

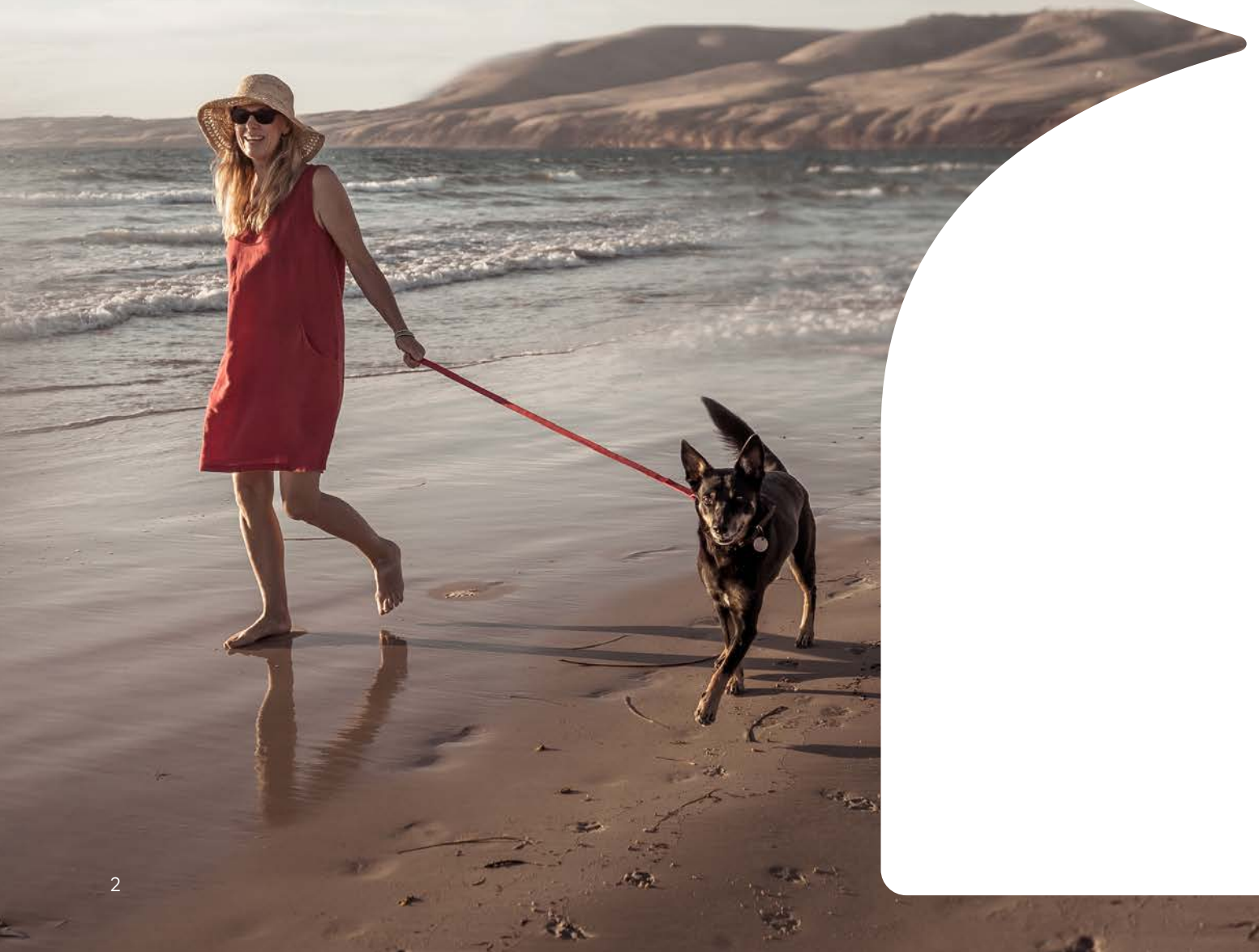
Risk to Resilience:

A roadmap to vaccine access
for older Australians



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Foreword

We have an opportunity to give the Australian health system the shot in the arm it needs, by increasing access to innovative vaccines, particularly for older Australians.

Australia is at a critical juncture. Our health system and economy face once-in-a-generation challenges and policy makers are considering the reforms and investments needed to secure Australia's future. With our ageing population and the challenges of increasing productivity, and preventing disease has never been more important.

The benefits of immunisation are well known. The COVID-19 pandemic response established in real-time the enormous value of making state-of-the-art vaccines quickly and widely accessible to the communities, with the benefits being felt across the community, health system and economy.

Let's not stop now. Together we can strengthen immunisation access in Australia to maximise its potential by redesigning and funding the National Immunisation Program (NIP) for the 21st century. This means: reforming the NIP to recognise that Australia's population is ageing; embedding systems that acknowledge the societal benefit of disease prevention; and creating pathways to support rapid access to the latest in world-class vaccine innovations.

In 2019, GSK released 'The Value of Vaccines – ensuring Australia keeps pace with community values and international practice'.¹ 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' quantifies the potential of these reforms at national and local level, with a focus on Australia's ever increasing older population.

GSK recognises there needs to be a balance between investment in vaccines and affordability, to ensure ongoing sustainability of the health system and the industry. This report is designed to help governments at the federal, state and territory level and the health sector focus their efforts where they will have the greatest impact, while remembering that behind each number is a real person.



Patrick Desbiens
SVP and General Manager
GSK Australia and
New Zealand



Dr Alan Paul
Country Medical Director
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Introduction

Immunisation saves lives; it helps people of all ages live longer and healthier. Vaccination is recognised as one of the most cost-effective public health interventions. Yet Australia is under-investing in adult vaccination, with the negative impacts clustered in our most disadvantaged communities.

In Australia, the National Immunisation Program (NIP) has been providing Australian Government-funded vaccines to Medicare card holders for free since the 1950s. The NIP is implemented by state and territory departments of health.² While the NIP Schedule does include a series of immunisations throughout life, its priority to date has been protecting children from disease. The NIP has delivered results with more than 91% of children fully immunised by the age of two and diseases such as measles, polio, and rubella almost or fully eliminated.³

‘Risk to Resilience: a roadmap to vaccine access for older Australians’ explores the potential to strengthen Australia’s NIP to benefit more people. It quantifies the benefits of a NIP that draws on its previous success by expanding its focus to include providing the latest advances in vaccines for older Australians.

GSK commissioned Clarivate Life Sciences and Health Care to conduct a detailed analysis, mapping federal electorate divisions by four factors that may make people more vulnerable to preventable disease and subsequent poorer health outcomes: age, income, education and co-morbidities. These factors exacerbate barriers to accessing healthcare and technology due to affordability, accessibility and health literacy.

The analysis demonstrates the size of the challenge and the substantial opportunity.

‘Risk to Resilience’ shows that Government investment in a redesigned NIP will deliver returns.

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

Please note: this report focused on selected trends and socioeconomic factors to identify population groups at risk. While the insights shared are useful to inform policy change, this report does not intend to offer a sole or exhaustive list of groups at risk. Considering different factors may lead to different results.

Barriers to accessing vaccination



Investment

Australia's investment in the NIP is lower than any other nationally funded health program⁴ and overall, Australia's investment in prevention is lower than other advanced economies.⁵



Affordability

Vaccines that are recommended by the Australian Government's own clinical experts, the Australian Technical Advisory Group on Immunisation (ATAGI) are not all available via the NIP.⁶ This is particularly evident in newer innovative vaccines.



Time

It takes an average of 1375 days from the time a vaccine is approved for use in Australia to it being listed on the NIP – almost four years.⁷



Awareness

Even for vaccines on the NIP, not enough older Australians are accessing them. Vaccination rates for shingles (Zoster) were 30.6% for Australians aged 70, and 62.1% for influenza vaccination in adults aged 65-69 in 2021.⁸



Access

Australia faces a shortage of General Practitioners⁹ (GPs), lengthy waiting times and low bulk-billing rates¹⁰. Recognising this barrier, some state jurisdictions have enabled pharmacists to initiate and administer appropriate vaccinations.

Preventative health spend vs total health spend

Australia



United States



United Kingdom



Canada



The solution

To restore equity to the NIP and protect older people, the Australian Government must partner with industry, technical experts in economics and social policy, healthcare professional bodies and consumers to:



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

This includes:

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



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

This includes:

- **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.
- **Awareness and communications materials for the community and health professionals** – focusing on reaching our community's most vulnerable. Materials would include easy-English, translations and targeted materials for Aboriginal and Torres Strait Islander people.
- **Boosting the accessibility of vaccinations** – leveraging existing health networks and key partners such as community health centres, councils, pharmacies, aged care facilities, and clinical specialty groups.
- **Defined immunisation rate goals, governance and review frameworks** – driving accountability and quality improvement utilising the Australian Immunisation Registry (AIR) and established reporting frameworks.

A portrait of Professor Robert Booy, a woman with dark hair and glasses, wearing a white top and gold jewelry. The background is a blurred office setting.

“The postcode you live in shouldn't be a predictor of your health. By addressing the underlying barriers to immunisation we can build a stronger, healthier and more resilient Australia for all.”

Professor Robert Booy

Professor of Paediatrics and Child Health, University of Sydney



Actions would be delivered in support and in conjunction with broader Australian Government policy frameworks such as: the National Immunisation Strategy 2019 - 2024; the National Preventative Health Strategy 2021- 2030; the Health Technology Assessment Policy and Methods Review; the review of base case discount rate in the Pharmaceutical Benefits Advisory Committee (PBAC) guidelines; and the Medicare Benefits Schedule (MBS) Review.

Inequality in access across Australia

Data captured in 'Risk to Resilience' clearly demonstrates that every Australian postcode is being impacted by these challenges, however the access barriers identified in this report are concentrated in our most disadvantaged communities.

Today, 8.9 million Australians are aged 50 years or older. Of these, around 4.1 million are living with a chronic condition that makes them more vulnerable to preventable disease and more likely to be hospitalised or die from the disease.¹¹ Many older Australians are on limited income or have limited education, which can make it more difficult to access healthcare.

The Australians most affected by the current barriers are:



Lower socioeconomic groups

When viewing all electorates there is a clear correlation between lower incomes and far greater share of the older population with co-morbidities, and a very evident gap between those who have financial means and those who do not. Further, the life expectancy of the lowest socioeconomic groups is nearly 6 years lower than the highest groups.¹⁸



People of Tasmania and South Australia

These states have older populations, lower average incomes and high incidences of chronic conditions. These two states are also expected to retain the highest percentages of elderly population in the future compared to other states and territories.¹¹

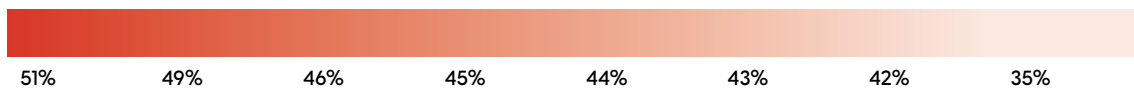
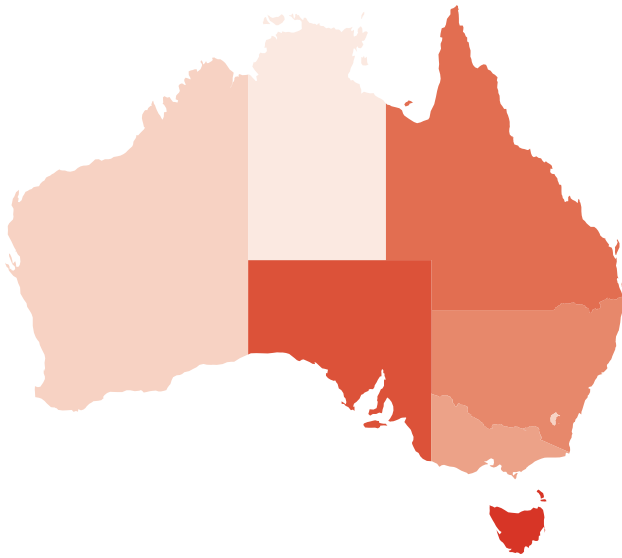


Regional and Remote Australians

Australians in these communities have the highest rates of ill health compared to those living in major cities. Regional and remote Australia also have limited access to health professionals and health services, leading to higher rates of hospitalisation and earlier death.¹²

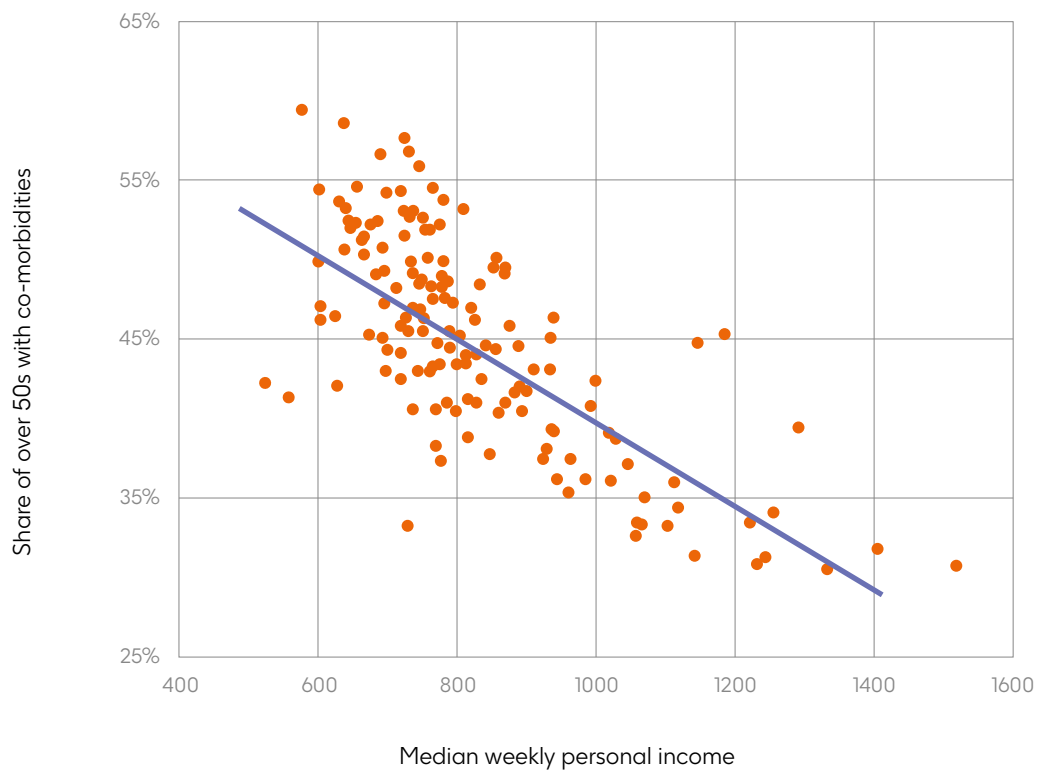
Variation in burden of disease across states

Key State/Territory	Share of over 50s with co-morbidities
TAS	51%
SA	49%
QLD	46%
NSW	45%
VIC	44%
ACT	43%
WA	42%
NT	35%



Correlation between income and chronic illness at electorate level

All electorates



Top 15 hot spots

The data presented below highlights Australia's hot spots. These are the federal electorates with populations that are the most vulnerable to preventable disease and challenged in accessing health care. These are also the communities where the impact of improved access to vaccinations will be the greatest.

Many of the socioeconomic factors analysed are linked one to another. For example, electorates with low average income tend to also have high number of co-morbidities, as well as low education, which can compound risks. Regional Australia is also over-represented due to these overlaps.

Electorate	State/Territory	Area	Share of pop. over 50+ (highest 20)	Income (lowest 20)	Share of pop. over 50+ with co-morbidities (highest 20)	Level of education (lowest 20)
1 Hinkler	QLD	Regional	●	●	●	
2 Lyne	NSW	Regional	●	●	●	
3 Cowper	NSW	Regional	●	●	●	
4 Grey	SA	Regional	●	●	●	
5 Spence	SA	Metro		●	●	●
6 Gilmore	NSW	Regional	●	●	●	
7 Maribyrnong	VIC	Metro	●	●		
8 Wide Bay	Qld	Regional	●	●		
9 Page	NSW	Regional	●	●		
10 Gippsland	VIC	Regional	●	●		
11 Maranoa	QLD	Regional	●	●		
12 Braddon	TAS	Regional		●	●	
13 Fowler	NSW	Metro		●		●
14 Blaxland	NSW	Metro		●		●
15 McMahon	NSW	Metro		●		●

Data from all federal electorates were ranked across the following socioeconomic factors: income, percentage of population over the age of 50, percentage of the population over the age of 50 with co-morbidities and level of education attainment. Federal electorates which ranked in the Top 20 of each factor were tallied to create this table of summary data which indicates which socioeconomic factor each federal electorate was at heightened risk.

Impact on the most vulnerable

Beyond the factors considered in this report, access to adult vaccination is also more challenging for Aboriginal and Torres Strait Islander and Culturally and Linguistically Diverse communities, compounding existing health inequities.

These populations are identified as a priority population in several Australian Government health strategies. For the NIP to be maximised, a targeted approach to immunisation must be developed in partnership with communities.

The Aboriginal and Torres Strait Islander population is young. Only 5.6% of Indigenous Australians are aged 65 and over (compared with 17% of non-Indigenous Australians). However, the burden of disease among Aboriginal and Torres Strait Islander people is 2.3 times that of non-Indigenous Australians.¹³ This means that Aboriginal and

Torres Strait Islander people are more likely to be living with a chronic condition, at a younger age, contributing to higher rates of hospitalisation and earlier death.¹⁴ The NIP has a specific schedule for Aboriginal and Torres Strait Islander people, recognising the increased burden of disease.¹⁵ However, uptake of these vaccinations is low.¹⁶

Australia is an ethnically diverse nation. More than 7 million people living in Australia were born overseas and 6 million speak a language other than English. As evident in the COVID-19 pandemic response, culturally and linguistically diverse communities face additional barriers to accessing vaccinations. This includes a lack of knowledge about disease and the vaccines, low English proficiency and education levels, misinformation, passive government communications strategies, as well as limited access to vaccine clinics/providers.¹⁷



5.6%

of Indigenous Australians are aged 65 and over



2.3x

increased burden of disease among Aboriginal and Torres Strait Islander people compared to non-Indigenous Australians



7.6 million

Australian residents born overseas



6 million

speak a language other than English

Healthy ageing through prevention

“Every Australian deserves equal protection from preventable diseases, no matter where they live. Providing equal access to immunisation is an essential step towards building a healthier society, where every person can thrive and contribute to the wellbeing of our community.”

Dr. Sarah Chu

Australia's Ageing Population²⁶

- A 65 year old Australian male today can expect to live another 20.3 years and a female another 23.0 years.¹⁸
- The proportion of Australians aged 65 is expected to increase from 16.3% in 2019-2020 to 23% in 2060-2061.¹⁴
- Real person health spending is projected to more than double to \$8,700 in 2060-2061, up from \$3,250 in 2018-2019.¹⁴
- Health comprises the single largest component of Australian Government spending; it is expected to account for 26% of health spending in 2060-2061.¹⁹
- In 2017, the Productivity Commission conservatively estimated that the gross domestic product (GDP) could be increased by \$4 billion per year if the health of people in fair or poor health was improved.²⁰

The immune system changes over an individual's life^{1,2}

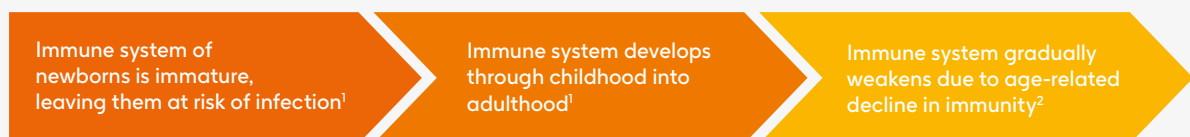


Figure developed for illustrative purposes only.

1. Simon AK, et al. *Prac Biol Sci* 2015; 282:2014-3085; 2. Weiskopf D, et al. *Transpl. Int.* 2009; 22:1041-1050

Adult vaccination is an investment

Vaccinations keep people well, reducing demands on primary care, hospitals, increasing productivity and benefiting the community and economy.

The Australian Government has recognised this "value" extensively in policy frameworks including the National Preventative Health Strategy 2021-2030,²¹ the National Immunisation Strategy for Australia 2019 to 2024,²² and the National Medicines Policy.²³

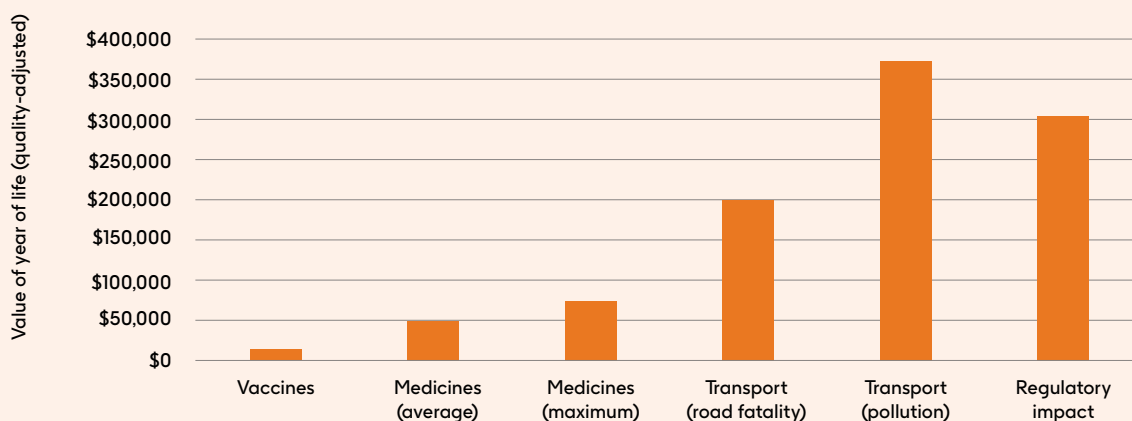
Methods utilised to assess vaccines for inclusion on the NIP can lead to outcomes that do not align with the Government's policy aims or clinical advice. Australia's Health Technology Assessment (HTA) system was developed in the 1990s and in many ways has not kept pace with technology or international best practice. Systems and processes for assessing medicines

for public funding are targeted to medicines that treat and manage disease short term.²⁴ This includes the use of "discounting" at a higher rate than is used for other developed countries.

A clear example is Australia putting a lower value on human life than similar countries overseas, and even than other sectors of the Australian Government such as transportation.²⁵ This means that the Government will not pay the same price for extending life or improving quality of life with a vaccine as other countries, or even itself with a road safety measure.

It is noted the Australian Government is conducting a review of the policy and methods utilised to assess the value of medicines and recently completed a review of the base discount rate.

Value placed on life by policy area, Australia



Source: Adapted from Cubi-Molla *et al.* 2021. Table 2 and Shawview Consulting, 2021. Valuing Vaccines: Ensuring Australia's access to vaccines today and tomorrow, p51 (vaccine threshold)



COVID-19 vaccines have been estimated to have reduced the pandemic's economic toll on the Australian economy by \$214 billion.²⁶

CASE STUDY:

Shingles

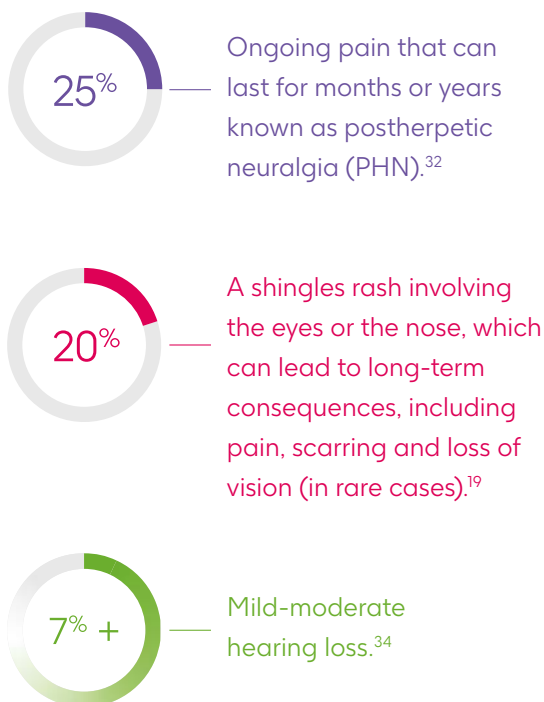
About 1 in 3 Australians risk getting shingles in their lifetime.²⁷⁻²⁹

Shingles is triggered by the reactivation of the chickenpox virus (varicella-zoster virus) in adulthood.

Up to 99.5% of adults 50 years of age and older already have the virus that can cause shingles.³⁰

A person's risk of shingles increases with age.³¹

Shingles typically produces a painful rash. In most cases, shingles resolves and people recover fully. However, some people develop complications including:



People with some diseases – such as HIV or cancer – or 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 four times higher than the general population.³⁵



Penny's Story

In early June 2022, Penny developed a rash she thought was a symptom of another illness.

A few days later Penny began to feel tremendous pain and terrible lethargy. She went to a medical centre. It was then that she was diagnosed with shingles by a doctor and treated with a course of antiviral medication.

The tiredness and ongoing nerve pain made working impossible for several weeks. Exposure to sunlight or heat caused excruciating pain.

Even now, Penny has some pain, itchiness and ongoing tiredness.

“The impact of shingles has been significant for me. I still have neuralgia pain and have been left with scarring from the rash.

- Penny

CASE STUDY:

Whooping Cough/Pertussis

Commonly known as whooping cough, pertussis is a respiratory illness caused by the bacteria *Bordetella pertussis*.³⁶

Whooping cough is extremely contagious, infecting up to 90% of susceptible household contacts.³⁷

- **Early symptoms include:** runny nose, low grade fever, mild cough, apnoea (temporary cessation of breathing).²⁸
- **Late stage symptoms include:** paroxysmal cough, vomiting (during/post coughing), exhaustion (post coughing fits).³⁸

As we age, we become more vulnerable to whooping cough.^{39,40}

Around 40% of older adults with pertussis are likely to suffer from complications, including:^{41-43*}

- Pneumonia
- Urinary incontinence in women
- Hernia
- Rib fracture

Adults with chronic obstructive pulmonary disease (COPD) or asthma may have an increased susceptibility to whooping cough and may suffer more severe symptoms with the infection compared with adults without asthma or COPD.⁴⁴

1 in 10



cases of whooping cough require hospitalisation^{45**}

*Effect of age on clinical presentation of pertussis was assessed in 280 adolescents and 384 adult cases from the Canadian surveillance system. In a separate review, complications associated with pertussis occurred in approximately 25% of adults and in approximately 40% over the age of 60.³⁷

**The study analysed a national primary care database between Jan 2006 to Aug 2015, which included 120 million individual encounters from at least 2 million unique patients across Australia.



Tim's Story

In 2011, Tim had been interstate for work.

On returning home, Tim began coughing frequently and found it difficult to stand up.

Tim was unsure what was happening, so he made an appointment with his doctor. Tests confirmed Tim had whooping cough, with the doctor warning him of the risks of infecting his family, friends, co-workers – basically, anyone Tim had contact with – with the disease.

Tim was one of many Australians who have been vaccinated against whooping cough as a child, but as he was 41 years old when he tested positive, the vaccine no longer protected him.

I basically had a constant cough and headache for three months. I felt like time seemed to just go on forever and it was a horrible experience, I thought I'd never get over it.

- Tim



Conclusion

The Australian Government has an opportunity to increase access to vaccinations to support our older population to live longer and healthier - to age well.

Vaccinations deliver better health outcomes and significant economic benefits. They are a preventative health intervention that will deliver results in the immediate term and into the future.

This has been no more evident than in the COVID-19 pandemic response. It has also been proven by the NIP's impact on disease among Australian children and babies.

However, the potential of vaccines and the NIP are not being maximised for all Australians.

'Risk to Resilience: a roadmap to vaccine access for older Australians shows the enormity of the impact strengthening the NIP to benefit more Australians will have. It quantifies the benefits of a NIP that is expanded to include providing the latest advancements in vaccines for older Australians. It shows that funding a redesigned NIP is an investment, not a cost.

About the report

GSK commissioned Clarivate Life Sciences and Health Care to conduct a detailed analysis mapping federal electorate divisions by four factors that may make people more vulnerable to preventable disease and subsequent poorer health outcomes.

The analysis included key national trends as well as socioeconomic factors from the Australian Bureau of Statistics (ABS) Census DataPack.⁴⁶ A range of publications were also consulted as part of secondary research. The four socioeconomic factors considered were:

- **Income** - calculated as average personal weekly income. Please note overall wealth may be impacted by other elements, such as assets, not considered in this case.
 - Low income may impact the ability to pay for health services, including for out-of-pocket doctor visits and vaccines, decreasing likelihood of access to vaccination.
- **Older population** - calculated as a percentage of people over 65 years old out of the total population.
 - Older people are more prone to infectious diseases and may be subject to additional health risks, increasing their vulnerability.
- **Education** - calculated as percentage of people who did not go to school out of the total population.
 - Poor education may limit health literacy and awareness of vaccination options and benefits, decreasing likelihood of access to vaccination.
- **Co-morbidities** - calculated as a percentage of people over 50 years old with key co-morbidities such as heart disease, lung disease, diabetes, arthritis and kidney disease out of the the total population.
 - Co-morbidities make people more prone to infectious diseases and their complications, increasing their vulnerability.

It should be noted that considering only four socioeconomic factors to identify population groups at risk may not offer a full classification of areas and population groups at varied risk. The insights shared in this report are useful to inform policy change, however, they do not intend to offer a perfect overview, list, and classification of groups at risk. Considering different socioeconomic factors, or adding new factors to this analysis, may lead to different results. Future studies should be conducted to explore which other factors may contribute to making certain groups more or less at risk.

About GSK

GSK is a biopharma company with the ambition and purpose to unite science, technology, and talent to get ahead of disease together. We aim to impact the health of 2.5 billion people over the next 10 years. At the centre of this is our R&D focus on the science of the immune system, human genetics and advanced technologies, and our world-leading capabilities in vaccine and medicines development.

In Australia, we offer a broad portfolio of innovative and established vaccines and medicines in respiratory disease, HIV, and oncology. Our vaccines have been at the heart of the Australian National Immunisation Program 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 500 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 March 2023

For further information
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