

From protection to prevention

The power of immunization
for people living with
non-communicable diseases



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This report was funded by the International Federation of Pharmaceutical Manufacturers & Associations (IFPMA). For more information about this report, see page 21.

Executive summary

Non-communicable diseases (NCDs) place a significant and growing burden on health systems and societies. Today, an estimated one in three people globally live with an NCD, placing enormous strain on health systems and reducing workforce productivity.^{1,2} NCDs cause three-quarters of deaths around the world and cost economies more than USD 2 trillion every year.^{3,4} The global financial impact of NCDs is projected to reach USD 47 trillion by 2030.⁵

The case for integrated NCD prevention and control has never been stronger. Amid growing fiscal constraints, aging populations, workforce shortages, and the long-term impact of COVID-19, investing in NCD prevention and control will deliver strong returns for societies and economies alike.⁵

Adult immunization: effective but underused. Adult immunization offers a cost-effective way to help protect people living with NCDs, particularly against common respiratory infections like COVID-19, seasonal influenza, pneumococcal disease, and respiratory syncytial virus (RSV).^{6,7} These infections can worsen chronic conditions, trigger complications, and lead to preventable hospitalizations and death.⁶⁻¹² Immunizing people living with NCDs against these diseases is a practical, evidence-based way to protect people and reduce health system strain both in the short term — during seasonal infection peaks — and over the longer term as populations age and NCDs rise.

This report outlines how policy- and decision-makers can ensure that all people living with NCDs receive the immunizations they need to live long and healthy lives.

From protection to prevention: a call to action. These four policy priorities are a path to protect lives, strengthen health systems, and help contain the rising costs of NCDs:

Enable innovation



Ensure immunization is at the core of essential NCD care by finding novel ways of embedding it into NCD care pathways. Include immunizations against respiratory infections in national strategies and essential health service packages related to universal health coverage (UHC). Support access to adult immunization programs through innovative outreach and delivery models.

Mobilize investment



Prioritize data-driven investment in adult immunization for people living with NCDs. Ensure efficient allocation of existing prevention budgets to expand access to immunizations that help prevent complications, avoid hospitalizations, limit productivity loss, and protect vulnerable populations — while strengthening overall health system efficiency and resilience.

Drive implementation



Build awareness of the importance of immunization among people living with NCDs by providing clear, trusted information. Prepare healthcare professionals to serve as immunization champions who will provide consistent and proactive messaging with every healthcare interaction. Ensure access to immunization for people living with NCDs.

Ensure accountability



Establish good governance of immunization programs to secure the availability, affordability, accessibility, and acceptability of immunizations for people living with NCDs. Embed indicators on immunization in national NCD frameworks to track progress of coverage for people living with NCDs. Capture a range of data using integrated immunization information systems to monitor, evaluate, analyze, and learn from program design and implementation. Facilitate data sharing across care settings, including between pharmacists and primary care providers, to support coordinated immunization delivery and follow-up.

Immunization: The most effective protection for people living with NCDs

With more people than ever living longer in ill health, NCD prevention and control are urgently needed. Aging populations, urbanization, sedentary lifestyles, poor nutrition, and exposure to toxins and pollutants are all driving up rates of these chronic conditions, and so generating huge societal and economic costs (*Appendix I*).^{7 13}



43 million people die each year due to NCDs.³



Nearly **42%** of people who die from NCDs are **younger than 70**.³



People with diabetes are **twice as likely** to die from flu as people with no underlying condition.¹⁴

If we, as public health advocates, are overlooking the need to prevent respiratory infections, then we are missing a huge opportunity to reduce morbidity and mortality among people living with NCDs.



Tonya Winders, Global Allergy & Airways Patient Platform

The consequences of someone living with an NCD developing pneumonia can be catastrophic: chronic conditions deteriorate, life expectancy falls, and a person's health may never fully recover.



Dr Julio A Ramirez, University of Louisville

Common respiratory infections can be extremely serious for people living with NCDs. These people are more likely to experience severe symptoms, hospitalization, or death from respiratory infections such as COVID-19, influenza, streptococcus pneumoniae (which causes pneumococcal disease), and RSV (*Appendix II*).^{12 15-19} Such infections can also trigger NCDs to become more severe.⁸⁻¹¹ Even if a person living with an NCD makes a full recovery, they may experience long-term, potentially irreversible after-effects.²⁰

Immunization can protect people living with NCDs from a host of serious health conditions. It can reduce the risk of someone living with NCDs experiencing severe infection-related symptoms and protect them from worsening NCD outcomes; it may even delay the onset of frailty as people age.^{9 12 21-25} The flu vaccine reduces the risk of stroke, cardiac events, and death from cardiovascular disease (CVD).^{26 27} There is also emerging evidence of an association between the flu vaccine and a reduced risk of developing dementia.^{28 29} To maximize protection against respiratory infections, immunizations should also be offered to informal carers, family members or loved ones, and other close contacts.^{30 31}



Immunizations for COVID-19, influenza, and pneumococcal disease have **cardioprotective** properties.^{27 32 33}



For people with CRDs, the COVID-19 vaccine can **reduce the risk of hospitalization** due to infection **by around 80%**.³⁴



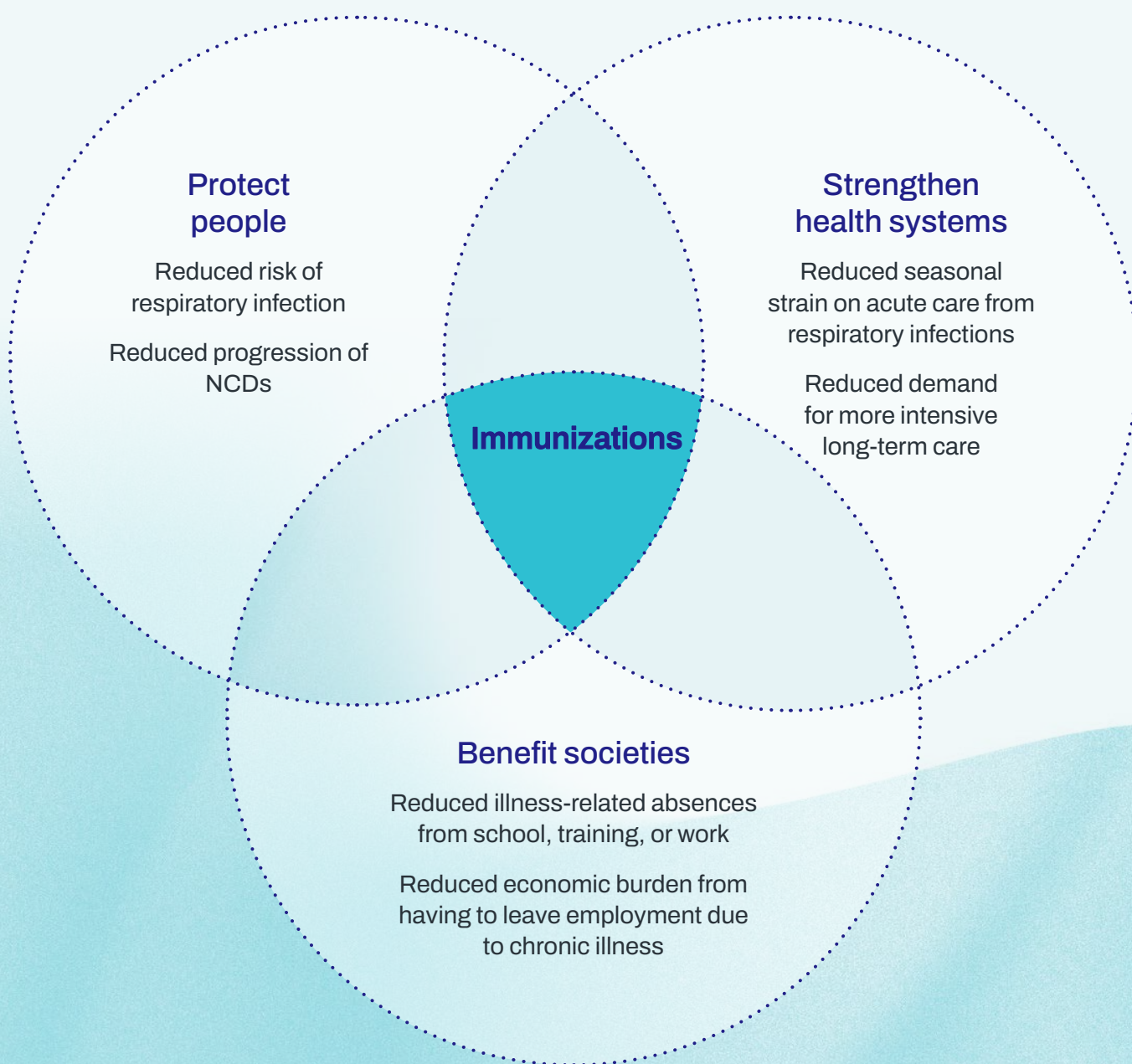
The flu vaccine may **reduce the risk of death** from stroke **by 50%** and from heart attack **by 45%**.^{27 35}



Adult immunization programs can yield a return of **up to 19x** their cost.⁷

Preventing respiratory infections among people living with NCDs also benefits health systems and the economy.

Adult immunization programs that include people living with NCDs are highly cost-effective;⁷ they reduce chronic disease progression and future healthcare needs, and support independence and productivity by enabling people to stay in education or employment.^{6 7 9 36}



Vaccination is a powerful tool to protect people living with chronic conditions and older adults, supporting people as they age.

Patrick Swain, International Longevity Centre – UK



Uptake of immunizations against respiratory infections among people living with NCDs is too low. The available data are often limited, but suggest significant gaps.



Only 46% of people living with CVD in Denmark took up the influenza vaccination (2017–2019).³⁷



Globally, COVID-19 vaccine acceptance in people living with cancer was **59%** (April 2021–May 2022).³⁸



COVID-19–related risk remains elevated for up to **5 years** after cancer diagnosis and treatment.³⁹

This report outlines how policy- and decision-makers can ensure that all people living with NCDs receive the immunizations they need to live long and healthy lives.

Closing the gap: Strengthening immunization programs for people living with NCDs

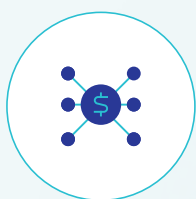
Despite the benefits of immunizations, systemic barriers prevent many people living with NCDs from receiving them. Some people may not be eligible for publicly funded immunizations, leading to inequalities in access. Where people living with NCDs are eligible, they may not take up immunizations if they are not aware of the benefits they can bring or are not able to access them conveniently. Furthermore, a lack of monitoring means policy- and decision-makers may not understand how to improve immunization programs for people living with NCDs.

Delivering immunization programs that reach all people living with NCDs requires policy action across four domains. These domains (Figure 1) were identified in IFPMA's 2025 call to action, *From innovation to access: Pharmaceutical industry priorities ahead of the 4th UN High-Level Meeting on NCDs and Mental Health*.¹

Figure 1. The four policy domains of IFPMA's call to action



Enable
innovation



Mobilize
investment



Drive
implementation



Ensure
accountability

Under-resourced and underprioritized: Why immunization programs are not reaching people with NCDs



Most EU countries spend **less than 0.5%** of their health budgets on immunization.⁴⁰

In some countries, people living with NCDs are not eligible for immunization, leaving them susceptible to infection and potential worsening health. While some countries identify people living with NCDs as a priority group, others define eligibility by age group.⁴¹⁻⁴³ Age-based approaches mean that, despite their higher risk, younger adults living with NCDs may miss out on immunizations. A comprehensive approach is therefore critical to ensure both age- and risk-based programs are in place. Moreover, changes in eligibility criteria are not always well communicated to effected groups, resulting in missed opportunities for immunization.^{31 44}

Gaps in funding create inequalities in access to immunization.

The presence of a funding mechanism for immunizations is an important consideration supporting, or hindering, immunization uptake around the world.⁴⁵⁻⁴⁷ This financing can vary both between and within countries, but budgets for prevention in general — and immunization specifically — are often inadequate. Where immunizations are covered by public health insurance, underserved groups — including migrants and unhoused people — may still face barriers to access.^{46 48 49}

Today, we have more people over the age of 65 than below the age of 5, yet immunization recommendations and programs remain focused on children and not on adults.



Dr Jean-Pierre Michel, Geneva University Medical School

There is a perception that immunization is just for children, and to a lesser extent older adults, which leaves us with a huge gap of people in between who are given the least prioritization, many of whom are at higher risk.

Arunima Himawan, International Longevity Centre – UK



More than 1/4 of people living with diabetes are hesitant to receive a COVID-19 vaccine.^{50 51}

People living with NCDs may not be aware of the impact a respiratory infection could have on their health. The potential risks of infectious disease and the benefits of immunization are often not recognized among people living with NCDs.^{20 48 52-54} Furthermore, some people are hesitant to be immunized due to concerns about interactions with their ongoing treatments or fears of side effects — particularly if they have previously experienced an adverse reaction following an immunization.^{38 48 55} Additionally, misinformation and disinformation campaigns, which accelerated during the COVID-19 pandemic, have eroded trust in immunization.^{30 31 56}

Immunization may not be discussed or recommended during routine medical appointments. Failure to recommend immunization is a significant barrier to uptake among people living with NCDs.^{20 31 57} One reason for this may be that immunization is most often seen as the responsibility of primary care, while people living with NCDs may have more interactions with secondary care specialists due to their chronic conditions.⁵⁸ Another reason may be a lack of focus during medical training on immunization as an intervention to protect people living with NCDs from deteriorating health.^{20 47 59}

A lack of convenient access to immunization is a major consideration for people living with NCDs. It is important that people living with NCDs are offered convenient locations and appointment times for immunization.^{31 46 48} When appointments are only offered during working hours on weekdays, or when a separate appointment must be booked to pick up the prescribed inoculation ahead of the actual immunization, a significant proportion of people living with NCDs may find the process impractical, if not impossible.⁴⁸

The barriers to sharing data between different healthcare providers can limit uptake. If healthcare professionals cannot easily share access to health records, their ability to organize delivery in multiple settings is severely impaired.³¹ For example, barriers to data sharing limit a pharmacist's ability to know whether a patient is eligible for an immunization, and to report back to the primary care doctor once the immunization has been administered.^{44 60}

Inconsistent monitoring of uptake among people living with NCDs hampers every stage of immunization planning. National-level data on immunization uptake among adults are often unavailable or incomplete.⁶⁰ Immunization information systems (IISs) often either do not include adults or, if they do, do not make reporting mandatory, leading to gaps in data collection.⁶⁰ Where data on adult immunizations are collected through a national IIS, such as in Australia, these data are usually not linked to information on existing medical conditions.⁶¹ This makes it extremely challenging for policymakers and health system planners to improve uptake of immunizations among people living with NCDs.

Together, these barriers — from policy design and financing to provider engagement, convenience, and data systems — illustrate why immunization programs remain under-resourced and underprioritized for people living with NCDs.

Making immunization programs fit for purpose: A blueprint for action

Action across the health sector and wider society can help harness the power of immunization to protect people living with NCDs. Policy- and decision-makers must:



Enable innovation

Ensure immunization is at the core of essential NCD care by finding novel ways of embedding it into NCD care pathways. Immunizations must be integrated into standard NCD management practices. Integrating them into the care pathway would ensure healthcare professionals at different points of care understand their role in promoting and delivering immunizations to people living with

Background support, like automated reminders enabled by electronic medical records, can be a great tool for people living with NCDs and their healthcare teams to know when they are due for immunizations.



Dr Gilberto Lopes, Sylvester Comprehensive Cancer Center at the University of Miami and Union for International Cancer Control

NCDs, as well as their loved ones and carers.³¹ International and national guidance should also highlight immunization as a key strategy for NCD control.

Include immunizations against respiratory infections in national strategies and essential health service packages related to UHC. Immunizations against respiratory infections including COVID-19, influenza, pneumococcal disease, and RSV should be included in national NCD strategies and, where affordable, in the essential health service packages that underpin national efforts to secure UHC.⁶² This would demonstrate the importance of immunization for people living with NCDs, ensure funding is available to support delivery through public health, and maximize uptake by removing financial barriers for people wishing to be immunized.⁷

Support access to adult vaccination programs through innovative outreach and delivery models. Innovative approaches to improving uptake of immunization among people living with NCDs, including email and SMS reminders, are powerful tools to drive uptake.^{63 64} Uptake can also be improved where pharmacists, nurses, and other healthcare professionals are able to deliver immunizations.^{40 65} Offering immunizations in settings close to where people with NCDs live and work — including pharmacies, places of worship, supermarkets, and community centers — is also proven to improve immunization uptake.^{31 44 66}



Email reminders can increase vaccination rates by **nearly 25%**.⁶³



Mobilize investment

Prioritize data-driven investment in adult immunization for people living with NCDs. A range of data can inform investment in the design and implementation of immunization programs. These data can allow public health officials to understand the needs, gaps, and benefits of immunization to inform all stages of programming and planning, so that programs can be appropriately funded and adapted to ensure optimal immunization uptake and return on investment.^{67 68} Accurate data also support accurate vaccine forecasting, budgeting, and procurement.⁶⁹



NCD prevention and control could yield a **7x return** on investment for low- and middle-income countries.⁵

Ensure efficient allocation of existing prevention budgets that reflect the broad economic benefits of immunizing people living with NCDs. Immunization of people living with NCDs is cost-effective as it prevents complications and avoidable hospitalizations, limits economic losses, and supports more resilient and sustainable health systems.^{6 7 9 36 40 70} To achieve these benefits, funding must be earmarked and available to expand programs and deliver immunizations to people living with NCDs, addressing any barriers to access.⁷ Existing prevention budgets should be examined, and funding reallocated as necessary, to ensure sufficient resources are available.⁶⁹

Healthcare professionals are the most trusted source of information for people living with NCDs. They have a powerful voice to promote immunization — they must use it.

”

Siân Williams, International Primary Care Respiratory Group



Drive implementation

Build awareness of the importance of immunization among people living with NCDs by providing clear, trusted information.

Awareness is a cornerstone of achieving adequate uptake of immunization, and primary care practitioners play a vital role in this awareness by communicating with their patients.^{20 44 57}

Educating people on how to identify misinformation can reduce their susceptibility to manipulation when exposed to false or misleading statements about immunizations, and consequently may improve vaccine confidence.⁷¹ Patient advocacy organizations can help people living with NCDs to be more aware of the importance of immunizations and more likely to seek them from their healthcare providers.^{31 47 66}

Prepare healthcare professionals to serve as immunization champions who will provide consistent and proactive messaging with every healthcare interaction.

The recommendation of a healthcare professional is one of the most important drivers for people living with NCDs choosing to be immunized against respiratory infections.^{46 55 57} But practitioners require training and resources to support them in discussing the latest evidence-based immunization recommendations with their patients, including possible concerns around side effects. Immunization should also be included as a standard component of NCD care in medical, nursing, and pharmacy training curricula.

Ensure access to immunization for people living with NCDs.

It is important to find out which groups face barriers to accessing immunization, and why, while planning and monitoring initiatives to improve uptake.⁷² Such initiatives may include: working in partnership with community leaders to address barriers that prevent migrants from freely accessing immunizations;⁷³ ensuring that people in urban and rural areas have equal access to immunization;⁷² and considering linguistic and cultural factors.^{31 44}



Ensure accountability

Establish good governance of immunization programs to secure the availability, affordability, accessibility, and acceptability of immunizations for people living with NCDs. Immunization programs should be designed to meet the needs of the people they aim to serve and eliminate barriers to uptake, while having clear targets and performance indicators that are closely monitored to support progress. Strong governance and oversight — for example, including patient advocates in national decision-making committees — can help ensure accountability in meeting these goals.

Embed indicators on immunization in national NCD frameworks to track progress of coverage for people living with NCDs. Given the role of immunization as a key NCD control measure, NCD strategies and frameworks should emphasize its role and ensure that systems are in place to monitor progress. The United Nations (UN) high-level meeting on NCDs in September 2025 is an opportunity for governments to identify and commit to key immunization indicators and targets.⁷⁴

Capture a range of data using integrated IISs to monitor, evaluate, analyze, and learn from program design and implementation. Immunization data — which include information specific to people living with NCDs — can allow public health officials and researchers to monitor, evaluate, and analyze immunization programs in real time, to inform all stages of immunization programming and planning, so that these programs can be adapted for optimal immunization uptake.^{67 68}

Facilitate data sharing across care settings, including between pharmacists and primary care providers, to support coordinated immunization delivery and follow-up. Robust digital health systems can facilitate the sharing of immunization data between healthcare professionals involved in someone's care, ensuring continuity and reducing the risk of people living with NCDs missing out on necessary immunizations.^{31 44}

Realizing the value of immunizations through evidence-based policies

Urgent action is needed to ensure the role of immunization as a central pillar of NCD control is realized. Immunization is crucial and cost-effective for preventing respiratory illness and NCD progression, maintaining quality of life, reducing healthcare costs, and avoiding lost productivity. As stakeholders prepare for the fourth UN high-level meeting on NCDs in September 2025, governments have a timely opportunity to advance commitments to prevention. Recognizing the central role that immunization can play in NCD control — and as a means of delivering on Sustainable Development Goal 3.4 and UHC — will strengthen both national and global responses to chronic disease. This report highlights four policy domains for action (*Table 1*); progress across these areas can support healthier populations, more resilient health systems, and stronger economic outcomes.

Living with an NCD is a burden. You don't get days off. If we have the chance to do something that will prevent things getting more difficult, most will choose it — but we need to know about it.

”

Dr Konstantina Boumaki, Global Heart Hub

Table 1. Policy recommendations

Enable innovation



- Ensure immunization is at the core of essential NCD care by finding novel ways of embedding it into NCD care pathways.
- Include immunizations against respiratory infections in national strategies and essential health service packages related to UHC.
- Support access to adult immunization programs through innovative outreach and delivery models.

Mobilize investment



- Prioritize data-driven investment in adult immunization for people living with NCDs.
- Ensure efficient allocation of existing prevention budgets to expand access to immunizations that help prevent complications, avoid hospitalizations, limit productivity loss, and protect vulnerable populations — while strengthening overall health system efficiency and resilience.

Drive implementation



- Build awareness of the importance of immunization among people living with NCDs by providing clear, trusted information.
- Prepare healthcare professionals to serve as immunization champions who will provide consistent and proactive messaging with every healthcare interaction.
- Ensure access to immunization for people living with NCDs.

Ensure accountability



- Establish good governance of immunization programs to secure the availability, affordability, accessibility, and acceptability of immunizations for people living with NCDs.
- Embed indicators on immunization in national NCD frameworks to track progress of coverage for people living with NCDs.
- Capture a range of data using integrated immunization information systems to monitor, evaluate, analyze, and learn from program design and implementation.
- Facilitate data sharing across care settings, including between pharmacists and primary care providers, to support coordinated immunization delivery and follow-up.

Appendix I. Fast facts on four major types of NCDs

Condition	International burden of disease	Economic impact
Cancer⁷⁵⁻⁷⁷ A group of diseases in which abnormal cells grow rapidly beyond their usual boundaries, cancer can affect any part of the body. Cancerous cells can spread to other organs in a process called metastasis, which is the primary cause of cancer-related deaths.	More than 19 million new cases per year (2022)	Projected to cost the global economy USD 25.2 trillion between 2020 and 2050
Cardiovascular disease (CVD)⁷⁸⁻⁸¹ A group of disorders of the heart and circulatory system, including coronary heart disease and cerebrovascular disease. They can cause potentially fatal heart attacks and strokes.	More than 612 million people living with CVDs (2021)	In the US, annual costs are projected to rise from USD 627 billion to USD 1.9 trillion from 2020 to 2050 In 2021, annual costs were EUR 282 billion in the European Union
Chronic respiratory disease (CRD)⁸²⁻⁸⁴ A group of disorders of the airways and other structures of the lungs, including chronic obstructive pulmonary disease (COPD) and asthma.	More than 450 million people living with CRDs (2019)	COPD alone is projected to cost the global economy USD 4.3 trillion between 2020 and 2050
Diabetes^{85 86} A chronic disease in which the body cannot produce or effectively use insulin. Uncontrolled diabetes can severely damage the body and may result in blindness, kidney failure, heart attack, stroke, or lower limb amputation.	More than 800 million people living with diabetes (2022)	Projected to cost the global economy as much as USD 2.5 trillion between 2015 and 2030

Appendix II. Fast facts on four major respiratory infections

Infection	Epidemiology
COVID-19^{87 88} Caused by the SARS-CoV-2 virus, the most common symptoms are fever, chills, and a sore throat. COVID-19 can also lead to severe consequences such as pneumonia and difficulties with breathing in the short term. Some people may experience longer-term consequences known as post-COVID-19 syndrome, or long Covid.	Since 2019, more than 777 million cases have been reported to the World Health Organization, including more than 7 million deaths
Seasonal influenza⁸⁹ An acute respiratory infection caused by a group of influenza viruses; symptoms include fever, cough, sore throat, body aches, and fatigue.	1 billion cases every year, including up to 5 million severe cases and 650,000 deaths
Streptococcus pneumoniae (<i>S. pneumoniae</i>)⁹⁰⁻⁸² Leads to pneumococcal disease, which can cause pneumonia, meningitis, or febrile bacteremia when severe; less serious cases can result in bronchitis, sinusitis, or otitis media. All illnesses caused by infection with <i>S. pneumoniae</i> are broadly called pneumococcal disease.	Nearly 100 million cases a year, including over 500,000 deaths
Respiratory syncytial virus (RSV)^{93 94} A common infection that causes mild cough and colds among healthy people but can result in serious conditions, including severe pneumonia or bronchiolitis.	Surveillance is incomplete but, in the US alone, RSV may be responsible for 150,000 hospitalizations and 10,000 deaths per year. A 2015 review of people aged 65 and older in developed countries identified approximately 1.5 million cases

About this report

This report was written by Catherine H Whicher and Jody Tate at The Health Policy Partnership. This policy report is accompanied by four summary infographics that present these findings as they relate to people living with cancer, CVD, CRD, and diabetes, respectively. All outputs were published in June 2025.

Acknowledgements

We would like to express our gratitude to the following experts, who contributed their time and insights to the development of this report:

- Dr Konstantina Boumaki, Global Heart Hub
- Arunima Himawan, International Longevity Centre – UK
- Dr Gilberto Lopes, Sylvester Comprehensive Cancer Center at the University of Miami and Union for International Cancer Control
- Dr Jean-Pierre Michel, Geneva University Medical School
- Dr Julio A Ramirez, University of Louisville
- Patrick Swain, International Longevity Centre – UK
- Siân Williams, International Primary Care Respiratory Group
- Tonya Winders, Global Allergy & Airways Patient Platform

Funding

This report was initiated and funded by the International Federation of Pharmaceutical Manufacturers and Associations (IFPMA). The Health Policy Partnership (HPP) led the research and drafting of the document with insights from the expert contributors. Other than HPP, none of the contributors to the report were remunerated for their time. IFPMA provided comments on iterative drafts of the report.

Please cite as: Whicher CH, Tate J. 2025. *From protection to prevention: The power of respiratory immunization for people living with non-communicable diseases*. Geneva: International Federation of Pharmaceutical Manufacturers and Associations

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The Health Policy Partnership

About HPP

HPP is a specialist health consultancy that unites clients and stakeholders in a mission to shape the healthcare environment. Our approach is built on a foundation of meticulous research, excellence in consensus-building, and long-standing expertise in driving health system change.