

# Prevention: A Productivity Superpower

The economic value of adult vaccination in Australia



**GSK**

# Prevention: A Productivity Superpower – at a glance



## The opportunity

**Government has the opportunity to generate more than \$1.1 billion in net returns to the economy annually and improve the wellbeing of the nation by investing in adult immunisation through:**

- Replicating the commitment and targets of the childhood immunisation program.
- Investing in more of the vaccines recommended by the experts at Australian Technical Advisory Group on Immunisation (ATAGI).



## Barriers to immunisation access

Australia is undervaluing and underinvesting in adult vaccination, leaving Australian's vulnerable to preventable disease.

A person's postcode, income and health literacy are determining vaccine access.



## Solutions

Reform reimbursement systems and processes to recognise the long-term societal and financial value of vaccines and disease prevention:

- Increase investment in adult vaccination by \$320 million net annually.
- Place a higher value on a life impacted by preventing disease, including reducing the discount rate applied to vaccines to 1.5%\*.

Prioritise adult vaccination delivery of the NIP:

- Set a 95% adult immunisation target consistent with the childhood immunisation program.
- Partner with community and health sector to increase vaccine awareness, confidence and access.



## Results

**Preventing disease, helping Australians live well for longer, supporting productivity, and reducing demand on government support services, delivering:**

- ⬆️ A \$1.1 billion net return annually.
- 💰 Each \$1 invested in boosting access to adult immunisation would generate more than \$3.50 in benefits.

# Report Outline

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## Foreword

### Investment in adult vaccination can be Australia's superpower.

**Economic growth has slowed, inflation is rising and cost-of-living increases are placing pressure on households. Our population is ageing: demand for care and support services is escalating. These powerful economic forces have the potential to entrench structural deficits, where government spending will outweigh revenue for the foreseeable future.**

This places Australia at a critical decision point. Governments are making decisions on the reforms and investments that can secure our economic sustainability.

Preventing disease helps people to live well for longer, supports productivity, and reduces demand on health and government support services. Vaccines are proven to be a cost-effective means of prevention.

"Prevention: A Productivity Superpower" assesses the economic value of vaccines. It demonstrates the value of vaccines in boosting productivity while reducing a range of government and social costs: across health, tax, aged care, disability and carer support. Currently, the Australian Government's methods and processes do not consider broad long-term costs when making decisions on investments in vaccines – undervaluing their worth and subsequently underinvesting. In fact, we take a narrower perspective than many other developed nations.

This is also not just about economics: behind every cost-benefit analysis is a person, looking to thrive as they age and avoid the impact of disease.

This Report is the third in a series GSK has commissioned, examining the opportunity to boost access to vaccination for Australian adults:

- 'The Value of Vaccines – ensuring Australia keeps pace with community values and international practice'<sup>1</sup> This was a policy paper identifying areas in the current process that could be updated to better align with international practice and community values.
- 'Risk to Resilience: a roadmap to vaccine access for older Australians.'<sup>2</sup> This report quantifies the potential of these reforms at national and local population level.

GSK recognises there needs to be a balance between investment in vaccines and affordability, to ensure ongoing sustainability of the economy, health system and the medicines and vaccines industry. This report is designed to help governments focus their efforts where they will have the greatest impact.

Investment in boosting access to adult vaccination will deliver high returns.

**Mr Andrew Thomas**  
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## Introduction

Vaccination saves lives. It also keeps people living well, reducing demands on the health system, increasing productivity and benefiting the economy. Immunisation is one of the most cost-effective public health interventions, after clean water. **Yet, the Australian Government is underinvesting in vaccinations, specifically adult vaccination.**



Australians are living longer than ever before.<sup>3</sup> More Australians living longer means more people spending more time using government funded services and fewer people participating in the workforce. This can slow economic and productivity growth.<sup>4</sup> Health is a powerful force in shaping the economy. It is a key enabler of how Australians live, work, and engage with the world.

The benefits of vaccinations have long been recognised by the community and health sector, however they have been undervalued from a financial and economic perspective. This report examines the impact greater access to immunisations for Australian adults would have on the economy.

“As the population ages, vaccinations become even more valuable by helping Australians to live well for longer. Preventing disease is integral to Australia’s future economic resilience, as a healthy ageing population positively impacts workforce productivity, participation, and economic growth.”

– Saul Eslake, Independent Economist

GSK commissioned Evaluate Consulting to explore the cost-effectiveness of those vaccines recommended to Australian adults in the Australian Immunisation Handbook, but not fully funded by the Government.

This analysis considered the:

- Investment required to boost access to these vaccines
- Preventable disease costs
- Short term, including doctor visits, hospital costs and short-term impacts
- Long-term, deterioration of health due to things like infection
- Economic and societal costs, including productivity, tax revenue, government services, carers and wellbeing

Currently, the Government rarely considers broader or long-term costs resulting from the impact of disease when it makes decisions on funding vaccines for the community.

This report demonstrates the high value of investment in adult vaccination.

GSK acknowledges that like any medical intervention, vaccinations come with benefits and risks.

## An ageing population is a powerful economic opportunity



A 65-year-old Australian male today can expect to live another 20.2 years and a female another 22.8 years.<sup>5</sup>



Older Australians have seen the largest increase in workforce participation rates over the past 40 years, particularly women in their 50s and early 60s.<sup>4</sup>



Australians aged 65 years or older currently account for 40% of health spending, despite being about 16% of the population.<sup>4</sup>



Ill health has forced almost 300,000 Australians aged 50-64 to leave the workforce.<sup>6</sup>



Early retirements due to ill health impact of gross domestic product (GDP) is expected to reach \$53.4 billion by 2025.<sup>6</sup>



It’s estimated that health strategies – including access to new medicines and vaccines – could enable more Australians to stay in the workforce, resulting in recovery of \$1.9 billion in superannuation and return \$3.9 billion to the economy annually.<sup>6</sup>

# Adult vaccination is an investment

A \$320 million net annual investment in adult immunisation will deliver a \$1.1 billion return

## Cost-benefit analysis of vaccines with 95% take-up across target populations

This table highlights current gaps in adult vaccination between what is recommended by the Australian Technical Advisory Group on Immunisation (ATAGI) and what is currently funded by the Australian Government on the National Immunisation Program (NIP) for adults aged 50 years and over, and their cost effectiveness. It estimates the investment required and the return on that investment considering short and long-term health benefits as well as societal service and economic impact of the preventable disease. Vaccines recommended by ATAGI and fully funded on the NIP are not included.

Vaccine scenario	ATAGI recommendation <sup>7</sup>	NIP schedule <sup>8</sup>	Net cost to the economy <sup>*</sup>	QALYs gained	QALY value	Return on investment	Cost effective
<b>Shingles:</b> Vaccinate once at age 50	All immunocompetent adults aged 50 years and over.	18 years of age and considered at increased risk of herpes zoster, due to an underlying condition and/or immunomodulatory/immunosuppressive treatments. For Aboriginal and Torres Strait Islander people 50 years and older administer 2 doses. For people 65 years and older administer 2 doses.	\$64,885,000	3,049	<b>\$152,427,500</b>	2.35	✓
<b>Influenza:</b> Vaccinate all aged 50–64 annually	Every Australian aged 6 months and older.	For immunocompromised people aged 18 and older with specified medical risk conditions. For Aboriginal and Torres Strait Islander people aged 18 and older. For pregnant people, at any stage of pregnancy For all people aged 65 and older .	\$137,000,000	6,064	<b>\$303,200,000</b>	2.21	✓
<b>Respiratory syncytial virus (RSV):</b> Vaccinate once at 75 with a proposed 5-yearly booster <sup>†</sup>	People aged 75 years and over; Aboriginal and Torres Strait Islander people aged 60 to 74 years; people aged 60 to 74 years with medical conditions that increase their risk of severe disease due to RSV. In addition, people aged 60 to 74 years who do not have a risk factor for severe RSV disease can consider a single dose.	–	\$121,695,000	13,741	<b>\$687,040,000</b>	5.65	✓
<b>Pertussis:</b> Vaccinate at 50 and at 65, and a booster every 10 years thereafter	All adults 50 years and over would receive a dose of diphtheria, tetanus and acellular pertussis (dTpa) if they received their last dose more than ten years ago as would women who are breastfeeding; healthcare workers; early childhood educators and carers; travellers; adult household contacts and carers of infants; and people with a history of pertussis infection.	Single dose recommended each pregnancy, ideally between 20–32 weeks, but may be given up until delivery.	Not currently cost effective at the standard \$50,000 per QALY threshold		–	–	✗
<b>Diphtheria:</b> Vaccinate at 50 and at 65, and a booster every 10 years thereafter	All adults 50 years old and over would receive a booster dose of diphtheria containing vaccine if they received their last dose more than ten years ago and adults aged 65 years and over would receive a booster dose of dTpa (diphtheria tetanus and pertussis) if their last dose was more than 10 years ago.	–	Not currently cost effective at the standard \$50,000 per QALY threshold		–	–	✗

<sup>\*</sup>Net economic cost is the estimated total cost of vaccination (including future boosters) discounted by public economic benefits due to both health system savings (mostly hospital expenditure) as well as increased productivity gains.

<sup>†</sup>Clinical evidence and guidance related to RSV vaccination is emerging. Guidelines on RSV boosters are yet to be established.

Results depicted used a 3.5% discount rate reflective of the review of the base discount rate in the Pharmaceutical Benefits Advisory Committee (PBAC) Guidelines recommended in July 2022<sup>9</sup> and the Health Technology Assessment Review final report released in September 2024.<sup>10</sup>

GSK recognises there needs to be a balance between investment in vaccines and affordability, to ensure the ongoing growth of the economy and sustainability of the health sector. This report is designed to help governments get the balance right.

### What is a QALY?

A QALY or Quality Adjusted Life Year is a year of perfect health. In relation to immunisation, a QALY is the year of life gained from having a vaccine. For the purpose of this analysis one QALY equated to \$50,000 – consistent with general economic policy.

- One year of life in perfect health = One QALY = \$50,000
- Less than perfect health for one year = Fraction of a QALY

# The opportunity

The Australian Government has an opportunity to maximise the benefits from adult vaccination and deliver net returns of \$1.1 billion annually:



**Reforming reimbursement systems and processes to recognise the value of vaccines and disease prevention.**

**This includes:**

- Recognise the health outcomes and productivity gains that accrue over a lifetime, including via the adoption of a lower discount rate.
- Develop new pathways to support faster access to appropriate vaccines for Australians where there is a need.



**Prioritising adult vaccination in delivery of the NIP, drawing on the success of the childhood vaccination experience.**

**This includes:**

- **Defined immunisation rate goals, governance and review frameworks** – driving accountability and quality improvement using the Australian Immunisation Register (AIR) and established reporting frameworks.
- **Awareness and communications materials for the community and health professionals** – focusing on reaching our community's most vulnerable and increasing confidence in vaccinations. Materials would include easy-English, translations and targeted materials for Aboriginal and Torres Strait Islander people.
- **New adult immunisation schedule** – setting out clear timelines and recommendations, maximising opportunities for co-administration and alignment with life events (such as age, health screenings), including prompts for health professionals and consumers.
- **Boosting the accessibility of vaccinations** – leveraging existing health networks and key partners such as community health centres, councils, pharmacies, aged care facilities, primary care, and clinical specialty groups.



Actions would be delivered in support of and in conjunction with broader Government policy frameworks including: The National Immunisation Strategy 2025–2030 (in development); The National Preventative Health Strategy 2030–2024; Health Technology Assessment Policy and Methods Review; The Pharmaceutical Benefits Advisory Committee (PBAC) guidelines (base case discount rate information); The Federal Budget process, Measuring What Matters – the national wellbeing framework implementation and Productivity Commission work.

## An ambitious target to drive returns

**A national adult immunisation target is essential to achieving and demonstrating the highest possible return on investment in vaccines.**

Australia can lead the way in adult immunisation by setting a target that is ambitious and reflective of the economic and societal benefits of access to immunisations and preventing disease. The Australian Government recognised the need for an adult vaccination target to drive uptake in the 2022-2023 Budget.<sup>11</sup>

In this report, two proposed targets have been modelled for the percentage of adults who have had all vaccines recommended for their age:



An aspirational target consistent with the Australian Government Department of Health and Aged Care childhood immunisation target. Immunisation coverage of 95% is required to achieve herd immunity against many vaccine-preventable diseases.<sup>12</sup>



Australia's 2004 Adult Immunisation Survey indicates that, of the 2.6 million Australians in the target group for flu that year, 79.1% of them were vaccinated against flu.<sup>13</sup> This is the highest vaccination coverage for influenza Australia has achieved.

Canada has adopted a target rate of 80% for one dose of pneumococcal vaccine for people aged 65 years and above and for influenza vaccination of adults 65 years of age and older and adults aged 18 to 64 with chronic health conditions.<sup>14</sup>

**The National Immunisation Strategy 2025–2030 is an opportunity to embed a target in policy to drive accountability from Government, the health sector, and the community.**

## Vaccinate sooner to maximise value

Analysis in this report demonstrates there is value in protecting people from disease in their later working years.

Significant productivity and participation benefits captured result in vaccines remaining cost effective even where a booster dose is required.

The immune system gradually weakens due to age-related decline in immunity.<sup>15</sup> To-date, immunisation programs have been focused on vaccinating populations when they are at their most vulnerable to a disease.

### EXAMPLE: SHINGLES VACCINATION

**65+** NIP funded for people aged 65 years and older and Aboriginal and Torres Strait Islander people aged 50 years and older.<sup>16</sup>

**50+** ATAGI recommended for people aged 50 years and older.<sup>16</sup>

**\$** Vaccinating Australians at age 50 against shingles is cost-effective at the standard \$50,000 per QALY threshold.

### Case study 1

## Justine's story

As a former registered nurse, Justine suspected she had shingles when she noticed blistering dots emerging from her hairline. Within 24 hours she had shingles on her face, and later her eye.

Justine could not work for a couple of months due to shingles. When Justine did return to work, she wore sunglasses and a hat to block out overhead lighting. Shingles on Justine's eye made her sensitive to light.

Four years later, Justine continues to struggle with photo-sensitivity. Justine has regular appointments with her doctor, eye specialists and has had surgery. Justine will need ongoing care for her eyesight.



## About shingles

About 1 in 3 people will develop shingles in their lifetime, regardless of how healthy they may feel.<sup>17-19</sup>

Shingles is triggered by the reactivation of the chickenpox virus (varicella-zoster) in adulthood.<sup>20</sup> Nearly all adults 50 years and older already carry the inactive virus that causes shingles.<sup>19</sup>

Shingles typically produces a painful, blistering rash.<sup>17,20,21</sup> While most people recover fully, some may experience complications including:

- Approximately 10% of people aged 50-59 experience ongoing pain that can last for months or years known as postherpetic neuralgia.<sup>19</sup>
- Up to 25% of people experience a shingles rash involving the eyes or nose, which can lead to long-term consequences, including pain, scarring and loss of vision (in rare cases).<sup>21-23</sup>

People with some diseases – such as HIV or cancer – or those receiving treatments that weaken the immune system, may be at increased risk of shingles. For people who are considered severely immunocompromised, the risk of developing shingles can be up to three times higher than the general population.<sup>24</sup>

One case of shingles in an Australian aged over 50 years old is estimated to cost the health system almost \$1,000 in direct costs (findings have been adjusted from 2009).<sup>25</sup>

“I had to take a significant amount of time off work when I was first diagnosed with shingles, as the symptoms I experienced with my eyesight impacted everyday activities like driving. While the economic impact of having shingles is ongoing, I feel lucky to be in a position to be able to afford the treatment I need and go to a specialist of my choosing.”

– Justine, Collaroy (New South Wales)

## Childhood versus adult immunisation in Australia

While the NIP does include a series of vaccinations throughout life, Government investment in the program to date has prioritised protecting children from disease. Limited investment in adult vaccinations has seen new, innovative vaccines recommended by the Government's own clinical experts (ATAGI) not available via the NIP.

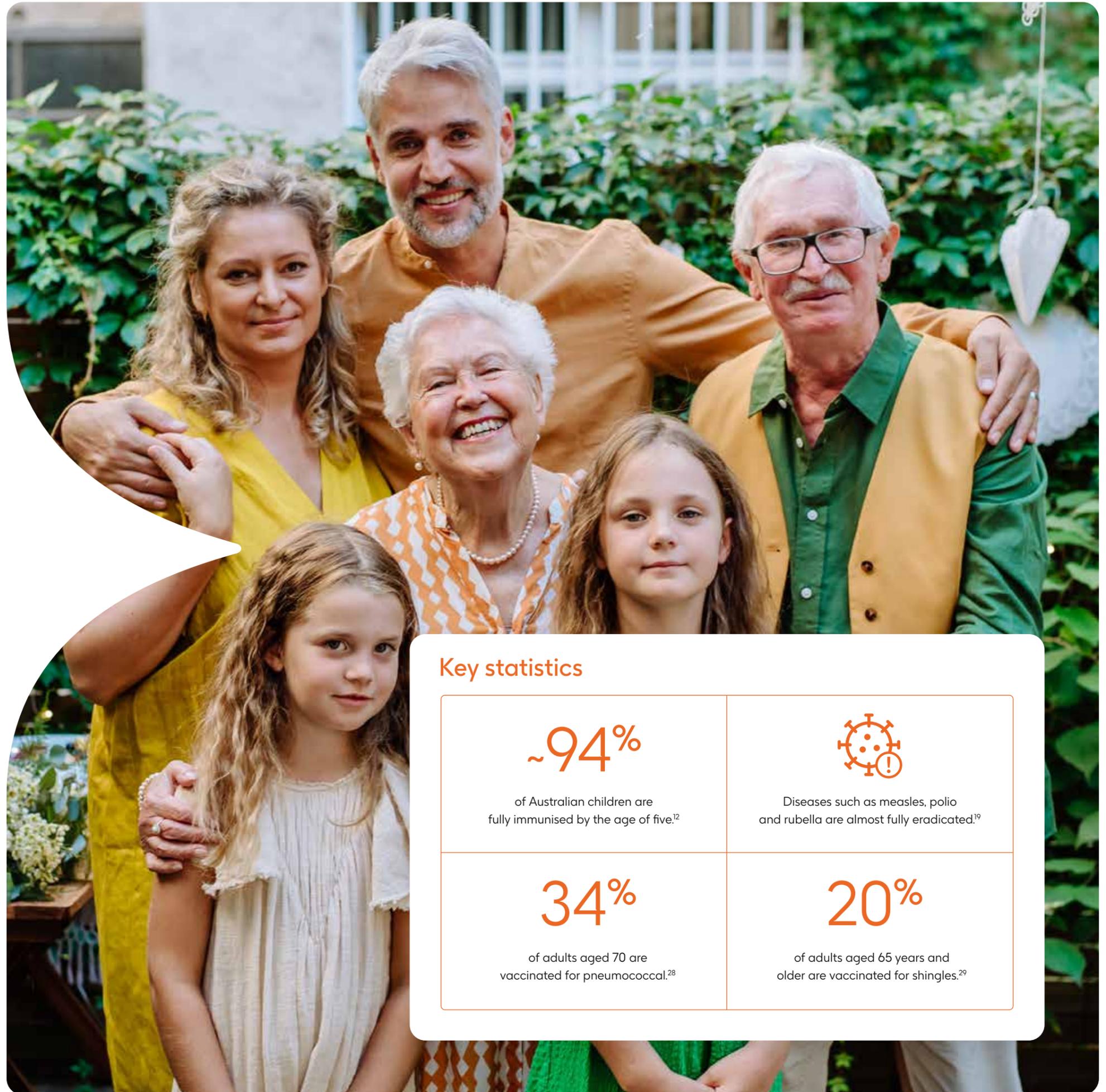
Routine immunisation of infants in Australia began in the 1950s, and the first nationally funded infant program for diphtheria, tetanus and polio started in 1975.<sup>26</sup> Since then, the NIP has grown to a major public health program that is recognised internationally for its success.

The NIP provides Government-funded vaccinations to Australians at no cost. The Federal Government is responsible for immunisation policy and the purchase of vaccines. State and Territory Governments are responsible for the distribution and service delivery of the vaccinations.

Government has begun to respond to the evolving Australian population in expanding the NIP's focus. In 2023, the Australian Government announced:

- \$826.8 million investment in the NIP for the prevention of shingles, providing the vaccine free to almost 5 million Australian adults.<sup>27</sup>
- Commitment to develop an adult vaccination coverage rate.<sup>11</sup>

These initiatives are important steps forward but there is more to be done to fully realise the cost benefit of adult vaccination.



### Key statistics

~94%

of Australian children are fully immunised by the age of five.<sup>12</sup>



Diseases such as measles, polio and rubella are almost fully eradicated.<sup>19</sup>

34%

of adults aged 70 are vaccinated for pneumococcal.<sup>28</sup>

20%

of adults aged 65 years and older are vaccinated for shingles.<sup>29</sup>

## Lisa's story

Lisa was caring for her three-year-old grandson, when she caught RSV from him.

Lisa's RSV symptoms were severe and progressed rapidly. Lisa had pre-existing asthma. The RSV progressed into bilateral pneumonia.

On seeing a doctor, Lisa was prescribed **high strength antibiotics** and four different inhalers. It was 11 weeks before Lisa felt well enough to work and carry out everyday tasks.

Lisa's family has a small construction business that operates locally. Her husband and son both work at the business. Lisa looks after the business' accounts, works on building applications and cares for her grandchildren while her son works.

## About RSV

Respiratory syncytial virus (RSV) is a common, highly contagious seasonal virus<sup>30</sup> that affects the lungs and breathing passages, and causes repeated infections throughout life.<sup>31</sup>

RSV and influenza infection carry similar risk of hospitalisation and mortality in older adults.<sup>32</sup> RSV spreads through a person touching their face after having touched a contaminated surface, coughs or sneezes from infected people, direct contact with someone who has RSV.<sup>33</sup>

In Australia, RSV infections tend to occur most commonly in autumn and winter,<sup>34</sup> but can occur all year round.<sup>35</sup>

Among adults, people who have higher risk of severe RSV disease including those aged over 60 years, and those who are immunocompromised<sup>36</sup> and live with underlying medical conditions such as:

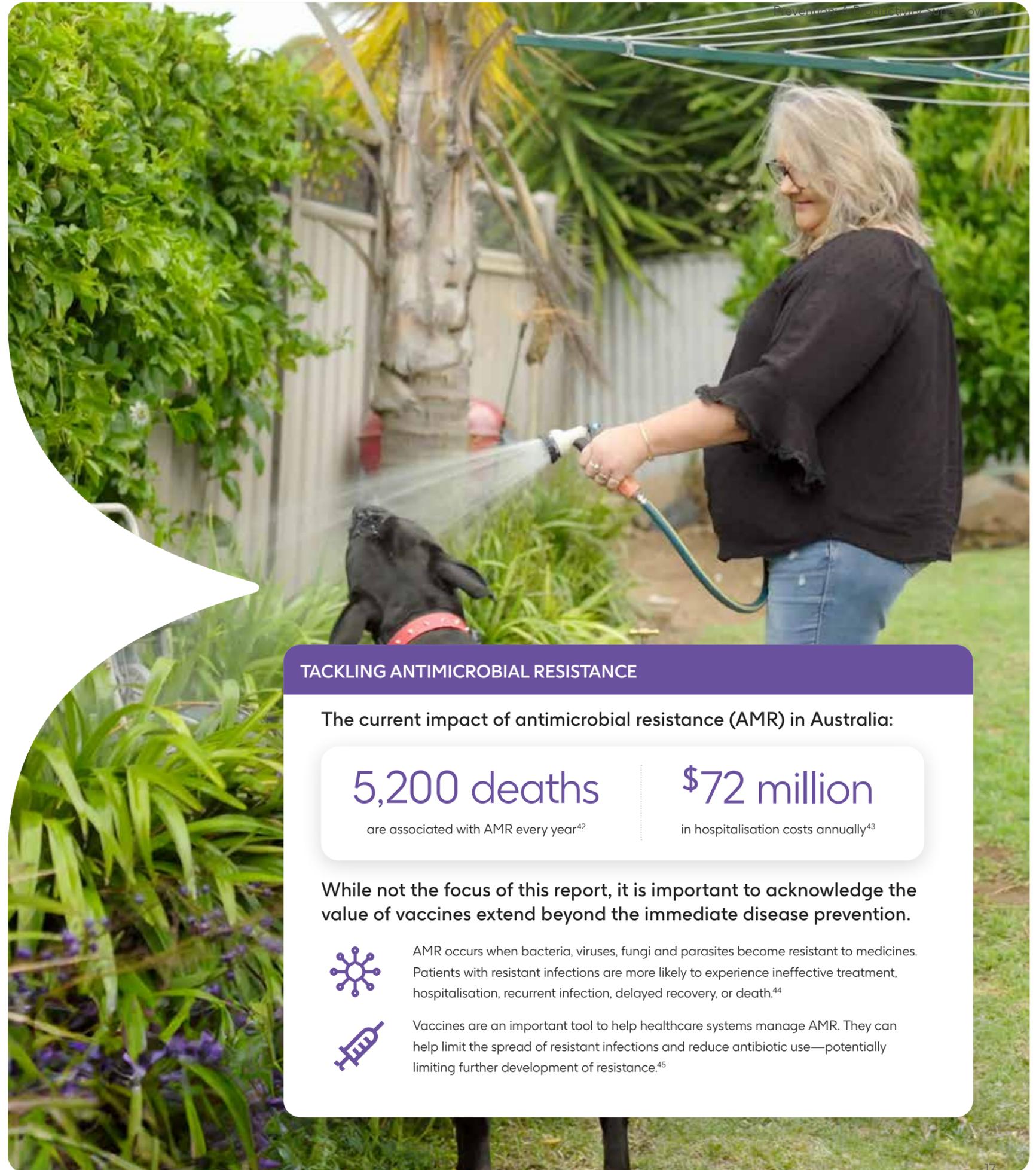
- Chronic lung disease<sup>36</sup>
- Chronic heart disease<sup>37,38</sup>
- Diabetes<sup>37,38</sup>
- Chronic kidney disease<sup>37,38</sup>

Symptoms of RSV in older adults may include nasal congestion, cough, shortness of breath and wheezing, fever, sore throat, runny nose, body aches and tiredness and headache.<sup>33,39,40</sup>

One case of RSV is estimated to cost the health system between \$1,000 and \$8,000 in direct costs. The cost rises as a person ages.<sup>41</sup>

“11 weeks is a long time to be bedridden and not be able to go out and enjoy your social life or do day to day things.”

— Lisa, Adelaide



### TACKLING ANTIMICROBIAL RESISTANCE

The current impact of antimicrobial resistance (AMR) in Australia:

5,200 deaths

are associated with AMR every year<sup>42</sup>

\$72 million

in hospitalisation costs annually<sup>43</sup>

While not the focus of this report, it is important to acknowledge the value of vaccines extend beyond the immediate disease prevention.



AMR occurs when bacteria, viruses, fungi and parasites become resistant to medicines. Patients with resistant infections are more likely to experience ineffective treatment, hospitalisation, recurrent infection, delayed recovery, or death.<sup>44</sup>



Vaccines are an important tool to help healthcare systems manage AMR. They can help limit the spread of resistant infections and reduce antibiotic use—potentially limiting further development of resistance.<sup>45</sup>

# Undervaluing vaccination

Undervaluing vaccination is leaving Australian's vulnerable to preventable disease, with the impacts concentrated in Australia's most disadvantaged communities. A person's postcode, income, health literacy and access to health professionals are determining vaccine access.<sup>2</sup>

GSK's 2023 Report, Risk to Resilience: A Roadmap to Vaccine Access for older Australians highlights current inequities.<sup>2</sup>

## The Australians most affected by barriers to vaccination include:



Lower socio-economic groups



People of Tasmania and South Australia



Regional and remote Australians

Where a vaccine is not provided via the NIP, Australians may secure access via a State Government funded vaccination program or by self-funding the vaccine. This compounds inequities.

To maximise the fiscal worth of vaccines and disease prevention, policy barriers to accessing vaccinations need to be addressed.

**1,375**  
DAYS

is the average time it takes from a vaccine being approved for use in Australia to it being listed on the NIP – almost 4 years.<sup>46</sup>

## Strengthening community engagement, awareness and acceptance of immunisation

Vaccination coverage rates in Australia have declined following the pandemic.<sup>28</sup> Disruptions to routine vaccination services and vaccine fatigue have played a role in reducing uptake. However, exposure to vaccine misinformation and disinformation is compounding the challenges in increasing community confidence in vaccines.<sup>48</sup>

The impacts of reduced protection from disease are disproportionately impacting Aboriginal and Torres Strait Islander<sup>49</sup> and Culturally and Linguistically Diverse<sup>50</sup> communities. It was demonstrated in the COVID-19 pandemic that these communities are increasingly susceptible to misinformation and can be targeted by anti-vaccination groups.<sup>49,50</sup>

Influenza and shingles vaccination is recommended and funded on the NIP for all Aboriginal and Torres Strait Islander people over 50, yet coverage is only:



Australia's Culturally and Linguistically Diverse (CALD) communities also face additional barriers to accessing vaccinations.

**7.6 million**  
Australian residents were born overseas<sup>52</sup>

**6.0 million**  
Australians speak a language other than English<sup>52</sup>

Specialist and general practitioner awareness and communications materials developed in partnership with communities are essential to increasing vaccine confidence and supporting access to vaccines. These actions will help to ensure the benefits of investment in adult vaccination are realised.

# Reconsidering the HTA system

## Methods used by the Australian Government to determine the cost-effectiveness of vaccines and disease prevention significantly underestimate their worth.

Australia's Health Technology Assessment (HTA) system provides expert clinical and economic advice to the Government about which vaccines, medicines and medical technologies are good investments. The HTA system was designed in the 1990s, and it is targeted at medicines that manage and treat disease in the short term. This includes the use of 'discounting' of future costs and benefits at a higher rate than other countries.

Its methods are no longer fit-for-purpose. The HTA system has not kept pace with innovations in preventing and treating disease, international best practice or broader Australian Government health or economic policy.<sup>53</sup>

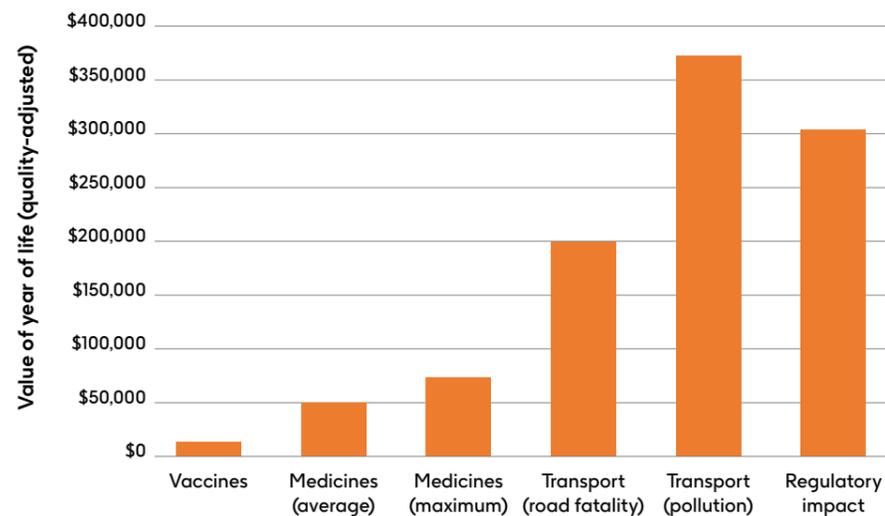
Australia's HTA system puts a lower value on human life than other sectors of Government such as transportation, and similar countries overseas.<sup>54</sup>

This means that **the Australian Government is also willing to invest more in road safety measures than vaccines that will prevent disease.**

The Government is also not willing to pay the same price for extending life or improving quality of life with a vaccine as other countries.

The Federal Government is currently considering a review of HTA systems and policy.

## Value placed on life by policy area, Australia



Adapted from Cubi-Molla et al. 2021. Table 2 and Shawview Consulting. 2021.

## How Australia devalues vaccines and disease prevention

The HTA system does not take into account longer term and broader societal impacts of being well. Factors considered in the HTA when determining value:

Included	Excluded
<ul style="list-style-type: none"> <li>✓ Medical expenses e.g. doctor visits, hospital costs and medication</li> <li>✓ Short-term health benefits</li> <li>✓ Some long-term health benefits*</li> </ul>	<ul style="list-style-type: none"> <li>✗ Long-term health benefits e.g. deterioration of previous health conditions due to infection, transition to aged care.</li> <li>✗ Productivity gains</li> <li>✗ Tax revenue</li> <li>✗ Social welfare impacts, including National Disability Insurance Scheme (NDIS) and disability pensions</li> <li>✗ Impacts on families and carers</li> <li>✗ Wellbeing</li> </ul>

\*Long-term benefits are considered but disproportionately undervalued due to discounting.

## International approaches to societal costs and benefits<sup>55</sup>

There is increasing international recognition of the fiscal value of broad societal and health benefits. For example, carer/family member impacts are now included in guidelines and methods for HTA in some countries. In Australia, these are only considered as a scenario analysis in limited circumstances.

HTA Agency	Statements From Methods Guide	Base case/ Scenario
<b>NICE</b> (England)	Perspective on outcomes: all direct health effects, whether for patients or, when relevant, carers.	Base case
<b>CADTH</b> (Canada)	Target population may include patients and their informal carers (i.e. unpaid carers). Researchers should consider any potential spillover impacts (such as due to changes in the level of care required by patients beyond those individuals for whom the interventions are being targeted).	Base case if carer considered part of the scenario
<b>ZiN</b> (Netherlands)	Economic evaluation is carried out and reported from the societal perspective. All relevant societal costs and benefits, irrespective of who bears the costs or to whom the benefits go, should be taken into account in the evaluation and reporting.	Base case

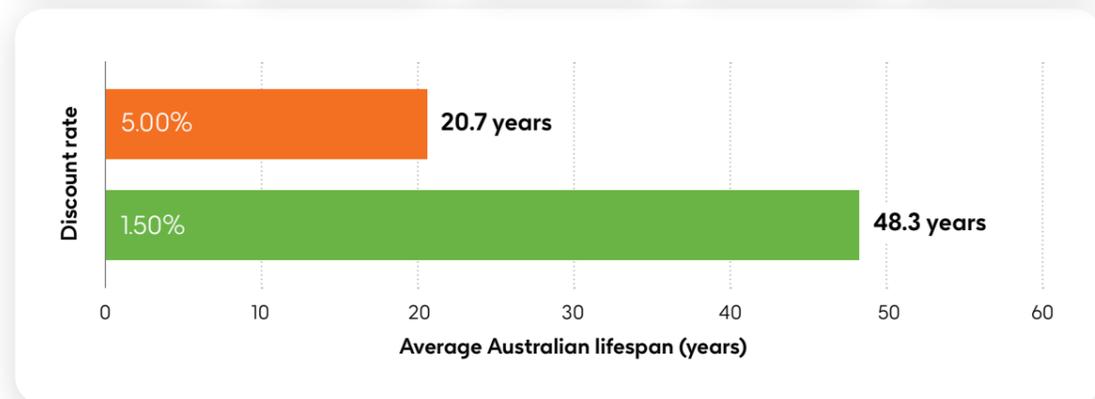
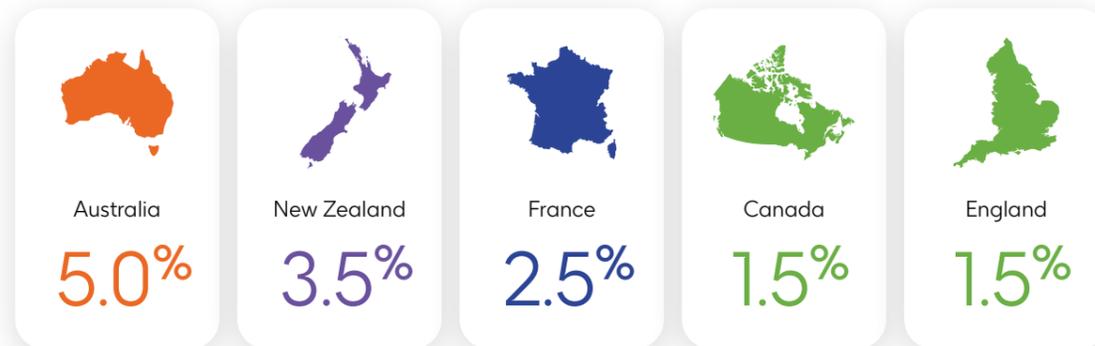
## The role of discount rates<sup>56</sup>

A discount rate of 5% per annum is applied to future benefits in assessing of cost effectiveness.

When considering the future benefits of vaccines, HTA methods apply discount rates to reflect an assumption that society prefers benefits now over benefits in the future.

Vaccines are disadvantaged as their costs are typically upfront and their benefits are longer term.

### Discount rate comparison



A discount rate is like an interest rate used in economic modeling – it’s meant to reflect the idea that people and governments prefer benefits now more than later. But a too-high discount rate devalues things that people find important.

For example, a discount rate of 1.5% values the life of a baby who is vaccinated and avoids a fatal disease as if it will live another 48 years, and a 5% discount rate treats that life saved as less than 21 years.



**David Pullar**  
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Government Affairs and Market Access



Hypothetical patient.  
For illustration purposes only.

## About Pneumococcal

Pneumococcal disease is a bacterial infection caused by *Streptococcus pneumoniae*, sometimes known as pneumococcus.<sup>57</sup>

Most people carry pneumococcus in their nose and throat, where the bacteria do not cause any symptoms.<sup>57,58</sup> However, sometimes the bacteria grow and spread to other parts of the body causing conditions such as ear infections and sinusitis. In some people the bacteria cause more serious conditions including:

- **Pneumonia**
- **Meningitis** – inflammation of the membrane surrounding your brain and spinal cord
- **Septicaemia** – blood poisoning

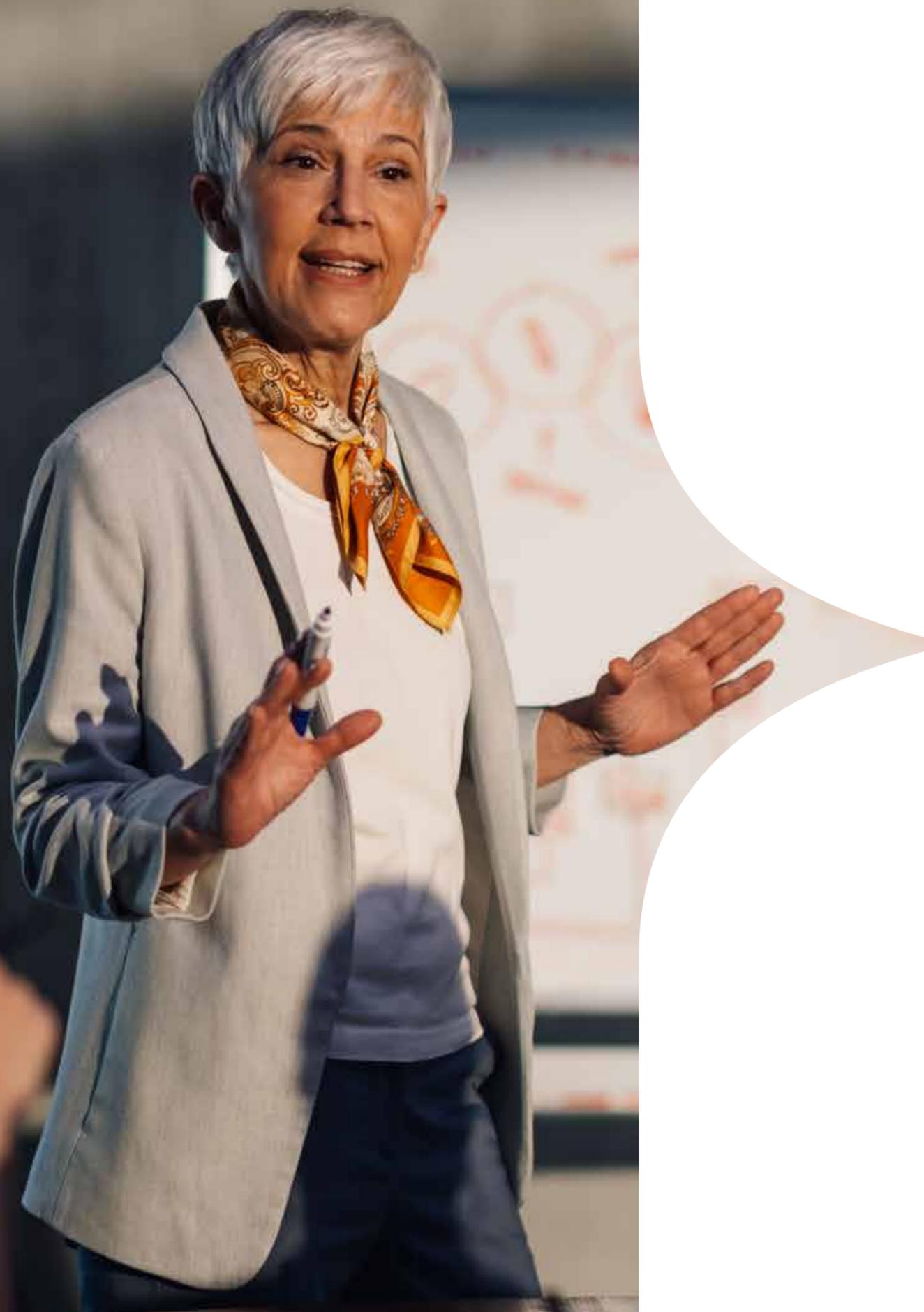
Older adults, Aboriginal and Torres Strait Islander Australians, and people with underlying illnesses are at a higher risk of pneumococcal disease.<sup>57</sup>

Older adults are one of the cohorts who are at a higher risk of pneumococcal disease.<sup>59</sup>

Pneumococcal disease has a seasonal pattern and is more commonly seen in winter and spring.<sup>60</sup>

Almost 600 cases of pneumococcal were reported in Australians aged 70 years or older in 2023.<sup>61</sup>

The average estimated direct healthcare costs for treating a person aged 65 years or older with pneumococcal disease is around \$3,600.<sup>62</sup>



## Conclusion

The Australian Government has an opportunity to invest in adult vaccination, delivering better health outcomes and significant economic benefits. This report shows funding a redesigned NIP is an investment, not a cost, that will deliver returns now and into the future.

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Australia's population is ageing, and with that come fiscal challenges and opportunities. Health is a powerful economic force. It is a key driver of productivity, participation and demand on Government services.

By embedding the value of keeping people well and preventing disease in broader Government policy, the Australian Government can best equip itself to navigate the years ahead.

**It's time the Government re-balanced its funding of health. Vaccines are a proven intervention that will prevent and reduce the impact of disease helping people live longer and to age well.**

**This report demonstrates that investment in adult vaccination will deliver high returns.**

# About GSK

## About the report

GSK commissioned Evaluate Consulting to conduct a detailed cost-benefit analysis of a series of proposals that suggest increasing government funding to address some of the gaps between the vaccine recommendations made by ATAGI and what is currently being provided under Australia's NIP.

The analysis focuses on the cohort of adults aged 50 years and over recognising that, as Australians age, their baseline health deteriorates, their vulnerability to infection increases and both the severity and burden of their disease also increase. The core approach is an age-specific decision analytic model which compares the expected lifetime costs between the vaccinated and unvaccinated cohorts.

The analysis makes different assumptions for different vaccines in line with ATAGI recommendations – for example, frequency of recommended booster vaccines varies by disease – but core factors which are considered for all disease-vaccine pairs are:

- **Population – age and sex**
- **Incidence of disease**
- **Severity by age**
- **Excess mortality**
- **Disability weights**

- **Disease costs differentiated by severity and age/sex:**
  - Health care costs including hospitalised and non-admitted care
  - Productivity losses
- **Vaccine coverage rates at 95% and 80%**
- **Initial effectiveness of the vaccine**
- **The waning effectiveness rate of the vaccine**
- **The full cost of administering vaccine**
- **Direct healthcare costs**
- **Indirect healthcare costs**
- **Quality Adjusted Life Years (QALYs)**

Costs and benefits are calculated using 3.5% discount rate.

The full modelling, including calculations using a 5% discount rate, are available on GSK's website: [au.gsk.com](http://au.gsk.com)

GSK is a focussed, global biopharma company. Our purpose is to unite science, technology, and talent to get ahead of disease together and positively impact the health of billions of people.

We get ahead of disease by preventing and treating it with innovation in vaccines and specialty medicines. At the heart of this is our R&D focus on the science of the immune system and advanced technologies, and our world-leading capabilities in vaccine and medicines development. We focus on four therapeutic areas: infectious diseases, HIV, respiratory/immunology, and oncology.

In Australia, our vaccines have been at the heart of the NIP from the time it began, helping to protect infants and children from multiple serious diseases. Beyond childhood, our vaccines help to protect Australians throughout life, whether at home or travelling overseas.

Across the country, we employ approximately 600 Australians in many areas of expertise, from graduates to senior managers. We have committed to accelerate our progress on inclusion and diversity, and seek to make a meaningful and lasting contribution to reconciliation in Australia.

We have ambitious environmental sustainability goals in both climate and nature: aiming to have a net zero impact on climate by 2030 and a net positive impact on nature by 2030.

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*Details correct as of September 2024.*

For further information  
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