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Expert Report 2

Strengthening the focus on prevention of chronic disease through applying evidence-based insights

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Special Commission of Inquiry into Healthcare Funding

This Expert Report was undertaken by the Sax Institute for the NSW Special Commission of Inquiry into Healthcare Funding.

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Key points

About prevention

- The causes of ill-health are changing, with an upsurge in chronic disease
- Chronic diseases have a significant burden on individuals and the community as well as the NSW Health system
- Chronic disease has a clear social gradient
- The risk factors for ill-health are often preventable
- Prevention, or preventive health, occurs both upstream (supporting social and environmental conditions that support health and addressing risk factors for ill-health before it occurs) and downstream (addressing disease that has already occurred)
- There is compelling evidence for the health, economic and social return on investment in prevention

About the prevention system

- A multisectoral approach is needed to address the highly complex and interconnected causes of disease
- Many of the responsibilities for prevention of disease fall outside the health system, however, the NSW Health system has an important role to play in prevention
- Within the existing funding context and compared to other Australian states and territories, NSW Health has a long-standing commitment to, infrastructure for, and track record in prevention, but there are lessons for improvement from other jurisdictions and from the COVID-19 experience

Funding for and investment in prevention

- Current health spending reflects a historic focus on acute care
- The flow of funding for prevention is highly opaque
- Funding models for health (and prevention) may determine where funds are directed and how they can be used
- Nationally, in 2019–20 investment in prevention was $140 per person (less than 2% of total expenditure) ranging from $117 per person (Victoria) to $554 (Northern Territory)
- In 2019–20, the NSW estimates for spending on prevention was $156 per person. In 2021–22 NSW Health reported 10% of total health expenditure on prevention
- Lack of transparency makes comparing prevention spending within Australia and internationally difficult
- While quantum is important, so is the quality of investment in prevention

Opportunities to strengthen prevention in NSW

- Improve transparency in reporting on prevention expenditure to make investment more sustainable
- Contribute to national processes to develop funding mechanisms to increase investment in prevention
- Consider quality (and mechanisms) vs quantum in prevention funding
- Safeguard prevention within the NSW Health system
- Focus prevention activity to areas with the potential for greatest gains and be prepared for new challenges

Introduction

1. The prevention of disease has been raised in evidence to The Special Commission of Inquiry into Healthcare Funding (the Inquiry) as a factor impacting demand on the health system. Evidence from submissions and hearings has highlighted a need to support an effective prevention system in NSW.

2. The Australian Government, together with state, territory and other partners, funds The Australian Prevention Partnership Centre (Prevention Centre), a centre of the Sax Institute. To inform the deliberations of the Inquiry, the Sax Institute was commissioned to provide expert advice on strengthening the focus on prevention of chronic disease through applying evidence-based insights.

3. This report is intended to provide a synthesis of the evidence for prevention and articulate issues for the Inquiry to consider in development of its recommendations, specifically in relation to supporting the prevention of physical and mental ill-health.

Background

Why do we need prevention?

The causes of illness are changing, and Australians are living for longer with ill-health

4. Australians have one of the longest life expectancies in the world, due in part to the success of past prevention programs such as tobacco control, seatbelt legislation and reduction in hypertension. Nevertheless, more Australians are living with ill-health than ever before.[1]

5. Over the last 100 years, deaths from infectious diseases have declined, while deaths from chronic conditions such as arthritis, cancer, respiratory disease, mental ill-health, heart disease and type 2 diabetes have increased. These chronic conditions are an ongoing cause of substantial ill-health, disability and premature death in Australia:[2]
   - Chronic conditions contributed to between 89 and 92% of all deaths each year from 2002 to 2022
   - 91% of the non-fatal burden of disease in Australia is related to chronic disease
   - 61% (15.4 million) people were living at least 1 chronic condition
   - 38% (or 9.7 million) people were living with 2 or more chronic condition

6. Australia is also facing emerging health threats such as an increase in communicable diseases driven by climate change, and pandemics. In 2022, COVID-19 was the third leading cause of death, making it the first time in over 50 years that an infectious disease has been in the top 5 leading causes of death in Australia.[2]

7. There is a link between communicable and non-communicable disease. People living with ill-health may be more susceptible to communicable disease (for example, people living with obesity experienced significantly higher COVID-19 morbidity and mortality).[3] At the same time, many infectious diseases may cause chronic conditions or may have prolonged, sometime lifelong chronic elements.

Chronic diseases create a significant burden on individuals and the community

8. Disease impacts individuals through the effects of living with illness or from dying prematurely. It reduces people's ability to enter or remain in the workforce and to contribute to their families and communities.[4]

9. Half of all people aged 18 and over who have more than one chronic disease experience disability, restriction or limitation compared with 8% of people of the same age with no long-term conditions. Over one third (35%) of people with chronic diseases report they experience high or very high levels of psychological distress (compared with 4% of those without chronic disease) and most (88%) people with chronic disease experience recent pain, compared to 55% of those without chronic disease.[4]

10. People with chronic illnesses are 60% less likely to participate in the labour force, are less likely to be employed full time, and are more likely to be unemployed than people without chronic disease.[4]

11. The economic costs of lower productivity are often estimated to be much larger than healthcare and other costs to government. An Australian study estimated the annual productivity loss that could be attributed to individual risk factors were between $840 million and $14.9 billion for obesity; up to $10.5 billion due to tobacco; between $1.1 billion and $6.8 billion for excess alcohol consumption; up to $15.6 billion due to physical inactivity and $561 million for individual dietary risk factors.[5]

Chronic disease in Australia has a clear social gradient.

12. Disadvantaged communities and groups experience much higher rates of chronic disease and poorer health outcomes. Australians living in the poorest areas experience the highest rates of obesity, diabetes, heart disease and other chronic conditions, as well as economic exclusion and social isolation. In 2015, the Australian Institute of Health and Welfare found that 20% of years of healthy life lost could have been avoided if differences between socioeconomic groups were addressed.[6]

13. Prevention has an important role in achieving health equity. This is one of the prime aims of the National Preventive Health Strategy,[7] which sets targets to specifically reduce the unfair burden of disease for Aboriginal and Torres Strait Islander people, people living in regional and remote areas, and those Australians in the two lowest Socio-Economic Indexes for Areas quintile.

Chronic diseases pose a significant burden on the NSW Health system

14. People living with chronic conditions often have complex health needs and require services from all levels of the health system. This burden compounds the growing demands for health services due to the ageing population.

15. In 2020–21, the three conditions associated with the highest health spending in Australia were chronic conditions: [8]
    - Musculoskeletal disorders, such as back pain and osteoarthritis: $14.7 billion (9.8%)
    - Cancer and other neoplasms: $14.6 billion (9.7%)
    - Cardiovascular diseases: $14.3 billion (9.5%)

16. In 2018-2019, health system spending attributable to potentially avoidable risk factors was $24 billion.[9] The top 5 risk factors contributing to health spending were:
    - Overweight (including obesity) ($4.3 billion)
    - Tobacco use ($3.3 billion)
    - High blood plasma glucose ($3.2 billion)
    - Alcohol use ($2.1 billion)

17. Hospital admissions increased by 400,000 nationally between the financial years 2018–19 and 2022–23, largely as a result of chronic conditions (including diabetes, heart disease and asthma) and infections and viruses (including COVID-19, influenza and respiratory syncytial virus (RSV)).[10]

18. The Royal Australian College of General Practitioners estimates that over 30% of all hospitalisations could be avoided by better management of chronic conditions.[11]

The risk factors for ill-health are often preventable

19. In Australia, a large proportion of preventable disease and years lived in poor health is caused by overweight and obesity, tobacco use, unhealthy diet and physical inactivity. These compound each other and contribute to other major risk factors for disease, such as high blood pressure and high blood plasma glucose.

20. The impact of these risk factors is spread inequitably across the Australian population. Some groups, such as lower income groups, people living in rural and remote Australia, Aboriginal and Torres Strait Islander peoples and people with disability, experience a much higher burden of risk factors and chronic disease.

21. The reasons people experience risk factors for disease differently are complex and varied. The risk of disease is influenced by where people live and work, their socioeconomic background, and their level of education[12] - the wider 'determinants of health'.

22. The determinants of health include social, environmental, structural, economic, cultural, biomedical, commercial and digital factors.[13,14] The National Preventive Health Strategy calls these the 'causes of the causes' that underpin why some people are more likely to engage in less healthy behaviours.[15]

23. This complexity means health is influenced by more than people's individual decision-making. Simple, independent, one-off solutions do not work to prevent ill-health.

There are emerging health issues that will require a prevention response

24. COVID-19 has highlighted the importance of being prepared for the future and the ability to pivot to address new issues and adopt new technologies. For example:

- While precision medicine and genomics have potential to improve outcomes across primary, secondary and tertiary prevention for individual patients,[16] their rapid roll out will have profound impacts beyond the initial index case. For example, people discovered to have a genetic susceptibility for cancer or other diseases will have increased expectations on the health system to provide support, including advice and prevention services and programs.

- There are new and effective drugs such as Ozempic® (semaglutide) that, in conjunction with behavioural interventions, can address the risk factor of obesity at an individual level. However, the cost of these to the health system will be very high. When Ozempic was listed on the Pharmaceutical Benefits Scheme (PBS) in July 2020, the Australian Department of Health noted that in the previous year 40,000 patients accessed a comparable treatment. Prior to subsidy through the PBS, one course of treatment would cost patients more than $1,700, but with subsidy the cost to individuals was reduced to $41 per script, or $6.60 with a concession card.[17] Health services will also need capacity to manage treatment of those for whom drugs are not enough, for example, though bariatric surgery. It will be important to continue to invest

in prevention of obesity to prevent any expenditure from pharmacological treatments continuing to grow.

- Digital health technologies have a low marginal cost and can be highly effective and cost-effective.[16] People's preferences for how they access information and support is changing, and recent experience, such as in the COVID-19 pandemic, has provided useful lessons for chronic disease prevention. Capturing and sustaining these gains can provide long-term benefits for implementation of prevention at scale.

Further reading
Australian Institute of Health & Welfare: Australia's Health 2024
Australian Institute of Health & Welfare: Australian Burden of Disease Study 2023
Australian Institute of Health & Welfare: Health system spending on disease and injury in Australia, 2020-21

About prevention

How is prevention defined?

25. Prevention – also called preventive health – is any action taken to keep people healthy and well, and prevent or avoid risk of poor health, illness, injury and early death.

26. Prevention means different things to different people. To some, it may mean health programs and services that support individuals to improve their health, such as health education, screening or disease management, generally undertaken by departments of health or local health services.

27. To the public health community, prevention has a broader focus and comprises a population lens. This includes a focus on interventions aiming to change health behaviour at the population level, such as changes to environments, social media campaigns and programs and services delivered at scale, for example, through schools and early childhood settings.

28. Effective prevention decreases the risk of individuals and populations experiencing a disease, condition or injury.[18] It also supports people to effectively manage existing diseases or conditions, so their health does not worsen.

Prevention can occur upstream or downstream

29. It may be useful to think of prevention as occurring upstream or downstream:
    - **Upstream** prevention acts on the root causes of disease – the determinants – and modifiable risk factors for disease to prevent ill-health before it occurs
    - **Downstream** prevention is more reactive and addresses disease that has already occurred, such as through medications and hospitalisations offered by state health departments.

30. Effective upstream prevention measures have the potential to reduce the prevalence of chronic diseases. Effective downstream prevention has the potential to reduce the incidence of complications, improve quality of life, prolong life, save medical costs and reduce mortality.[19]

31. There are four levels of preventive actions and strategies (Figure 1):

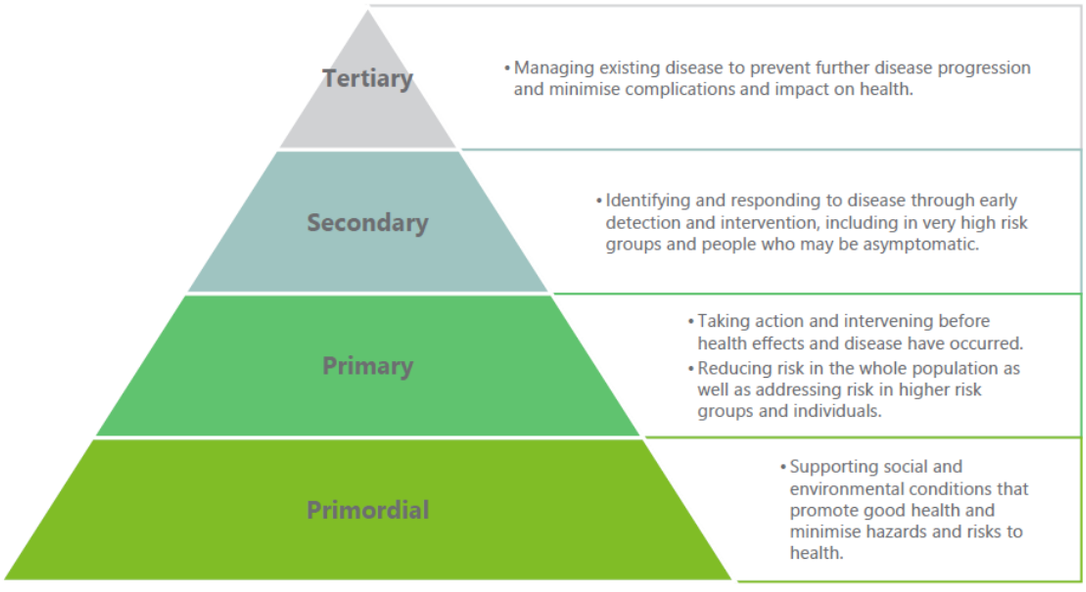


Figure 1: Levels of prevention

32. Each of these levels of prevention requires a different level of agency on the part of the individual to achieve change.[20]

- **Primordial prevention** refers to population-level strategies, often implemented by governments or the community, that expose the whole population or subgroups to conditions that support health. Examples include water fluoridation, mandatory seatbelt use, addressing socioeconomic factors such as food security, safe housing and education.
- **Primary prevention** aims to address the risk factors for ill-health, such as poor diet, physical inactivity, and alcohol or tobacco use. This may be achieved through policy and legislation to change the environment (e.g. public transport and active travel infrastructure to encourage physical activity, restrictions on advertising unhealthy products, smokefree legislation) mass media campaigns or education programs.
- **Secondary prevention** requires a greater effort by individuals. Strategies tend to target high-risk groups and include screening for cancer.
- **Tertiary prevention** involves disease management to prevent further progression and the development of complications. Examples include chronic disease management programs and medical interventions including treatment of hypertension, which have achieved significant benefits in recent decades.

<u>Effective prevention requires a systems approach</u>

33. To effectively prevent complex chronic health problems in the long term, recognising the role of social, economic and environmental factors and how each of these interacts, requires a systems approach.[21]

34. A systems approach considers the wider systems that directly impact on health or can help or hinder behaviours that cause chronic health problems. These include communities, food systems, housing and workplaces, and how each of these interacts to create environments that support healthy decision-making.

35. For example, our environment drives unhealthy food habits:
    - Australian supermarkets heavily promote unhealthy food and beverages in-store
    - The cost of a healthy diet is generally higher in low socioeconomic areas and is much higher in very remote parts of Australia
    - Australian children are exposed to a constant barrage of promotions for unhealthy food and drinks as they travel to school, play and watch sport in their community
    - People living in low socioeconomic areas are also exposed to a greater number of promotions for unhealthy food [22]
    - Access to affordable transport among lower socioeconomic groups influences commuting time, which goes on to determine time available to prepare healthy meals.[23]

36. In policy making, it should be noted that changing one part of the system can influence other parts, with possible unintended consequences. For example, town planning that creates low density neighbourhoods with a greater reliance on cars may have the unintended consequence of lowering physical activity and therefore increasing the risk factors for ill-health.[24] A one-hour extension to trading hours for takeaway alcohol sales and home delivered alcohol in NSW has been associated with a small but statistically significant increase in domestic violence assaults (an additional 1,120 assaults over three years).[25] Relationships between risk factors and behaviours also change over time.[22]

What is the value of prevention?

37. The primary benefit of prevention is improving human capital by improving quality and longevity of people's lives and addressing health inequity.

38. Effective chronic disease prevention improves quality of care, reduces health inequity, and improves health outcomes including reducing delays or preventing people moving into higher-risk categories for disease. Prevention also supports improved health system efficiency, thus creating capacity to meet increasing service demands.

39. It is estimated that 38% of the burden of chronic disease, and 49% for Aboriginal and Torres Strait Islander people, could be prevented through a reduction in modifiable risk factors such as overweight and obesity, physical inactivity, dietary risks, and alcohol, tobacco and other drug use.[26] To address health inequity, the Kings Fund argues that the UK National Health Service has a central role in delivering equitable care and working with others to tackle health inequality. They argue that reorienting health services towards prevention is one of the mechanisms to do this.[27]

40. The evidence suggests that even small changes in the prevalence of these risk factors at the population level are likely to lead to significant reductions in the health burden for individuals and the healthcare system, as well as a reduction in economic and societal costs for communities, businesses and governments.[28]

41. Primary prevention strategies addressing overweight and obesity, unhealthy diet, physical inactivity, and tobacco use are valuable interventions for governments and communities to implement, with numerous health benefits including less chance of:[28]
    - dying young
    - developing a chronic disease
    - suffering complications of disease
    - suffering infectious diseases such as COVID-19
    - experiencing pain
    - going to hospital or taking regular medications
    - becoming overweight or obese

- developing high blood pressure, high cholesterol or diabetes
- being injured.

42. Prevention strategies can also produce mental wellbeing benefits:[28]
    - Supporting people to do more physical activity significantly reduces the risk of depression, anxiety, agoraphobia, post-traumatic stress disorder and psychosis.
    - Encouraging healthier diets would lower the number of people at risk of depression.
    - Providing access to green space improves psychological distress levels and prevents the risk of psychological distress in people aged over 45 years.[29,30]

43. Prevention results in numerous 'co-benefits' – or multiple benefits beyond health and into other sectors of society. For example, increased physical activity in schools increases concentration, academic performance in addition to health outcomes of students[31]. Actions that aim to prevent chronic disease are also likely to improve productivity, reduce absenteeism and achieve economic benefits for Australia.[32]

44. The economic benefits of preventive health range from macroeconomic benefits, such as improvements in gross domestic product (GDP), to other societal benefits such as reduced environmental impacts and healthcare system cost savings.

45. There is strong evidence for the cost effectiveness of prevention interventions, regulatory approaches such as tobacco control, restrictions on advertising of unhealthy food to children, and taxation of unhealthy products like alcohol, tobacco and sugary drinks.[5]

46. There is also strong evidence for return on investment of prevention interventions both within and outside of health, with benefit for individuals (including in early childhood, education and pregnancy) and a reduction in societal costs for communities, businesses and governments.[28]

Further reading
The Australian Prevention Partnership Centre: The value of prevention: a rapid review
Productivity Commission: Shifting the Dial; 5-year Productivity Inquiry report

About the prevention system

What is a 'prevention system' and what does a strong prevention system look like?

47. A prevention system is a system that provides a coordinated and evidence-driven approach to prevention. It recognises the complexity of the many interconnected factors that contribute to good health and addresses the wider determinants of health.

48. The National Preventive Health Strategy 2021–2030 defines the prevention system as:

> *The people, processes, activities, settings and structures, as well as the dynamic relationships between them that can protect, maintain and promote the health and wellbeing of individuals and their families, communities and environments.*

Prevention requires a multisectoral approach

49. Effective prevention requires involvement from diverse entities and multiple sectors working at different levels to prevent chronic disease. This includes national, state and local governments, health departments and other government agencies, non-government, community and professional organisations, research and academia, the private sector, and communities, families and individuals.

50. Effective prevention systems require:[33]
- a collaborative mindset[i] to support cross-sector partnerships (with mindset particularly important among public sector leaders)
- leadership, governance and accountability for prevention
- a health equity paradigm, including action on the social determinants of health
- a focus on multifaceted and sustained implementation
- information including surveillance of chronic disease, monitoring of system performance, research and evaluation and knowledge exchange
- financial, workforce and technological resources.

Who is responsible for prevention?

A whole-of-government approach is needed for effective prevention

51. Several submissions to the Inquiry have noted the need for the integration and coordination of prevention activities beyond the health system in a whole-of-government approach, including appropriate investment beyond the health system.

52. Working closely with other sectors, such as education, planning, transport and climate policy, can lead to more sustainable systems changes, often through upstream preventive action and with wide ranging cross-sectoral co-benefits. While this increasingly understood, currently it is not well acted upon.[34] The National Preventive Health Strategy notes the need for leadership, political will and accountability for action across sectors of government including transport, urban planning, social services, agriculture, housing and food systems, and organisations addressing air and water quality.[7]

53. A systematic review of whole-of-government approaches describes various mechanisms to support this approach, including creation of interagency coordination bodies or central units with mandate and authority, and establishing ‘boundary spanners’ (people or groups that work across departments of sectors).[35]

54. However, experience from Denmark suggests structures are not enough to create collaboration, integration, policy change and action. This is due in part to the challenges in achieving commitment to health as a shared objective across government, managers’ core responsibility for their non-health functions, and lack of capacity to implement change.[36] The authors suggest promoting the awareness within agency silos about the implications of their work on public health (also noted by the National Preventive Health Strategy) and enhancing ‘boundary spanning’ skills for public health.

55. The UK National Audit Office has developed a good practice guide including six models of cross-government along a continuum from simple collaboration, to department contribution, to a joint plan, to budget transfers, to machinery of government changes.[37]

[i] Mindset is a set of attitudes of a person or group including culture, values and frame of reference. A collaborative mindset involves working together for a common goal.

56. The role of the Australian, state and territory governments includes:[7,38,39]
    - Creating social policy to address the social determinants of health (e.g. in the areas of early childhood education, housing and employment)
    - Establishing prevention priorities and strategies (e.g. National Obesity Strategy, NSW Hepatitis C Strategy)
    - Creating and enforcing legislation and regulation to support healthy choices (e.g. NSW laws on the sale of cigarettes to minors, national laws on mandatory pregnancy warning labels on alcoholic beverages)
    - Using fiscal measures to shift consumer behaviours (e.g. excise on tobacco products, GST exemption on fruit and vegetables)
    - Creating environments and infrastructure to support health (e.g. transport, urban planning and food systems)
    - Delivering public education (e.g. SunSmart and quit smoking social marketing campaigns)
    - Delivering services and programs (e.g. cancer screening, immunisation, suicide prevention)
    - Supporting evidence-informed practice, research and evaluation to further develop the evidence base and monitoring and reporting on achievements in prevention.

57. While many prevention-related strategies exist nationally and across states and territories, implementation can fall short of ambition, particularly in relation to actions that focus on legislation, fiscal measures and creating healthy environments. For example, despite strong evidence of effectiveness and a raft of preventive health policy directions in Australia, there has been very little or limited progress in relation to food composition standards, restrictions on food advertising or taxes on unhealthy foods.[40]

58. Maximising the impact of prevention requires a strong commitment to implementation, monitoring and public reporting. It also requires close alignment between the states and territories, for example through the National Health Reform Agreement[41] and other Australian whole-of-government approaches such as the National Agreement on Closing the Gap.[42]

59. Closing the Gap is a partnership between governments and the Coalition of Aboriginal and Torres Strait Islander Peak Organisations. The aim is to 'overcome the entrenched inequality faced by too many Aboriginal and Torres Strait Islander people so that their life outcomes are equal to all Australians'. The agreement includes priority reform areas, jurisdictional and partnership actions, targets and indicators, a requirement for implementation plans, shared and public accountability for actions.

<u>The public health system is just one player in the prevention system.</u>

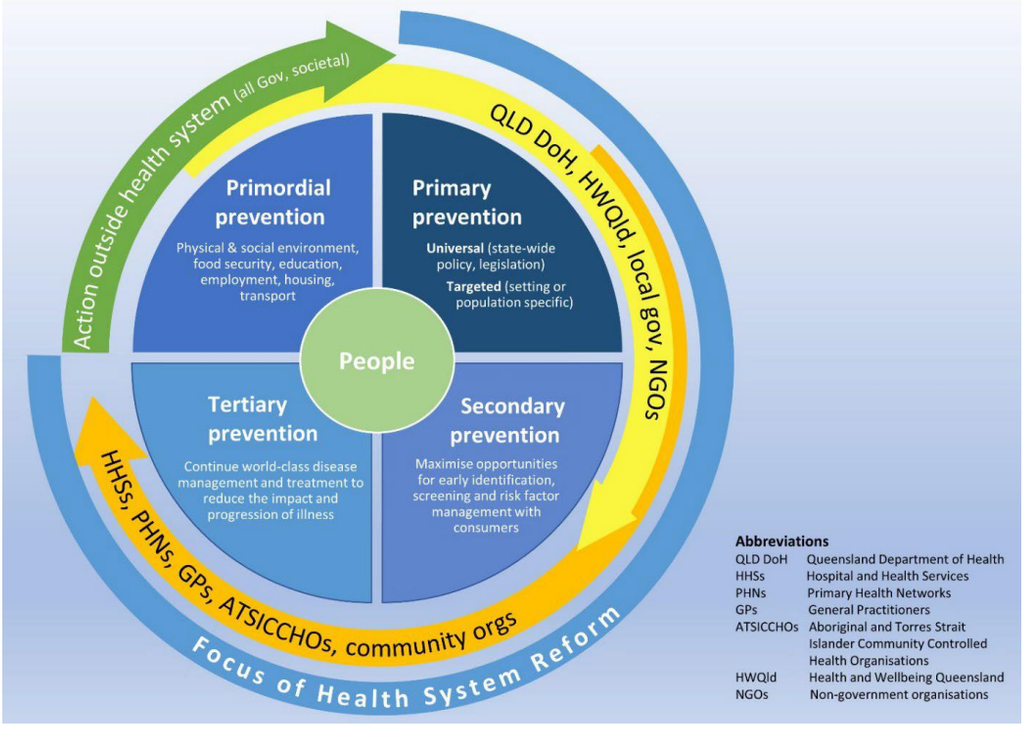
60. While departments of health and Local Health Districts can contribute to upstream prevention, as outlined above, other government agencies and partners have responsibility for creating the physical and social conditions that meet their agency's policy goals, while also supporting (and not harming) the health of the population.

61. Non-government organisations, communities and individuals also have an integral role in improving health, including Aboriginal Community Controlled Health Services, community groups, advocacy groups, not-for-profit organisations, professional associations and business. While industry has a role in improving (and not harming) health, it is also crucial to protect public health policies, strategies and multisectoral action from undue influence by any form of vested commercial interest.[43]

62. Engagement with consumers and communities most affected by ill-health is also needed to achieve meaningful, long-term change.

63. Queensland Health, as part of health system reform in their state, has described the role of the health system across the prevention spectrum (Figure 2).[44] While not directly transferable to NSW, it provides a useful schema for describing the scope of health system-led prevention.

Figure 2: Queensland Department of Health and Hospital and Health Service (HSS) roles across the prevention spectrum



What role does NSW Health have in the prevention system?

64. Notwithstanding the need for a whole-of-government approach to prevention outlined above, state health systems have an important role to play in prevention.

65. Thousands of people in NSW connect with the public health system every day, providing many opportunities to intervene, including screening and referral to appropriate support services, and brief intervention conversations.

<u>NSW Health engages in both upstream prevention and downstream prevention</u>

66. The NSW Ministry of Health and Local Health Districts have responsibilities for protecting and improving the health and wellbeing of the people of NSW and local populations.[45,46]

67. The Ministry's role in prevention includes developing and implementing state-level legislation, policies, services and programs to prevent disease and improve health. Clinical health services also provide prevention advice, detection and early intervention, and disease management. Examples include smoking cessation advice and referral to quit services, regular measurement of blood pressure and control of hypertension, detection and control of diabetes, assessment of blood lipids and prescription of medication when indicated, opportunistic immunisation and other discipline-specific prevention opportunities.[47]

NSW Health has a long-standing commitment to prevention and has built an infrastructure for prevention that has endured for many years.

68. Protecting, promoting and maintain the health of the community is one of two primary purposes on Local Health Districts in NSW.

69. Public health and/or health promotion units were established in each Local Health District in the late 1980s. These have provided a network beyond the Ministry that has effectively implemented prevention.

70. At the state level, responsibility for prevention rests across the Ministry of Health, including through the Division of Population and Public Health and other Branches including Aboriginal Health, Healthy and Social Policy and Mental Health.

Further reading
Australian Department of Health and Aged Care: National Preventive Health Strategy 2021–2030
Baugh Littlejohns & Wilson, BMC Public Health: Strengthening complex systems for chronic disease prevention: a systematic review

What are the key features of the NSW Health system for prevention and what are the strengths and weaknesses of NSW approach?

71. Some of the key features within NSW Health system include:

- Prevention is explicit in the NSW Health Services Act, the Future Health strategy, and is included in the statewide performance framework.[48]
- At the state level, responsibility for prevention rests across the Ministry of Health, including through the Division of Population and Public Health and through other Branches including Aboriginal Health, Healthy and Social Policy and Mental Health.
- Public health and health promotion units were established in each Local Health District in the late 1980s. These have provided a network beyond the Ministry that has effectively implemented prevention including statewide and local programs (case example 1).
- The current Service Agreements between the Ministry and Local Health Districts include a range of prevention-related targets and measures.
- Like other jurisdictions, NSW Health has a suite of prevention-focused strategies and frameworks (e.g. tobacco, healthy eating and active living, HIV, hepatitis B, hepatitis C, suicide prevention, first 2000 days).
- There are examples of statewide programs delivered at scale (case example 2) and some public reporting on strategy impacts (e.g. NSW HIV Strategy Annual Data Report).
- The NSW Public Health Training Program and Aboriginal Population Training Program provide training pathways.
- NSW has an explicit strategy for population health research, for example the Population Research Support Program (a grants program that provides infrastructure and capacity building support for research organisations) and long-term funding for policy-relevant research groups (obesity, sexual health).

72. Case example 1 highlights elements of the prevention infrastructure in NSW that supported the NSW Health response to the COVID-19 pandemic.

Case example 1: NSW Health infrastructure to support public health responses

NSW's 'gold standard' response during the COVID-19 pandemic was a result of long-term and ongoing investment in **data** and information communication technology (ICT) infrastructure, **analytics** and connectivity, **devolved operational structures** that retained the ability to respond and deploy resources across the health system, and **sustained investment in local public health expertise and capacity**.[49]

73. Case example 2 provides an example of a planning decision tool used by NSW Health and an enduring program implemented at scale.

Case example 2: NSW Health multifaceted and sustained implementation at scale

While systematic reviews suggest that only 23% of public health interventions are sustained two years after initial implementation, due to short-term political and funding cycles among other factors, NSW has used decision tools to inform a program of work and implementation of evidence-informed and sustained interventions at scale. For example:

- NSW Health, in partnership with The Australian Prevention Partnership Centre, developed a dynamic simulation model or 'what if' decision tool to determine optimal mix of interventions aiming to achieve a 5% reduction in childhood overweight and obesity, which identified the need to work across a range of areas including improving built environment infrastructure, food policy interventions, school interventions and clinical service delivery. The model was used to inform program delivery in schools and childcare settings.
    - Munch and Move is one program among a suite of interventions focused on preventing childhood obesity. Munch and Move is a long-standing healthy eating active living program in childcare services. It is well embedded and has high reach, with 89% of centre-based early childhood services in NSW participating in the program.[50]

74. There are strengths in a devolved organisational structure that features local prevention teams, such as the capacity to implement programs at scale, measure performance, and tailor responses to local circumstances. However, there are also challenges. These include unwarranted variation in program delivery, and efforts required to create a shared vision and system understanding of the expertise and responsibilities relating to policy and implementation roles.

75. While significant benefits have come from the stability and longevity of the NSW approach, there also need to be mechanisms to push the boundaries and challenge ways of thinking to ensure the prevention response continues to adapt and respond.

76. Related to this, the capabilities of the contemporary prevention workforce are continuing to evolve. The Public Health Officer Training Program has been a successful in supporting a skilled workforce, but it trains a small proportion of the health workforce. While elements of the current competencies relate to prevention, the focus is primarily on communicable disease.

77. While prevention in NSW includes consideration of the equity in the development and delivery of interventions, and examples of collaboration with other government agencies, there remain opportunities for a whole-of-government approaches and a stronger focus on the social determinants of health.

78. NSW Health and the NSW Government undertook detailed reviews of the COVID-19 response.[51,52] There are aspects of the findings that are relevant to prevention more generally than pandemics and are opportunities for strengthening and/or improving chronic disease prevention, for example:

- Prioritise the needs of people and communities most at risk, including targeted and nuanced public health response for some groups such as Aboriginal people and culturally and linguistically diverse communities.
- Harness the passion of clinicians to inform strategic system decisions, including integration of public health response with clinical partners.
- Strengthen and expand relationships between government agencies and other organisations, for example, Education.
- Continue to invest in robust multidisciplinary and culturally diverse public health workforce both centrally and locally, including population health training programs.
- Assess adaptations to service delivery (e.g. online delivery) that should now form part of the standard program and service delivery.

What can NSW learn from other jurisdictions?

79. All Australian health departments have a central policy team (or teams) with responsibility for prevention, and a range of legislation, policies and strategies to guide action. Table 1 provides a high-level overview of key features of their focus and/or specific areas relevant to issues raised in this paper.

Table 1: A high-level overview of key features and focus of prevention in other Australian jurisdictions

Australian Government	The interim Centre for Disease Control was established in 2024 and is part of the Australian Department of Health and Aged Care. Its initial focus is to enhance national health emergency planning and preparedness for communicable disease. It is being established in a phased approach, with scope to expand its preventive health responsibilities over time. The Commonwealth has developed several national strategies, including the National Preventive Health Strategy, National Obesity Strategy and the National Tobacco Strategy.
Queensland	Health and Wellbeing Queensland was established as a statutory authority in 2019 to improve the health and wellbeing of Queenslanders and reduce health inequity. In 2020, Queensland Health undertook a systems analysis to explore how to make prevention a health system priority.
Victoria	VicHealth is a statutory authority, established in 1987, with a focus on promoting good health and preventing chronic disease. Local Public Health Units were established in 2020 during the COVID-19 pandemic to manage local cases and outbreaks. Since 2022, they have begun taking on broader prevention responsibilities.
Tasmania	Has a strong focus on partnering with communities and supporting local action.
South Australia	Preventive Health SA was established as a government agency to prevent chronic disease and improve health equity through policy and programmatic responses. A new *Preventive Health SA Bill 2024* intends to formally recognise preventive health as a permanent part of the infrastructure of the health system in South

	Australia. The *South Australian Public Health Act 2011* also addresses prevention through several key measures. South Australia has a long-standing, formalised approach to working across government sectors through its Health in All Policies approach.
Western Australia	Heathway was established as a statutory authority in 1991. It promotes good health through advocacy, research and strategic grant making.
Northern Territory	Takes a strong intersectoral approach to address the health and social needs of Aboriginal and Torres Strait Islander people and recognises the broader social needs rather than a siloed health approach.
Australian Capital Territory	Takes a wellbeing approach, which is guided by a whole-of-government Wellbeing Framework.

80. While the context for prevention differs in each state and territory, the following case examples provide a snapshot of approaches taken in other jurisdictions.

81. Case example 3 describes research to increase the focus on prevention in clinical services.

Case example 3: Queensland Health – Making prevention a health system priority[53]

Making prevention a health system priority was a recommendation of the Queensland Health reform report, *Unleashing the Potential: An open and equitable health system* (Unleashing the Potential). A systems analysis was undertaken to identify opportunities to improve chronic disease prevention within clinical settings (mainly focusing on secondary and tertiary prevention).

The recommendations for change were to strengthen the mandate for prevention, reward prevention (including funding incentives), support consumers to drive prevention, build internal capability and capacity for prevention, and strengthen networks and enable shared responsibility for prevention.

Since this time, Queensland Health has received dedicated funds to support a system-wide approach to the first 2000 days of life.

82. Case example 4 describes the inclusion of chronic disease prevention in the South Australian Public Health Act.

Case example 4: South Australia – Embedding prevention of chronic disease within legislation[54]

In 2011, South Australia became the first jurisdiction in Australia to modernise its public health legislation by including non-communicable disease prevention provisions in the *South Australian Public Health Act 2011*. The provisions empower the Minister to introduce codes of practice specific to a non-communicable disease, which regulate the marketing, manufacturing, supply or accessibility of goods, substances or services that may contribute to disease.

The Act also requires a public health council to provide advice to the Chief Health Officer on the statewide system of state and local plans for public health, strategies to ensure sufficiently trained and skilled workforce, and programs of research.

South Australia is also working to introduce the *Preventive Health SA Bill 2024* to formally recognise and embed an independent agency for prevention. While this separates prevention from clinical health services, unlike examples in other states, the agency will retain policy and program responsibilities.

83. Case example 5 describes the USA Centers for Disease Control and the Australian Centre for Disease Control.

Case example 5: US Centers for Disease Control

The Centers for Disease Control and Prevention (CDC) is the US federal agency mandated with protecting Americans' health. It was founded in 1946 and is considered by many to be the gold standard for national health agencies and has a wide global reach, with staff in dozens of countries. The CDC is an agency within the Department of Health and Human Services and has a workforce of over 20,000 people across more than 60 countries. In 2021, it had a budget of $12.6 billion.

The CDC is one of many federal health-focused agencies (e.g. Food and Drug Administration, National Institutes of Health) and it provides support to state and local health departments.

The Australian Government has established an interim CDC to prepare for public health emergencies, improve the national public health surveillance system and build pandemic capability. In time it is expected to expand its focus to the prevention of chronic disease.

Prevention funding

84. Funding of prevention in Australia is regarded by many as inadequate, siloed, sporadic, short-term and piecemeal.[55]

85. It is important to note that health funding is not a matter of investment in prevention versus investment in health care; reduction in service need in one area is rapidly filled by growth in another. For example, while prevention may reduce illness and hospitalisation, extending lives potentially increases demand for health care in future.

Current health spending reflects a historic focus on acute care.

86. Health systems are primarily designed to treat and manage acute health issues, and the coordination and distribution of funding is optimised towards this core purpose. The clinical services purchased through healthcare budgets have immediate and measurable benefits.

87. By comparison, while prevention can have short-term individual health benefits (e.g. vaccination, smoking cessation) other prevention activities can be cumulative and take many years to incur population wide and health system outcomes.[55]

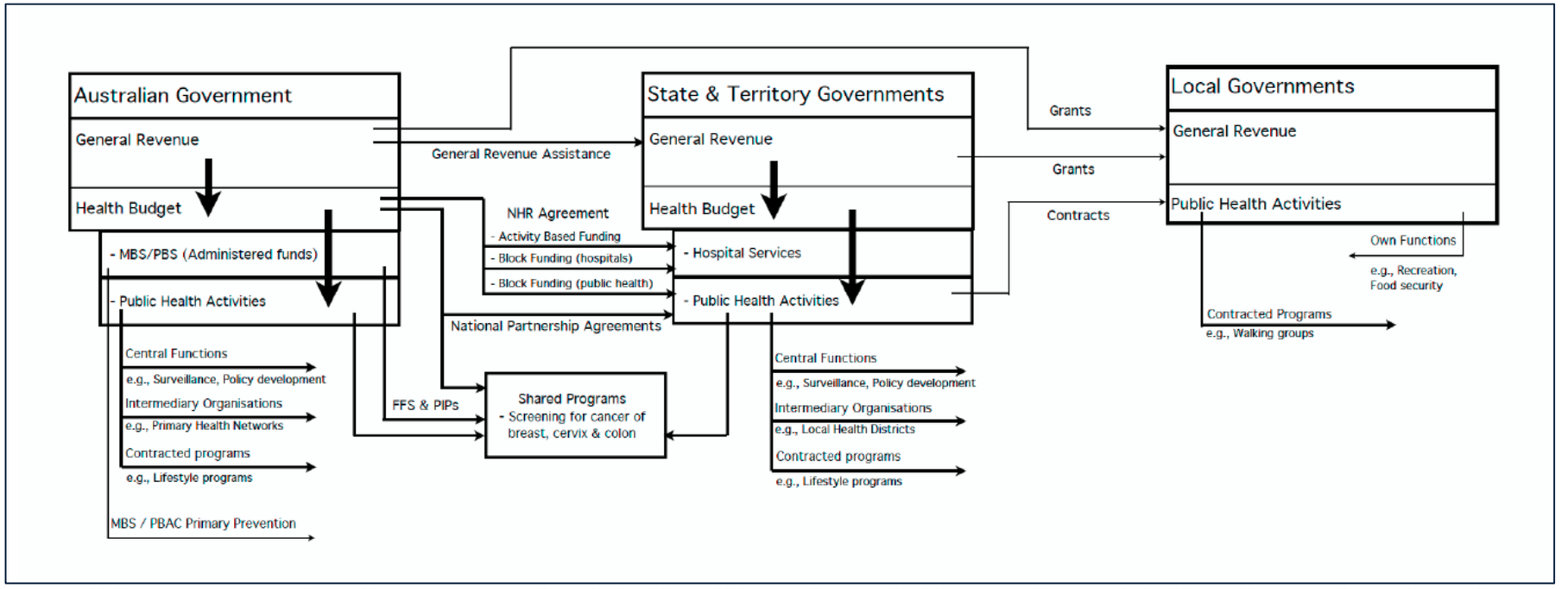
88. Upstream prevention efforts such as obesity prevention are unlikely to realise maximum public health benefits for several decades, as has been the experience in tobacco control.[56] Even interventions with short-term returns to the individual will not benefit the health system until much longer term.[16] For example, smoking cessation may benefit an individual immediately, but may not show a system benefit until the prevalence of smoking has reduced, leading to fewer hospitalisations for smoking-related diseases.

89. These long timeframes can discourage investment in prevention. The benefits appear less attractive as they fall outside short-term budget considerations and political cycles. NSW Health notes in its submission that it is difficult to shift its focus from meeting current demands on the health system to prevention as results have long lead times and are difficult to prove or to attribute directly to health.[57]

The flow of funds for prevention is complex and opaque

90. Prevention is primarily funded by the Australian and state and territory governments (Figure 3).

Figure 3: Funding model for public health in Australia



Source: Shiell A, Garvey K, Kavanagh S, Loblay V, Hawe P. How do we fund Public Health in Australia? How should we? Australian Journal of Public Health. In Press (September 2024)

91. In reading Figure 3, there are three areas to focus on.
    1. Federal transfers. There are three key components.
        a. The Australian Government transfers resources from general revenue (distribution of revenue raised by GST) to state, territory and local governments. This is blended with state revenues for state-level decisions on the best use of these funds.
        b. Funding linked to the National Health Reform Agreement. This is mostly for Activity-Based Funding for hospitals, with a small share (1.9% per person) allocated for public health through block funding.
        c. Funding linked to National Partnership Agreements. Current prevention-related agreements include vaccine procurement, suicide prevention and the national response to COVID-19.

    2. Funding for jointly managed services for breast, cervix and bowl cancer screening. Lung cancer screening will commence in July 2025.

    3. Funding of prevention spending within national, state and territory jurisdictions. This can include:
        a. Public health activities managed by the jurisdiction (e.g. policy, strategy, service and program implementation, health surveillance)
        b. Funding for third party organisations (e.g. Local Health Districts, Aboriginal Community Controlled Health Services).

Funding models for health (and prevention) matter[55]

92. The way health is funded is important as it determines where the funds are directed and how they can be used. For example, block funding provides more flexibility for how funds are used than categorical funds, which are tied to specific programs.

93. Further, the mechanisms that are used to pay providers create incentives that encourage some forms of practice and discourage others. Health services research shows the way hospitals and clinicians are reimbursed affects service quality, accessibility, effectiveness and efficiency.

94. Submissions have identified a need for funding models to shift from an activity-based approach to a more values-based approach that incentivises health services to deliver care based on performance and improvements in patient outcomes.[58] This call is consistent with the National Health Reform 'paying for value and outcomes' in response to current health system challenges. In NSW, this approach is exemplified through the Leading Better Value Care program.[59] The program involves clinicians, networks and organisations working together on high-impact initiatives to improve outcomes and experiences for people with specific conditions.

Investment in prevention

95. The prioritisation, implementation and sustainability of prevention requires adequate funding.

96. The National Preventive Health Strategy and many advocates, including submissions to the Inquiry, call for a minimum 5% investment in prevention across Commonwealth, state and territory governments by 2030 to "achieve a better balance between treatment and prevention in Australia."

97. As part of the National Health Reform Agreement, Australian jurisdictions have agreed to a range of actions, including developing fit-for-purpose financing mechanisms, exploring

evidence-informed regulatory measures, reviewing and addressing health system barriers to prevention, and monitoring and reporting.

Nationally, investment in prevention, as part of public health funding, is below recommended 5% of total health expenditure

98. Health expenditure in Australia is currently spent primarily on the treatment of illness and disease, rather than prevention of ill-health. The Australian Institute of Health and Welfare (AIHW) definition of public health expenditure includes protecting and promoting health (i.e. communicable and non-communicable disease control and other activities such as food standards and hygiene). More detail is provided at Appendix 1.

99. Drawing from data reported by the AIHW, spending on public health in Australia in 2019–20 was estimated to be $140 per person, which is less than 2% of total health expenditure.[55] Spending per person in the previous decade ranged between $100 and $110 per person. Compared with OECD countries, Australia's prevention expenditure is ranked 'mid-level.'

100. A comparison of Australian state and territory spending per person is presented in Table 2.

Table 2: Spending per person ($) on public health (2021-22 constant prices)

Jurisdiction	2019–20	2020–21	2021–22
Vic	117	374	700
Qld	122	213	386
NSW	163	294	671
SA	164	377	644
WA	165	442	615
ACT	167	243	434
Tas	255	374	850
NT	554	626	1058

Estimates for prevention expenditure in NSW

101. In 2019–2020, public health expenditure in NSW was $163 per person, which is mid-range. Spending in NSW increased over the subsequent two years, likely because of COVID-19. These figures coincide with the first year of the COVID-19 pandemic, so may be an overestimate. Most of the previous decade spending ranged between $100 and $110 per person.

102. NSW Health Future Health (published in 2022) notes that 'prevention and promotion' currently accounts for 10% of NSW Health expenditure.[60]

Lack of transparency makes comparing prevention spending within Australia and internationally difficult[55]

103. The differences in investment in prevention across states and territories described above may be due in part to accounting differences and how services are organised and funded.

104. Despite efforts to standardise reporting on health expenditure, there are national and international discrepancies in the way prevention is categorised and coded. For example, Australian accounts only include spending by health departments, and not all prevention spending is included, for example measures taken by general practitioners is accounted for under primary care.

105. Furthermore, amounts and mechanisms for funding channelled through each jurisdiction are not easily available, making it difficult to compare jurisdictions or to reconcile state funding with estimates from the AIHW.

While quantum of prevention expenditure is important, so is the quality of investment.[61]

106. In the context of a health system under significant pressure, funding for prevention needs to demonstrate it incurs greater value than the cost of diverting resources away from other parts of the health system.

107. In making funding decisions, it is necessary to assess the costs and benefits of diverting resources to prevention from other areas of health care.

108. Firstly, this requires looking for opportunities to reallocate resources away from relatively cost-ineffective options to policies, programs or services that are more cost-effective.

109. Secondly, it requires comparing the added value of an increase in spending to the opportunity cost of diverting those resources from a different part of the health system. If the value of the benefits derived from spending more on prevention exceeds the value of the opportunity cost, then there is a case for increasing spending.

110. In considering opportunity costs, it is also necessary to look at what prevention activities might be curtailed if spending were to be reduced and reallocated to another area of need.

Further reading
Shiell A, Garvey K, Kavanagh S, Loblay V, Hawe P. How do we fund Public Health in Australia? How should we? Aust N Z J Public Health. 2024 Sep 11:100187. doi: 10.1016/j.anzjph.2024.100187.

Strengthening the focus on prevention of chronic disease in NSW

111. There are several opportunities the Inquiry might consider to strengthen the focus on prevention in NSW.

Opportunity 1: Improve transparency in reporting on prevention expenditure.

112. Several submissions to the Inquiry call for improved transparency in funding for prevention, and for this funding to be ringfenced to allow preventive health programs and services to be fully implemented and evaluated.[60,62] For example, NSW Health noted in its submission that existing funding and pricing models do not acknowledge the important role of health services in primary and secondary prevention, for example, immunisation and tobacco cessation.[59]

113. Some ways in which transparency could be improved include:[55]

- Having a clear definition of prevention and how expenditure is counted in NSW
- Annual public reporting, including a break down on health system investment in upstream and downstream prevention activity to enable tracking over time
- Periodic expanded reporting to capture
  - whole-of-government prevention expenditure to enable actions on the broader determinants, and
  - clinical prevention in health services.

Opportunity 2: Identify mechanisms to increase investment in prevention.

114. Australian governments have already committed to increase investment in primary prevention over time. This commitment includes developing innovative, fit-for-purpose financing mechanisms to scale primary prevention interventions and reviewing and addressing health system barriers to prevention.[63]

115. In addition to continuing to contribute to national processes to develop funding mechanisms to increase investment in prevention, other opportunities for NSW could be:

- Exploring the merits of a prevention investment standard, modelled on the National Health Service (UK) Mental Health Investment Standard.[64] The standards are a mechanism to ensure increased (greater than base growth) spending on mental health at the national and local level. The approach includes having clear categories of expenditure, definitions of in- and out-of-scope activities that are linked to organisational priorities, and formal compliance statements. Except for 2022/23, the NHS England reports it has met this standard since 2015/16.[65]
- Consider how to enhance prevention in the clinical setting as an extension of clinical care and funded through clinical rather than through limited budgets for upstream prevention (relates to Opportunity 1 reporting by upstream/downstream prevention and Opportunity 4 supporting and rewarding downstream or clinical prevention).
- Ensure that any state funding for primary care focuses on systems to address issues of equity and supports access to preventive care rather than enhancing individual services for those who already access the system and may need preventive care less.

Opportunity 3: Safeguard and further support the NSW Health infrastructure for prevention.

116. Compared to other jurisdictions, and notwithstanding constrained resources, NSW Health has an established infrastructure for prevention, some strategies and accountability processes, a devolved Local Health District implementation workforce, and examples of sustained delivery of prevention at scale. However, even with the consistent calls for a stronger focus, there is always the risk that commitment to and support for prevention will change over time, especially within the context of competing health system priorities. Failure to sustain investment in prevention means that potential public health impact can be lost or severely diminished.[66]

117. There are different approaches to structuring and safeguarding prevention. Each has strengths and weaknesses, and there is no basis for recommending one approach over another. While some stakeholders advocate for separate entities such as health promotion foundations, the benefits of independence come at a cost of separation from health policy and service delivery, and the potential for existing (rather than new) workforce capacity simply shifting to a new entity.

118. As the system moves towards a greater focus on mental health and wellbeing, the infrastructure for prevention is likely to become more important. Safeguarding and further supporting the NSW infrastructure for prevention could include:
- Exploring the relative merits of enshrining responsibility and accountability for sustained investment in evidence-based prevention in state legislation, either as part of existing public health legislation or as a separate piece of legislation for prevention as has been achieved in South Australia (see case example 4)
- Considering opportunities that arise through the development of the Australian Centre for Disease Control, for example, harmonised organisational structures and the foreshadowed public health workforce strategy
- Enhancing the focus on workforce planning and development to ensure the workforce has the capacity and capability for contemporary prevention policy and practice
- Continuing to include and refine accountability measures for prevention in the NSW performance management process.

Opportunity 4: Focus prevention activity to areas with the potential for greatest gains.

119. Focusing prevention activity to areas with the potential for greatest gains could include:
- Increasing the use of decision tools to inform investment decisions and complement evidence-informed policy and program development. For example, this could include building on NSW Health's experience in using cost-effectiveness analyses and system modelling (see case example 2) or other tools such as program budgeting and marginal analysis[ii]
- Embedding equity across investment decisions to achieve better health and social outcomes for population groups with higher needs. While clinical prevention can play an important role, a broader focus on the determinants of health and primary prevention approaches can produce greater outcomes at lower costs
- Formalising cross-departmental commitment to protect and prioritise the health of the NSW community in policy and government investment decisions
- Ensuring a continued focus on upstream, whole-of-government approaches to to reduce the prevalence of chronic diseases, with a particular focus on equity, pregnancy and early years

[ii] Program budgeting and marginal analysis involves determining how much is being spent on prevention and the outcomes achieved, and determining what benefits would be lost and what benefits gained if a given amount of resources were to be shifted from one program to another

- Supporting and incentivising downstream or clinical prevention[44] to reduce complications, improve quality of and prolong life, for example by:
  - building a shared understanding of prevention across the continuum of health care with role/responsibility delineation for secondary and tertiary prevention
  - assessing the need for, and value of, a prevention clinical network to connect and support clinical champions for prevention
  - extending the Terms of Reference and membership of relevant existing clinical networks to include prevention at the State and Local Health District level
  - exploring use of incentives in the NSW Health funding and purchasing model to reward Local Health Districts for improvements in preventive care and related outcomes
  - preparing for the prevention responsibilities that arise through the development of precision medicine and genomics.

APPENDIX 1

What counts as public health in the AIHW's health expenditure Database[55]

For the purposes of compiling its health expenditure database, the AIHW defines ***public health*** as:

"… activities and services funded or delivered by state and territory health departments that aims to protect and promote the health of the whole population or specified population subgroups, rather than individuals. Examples of public health programs include communicable disease control, organised immunisation, food standards and hygiene, cancer screening, and prevention of hazardous and harmful drug use."[67]

The AIHW expands on this definition and clarifies what it means by public health activities and public health services.

Public health activities are:

"The core types of activities done or funded by the key jurisdictional health departments that deal with issues related to populations, rather than individuals. These activities comprise: communicable disease control; selected health promotion; organised immunisation; environmental health; food standards and hygiene; cancer screening; prevention of hazardous and harmful drug use; and public health research."

Public health services are:

"Services provided and/or funded by governments that are aimed at protecting and promoting the health of the whole population or specified population subgroups, and/or preventing illness or injury in the whole population or specified population subgroups."

Setting aside the ambiguity across these three definitions regarding the levels and types of government agency that are relevant for public health, the AIHW faces at least two challenges in operationalising these definitions.

The first relates to prevention in clinical settings. Conceptually, this can be difficult to distinguish from treatment, especially when managing chronic disease, and the administrative data that the AIHW relies on does not separately identify the preventive component of any clinical encounter. Except for cervical screening and immunisation, spending on clinical prevention is therefore attributed to sources other than public health in the health expenditure database.

The second challenge is where to draw the boundary around prevention in relation to public policies that address the social determinants of health. In keeping with international practice, the AIHW draws this boundary quite tight by requiring that (a) the activity being undertaken must have health promotion as its primary objective; and (b) that it must be implemented under the aegis of a health agency or recognised health professional. This excludes almost all activity in relation to the social determinants of health.

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