable workplace risks.

MyOHS-PS focuses on medical surveillance, early detection of occupational disease, and targeted workplace interventions through

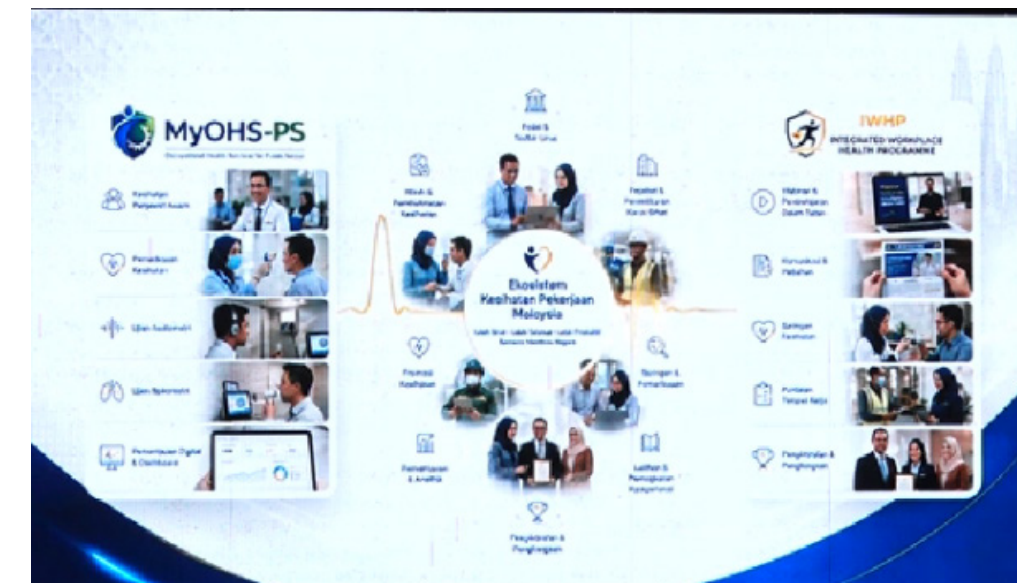
systematic risk management. Its pilot phase involves high-risk agencies in the Klang Valley, including the Royal Malaysia Police, local authorities, the Road Transport Department and the Malaysian Nuclear Agency, before planned wider expansion across the public sector in line with the National Occupational Safety and Health Master Plan 2026-2030.

Operationally, MyOHS-PS uses a hub-and-spoke model. Selected health facilities with occupational health capability act as hubs supporting surrounding public-sector agencies. Workers are prioritised based on exposure risks such as noise, chemicals, and airborne hazards. Within the National Lung Health Initiative, this is especially important because occupational exposures remain a frequently under-recognised contributor to chronic respiratory disease, lung cancer risk, asthma, COPD and other exposure-related conditions.

The case study therefore illustrates how Malaysia translated the National Lung Health Initiative's prevention and exposure-control agenda into a practical workplace service model for the public sector.

Implementation Insights

- Occupational health services are a practical route for moving lung health upstream into prevention and early detection.
- Employer accountability remains central; MyOHS-PS strengthens agency capacity rather than replacing employer obligations.
- A hub-and-spoke model allows specialist occupational health capacity to support multiple agencies without requiring every workplace to build the same infrastructure independently.
- Targeting high-risk agencies first creates a pragmatic pathway for phased national expansion.
- Integrating medical surveillance with the Lung Health Initiative helps connect workplace exposure, respiratory risk, screening and referral.
- The launch of MyOHS-PS positioned workplace health as part of Malaysia's wider shift from sick care towards prevention, health promotion, and whole-of-society lung health protection.



Radio Televisyen Malaysia (RTM) RTM visual from the launch coverage showing MyOHS-PS and IWHP as complementary workplace health initiatives.



Utusan coverage of the Malaysian Occupational Health Services for Public Sector (MyOHS-PS) and Integrated Workplace Health Programme (IWHP) launch at the Ministry of Health Malaysia, Putrajaya, on 30 April 2026. From left to right: Datuk Seri Hj. Hasnol Zam Zam, Secretary General of the Ministry of Health Malaysia; H.E. Datuk Seri Dr Dzulkefly Ahmad, Minister of Health Malaysia; and Dr Noraryana Hassan, Director of the Ministry of Health's Disease Control Division.





CASE STUDY 11

National Lung Health Registry (NALURY) Ministry of Health Malaysia – Strengthening the Data Backbone for Integrated Lung Health Implementation in Malaysia

Action Domains Covered (WHA78.5)

- 1. Integrated national policy and whole-of-government / whole-of-society collaboration
- 2. Incorporation of integrated lung health into primary healthcare and universal health coverage (UHC) pathways
- 5b. Evidence-based clinical and public-health guidance, early detection, diagnosis, and treatment, including innovative technologies
- 5c. Evidence-based information mechanisms for policy-making, monitoring, evaluation, and learning
- 6. National capacity-strengthening and integrated lung-health packages
- 7. Access to safe, effective, and quality medicines, vaccines, and health technologies

Programme Objectives

- To establish a structured national lung-health registry to support the implementation of Malaysia’s National Lung Health Initiative within the health system
- To strengthen recording, tracking, and monitoring of lung-health screening activities across selected health facilities and outreach settings
- To improve continuity of care by enabling documentation of risk factors, symptoms, screening outcomes, referrals, diagnosis, and follow-up
- To support early detection and coordinated management across the four priority lung-health areas: lung cancer, chronic obstructive pulmonary disease (COPD), asthma, and tuberculosis (TB)
- To provide programme-level dashboards and monitoring data to support implementation oversight, reporting, quality improvement, and future national scale-up

From Strategy to Impact

The National Lung Health Registry (NALURY) represents an important digital implementation component within Malaysia’s National Lung Health Initiative. It was developed as a web-based platform to support more systematic, coordinated, and data-driven programme management for integrated lung health. Rather than functioning only as a database, NALURY is intended to strengthen the recording, tracking, and monitoring of lung-health screening activities, while supporting continuity of care across the patient journey.

The development of NALURY responded to the growing scale of lung-health screening in Malaysia and the operational need for a structured platform to manage screening data, follow-up status, referrals, and downstream investigations in a consistent and accessible manner. Its scope is aligned with the four priority areas of the National Lung Health Initiative: lung cancer, COPD, asthma, and TB. This makes NALURY relevant to both communicable and noncommunicable lung diseases, reflecting the integrated approach promoted under WHA78.5.

At the primary-care level, NALURY supports healthcare personnel in documenting patient demographics, risk factors, symptoms, screening outcomes, and initial investigations through a structured digital workflow. It also enables patient referral, diagnosis, and follow-up, helping to strengthen coordination between primary healthcare and hospital-based care. This is particularly important for individuals with abnormal findings or suspected lung disease, where fragmented follow-up can delay diagnosis and treatment.

At the programme level, NALURY provides a centralised dashboard to support monitoring and oversight. The dashboard consolidates screening activity and programme performance across facilities, giving visibility to key indicators such as screening volume, abnormal findings, referral status, and follow-up progress. This creates an information mechanism for implementation learning and programme accountability, especially as the National Lung Health Initiative expands across states and service platforms.

Early implementation began at the primary-care level through selected health clinics. Engagement sessions involving physicians and family medicine specialists were conducted to build understanding of NALURY, align workflow, and support facility-level readiness. This demonstrated that implementation readiness depends not only on technology deployment, but also on frontline engagement, workflow alignment, and service coordination.

NALURY also supports the early-detection pathway linked to artificial intelligence (AI)-assisted chest X-ray (CXR) screening. From June 2025 to March 2026, AI-assisted CXR screening across seven health clinics screened 9,174 individuals and identified 68 suspected malignant lung nodule cases requiring further follow-up and investigation. Reported follow-up outcomes included 22 pulmonary tuberculosis cases, three Lung CT Screening Reporting and Data System (Lung-RADS) category 1 or 2 cases with benign appearance, and two lung metastases. These findings illustrate the value of combining digital data capture, AI-assisted screening, clinical review, and structured referral pathways.

NALURY is positioned as a future data backbone for the wider National Lung Health Initiative architecture. By centralising data from health facilities and outreach activities, it can support monitoring, reporting, and decision-making at district, state, and national levels. More than a registry, NALURY strengthens the programme and data backbone of Malaysia’s lung-health agenda, while laying the groundwork for future integration with broader national digital health systems, including the Electronic National Centre for Disease Control System (eNCDC).

Implementation Insights

- NALURY shows that integrated lung health requires information infrastructure, not only screening tools or clinical guidelines.
- A registry can convert episodic screening encounters into a coordinated care pathway by linking risk assessment, screening results, referral, diagnosis, and follow-up.
- Primary-care adoption depends on frontline engagement, user training, and workflow alignment, making early engagement with physicians and family medicine specialists an important implementation step.
- AI-assisted screening is strongest when embedded within clinical judgement, referral protocols, and follow-up tracking, rather than being used as a standalone technology.
- Programme dashboards can strengthen monitoring, evaluation, and learning by giving implementers visibility over screening volume, abnormal findings, and referral progress across facilities.
- Early findings suggest that an integrated lung-health pathway can identify several conditions, including tuberculosis and metastatic disease, not only suspected primary lung cancer.
- The strongest future evidence for this case study would include confirmation of NALURY governance arrangements, data-protection protocols, user access levels, interoperability with national digital health systems such as eNCDC, referral completion rates, time-to-diagnosis indicators, and confirmed diagnostic outcomes.
- For scale-up from 2026 to 2030, NALURY will require sustained capacity-building, data-quality assurance, technical support, clear ownership, and integration with national digital health and primary-care reporting systems.



CASE STUDY 12

NCSM LungShield: Microfinancing Screening and Diagnostic Access for Early Lung Cancer Detection

Action Domains Covered (WHA78.5)

- 2. Integration of lung health into primary healthcare and referral pathways, by enabling a screened individual to move from primary-care or workplace screening into private diagnostic escalation
- 5b. Evidence-based screening, diagnosis, and referral pathways, including AI-assisted chest X-ray, low-dose CT, biopsy, CT staging, and confirmatory testing
- 5c. Evidence-based information mechanisms, through digital documentation, patient tracking, TPA-enabled claims management, and connection with the National Cancer Screening Registry (NCSR) / lung-screening digital system
- 6. National capacity strengthening through a whole-of-society financing and delivery model involving civil society, insurers, primary care, private hospitals, and employers
- 7. Access, affordability, and availability of health technologies, by using pooled microinsurance and strategic purchasing to finance screening and diagnostic completion

Programme Objectives

- To create an affordable financing pathway for lung cancer and lung-health screening and diagnostic completion
- To address a structural financing gap, because screening and diagnosis are often not covered by conventional insurance and may overburden public hospitals if scaled only through the public sector
- To allow high-risk individuals to access AI-assisted chest X-ray screening and, where indicated, further diagnostic tests without facing prohibitive out-of-pocket costs
- To connect private primary care clinics, radiology review, private tertiary hospitals and navigation into one pathway
- To demonstrate a scalable, non-discriminatory microfinancing model for early lung disease detection under the National Lung Health Initiative

From Strategy to Impact

LungShield was developed as a health-financing innovation within Malaysia’s National Lung Health Initiative. Its starting point was a simple but important systems problem: early lung cancer detection requires screening and diagnostic confirmation, yet screening and diagnosis are frequently outside the scope of ordinary insurance coverage. If national screening expands without an alternative financing model, patients may either delay care because they cannot pay, or the public sector may absorb additional diagnostic workload that it is not resourced to manage at scale.

LungShield responds to this gap through a microinsurance and strategic-purchasing model led by the National Cancer Society of Malaysia (NCSM) with MCIS Life as the insurance partner. Public sources describe LungShield as a comprehensive lung cancer screening and diagnostic package combining AI-assisted chest X-ray screening by NCSM with LungLife insurance protection. The public launch was supported by the Ministry of Health (MOH) and officiated by the MOH at Hilton Petaling Jaya in September 2025.

MCIS Life, a Malaysian insurer with a history dating to 1954 and a member of the Sanlam Group, provides the insurance component.

The full package price is RM179 per year, approximately USD 45.30 (using a current indicative rate of 1 MYR = USD 0.25). This includes the cost of an AI-assisted chest X-ray and the microinsurance component which finances subsequent diagnostic procedures as clinically required. The product provides up to RM10,000 in coverage for one year for screening and diagnostic services.

Unlike traditional underwriting models, the programme is designed as a broad-access, non-discriminatory pathway for high-risk people, excluding active or previous cancer patients as defined in the product rules, without loading or exclusion merely because of lung-risk status.

Operationally, LungShield enables an individual to enter the pathway through workplace, outreach or private primary care screening. A chest X-ray is captured digitally and processed through AI. The image and result are uploaded into the NCSR / lung-screening digital pathway, after which a radiologist can remotely verify the AI output through a tele-radiology backend. If a concerning finding is detected, the financing pathway activates to support escalation to LDCT, biopsy, CT thorax-abdomen-pelvis staging, immunohistochemistry, and molecular testing where clinically indicated and covered under the programme terms.

The delivery model is intended to bridge public and private care. Scale-up has included onboarding approximately 600–800 primary care clinics and around 40 private hospitals, creating a private-sector diagnostic network that can absorb additional screening demand while reducing pressure on public hospitals.

Costs are controlled by the NCSM, itself a non-profit charity, functioning as the third-party administrator who carries out functions such as running the strategic purchasing mechanism, coordinating claims, provider payments and cost control. This allows the programme to negotiate predictable service prices, use economies of scale and keep the pathway financially accessible.

Although LungShield is currently piloted around lung cancer screening and diagnosis, its front end has wider lung-health value: chest imaging can identify nodules, infective changes and other abnormalities relevant to tuberculosis (TB) and other lung diseases.

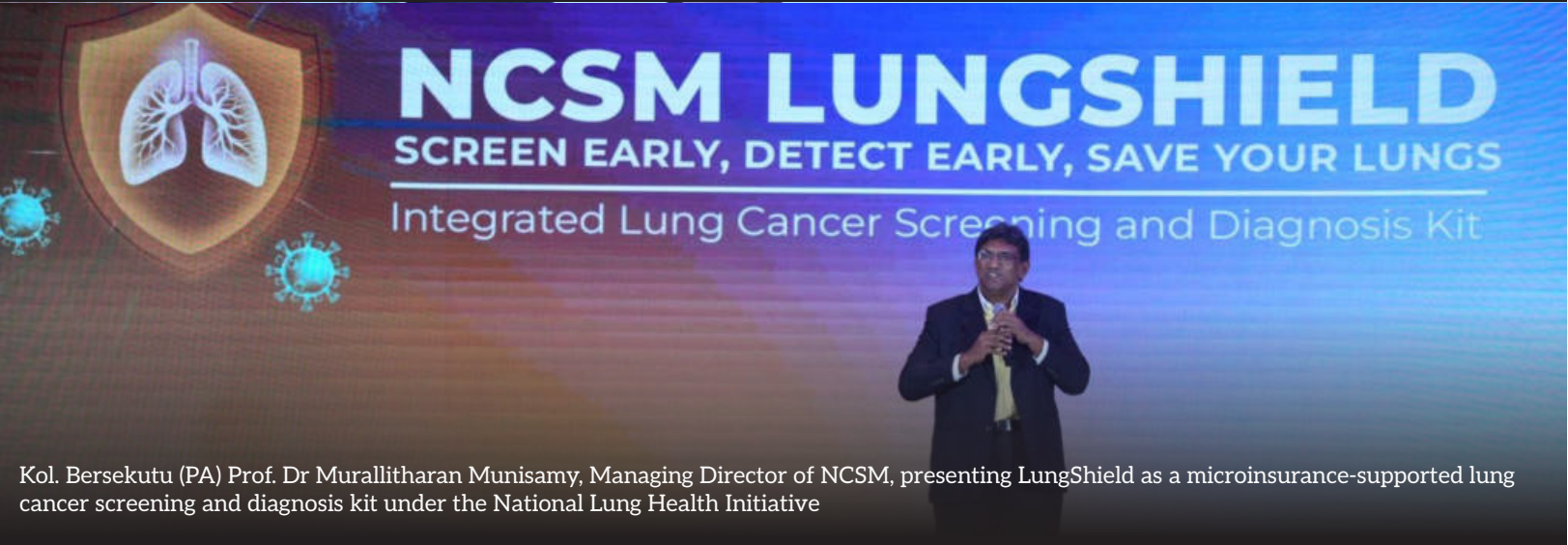
Expansion is already underway to further enhance the same insurance pathway and extend it to finance TB screening, diagnosis, and treatment support, thereby moving LungShield from a cancer-focused microfinancing solution towards a broader integrated lung-health financing platform.

Implementation Insights

- Financing is a central implementation issue in early detection; screening programmes fail if diagnostic completion is unaffordable.
- Microinsurance can convert a high-cost diagnostic pathway into a prepaid, predictable, and affordable service package
- Strategic purchasing and third-party administration can control costs by standardising prices, claims rules, and provider payment.
- Private primary care and private hospitals can be mobilised as a decongestion strategy when public-sector diagnostic capacity is constrained.

Implementation Insights

- AI-assisted chest X-ray is more useful when connected to radiologist verification, digital storage, patient navigation, and financed diagnostic escalation.
- Broad-access underwriting supports equity by allowing high-risk individuals to participate without punitive loading related to risk profile, subject to defined exclusions.
- LungShield offers a practical model for future integrated financing, including possible expansion to TB, and other lung-health diagnostic pathways.



The official launch ceremony of Lung Shield, the microinsurance for lung cancer, under the National Lung Health Initiative



CASE STUDY 13

Integrated Workplace Health Programme (IWHP): Translating the Lung Health Initiative into Employer-Led Workplace Prevention

Action Domains Covered (WHA78.5)

1. Integrated national policy and whole-of-government / whole-of-society collaboration
2. Incorporation of integrated lung health into primary healthcare and universal health coverage (UHC) pathways
4. Occupational lung-health protection
- 5a. Health promotion and primary prevention, including tobacco and vaping control, environmental exposure reduction, and vaccination for preventable respiratory infections
- 5c. Evidence-based information mechanisms for policy-making, monitoring, evaluation, and learning
6. National capacity-strengthening and integrated lung-health packages
7. Access to safe, effective, and quality medicines, vaccines, and health technologies

Programme Objectives

- To turn workplaces into practical platforms for health promotion, disease prevention, screening, and worker support
- To provide employers with a structured and measurable programme, rather than one-off wellness activities
- To support early detection of noncommunicable diseases and lung-health risks through Social Security Organisation (PERKESO)/SEHATi, and corporate screening pathways
- To improve worker knowledge on lung cancer, asthma, COPD, tobacco, vaping, indoor air quality, occupational exposure, nutrition, movement, and mental health
- To create a 2026 flagship programme, Paru-Paru Sihat, Pekerja Selamat, that brings the National Lung Health Initiative directly into private workplaces
- To link workplace participation to dashboards, assessment, improvement plans, and annual recognition

From Strategy to Impact

The Integrated Workplace Health Programme (IWHP) was developed as part of the Ministry of Health’s Wellness of Workers or KOSPEN-WOW pillar together with the National Cancer Society of Malaysia.

It is a structured workplace platform for health promotion, disease prevention, health literacy, and employee wellbeing across Malaysian workplaces. Launched in conjunction with World Day for Safety and Health at Work 2026, IWHP is a holistic workplace-health intervention that combines public and private expertise to promote active lifestyles and mental-health support. The Paru-Paru Sihat, Pekerja Selamat (Healthy Lungs, Healthy Worker) campaign is positioned as the initial flagship programme.

The programme is designed around a practical, employer-friendly pathway. Its core components include a webinar series, e-newsletter, health screening, skills workshops, workplace health assessment, dashboard monitoring, and annual recognition. The webinar and newsletter components keep prevention visible throughout the year, while screening pathways help employers connect workers to.

The 2026 flagship, Paru-Paru Sihat, Pekerja Selamat (Healthy Lungs, Healthy Worker), focuses the full IWHP architecture on lung health. It addresses indoor air quality, ventilation, smoking and vaping, chronic cough, asthma, COPD, lung cancer awareness, occupational exposure, vaccination-related prevention, mental wellness, and referral literacy.

This is important because many lung-health risks are encountered or amplified at work, yet workplace programmes often remain fragmented between occupational safety, general wellness, and clinical screening. IWHP brings these elements into one coordinated workplace-health system.

A distinctive feature is the assessment and recognition architecture. Participating organisations can undergo workplace health assessments covering the physical environment, preventive systems, psychosocial support, health-enabling culture, and improvement.

Dashboards track workplace participation, employee reach, webinar attendance, newsletter circulation, screening volume, workshop completion, risk response, and recognition eligibility. Annual awards then convert participation into an incentive for sustained improvement.

IWHP also creates two entry routes into the ecosystem. IWHP partners contribute content, speakers, expertise, or training delivery, while participating companies mobilise employees and nominate Human Resources (HR) or Occupational Safety and Health (OSH) focal persons. In this way, the programme translates the National Lung Health Initiative’s whole-of-society principle into a concrete employer-facing delivery model.

Implementation Insights

- Workplaces are not only sites of occupational risk; they are scalable platforms for prevention, early detection, and health literacy.
- A component-based structure helps employers move beyond ad hoc wellness activities towards measurable implementation.
- The flagship lung-health theme creates a practical bridge between the National Lung Health Initiative and private-sector workplaces.
- Screening pathways should combine available public-financed routes with employer-supported options so that workers who are not eligible for one route are not left behind.
- Workplace assessment turns lung health into a management issue involving ventilation, indoor air quality, smoke-free and vape-free environments, exposure control, and referral literacy.
- Dashboards and annual recognition create accountability, positive peer pressure, and ESG-aligned incentives for sustained employer participation.
- IWHP complements MyOHS-PS: MyOHS-PS strengthens occupational-health protection in the public sector, while IWHP creates an employer-facing platform for private and institutional workplaces.



Launch of the Integrated Workplace Health Programme (IWHP) and marketplace session for potential partners and participating private-sector organisations, April 2026





CASE STUDY 14

IHH-KKM-PDRM LungShield Programme: Equitable Lung Screening and Diagnostic Pathway for High-Risk Traffic Police Officers

Action Domains Covered (WHA78.5)

- 2. Incorporation of integrated lung health into primary healthcare and universal health coverage (UHC) pathways
- 4. Occupational lung-health protection
- 5a. Health promotion and primary prevention, including tobacco and vaping control, environmental exposure reduction, and vaccination for preventable respiratory infections
- 5b. Evidence-based clinical and public-health guidance, early detection, diagnosis, and treatment, including innovative technologies
- 5c. Evidence-based information mechanisms for policy-making, monitoring, evaluation, and learning
- 6. National capacity-strengthening and integrated lung-health packages
- 7. Access to safe, effective, and quality medicines, vaccines, and health technologies

Programme Objectives

- To provide structured lung-health screening for 10,000 traffic police officers nationwide
- To improve equitable access for a high-risk occupational group, including officers who may otherwise face time, cost, and access barriers to screening
- To connect early detection to diagnostic completion rather than leaving abnormal screening results unresolved
- To demonstrate how private hospital capacity can complement Ministry of Health (MOH) leadership without overloading public diagnostic pathways
- To establish a replicable public-private partnership model for occupational lung health under the National Lung Health Initiative

From Strategy to Impact

The IHH-KKM-PDRM LungShield programme was launched as a national collaboration between IHH Healthcare Malaysia, the MOH Malaysia and the Royal Malaysia Police, with support from the National Cancer Society of Malaysia (NCSM). Public reporting described the initiative as providing structured lung screening for 10,000 traffic police officers across Malaysia, recognising that traffic officers spend long hours in heat, traffic exhaust and airborne pollutants.

The programme addressed a practical equity problem. Traffic police officers are essential frontline public servants, but many have limited time, limited disposable income, and limited opportunity to move independently through screening and diagnostic pathways. If screening demand were pushed entirely into public hospitals, the public sector could face additional congestion. The programme therefore used IHH Healthcare Malaysia’s private-sector capacity as a CSR and systems-support platform, bringing screening closer to a high-risk cohort while preserving onward clinical pathways.

IHH Healthcare Malaysia is part of one of the world’s largest private healthcare networks. Globally, IHH operates 190 healthcare facilities across 10 countries, including 89 hospitals, clinics and ambulatory care centres, and employs about 76,000 professionals. In Malaysia, IHH’s network includes Gleneagles, Pantai, Prince Court, Island Hospital, and Timberland Medical Centre, giving the programme private-sector reach across several regions. The formal LungShield collaboration states that screening will be delivered through IHH Healthcare Malaysia’s network of 18 hospitals nationwide.

Operationally, the programme connects AI-assisted chest X-ray screening with radiologist reporting, low-dose CT where needed, biopsy, reflex molecular testing, staging scans, specialist review, and onward treatment where clinically indicated. This is important because early detection only has value when abnormal findings are followed by clear diagnostic completion and care navigation. Public reporting also highlighted financial protection mechanisms designed to support officers who may face barriers to further examination.

The model therefore combines three assets: MOH policy stewardship, PDRM workforce access and risk identification, and IHH’s hospital network and specialist capacity. NCSM contributes civil-society and lung-health implementation support. Together, the programme demonstrates how occupational risk, public-private partnership, and diagnostic completion can be brought into one pathway under the National Lung Health Initiative.

Implementation Insights

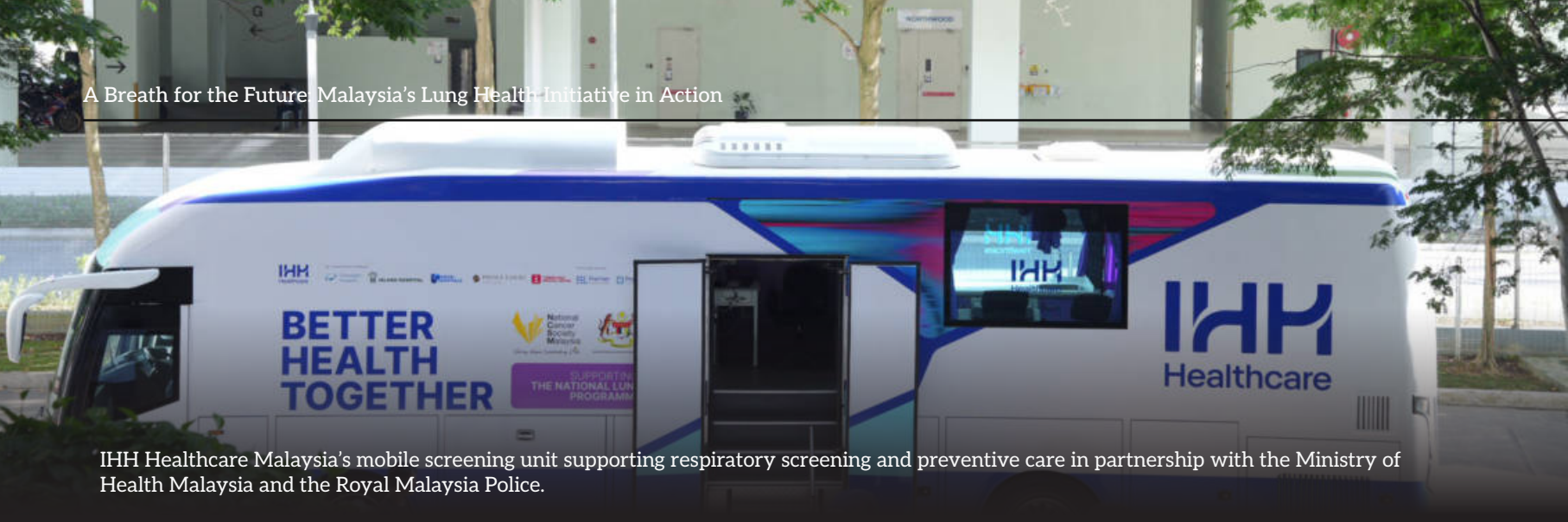
- High-risk occupational groups require targeted pathways, not only general public messaging.
- Public-private partnership can reduce pressure on public diagnostic infrastructure while expanding access to screening.
- CSR investment is most useful when linked to a complete clinical pathway rather than one-off screening.
- AI-assisted chest X-ray must be paired with radiologist review and escalation pathways to avoid unresolved abnormal findings.
- Traffic police officers are a strong proof-of-concept cohort because their exposure profile is visible, occupationally linked, and nationally distributed.
- The model can be extended to other PDRM units and high-risk worker groups if financing, data capture, referral rules, and diagnostic capacity are maintained.

IHH Hospital Directory

IHH Healthcare Malaysia hospital brands and examples include:

• Gleneagles Hospital Kuala Lumpur	• Pantai Hospital Penang
• Gleneagles Hospital Penang	• Pantai Hospital Melaka
• Gleneagles Hospital Johor	• Prince Court Medical Centre
• Gleneagles Hospital Kota Kinabalu	• Island Hospital
• Pantai Hospital Kuala Lumpur	• Timberland Medical Centre

The initiative will utilise IHH Healthcare Malaysia’s network of 18 hospitals nationwide, providing capacity and geographical reach outside the Ministry of Health, Malaysia.



IHH Healthcare Malaysia's mobile screening unit supporting respiratory screening and preventive care in partnership with the Ministry of Health Malaysia and the Royal Malaysia Police.



From left to right: Dr Ismuni Bohari, Deputy Director-General of Health (Public Health), Ministry of Health Malaysia; Dr Kamal Amzan, Chief Executive Officer, IHH Healthcare Malaysia; H.E. Datuk Seri Dr Dzulkefly Ahmad, Minister of Health Malaysia; Dr Prem Kumar Nair, Group Chief Executive Officer, IHH Healthcare; Dr Noraryana Hassan, Director of the Ministry of Health's Disease Control Division; Dr Eliana Ahmad, Sector Head for the Ministry of Health's Cancer Prevention and Control; and Dr Nik Khairul Reza, Sector Head for the Ministry of Health's Occupational Safety and Health, during the Launch of IHH-KKM-PDRM LungShield Programme.



IHH Healthcare Malaysia formalising collaboration with Ministry of Health Malaysia and PDRM under the LungShield Programme



GENERAL
10,000 Traffic Police To Undergo Lung Screening Under Lungshield Programme

10/05/2026 04:50 PM



Bernama. 10,000 Traffic Police To Undergo Lung Screening Under LungShield Programme. 10 May 2026.



CASE STUDY 15

CHEST Alor Setar Hub-and-Spoke Model; Streamlining Referral, Diagnosis, and Treatment of Suspected TB, Lung Cancer, and Severe Asthma in the state of Kedah

Action Domains Covered (WHA78.5)

- 2. Incorporation of integrated lung health into primary healthcare and universal health coverage (UHC) pathways
- 5b. Evidence-based clinical and public-health guidance, early detection, diagnosis, and treatment, including innovative technologies
- 5c. Evidence-based information mechanisms for policy-making, monitoring, evaluation, and learning
- 6. National capacity-strengthening and integrated lung-health packages
- 7. Access to safe, effective, and quality medicines, vaccines, and health technologies

Programme Objectives

- To reduce waiting times for referrals for suspected tuberculosis (TB), lung cancer, and severe asthma
- To improve standard of care and reduce avoidable morbidity and mortality through faster diagnosis and earlier treatment
- To create a practical hub-and-spoke model for respiratory referral in Kedah, using Hospital Sultanah Bahiyah as a specialist hub connected to primary health clinics and district hospitals
- To strengthen collaboration between family medicine specialists, physicians, respiratory educators, and respiratory physicians
- To use digital referral tools and AI-assisted imaging to improve timeliness, accuracy, and continuity across the patient journey

From Strategy to Impact

The CHEST Alor Setar initiative in Kedah demonstrates how a geographically bounded hub-and-spoke model can improve access to specialist respiratory diagnosis and treatment. Centred on the Respiratory Medicine Department of Hospital Sultanah Bahiyah, the model links primary health clinics, district hospitals, and specialist respiratory services into a more coordinated referral pathway for three high-priority lung conditions: suspected TB, suspected lung cancer, and severe asthma.

For suspected TB, the model prioritised patients with smear-negative or clinically suspicious disease, particularly where sputum tests were negative but clinical concern remained high. Bronchoscopy-guided sampling was incorporated to improve diagnostic accuracy, helping clinicians distinguish TB from malignancy and other serious respiratory conditions. Departmental reporting indicated that this approach improved diagnostic accuracy by at least 12%. Referrals for suspected TB are now processed within two weeks, with patients usually seen in the first week and interventions occurring in the second week.

For suspected lung cancer, the model mirrored the TB pathway by ensuring rapid specialist review, diagnostic work-up, and treatment initiation. Patients are seen by specialists within two weeks, with intervention usually occurring in the second week. The department reported that this expedited pathway reduced the time from computed tomography (CT) staging to treatment initiation

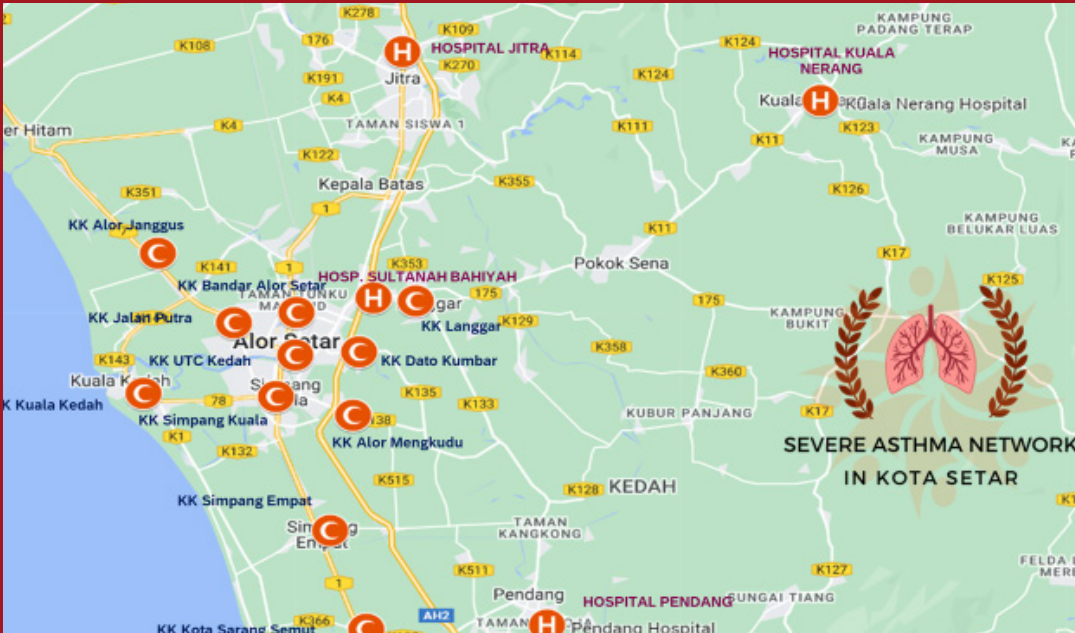
by four to six weeks. Departmental audit data also reported progression-free survival and overall survival of 14.7 and 29.6 months, respectively, among patients receiving first-line tyrosine kinase inhibitor (TKI) treatment.

The severe asthma pathway was transformed through a simplified QR-code digital referral system connecting primary care to the Severe Asthma Clinic in CHEST Alor Setar. The system began in Kota Setar and was extended to other parts of Kedah. It facilitated referral of 58 severe asthma patients, of whom 53 attended appointments. The median time from referral to first appointment was reduced to seven days, compared with the usual 30-day waiting time. Among those reviewed, 26.4% required treatment escalation, and the Asthma Control Test score improved from 17.2 at baseline to 20.4 at the latest assessment.

The initiative is also integrating AI-assisted chest X-ray interpretation at nearby health clinics to strengthen early detection of TB, lung cancer, and other respiratory conditions. As a case study under Malaysia’s National Lung Health Initiative, CHEST Alor Setar shows how referral reform, digital health, specialist outreach, and diagnostic innovation can be assembled into a scalable state-level respiratory care model.

Implementation Insights

- Hub-and-spoke design can reduce fragmentation by linking primary care, district hospitals, and specialist respiratory services around common referral rules.
- Digital referral tools, including QR-code referral, reduce friction for frontline clinicians and improve speed of access to specialist clinics.
- Respiratory educators can strengthen the patient journey by coordinating referral acknowledgement, appointments, data entry, and follow-up reminders.
- Severe asthma care benefits from early specialist review because it enables treatment escalation and better symptom control.
- TB and lung cancer pathways should be clinically linked where symptoms and imaging overlap, especially in smear-negative or ambiguous cases.
- Bronchoscopy-guided sampling and AI-assisted chest X-ray can strengthen diagnostic confidence, particularly where primary care and district facilities need rapid specialist support.
- The Kedah model offers a practical pathway for scaling integrated lung-health referral systems to other states and, potentially, other countries.



Hub-and-Spoke Geography

Simplified Referral Checklist for Severe Asthma Network in Kota Setar

Severe Asthma Referral Form

Severe Asthma Network in Kota Setar

Indicates required question

SEVERE ASTHMA NETWORK IN KOTA SETAR

Patient Name

Your answer

Patient's contact details (Phone number or email address)

Your answer

Relevant Co-morbidities (list down)

Your answer

Patient's Location (name of district)

Your answer

Smoking History

☐ Yes

☐ No

Checklist

Consider review by a respiratory physician if the patient answers 'yes' to any of the questions:

Has the patient used two or more courses of oral corticosteroids (OCS) / is using maintenance OCS therapy over the past 12 months?

☐ Yes

☐ No

Has the patient had 2 or more emergency visits/ unscheduled visits due to asthma over the past 12 months?

☐ Yes

☐ No

Has the patient ever been intubated/admitted to ICU for asthma?

☐ Yes

☐ No

Has the patient used at least 3 canisters of SABA (short-acting beta2-agonist) inhalers in the past 12 months?

☐ Yes

☐ No

The patient consents to be contacted for appointment with specialist *

☐ Yes

☐ No

Submit

[Link to Severe Asthma Referral Checklist](#)

<https://forms.gle/HG3HNeVnqzdCvjRg8>

QR-Code Referral Checklist



Engagement sessions with healthcare workers across Malaysia to strengthen understanding, readiness, and implementation of Malaysia’s National Lung Health Initiative





CASE STUDY 16

Outdoor Air-Quality Monitoring and Environmental Lung-Health Intelligence: Linking Malaysia’s Air Pollution Surveillance System to the National Lung Health Initiative

Action Domains Covered (WHA78.5)

1. Integrated national policy and whole-of-government / whole-of-society collaboration
3. Air-pollution awareness, standards, and monitoring
- 5a. Health promotion and primary prevention, including tobacco and vaping control, environmental exposure reduction, and vaccination for preventable respiratory infections
- 5c. Evidence-based information mechanisms for policy-making, monitoring, evaluation, and learning
6. National capacity-strengthening and integrated lung-health packages

Programme Objectives

- To monitor ambient outdoor air quality across Malaysia through a national network of automated and manual monitoring stations
- To publish real-time Air Pollution Index (API) information to support public awareness, risk communication, and protective behaviour
- To strengthen environmental intelligence for health protection, especially for vulnerable populations affected by haze, particulate matter, and other air pollutants
- To complement lung-health prevention by linking environmental surveillance to public education, school awareness, and policy action
- To support long-term atmospheric monitoring through Global Atmospheric Watch stations and school-based citizen science through Air Quality Monitoring In Schools (AQUAMS)

From Strategy to Impact

Malaysia’s outdoor air-quality monitoring system is one of the country’s most important environmental-health assets for the National Lung Health Initiative. Although the system is primarily led by the Department of Environment under the Ministry of Natural Resources and Environmental Sustainability, its public-health value extends directly into lung health. Air pollution, haze, particulate matter and traffic- or industry-related pollutants are shared risk factors for asthma, chronic obstructive pulmonary disease (COPD), respiratory infections, lung cancer risk communication, and broader respiratory vulnerability.

At the centre of this architecture is the national ambient air-quality monitoring network. Continuous Air Quality Monitoring (CAQM) stations provide automated, near-real-time monitoring of ambient air quality. These stations support the generation and publication

of API information, allowing the public, agencies, and policymakers to track air-quality conditions and respond to periods of elevated pollution. Manual Air Quality Monitoring (MAQM) stations supplement the automated network by strengthening wider pollutant surveillance, verification, and long-term monitoring capacity.

The public-facing layer is provided through Malaysia Environmental Quality Management System (MyEQMS) and related environmental-quality platforms such as MyJAS EQMS. These digital systems allow the public to access current environmental-quality information, including air-quality status, and therefore convert technical monitoring into actionable public communication. This matters for lung health because people with asthma, COPD, previous tuberculosis, cancer, children, older persons, and outdoor workers may need to adjust outdoor activity when air quality deteriorates.

Malaysia also contributes to longer-term atmospheric science through the Global Atmospheric Watch (GAW) network operated through Malaysian Meteorological Department (MET). GAW stations in Petaling Jaya, Tanah Rata and Danum Valley monitor atmospheric composition and support understanding of acid deposition, aerosols, greenhouse gases, ozone, long-range transport of pollutants, and regional environmental change. This complements routine air-quality surveillance by strengthening scientific understanding of the wider atmospheric drivers of exposure.

A newer community-facing innovation is the Air Quality Monitoring in Schools (AQUAMS) initiative, launched in Sabah through collaboration between the Environment Protection Department Sabah and UNICEF Malaysia. AQUAMS installs school-based air-quality sensors, stores data in the cloud, allows data visualisation by students, teachers and the public, and uses citizen science to build awareness of air pollution and environmental health among children and communities.

Taken together, CAQM, MAQM, API reporting, MyEQMS, GAW and AQUAMS form a layered environmental-health intelligence system. Within the National Lung Health Initiative, this system provides the evidence and communication backbone for the air-quality component: measuring exposure, informing citizens, supporting school awareness, guiding public-health messaging during haze or pollution episodes, and strengthening the prevention architecture for respiratory health.

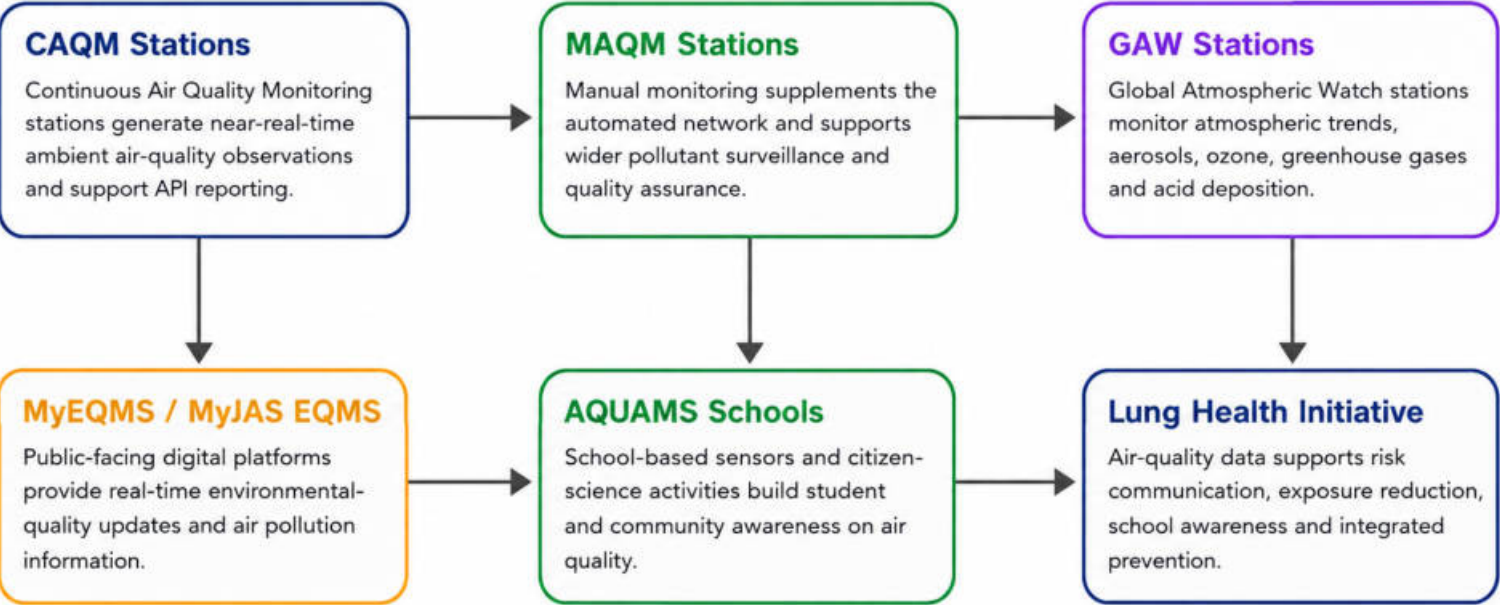
Implementation Insights

- Environmental monitoring becomes more powerful when it is translated into simple public-facing information, such as API dashboards and mobile-accessible updates.
- Air-quality data should be treated as a lung-health prevention tool, not only as an environmental compliance instrument.
- Automated and manual monitoring systems perform complementary functions: real-time alerting, quality assurance, pollutant surveillance, and long-term trend assessment.
- School-based monitoring and citizen science can build environmental literacy early and help students link air quality to health.
- GAW strengthens the scientific foundation by connecting local air-quality concerns to climate, acid deposition, aerosols, ozone, and greenhouse gas monitoring.
- The National Lung Health Initiative can use these monitoring systems to strengthen risk communication for children, older persons, outdoor workers, and people with chronic lung disease.
- The next implementation step is stronger integration between environmental data, health messaging, school-based education, workplace protection, and clinical advice for vulnerable groups.



Malaysia Outdoor Air-Quality Monitoring Ecosystem

From environmental sensing to lung-health prevention, public alerts, and policy action



Core pathway: monitor pollutants -> publish data/API -> inform communities -> guide risk reduction -> strengthen environmental lung-health prevention

Schematic showing how Malaysia's outdoor air-quality monitoring ecosystem can support public communication, school awareness, and prevention under the National Lung Health Initiative.



CASE STUDY 17

Artificial Intelligence (AI) in Lung Health: Integrating Qure.ai qXR, Teleradiology and Structured Digital Reporting into Malaysia’s National Lung Health Initiative

Action Domains Covered (WHA78.5)

- 2. Incorporation of integrated lung health into primary healthcare and universal health coverage (UHC) pathways
- 5b. Evidence-based clinical and public-health guidance, early detection, diagnosis, and treatment, including innovative technologies
- 5c. Evidence-based information mechanisms for policy-making, monitoring, evaluation, and learning
- 6. National capacity-strengthening and integrated lung-health packages
- 7. Access to safe, effective, and quality medicines, vaccines, and health technologies

Programme Objectives

- To strengthen early detection of lung cancer, tuberculosis and other lung abnormalities using AI-assisted chest X-ray analysis.
- To improve the quality, speed and consistency of chest X-ray reporting in primary-care and screening settings.
- To support referral acceleration by flagging abnormal chest X-rays for radiologist review and specialist follow-up.
- To integrate AI into existing health-system workflows rather than operate it as a standalone technology.
- To create a scalable model for future AI-enabled lung imaging, including possible CT-AI integration for lung nodule and thoracic imaging workflows.

From Strategy to Impact

Malaysia’s National Lung Health Initiative positioned artificial intelligence (AI) as a system enabler for earlier detection and improved referral, particularly where chest X-ray interpretation capacity is uneven and where primary care screening requires rapid triage.

The technology used during this early phase of implementation was Qure.ai qXR, an AI-powered chest X-ray interpretation platform designed to detect and localise common abnormalities associated with lung disease. According to Qure.ai, qXR is capable of identifying multiple chest X-ray abnormalities, including those associated with tuberculosis (TB), lung cancer, and other thoracic conditions.

By the end of 2025, Qure.ai reported that its technology had been used to support the screening of more than 32 million people across over 4,500 healthcare facilities in more than 100 countries. Within the lung cancer risk detection space, Qure.ai also reported that more than 5 million AI-assisted chest X-ray screenings had been conducted across more than 20 countries in Asia, the Middle East, Africa, and Latin America.

Within the public sector care pathway, Qure.ai was deployed in selected Ministry of Health primary care clinics, including implementation sites in Kedah. Chest X-rays performed at these sites could be uploaded to the AI platform, enabling faster triage and earlier identification of abnormal findings.

In the private primary-care and private hospital pathway, Qure.ai has been integrated through the NCSR Lung telehealth platform. This enabled X-rays from participating clinics to be digitally uploaded, processed through AI, and escalated for radiologist verification through the reporting portal.

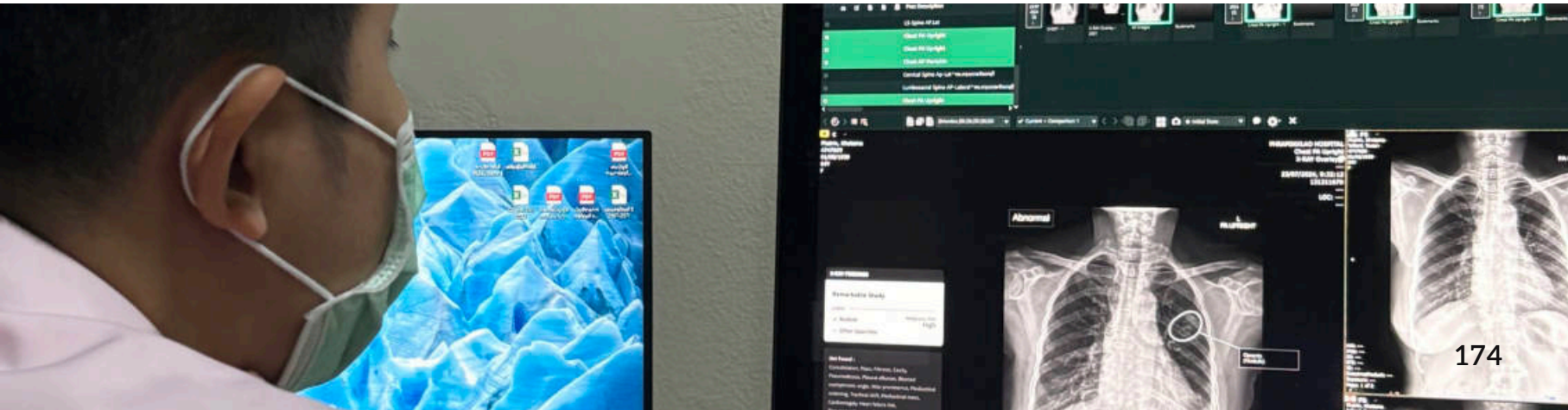
This model was deliberately designed as a human-supervised AI workflow where AI served as a triage and decision-support layer, while validation and reporting quality were strengthened through radiologists and technical input from senior and experienced radiologists working with College of Radiology Malaysia. They supported validation work, image-quality review, structured reporting templates, and harmonisation of reporting modules between the AI system, Ministry of Health Malaysia and participating Malaysian implementation sites.

The model is important because many primary-care chest X-rays are not routinely reported by radiologists. By combining digital image capture, AI triage, tele-radiology verification and structured reporting, the Initiative created a pathway in which chest X-rays could be both more consistently interpreted and more easily linked to referral. This is particularly relevant for lung cancer and tuberculosis, where early radiographic abnormalities can trigger further evaluation, including CT, low-dose CT, sputum testing, specialist review, or additional diagnostic work-up.

The next phase is to expand AI-assisted imaging across more facilities and to explore CT-AI applications for lung imaging. This would move the Lung Health Initiative from AI-supported screening into a broader digital diagnostic ecosystem.

Implementation Insights

- AI should be embedded into care pathways, not treated as a standalone gadget.
- Chest X-rays assisted with an AI may prove to more effective when linked to radiologist verification, reporting templates and clear clinical referral pathways.
- Teleradiology helps overcome uneven access to radiologist reporting, especially in primary-care and screening settings.
- Validation, threshold-setting, and local workflow adaptation are essential before scale-up.
- AI-CXR (Artificial Intelligence for Chest X-rays) can support lung cancer and TB screening, but it does not replace Low-Dose Computed Tomography (LDCT), microbiological testing, biopsy, or specialist assessment.
- The Malaysian model is a useful example of public-private digital-health integration under the Lung Health Initiative.
- Future CT-AI integration could strengthen lung nodule detection, diagnostic prioritisation, and thoracic reporting capacity.





CASE STUDY 18

Pak Lung: Civil Society and Environmental Awareness for Lung Health under Malaysia’s National Lung Health Initiative

Action Domains Covered (WHA78.5)

1. Integrated national policy and whole-of-government / whole-of-society collaboration
3. Air-pollution awareness, standards, and monitoring
- 5a. Health promotion and primary prevention, including tobacco and vaping control, environmental exposure reduction, and vaccination for preventable respiratory infections
6. National capacity-strengthening and integrated lung-health packages

Programme Objectives

- To use Pak Lung as a recognisable public-facing symbol for the National Lung Health Initiative
- To increase community awareness on the links between lung health, clean air, smoking, vaping, drugs, outdoor air pollution, and environmental stewardship
- To support citizen-level prevention through school talks, community engagement, university outreach, public events, and public-space mascot placement
- To make environmental lung health visible through activities such as tree planting, eco-tourism messaging, outdoor air-pollution awareness, and conservation of the Malayan tiger
- To create a platform through which non-governmental organisations (NGOs), corporate partners, and community groups can support Malaysia’s Lung Health Initiative and broader Sustainable Development Goals (SDGs)

From Strategy to Impact

Pak Lung was developed as a civil-society mobilisation and environmental lung-health awareness platform under Malaysia’s National Lung Health Initiative 2025-2030.

Within this framework, the National Cancer Society of Malaysia (NCSM) and Persatuan Mencegah Dadah Malaysia (PEMADAM) agreed to mobilise NGOs working on tobacco, vape, and drug-prevention issues through a “Gateways to Drug” and Sayangi Paru-Paru campaign, using a tiger mascot as the public-facing icon.

The tiger was deliberately chosen because the harimau is a Malaysian symbol of strength and courage. The mascot was named Pak Lung, creating a simple, memorable, and culturally familiar identity for lung-health communication especially since in Malay folklore, the tiger is called Pak Belang (Striped Uncle). Using a similar play on the name and identity of the tiger brings a familiar, comfortable face to the cause which the public can associate with.

Pak Lung was positioned not only as an anti-smoking and anti-vape symbol, but also as an entry point into a broader environmental-

health conversation. The Initiative links lung health to outdoor air pollution, tree planting, cleaner public spaces, eco-tourism, climate and environmental awareness, and protection of the Malayan tiger. In this sense, Pak Lung translates a technical public-health initiative into a visible community movement: lungs, air, environment, and national identity are brought into one storyline.

Civil society organisations involved in the campaign, including the NCSM, PEMADAM, IKRAM Health, Pertubuhan Ibu Bapa Mencegah Rokok dan Vape Kuala Lumpur (PAVAC) Kuala Lumpur, the Malaysian Chinese Assembly Hall Women Wing, Pertubuhan Kebajikan Tong Xian Shuan Yuan, Majlis Belia Malaysia, Malaysian Green Lung Association, Medical Mythbuster Malaysia, Pertubuhan Hati Suci, NCD Chapter, and NCD Malaysia.

Programme activities include public placement of mascots in strategic spaces such as transport stations, airports, banks, hospitals and tourism areas; community, school and university talks; Back to Cinema / Black Mark activities; and mobilisation through clubs and community institutions. 100 Pak Lung mascots are being placed across the country to support public awareness, community outreach, Malayan tiger conservation, and eco-tourism.

By linking public-health awareness with environmental citizenship, Pak Lung helps expand the Lung Health Initiative beyond clinical screening and treatment. It gives the public a simple invitation: protect the lungs by protecting the air, avoiding tobacco and vape exposure, caring for the environment, and participating in community prevention.

Implementation Insights

- Technical health initiatives require public symbols and simple narratives if they are to be understood beyond expert circles.
- Pak Lung converts lung health from a clinical message into a community-facing cause that connects air, the environment, tobacco prevention, youth protection, and national identity.
- Mascot-led outreach can support repeated exposure to health messages in schools, public spaces, tourism locations, and community events.
- Environmental lung health becomes more tangible when clean air, tree planting, outdoor pollution, and wildlife conservation are linked to everyday respiratory health.
- Civil society can mobilise faster and more flexibly than formal health systems, especially for awareness, school engagement, and community-level behaviour change.
- Corporate and ESG participation can help sustain visibility, public placement, and fundraising, provided governance and messaging remain aligned with public health objectives.
- The initiative shows how the whole-of-society principle in WHA78.5 can be operationalised through NGOs, youth groups, parents, schools, universities, community organisations, corporate partners, and public institutions.



Launch of the National Lung Health Initiative Mascot, Pak Lung, at the National Tobacco Control Conference 2025.





CASE STUDY 19

Ultra-Portable Digital Chest X-Ray: Extending Lung Health Screening to Remote, Rural and Underserved Populations in Malaysia

Action Domains Covered (WHA78.5)

- 2. Integration of lung health into primary healthcare, outreach, and referral pathways
- 5b. Evidence-based screening and early detection using innovative technologies
- 5c. Information systems and digital reporting mechanisms for screening, triage, and follow-up
- 6. National capacity strengthening through mobile, decentralised, and technology-enabled services
- 7. Improved access to health technologies and diagnostic pathways, particularly for populations facing geographic, financial, or service-access barriers

Programme Objectives

- To bring chest X-ray screening closer to communities with limited access to fixed radiology services
- To support earlier detection of tuberculosis, lung cancer, and other lung abnormalities among high-risk, rural, remote, and under-served populations
- To reduce inequity caused by distance, travel cost, lost income, and limited radiology availability
- To enable Ministry of Health outreach teams and civil society partners, including the National Cancer Society of Malaysia, to deliver lung-health screening outside conventional hospital settings

From Strategy to Impact

Ultra-portable digital chest X-ray has become one of the practical technologies supporting the equity ambition of Malaysia’s National Lung Health Initiative. In many parts of Malaysia, especially rural areas, interior settlements, islands, longhouses, and low-income communities, the challenge is not only whether screening exists, but whether people can physically reach screening. Travel time, cost, work commitments, and limited local diagnostic infrastructure can delay the detection of tuberculosis (TB), lung cancer, and other respiratory diseases.

The Ministry of Health had already recognised the value of moving chest imaging beyond fixed health facilities. Its Malaysian Health Technology Assessment Section (MaHTAS) technology review noted that portable X-ray systems can improve access to TB screening outside health centres, especially when screening is conducted far from medical facilities. The review described ultra-portable or handheld X-ray systems as smaller and lighter than conventional portable X-ray machines, capable of being carried by one person and set up within minutes. The review was requested by the TB and Leprosy Control Sector, Disease Control Division, Ministry of Health Malaysia, because the Ministry was considering the use of the technology for high-risk groups unable to undergo chest X-ray at nearby facilities.

In practice, the same logic applies to integrated lung health. Ultra-portable chest X-ray allows screening teams to take imaging capacity to community halls, mobile clinics, workplaces, longhouses, rural villages, and outreach sites. When paired with AI-assisted

interpretation and digital upload to a registry or telehealth platform, the image can be triaged rapidly and then verified by a radiologist or responsible clinician. This means that lung abnormalities can be identified earlier and referred onwards for low-dose CT, sputum testing, biopsy, TB work-up, or specialist review, depending on the suspected condition.

Civil society has also used this model to extend access. Public reports on National Cancer Society Malaysia (NCSM) outreach describe bag-sized or ultra-mobile chest X-ray units being deployed through mobile or pop-up screening programmes, with images uploaded to digital platforms and reviewed with AI support and radiologist confirmation. CodeBlue reported that NCSM’s pop-up lung screening workflow used an ultra-mobile X-ray unit for on-site chest imaging, with reports usually available within 10 to 15 minutes after AI triage and radiologist review. Cancer Matters similarly described the portable chest X-ray service in NCSM mobile clinics as a way to facilitate timely, accurate, and accessible screening, especially in areas with limited healthcare access.

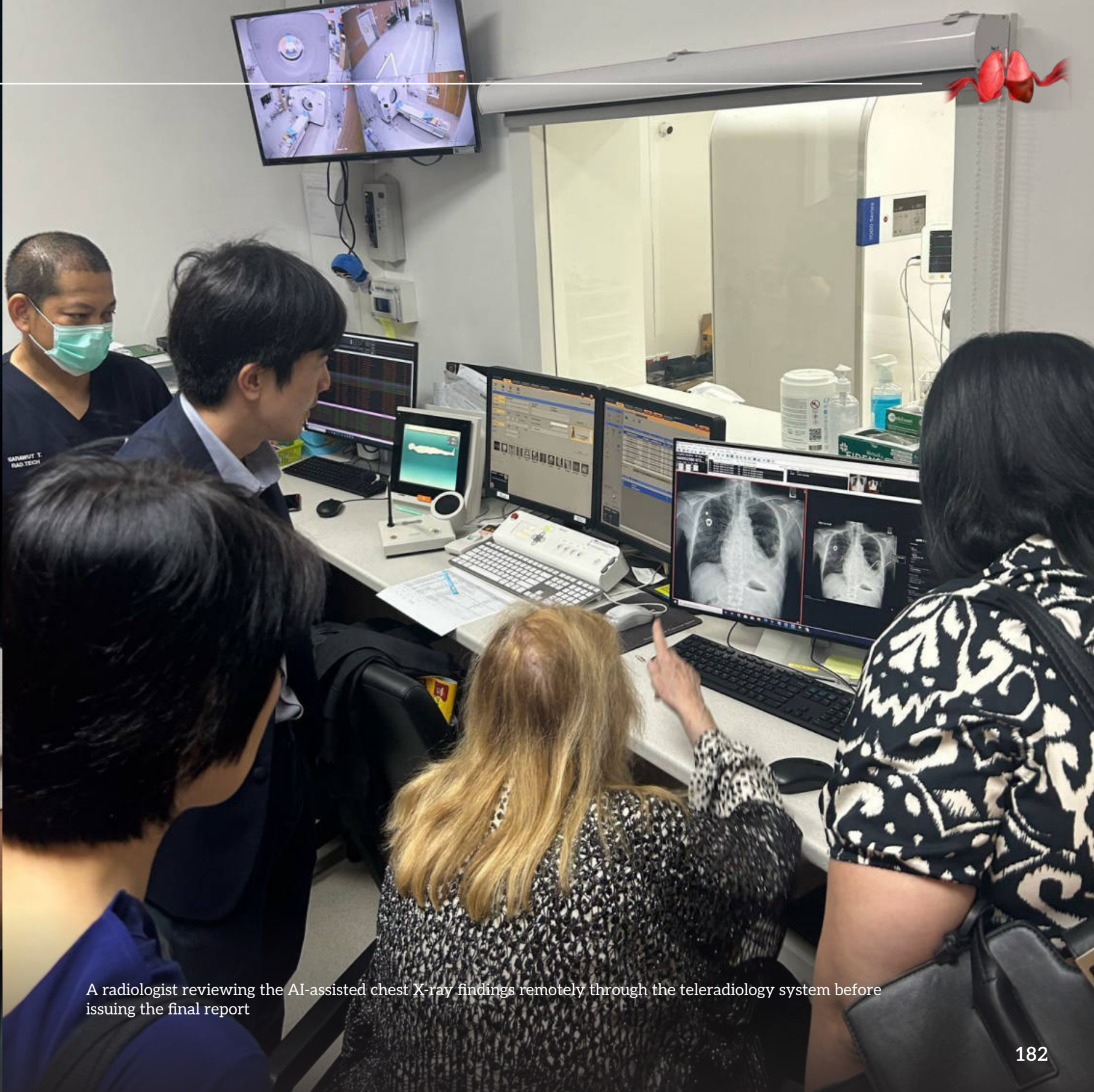
This case study therefore demonstrates how technology can close an equity gap. Ultra-portable chest X-ray is not a replacement for diagnostic confirmation, clinical review, or specialist care. Its value lies in making the first step of the pathway accessible: capturing an image where the person is, identifying abnormal findings earlier, and connecting the person to the next step in an integrated lung health pathway.

Implementation Insights

- Ultra-portable chest X-ray is an equity technology: it reduces dependence on patients travelling to hospitals or fixed radiology centres.
- It is particularly useful for remote, rural, island, interior, workplace, and outreach screening settings.
- AI-assisted interpretation can support triage, but radiologist or clinician verification remains essential.
- The value of the device depends on the pathway around it: risk assessment, image capture, AI triage, digital upload, clinical review, referral, and follow-up.
- The Ministry of Health’s MaHTAS review provides an important technical validation base for cautious, protocol-driven scale-up.
- Civil society deployment, including NCSM mobile and pop-up screening, shows how non-governmental actors can complement public-sector screening and reach under-served populations.
- Future expansion should connect ultra-portable imaging to the National Cancer Screening Registry (NCSR) lung platform, AI-CXR, teleradiology, TB screening pathways, LDCT referral and patient navigation.



A demonstration of patient positioning and handling of the X-ray detector panel during an AI-assisted portable chest X-ray screening.



A radiologist reviewing the AI-assisted chest X-ray findings remotely through the teleradiology system before issuing the final report



CASE STUDY 20

Unpacking the Chronic Respiratory Disease Epidemic: A Media Workshop - Using International Health Journalism to Socialise Lung Health and Amplify Malaysia’s National Lung Health Initiative

Action Domains Covered (WHA78.5)

1. Integrated national policy and whole-of-government / whole-of-society collaboration
2. Incorporation of integrated lung health into primary healthcare and universal health coverage (UHC) pathways
3. Air-pollution awareness, standards, and monitoring
- 5a. Health promotion and primary prevention, including tobacco and vaping control, environmental exposure reduction, and vaccination for preventable respiratory infections
- 5c. Evidence-based information mechanisms for policy-making, monitoring, evaluation, and learning
6. National capacity-strengthening and integrated lung-health packages

Programme Objectives

- To improve the quality and volume of reporting on chronic respiratory diseases, particularly chronic obstructive pulmonary disease (COPD), and asthma
- To bring international journalists into direct contact with Malaysian implementation sites, patients, clinicians, civil society leaders, and Ministry of Health stakeholders
- To use Malaysia’s National Lung Health Initiative as a practical case example of how integrated lung health can be operationalised
- To help journalists translate technical lung-health concepts into public-facing stories that can influence awareness, policy attention, and stakeholder engagement in their own countries
- To strengthen the visibility of lung health as a neglected global health issue, especially in relation to tobacco, vaping, air pollution, tuberculosis, COPD, asthma, and lung cancer
- To contribute to the global implementation momentum following WHA78.5 by building a network of informed health journalists

From Strategy to Impact

The chronic respiratory disease media workshop in Kuala Lumpur represented a distinctive awareness and knowledge-translation intervention within Malaysia’s National Lung Health Initiative. Rather than focusing only on technical policy development or clinical service delivery, the workshop recognised that public understanding and media visibility are essential for building durable lung-health action.

The workshop was organised through collaboration involving the World Health Organization (WHO), the Pace University Center for Global Health, the Ministry of Health Malaysia (MOH) and Malaysian civil society partners including the National Cancer Society of

Malaysia. It formed part of a broader international effort led by the Pace Center for Global Health and Mr José Luis Castro, WHO Director-General’s Special Envoy for Chronic Respiratory Diseases, to strengthen journalism on chronic respiratory diseases.

The Kuala Lumpur workshop was held from 12 to 14 November 2025 and brought together journalists from countries in the South-East Asia and Western Pacific regions, including Bangladesh, China, India, Indonesia, Malaysia, the Philippines, and Thailand. The programme combined scientific background, country-specific data, expert briefings, patient testimony, and exposure to Malaysia’s implementation experience. Journalists were able to engage directly with clinicians, people living with chronic respiratory disease, civil society organisations, and MOH representatives.

The workshop was particularly important because chronic respiratory diseases are often under-reported compared with cancer and cardiovascular disease, despite their large burden. WHO noted that COPD is rarely reported in the media and that the stories of people living with the condition often remain untold. The media workshop therefore addressed a specific implementation gap: the gap between technical evidence and public understanding.

Malaysia’s Lung Health Initiative provided an ideal host-country platform because it linked several areas that journalists could observe and report on: tobacco and vaping control, air quality, AI-assisted chest X-ray screening, tuberculosis detection, COPD and asthma management, referral pathways, patient navigation, and public-private collaboration. Media coverage following the workshop included reporting on Malaysia’s early Lung Health Initiative screening rollout, where AI-assisted X-rays had screened approximately 3,000 people and detected more tuberculosis and non-cancerous abnormalities than cancer at that early stage.

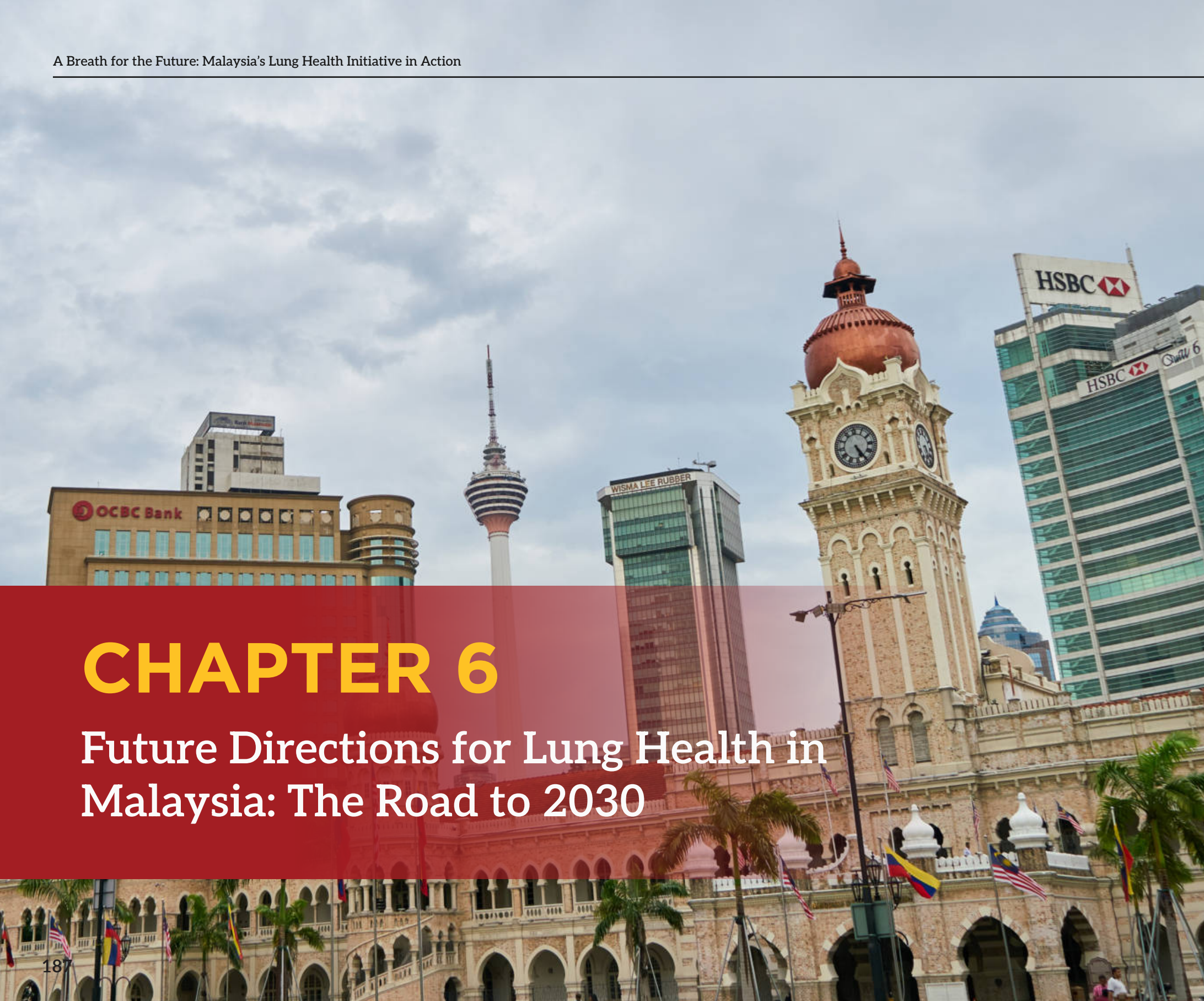
The workshop also gave visibility to Malaysia’s role in advancing integrated lung health globally. At the Kuala Lumpur media engagement, José Luis Castro described COPD as a neglected ‘Cinderella’ disease and highlighted Malaysia’s leadership in integrating air quality, tobacco control, and respiratory health. This placed Malaysia’s experience not only as a national implementation story, but as a possible learning platform for other countries seeking to operationalise integrated lung-health approaches.

Implementation Insights

- Media engagement is an implementation tool, not merely a communications activity.
- Chronic respiratory diseases require public visibility before they can gain sustained policy and financing attention.
- Patient stories, site visits, and direct exposure to implementation can help journalists move beyond abstract disease statistics.
- Malaysia’s Lung Health Initiative provided a concrete case example for journalists because it connected prevention, screening, diagnosis, treatment, environmental health, and tobacco control.
- International journalism workshops can help translate WHA78.5 from a global resolution into country-level narratives that policymakers and communities can understand.
- The workshop produced immediate media outputs in multiple countries, showing that structured engagement with journalists can rapidly expand public discourse on neglected health issues.
- Future workshops should track media outputs, policy uptake, audience reach and whether public reporting increases demand for early detection and prevention services.



From left: Dato' Dr Saunthari Somasundaram, President-elect of NCD Alliance; Mr José Luis Castro, WHO Director-General's Special Envoy for Chronic Respiratory Diseases; and Dr Noraryana Hassan, Director of the Disease Control Division, Ministry of Health Malaysia, during a regional media workshop on chronic respiratory diseases held in Kuala Lumpur, Malaysia.



CHAPTER 6

Future Directions for Lung Health in Malaysia: The Road to 2030

Malaysia’s National Lung Health Initiative outlines a three-phase pathway to guide the Initiative from early implementation through to nationwide scale-up. Phase 1, in 2025, established the foundation by testing an integrated lung-health screening and management approach across public-sector, private-sector, and outreach settings. This phase demonstrated feasibility and generated the first implementation lessons as seen in the previous chapter.

Phase 2, from 2026 to 2027, focuses on consolidation and expansion by strengthening implementation across health clinics and hospitals, widening participation across delivery settings, improving infrastructure, and building stronger data and surveillance systems.

Phase 3, from 2028 to 2030, moves towards national coverage and innovation, with emphasis on sustainability, mature registry systems, research, evaluation, and preparation for the next decade of lung-health reform. Together, the three phases convert the Initiative from proof of concept into a national integrated lung-health system.

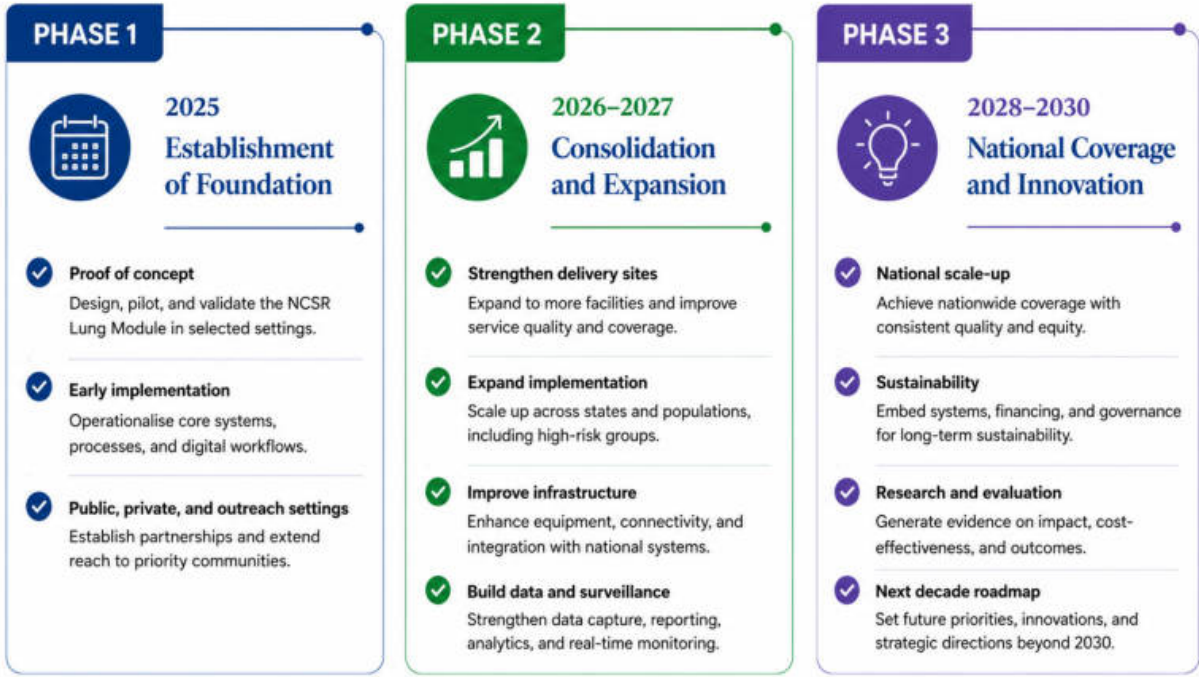
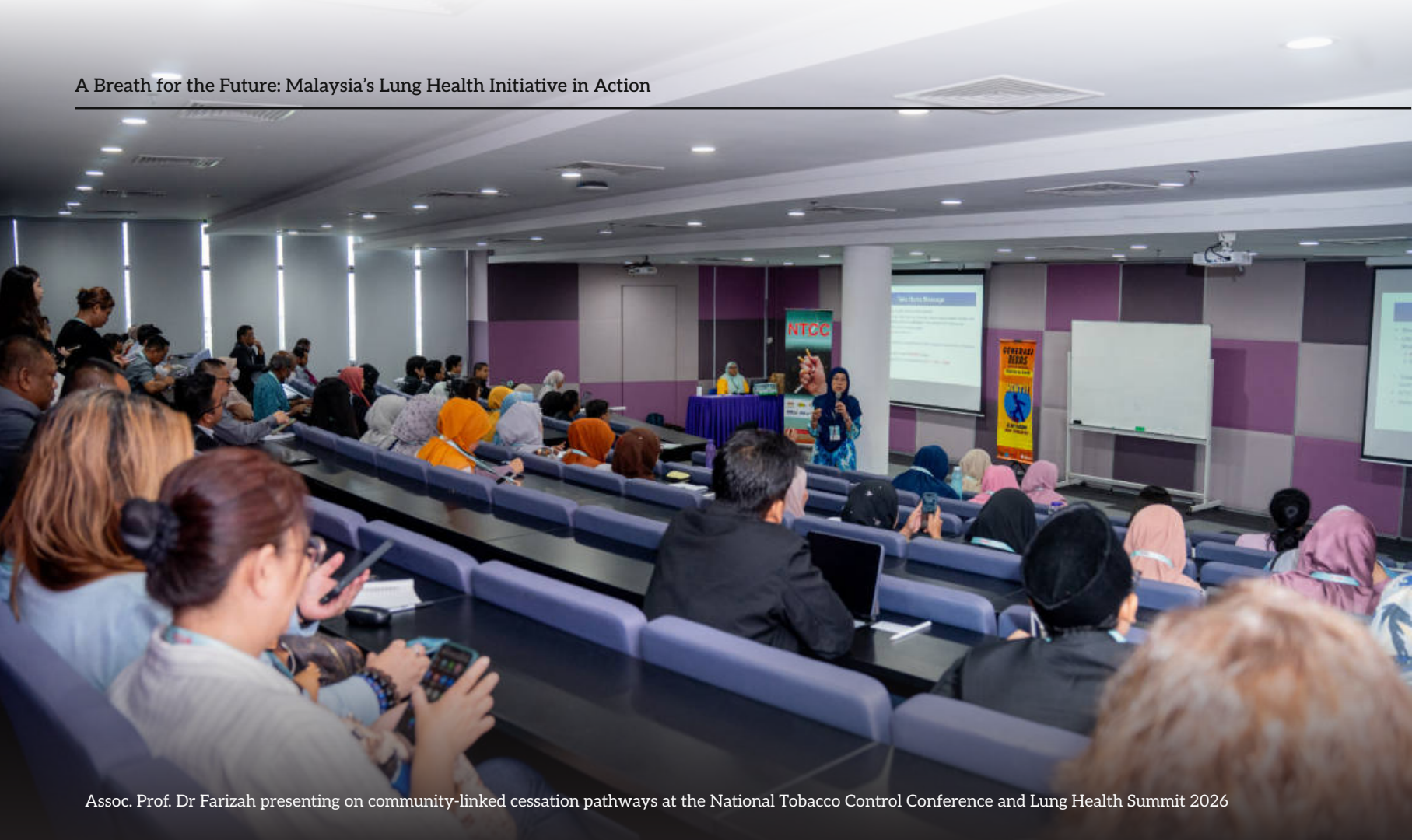


Figure 6.1: Phased implementation pathway for Malaysia’s National Lung Health Initiative 2026-2030



Assoc. Prof. Dr Farizah presenting on community-linked cessation pathways at the National Tobacco Control Conference and Lung Health Summit 2026

The Road Ahead: Strategic Priorities for Malaysia in 2026–2030

The implementation tasks for Malaysia, as for every Member State of the WHO has been clearly laid out in the WHA78.5 document, with actionable areas across seven action domains. As Malaysia goes into Phase 2 of its implementation phase; strategies should be implemented to strengthen the outcomes achievable from the objectives outlined for each of the domains.

The following table outlines the actionable strategies to be undertaken by Malaysia across subsequent phases of implementation.

1,2,3,4,5

	WHA78.5 Resolution: What are countries required to do?	What Malaysia has already achieved in 2025?	Strategic priorities for Malaysia in 2026-2030
1	Develop integrated national policy for an integrated approach to lung health, covering communicable and noncommunicable lung diseases through multisectoral and multidisciplinary collaboration, whole-of-government and whole-of-society approaches, and sectors such as health, environment, labour, education and finance.	Malaysia has already framed its National Lung Health Initiative as a national strategic framework spanning communicable and noncommunicable lung diseases, with shared risk factors and implementation through health facilities, high-risk workplaces, and outreach.	Formalise a National Lung Health Implementation Architecture: national steering platform, technical working groups, state implementation committees, annual workplans, partner coordination, and implementation scorecards.
2	Incorporate integrated lung health into primary healthcare services towards universal health coverage, including comprehensive lung-health services and referral pathways to secondary and tertiary care when appropriate.	Incubation programmes across different implementation settings including public health clinics, private primary-care providers, public and private hospitals, high-risk workplaces, and outreach activities. The strategic plan also emphasised a primary-care-led approach.	Develop a National Primary-Care Lung Health Pathway for cough, breathlessness, wheeze, smoking/vaping exposure, previous tuberculosis (TB), occupational exposure, abnormal imaging, and other warning signs, with defined testing, referral and feedback loops. Monitor, evaluate, and improve uptake and compliance to the National Primary Care Lung Health Pathway across all clinical sectors.
3	Strengthen awareness of the health impacts of air pollution and enhance national air-quality standards and monitoring capacity.	Environmental exposure had been positioned as a major shared determinant of lung health within the framework and roadmap of Malaysia's National Lung Health Initiative. Engagement in terms of building public awareness and societal consciousness carried out. Engagement to harmonise strategies and programmes carried out in terms of environmental air pollution and air quality amongst multiple stakeholders.	Develop and socialise a Environmental Lung Health Platform linking air-quality monitoring, haze alerts, indoor air quality, school and workplace guidance, primary-care counselling, and vulnerable-group protection. Monitor, evaluate, and improve awareness and action around environmental health across multi-stakeholder platforms.
4	Create and enforce adequate regulations protecting workers from occupational risk factors impacting lung health.	High-risk workplaces had already been identified as a key implementation setting under Malaysia's National Lung Health Initiative. Occupational lung health emerging as a flagship workstream through occupational-health clinics, industry collaboration and employer engagement.	Establish a national-level Workplace Lung Health Programme comprising of high-risk sector mapping, occupational history-taking, workplace risk profiling, worker screening, referral of abnormal findings, and exposure-reduction plans. Develop and sustain formal mechanisms to strengthen multi-stakeholder coordination between the Ministry of Health, Ministry of Human Resources, private employers, civil societies, and workers' unions.



	WHA78.5 Resolution: What are countries required to do?	What Malaysia has already achieved in 2025?	Strategic priorities for Malaysia in 2026-2030
5(a)	Strengthen health promotion and primary preventive services, particularly tobacco and vaping control, reduction of indoor and outdoor air-pollution exposure, and vaccination programmes for preventable respiratory infections.	The National Lung Health Initiative had adopted a shared risk-factor framework encompassing smoking, occupational exposure, and environmental factors, while positioning prevention as an integral component of lung health delivery rather than as a separate public health messaging effort. Strengthening of regulations across the Control of Smoking Products for Public Health Act 2024 to further control and limit the risk from tobacco and vaping products. Integrated and widened delivery of formal prevention programmes across workplaces, communities, and schools across the nation using multistakeholder partnerships. Strengthening quit smoking and vaping cessation services and improving equitable access to them.	Strengthen and deliver integrated preventive programmes focusing on risk-reduction of lung health associated risks across workplaces, communities, and educational institutions. Monitor, evaluate, and improve awareness and action around preventive services across multi-stakeholder platforms Develop and implement programmes targeting indoor air pollution. Increase equitable access and delivery of vaccinations for preventable respiratory infections.
5(b)	Update or develop evidence-based clinical and public-health guidelines for cost-effective early detection, diagnosis, and treatment of communicable and noncommunicable lung diseases, including innovative technologies.	Development of clinical pathways for screening, diagnosis, and testing across the lung health landscape, incorporating new technologies and innovative strategies while consolidating an integrated approach to lung health.	Standardisation of national diagnostic algorithms and development of clinical practice guidelines across different lung conditions; focusing on an integrated lung health approach. Development and implementation of governance and quality assurance mechanisms around the deployment of new and innovative technologies and clinical strategies being within the lung health landscape. Development and roll-out of structured upskilling and/or training programmes for healthcare professionals to enable increased understanding, adoption, and effectiveness all across the lung health landscape.

	WHA78.5 Resolution: What are countries required to do?	What Malaysia has already achieved in 2025?	Strategic priorities for Malaysia in 2026-2030
5(c)	Update or develop evidence-based information mechanisms for policymaking, programme monitoring, evaluation, and learning.	Development and deployment of public and private sector databases and dashboards for the purpose of tracking screening, diagnosis, referral, and outcomes under deployed screening and diagnostic programmes.	Widen usage of public and private sector databases and dashboards to closer integrate screening, diagnostic, treatment, and other activities for newly deployed programmes. Nationwide roll-out and comprehensive integration of an umbrella Malaysia's National Lung Health Initiative database platform with appropriate dashboards capable of monitoring and evaluating nationwide activities being carried out nationally; act as a centralised data collection point and data hub to assess efficiency effectiveness, and outcomes.
6	Strengthen national capacities for an integrated lung-health approach, including adaptation of relevant WHO tools to create an evidence-based and cost-effective integrated lung-health package suitable for all patients according to need.	Ensured that national averages does not mask vulnerable groups, occupational risk groups, underserved communities or people facing access barriers.	Develop and implement additional cost-effective lung-health packages across the lung health landscape catering to patients needs. Widen uptake of cost-effective lung health packages across the entire at-risk population. Define and cost an Essential Lung Health Package encompassing prevention, risk assessment, chest X-Ray (CXR)/AI-assisted CXR, spirometry, TB testing, low-dose computed tomography (LDCT) referral, smoking cessation, vaccination linkages, essential medicines, oxygen therapy, rehabilitation, palliative care, patient education, and care navigation.
7	Improve access, affordability and availability of safe, effective and quality medicines, vaccines and health technologies using WHO model lists and fair-pricing, procurement, regulatory and manufacturing strategies where relevant.	Developed incubation programmes for equitable patient access namely for lung cancer.	Develop and deploy programmes designed to increase affordability and availability of medicines, vaccines and health technologies. Widen existing incubation programmes for equitable patient access programmes for various conditions across the lung health landscape. Develop and deploy strategies designed to further promote local, affordable manufacturing of safe, effective and quality medicine, vaccines and health technologies.

Table 6.1: Actionable strategies for Malaysia’s National Lung Health Initiative from 2026-2030 ^{1,2,3,4,5}



The Building Blocks of Implementation, 2026-2030

Implementation only becomes a reality when policy is translated into governance, service pathways, financing, workforce roles, data systems, and accountability mechanisms. WHO’s health system framework reinforces the same principle: scaling up requires countries to address bottlenecks collaboratively through a country-led approach, driven by desired health outcomes and oriented towards sustainable system-wide effects.⁶ The following section fleshes out the details for implementation of each of the action areas highlighted within the WHA78.5 lung health resolution.

Building block 1: Formalising a national lung-health implementation architecture	
Description	A national lung-health implementation architecture would define who leads, who contributes, how decisions are made, how annual priorities are set, how resou rces are mobilised, and how progress is reviewed.
Implementation processes	1. A clear national governance structure and its mandate must be established. 2. All existing disease, exposure, and service programmes that already contribute to lung health must be mapped. 3. Roles must be assigned across public health, primary care, hospitals, occupational health, environmental health, tobacco control, education, finance, civil society, and private-sector partners. 4. Annual implementation plans with measurable deliverables must be established. 5. Structured timely reviews should be mandated.
Benchmarking	The TB field provides a useful comparator. WHO’s Multisectoral Accountability Framework to accelerate progress towards ending tuberculosis structures accountability around commitments, actions, monitoring and reporting, and review, and was designed to support country-level adaptation of multisectoral accountability for TB. ⁷
What does success look like?	A visible, operational national platform imbued with authority and the power to act. It would have a national steering structure, technical working groups, state or regional implementation committees, annual workplans, defined accountability for each delivery area, and a regular reporting cycle. The platform should be able to ask practical questions such as: which states are implementing the pathway; which facilities have diagnostic capacity; which high-risk workplaces have been mapped; which populations are under-reached; and which bottlenecks require financing or regulatory action.

Building block 2: Creating a primary-care lung-health pathway	
Description	A primary care lung health pathway would incorporate integrated lung health into primary healthcare services towards universal health coverage, with referral pathways to secondary and tertiary care. ¹ A primary-care pathway converts those entry points into structured assessment and timely referral.
Implementation processes	1. Define symptom and exposure triggers. 2. Establishment of first-line assessment tools. 3. Define referral thresholds for suspected TB, COPD, asthma, lung cancer, post-TB lung impairment, and occupational lung disease. 4. Creation of feedback loops from specialist services to primary care. 5. Build patient navigation for abnormal results; and integrate the pathway into training, electronic records, and routine quality review.
Benchmarking	WHO PEN provides a useful analogue because it defines a package of essential noncommunicable disease interventions for primary care, including chronic respiratory diseases, cancer early diagnosis, counselling, palliative care, essential medicines, technologies, clinical records, and indicators.⁸ WHO HEARTS provides another implementation model through standardised protocols, team-based care, access to essential medicines and technologies, and systems for monitoring within primary care. ^{9,10}
What does success look like?	A simple, nationally agreed pathway that can be used in public clinics, private general practice, workplace screening, and outreach. The pathway should define first-line assessment, appropriate tests, referral thresholds, referral tracking, and feedback to the primary-care provider.

Building block 3: Building an integrated prevention and exposure-reduction platform	
Description	A platform to strengthen health promotion and primary prevention, especially tobacco and vaping control, reduction of indoor and outdoor air-pollution exposure, and vaccination for preventable respiratory infections. ¹
Implementation processes	1. Consolidate existing prevention programmes into one delivery logic. 2. Tobacco and vaping control should be aligned with lung-health screening and cessation referral. 3. Air-pollution advisories should be translated into practical guidance for patients, schools, workplaces, and vulnerable groups. 4. Vaccination referral should be integrated into lung-health encounters where appropriate. 5. Stigma reduction should be included in public communication, especially for TB, lung cancer, COPD, and smoking- related diseases.
Benchmarking	The WHO Framework Convention on Tobacco Control provides the legal and policy foundation for tobacco control, while the WHO global tobacco epidemic reports describe MPOWER as the technical package designed to help countries implement demand-reduction measures of the Convention. ^{11,12}
What does success look like?	A prevention platform that brings these exposures into one lung-health frame where prevention is part of the patient pathway, not a separate campaign outside the pathway.



Building block 4: Connecting environmental and occupational lung health to clinical care	
Description	Consolidated strategy to strengthen awareness of the health impacts of air pollution, enhance air quality standards and monitoring capacity, and create and enforce regulations that protect workers from occupational risk factors. ¹ Integrated lung health requires these domains to connect with clinical and public health service delivery.
Implementation processes	For environmental health: Link air-quality monitoring to public health advisories, primary-care counselling, school and workplace guidance, and vulnerable-group protection. For occupational health: Mapping of high-risk sectors; formalising occupational history-taking in clinical encounters, workplace risk profiling, worker screening, referral pathways, exposure-reduction plans, and enforcement mechanisms.
Benchmarking	WHO's 2021 global air quality guidelines which set health-based guideline levels for particulate matter, ozone, nitrogen dioxide, sulphur dioxide, and carbon monoxide, and recognise air pollution as a major risk factor affecting respiratory and cardiovascular health. ¹³ WHO's work on the Global Plan of Action on Workers' Health which emphasises the need for national policies and plans, noting that limited percentages of the global workforce had access to occupational health services for primary prevention and control of work-related diseases and injuries. ¹⁴
What does success look like?	A two-way system where environmental and occupational data influences health advice, screening priorities, and protection of high-risk and/or vulnerable groups.

Building block 5: Standardising clinical guidance, diagnostics, and technology	
Description	Evidence-based clinical and public-health guidelines for early detection, diagnosis and treatment, including innovative technologies which improve outcomes. ¹
Implementation processes	1. Move from tools to algorithms. 2. Define the eligibility and clinical question each tool answers. 3. Identify who interprets results and who is clinically responsible. 4. Specify referral and follow-up thresholds. 5. Audit false positives, false negatives, diagnostic delays, and pathway loss. 6. Match screening expansion with diagnostic capacity planning.
Benchmarking	WHO's Guide to Cancer Early Diagnosis provides a useful analogue. It frames early diagnosis around improving public awareness and access to care, strengthening clinical evaluation and diagnosis, and ensuring timely access to treatment. It also emphasises that barriers can arise from patients, carers, and health systems. ¹⁵ WHO's recent technical brief on patient navigation for breast cancer is also relevant because it frames navigation as a personalised intervention for guiding patients through complex and fragmented cancer care systems and reducing delays. ¹⁶
What does success look like?	A national diagnostic pathway with clearly defined entry points and escalation rules; reporting standards and referral thresholds; clinical governance, quality assurance, and data protection rules.

Building block 6: Defining an Essential Lung Health Package	
Description	Creation of an evidence-based and cost-effective integrated lung-health package suitable for patients according to need. ¹
Implementation processes	1. Stratify the package by level of care. 2. Identify workforce requirements. 3. Map available technologies. 4. Cost the package. 5. Define procurement needs. 6. Identify financing streams. 7. Build referral networks for components that cannot be delivered at primary-care level.
Benchmarking	WHO PEN and HEARTS show how standardised service packages can help ministries move from broad NCD policy to practical primary-care delivery. ^{8,9} WHO's rehabilitation package identifies essential rehabilitation interventions, required assistive products, equipment, consumables, and workforce for cardiopulmonary conditions and malignant neoplasms. ^{17,18}
What does success look like?	A costed Essential Lung Health Package specifying what every participating system should be able to provide directly or through referral.

Building block 7: Securing access to medicines, vaccines and health technologies	
Description	Programmes to improve access to, affordability, and availability of safe, effective, and quality medicines, vaccines, and health technologies.
Implementation processes	1. Define the essential medicines and technologies. 2. Estimate need, review procurement, and supply chains. 3. Identify affordability barriers. 4. Establish referral agreements where capacity is external. 5. Monitor waiting times and stock availability.
Benchmarking	The HEARTS access module is a useful implementation analogue because it addresses quantification, procurement, distribution, and facility-level supply management for essential medicines and technologies. ¹⁹ UNAIDS' 95-95-95 framework which measures whether people living with HIV know their status, whether those diagnosed receive treatment, and whether those on treatment achieve viral suppression. ²⁰
What does success look like?	An access plan that sits beside the clinical pathway providing reliable access to quality medication and services required for the care of that lung disease or lung health condition.

Bringing It All Together

There are several risks that could hinder the large-scale implementation of the Initiative. These include:

- i. Overdependence on pilots without progressing to large-scale implementation;
- ii. Diagnostic bottlenecks, where large-scale screening cannot be adequately supported by diagnostic capacity that has not been scaled up accordingly;
- iii. Referral loss, where patients may not complete follow-up because of cost, distance, fear, poor communication, long waiting times, or unclear responsibility;
- iv. Equity dilution, where rural, remote, and underprivileged populations may be underserved yet remain hidden within reported national averages; and
- v. Data burden without usability, where agencies responsible for data are not provided with the authority to act on it.

These risks should be watched out for; and mitigating strategies put in place so that they do not crop up during implementation; and if they do, remain minor humps on the highway of the lung health initiative implementation journey.

Implementation research has determined that implementation succeeds when each building block reinforces the others. For example, governance without service pathways becomes administrative, while screening without diagnostic capacity merely creates bottlenecks. For Malaysia, the 2026–2030 priority is to build the nationwide operating system for its National Lung Health Initiative.

Ultimately, the Initiative should not be judged by the number of activities implemented, but rather by the real-world implementability on whether people can move through a reliable pathway from risk recognition to screening, diagnosis, and subsequent management in an efficient, effective, and equitable manner.

If Malaysia succeeds, lung health will no longer be scattered across disconnected disease and exposure programmes. It will become a national public-health and delivery system: one that recognises people earlier, moves them through care more reliably, addresses the exposures that drive disease, and uses data to improve implementation over time.



Summary

Chapter 6 should position Malaysia at the point where policy ambition must become implementation discipline. WHA78.5 defines what countries are expected to do. Malaysia’s Lung Health Initiative shows how those responsibilities can be organised nationally. The 2025 foundation showed that implementation had begun. The 2026-2030 task is to make the system coherent, measurable, and sustainable.

The practical agenda is now clear: strengthen governance, build a primary-care lung-health pathway, create an exposure-reduction platform, institutionalise workplace and environmental lung health, standardise diagnostics and technology, define the Essential Lung Health Package, expand treatment access and navigation, and build a dashboard that measures the pathway from risk to care.





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CHAPTER 7

Amplifying Change: How Malaysian Media Drives Social Impact Through Lung Health Advocacy

In Malaysia's evolving healthcare landscape, the role of the Malaysian media ecosystem has become increasingly important in advancing the social impact of lung health initiatives spearheaded by the Ministry of Health Malaysia. Through accurate reporting, strategic storytelling, public education campaigns, and community engagement, media organisations across the country have become indispensable partners in shaping a more informed, health-conscious society.

As lung-related diseases continue to pose major public health challenges including lung cancer, chronic respiratory diseases, tuberculosis, and the long-term effects of smoking and being exposed to air pollution, media platforms have helped ensure that critical health information reaches Malaysians from all walks of life. Traditional media outlets such as television, radio, newspapers, and magazines remain effective channels for nationwide dissemination, while digital media and social media platforms have enabled health messages to reach wider and younger audiences with unprecedented speed and accessibility.

By humanising health issues through patient stories, survivor journeys, expert interviews, and grassroots community coverage, the media helps translate technical and clinical information into relatable realities. These stories increase awareness, inspire empathy, encourage behavioural change, and reduce stigma surrounding diseases associated with the lungs, particularly smoking-related illnesses and cancer diagnoses.

At its core, the contribution of the Malaysian media industry goes beyond the reporting of healthcare developments – it shapes public consciousness and national momentum on factors that affect our health. By elevating conversations surrounding lung health, championing prevention and early detection, and supporting evidence-based public health messaging, the media plays a meaningful role in building healthier and more resilient communities.



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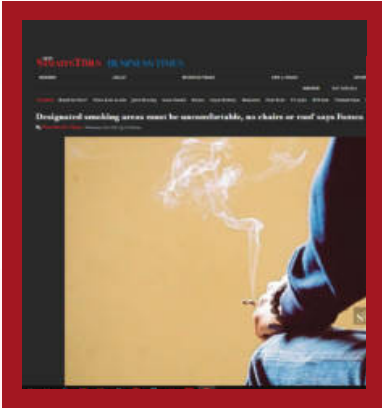
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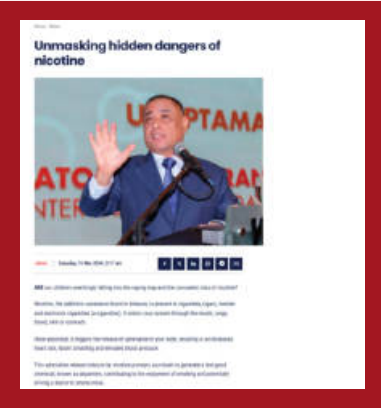
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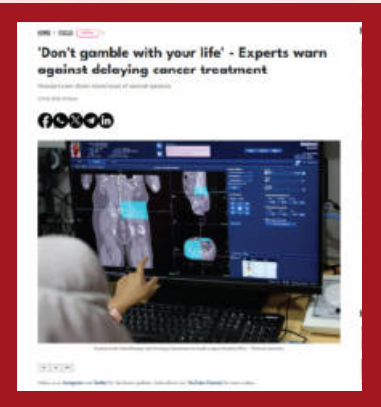
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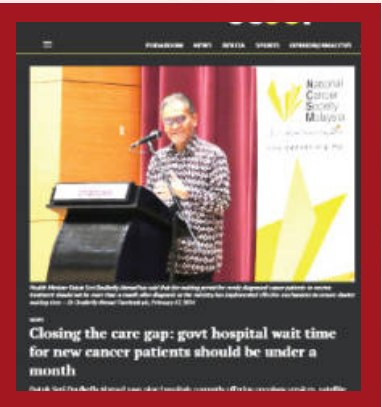
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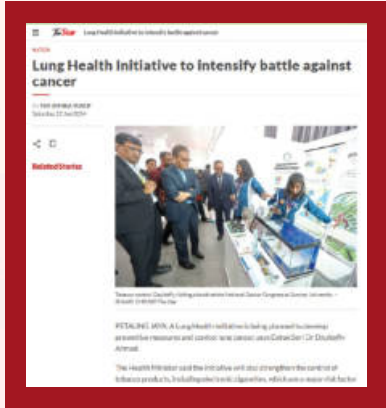
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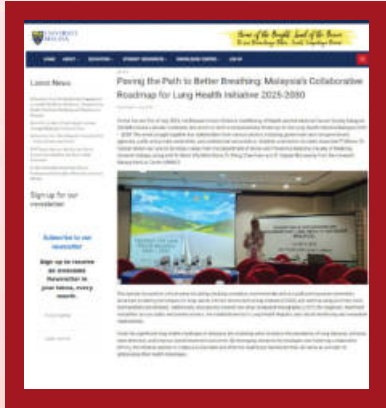
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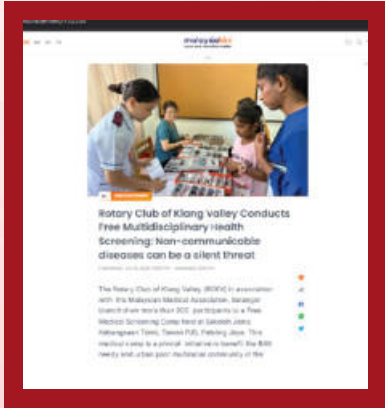
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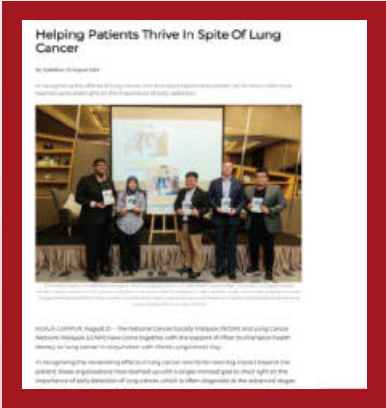
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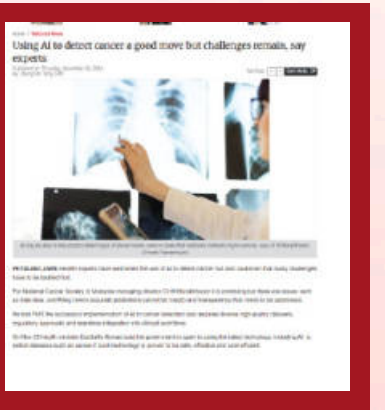
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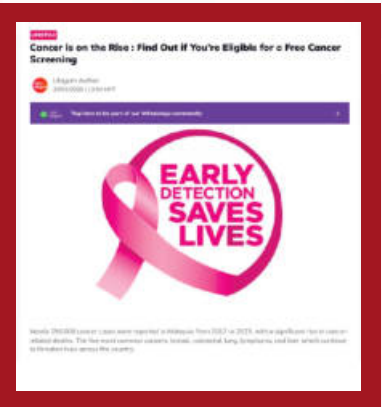
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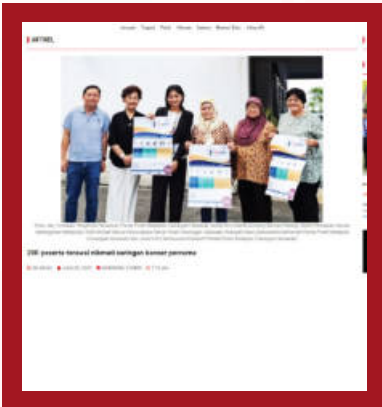
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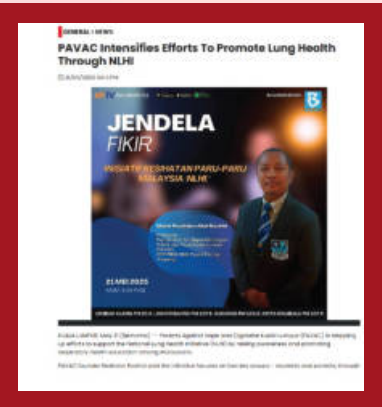
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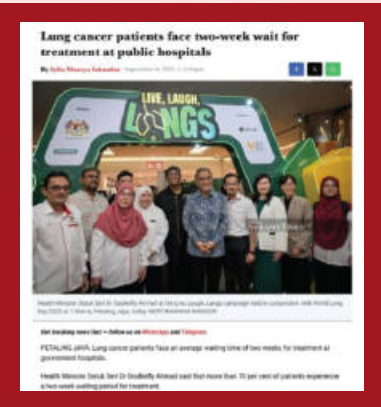
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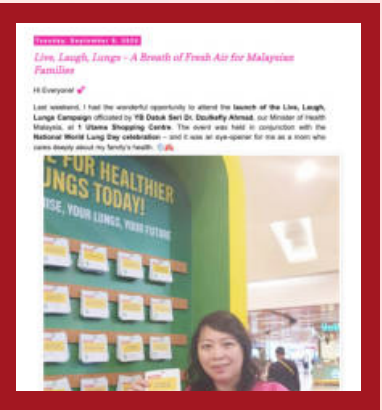
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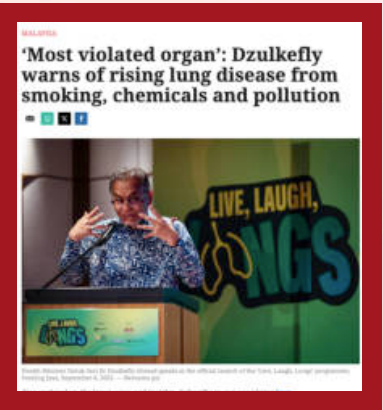
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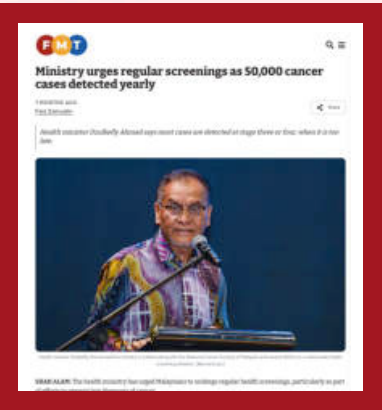
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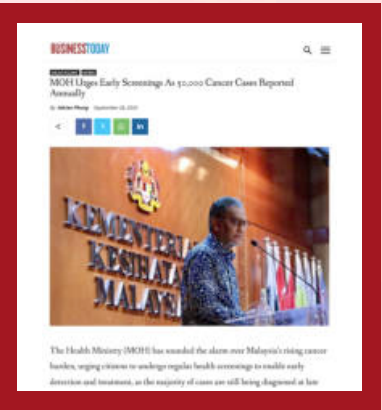
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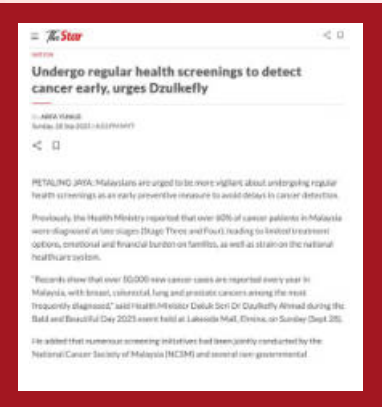


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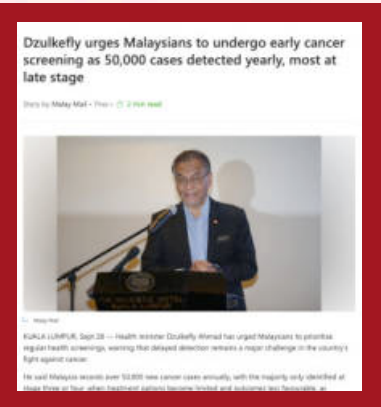


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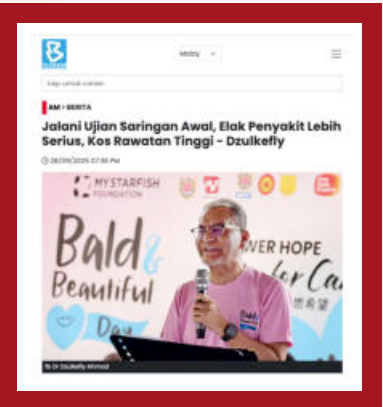
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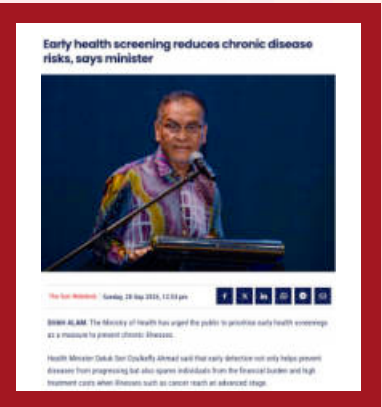
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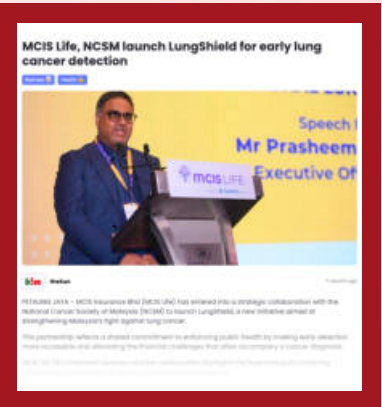
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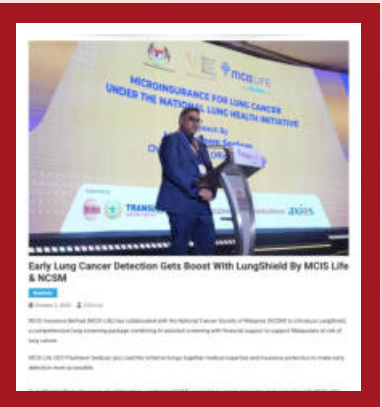
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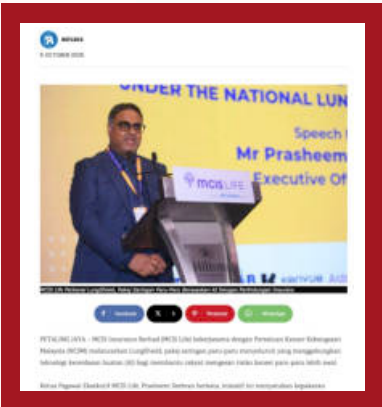
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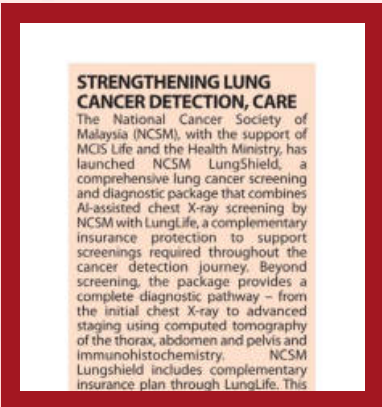
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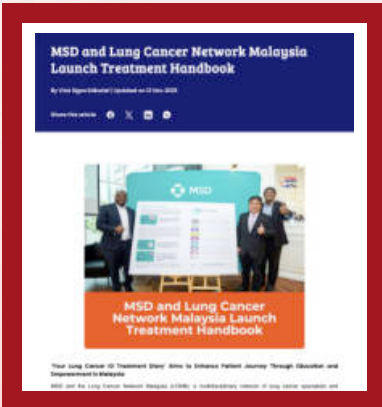
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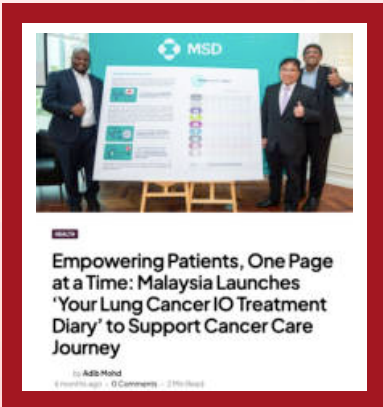
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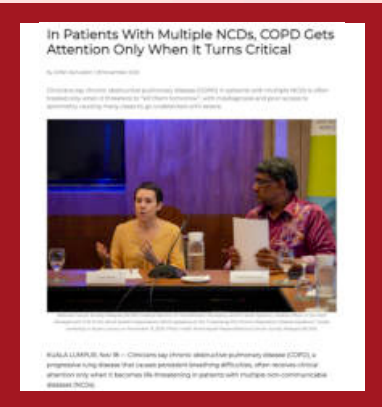
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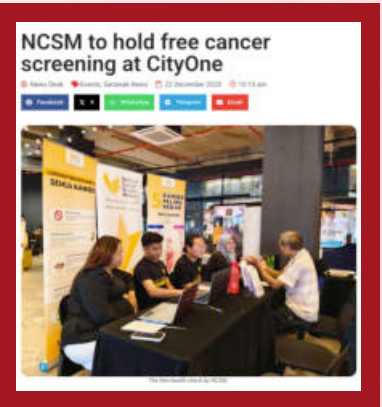
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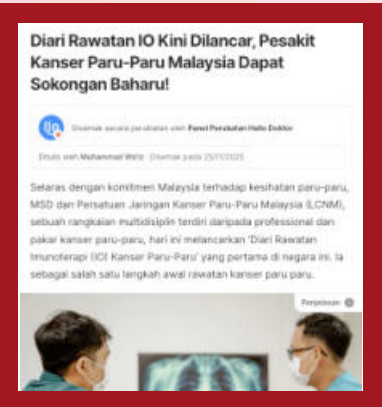
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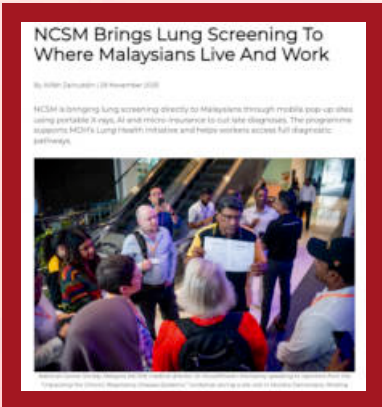
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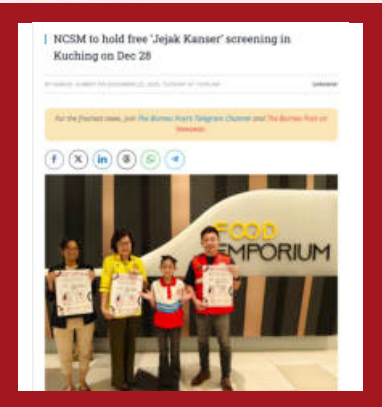
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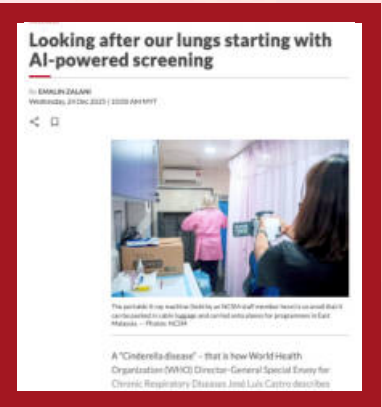
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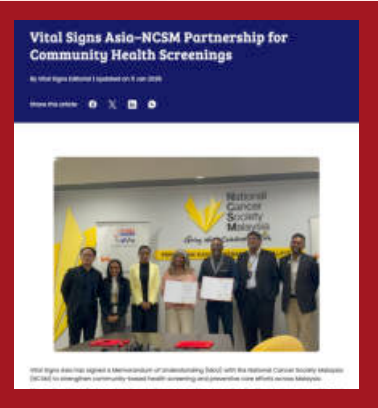
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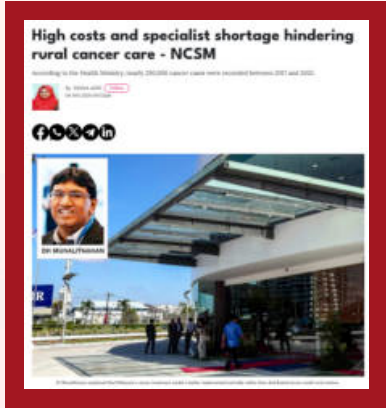
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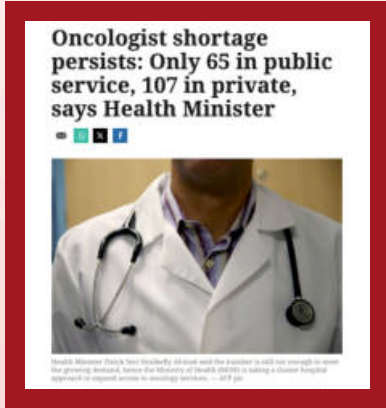
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Better training needed to tackle smoking and vaping



CONCLUSION



Every Breath, Every System, Every Country

The story of Malaysia’s National Lung Health Initiative is, at its heart, a story about systems. It began with the recognition that lung health could no longer be treated solely as a clinical concern, nor as the responsibility of a single discipline. Lung cancer, chronic obstructive pulmonary disease, asthma, tuberculosis (TB), post-TB lung disease, respiratory infections, occupational lung disease, tobacco and vaping exposure, air pollution, and the long-term consequences of delayed diagnosis may appear in different programme categories. Yet for patients, they often appear as one experience: cough, breathlessness, fear, repeated visits, uncertainty, cost, and the hope that the health system will recognise the problem early enough to make a difference.

That recognition is the first lesson of this journey. A national lung health initiative succeeds when it begins with the patient experience and care pathway, rather than around administrative or disease-specific boundaries alone. A person does not arrive at a clinic as a “programme category”. A person arrives with symptoms, exposures, risks, family responsibilities, work obligations, and a need to be heard. The system’s task is to respond coherently.

Malaysia’s National Lung Health Initiative was built on this principle. It sought to connect what had often been separated: prevention and care; communicable and noncommunicable disease; public health and specialist medicine; tobacco control and cancer control; occupational health and primary care; environmental health and respiratory symptoms; screening and treatment; data and decision-making. For this reason, the Lung Health initiative is best understood not as another disease programme, but as an architecture for integration.

The success of any health initiative depends on political will. Technical evidence is necessary, but evidence alone rarely changes systems. National transformation requires a clear mandate, visible stewardship, and the ability to convene institutions that do not usually work closely together. The Malaysian experience shows that political leadership can create the conditions for alignment: ministries, clinicians, public health experts, civil society, professional bodies, private providers, employers, academics, patients, and communities can be brought into one national conversation when the purpose is clear.

The roadmap history captured in the earlier chapters visualises clearly how political commitment, stakeholder engagement, technical work, and diplomatic advocacy gradually transformed an idea into a coordinated national and subsequently global movement. This is perhaps the central message of the Malaysian experience: vision matters, but vision alone is not enough. A vision, to be realised, requires planning, implementation, evaluation, accountability; and the ability to engage in a continuous learning and improvement cycle. A lung health initiative becomes sustainable only when it is able to improve itself.

Every health system has its own burden: politics, financing, workforce, geography, and institutional history. But the underlying lessons from the Malaysian experience may be adaptable for other Member States. With Malaysia as a reference point, others may be able to move faster by exploring the implementation, effectiveness, challenges, and required improvements. That is the spirit of global health: not the export of a single model, but the sharing of pathways, lessons, and tools for other countries. The adoption of WHA78.5 gave integrated lung health a global mandate. Malaysia’s contribution has been to show that such a mandate can be translated into a national architecture. As a country, it is hoped that other WHO Member States will take this experience, improve upon it, avoid some of the mistakes, and build their own integrated lung health initiatives in a quicker, confident, and sustainable manner.



For Malaysia, the next task is to ensure the continued implementation of the Initiative through political commitment, technical rigour, public trust, accountable data, and system-wide collaboration. Hopefully, this will be accompanied by clear and consistent data showing successes in areas of earlier detection, deployment of stronger preventive programmes, better access to treatment, and more comprehensive rehabilitation programmes.

In the end, this work returns to something profoundly simple. Every person breathes. Every breath carries the conditions of the world around us: the air in our cities, the safety of our workplaces, the choices shaped by industry and policy, the strength of our clinics, the fairness of our health systems, and the compassion of those who care. To improve lung health is to improve the conditions under which people live, work, age, and hope.

This is public health. If the purpose of health systems is to protect life with dignity, there are few promises more basic or more universal than this: every person, in every country, should have the chance to breathe better.





MINISTRY OF HEALTH MALAYSIA

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