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# Life Course Immunisation

Cost-effectiveness of immunisation at the  
global level.

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What happens next

# About ILC-UK

ILC is the UK's specialist think tank on the impact of longevity on society, and what happens next. We have over 20 years of experience working at the forefront of health policy and systems research and our networks and influencing ability on changing global health agendas is unparalleled.

We're a member of the ILC Global Alliance, an international consortium with 16 member organisations around the world. The ILC Global Alliance's mission is to help societies address longevity and population ageing in positive and productive ways. Each Centre works autonomously and collaboratively to understand how demographic change affects us all.

Over the past three years, ILC-UK has engaged with governments and organisations around the world on the need to invest more in preventative health, as we all lead longer, but not necessarily healthier lives. We know prevention works, but action and investment still lags behind what's needed.

# What we've done so far

## We've engaged policy makers and experts at the G7 ...

ILC-UK hosted an [event](#) in Niigata alongside the meeting of the G7 Finance Ministers and Central Bank Governors.

## ... at the World Health Assembly ...

As a member of the Immunisation for All Ages (IFAA) Coalition, ILC-UK held a high-level [roundtable discussion](#) in Geneva alongside the 2023 World Health Assembly.

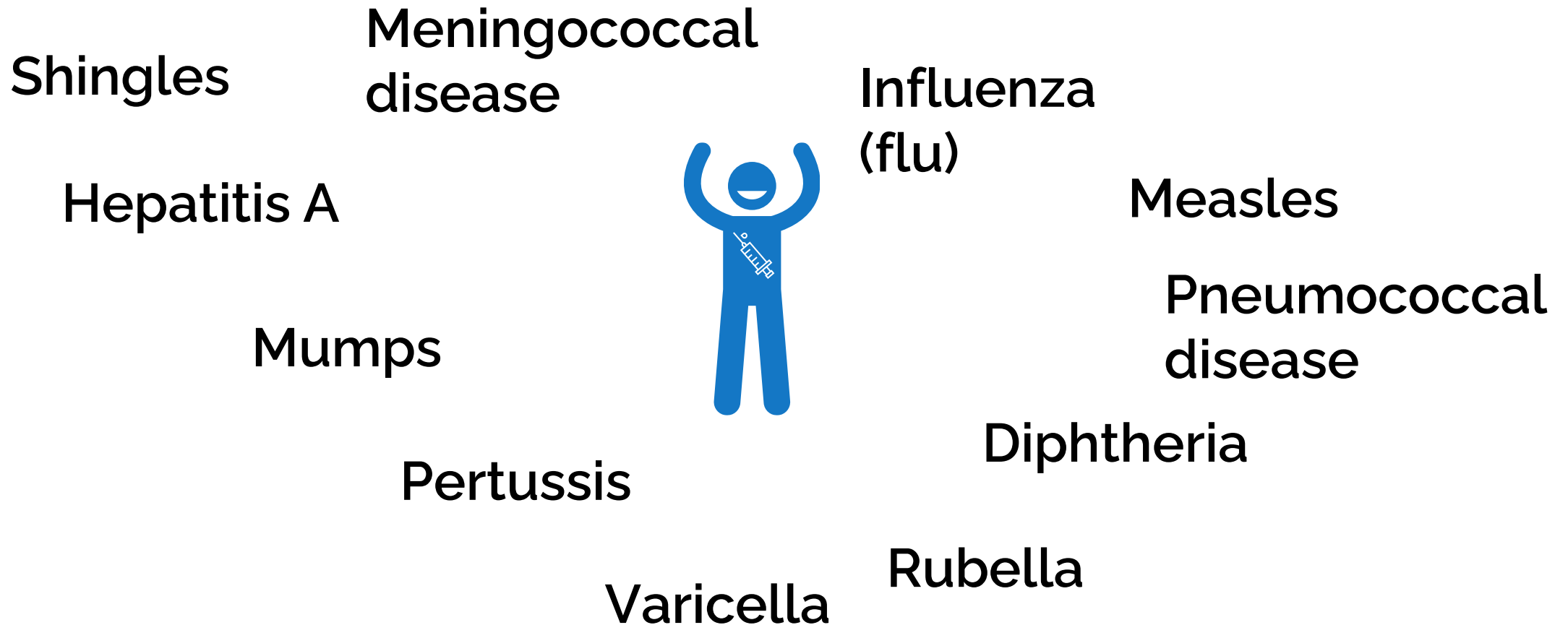
## ... and at the G20.

ILC-UK hosted an [event](#) in Gandhinagar alongside the meeting of the G20 Health Ministers.

# Immunisation is safe and effective

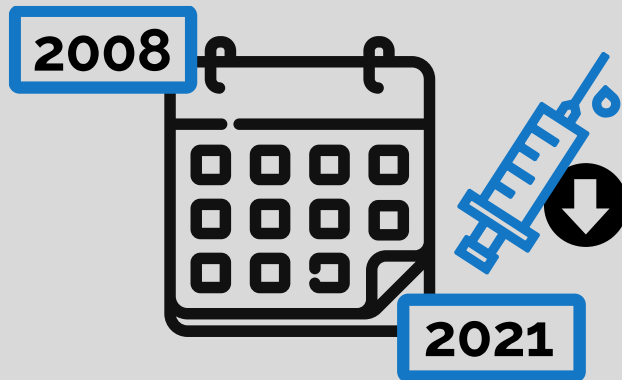
- Beyond access to clean water and sanitation, immunisation is the most effective way to prevent over 20 life-changing diseases.
- Vaccination programmes are already widely used across different countries and healthcare systems to prevent serious illness.
- However, **adult immunisation is underused as a preventative measure**. Vaccination for adults lacks the investment and sustained advocacy needed to ensure it remains a priority for health leaders and services.

# Vaccine-preventable diseases include....



Recommendations and vaccination schedules can vary from one country and individual to another, according to childhood vaccinations and previous infections such as varicella (chicken pox).

# We're not where we should be



In **2021**, first-dose measles coverage was at its lowest level since **2008**



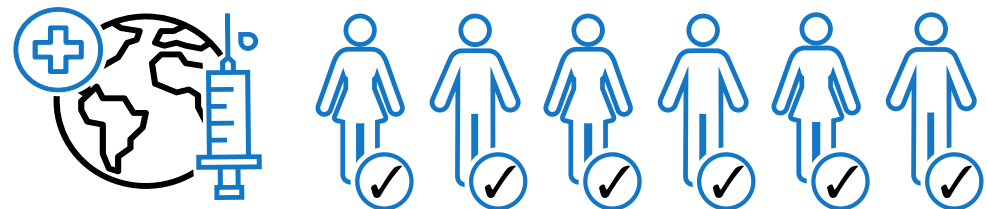
Globally, only **81%** and **71%** of children have received their first and second measles doses respectively in 2022

There was a 73% drop in measles infections between 2000-2018 worldwide. Measles is extremely contagious, so high levels of vaccination coverage and effective monitoring are vital.

# And vaccination isn't just for children – we all need immunisation across our life course

- By 2050, the global population of people aged 60 and over is expected to reach 2.1 billion. This means we must prepare to meet the healthcare needs of more people for longer.
- We know that older people access healthcare more frequently and require more of its resource. Some healthcare systems already invest up to 50% of their resources in people over 60 [UK, NHS].
- The “longevity dividend” of life course vaccination programmes could be enormous.

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# Adult vaccination in particular is lagging

This disparity may exist for a variety of reasons. One of these could be that we expect, and aim for, lower take-up rates amongst adults:

95%

Childhood

75%

Adult

World Health Organisation vaccination uptake targets


















# Routine adult vaccines are underused...

- Approximately **100 million fewer doses** of some adult vaccines (excluding Covid-19 vaccines) were administered in 2021 and 2022 than anticipated.
- Seasonal influenza is responsible each year for up to **50 million symptomatic cases** in the EU and EEA, leading to up to 70,000 deaths.

...despite the benefits they can bring.

# This is particularly true in the G20

Nation	% COVID-19 vaccine uptake First dose / full initial course	
	91.1	76.7
	84.9	82.7
	88.1	81.8
	90.4	82.6
	91.9	89.5
	80.6	78.4
	77.8	76.2
	72.5	67.1
	73.9	63.5
	86.2	81.2

	84.4	83.4
	76.2	64.1
	61.3	55
	74.3	69.9
	40.4	35.1
	86.4	85.6
	67.9	62.3
	79.7	75.2
	81.4	69.5
 *	86.9	85.7

\*Spain is this year's President of the Council of the European Union.

# Every country needs to invest in and implement national life course immunisation plans

The World Health Organisation's Immunisation Agenda 2030 sets out its strategy for expanding existing vaccinations programmes around the world, with a particular focus on adult vaccination.

Now it's up to governments to follow this agenda.



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# Vaccine-preventable diseases affect every aspect of our economy

## When individuals contract COVID-19:

- temporarily absent from employment;
- money not spent on transport or activities outside the home;
- sick pay may be less than they would have earned had they worked as normal.



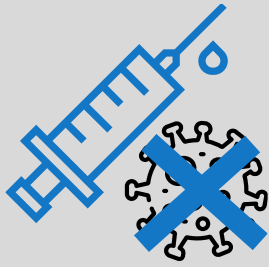
## COVID-19 pandemic:

- total shutdown of global economy, costing **\$12.5 trillion** in first two years;
- millions of deaths and major disruption.

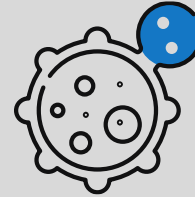


And everything in between.

# Immunisation's value extends far beyond the health system



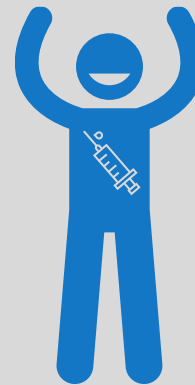
**1. Reducing healthcare costs in the short term** by reducing the incidence or severity of vaccine-preventable diseases.



**2. Reducing healthcare costs down the line** by reducing the severity of secondary conditions.



**3. Keeping people productive, active and engaged** means fewer working days missed; reduced sick pay payments; continued spending, volunteering and caring.



**4. Supporting the wider economy** through greater workforce retention; fewer pressures on healthcare systems and funding; individuals may draw on their pensions later; more activity overall if fewer people are unwell.

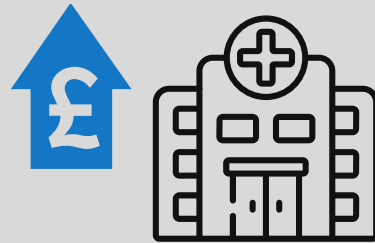
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**Individuals who remain well can work, care, volunteer and spend as normal.**

# 1. Reducing healthcare costs in the short term



The cost of each adult hospitalisation due to serious pneumococcal disease was calculated to be **£3,904** (\$4,868) in England in 2019

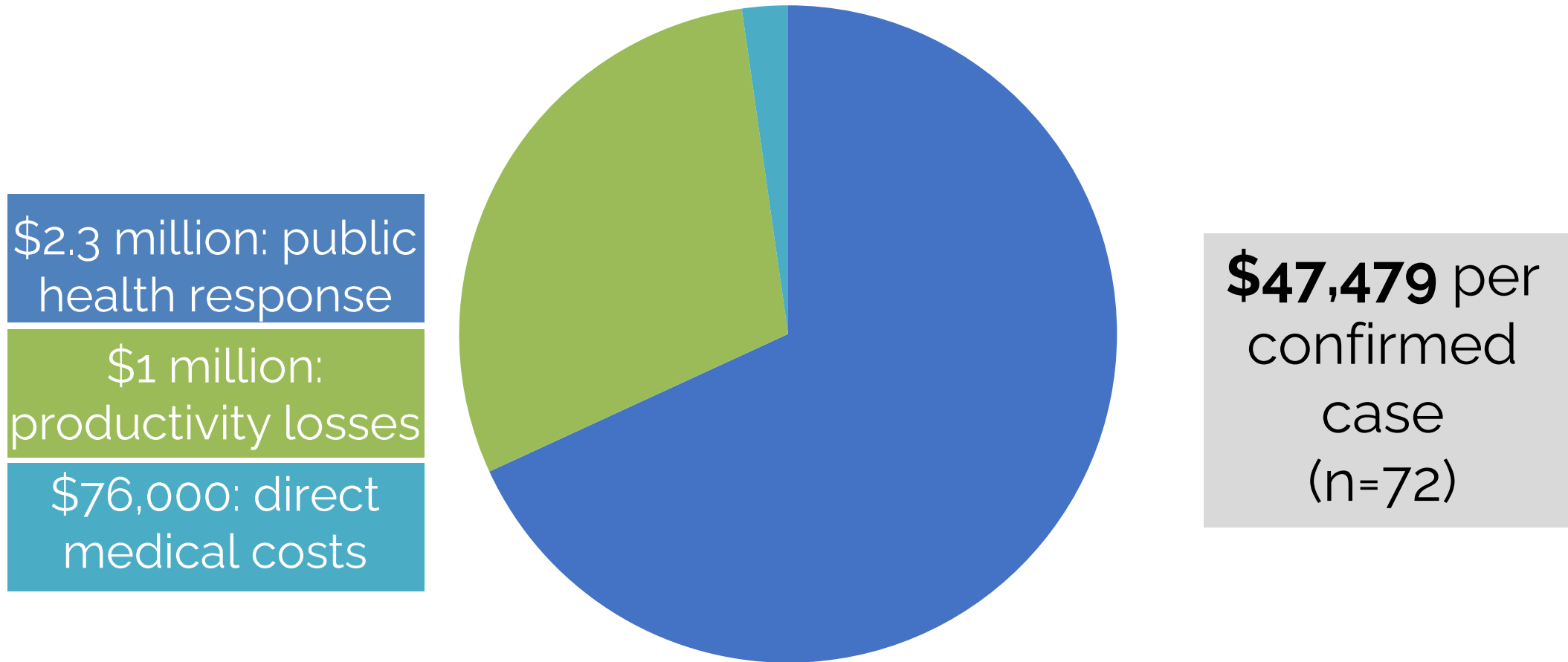


This generated an approximate total cost of **£731 million** (\$911 million) to England's health system in 2019



Spanish healthcare systems spent **€134.1 million** in 2015 on treating four vaccine-preventable diseases in people aged 45+

# Healthcare costs are only a drop in the ocean when we look at the whole picture



Estimated overall cost of a measles outbreak in 2018 in Washington DC, USA:

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**\$3.4 million**

Source: Pike et al, 2021

## 2. Reducing long-term costs of healthcare for secondary conditions

- People who've had flu or pneumonia may be **six times** more likely to suffer from a heart attack or stroke in the days after infection [Warren-Gash et al, 2018]
- Since reports of measles reached near zero in the US in 2000, incidents of subacute sclerosing panencephalitis (SSPE, a brain disorder) are very rarely reported in the region.
- Around **65 million** people worldwide are estimated to be suffering from Long COVID [Davis et al, 2023]
- Researchers have found a correlation between uptake of one dose of the flu vaccine and risk of Alzheimer's. Those who have received a flu vaccine dose could be **40% less likely** to develop Alzheimer's disease [Bukhbinder et al, 2022]



# 3. Keeping people productive, active and engaged

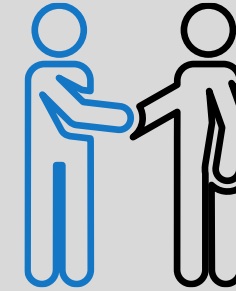
In 2022, flu was estimated to cost the US economy **\$11.2 billion.**



**\$3.2 billion**  
in direct medical costs



**\$8 billion**  
in absence from paid employment



**\$?** in unpaid care, volunteering and changes in spending

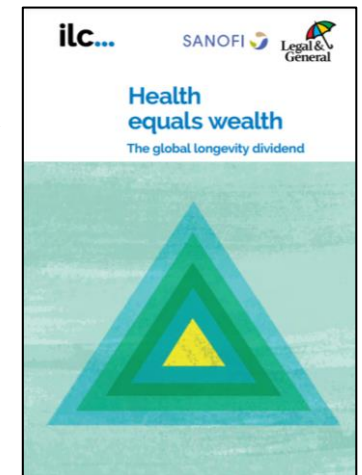
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Flu cost around **159 million working days** in 2018 for workers aged 50-64 alone [ILC, 2019]

# Health equals wealth

- In countries that spend more on health, older people work, volunteer, care and spend more.
- People who report being in good rather than poor health are over **four times more likely to be in work** between the ages of 50 and 65, and over 10 times more likely between 65 and 74.
- Increasing preventative health spend by just 0.1 percentage points can unlock a **9% increase** in annual spending by people aged 60+ and an additional 10 hours of volunteering.

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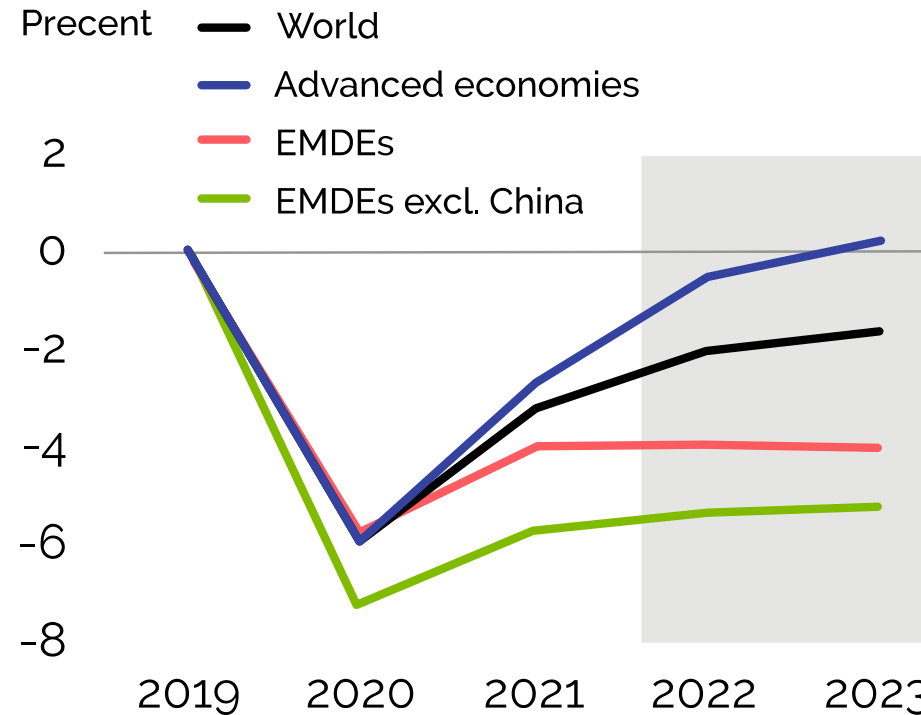
## 4. Supporting the wider economy

Every €1 invested in  
vaccination  
=  
>€4.02 future revenue

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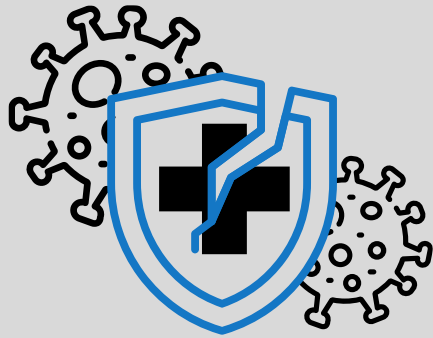


# Following the economic shock and disruption of COVID-19, we need to change course



This graph illustrates how our economic growth deviates from pre-pandemic estimations; Emerging Market and Developing Economies will struggle most to recover.

# And the consequences will reach far into the future



Not enough has been done to address **inequalities** in access to healthcare, both within and between countries



Global economic losses reached **\$12.5 trillion** between 2020-21; these are projected to rise to \$28 trillion by 2025



We need to act on COVID's crucial lessons about the need to **trust** vaccination, governments and health systems

# It's difficult to assess cost effectiveness...

A 2016 systematic review of cost-benefit analyses within the EU found **7 of 8 studies** identified at least one cost-effective scenario of seasonal flu vaccine programmes.

Each study used different data sets and measures of cost-effectiveness.

Methods of measuring cost-effectiveness often fail to take into account the full scope of consequences that are more difficult to measure, beyond healthcare spending and sick pay.

Source: [Shields et al 2016](#)



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...but we shouldn't underestimate  
the value of immunisation

# Investing in life course immunisation will generate substantial returns

This ILC-UK project is a call to action to governments and health leaders to prioritise life course immunisation programmes.

They're not just a "nice to have" – they're an important investment in our ageing populations and overstretched health services.

Focusing on the whole-life impacts of ill health, as well as its economic consequences, is key to understanding the full value of prevention through immunisation.

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**And it's the right thing to do**

# What next?

- We will engage **G20 health ministers** on life course immunisation at an ILC-UK event in **Gandhinagar**, India in August 2023
- We will undertake **original analysis** to further understand the opportunities for cost-effective life course immunisation programmes in an ageing world
- We will use our original analysis produce **actionable and positive steps** that health leaders can take towards comprehensive life course immunisation programmes
- We will consolidate our analysis and recommendations in a **publication** that we will launch in Spring 2024





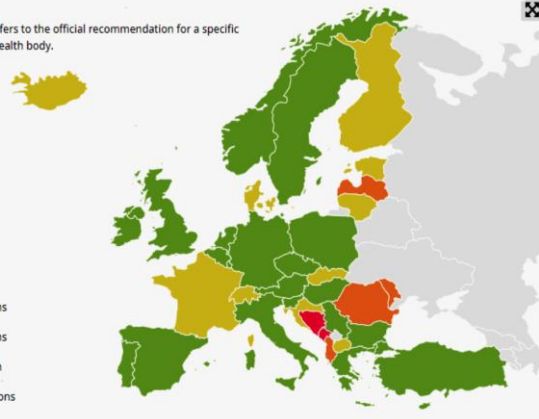
# More ILC-UK resources on adult immunisation

EXPLORE THE ATLAS

Hover and click over a country to find out more about their pneumococcal vaccination recommendations and coverage rates across the life course.

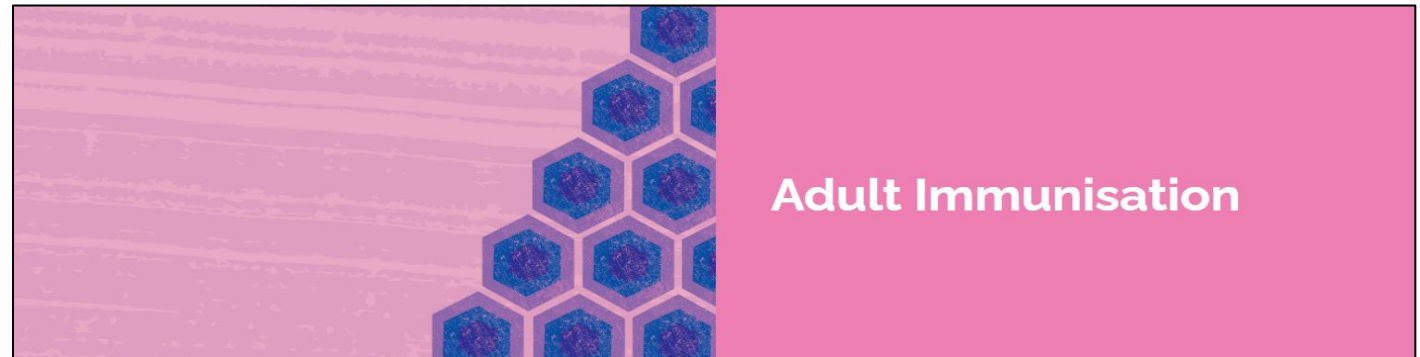
Recommendations Coverage Reimbursement

Recommendations refers to the official recommendation for a specific group by a national health body.



Select to view country profiles:

Albania	Czechia	Greece	Lithuania	North Macedonia	Slovenia
Austria	Denmark	Hungary	Luxembourg	Norway	Spain
Belgium	Estonia	Iceland	Malta	Poland	Sweden
Bosnia and Herzegovina	Finland	Ireland	Moldova	Portugal	Switzerland
Bulgaria	France	Italy	Montenegro	Romania	Türkiye
Croatia	Germany	Latvia	Netherlands	Serbia	United Kingdom
Cyprus		Liechtenstein		Slovakia	



# Previous ILC-UK reports on immunisation

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## Under the skin

Listening to the voices of older people on influenza immunisation

● ● ●

- Technology
- Health and care
- Carers Community
- Life expectancy
- Immunisation
- Culture and society
- Connections
- Inequalities
- Retirement
- Social care

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## Safeguarding healthy ageing

Potential solutions to improve immunisation coverage rates among older adults in the UK

Summary report

● ● ●

- Health and care
- Carers
- Connections
- Culture and society
- Immunisation
- Inequalities
- Life expectancy
- Retirement

MSD has initiated and fully funded this activity. MSD had editorial input and final approval of content. This report is intended for healthcare professionals and health policy makers.

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International Longevity Centre  
A Euro-Praxis member ILEE Pfizer

## Healthier for longer

Improving adult immunisation uptake in Singapore

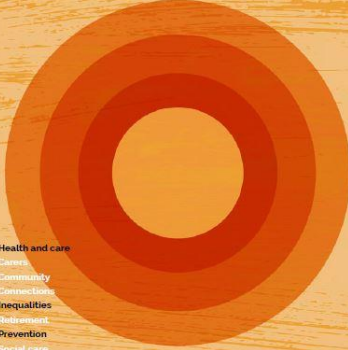
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- Health and care
- Immunisation
- Community
- Life expectancy
- Prevention
- Culture and society
- Connections
- Inequalities
- International

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## Lost time

Productivity and the flu



- Health and care
- Carers
- Community
- Connections
- Inequalities
- Retirement
- Prevention
- Social care

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## Moving the Needle

improving uptake of adult vaccination in Japan

ilcuk.org.uk  
What happens next

Prepared by:  
Sinpal Partners and ILC  
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