Policy Document

Non-communicable diseases (2022)

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Position Statement

The Australian Medical Students' Association (AMSA) is the peak representative body of Australia's medical students. In accordance with the World Health Organisation's (WHO) vision of "a world free of avoidable burden from non-communicable diseases… [through] multisectoral collaboration and cooperation at national, regional and global levels", AMSA believes that:

1. Non-communicable Diseases (NCDs) are a significant issue and they require attention due to the high burden they place on global physical and mental health.
2. The prevalence of NCDs is not equally distributed across Australia, and certain populations, including low socioeconomic groups, Aboriginal and Torres Strait Islander peoples, Culturally And Linguistically Diverse (CALD) people, migrants, and refugees, face greater barriers to prevention and treatment.
3. Preventative and tertiary health-care should be directed towards vulnerable groups in order to reduce health inequity in non-communicable diseases, in particular Aboriginal and Torres Strait Islander peoples.
4. In accordance with the WHO Frameworks for NCD Prevention:
    a. Funding and governance arrangements should reflect a commitment to promoting preventive health measures and to achieving universal health coverage (UHC);
    b. Resource allocation to allow for research, monitoring of the determinants and trends of NCDs and progress evaluation is key for NCD prevention and control;
5. Australia needs to be prepared for the predicted increase in the burden of NCDs. This requires a greater focus on improved workforce training,

and accounting for the impact that climate change has on physical health.

Policy Recommendations

AMSA calls upon:

1. The Australian Federal and State Governments to:
    a. Implement a comprehensive, evidence-based, sustainable, long-term strategy to address NCDs in Australia;
        i. Address the social determinants of NCDs, especially those outside the health sector, through intersectoral collaboration to ensure health equity within this strategy;
        ii. Recognise that NCDs are not equally distributed among the Australian population, with higher prevalence among groups such as lower socioeconomic groups, CALD, migrant and refugee populations, and Aboriginal and Torres Strait Islander peoples;
        iii. Design and implement culturally appropriate health policies to address the higher prevalence of NCDs among the populations stated in 1.a.ii;
        iv. Increase and prioritise sustained funding for effective preventive health interventions targeted at reducing the prevalence and incidence of NCDs, as well as their surveillance, early detection, treatment and other related support such as palliative care;
        v. Set up an independent, expert-led, sustainably-funded mechanism advising the government on priorities in preventive health, promoting a focus on equity and evidence-based assessments, and enabling cross-sectoral collaboration;
        vi. Set up a national multisectoral governmental mechanism for engagement and policy coherence across all spheres of policy-making that may have an impact on the prevention and control of NCDs;

    vii. Involve consumers and communities meaningfully in NCD policy design and implementation;
    viii. Protect multisectoral action and strategies addressing NCDs from undue influence from vested commercial interests; and
    ix. Recognise the achievement of ‘complete’ universal health coverage as a means of equitable and affordable comprehensive care of NCDs, and meaningfully address structural barriers to UHC within the Medicare Primary Health Care system.

b. With respect to cancer screening:
    i. Recognise the low cancer screening rates and their non-uniform distribution across Aboriginal and Torres Strait Islander peoples and socioeconomic quintiles, and design methods to improve access, transport and cost subsidisation for remote populations;
    ii. Address the lack of education regarding the benefits of cancer screening programs through funding towards community-based education groups, public campaigns or commercials; and
    iii. Propose programs to increase screening efficiency (e.g. multiple screenings at one visit).

c. With respect to food and nutrition:
    i. Regulate food and drink options available in public facilities (e.g. health facilities), e.g. limit the number of sugar sweetened beverages, calorie dense drinks and high fat-content drinks;
    ii. Review existing campaigns and evidence surrounding the implementation of a Sugar Sweetened Beverage Tax, as well as analysing the barriers to implementation and consulting with private sector companies to reach a solution that mitigates the flow on effects to those of lower SES;
    iii. Legislate for private sectors manufacturing Sugar Sweetened Beverages to be more transparent on their sugar content, and prevent packaging tailored to attracting children;
    iv. Update the National Dietary Guidelines to include reduced

consumption of red meats and animal products, in line with evidence regarding the impacts of consumption of these products on individual health and global greenhouse gas emissions (as per their effect on NCD prevalence) diet; and

  v. Review existing welfare and health education policies to improve access to healthy foods for disadvantaged communities.

d. With respect to physical activity:
  i. Continue funding interventions that encourage physical activity, such as workplace subsidisation of gym memberships;
  ii. Increase funding for research into new interventions for promoting physical activity in workplaces;
  iii. Direct funding to programs that are focused on delivering community-based interventions in remote and minority communities e.g. public outdoor gyms, walking groups and exercise counsellors (local and locum); and
  iv. Continue promotional campaigns to raise awareness towards the benefits of physical activity.

e. With respect to tobacco use:
  i. Legislate and enforce smoke-free zones for all hospitals, schools and government agencies;
  ii. Ensure smoke-free zones are available in all public areas e.g. public parks, restaurants;
  iii. Continue to enforce packaging regulations and taxation for tobacco products and continue to openly advertise and raise awareness of the negative health outcomes associated with these products;
  iv. Invest in additional funding for tobacco cessation programs; and
  v. Continue to fund research into the health effects of E-cigarettes, and consider the validity of measures to restrict the sales and use of E-cigarettes as well as reduce flavouring and packaging that may appeal to children.

f. With respect to alcohol consumption:
  i. Discourage marketing of alcohol-related products to young

    adults e.g. at university related events (refer to AMSA policy for Prevention and Minimisation of Alcohol Related Harms);
    ii. Legislate towards reduced marketing of alcohol-related products at sporting events;
    iii. Enforce responsible service of alcohol at all relevant public venues;
    iv. Increase funding in campaigns that raise awareness towards safe-drinking behaviours and the risks of long-term alcohol usage; and
    v. Discourage the establishment of alcohol suppliers in dry communities, particularly in rural and remote Australia.

g. With respect to Aboriginal and Torres Strait Islander peoples:
    i. Recognise that current Aboriginal and Torres Strait Islander health policies reflect the Western biomedical-centric model of medicine, with minimal incorporation of Aboriginal and Torres Strait Islander models of health;
    ii. Collaborate with Aboriginal and Torres Strait Islander peoples in the design of strengths-based policies that effectively target their community's health needs;
    iii. Revise current policies to be culturally sensitive of Aboriginal and Torres Strait Islander peoples' principles and beliefs;
    iv. Commit further funding into research of understudied contributors of Aboriginal and Torres Strait Islander peoples' NCD burden, such as environmental risk factors; and
    v. Reform existing data collection systems for Aboriginal and Torres Strait Islander peoples' population health indicators to minimise fragmentary data and the consequential under-/over-estimation of disease spectrum and burden.

h. With respect to CALD, migrant and refugee populations:
    i. Ensure that the needs of CALD, migrant and refugee populations are addressed in national strategies with regards to the prevention and control of NCDs;
    ii. Widen the scope of national health databases to better capture the diversity and needs of CALD, migrant and refugee communities, while ensuring that means of data collection are accessible to these communities; and

  iii. Implement a national population-based register to track NCD trends in CALD, migrant and refugee populations, to better inform future policy and legislation.
  iv. Allocate adequate funding to health services for:
    1. Increased training and availability of qualified medical interpreters;
    2. The provision of health promotion materials in different languages;
    3. Cultural training in hospitals targeting demographics specific to the local catchment.

i. With respect to health literacy:
  i. Adopt a community-led approach in the design and dissemination of health promotion information and initiatives, to ensure that health information is developed with priority populations in a format that is culturally sensitive, responsive and accessible for all health literacy levels; and
  ii. Continue to update national guidelines relevant to key NCD risk factors, including tobacco use, alcohol, diet and physical activity.

j. With respect to mental health:
  i. Continue to firmly integrate mental health interventions within national and NCD health policies;
  ii. Implement national strategies and legislation to address the discrimination and stigmatisation of mental health, including a focus on the LGBTQIA+ population;
  iii. Empower and involve people with mental disorders in the planning, research, monitoring and evaluation of these strategies;
  iv. Support the expansion of mental health services by ensuring the right number and equitable distribution of appropriately skilled health professionals to enhance accessibility to care;
  v. Integrate mental healthcare into the management of any chronic condition in hospitals and primary care, to enhance continuity of care and collaboration between health providers; and

    vi. Strengthen links between primary care and specialist health services, including allied health practitioners, addiction medicine physicians, psychologists and psychiatrists, to simplify referral pathways and enhance organisational efficiency.

k. With respect to substance addiction and abuse:
    i. Increase funding for national drug prevention, education and rehabilitation programs, with particular focus on deconstructing societal stigma;
    ii. Recognise the bi-directional relationship between mental health and substance abuse, to guide simultaneous approaches towards addressing both as predisposing factors to NCDs; and
    iii. Increase visibility of mutual aid groups, by creating linkages with primary care to provide support for patients experiencing substance addiction after formal treatment.

l. With respect to futureproofing:
    i. Continue funding and ensure adequate training opportunities available for medical and social research into NCDs;
    ii. Provide and report on outcomes, targets and indicators for Australian progress on prevention and management of NCDs, mirroring the WHO Global Monitoring Guidelines;
    iii. Continually monitor the efficacy of preventative health interventions and maintain transparency regarding the findings;
    iv. Acknowledge the negative impacts of climate change and environmental degradation on health as a priority in future health challenges and implement strategies to minimise these impacts;
    v. Invest in further research to guide implementation strategies for climate change mitigation;
    vi. Invest in funding for programs to target climate change mitigation and health;
    vii. Invest in funding to prepare the health system for the additional burden of climate change impacts on health; and
    viii. Work with national stakeholders and organisations to

implement the recommendations outlined in the National Medical Workforce Strategy 2021-2031.

2. Australian Federal and State Departments of Education
    a. With respect to health literacy:
        i. Implement educational programs in schools that examine the relationship between modifiable risk factors and NCDs, so as to empower students to take control of their health.
    b. With respect to mental health:
        i. Implement educational programs that offer strategies to identify, prevent and appropriately escalate mental health issues in schools; and
        ii. Implement education programs that explore ideas of gender and sexuality, and increase students' exposure to LGBTQIA+ communities.
    c. With respect to substance addiction and abuse:
        i. Implement educational programs within schools to address the bi-directional relationship between mental health and substance misuse.

3. Australian Medical Schools to:
    a. With respect to Aboriginal and Torres Strait Islander health:
        i. Review existing Aboriginal and Torres Strait Islander cultural awareness curricula with an emphasis on strengths-based approaches, ensuring continuous education throughout the entire degree to inspire culturally sensitive clinical practice in their students; and
        ii. Integrate opportunities for medical students to engage with Aboriginal and Torres Strait Islander peoples, such as through community placements, to enable an immersive experience Aboriginal and Torres Strait Islander cultures and beliefs throughout their degree.
    b. With respect to CALD, migrant and refugee populations:

  i. Provide opportunities for medical students to improve their intercultural communication skills and provision of culturally sensitive healthcare throughout their medical degree; and
  ii. Provide well-integrated and evidence-based education on CALD, migrant and refugee health, including:
    1. The challenges experienced by CALD, migrants and refugee populations, and subsequent risk factors for NCDs they possess; and
    2. The determinants of health responsible for the higher prevalence of NCDs in these populations.

c. With respect to mental health:
  i. Provide an environment that fosters both physical and psychological welfare, for example, via the provision of counselling services, wellbeing and mindfulness programs, and GP location services; and
  ii. Reinforce non-stigmatising bedside manner during clinical teaching, including being sensitive towards LGBTQIA+ patients and those struggling with substance addiction and abuse;

d. With respect to substance addiction and abuse:
  i. Update the medical curriculum to recognise and reduce stigmatisation around drug use, with particular focus on the wider determinants of health that shape a patient’s experience with drugs.

e. With regards to future proofing:
  i. Develop curricula that incorporate education about climate change, planetary health and its health impacts, and how to engage with patients about climate risks;
  ii. Encourage medical students to develop skills that enable primary research and translation of NCD research into clinical practice through opportunities such as concurrent higher research degrees or scholarships; and
  iii. Provide opportunities for medical students to engage in conducting NCD research for skill development into clinical practice;

4. Medicine, nursing and allied health students to:
   a. With regards to Aboriginal and Torres Strait Islander health:
      i. Advocate for increased awareness of Aboriginal and Torres Strait Islander cultural beliefs and principles through student-led events and/or publications; and
      ii. Introduce education programs led by Aboriginal and Torres Strait Islander healthcare students that, with the support of other students, informs Indigenous communities of the risk factors that exacerbate NCD development;
   b. With respect to physical activity and lifestyle factors
      i. Advocate for hospital cafe's to provide healthy food options, reduce unhealthy options, as well as advocate for the implementation of hospital spaces dedicated to physical activity (e.g. on-site gym, exercise room); and
      ii. Utilise their learned knowledge to motivate and encourage those around them towards a balanced and optimal lifestyle;
   c. With respect to CALD, migrant and refugee populations:
      i. Engage in relevant classes, seminars and immersion programs within and outside the medical curriculum to:
         1. Educate themselves about the impact of cultural diversity on healthcare access and experience, particularly in relation to NCDs; and
         2. Improve cultural competence and gain better understanding of the needs of CALD, migrant and refugee communities, in relation to NCDs.
   d. With respect to health literacy:
      i. Engage in the promotion of healthy eating and exercise habits, avoidance of smoking and excessive consumption of alcohol and other drugs.
   e. With respect to mental health:
      i. Promote mental health awareness amongst fellow colleagues and students; and
      ii. Engage in inclusive discussion of gender and sexuality among peers.
   f. With respect to substance addiction and abuse:
      i. Reduce barriers to treatment, including stigma associated

        with mental health, addiction and fat-shaming by ensuring their conduct is professional and non-judgemental.
   g. With respect to futureproofing:
      i. Be conscious of the impacts that climate change may have on individuals' physical and mental wellbeing;
      ii. Raise awareness about the impacts of climate change on health and healthcare;
      iii. Be aware of the ability of research to transform NCD diagnosis and treatment, and participate where possible; and
      iv. Advocate for climate change to be included in Australian medical schools' curriculum.

5. The Australian Medical Council to
   a. With respect to Aboriginal and Torres Strait Islander health;
      i. Increase management and evaluation of cultural education programs in medical institutions to ensure quality of education to healthcare professionals; and
      ii. Emphasise the importance of regular cultural immersion programs to remind healthcare professions of culturally competent clinical practice.
   b. With respect to future proofing;
      i. Ensure there is adequate access to research skills training and ensure opportunities to conduct research for medical professionals at all stages of their training.

6. Specialist colleges:
   a. Provide additional training to health practitioners in areas including:
      i. Relevant NCDs in migrant-originating countries, NCD-related vulnerabilities and ethnic differences in health;
      ii. Challenging stigmatisation around drug use and mental health to health practitioners;
      iii. Creating inclusive environments for, and challenging stigmatisation of, LGBTQIA+ communities, especially in the context of mental illness; and
      iv. Addiction medicine, to increase knowledge, confidence and

motivation of all practitioners in diagnosing and treating patients experiencing substance addiction and abuse.

7. Health professionals and providers to:
    a. With regards to Aboriginal and Torres Strait Islander health:
        i. Avoid practising cultural insensitivity and stereotyping that hinders the quality of care provided to Aboriginal and Torres Strait Islander peoples;
        ii. Hold self-accountability to understanding Aboriginal and Torres Strait Islander peoples' cultural beliefs in institutions that provide cultural education programs to their workforce; and
        iii. Engage with the Aboriginal and Torres Strait Islander community whenever possible with open-mindedness and an eagerness to understand their culture for future clinical practice.
    b. With regards to modifiable risk factor for NCDs:
        i. Advocate for using evidence to raise awareness about the benefits of physical activity on both physical and mental health (e.g. on public platforms or during practice);
        ii. Continue to aid research into areas that require further evidence (e.g. E-cigarettes, programs to increase participation rates of cancer screening);
        iii. Encourage and educate patients towards the benefits and importance of engaging in screening programs for cancer, cardiovascular disease and diabetes; and
        iv. Continue to encourage and educate patients to adopt a more balanced lifestyle with healthier eating and increased physical activity by involving the patient in the process.
    c. With respect to CALD, migrant and refugee populations:
        i. Recognise and adequately address the challenges, particularly those concerning migration, that expose CALD, migrant and refugee communities to NCDs and its risk factors in clinical practice; and
        ii. Commit to anti-racist and culturally safe practice by:
            1. Providing appropriate interpreter and cultural support services where appropriate;

            2. Actively fostering a culturally safe environment for patients and their families.
    d. With respect to mental health:
        i. Address internalised bias and use professional, non-judgemental and inclusive language to deconstruct stigma associated with mental health, LGBTQIA+ health and addiction;
        ii. Actively address and treat both physical and mental health conditions, often coexisting, in their patients; and
        iii. Recommend and build disease-specific support networks for patients with chronic diseases.
    e. With respect to substance addiction and abuse:
        i. Engage inequitable conduct towards all patients regardless of drug use history; and
        ii. Challenge blaming attitudes by focusing on the broader health and social circumstance of drug users.
    f. With respect to health literacy:
        i. Engage in the discussion of healthy eating and exercise habits, avoidance of smoking and excessive consumption of alcohol and other drugs with all patients; and
        ii. Assist patient understanding by avoiding jargon and offering patient-friendly resources.
    g. With respect to futureproofing:
        i. Be conscious of the impacts that climate change may have on individuals' physical and mental wellbeing;
        ii. Raise awareness about the impacts of climate change on health and healthcare;
        iii. Be aware of the ability of research to transform NCDs diagnosis and treatment, and participate in this where possible; and
        iv. Continually monitor the efficacy of government and non-government initiatives to address NCDs.

8. Private sector corporations to:
    a. With respect to alcohol products:

    i. Ensure packaging and labels remain transparent regarding the alcohol content and number of standard drinks; and
    ii. Limit as much as possible the marketing of alcohol-containing products at events where there will be children, adolescents and young adults present (e.g. sporting events).
b. WIth respect to food and nutrition:
    i. Ensure food packaging adheres to the relevant government standards and ensure clear display of nutritional and caloric information on food and beverage packaging;
    ii. Provide front-of-pack labelling of food and beverage item content in accordance with the SHAKE recommendations, with regard to salt, added sugars, sodium, saturated and trans fatty acids; and
    iii. In Sugar Sweetened Beverages, minimise packaging that appeals to younger audiences, and ensure transparency regarding their sugar content, as well as reinforcing their enjoyment in moderation.
c. With respect to futureproofing:
    i. Minimise potential contributions towards climate change and environmental degradation by having clear targets on emissions and sustainable development.

Background

Epidemioelogy

Non-Communicable Diseases (NCDs) are chronic, non-infectious diseases that result from genetic, physiological, behavioural and environmental factors [1]. The World Health Organisation (WHO) has identified four main NCDs: cardiovascular diseases (CVDs), cancers, chronic respiratory diseases and diabetes mellitus [1], however, this policy considers NCDs more broadly within its scope, including a consideration of mental health. NCDs contribute to 41 million deaths annually, which makes up 71% of global deaths annually [2]. 77% of these deaths occur in low- and middle-income countries, revealing how social disadvantages negatively impact individual prognosis. In Australia, 89% of deaths were attributed to 1 of the 10 NCDs monitored by the Australian Institute of Health and Welfare (AIHW) [2]. Moreover, it is estimated that a total of 645 980 disability-adjusted life years (DALY) in Persons can be attributed to cardiovascular diseases and 881 094 DALY for cancers and neoplasms [3].

This policy attempts to elucidate the health inequities that exist for multiple population groups in Australia. According to the AIHW, 45% of adults with multimorbidity in Australia live in the lowest 2 socioeconomic areas, demonstrating disparity in NCD outcomes due to socioeconomic status [2]. Aboriginal and Torres Strait Islander peoples lose 29.1 years of life due to NCDs, compared to 10.6 years for non-Aboriginal and Torres Strait Islander peoples. NCDs also make up more than half of the top 20 causes of death for Aboriginal and Torres Strait Islander peoples [4]. Within the CALD population in Australia, migrants, refugees and people born in non-English speaking countries face worse NCD outcomes [5]. Stigma and discrimination are important barriers for access to health services, and this policy discusses how stigma contributes to inequity in the context of individuals who are overweight or obese, addiction to substances and mental health.

There are common modifiable risk factors that contribute to the development of NCDs, making them important targets for both prevention and treatment-focused lifestyle interventions. These risk factors include tobacco use, alcohol consumption, poor quality diet and physical inactivity [1]. Given that these risk factors are largely modifiable, AMSA recognises the important role of preventative medicine in the field of NCDs, a principle which informs AMSA’s position on these issues. This policy therefore discusses the role that national and global frameworks play in NCD prevention and management, such as the Australian National Preventative Health Strategy and the WHO Global Action Plan.

WHO Frameworks for NCD Management

Considering the most common causes of NCDs are largely preventable modifiable and non-modifiable risk factors, treating NCDs largely centres around the management and reduction of exposure to these risk factors [8]. However, more broadly and from a systems-level perspective there are four central tenets in the management of NCDs [6]:

1. The prioritisation of preventive health measures reflected in funding and governance;
2. The implementation of Universal Health Coverage (UHC), of which people-centred primary health care is a cornerstone;
3. Monitoring the determinants and trends of NCDs and evaluating progress in their prevention and control and
4. The promotion of research and development for NCD prevention and control

These central tenets are advocated for in the WHO Global NCD Action Plan (2013-2020) and are reflected in the Australian Department of Health's National Preventive Health Strategy (2021-2030) [6-7].

Prioritisation of Preventive Health in Governance and Funding

The 2012 United Nations Conference on Sustainable Development acknowledged, in its outcome document 'The Political Declaration of the High-level Meeting of the General Assembly on the Prevention and Control of Non-communicable Diseases', that addressing NCDs is a priority for social development, being a precondition, outcome and indicator for the three dimensions of sustainable development: economic development, environmental sustainability, and social inclusion [9]. Considering this link with sustainable development, the WHO recommends its member states integrate the prevention and control of NCDs into national, multisectoral health-planning processes and broader development agendas [6]. Though often the treatment side of tackling the chronic disease burden is more focused on, preventive action against NCDs is far more effective, the benefits of these extending beyond reducing the prevalence of chronic conditions into having economic implications as well [10]. Preventive health interventions have been found to be generally cost-effective, in both Australian and international contexts [15], with an estimated $2 billion in net benefits gained through health promotion campaigns targeted at reducing tobacco consumption from 1970-2000 [14]. The reduction in social costs due to preventive action can also be considered, such as the costs of purchasing tobacco products or productivity costs from absenteeism [7].

Funding for NCD prevention globally, however, is often under-prioritised and under-resourced. In Australia, despite having a healthcare budget put under enormous strain by preventable ill-health [7], only 2.0% of total health expenditure was spent on public health and prevention in 2018-2019 [12]. Without further preventive intervention and funding, the financial impact of chronic conditions will continue to grow– it is forecast that $88 billion in both direct and indirect costs will incur over a 10-year period to Australia if no additional action is taken to tackle the increase in just obesity [13]. Broadly, the WHO recommends in its Global NCD Action Plan (2013-2020) that member states increase and prioritise domestic budgetary allocations for the prevention of NCDs, as well as its surveillance, early detection, treatment, and other related support such as palliative care [6].

Multisectoral action

Key in the governance of NCD management is the incorporation of multisectoral action. In the Global NCD Action Plan (2013-2020), member states are urged to set up a national multisectoral mechanism in the form of a high-level agency or commission, for engagement and policy coherence across all spheres of policy-making that may have an impact on the prevention and control of NCDs [6]. Recommendations from the Australian National Preventative Health Strategy (NPHS) align with this, calling for an independent, expert-led, sustainably-funded mechanism advising the federal government on priorities in prevention, promoting a focus on equity and evidence-based assessments, and enabling cross-sectoral collaboration [7]. This further aligns with Australian research supporting a more tailored, evidence-based and centrally-coordinated governance framework to create a more resilient prevention system [16]. The NPHS also pushes for a structured and systemic approach to embedding the consideration of health across all policy-making, in the form of a mechanism/task force which sits across multiple portfolios within government [7]. This aligns with the WHO's recommendation of policy coherence and also with research supporting better health outcomes with the consideration of health impacts in all policy development [17].

In the same vein as incorporating multisectoral action, a strong and sustainable NCD control and prevention framework requires community engagement and partnerships, helping to address the unique local social, cultural, economic, structural, environmental and commercial determinants of health [18]. Long-term and meaningful preventive action combating NCDs is more likely to occur with the involvement of consumers and communities in policy design and implementation, particularly in addressing the specific needs of priority groups such as Aboriginal and Torres Strait Islander communities [19]. For example, health literacy is a significant factor in communicating appropriate NCD-preventive lifestyle and health guidelines to populations. [19] Communities and consumers partnering in efforts to improve health literacy skills, such as co-designing health information and education, tends to lead to greater community acceptance and uptake of preventive measures and guides [19]. Importantly, the WHO and Australian Department of Health both recognise the need to protect multisectoral action and strategies from undue influences from vested commercial interests, which have historically attempted to subvert public health efforts [6, 20].

Australian Cancer Screening Programs

Cancer falls under one of the four main NCDs as defined by the World Health Organisation (WHO) [21], and multiple screening programs have been established to assist the population in early detection and treatment. Cancer screening is defined as the 'testing of signs of cancer or precancerous conditions in people without obvious symptoms'. Currently in Australia, there exist three main screening programs funded by the Federal Government; Breastscreen Australia, the National Cervical screening program (NCSP) and the National Bowel Cancer screening program. Statistics for these programs are measured in two ways: activity (the number of total tests conducted), and participation (the proportion of eligible people who completed a test) [22], although participation is a more accurate indicator of performance.

A predominant issue across all 3 screening programs appears to be the variability and low participation rates seen consistently. Between 2018-2020, NCSP recorded a 55.7% participation rate [22], while Breastscreen recorded a rate of 55% participation [23]. The Bowel Cancer screening program recorded the lowest participation rate of all 3, at 43.5%. These low rates are a particular concern as it has been demonstrated that participating in nationwide cancer screening programs can identify malignancies at an earlier and more treatable stage, leading to a better prognosis [24].

"Furthermore, there are discrepancies in participation rates between metropolitan residents and regional residents, and between high SES and low SES residents" [22]. As seen in the NCSP, participation decreased as the remoteness increased, with 56.3% participation in metropolitan areas as opposed to 45.6% in very remote areas [22]. Similarly, for Breast cancer screenings, the participation rate was 43.3% for very remote areas compared to 55.3% in major cities. Another prominent discrepancy seen in the Breastscreen participation rates was those of Indigenous women, only 37.3% of whom participated in the program [23]. Although there was a lack of statistical data separating Bowel Cancer screening into geographical areas or socioeconomic status, there was a reported 27.5% participation rate in very remote areas, a percentage much lower than the overall picture combined percentage [22].

Evidently, there are a multitude of reasons contributing to the lower than anticipated screening rates. The 2017 North Western Adelaide Health Study (NWAHS) conducted a survey enquiring about varying cancer screening behaviours in the population, revealing that a large proportion of those who did not participate (34.6%) did not have any notable factors that discouraged them from participating. A further 21% believed they did not need screening and 12.1% experienced issues with time and cost. Furthermore, 85.3% of survey participants supported a potential program that could incorporate multiple screenings in one setting as a more time and cost-effective option [24].

Universal Health Coverage as a Means of Equitable Comprehensive Care of NCDs

The WHO promotes Universal Health Coverage (UHC), defined as all people having access to a full range of essential health services when and where they need them without financial hardship [25], as a means of prevention and control of NCDs [6]. The 2012 UN ‘Political Declaration of the High-level Meeting of the General Assembly on the Prevention and Control of Non-communicable Diseases’, also recognises UHC as important in achieving equitable comprehensive care of NCDs for all people, allowing access without discrimination or financial hardship to a nationally determined set of promotive, preventive, curative, rehabilitative and palliative basic health services [6]. Outlined in the Global NCD Action Plan, the WHO encourages member states to, broadly, establish sustainable and equitable health financing; strengthen effective governance and accountability; and improve efficiency, equity, coverage and quality of health services with special focus on common NCDs, such as cardiovascular disease and cancer [6].

Low household socioeconomic status and poverty can increase the risk of chronic ill health and NCDs, as well as exacerbate significant barriers to access preventative, primary or acute NCD care (including out-of-pocket or informal payments, discrimination, stigma and lack of geographical proximity to service providers) [26]. This, and the chronic nature of NCDs often requiring more expensive long-term care treatment, contributes to the devastating effects of inequitable and inaccessible treatment for NCDs, an issue that can be addressed by the establishment of UHC [27].

The Australian Medicare system does support equity of access to primary medical care for NCDs in principle - however, inadequacies still exist in achieving equitable health outcomes, delivering equity of access according to need, and effectively preventing and managing NCDs in certain geographically and ethnically diverse populations, as well as in homeless individuals without a residential address [28]. For example, around 50% of Australians purchase private health insurance plans, which offer improved access to certain forms of hospital, dental and allied health care, creating potential health inequities according to socioeconomic status [28]. Other features detracting from the capacity of the Medicare system to achieve ‘complete’ UHC include a dominant focus on episodic primary medical care for NCDs (as opposed to a more effective continuous model) and the ineffective regulation of the urban concentration of private medical practitioners, contributing to geographic inequalities in primary healthcare [28]. The provision of a wider range of medical services in a greater number of locations by national health services could reduce geographical and socioeconomic inequities in health outcomes [29].

See 2021 AMSA ‘Universal Health Coverage and Health Systems Strengthening’ Policy [30].

Determining targets and trends in NCD Prevention and Control

Outcomes, Targets and Indicators

The WHO NCD Global Monitoring Framework's (GMF) list of targets and indicators (adopted 2013 at the World Health Assembly) provides a systematic approach to the assessment of NCD prevalence and subsequent measurement of its control [31]. Within the framework, areas of concern are presented in the context of Outcomes, Targets and Indicators. For example, progress toward "preventing physical inactivity" (desired **outcome)** is quantified numerically by a **target** of "At least 10% relative reduction in the harmful use of alcohol…" [31] . This target is measured by the following **indicators**:

a) Total (recorded and unrecorded) alcohol consumption per capita (aged 15+ years old) within a calendar year in litres of pure alcohol, as appropriate, within the national context
b) Age-standardised prevalence of heavy episodic drinking among adolescents and adults, as appropriate, within the national context
c) Alcohol-related morbidity and mortality among adolescents and adults, as appropriate, within the national context.

Target selection

Targets are divided into three broad categories- mortality-based targets, risk factor (both modifiable and non-modifiable) based targets, and national systems response-based targets. From these categories, nine voluntary global targets are selected by the WHO as priorities for prevention and control [31]. These are: one mortality target (previously agreed at the WHA in May 2012); six risk factor targets (harmful use of alcohol, physical inactivity, dietary sodium intake, tobacco use, raised blood pressure, and diabetes and obesity), and two national systems targets (drug therapy to prevent heart attacks and strokes, and essential NCD medicines and technologies to treat major NCDs) [31].

Further, in setting national NCD targets based on the nine global targets, the WHO recommends that Member States consider the following:

- Are the targets and indicators included in the GMF all suitable and appropriate in the national context?
- Are there additional targets and indicators needed for the country?

- Are there systems in place to track global indicators and report global targets
- Are systems in place which track/report new proposed indicators and targets?
- What is the current level of exposure/mortality/service provision?

Standardising measurements of progress internationally

The use of this framework purely for international comparison is somewhat hindered by differences in data collection and availability. Where multiple indicators exist for one target (i.e. for alcohol), Member States are encouraged to report against as many indicators as possible, but only where appropriate within the national context [31]. Further, discrepancies in “data availability, data type, population structure and other data characteristics… reduce comparability across countries, and hence the format of figures produced by WHO may differ from those reported by each individual Member State.”[31]. Therefore, the framework provides more viability for use as an indicator of progress in NCD prevention and control within countries rather than between [31].

Promotion of research and development for NCD prevention and control

Increasing medical and social research and monitoring efforts may pose an effective strategy to ensure Australia is equipped to cope with NCDs in the future. A recent report by Prevention First emphasises the need for regular monitoring of public health interventions to assess cost-effectiveness and efficacy [32]. Similarly, the National Strategic Framework for Chronic Conditions acknowledges the need for monitoring and research to determine the impacts of various health strategies and to improve overall health, respectively [33]. As such, the National Preventive Health Strategy 2021-2030 acknowledges the need for increased expenditure in health prevention, with the view to increase expenditure in health prevention to 5% of total health expenditure by 2030. This funding may allow for cross-sectoral collaboration on the development and improvement of preventive health strategies [34].

Similarly, the government’s Medical Research Future Fund also espouses the importance of medical research in ensuring that Australia is well equipped to prevent and treat NCDs in the future [36]. Specific emphasis on conditions that currently have gaps in the literature, such as dementia and osteoporosis [37], may allow for minimisation of the deleterious impacts of NCDs. The AIHW acknowledges the wealth of national data available in Australia, and the key insights that linkage of this data may provide [37]. Given the successes of data linkage in Australia, such as studies exploring the impacts of the human papillomavirus vaccination and caesarean sections [38], improving research funding and training in the area of data linkage may prove to be a useful strategy for futureproofing. Recent advancements in technology may also prove to be valuable in approaching NCDs. For example, the Australian government's Genomics Health Futures Mission involves the use of medical research to improve diagnosis and treatments of conditions such as rare diseases and cancers, with a goal of transforming 200,000 lives [39].

Risk Factors for NCD Development

Health and Nutrition

The Australian Health Guidelines refer to a nutritious diet as consisting of limited consumption of saturated fat, added sugars, salt, and alcohol, and trans-fatty acids. It also comprises daily consumption of vegetables; fruits; grains; lean meats, poultry, fish, eggs, nuts, seeds and legumes; and dairy products [40]. Current evidence suggests a strong correlation between poor nutritional intake and the development of NCDs most of which include coronary artery disease (CAD), stroke, hypertension, some cancers, Type II Diabetes Mellitus and nutritional anaemias [41]. A diet with less focus on the consumption of animal products has been shown to be associated with a decreased mortality from NCDs stemming from dietary behaviours [42].

An estimated 7.3% of the total NCD burden can be attributed to poor nutrition, with CAD being the leading cause of mortality in Australia between 2018-2020 [43]. Moreover, the discussion of a Sugar Sweetened Beverages (SSB) Tax has been ongoing, with evidence supporting its effectiveness in countries where it has been implemented. France and Mexico showed a 3% and 6% reduction in soft-drink consumption respectively, following a 5% taxation [44]. With Australia's substantial consumption of SSBs reaching 2.4 billion litres per year, it is estimated that an SSB tax that would increase retail price by 20% would successfully reduce obesity by 2% [45]. Understandably however, there are barriers that prevent the successful implementation of such a tax, particularly disagreements from manufacturers regarding profits, healthy enjoyment of SSBs [46] and concerns that the tax would disproportionately impact low SES populations.

Socioeconomic status can influence access to healthy foods such as fresh fruits, vegetables, unsaturated fats, and whole grains. Healthy foods are often more expensive than unhealthier alternatives with higher levels of sugar and saturated fats. Subsidising healthy foods for individuals with low socioeconomic status or increasing their accessibility with food & agricultural policies could help improve nutrition and reduce NCD rates in disadvantaged groups [47], as well as mitigate the impact of SSBs on low SES populations. For example, packaging SSBs and fruit and vegetable subsidies could reduce Australian NCD prevalence and healthcare costs by 470000 DALYs and $3.4 billion with a neutral effect on household expenditure on food [48].

A systematic review of international tax and subsidy policies for food found that soft drink taxes and subsidies of healthy foods were effective at encouraging healthier food consumption patterns but may increase overall food consumption. However, taxes on individual nutrients such as sugar, salt and fat may have unintended consequences on food consumption patterns as they are found in many healthy foods as well [49].

See AMSA's 'Food and Nutrition' policy for more details.

There also exists a discrepancy between Aboriginal and Torres Strait Islander peoples and non-Aboriginal and Torres Strait Islander peoples, which has proven to be quite multifactorial and complex. Aboriginal and Torres Strait Islander peoples have an average life expectancy of 10 years less than non-Aboriginal and Torres Strait Islander peoples, in which 75% of this mortality gap can be attributed to non-communicable chronic illness [50]. Furthermore, Aboriginal and Torres Strait Islander peoples have an estimated 1.2 times higher risk of developing cardiovascular disease and 3.3 times more risk of developing diabetes compared to non-Aboriginal and Torres Strait Islander peoples. Much of this can be attributed to food security issues, high costs of fresh food due to geographical locations, and lack of education surrounding optimal food choices [51].

See section on 'Disproportionately affected populations: Aboriginal and Torres Strait Islander peoples' for more relevant information.

Physical activity

Physical inactivity has been shown to increase the risks associated with a range of diseases including cardiovascular disease, Type II Diabetes, and some cancers [52]. In fact, 2.6% of the disease burden can be attributed to physical inactivity alone. Inactivity is estimated to contribute to 19% of diabetes, 16% of bowel cancer, and 11% of cardiovascular diseases [52].

Comparisons have shown that community-based interventions, along with interventions that encourage the incorporation of physical activity into the daily routine are more effective than individual-based interventions. Of those community-based interventions, those delivered by personal contact, such as community-based walking groups and specialist counselling sessions tend to demonstrate the best long-term outcomes [53].

Apart from community-based interventions, meta-analyses and systematic reviews have shown that workplace-based interventions are proven to be effective in reducing the total number of hours spent sedentary per day, which totals an estimated 77% of the day due to the nature of their occupation [54]. These interventions included but were not limited to weekly activity sessions incorporated into breaks, diabetes educators, free pedometers, financial reimbursement for gym memberships, and educational newsletters or seminars. Overall, this can significantly contribute to the UN's target of a 25% relative reduction in premature NCD deaths by 2025 [21].

Tobacco

The use of tobacco remains a significant cause of morbidity and early mortality from NCDs worldwide, with up to 8 million worldwide deaths attributed to tobacco use globally [55]. Australia has been quite proactive in both prevention and cessation of tobacco use, with interventions existing in surveillance, promotion of smoke-free environments, availability of cessation programs, packaging regulations, media campaigns, advertising bans and tobacco taxation, as outlined in the National Tobacco Strategy (2018). Since these measures have been successful in preventing the initiation of smoking, the continuation of these measures would be ideal and logical [56].

There has also been increases in popularity of electronic cigarettes (E-cigarettes) as tools for smoking cessation, despite limited evidence suggesting their efficacy. Rather, some literature outlines e-cigarette consumption as a gateway to initiation of smoking and other drugs. Children and adults who use E-cigarettes have double the risk of smoking tobacco cigarettes in their lifetime [55]. However, more research is required into the field of electronic cigarettes.

Alcohol

Alcohol consumption, in particular chronic harmful alcohol consumption, is estimated to be responsible for 4.5% of the total NCD burden in Australia [57]. Australian guidelines recommend that adults drink no more than ten standard drinks (10 x 10g of alcohol) a week, and no more than 4 standard drinks on any given day to reduce the risk of alcohol-related harm over a lifetime [58]. Despite this fact, harmful alcohol consumption continues to be a central component of social gatherings worldwide, including in Australia [59]

Marketing and advertising of alcohol in particular are known to be linked to harmful drinking patterns amongst young people [60] – the impacts and solutions to which are reflected in AMSA's Harm Minimisation in Substance Use Policy (2021) policy, and in addition, exposure to alcohol advertising during sporting events causes viewers' attitudes to alcohol to become more positive [61]. Moves towards an industry-independent regulatory system have begun in Australia over the last 4 years through the Alcohol Advertising Review Board (AARB), with more consumer complaints and removed advertisements than previously [62,63]. Further, education, such as through university Fsugar programs that tell students what a standard drink looks like, and targeted reminders at various times associating excessive long-term alcohol consumption with harm can reduce consumption [64].

Disproportionately At-Risk Populations

Aboriginal and Torres Strait Islander peoples

The 'Indigenous Health Gap', as it is denominated by the Australian Government, provides official recognition of the disproportionately poorer health and life expectancies of Aboriginal and Torres Strait Islander peoples, relative to non-Aboriginal and Torres Strait Islander Australians. According to the AIHW [65], Aboriginal and Torres Strait Islander peoples, in 2020, reported an average 1.8 times higher age-standardised death rate, and 8 years less life expectancy relative to their non- Aboriginal and Torres Strait Islander counterparts. Much of this disproportionality is evident in Aboriginal and Torres Strait Islander peoples' burden of disease, including non-communicable diseases (NCDs). Another report by the AIHW [65] in 2018 found that the incidence and death rate of diabetes among Aboriginal and Torres Strait Islander peoples was approximately 3.5 times and 5 times higher, respectively, than non-Aboriginal and Torres Strait Islander peoples; and chronic kidney disease incidence and death rate were approximately 3.5 times and 2.6 times higher, respectively. The causality of this health gap is multifaceted, rooted in a legacy of inequity and disadvantage that was instigated by the marginalisation of Aboriginal and Torres Strait Islander peoples following the colonisation of their traditional homeland [66]. Such disadvantage, which was caused by misguided policies, caused social disruption and cultural devastation that is still evident today [67]. Older Aboriginal and Torres Strait Islander peoples also face a substantially higher burden, and from younger ages, in the number of chronic conditions with an impact on quality of life, even as the lifespan gap narrows for these older survivors relative to their non-Aboriginal and Torres Strait Islander peers [68].

Australia's biomedically-centred healthcare system creates cultural barriers to Aboriginal and Torres Strait Islander peoples' access to healthcare, given its failure to recognise their community's heritage and sense of identity, and by extension their determinants of health, thus perpetuating the Indigenous Health Gap [69]. Mobula et al. [70] state that the systemic cultural incompetency of Australia's healthcare workers impedes upon the quality of care provided to Aboriginal and Torres Strait Islander peoples, thus exacerbating the burden of NCDs on this demographic. Reviews into current cultural education programmes in Aboriginal and Torres Strait Islander medical services were found to be 'too superficial' and when combined with low staff motivation and confidence, perpetuated inappropriate cultural stereotypes of Aboriginal and Torres Strait Islander peoples, doing little to inspire cultural competency [71]. However, Jennings et al. [71] note that this trend was observed in only a handful of urban Aboriginal medical services, and that a systemic review would be required to determine the extent of cultural incompetency in Australia's provision of Aboriginal and Torres Strait Islander healthcare. Regardless, the provision of culturally sensitive care that incorporates Aboriginal and Torres Strait Islander models of health could be achieved through increased engagement in healthcare by Aboriginal and Torres Strait Islander people, such as through an expansion of the Aboriginal and Torres Strait Islander health workforce [72]. Without culturally appropriate healthcare, Aboriginal and Torres Strait Islander peoples will, on one front, be dissuaded from seeking adequate medical care, or be provided suboptimal care, both of which exacerbate the burden and longevity of NCDs among their community.

Vos et al. [67] purport that fragmentary data collection of traditional population health indicators for Aboriginal and Torres Strait Islander peoples hinders the efficacy of existing interventions. Though the health disadvantages of Aboriginal and Torres Strait Islander peoples are widely reported, the inadequate documentation of health indicators such as disease-specific mortality, hospital rates, and life expectancies at birth causes an underestimation of the complete spectrum of disease and their burdens on this demographic [71]. Without a precise account of the burden of NCDs on Aboriginal and Torres Strait Islander peoples, targeted frameworks and interventions would prove ineffective.

In contrast to the established risk factors perpetuating NCD burden amongst Aboriginal and Torres Strait Islander peoples, which include tobacco and alcohol use, obesity, physical inactivity, and inadequate fruit and vegetable intake, there are other understudied contributors to NCD burden. Handsley-Davis et al. [73] propose the deleterious role of inadequate oral health in exacerbating the NCD burden of Aboriginal and Torres Strait Islander peoples, due to the links between oral health and systemic health. As the mouth acts as a bacterial reservoir, periodontal disease is a risk factor for many NCDs, including diabetes, chronic kidney disease, rheumatoid arthritis, and head & neck cancers. In the 2017-2018 National Survey of Adult Oral Health, it was found that only 1.7% of participants who underwent dental examinations were Indigenous, relative to the 2.4% of Australians that identify as Indigenous – as determined by the 2016 census [73]. However, the small sample size of this survey necessitates improved data collection about the oral health of Aboriginal and Torres Strait Islander peoples to draw firm conclusions. Nonetheless, sufficient data has been collected to substantiate oral health gaps among Aboriginal and Torres Strait Islander peoples, with higher incidences and severity of oral diseases. Specifically, South Australian data indicates that head & neck cancers comprise 8% of cancer diagnoses in Aboriginal South Australians, compared to approximately 2% in non-Aboriginal South Australians [74]. Additionally, Jamieson et al. [75] report worsened quality of life and mental wellbeing due to poor oral health, with links between poor oral health and increased anxiety, depression, and suicidal thoughts among young Aboriginal and Torres Strait Islander peoplesidentified in supporting literature. The culmination of these issues substantiates the need for further research and interventions into the oral health of

Aboriginal and Torres Strait Islander peoples, which is exacerbating the overall Indigenous Health gap.

Risk factors themselves are largely due to social and economic barriers that prevent improvement of health including lower health literacy, educational attainment, income and employment, and poor access to culturally safe health services [76]. Perinatal risk factors including prematurity and low birth weight occur more frequently in Aboriginal Australians and contribute to poor health in later life. Of all risk factors tobacco use is the most significant causing 23% of the disease burden gap. Barriers to preventative health also contribute to this mortality gap; for example, rates of cervical cancer screening are lower in Aboriginal and Torres Strait Islander compared to non-Aboriginal and Torres Strait Islander women [68]. Furthermore, failure of secondary healthcare also plays a role; for example chronic kidney disease contributes to the mortality gap which is largely due to diabetic nephropathy, which is preventable if diabetes is well controlled [68].

Knibbs & Sly [66] also present risk factors that are present environmentally, such as those found in water, food, soil, and air, as another understudied risk factor of NCD burden among Aboriginal and Torres Strait Islander peoples. Access to these factors is a fundamental tenet of human health, with demonstrable importance globally; however, despite evidence of suboptimal water, land, and food conditions in Aboriginal and Torres Strait Islander communities, particularly remote communities, there is little research into the role of environmental risk factors in the burden of NCDs in the Indigenous Health gap [77]. With global research into environmental exposures and their effects on health outcomes, dedicating research and policies to this social determinant would allow for better-curated interventions to tackle the Indigenous Health gap.

As observed in other populations, there are clear associations between adverse childhood experiences and multimorbidity, chronic disease states, and risk of premature death; therefore, this substantiates early-life interventions as a viable method to address the Indigenous Health gap [69].

Current frameworks implemented to tackle the NCD burden of Aboriginal and Torres Strait Islander peoples have been criticised for compromising Aboriginal and Torres Strait Islander health through a healthcare model that subjugates

Aboriginal and Torres Strait Islander knowledge, beliefs, and values to “the hegemonic western biomedical model at the level of policy and practice” [69]. Discussions amongst independent policy advisors believe that, in part, accountability must be attributed to both the government and healthcare professionals. However, in recognition of the essentiality of policy reform, “an asset-based, holistic and decolonising approach” should be applied to address the health fallacies of Aboriginal and Torres Strait Islander peoples [78]. With homage to the Referendum Council’s Final Report in 2017, establishing a “representative view [of] Aboriginal and Torres Strait Islander peoples” within the provision of their healthcare, and the principles that underpin it, is essential in reducing the Indigenous Health gap. Through incorporation of Aboriginal and Torres Strait Islander peoples in healthcare, at both the level of policy making and clinical practice, strengths-based policies that are community-led and culturally-sensitive can be implemented to address the health needs of their communities.

Culturally and Linguistically Diverse (CALD)

Australia is home to a rich, multicultural population. According to the 2016 Census of Population and Housing by the Australian Bureau of Statistics (ABS), 45% of Australians were either born overseas, or had a parent born overseas [79].

CALD, refugee and migrant populations face a number of unique barriers to accessing quality healthcare, and consequently experience a disproportionately greater burden of NCDs than other groups in society [80].

Paradoxically, mortality rates and self-reported chronic conditions in migrant populations are initially lower on arrival than Australian-born individuals [79]. This has been termed the ‘Healthy Migrant Effect’ and is partially due to the inclination for immigrants to have a higher level of health and wealth to both physically and financially migrate to another country successfully [79]. However, this is temporary. The WHO has identified a positive association between duration of stay and increased risk of developing NCDs in host countries within the WHO European Region [81]. This was echoed by an Australian longitudinal study which demonstrated that after 20 years, immigrants living in Australia were equally as likely to report a chronic condition as those who were born in Australia [82]. Ultimately, despite the initial advantage, prevalence rates of NCDs in immigrant and Australian-born populations converged with longer duration of stay.

There are a number of factors, unique to some individuals from CALD, refugee and migrant populations, that predispose them to NCDs and their risk factors [83].

Migration-specific challenges place these individuals at a significant disadvantage even prior to reaching Australia. From their countries of origin, poverty, political instability and limited access to healthcare increases their vulnerability to NCDs [83]. This is then exacerbated further by stressful and unsafe conditions during transit [83]. Finally, at destination, pressures to adopt and integrate into a new culture compel these individuals to adopt similar lifestyles and health behaviours as the local population, in particular high-calorie diets and sedentary lifestyles [84]. They face cultural discrimination, disrupted continuity of care, and barriers to healthcare access due to legal status, which ultimately exacerbates the risk of developing or worsening pre-existing NCDs in these communities [83].

Additionally, language barriers impede their ability to gather and comprehend health information and navigate the healthcare system. As such, they are more likely to experience difficulties engaging with healthcare professionals and have insufficient information to manage their health [85].

Refer to AMSA's 'Health Literacy' policy for further information. [86]

Language barriers also contribute towards under-representation of these communities in national data, particularly where English is used in surveys or required for self-reported information [79]. Additionally, the current Set of Cultural and Language Indicators used by the ABS are insufficient in capturing the diversity of this population [79].

Refer to AMSA's 'Racial Discrimination and Cultural Diversity' policy for further information [87].

Health Literacy

Health literacy encompasses the ability for people to access, comprehend, and utilise health information to benefit their health [85]. It represents a complex interaction between an individual's skills, motivation and knowledge of health, and the infrastructure, processes and people of the healthcare system [88].

In the setting of NCDs, health literacy determines an individual's capacity to adopt healthy behaviours and minimise their exposure to known risk factors. This includes maintaining a well-balanced diet, participating in regular exercise, and minimising consumption of tobacco, alcohol and illicit drugs [89]. Furthermore, health literacy impacts individuals' ability to manage ongoing health conditions, including cardiovascular disease, chronic lung disease, diabetes and cancer, through effective collaboration and engagement with the healthcare system [89].

Aboriginal and Torres Strait Islanders, CALD populations, and those from low SES backgrounds, among others, have lower health literacy than other societal groups [88].

Low health literacy is a predictor of overall poor health. It has not only been linked to an increased likelihood of smoking, obesity and inadequate physical activity, but also with poorer management of existing NCDs, with a lower likelihood of organising medical appointments, following professional advice and seeking preventative care [89].

Refer to AMSA's 'Health Literacy' policy for further information [86].

Stigma and NCDs - Mental Health, Addiction and Fat Phobia

Mental Health

The WHO's 2013-2020 Mental Health Action Plan identifies that addressing mental health and wellbeing is central to reducing the global burden of NCDs [90]. It has been established that diabetes, cardiovascular disease, respiratory disease and cancer commonly coincide with common mental disorders, including depression, anxiety, schizophrenia and bipolar disorder [91]. Furthermore, key risk factors for NCDs – tobacco use, unhealthy diet, physical inactivity and alcohol abuse – are more common in individuals with mental disorders [91].

Despite this association, mental illnesses are less likely to receive treatment than physical conditions worldwide [91]. This is in part due to the stigmatisation of mental disorders [91]. Consequently, these individuals are discouraged from seeking medical care, leading to delaying diagnosis, inadequate treatment of both mental and physical disease and non-adherence [91].

Refer to AMSA's 'Mental Health Support Structures' policy for more information [92].

The LGBTQIA+ community experiences particularly poor mental health outcomes. Compounded with the stigma attached to mental health disorders, these communities experience institutionalised and interpersonal discrimination and marginalisation of their sexuality and gender [93].

Refer to AMSA's 'LGBTQIA+ Health' policy for more information [94].

Addiction

There is a complex relationship between the use of tobacco, alcohol and other drugs (TAOD) and mental health [95]. Individuals with mental illness often turn to these substances for short-term relief of their symptoms [95]. Conversely, existing

TAOD problems may precipitate initial symptoms of mental illness [95]. According to the 2019 National Drug Strategy Households Survey, 16.9% of Australians aged 14 and above have been diagnosed or treated for a mental health condition in the previous 12 months. Compared to those without mental health conditions, these individuals were more likely to drink at high risk levels, 1.7 times more likely to have used an illicit drug, and twice as likely to smoke [95].

Stigma surrounding TAOD poses a significant barrier to equitable healthcare delivery and therefore management of NCDs in this population [96]. Members of the general community, including healthcare workers, hold negative attitudes that insinuate that TAOD is a personal choice with self-induced outcomes, fear that these individuals are unreliable and dangerous, and debate whether there is any benefit in offering the 'drunk' or 'junkie' interventions at all [96, 97]. As such, primary healthcare practitioners are often reluctant to question patients about their substance use, or suggest treatment that is unfamiliar or unsupported [96]. Consequently, these individuals are discouraged from disclosing TAOD use, decreasing self-esteem and worsening comorbid disease. These issues further contribute to employment, relationship and housing difficulties [96, 97]. Specialist alcohol and drug services are not well-known to the public, so patients often rely on word of mouth to identify services [96]. Stigmatised individuals are also less likely to comply with treatment or seek treatment too late. The 2007 National Survey of Health and Wellbeing found that less than 30% of Australians with a 12 month history of substance use disorder consulted a general practitioner [97]. Many people only seek advice after a crisis, an average 14 years later, or do not seek help altogether [97].

Stigma & 'Fat-Phobia':

Individuals who are overweight or obese often experience stigma and discrimination which is commonly referred to as 'fat-shaming' or 'fat-phobia'. This can negatively impact willingness to seek medical advice and adherence to weight management interventions. This increases the likelihood of obesity-related health complications such as type 2 diabetes [98].

The common view that obesity is a failure of personal responsibility has contributed to 'fat-shaming' and bias against individuals who are obese. This view makes it more difficult to recognise and address the complex biological, psychological, social and environmental risk factors that contribute to obesity [99].

Individuals with NCDs such as cancer, cardiovascular diseases, diabetes and chronic respiratory conditions also experience stigma, which includes both social isolation or discrimination and individual feelings of shame and guilt [100]. For example, a systematic review of 25 journal articles on non-communicable respiratory diseases such as lung cancer found that most patients report low to moderate levels of stigma-related experiences, including a reduced quality of life, work-related issues and psychosocial or physical difficulties [101].

Feelings of stigma can also make individuals who are overweight or obese or have NCDs reluctant to disclose their condition to other people, including medical staff. This has been linked to low utilisation rates for medical services and poor treatment outcomes in these individuals [100].

Future-Proofing

Workforce and Training

Given the projected increase in the burden of chronic conditions in Australia, the health system needs to consider how best to prepare for this additional demand. The care of chronic health conditions and NCDs cannot be associated with only one part of the health sector- there needs to be better interaction between primary, secondary, and tertiary health care providers [102]. As such, Australia's health system needs to be future-proofed by increasing the size and capability of the overall health force, to ensure a competent workforce that can meet increased needs.

The World Health Organisation estimates that there will be a lack of 18 million healthcare workers globally by 2030 [103]. In Australia, the estimated shortfall is 5,000 workers by 2030 [104]. More importantly, the workforce shows an uneven distribution of medical professionals across the country, particularly in rural areas. This is particularly concerning given that 29% of Australia's population lives in rural and remote areas [105].

This uneven distribution of medical professionals between metropolitan and rural areas is applicable both in number and in specialisation. The overall number of doctors relative to population in major cities is higher compared to rural and remote areas. For instance, there were only 1,550 per 100,000 full time working clinicians in outer regional areas compared to 1,927 per 100,00 in major cities [106]. Moreover, there is a lack of access to specialist care in rural and remote areas, with the rate of specialists decreasing by 6.5 fold from 143 per 100,000 people in major cities to 22 per 100,000 as remoteness increases [107]. There has also been a decrease in the number of rural General Practitioners from 2018 (in Monash Model 6 areas) [108].Though there have been programs to incentivise additional GP work in remote and rural areas, they have not led to equitable provision of services in the country [108]. In 2020, a survey of graduating medical students showed that 65% preferred to work in a major capital city, compared to 13.5% who had a preference for working in regional cities, small towns or communities [109]. The uneven distribution needs to be addressed, especially given that the rate of chronic disease burden in Remote and Very Remote areas is 40% greater than that of major cities [110].

In recognition of these issues, The 'National Medical Workforce Strategy (2021-2031)' was released in January 2022, endorsed by the Council of Australian Governments Health Council. The Strategy highlighted multiple priorities for the future, including: to address the imbalance between supply and distribution, to reform training pathways, and to build the generalist competency of the medical workforce [111].

Climate Change

The impacts of climate change and environmental issues may increasingly present a challenge to future healthcare providers, and society at large. The WHO acknowledges that an individual's environment plays a key role in NCD development [112]. An estimated 23% of deaths are attributed to environmental factors including, but not limited to pollution, climate change and agricultural methods [113]. Several conditions such as ischemic heart disease, cerebrovascular disease, cancers and chronic obstructive pulmonary disease have been found to be related to environmental risk factors such as air pollution [112]. The impacts of climate change are not limited to impacts on physical health. A recent report by Doctors for the Environment Australia explored research that found increased rates of suicide and self-harm associated with increasing temperatures in Australia and other countries [114]. Given the deleterious impacts climate change and environmental degradation can have on health, a strategy addressing these phenomena would be useful in readying Australian society for the impacts of NCDs in the future.

Australia has ratified the Paris Agreement and committed to an economy-wide emissions target to reduce emissions by 26-28% below 2005 levels by 2030 [115]. However, the Commonwealth Department has not implemented specific programs to target climate change and health. The most recent investment has been the once-off $10 million Special Initiative in Human Health and Environmental Change, awarded in 2021 [116, 117]. The NPHS acknowledges climate change as an environmental determinant in the burden of chronic disease, but it is not an immediate priority in the next 10 years [118].

In particular, the health sector has the potential to impact climate change through empowering communities for climate mitigation, as well as reducing its own impact on climate change. An evaluation of key reviews into the health system responses in a report commissioned by the Royal Australiasian College of Physicians found that there is a lack of systems-based approaches, especially at the national level [117]. Coordinated effort across the health sector will lead to greater impact. Furthermore, it highlighted the lack of research surrounding the impact of systems-level research and the effectiveness of health system interventions [117]. Rather, there are more commentaries and opinion articles driving the discourse on climate action in health compared to primary research studies [117]. Hence, it is crucial to address the current need for greater research and investment into climate change impacts, and healthcare efforts to mitigate these impacts.

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