ECONOMIST IMPACT

Breathing easy:

prioritising respiratory health for older adults in Asia Pacific

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About this report

Breathing easy: prioritising respiratory health for older adults in Asia Pacific is an Economist Impact report supported by Sanofi. As populations in the region enter "super-aged" status, with more than 20% of the population aged 65 and over, the health and economic burden of respiratory illness, which are concentrated in the older adult population, will rise. This report assesses how health systems can better prevent, detect and manage two major respiratory threats in older persons: seasonal influenza and chronic obstructive pulmonary disease (COPD), which is sometimes called emphysema or bronchitis. Examining three high-income markets—Australia, Singapore and South Korea—the report uses a framework to understand the response to the challenges of influenza and COPD and identify where gaps remain.

The report draws on a review of relevant literature and policy documents, and expert discussions including interviews, to provide deeper insight into the challenges and policy gaps.

A team of researchers, writers and editors at Economist Impact produced the report, including Neeladri Verma, Jason Yin, Radha Raghupathy and Elly Vaughan. The editorial team also is deeply grateful to the following experts for contributing their time and insights (listed alphabetically, by surname):

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Executive summary

Healthy lungs are critical to healthy ageing. Lung diseases like influenza, an acute viral infection, and COPD, a chronic disease causing progressive breathing difficulty, do more than impair lung function. They worsen comorbidities, accelerate functional decline and increase mortality in older adults. People aged 70 and above with influenza-related lower respiratory infections face a nine-fold higher death rate than the global average. The highest number of COPD-related deaths occur in adults over 80 years of age. Hospitalisation, admission to aged care facilities and caregiving demands also create significant economic impacts. Despite this, respiratory diseases remain poorly integrated into healthy ageing strategies.

This paper presents a framework (Figure 1), developed by Economist Impact, through reviewing the literature and engaging a range of experts. It shows how respiratory health can be positioned as a core pillar of healthy ageing, focusing on COPD and influenza as priority case studies due to their health, economic and social impacts.

It adapts eight healthy ageing indicators, identified by reviewing World Health Organisation (WHO) and United Nations (UN) publications, to the specific needs of older adults at risk of or living with respiratory disease. These indicators were then translated into four action areas that link prevention, early detection, disease management, and system support with broader healthy ageing goals.

In doing so, the framework is intended to help policymakers identify priorities, strengthen national responses, and close key gaps in how respiratory health is addressed within ageing strategies.

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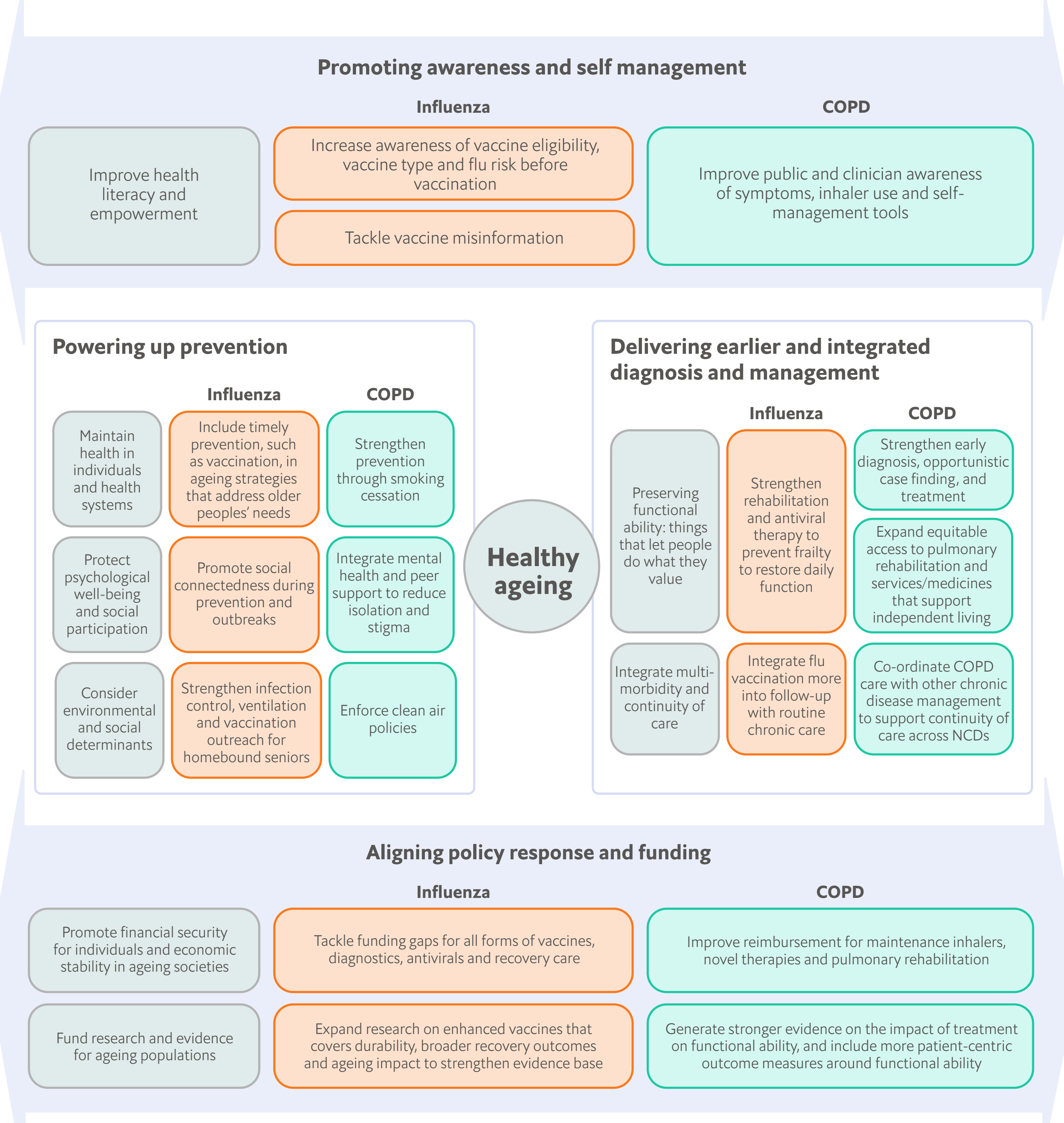
Figure 1: Framework for prioritising respiratory health for older adults in Asia Pacific



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Introduction

Respiratory health: a key to healthy ageing

Breathing well is the foundation of living well and strong respiratory health is a foundation of independence in older age. Lung diseases accelerate other illnesses, deepen isolation, strain mental health and exhaust patients and caregivers.[1–4] "Respiratory health is closely linked to mental wellbeing and carries heightened significance for people living with chronic conditions such as cardiovascular disease, diabetes and cancer," says Jane Barratt, Global Advisor on Ageing, Health and Social Policy and former Secretary General, International Federation on Ageing.

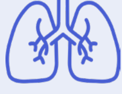
Two major respiratory threats are seasonal influenza, a highly contagious acute viral infection, and chronic obstructive pulmonary disease (COPD), a progressive lung condition that makes breathing increasingly difficult.[5–7] Both are common, largely preventable and often most severe in older adults.

Among people aged 70 and above, the death rate from influenza-related lower respiratory infections is nearly nine times the global average across all age groups.[8] COPD is the third leading cause of death globally.[9] Its prevalence rises with age, especially in severe cases.[10] The largest number of new cases peaks between the ages of 70 and 74 and most deaths occur in those aged 80 to 84.[11]

These diseases often worsen existing comorbidities, raise the risk of bacterial superinfections, antimicrobial resistance and prolonged hospitalisation.[12–14] "In older patients, it's rarely just influenza," says Helen Oh, Associate Professor, Senior Consultant, Changi General Hospital, Singapore. "An infection can destabilise their diabetes, trigger a heart attack or stroke and set off a cascade of complications, often resulting in a prolonged hospital stay." COPD follows a similar pattern. Exacerbations—periods of worsening of symptoms—can worsen lung function, leave older adults weaker, less mobile and more likely to need long-term care.[15]

"Respiratory health is closely linked to mental wellbeing and carries heightened significance for people living with chronic conditions such as cardiovascular disease, diabetes and cancer."

Jane Barratt, Global Advisor on Ageing, Health and Social Policy and former Secretary General, International Federation on Ageing



COPD: progressive, chronic lung condition

Third leading cause of death globally[9]

Influenza: highly contagious, acute viral infection

Death rate nine-times the global average across all age groups[8]

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“In older patients, it’s rarely just influenza. An infection can destabilise their diabetes, trigger a heart attack or stroke and set off a cascade of complications, often resulting in a prolonged hospital stay.”

Helen Oh, Associate Professor, Senior Consultant, Changi General Hospital, Singapore

The resulting hospitalisation and care needs come with growing economic costs. In South Korea the socioeconomic burden of influenza is estimated at up to US$316m annually, with the highest costs among those with existing chronic conditions.[16] COPD also inflicts a heavy economic toll. Globally, direct medical costs linked to COPD are projected to reach over US$860bn by 2050—driven by emergency room visits, hospital admissions and rehabilitation costs.[15]

An ageing society will only exacerbate the health and economic burden of respiratory disease. Life expectancy in many Asia Pacific countries is high and rising: by 2030 Singaporeans are projected to live to 84.7, Australians to 84.9 years and South Koreans to over 85, according to Economist Intelligence Unit data. South Korea is already “super-aged”, meaning that more than 20% of the population is aged 65 and over. Singapore and Australia are not far behind (Figure 2). By 2050 an estimated 21% of the global population will be aged 60 or older and 62% of over 60s will live in Asia Pacific.[17] Since older adults are more vulnerable to conditions like COPD and influenza, this demographic shift will intensify demand for earlier intervention, better treatment and long-term care and place additional strain on health systems and public finances.

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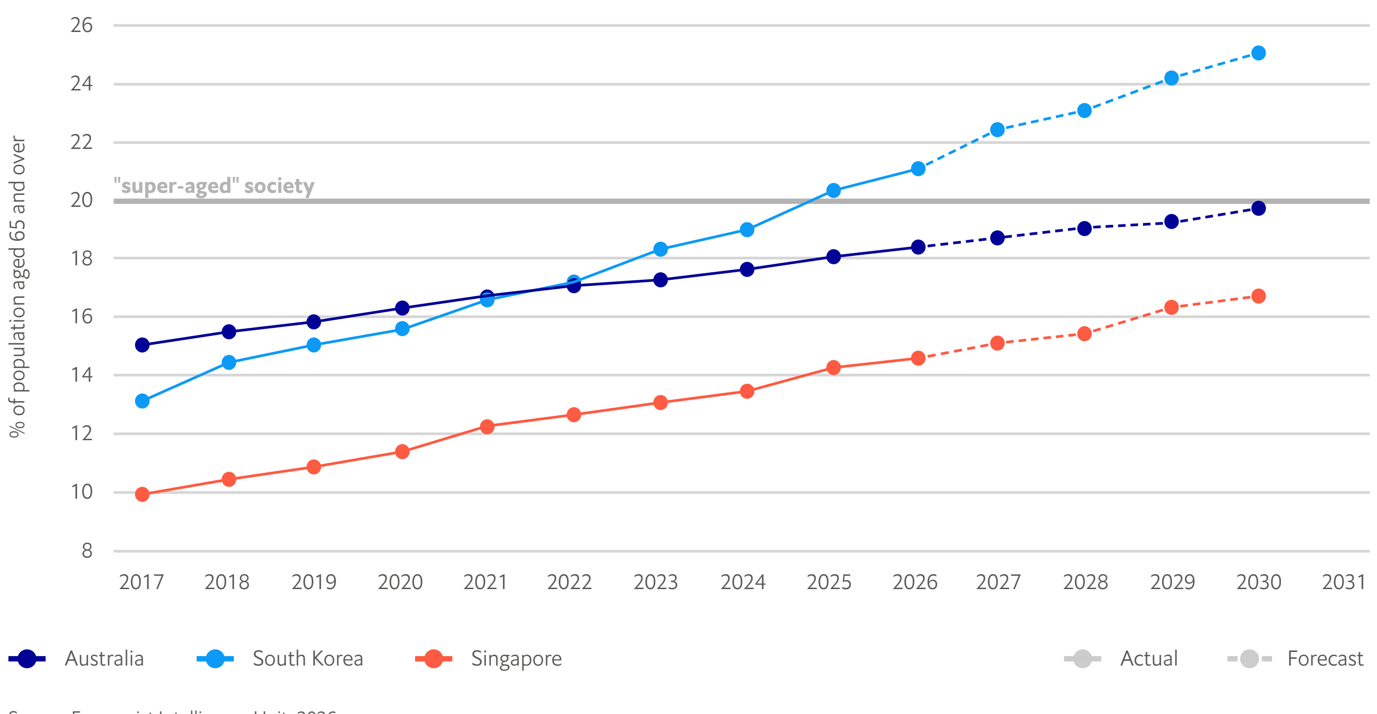
Figure 2: Percent of population aged 65 and over, 2017-2031



Source: Economist Intelligence Unit, 2026

These trends demand a more deliberate focus on respiratory health as a core pillar of healthy ageing. This report examines how Australia, Singapore and South Korea are responding.

Respiratory health: the missing piece in healthy ageing policy

The WHO defines healthy ageing as "the process of developing and maintaining the functional ability that enables well-being in older age". The WHO calls on governments to commit to policies that help older adults stay active, independent and well. This includes aligning health systems with people's needs as they age, expanding access to essential medicines and vaccines and delivering integrated, person-centred care.[18–21]

Respiratory conditions like influenza and COPD undermine the exact outcomes the healthy ageing strategies aim to protect: mobility, mental health and quality of life. The WHO advises countries to include respiratory diseases in their non-communicable disease (NCD) strategies and to strengthen seasonal influenza vaccination policies.[6,20,22]

More recent global policy developments have elevated respiratory health on the international agenda. In May 2025 the World Health Assembly adopted the WHO resolution *Promoting and prioritising an integrated lung health approach*. It calls on countries to address respiratory infections such as influenza and covid-19 alongside chronic lung diseases including asthma and COPD through stronger prevention, diagnosis and treatment in primary care. The United Nations' *Political Declaration on Noncommunicable Diseases and Mental Health* reinforces commitments to strengthen prevention, early diagnosis and treatment of chronic respiratory diseases. Together, these commitments signal growing global support for integrated lung health.[23,24]

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Despite this robust policy response, respiratory health is often treated as a secondary issue with no specific focus on older adults. As Jennifer Quint, Professor, Imperial College London, United Kingdom, highlights, "Chronic respiratory disease is consistently the 'underdog' compared to cardiovascular disease regarding funding and awareness. While everyone fears a heart attack, 'lung attacks' [exacerbations of lung disease] do not carry the same urgent branding."

"Chronic respiratory disease is consistently the 'underdog' compared to cardiovascular disease regarding funding and awareness. While everyone fears a heart attack, 'lung attacks' [exacerbations of lung disease] do not carry the same urgent branding."

Jennifer Quint, Professor, Imperial College London, United Kingdom

Case study 1: Japan integrates respiratory health into ageing policy

As a super-aged society Japan has taken a structured approach to both infectious and chronic respiratory diseases. Embedding respiratory health in national law and strategy means Japan treats respiratory wellness as a foundation for ageing well.

Influenza prevention prioritised for older adults: Japan's Immunisation Act classifies seasonal flu vaccination for adults aged 65 and older and those aged 60–64 with chronic conditions as routine vaccinations.[25] But in 2022 just 58% of older adults were vaccinated, below the WHO's recommended target of 75%. Skepticism about efficacy and high perceived susceptibility to side effects are important factors preventing uptake among the elderly.[26–28]

Evidence-based approach: Since 2023 the government undertook detailed, age-stratified and cost-effectiveness analyses comparing high and standard dose influenza vaccines. Result showed cost-effectiveness in adults aged 75 and above. The high dose influenza vaccine is soon to be included in the National Immunisation Programme for this population segment.[29,30]

COPD is a national priority: it is one of the few chronic diseases explicitly featured in Health Japan 21, a long-running health promotion strategy. The plan sets targets to raise awareness and reduce prevalence.[31]

While examples of national leadership exist (see Japan, Case study 1), most countries still treat respiratory health as an afterthought in ageing policy.

This report seeks to change that. Economist Impact developed a practical framework to assess how countries prevent and manage influenza and COPD in older adults—and where the gaps remain.

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Findings: Strengthening respiratory health for older adults

Linking respiratory health to healthy ageing: framework development

To develop the framework, Economist Impact first outlined how healthy ageing is defined, measured and implemented. We reviewed WHO and UN publications published between 2010 and 2025 and identified eight core indicators that define the goals of healthy ageing (Figure 3).

Figure 3: Healthy Ageing Indicators

Healthy ageing

Prevent disease through vaccination and early action

Improve health literacy and empowerment

Preserving functional ability

Promote financial security for individuals and economic stability in ageing societies

Protect psychological wellbeing and social participation

Integrate multimorbidity and continuity of care

Address environmental and social determinants

Fund research and reinforce evidence for ageing populations for decision-making

Source: Economist Impact analysis

Since pathways to healthy ageing differ by disease area, we then examined how these indicators apply specifically to respiratory health in older adults. We searched peer-reviewed studies, government policy documents, grey literature and WHO and UN databases over the same time period for evidence related to COPD and influenza around the eight core indicators of healthy ageing. The aim was to find evidence positioning these diseases as pillars of healthy ageing and to elaborate on the indicators to reflect disease-specific priorities and interventions. While our primary markets of interest were Australia, Singapore and South Korea, the review included global data for a comprehensive evidence base for this link.

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Next we convened an expert panel of global and regional specialists in respiratory health, ageing and health systems. The panel reviewed our preliminary mapping of the eight indicators to respiratory health and helped to refine the final framework. After these discussions, we streamlined the framework into four core action areas that connect respiratory disease management with healthy ageing priorities (Figure 1).

Finally, we conducted expert interviews in each priority country and supplemented these insights with targeted secondary research. This helped us assess how national systems currently prevent, detect and manage COPD and influenza among older adults—and where the most urgent policy gaps remain.

The final framework (Figure 1) was based on the inputs from all research streams, highlighting the opportunities for greater alignment between healthy ageing and respiratory health.

Our global and country-level analyses revealed these key gaps across countries.

Figure 4: Key global gaps in COPD and influenza

	COPD			Influenza		
Key gap	Late diagnosis due to limited access to spirometry testing	Suboptimal management in primary care	Low public awareness, despite high prevalence among older adults	Low vaccination coverage	Inadequate optimisation of influenza vaccination strategies for older adults	Limited patient-centred and real-world evidence on functional outcomes
Why it matters	Delays proactive identification and intervention, allowing avoidable lung decline and avoidable exacerbations and long-term impairment	Poor adherence to guideline-recommended therapies undermines symptom control and accelerates disease progression	Symptoms are normalised or stigmatised, delaying care-seeking and reducing policy attention	Leaves older adults vulnerable to severe infection, hospitalisation and death	Immune ageing reduces protection against infection and complications	Undervalues the role of vaccination in preserving independence and healthy ageing, weakening the case for broader uptake and investment
Priority action	Expand spirometry access, implement case finding strategies among at-risk individuals	Build primary care capacity to improve adherence to guidelines and expand access to pulmonary rehabilitation	Expand efforts to raise public and government awareness of COPD risk, symptoms and long-term burden	Strengthen targeted outreach and delivery through different settings, counter misinformation and re-frame the benefits of vaccination	Analyse vaccine efficacy and cost effectiveness of enhanced vaccines and other emerging novel vaccines to better tailor vaccination programmes to older adults	Integrate functional and quality-of-life measures into vaccine impact monitoring and evaluation frameworks to strengthen the evidence for vaccination

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Powering up prevention

Influenza and COPD are largely preventable. But current strategies often fail to meet the specific needs of older adults. This gap harms older people as each hospitalisation—whether from an influenza infection or a COPD flare-up—can accelerate frailty, reduce independence, disrupt social life and increase the risk of depression and cognitive decline.[13,32,33]

Influenza

Influenza vaccination has benefits for older adults and society. Vaccination reduces a person's risk of catching the infection, being hospitalised, developing secondary bacterial infections, becoming frail or dying from the disease. In New Zealand, a study of hospitalised patients aged 65 and over found that vaccination reduced the risk of severe outcomes, including admission to intensive care, by nearly 60%.[34] Vaccines also reduce the risk of heart attacks and dementia.[35,36] "After having a respiratory infection, older people can end up in the hospital, not be able to return home and require care in a respite or nursing home," says Ian Barr, Deputy Director, The Peter Doherty Institute for Infection and Immunity, Australia. "These are important considerations to keep them topped up with vaccines." Economically, adult vaccination programmes may yield as high as 19 times the investment when both economic and societal costs are considered.[37]

The WHO recommends all countries establish a seasonal influenza vaccination programme focusing on older adults.[38–40] It also supports the use of enhanced vaccines—those with higher antigen doses, adjuvants or recombinant vaccines—in countries where they are available, if prioritising these vaccines for older adults would not limit access for other populations.[38] Several countries, including Austria, Britain, Denmark, Germany, Greece, Ireland, Italy and the Netherlands recommend enhanced vaccines for older people.[36,41]

"After having a respiratory infection, older people can end up in the hospital, not be able to return home and require care in a respite or nursing home. These are important considerations to keep them topped up with vaccines."

Ian Barr, Deputy Director, The Peter Doherty Institute for Infection and Immunity, Australia

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Case study 2: Denmark's influenza vaccination programme

In the 2024/2025 influenza season, older adults in Denmark were offered three different influenza vaccines in parallel: one standard dose vaccine and two enhanced vaccines—either an adjuvanted vaccine or a high dose vaccine. The adjuvanted and high dose vaccine showed similar efficacy among both hospitalised and non-hospitalised patients in reducing laboratory confirmed influenza infection. The efficacy of both was significantly higher than the standard dose vaccine, supporting their use in adults aged over 65.[42]

"Checking an older adult's vaccination status and offering them the vaccine should become as routine as checking vital signs in the clinic."

LJ Tan, Chief Policy and Partnerships Officer, Immunize.org

Enhanced vaccines may offer stronger protection for older adults (see Denmark, Case study 2). Studies show they reduce lab-confirmed infections and hospitalisations more effectively than standard vaccines.[43–45] Yet many national campaigns still rely on standard-dose vaccines. While effective for younger adults, standard vaccines are less protective in older populations due to age-related immune decline.[46] More data is needed. "Many countries lack the cost-benefit analyses needed to justify switching to enhanced vaccines," says LJ Tan, Chief Policy and Partnerships Officer, Immunize.org. But cost alone is not the only driver of the decision. "We also need to consider the societal values around the health of older people when assessing the benefits."

Low coverage is another challenge. Many countries have vaccination rates that are low among older adults. Reminders help. A study in Denmark involving nearly 300,000 people found that letters boosted uptake.[47] "A reminder from their GP, whether a postcard or a letter, is often very effective," says Professor Barr. Normalising vaccination status checks at routine visits also helps. Mr Tan says, "Checking an older adult's vaccination status and offering them the vaccine should become as routine as checking vital signs in the clinic."

COPD

COPD becomes more common as people get older, largely because of long-term exposure to smoking and air pollution. Helping people quit smoking and improving air quality can reduce the number of new cases and prevent flare-ups that make breathing worse for people living with COPD. It can also prevent complications from other comorbidities.[6,7,48]

Many older adults cannot quit smoking even though stopping smoking reduces their risk of COPD.[49] A study of American adults found that the only age group without a decline in smoking prevalence between 2011 and 2022 was those over 65 years.[50] Beyond addiction, lack of awareness, access to resources and misinformation regarding health benefits of quitting in older age contribute to this disparity.[51] More targeted awareness campaigns need to focus on older adults.

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While smoking contributes to 35% of global disability-adjusted life years (DALYs) due to COPD, ambient particulate matter pollution accounts for 22% and household air pollution from solid fuels for 20% of COPD DALYs.[11] "People used to assume you got COPD because you smoked, so you deserved what came next," says John Abisheganaden, Senior Consultant Respiratory Physician, Tan Tock Seng Hospital, Singapore. "But we now know that up to a third of COPD in Singapore is not caused by smoking. Environmental factors matter too."

The WHO has strict guidance on air quality, but compliance remains poor. An estimated 99% of the world's population lives with air pollution levels that are above safe limits.[52] And 2.1bn people still rely on polluting fuels and technologies for cooking.[53] "Managing air quality isn't enough. We also need to predict and help people avoid exposure," says Dr Abisheganaden. "For example, if there is a large-scale fire event with haze and smoke that affects air quality across a city or region, there should be forthcoming guidance to stay indoors, limit outdoor activity or wear a mask to avoid exposure to these pollutants." The risk of smoking and air pollution may compound among vulnerable populations. "People from lower socioeconomic groups are often in a job situation where they're exposed to either pollution or other occupational hazards that would lead to adverse lung health, and on top of it, they continue to smoke", says Izuan Ismail, Professor of Medicine & Consultant Respiratory Physician, Universiti Teknologi MARA & President, Malaysian Thoracic Society, Malaysia. Sanjay Ramakrishnan, Clinical Senior Lecturer, Department of Respiratory Medicine, Sir Charles Gairdner Hospital, Australia, adds, "Early-life nutrition, air quality and where people live and the work they do all feed into COPD risk."

Why clean air matters

While smoking contributes to 35% of global disability-adjusted life years (DALYs) due to COPD, ambient particulate matter pollution accounts for 22% and household air pollution from solid fuels for 20% of COPD DALYs.[11]

The combined and inequitable impacts of these risk factors disproportionately impact women in low- and middle-income countries. By 2050 this group is projected to have the largest increase in COPD, driven by slower declines in smoking and greater exposure to indoor air pollution, highlighting the critical need to both address tobacco use and improve air quality to prevent COPD.[54]

"Early-life nutrition, air quality and where people live and the work they do all feed into COPD risk."

Sanjay Ramakrishnan, Clinical Senior Lecturer, Department of Respiratory Medicine, Sir Charles Gairdner Hospital, Australia

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Case study 3: Thailand's collaborative approaches to improve air quality

Multi-sectoral and stakeholder approaches are needed to improve air quality. Efforts to reduce air pollution support healthier ageing by lowering the risk of chronic respiratory diseases in later life.

As part of the Breathe Cities initiative 12 cities, including Bangkok, aim to reduce their air pollution by 30% by 2030 through gathering air-quality data, community engagement and knowledge sharing.[55] ASEAN's Air Quality Improvement Programme works to strengthen air-quality improvement measures through enhancing awareness, improving monitoring and building local capabilities.[56]

National governments are also encouraging collaboration at the community level. ThaiHealth, an autonomous government agency funded by taxes from tobacco and alcohol products, has been an important player in Thailand's clean air initiatives through emphasising social mobilisation and policy advocacy. The agency supports local programmes such as urban greening initiatives and do-it-yourself air purifier projects, showing both a top-down and bottom-up approach to controlling air pollution.[56]

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Delivering earlier and integrated diagnosis and management

Early diagnosis and multidisciplinary management of influenza and COPD in older adults reduces mortality, improves functional capacity and facilitates integrated care for comorbidities.[57,58] But many health systems still fall short. Older adults often lack adequate access to medicines, rehabilitation and follow-up services.

"These gaps follow existing lines of inequity," says Ms Jane Barratt. "Vaccination coverage, timely diagnosis, treatment and rehabilitation access are shaped by income, gender, geography and care setting," she adds. Expanding access to comprehensive care and addressing disparities are essential steps towards improving respiratory health outcomes for all older adults.

Influenza

Antiviral treatment for influenza is often overlooked. "Getting in fast with an antiviral can be the difference between life and death," says Mr Tan. "It can also mean the difference between weeks in hospital and a quick recovery." Yet only 14 of 49 countries in the WHO's Western Pacific and South-East Asia regions—including Australia and South Korea—have national treatment guidelines for influenza. The remaining countries do not have guidelines or do not publish them in the public domain.[59]

"Vaccination coverage, timely diagnosis, treatment and rehabilitation access are shaped by income, gender, geography and care setting."

Jane Barratt, Global Advisor on Ageing, Health and Social Policy and former Secretary General, International Federation on Ageing

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COPD

Many cases of COPD go undiagnosed. "Early diagnosis is the only way to change the course of the disease," says Ong Kian Chung, Specialist in Respiratory Medicine, Chestmed Pte Ltd, Mount Elizabeth Medical Centre, Singapore. But two-thirds of cases are missed.[60–62] The main reason is that spirometry testing, a basic lung function test, is not widely available in primary care. Many clinicians are unaware of when to test or lack the tools and training to do so.[63] Screening every adult is not recommended. But there are missed opportunities. An international guideline for treating COPD published by the Global Initiative for Chronic Obstructive Lung Disease (GOLD) strongly recommends case finding for COPD including "opportunistic" case finding among patients undergoing imaging for lung cancer screening or other respiratory issues, and "active" case finding for at-risk populations. Since lung cancer screening usually begins at age 50 or 55, checking for COPD at the same time could result in earlier diagnosis and treatment.[64]

"Early diagnosis is the only way to change the course of the disease."

Ong Kian Chung, Specialist in Respiratory Medicine, Chestmed Pte Ltd, Mount Elizabeth Medical Centre, Singapore

There is also a failure to follow treatment guidelines, which lowers the quality of care for COPD. The GOLD guidelines recommend a stepwise approach using inhalers, oral treatments and newer biologics.[64] Yet research shows major gaps in real-world care. There is still inadequate use of inhaler therapy and lack of treatment escalation after exacerbations.[65–67] In many Asian countries, people often underuse inhalers and physicians overprescribe inhaled corticosteroids instead of long-acting bronchodilators. This is because of limited awareness among both patients and healthcare providers, financial concerns and cultural factors.[63,68] Guidelines are also not tailored to the unique challenges older adults face. "Most guidelines still focus on the disease, not the person," says Kwang Ha Yoo, Professor, Konkuk University Medical Center, Konkuk University School of Medicine, South Korea. "They miss key issues for older adults like taking multiple medicines, memory loss or other conditions that make it harder to follow treatment."

Scaling up rehabilitation is another blind spot. Pulmonary rehabilitation—through exercise, education and lifestyle support—has shown to improve health and reduce healthcare use and hospital admissions in patients with COPD.[69] But lack of awareness, inadequate caregiver support, poor access and reimbursement challenges limit its use. Even in high-income countries like America, only 1–2% of patients receive rehabilitation after a hospitalisation for a COPD flare-up.[70,71] Community-based programmes and pay-for-performance incentives have shown promise in improving access and uptake of pulmonary rehabilitation.[72,73]

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Measuring what matters to older adults

Epidemiological research and monitoring in influenza and COPD are heavily focused on incidence and disease outcomes. Much less emphasis is on functional recovery of older adults. Ms Barratt explains, "After a respiratory event, we study mortality indicators but we do not have good indicators for morbidity or degree of independence post discharge." A better understanding of functional ability and patient centric outcomes is necessary to design interventions for older adults.

COPD Patient Powered Research Network (COPD PPRN) is a network in America where over 75,000 patients with COPD share their health information. The registry is expected to support patient centric research through the development of patient centric outcome measures.[74] One study from the COPD PPRN identified that over 50% of respondents were 65 years or older—a significant participation by older adults.[75] Establishing similar registries for influenza focused on patient-centric outcomes will be beneficial. Joon Young Song, Professor, Division of Infectious Diseases, Korea University Guro Hospital, Korea University College of Medicine, South Korea, notes that, "Stronger policy decisions on influenza vaccination would be supported by age- and frailty-stratified effectiveness data, comparative evidence across vaccine types and outcomes that capture severe disease, functional decline and recovery in older adults."

"Stronger policy decisions on influenza vaccination would be supported by age- and frailty-stratified effectiveness data, comparative evidence across vaccine types and outcomes that capture severe disease, functional decline and recovery in older adults."

Joon Young Song, Professor, Division of Infectious Diseases, Korea University Guro Hospital, Korea University College of Medicine, South Korea

COPD is frequently associated with other chronic conditions such as high blood pressure, high cholesterol, diabetes and heart disease.[76,77] Besides adversely impacting health outcomes, these comorbidities also drive up healthcare costs. One study estimates that 51% of COPD-related costs are due to comorbidities.[78] An integrated approach to care could reduce clinical and economic burdens. "About 90-95% of people with COPD will have another disease. Therefore multi-disciplinary teams and co-ordinated care will help do things in a more holistic way and avoid thinking about diseases in terms of siloes", says Professor Quint.

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Case study 4: China's integration of COPD into primary care monitoring

In 2024 China expanded its National Basic Public Health Services (NBPHS) programme to include COPD, the first time a chronic respiratory disease has been incorporated into the country's national primary care management framework. The NBPHS programme is delivered through community health centres and township clinics and provides systematic monitoring and follow up for chronic conditions like hypertension and diabetes.

By integrating COPD, China aims to strengthen early detection and long term management at the primary care level. The initiative enables community healthcare providers to identify people at risk, provide regular monitoring, deliver health education and support disease management closer to where patients live.

This policy builds on previous national efforts to improve COPD diagnosis and management, including investments in spirometry and training for primary care providers. Integrating COPD into the NBPHS programme represents an important step towards embedding lung health within routine primary care and improving outcomes for millions of people living with or at risk of COPD.[79]

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Promoting awareness and self-management

Raising awareness around respiratory diseases can help older adults feel more empowered in managing their conditions. The result is better health, lower costs and more efficient health systems. Dr Ong says, "You can have excellent hospitals and services, but if patients are not educated and not participating in their care, then something is still missing."

Influenza

Many older adults underestimate the impact of influenza infection.[80,81] Grant Waterer, Executive Director of Medical Services, East Metropolitan Health Service, Australia explains, "People rarely distinguish influenza from milder illnesses. They label a four- or five-day cold as 'the flu.' Few grasp its potential severity." But flu infections can be dangerous for older people, as it can worsen long-term conditions like COPD and heart failure, leading to more hospital stays, loss of independence and even death.[82,83] Stronger, enhanced flu vaccines have been shown to work better than standard vaccines at preventing flu-related hospitalisations and reducing the risk of complications such as heart disease and stroke.[43,84] Raising awareness of these broader benefits among older people and their caregivers could help increase vaccination rates.[85]

> **"People rarely distinguish influenza from milder illnesses. They label a four- or five-day cold as 'the flu.' Few grasp its potential severity."**
>
> **Grant Waterer**, Executive Director of Medical Services, East Metropolitan Health Service, Australia

Misconceptions about the influenza vaccine—from fears that it causes illness to doubts about its safety and effectiveness—are also widespread.[81,86] Media and public campaigns can help address misinformation and promote vaccination. "When we had a big spike of influenza in Malaysia last year, several newspapers actively promoted vaccine uptake," says Professor Ismail. Technology can also be leveraged to distribute educational material but this approach is less impactful in older adults, highlighting the digital divide.[87]

Healthcare providers play a vital role in driving uptake of flu vaccination. Yet many lack current knowledge on vaccine guidelines, age-group prioritisation or safety in chronic conditions.[86,88] A study in China found that only about half of the older adults surveyed had been advised by their family doctor to get vaccinated.[89] Interventions targeting healthcare providers to improve access to vaccination guidelines and offering training have shown benefit in increasing influenza vaccine uptake.[90]

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COPD

Overall, there is low awareness of COPD. Many older adults dismiss breathlessness or a chronic cough as a routine part of ageing and smokers often normalise their symptoms—both which delay diagnosis.[63] Even after diagnosis, many older adults continue to smoke, despite smoking cessation slowing lung function decline, reducing hospitalisation and mortality.[91] In South Korea 45% of men aged 65 and above continued smoking despite being diagnosed with COPD.[92] "The only interventions proven to reduce COPD mortality are stopping smoking and long-term oxygen therapy," says Professor Ismail.

Older adults may also struggle with COPD management due to stigma. One Australian study found that patients often fail to seek care due to associated stigmas related to COPD.[93] Educating both patients and healthcare providers is critical to facilitating early diagnosis. Dr Ong says that, "Patients with COPD often feel they've brought the disease on themselves and that self-stigma leads them to underreport symptoms and disengage from care."

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Case study 5: Europe's successful self-management support interventions for COPD

The Self-management Programme of Activity, Coping and Education (SPACE) is a British programme for COPD co-produced by patients and experts. SPACE provides education such as appropriate techniques for inhaler use. It also offers psychosocial support, exercise guidance and goal setting. Group-based administration of the programme results in significant improvement in patients' knowledge, skills and confidence in managing their COPD.[94]

The COPD Patient Management European Trial (COMET) is a home-based self-management programme for severe COPD which provides intensive patient education and coaching. COMET also offers telemonitoring to track compliance with home oxygen therapy and facilitate timely intervention for worsening symptoms. The programme has demonstrated significant reduction in acute care hospitalisation and mortality among older adults.[95]

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Aligning policy responses and funding

Policy responses and funding allocation for influenza and COPD in older adults must consider the broader societal benefits such as better control of comorbidities, reduced healthcare costs, reduced burden to caregivers and greater participation of caregivers in the workforce.[96,97]

Influenza

The WHO's Global Influenza Strategy 2019–2030 recommends strengthening seasonal influenza control policies and programmes to protect at-risk populations by improving vaccination coverage and access to antiviral treatments. The strategy also calls for increased investment in research to develop more effective vaccines, point-of-care diagnostics and more potent antiviral therapies.[22] However, many countries have significant gaps in policy responses and funding for influenza management and research.

As of 2022 only 56% of countries had national vaccination recommendations for seasonal influenza for older adults. The median coverage rate for influenza vaccination among older adults was only 55% and just 13 countries met the WHO's 75% coverage target.[26,40] Funding plays a significant role. Countries often prioritise vaccination for children and adult vaccines are only partially subsidised or not reimbursed at all. In a study of 13 countries across Asia Pacific, only eight partially or fully funded influenza vaccination for older adults.[98] Furthermore, no global mechanisms like the Global Alliance for Vaccines and Immunisation, known as Gavi, which aims to increase vaccination rates among children in developing countries, exist to support adult vaccination. More investment in research on the efficacy, durability and ability to prevent severe disease can help strengthen the case for funding for, and rollout of, enhanced vaccines.

COPD

Chronic respiratory diseases are often deprioritised in NCD plans and policies. The WHO's survey of 160 countries' NCD policies or plans, published in in 2021, found that while 78% had a plan for cancer, 69% for diabetes mellitus and 68% for cardiovascular disease, only 58% had a plan for chronic respiratory diseases.[99] Funders are often hesitant to support COPD management and research because of stigma. Professor Ismail notes, "If you look at the way funding is distributed, myocardial infarction [heart attack] receives much more funding than COPD even though both diseases share smoking as a common risk factor". While the WHO has included rescue inhalers and maintenance inhalers for COPD on its essential list of medicines, a survey of 60 lower- and middle-income countries revealed that only six met the targets. Even in countries where the inhalers were available, they were largely unaffordable.[100,101] The Forum of International Respiratory Societies is urging international agencies, governments and industry to collaborate and bridge this gap.[102]

"If you look at the way funding is distributed, myocardial infarction [heart attack] receives much more funding than COPD even though both diseases share smoking as a common risk factor"

Ahmad Izuanuddin Ismail, Professor of Medicine and Consultant Respiratory Physician, Universiti Teknologi MARA; President, Malaysian Thoracic Society, Malaysia

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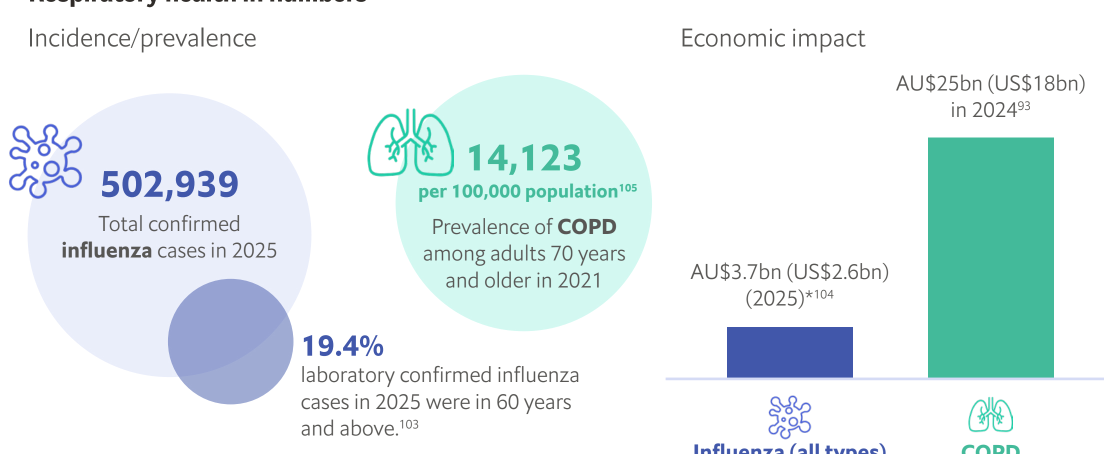
Australia



* Figure for lower respiratory conditions (including influenza and pneumonia)

Powering up prevention

Australia's National Immunisation Programme (NIP) offers free enhanced influenza vaccines to people 65 years and older. All Aboriginal and Torres Islander adults are eligible for free influenza vaccines.[106] Regarding enhanced vaccines, Raina MacIntyre, Professor and Head, Biosecurity Programme, Kirby Institute, Australia notes that, "In 2018 high dose and adjuvanted vaccines were available in the NIP. Since 2019, only the adjuvanted vaccine is available."

"The largest factor in declining influenza vaccination rates in adults 65 and older is unopposed and widespread vaccine misinformation and disinformation causing vaccine hesitancy."

Raina MacIntyre, Professor and Head, Biosecurity Programme, Kirby Institute, Australia

Despite the availability of influenza vaccines for older adults, coverage remains suboptimal and has been declining since the covid-19 pandemic. Only 60.5% of people aged 65 years and older received influenza vaccination in 2025, a decline from 70% in 2022.[107] Professor MacIntyre highlights that, "The largest factor in declining influenza vaccination rates in adults 65 and older is unopposed and widespread vaccine misinformation and disinformation causing vaccine hesitancy". Non-profit organisations like the Immunisation Coalition and the Immunisation Foundation of Australia provide accurate information on vaccines aiming to counter misinformation.[108,109]

Countering misinformation requires more than repeating safety data; it requires reframing expectations. As Mr Tan notes, "One of the biggest misconceptions is 'the vaccine doesn't work for people my age'. Yes, it may not stop you catching the flu, but it will stop you being hospitalised. And that matters enormously at 75." Messages can be reframed away from perfect prevention towards the very real protection vaccines offer against hospitalisation and severe complications.

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"One of the biggest misconceptions is 'the vaccine doesn't work for people my age'. Yes, it may not stop you catching the flu, but it will stop you being hospitalised. And that matters enormously at 75."

LJ Tan, Chief Policy and Partnerships Officer, Immunize.org

Dr Waterer corroborates this point. "To convince older adults, we need better evidence on long-term impacts beyond the acute infection: reduced risk of heart attack, stroke or cognitive decline." He suggests other compelling narratives could resonate strongly with older adults and their families. "We need data that vaccines reduce transmission to loved ones. That's a powerful positive message, and we don't have enough influenza evidence there." Reframing the conversation around protection of loved ones—not just personal protection—may be more effective in driving vaccine uptake.

Where vaccines are delivered matters. Residential care settings, where outbreaks often begin, can act as super-spreader sites for influenza. Yet vaccination can be challenging. Australia's Aged Care Act 2024 strengthens requirements for healthcare providers to offer recommended vaccinations for all older adults receiving funded aged care services, which may improve counselling and uptake.[110] As Dr Waterer notes, "If you want higher uptake in residential care, you have to pay for the extra time cost—those half-hour conversations with worried families."

To address barriers to vaccination, the National Immunisation Strategy for Australia 2025 to 2030 advocates a whole-of-system approach to increase and sustain immunisation rates. Priority areas include improving access for indigenous and priority populations, building trust and understanding and using data to guide interventions. The strategy also highlights the benefit of leveraging other healthcare providers like pharmacists.[108,111] Primary care providers are also embarking on initiatives to improve immunisation rates. The Primary Health Network in Brisbane has an initiative where general practitioners (GPs) identify and call back ten patients with COPD who are due for influenza or pneumococcal vaccination and to assess uptake and barriers.[112]

Delivering earlier diagnosis and integrated management

Timely management of influenza among older adults in Australia is hindered by limited access to antiviral therapy, which is not subsidised under the Pharmaceutical Benefits Scheme (PBS), resulting in out-of-pocket expenses. Testing turnaround times can also exceed the treatment window.[113] Professor Barr highlights that, "Antivirals are 'underestimated' by doctors in Australia. The only place they're probably used more freely is in nursing homes when there's an outbreak. We need to use the rapid antigen tests to link to a pharmacy prescription, such that people with positive results need not go back to the GP after testing positive and get antiviral access from the pharmacy."

"To convince older adults, we need better evidence on long-term impacts beyond the acute infection: reduced risk of heart attack, stroke or cognitive decline."

Grant Waterer, Executive Director of Medical Services, East Metropolitan Health Service, Australia

Diagnosis and treatment of COPD are often deprioritised by both generalists and respiratory specialists. Dr Ramakrishnan describes, "There are only two COPD clinics in the public sector in the entire country [Australia]. Most services lump patients with COPD into general respiratory clinics, resulting in longer wait times and less specialised care." In a study of 2,608 Australian patients with "high-risk" COPD, 64% of newly diagnosed patients had no evidence of spirometry or computed tomography scan chest to support diagnosis and 44% of those with established disease were not on inhaler maintenance therapy. Smoking cessation support was offered to less than 40% of patients and pulmonary rehabilitation less than 2%. Over a quarter

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of newly diagnosed patients and nearly 70% of already diagnosed patients had no review for their COPD diagnosis for 12 months.[66] Access to newer biologic therapies for severe COPD also remains limited—as of the time of writing this report they were not yet listed on the PBS, underscoring broader underinvestment in COPD care.[114]

Gaps in treatment guidelines are a key factor contributing to suboptimal management.[114] Dr Ramakrishnan notes that, "The COPD-X guidelines [for diagnosis and treatment of COPD] are not in sync with the rest of the world. They are an 'escalator to failure', requiring patients to experience multiple failures, such as hospitalisations or attacks, to receive more treatment". A reactive approach to treatment combined with poor compliance results in frequent exacerbations, repeated hospitalisations, rapid deterioration and mounting costs.[115] In 2021-2022, 53,000 hospitalisations with a principal diagnosis of COPD were recorded among people aged 45 and above.[116] Poor disease control also impacts informal carers, who leave employment or go part-time to care for family members. Productivity loss for carers supporting a person with moderate-severe COPD in Australia is estimated to be AU$1.3bn (US$914m) per year.[93]

In 2021-2022, 53,000 hospitalisations with a principal diagnosis of COPD were recorded among people aged 45 and above.[116]

Inequities in management are also common in influenza and COPD. Influenza-related hospitalisation and mortality rates are higher among the indigenous Australians compared to the non-indigenous population. This is caused by a combination of genetic predisposition, overcrowding, greater burden of comorbidities and poorer access to care.[117–119] The prevalence and mortality due to COPD are higher among individuals living in remote regions and among the lowest socioeconomic groups.[116,120] Greater exposure to risk factors such as smoking and forest fires, and poorer access to care among remote and disadvantaged populations contribute to these statistics.[121,122] To address these inequities, the government has expanded telehealth services and outreach medical programmes. Culturally sensitive primary care facilities such as Aboriginal Community Controlled Health Organisations (ACCHOs) have increasing access to smoking cessation programmes, spirometry testing and care provided by respiratory specialists but pulmonary rehabilitation access is still limited.[123] The Breathe Easy Walk Easy Lungs for Life project, known as BE WELL, aims to study the implementation of pulmonary rehabilitation care into ACCHOs.[124] The government has committed AU$68m (US$48m) to the First Nations Digital Inclusion plan that includes free community Wi-Fi in remote communities and is expected to improve telehealth and community education.[125]

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Promoting awareness and self management

Awareness of COPD among the public, and GPs, in Australia is low. A study among 100 adults in the Northern Territory revealed that 68% of indigenous people and 19% of non-indigenous people had never heard of COPD.[126] Ex-smokers also describe embarrassment and guilt in seeking attention for respiratory symptoms, delaying diagnosis.[93] Following diagnosis, medication adherence is often suboptimal due to out-of-pocket costs even for subsidised medications, misconceptions about treatment and incorrect inhaler techniques.[127]

Lack of awareness is being addressed by both the government and non-profit organisations. The 2024 Chronic Respiratory Conditions grant opportunity, instituted by the government, funds projects to improve the understanding, diagnosis and treatment including self-management of chronic respiratory diseases.[128] Lung Foundation Australia, a non-profit, has launched culturally safe resources for healthcare providers to talk with indigenous patients about COPD and developed videos and fact sheets on inhaler use which can support improved patient compliance.[129,130]

Aligning policy responses and funding

Policy responses to respiratory health focus on COPD, but emphasis on influenza remains limited. National health strategies take a life course approach to health, where chronic conditions including COPD are described as important health issues. COPD is highlighted as a leading cause of health burden among older men, with certain populations including indigenous, socioeconomically disadvantaged and disabled people being at higher risk.[131] Among women, COPD is described as a leading cause of health burden in the 45-to-64-year age group.[132] Australia's National Strategic Action Plan for Lung Conditions also emphasises raising awareness, equitable access to care, research and improving the entire care continuum for lung diseases. COPD is highlighted as a priority lung condition and older adults are a key group to focus on for raising awareness.[133]

Despite these policies and the high disease burden, respiratory health remains underfunded. Respiratory diseases account for 9% of Australia's total health burden but receive only 2% of national medical research funding.[134] The consequences are costly: in 2024 the economic burden of COPD was estimated at AU$25bn (US$18bn). Even a modest 10% reduction in severe COPD prevalence through proactive management could yield savings of AU$76m (US$54m).[93] The economic case is clear—greater investment would reduce disease burden and generate measurable health system savings.

Respiratory diseases account for 9% of Australia's total health burden but receive only 2% of national medical research funding.[134]

AU$25bn (US$18bn)

Estimated economic burden of COPD in 2024[93]

AU$76m (US$54M)

Potential savings from a 10% reduction in severe COPD prevalence through proactive management[93]

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Calls to action for prioritising respiratory health for older adults in Australia

Increase investments in research, management and education around respiratory diseases to match their health and economic burden, including studies evaluating the effectiveness and cost-effectiveness of enhanced, and other novel influenza vaccines in older adults.

Reframe the narrative around influenza vaccinations to one around protecting against severe disease and improved protection for loved ones to combat vaccine fatigue.

Increase vaccination coverage by engaging specialists like cardiologists and allied health professionals in immunisation efforts.

Adopt a proactive and equitable approach to COPD care, better aligned with international guidelines, including providing access to novel therapies as evidence evolves.

Bridge geographical and socioeconomic disparities in access to care for both influenza and COPD.

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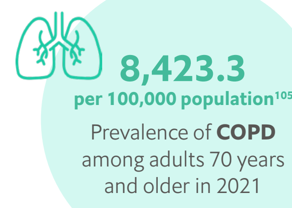
Singapore

Respiratory health in numbers

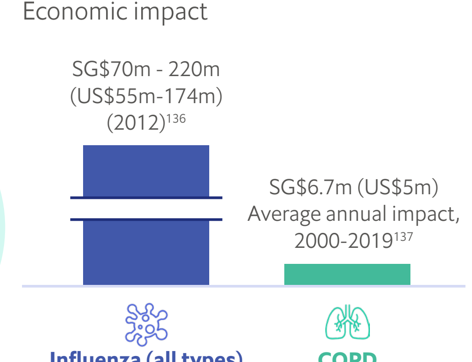
Incidence/prevalence/hospitalisation

852.0
per 100,000 population[135]
Influenza-associated hospitalisation rates in Singapore in 2023



8,423.3
per 100,000 population[105]
Prevalence of **COPD** among adults 70 years and older in 2021

Economic impact



Powering up prevention

Influenza vaccination among people aged 65 and above increased from 18% in 2020 during the pandemic to 42% in 2024. While coverage remains below the WHO's 75% target, recent policy efforts signal continued momentum. The government has expanded access through initiatives such as the Healthier SG programme, which offers free, standard-dose influenza vaccines to eligible participants, while other Singaporeans receive subsidies covering 50% to 87.5% of vaccination costs. Individuals can also use MediSave, the national medical savings scheme, to further reduce out-of-pocket expenses.[138] Additionally, initiatives such as the Sandbox programme, where trained community pharmacists administer influenza vaccines to eligible adults, are expected to boost uptake.[139] "We have to change our mindset that only doctors can give a vaccine. We are now encouraging nurses and pharmacists to prescribe and administer vaccines," says Dr Oh.

Singapore has made significant progress in the prevention of COPD. In 2021 Singapore had the lowest age-standardised prevalence of COPD globally and the greatest decrease in age-standardised prevalence (-37%) between 1990 and 2021.[11] Aggressive tobacco control and the use of clinical guidelines for smoking cessation have contributed.[140,141] Yet COPD is one of the most common chronic lung disease affecting adults in Singapore, its prevalence rising sharply with age.[142]

"We have to change our mindset that only doctors can give a vaccine. We are now encouraging nurses and pharmacists to prescribe and administer vaccines."

Helen Oh, Associate Professor, Senior Consultant, Changi General Hospital, Singapore

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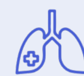
A study using Singapore's health administrative data between 1998 and 2020 estimated the yearly total cost per patient with COPD to be SG$5,283 (US$4,143), which was approximately six times higher than the cost for patients without COPD. Hospitalisation was the main contributor to costs and males aged 65 years and above incurred the highest costs.[143]



COPD is one of the most common chronic lung disease affecting adults in Singapore, its prevalence rising sharply with age.[142]

Delivering earlier diagnosis and integrated management

Delayed diagnosis and suboptimal treatment are key challenges of COPD in Singapore. Lack of awareness among GPs, as well as access to testing and treatments drive these gaps. Dr Abisheganaden describes this situation, saying that, "The tertiary care setting is heavily resourced with same day spirometry, nurse counselling and access to treatments and rehabilitation. Polyclinics are also well set up to manage COPD. But private GPs have challenges due to resource constraints, lack of time and decreased awareness of the optimal management of COPD."

"The National Healthcare Group and other clusters have developed screening programmes and integrated care models to improve early detection and management, reflecting a growing recognition of COPD's impact on independence and quality of life for seniors."

John Abisheganaden, Senior Consultant Respiratory Physician, Tan Tock Seng Hospital, Singapore

The national guidelines for COPD management emphasise the importance of GPs in diagnosing and managing COPD.[144] To support GPs, the Ministry of Health has developed a Primary Care Network (PCN) scheme in which selected clinics offer spirometry for diagnosis and monitoring of COPD. Expansion of spirometry services across PCN clinics should improve early diagnosis in the primary care setting.[145] Anthony Yii Chau Ang, Clinical Assistant Professor and Senior Consultant, Department of Respiratory & Critical Care Medicine, Changi General Hospital, Singapore, agrees, saying, "One of the key priorities is to make lung function testing widely available at the primary care or the community level." Adopting both active and opportunistic case finding approaches at the primary care level can further facilitate earlier diagnosis.[64]

Hospital and community-based programmes that stress integrated management of comorbidities for older adults with COPD have improved outcomes.[141,145] Dr Abisheganaden notes, "The National Healthcare Group and other clusters have developed screening programmes and integrated care models to improve early detection and management, reflecting a growing recognition of COPD's impact on independence and quality of life for seniors." The COPD Integrated Care Pathway programme of Alexandra Hospital demonstrated significant improvement in compliance with COPD related treatments and a significant reduction in hospitalisation and hospital bed days.[146] However, pulmonary rehabilitation is not routinely included even in some integrated care programmes and uptake is modest. Dr Ong says, "Intensive pulmonary rehabilitation is a very important part of the treatment for COPD but it is underemphasised. It is also not popular amongst patients because they think rehabilitation is for disabled people."

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Older adults with COPD receive support in community and outpatient care settings through integrated care programmes designed to manage multiple chronic conditions. Hospital to Home, a national programme that supports patients managing their complex needs in their home environment after hospital discharge, reduces the risk of readmission. Hospitals are funded on a per episode basis. Around 8,000 older adults benefitted in the first year.[147] Recently artificial intelligence prediction models have been integrated into the workflow for screening to identify high risk patients.[148] Integrated management for multiple chronic conditions is also practised in the outpatient setting.

"One of the key priorities is to make lung function testing widely available at the primary care or the community level."

Anthony Yii Chau Ang, Clinical Assistant Professor and Senior Consultant, Department of Respiratory & Critical Care Medicine, Changi General Hospital, Singapore

Professor Yii notes that, "In our COPD care pathway, we screen for anxiety, depression, frailty, and cognitive impairment. If the patients score high on these screening tools, they would receive evaluations and interventions accordingly."

Promoting awareness and self management

Misperceptions, such as viewing influenza as a mild illness akin to the common cold, along with misinformation and disinformation about vaccine safety and side effects, are primary drivers of Singapore's low influenza vaccination rates.[149] The government's public education campaigns and SMS messages to older adults have facilitated better vaccination uptake.[150] The Ageing Research Institute for Society and Education is conducting research into the cognitive and emotional barriers to influenza vaccination in the elderly to develop suitable interventions.[151]

Aligning policy responses and funding

Multiple government-funded initiatives aim to improve integrated and preventive primary care for older adults in Singapore. Under Healthier SG, residents are encouraged to enrol with a primary care clinic.[152,153] Dr Abisheganaden highlights that, "Vaccination is free for people covered by Healthier SG and inhalers are highly subsidised." To ensure success, administrative barriers, workflow integration and financial sustainability for private practices must be addressed.[154] "More work needs to be done to get older citizens to realise the benefits of the Healthier SG programme and sign up for it", says Professor Oh.

Singapore has strengthened financial support to prevent COPD exacerbations and reduce avoidable hospitalisations. Capitation payment models, where hospitals or doctors receive a set

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payment amount per patient for a specific period, incentivise providers to manage patients effectively in the community rather than rely on repeated admissions. Dr Abisheganaden says, "The hospitals and the clusters are now funded by capitation, it makes it your interest to actually keep these patients well managed out in the community and not revolving door COPD, where they're racking up bed stays and ICU stays and all that—that's going to pass your budget." At the patient level, subsidies are available through the Chronic Disease Management Programme, with additional support under the Community Health Assist Scheme, Pioneer Generation and Merdeka Generation schemes.[155] Coverage for COPD therapies has also expanded: triple therapy inhalers were added to the Standard Drug List in April 2025.[156] Biologic therapies are not currently subsidised.[157]

Funding for respiratory research has also increased. The Academic Respiratory Initiative for Pulmonary Health, led by Nanyang Technological University, has received SG$10m (US$8m) to advance patient-centred translational research, including a renewed focus on environmental factors; promoting patient centric care and patient empowerment; developing a lung patient network; and establishing a chronic lung disease registry.[157,158] One remaining gap is the need for more consistent national data on how new treatments are used, and how well they perform in real-world practice. Strengthening such data systems would enable payment approaches that link costs to outcomes and support more confident funding decisions from policymakers.

Calls to action for prioritising respiratory health for older adults in Singapore

Expand initiatives to enlist more healthcare providers in vaccination efforts.

Continue targeted reminders to older adults to raise influenza vaccination rates.

Leverage Healthier SG and existing programmes to share clear, trusted information about influenza vaccination options so older adults better understand the benefits.

Make lung function testing available in every primary care network clinic, so COPD can be diagnosed earlier and managed proactively, avoiding hospitalisations.

Strengthen existing data systems to track COPD and influenza management and outcomes among older adults, enabling evaluation of newer therapies and enhanced vaccines, to support evidence-based funding decisions.

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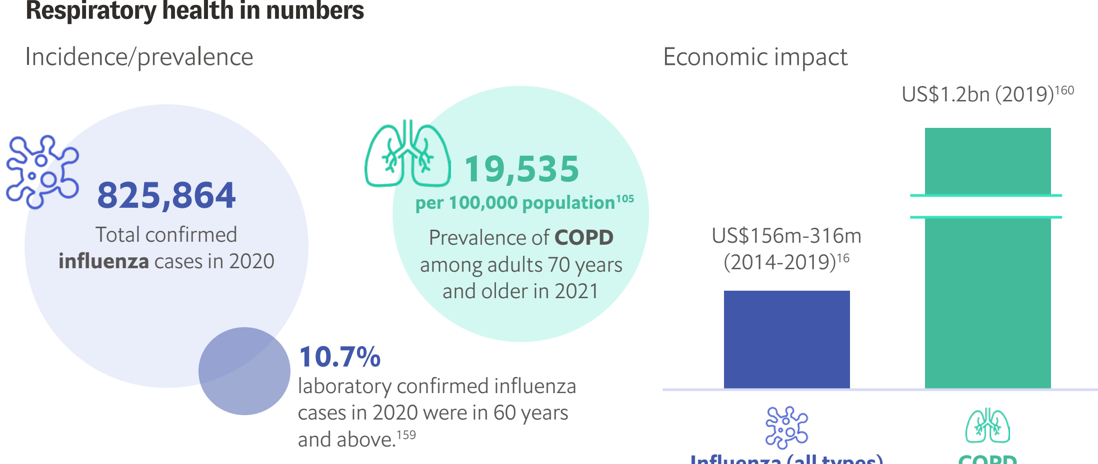
South Korea



Powering up prevention

South Korea has excellent influenza vaccination coverage. In 2023-2024 coverage was estimated at 83% for adults 65 years and above.[161] This success depends on the availability of free standard dose vaccines for older adults in the public sector and contracted private medical institutions; over 20,000 centres with free vaccination services; flexibility access regardless of residence; and frequent reminders through postcards, phone calls and social-media campaigns.[161]

Despite high vaccination coverage, vaccine effectiveness is suboptimal. Korean data from 2023-2024 showed that standard dose influenza vaccination had only 24% effectiveness against laboratory-confirmed influenza (statistically significant), with 14% effectiveness (not statistically significant) among adults aged 65 years and older.[162] Nearly two-thirds of influenza related deaths in Korea occur in adults 65 years and older highlighting gaps in vaccine efficacy.[163] The Korean Society of Infectious Diseases recommends several enhanced vaccines for older adults aged 65 and above, but these are yet to be covered under the National Immunisation Programme.[164] Professor Song notes that, "Enhanced vaccines have the potential to better address immune ageing and reduce severe outcomes in frail older adults. But their role remains limited without clearer policy positioning, reimbursement support and real-world effectiveness data in the Korean population." Understanding the relationship between influenza severity and vaccination status can help evaluate vaccine effectiveness and inform immunisation programme improvements. Strengthening the National Influenza Surveillance System to reliably link influenza cases with vaccination history will support such research.[165]

"It is critical to collect real-world evidence to demonstrate that influenza prevention can interrupt the pathway from acute infection to long-term functional decline and frailty to persuade policymakers to strengthen the vaccination programme."

Cheong Hee Jin, Professor, Division of Infectious Diseases, Department of Internal Medicine, Korea University Guro Hospital, South Korea

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Cheong Hee Jin, Professor, Division of Infectious Diseases, Department of Internal Medicine, Korea University Guro Hospital, South Korea agrees, saying "it is critical to collect real-world evidence to demonstrate that influenza prevention can interrupt the pathway from acute infection to long-term functional decline and frailty to persuade policymakers to strengthen the vaccination programme."

Preventive efforts in COPD lag behind influenza. In 2021, 15% of people aged over 15 were daily smokers—close to the OECD average. However, the smoking prevalence in men (26%) is higher than women (5%). E-cigarette use is also rising among adolescents.[166,167] Environmental factors remain a persistent and pressing challenge. Government efforts such as the Framework Act on Environmental Policy and the Special Act on Reduction and Management of Fine Dust have significantly reduced levels of PM2.5, an indicator of pollution level. But the levels still remain about three times higher than the WHO guidelines, representing a significant risk factor for COPD development.[168]

Delivering earlier diagnosis and integrated management

Over the past decade, COPD management in South Korea has improved. To strengthen COPD diagnosis in primary care, the Korean Academy of Tuberculosis and Respiratory Diseases (KATRD) has successfully advocated for spirometry screening at ages 56 and 66 years of age under the National Health Examination of Korea.[169,170] Professor Yoo describes that, "In Korea spirometry can only be done by technicians or doctors, but primary care clinics do not hire the technicians and physicians lack time. This is one of the biggest reasons why the detection rate of COPD remains low. Since January 1st 2026 spirometry screening is available in the national programme."

The South Korean COPD guidelines take a proactive approach, recommending and reimbursing the use of maintenance inhalers earlier in the disease course. "We based our COPD guideline on GOLD, but adapted it to how care actually works in Korea, focusing on specialist access, affordability and real-world practice. So our clinicians prefer it over the global document," describes Chin Kook Rhee, Professor, Seoul St. Mary's Hospital, College of Medicine, The Catholic University of Korea, South Korea. Data from 2023 showed that the overall rate of bronchodilator prescriptions rose steadily over a decade to 92% highlighting the impact of guidelines and reimbursement. However, prescription rates were 98% in tertiary centres compared to 72% in primary care clinics, demonstrating a gap.[171]

"In Korea spirometry can only be done by technicians or doctors, but primary care clinics do not hire the technicians and physicians lack time. This is one of the biggest reasons why the detection rate of COPD remains low. "

Kwang Ha Yoo, Professor, Department of Internal Medicine, Konkuk University Medical Center, Konkuk University School of Medicine, South Korea

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Professor Rhee notes that, "Reimbursement is the most important criteria for doctors to select a medication. Dual and triple inhalers are reimbursed by HIRA [the Health Insurance Review and Assessment service] based on symptoms and exacerbations rather than lung function, which facilitates more proactive use by physicians." Patients on triple inhalers still experience up to a 55% risk of having two or more moderate to severe COPD exacerbations a year.[172] Exacerbations of COPD are associated with deterioration in lung function, hospitalisation, increased socioeconomic burden, worsening quality of life and higher mortality.[173,174] About 20% of patients fail to regain their pre-exacerbation physical state even after eight weeks.[175] GOLD guidelines recommend biologics for a specific subset of patients who experience exacerbations while on triple inhalers since they reduce the risk of exacerbations and potentially improve lung function and quality of life.[64] However, biologics for management of these patients with more severe COPD are yet to be reimbursed in South Korea.

"Reimbursement is the most important criteria for doctors to select a medication."

Chin Kook Rhee, Professor, Seoul St. Mary's Hospital, College of Medicine, The Catholic University of Korea, South Korea

Promoting awareness and self management

Despite Korea's success in achieving high influenza vaccination coverage, there remain gaps in awareness among older adults. As Professor Song notes, "Older adults know that they need the influenza vaccine, but many don't understand why—they underestimate the risk of complications and functional decline. The most difficult groups to reach are socially isolated older adults, frail individuals in long-term care settings, and older adults with low health literacy."

Public awareness of COPD remains low. In 2015 the Korea National Health and Nutrition Examination Survey, using spirometry screening, estimated COPD prevalence at 13% among adults aged 40 and older—rising to 28% in those aged 65 and above. Among those identified with COPD, only 3% had received a prior diagnosis and just 2% were receiving treatment.[176] Another study among heavy smokers found that 1% or less were aware COPD is a respiratory disease.[169] Professor Rhee says efforts have been taken by KATRD to raise awareness around the disease, including an annual "lung day" ceremony and YouTube videos and leaflets on the harmful effects of smoking and COPD symptoms. The new spirometry screening programme for COPD could be a good platform for integrating with public education to improve awareness and uptake.[170]

In 2015 the Korea National Health and Nutrition Examination Survey, using spirometry screening, estimated COPD prevalence at 13% among adults aged 40 and older—rising to 28% in those aged 65 and above.[176]

Among those identified with COPD, only 3% had received a prior diagnosis and just 2% were receiving treatment.[176]

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Both the government and professional organisations are supporting efforts towards better self management of COPD. To improve inhaler use, KATRD is advocating reimbursement for inhaler education in primary care clinics.[169] However, as Professor Yoo notes, "It is very difficult for older patients to visit clinics frequently, so in my opinion we have to develop home-based education programmes." The hospital-to-home transitional care programme for COPD—including post-discharge care planning, personalised education, breathing exercises, telephone counselling, home visits and referral to social services—has improved disease awareness and frequency of inhaler use, while reducing depression and anxiety.[177] Patient-centred models can also be leveraged to facilitate home-based education programmes and integrated care for COPD with other chronic diseases.[178]

Aligning policy response and funding

South Korea's model of aligning policy responses and funding in smoking cessation is noteworthy. The government has raised tobacco taxes to above the suggested WHO minimum threshold which ring-fences revenues for cessation programmes.[179] Professor Rhee says, "Taxation from cigarettes is used for funding the smoking cessation programme and providing medications. There is even a smoking cessation camp." However, while cigarette sales dropped initially, they rebounded later due to inelastic demand.[180] Experts suggest that incremental increases in taxes aligned with inflation can better support smoking cessation efforts. Tobacco control efforts should also expand to include newer smoking products. Classifying e-cigarettes as tobacco and taxing to them is progress.[181]

The government has also made important investments in improving COPD management through policy interventions. Since 2014 HIRA has conducted annual quality assessments of COPD management across all insured medical institutions. The metrics studied include spirometry usage rate, regular visitation rate and prescription rate for COPD medications.[182] Since 2011 the Korean National Institute of Health has also funded the Korea COPD Subgroup Study, collecting longitudinal data from 956 patients enrolled across 45 hospitals to risks for disease progression and management strategies.[183]

For influenza management, the Korea Disease Control and Prevention Agency funds influenza research and maintains FluOn, a public influenza surveillance dashboard.[184] Professor Cheong emphasises that, "Robust, real-world data generated in the Korean setting will be essential for including enhanced vaccinations in the National Immunisation Programme. This includes simulating economic impact at the point of vaccine introduction, and comparative data stratified by frailty, functional status and level of independence. Such evidence would not only demonstrate the potential cost-effectiveness of enhanced vaccines, but also their ability to prevent functional decline, which matters for healthy ageing."

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Calls to action for prioritising respiratory health for older adults in South Korea

Increase awareness of the risk of complications and functional decline after influenza infection among older adults and the need for a robust vaccination programme.

Strengthen the influenza surveillance system—enabling reliable linkage between influenza cases, vaccination history, comorbidities and functional decline to evaluate the health effects and cost-effectiveness of different vaccination approaches for adults—to inform the national vaccination programme.

Use the national health examination at ages 56 and 66 as an intervention and education platform, combining COPD awareness, smoking cessation support, and timely specialist follow-up for abnormal spirometry results, while building primary care capacity for guideline-based COPD management.

Expand COPD self-management and inhaler training in both clinics and home settings, especially for older adults with mobility limitations, through existing transitional and home healthcare programmes.

Strengthen specialist management for COPD, especially among high-risk patients, through improving access to innovative therapies.

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