1

Public health: An introduction to local and global contexts

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LEARNING OBJECTIVES

After studying this chapter, you should be able to:

1 understand what public health is
2 appreciate the health of Australian people
3 learn about the main public health organisations in Australia
4 understand some global public health concerns
5 learn about the social model of health and the new public health
6 understand health inequality and social justice in health.
Breastfeeding and HIV-positive children: Is it a public health issue?

In 2020, 1.7 million children were living with HIV/AIDS (HIVGov, 2021a; UNAIDS, 2021). In 2019, each day about 880 children became infected with HIV and around 310 children died from AIDS-related causes (UNICEF, 2020). Mostly, this was due to inadequate access to HIV prevention, care and treatment services. Most of children living with HIV/AIDS are born in poor nations, particularly in sub-Saharan Africa, and will die before they reach their fifth birthday. Approximately 40 per cent of HIV-positive children are infected through breastfeeding. This makes breastfeeding the most widespread means of mother-to-child transmission (MTCT) of HIV. For HIV-positive mothers who practice prolonged breastfeeding, the risk of MTCT of HIV spans from 25 to 48 per cent (Blumental et al., 2014).

The transmission of HIV through breast milk has created a dilemma for HIV-positive mothers (Bansacal et al., 2020). The benefits of breastfeeding and the risks of not breastfeeding have to be weighed against the risk of HIV transmission through breastfeeding. Whereas previously breastfeeding, especially exclusive breastfeeding, was a key child survival strategy, the finding that HIV is present in the breast milk of women living with HIV has led to a re-assessment of the benefits of breastfeeding. Avoiding breastfeeding has been recommended as a means to eliminate breast milk-transmission of HIV (AIDSInfo, 2021; Moseholm & Weis, 2020; HIVGov, 2021b).

Breastfeeding is the most widespread means of mother-to-child transmission of HIV (Moseholm & Weis, 2020; HIVGov, 2021b). As part of the prevention of mother-to-child HIV transmission strategies, there are two options that women with HIV are urged to consider when feeding their infants. These are exclusive breastfeeding with early weaning, or replacement feeding (with breast-milk substitutes). These options may be feasible for women who can afford to do so.

Most HIV-positive mothers follow the advice not to breastfeed their infants (Liamputtong, 2013). However, being unable to connect with their infants through the act of breastfeeding, women may have ambivalent feelings about their motherhood and mothering roles. This may have great ramifications for their emotional wellbeing (Bansacal et al., 2020). It has been recognised in many societies that breastfeeding is a marked determinant of being a good and responsible mother (Liamputtong, 2011; Suwankhong & Liamputtong, 2017).


Introduction

The health of the public is determined by a spectrum of complex individual, social, cultural, economic and environmental factors (White et al., 2013; Turnock, 2016a, b). This has been attributed to determinants of health (Marmot, 2004; Commission on Social Determinants of Health, 2014; Liamputtong, 2019; see also the chapters in parts 1 and 2). Determinants of health include genetic and biological factors; sociocultural and socio-economic factors (including social class, gender, ethnicity, education, income and occupation); health behaviours (such as cigarette smoking, abuse of alcohol and risky lifestyles); and environmental
factors (for example, social support, social connection, housing, geographical location and climate). The determinants of health can lead to a change (for better or worse) in the health and wellbeing of individuals, groups and populations (Commission on Social Determinants of Health, 2014; Gleeson & Chong, 2019; Liamputtong, 2019; see also Chapter 7).

Based on the concept of a **new public health**, it is argued that public health practice is situated within the context of broader social issues concerning the underlying social, economic, cultural, environmental and political determinants of health and disease. Thus, this book has its emphasis on the sociocultural environment rather than on the biological and genetic factors associated with health. As illustrated in the opening vignette, the continuing HIV/AIDS epidemic of the past few decades has created a significant challenge for public health practice. It highlights the complex social issues that are fundamental elements of public health (Baum, 2016; Turnock, 2016a, b; Schneider, 2017).

This chapter introduces **public health** and the salient issues relevant to it from local and global perspectives. The definition of public health, its values and major public health organisations are included. The chapter also discusses major public health challenges in Australia and from a global context. The social model of health, health inequalities and social justice are also discussed.

## What is public health?

### Definition of public health

Public health means different things to different people (White et al., 2013; Lin et al, 2014; Turnock, 2016a, b). Public health may refer to the health of the public, the health profession, health services, the healthcare system and appropriate knowledge and techniques (Turnock, 2016a, b). Regardless of how it is seen, public health aims to promote and improve the health of all people and to prevent injury, disease and premature death. Public health also attempts to alleviate suffering and disability (White et al., 2013). In the Australian context, public health is also about the prevention of illness, disease and injury, as well as the promotion of health, wellbeing and quality of life of people (Fleming, 2019).

It is here that the definition of health needs to be discussed. Health is constructed socially and culturally (Turnock, 2016a, b; Fleming, 2019; Liamputtong & Suwankhong, 2019; Wright & Higgs, 2019). According to the Australian Institute of Health and Welfare (AIHW, 2017), health is seen as a crucial component of wellbeing. Health is also situated within broad social and cultural contexts. The state of the health of populations in society contributes to the social and economic wellbeing of that particular society. Overall, health is perceived as ‘a complex outcome’ that is influenced by factors including genetic, environmental, economic, social and political circumstances (Baum, 2016).

While medicine has its focus on treating individuals who are ill, public health emphasises the prevention of illness and improvement in the health of people (Schneider, 2017; Parker & Baldwin, 2019). Due to its focus on prevention, the achievements of public health are difficult to recognise. This is why the value of public health tends not to be as highly appreciated as that of medicine. However, most health gains are the result of public health initiatives such as improved nutrition, housing, sanitation and occupational safety (see also Chapter 2 in this book). According to Schneider (2017), effective public health programs save lives and also
save money on medical costs. Essentially, public health contributes to the health of people more than medicine is able to do (Turnock, 2016a, b; Schneider, 2017; Fleming, 2019; Parker & Baldwin, 2019). Globally, public health efforts have contributed significantly to improvement in health status of populations. It will continue to play an important role in dealing with new challenges we might face in the future (Turnock, 2016a, b).

Preventive measures in public health can be applied at three levels: primary, secondary and tertiary (Schneider, 2017; Fleming, 2019; Parker & Baldwin, 2019). Primary prevention focuses on the prevention of a disease or injury. Primary prevention includes, for example, anti-smoking campaigns, regulations on the use of seat belts in motor vehicles, prohibition of driving after alcohol consumption (drink-driving campaigns) and nutrition programs. Secondary prevention attempts to reduce the damage caused by the illness through implementation of screening programs (for instance, breast, bowel and prostate cancer screening programs). Secondary prevention also includes the reduction of injury-causing events, such as injuries from competitive sports and motor car racing.

Tertiary prevention aims to minimise any disability that might follow an illness or injury, and is implemented through the provision of medical care and rehabilitation services.

**REFLECTION QUESTION**

Public health programs have been used to improve the health and wellbeing of people around the world. Since the onset of the COVID-19 pandemic, public health programs have played an essential role in the control of the disease in many parts of the world, including Australia. Why does this happen? How will public health programs help to prevent future pandemics in the world?

**Public health disciplines**

Commonly, there are five main disciplines under the umbrella of public health. Biostatistics is the application of statistics to the analysis of biological and medical data in public health. Epidemiology refers to the study of the determinants and distribution of health issues within specific groups of the population (see also Chapter 13). Environmental and occupational health sciences deal with a range of environmental determinants of health, including physical, biological, social and behavioural determinants, as well as with diseases that have environmental and occupational origins. Health services administration is concerned with the functioning of public health services in ensuring that they are equitably distributed, work as intended and that policies are implemented as planned. It also plays a crucial role in evaluating the cost-effectiveness of public health programs and medical care (White et al., 2013).

Social and behavioural sciences encompass the application of health education and health promotion to the protection of the health of people (White et al., 2013). Social and behavioural sciences facilitate our understanding of how society and its cultural and belief systems influence health perceptions and the behaviours of individuals and groups (Lin et al., 2014; Liamputtong, 2019). Schneider (2017) points out that social and behavioural sciences have increasingly become major components of public health. More and more people in contemporary societies must deal with illnesses and diseases caused by the social environment and their own behaviour. Some population groups have poorer health overall than others, and the
main reasons may be related to social factors. For example, people from low socio-economic groups tend to be less healthy than those with a higher income. People from ethnic minority groups, including indigenous peoples, immigrants and refugees, are at higher risk for many health issues (Schneider, 2017; see also chapters 19 and 20). Additionally, many forms of cancer are caused by smoking; heart disease is linked with exercise patterns and nutrition; drug use and alcohol consumption have been linked with the deaths of many individuals; and violence is a significant cause of death in many societies (see also chapters 7 and 8). These challenges are beyond the questions that biomedical sciences can answer. It is likely that the social and behavioural sciences will make a significant difference to public health policies and practice in the future (Schneider, 2017). Although contemporary public health continues to deal with problems related to sanitation and disease control, increasing attention is now paid to the social determinants of health: ‘how the social and behavioural lives of people can affect their health status’ (Lin et al., 2014, p. 81). As the complexity of human health patterns increases, the scope of public health interest is widened. This is particularly true in recent times, with the many public health challenges that we have witnessed globally.

## The health of Australians

Overall, Australia is doing well in terms of the health of its people. Australia is one of the countries that enjoys the highest levels of life expectancy in the world. From the beginning of the 20th century, the picture of health in Australia changed dramatically. Since 1901, infant and child mortality have decreased significantly, and this has contributed greatly to the increased life expectancy of Australians (AIHW, 2020). Death rates have declined substantially across all age groups. In the past two decades, Australian life expectancy at birth has been located within the top 10 of countries in the Organisation for Economic Co-operation and Development (OECD). According to the AIHW (2020), average life expectancy at birth is 84.9 years for women and 80.7 years for men. Australians also enjoy longer years of living free of disability. Germov (2019a) contends that this health improvement is not due to their biological advantage; instead, it is ‘a reflection of our distinctive living and working conditions’ (p. 4). Generally, better living conditions, as well as improved public health and safety programs and improved medical care, contribute to the reduction of mortality in Australia (Lin et al., 2014; Fleming, 2015).

However, among some population groups there are several public health issues that need significant improvement. These groups include people from lower socio-economic backgrounds, Indigenous people, people living with disabilities, older people, immigrants and refugees, and people living in rural and remote areas (AIHW, 2020). The health concerns of most of the population groups mentioned here are covered in the chapters of Part 4.

### SPOTLIGHT 1.1

**Vulnerable people and health in Australia**

Even though Australia does well in terms of health and healthcare access, there are certain individuals and groups who do not enjoy the same levels of good health and health care. These individuals and
groups have been referred to as ‘vulnerable populations’ (Lin et al., 2014; AIHW, 2016, 2017). **Vulnerable people** are those individuals or groups who are disadvantaged and susceptible to health adversities (Liamputtong, 2007, 2020). Based on these descriptions, vulnerable people may include children, women, older people, immigrants, refugees, sex workers, homeless people and LGBTIQ+ communities. People living with chronic illness or mental illness and their caregivers are also referred to as vulnerable populations (Liamputtong, 2007, 2020; see also Chapter 7).

In public health, according to Lin, Smith and Fawkes (2014, p. 3660), ‘vulnerable people’ means ‘individuals or populations being at risk of ill-health or other harms, such as injury’. Often, their sociocultural status and living situations have made them vulnerable in various ways. It is suggested that vulnerability is a consequence of inequalities in society. The outcomes of social inequality include ill health and injury. Often, people who are socially disadvantaged are at higher risk of ill health and injury. They tend to have the least social capital and economic resources. Thus, they have reduced capacity to protect themselves from illness and injury. In this sense, vulnerability ‘can be thought of in terms of an individual’s or group’s exposure to a range of psycho-social environmental factors that raise the chances of ill-health’ (Lin et al., 2014, p. 366).

**QUESTIONS**

1. Which other groups would you refer to as ‘vulnerable people’?
2. What are the public health issues that these vulnerable people might experience?
3. How can key public health organisations respond to their vulnerability and public health issues?

**Key public health organisations in Australia**

Public health is closely linked to government, and its processes are intrinsically political. Public health also involves a number of workforces that share a common goal to improve the health of the public (Lin et al., 2014; Wutzke et al., 2018; Fleming, 2019). These characteristics are complex and necessitate the commitments and skills of different professions from different disciplines (Fleming, 2019). This has led Lin, Smith and Fawkes (2014) to refer to public health as an ‘organised effort’ that requires the contribution of many different parties (see also chapters 2 and 10). Policy, legislative frameworks and resources to support public health services delivery are the responsibility of governments. However, services are provided by specialists and professionals in different locations, including hospitals, general practice, community health centres, non-government organisations (NGOs), schools, media outlets, industry and so on (Lin et al., 2014; Fleming, 2015, 2019).

In Australia, there are several key players in public health (see also Chapter 10). These include organisations both within the government and outside it (Lin et al., 2014; Fleming, 2019). Local and state governments play major roles in public health, whereas the role of the federal government is limited (Lin et al., 2014). Traditionally, local government has a central role in environmental sanitation, food safety and the regulation of building and public accommodation standards. Its role has expanded to include public health activities such as municipal public health plans, which embrace public health strategies to maintain and improve the health of people within a local community. Nowadays, local government is involved in many activities that contribute to the
health and wellbeing of the public, including home care, food and nutrition services, child care and transportation (Lin et al., 2014).

State governments are responsible for three key areas in public health: prevention and control of disease; health promotion strategies; and provision of health protection functions (Lin et al., 2014). Each state government has a chief health officer, who gives advice and reassurances to the public when a public health crisis occurs (Lin et al., 2014). The federal government has been responsible mainly for health funding and encouragement to adopt common approaches to health policies and programs by the state and territory governments.

Public health organisations situated outside government comprise a number of key players, including general practitioners (GPs), other health services, NGOs, professional organisations, schools, the media and industry (Lin et al., 2014). GPs play an important role in the provision of health services in the community (Perry & Willis, 2019; Willis et al., 2020; Perry & Sivertsen, 2022). Other public health services are provided mainly through secondary or tertiary prevention strategies. National and state bodies such as the Cancer Council and the National Heart Foundation are strongly involved in public health. They contribute by delivering intervention programs and research (for example, sun protection, women’s cancer screening and tobacco control) (Lin et al., 2014; Wutzke et al., 2018).

Public health: Global concerns

Several global public health concerns are prevalent in the 21st century. Some global major public health issues are discussed in this section.

Overweight and obesity

Overweight and obesity are now considered as contributing to the global burden of disease (White et al., 2013; OECD, 2017; World Health Organization (WHO) 2021a). In 2016, a total of 650 million adults and over 340 million children and adolescents (aged 5–19 years) were identified as obese. The prevalence of obesity has tripled in more than 70 nations since 1975, and it continues to increase in most other countries (WHO, 2021a). Overweight and obesity are among the key risk factors for non-communicable diseases, including type 2 diabetes, circulatory disease and musculoskeletal problems (Schneider, 2017). In many developed nations, such as the United States and Australia, a high prevalence of obesity is caused by the combination of eating too much and exercising too little (Schneider, 2017; AIHW, 2020). Rural-to-urban population movements have also contributed to increasing overweight and obesity in many countries (Schneider, 2017). The obesity pandemic has become a challenge for both developed and developing nations (White et al., 2013). In Australia, according to the AIHW (2020), between 2017 and 2018, about 12.5 million Australians were overweight or obese. As the prevalence of overweight and obesity has increased so quickly in recent decades, according to Schneider (2017) the health risks of overweight and obesity will reverse many public health improvements achieved in the 20th century (see Chapter 2).

Prevalence rates for overweight and obesity vary in different regions. Countries in Central and Eastern Europe, North America and the Middle East have higher prevalence of these conditions than those northern Europe and Asia (Hou, 2015). This is a major concern for
developing countries with overstretched healthcare systems. They have to deal with the ‘double burden’ of an ‘unfinished agenda’ of widespread undernutrition and infectious disease, as well as an emerging burden of disease linked with over-nutrition (White et al., 2013, p. 292). It is estimated that, with the rapid increase in overweight and obesity in developing nations, the number of obese people could double by 2025 (Formiguera & Canton, 2004).

**Mental health issues**

In developed nations, according to the World Health Organization (WHO), mental health issues constitute greater disability than other illnesses (Schneider, 2017). Among adults, the most common mental health issues are anxiety and mood disorders. One of the most common mental health issues in the general population is major depressive disorder. This illness has a range of symptoms including feelings of sadness and loss of pleasure or interest in things that were once enjoyed. A combination of other symptoms, such as changes in sleep pattern and weight, difficulty concentrating and irritability, may also be experienced by affected individuals (Goldmann & Galea, 2014).

Many mental disorders are the result of environmental impacts. For example, post-traumatic stress disorder is caused by critical, stressful events (Schneider, 2017). This is particularly the case with people who experience disasters such as bushfires and earthquakes, and military workers. There is a clear link between mental disorders and chronic diseases (for example, asthma, diabetes, epilepsy, cardiovascular disease and cancer). Additionally, people with mental health issues are at increased risk of injury (both intentional and unintentional). They tend to use tobacco products and to abuse alcohol and other drugs more than individuals without mental illness (Goldmann & Galea, 2014; Schneider, 2017; Sawyer, 2019).

It is estimated that, like people in most developed countries, about 1 in 5 Australians had a mental or behavioural condition in 2017–18, and females reported more mental health issues than males (AIHW, 2020). In 2015, about 4 million Australian people experienced a common mental health issues (AIHW, 2018). The anxiety and depressive disorders that currently affect Australia and other developed nations are mainly due to the commonplace circumstances and stressors that occur in these societies, including financial strain, unemployment, economic hardship, overwork, pressure to succeed, relationship breakdown and drought (Schneider, 2017; Sawyer, 2019). These stressors are intrinsically connected with salient social and environmental factors such as an increased sense of ‘individualism’, lack of social support, and anxieties about environmental threats (Sawyer, 2019, p. 249). For some, such as refugees, immigrants, Indigenous people and people with disabilities, this is mainly due to systemic racism and discrimination (Nguyen et al., 2016; Kurban & Liamputtong, 2017; see also chapters 18, 19 and 20).

**Migration and health**

There are about 1 billion migrants across the world ‘whose lives have been shaped by social determinants in their homelands and who face new social, economic, and political conditions in destination countries’ (Castaneda et al., 2015, p. 376). Globally, there are approximately 272 million international migrants living outside their countries of origin, and 763 million internal migrants and displaced people living within their countries of birth (WHO, 2018,
It is projected that, by 2050, there will be 405 million international migrants in the world (International Organization for Migration (IOM), 2020). Migration is a result of several social determinants (for example, poverty, political persecution and occupational and educational opportunities). Many people flee armed conflict, persecution and natural disaster. Economic migrants make up the largest growing portion of the migrating population and, with increases in global economic problems, this is likely to continue and can be associated with human rights issues in the receiving country (Schneider, 2017; Correa-Velez, 2019; WHO, 2021b; see also Chapter 20). This was clearly witnessed in recent years in the number of Rohingya refugees who fled by boat from Myanmar and were denied entry to Thailand, Malaysia and Indonesia, and Syrian refugees who attempted to enter European nations.

Whether voluntary or involuntary, migration affects individuals and communities in many ways. It certainly necessitates a complete change in their daily lives and can have great social, economic and health consequences (Castaneda et al., 2015; IOM, 2020; WHO, 2021b). An important migration issue that has ramifications for public health practice is the increase in the number of women who are migrating (UN Women, 2018). Women generally make up half of the migrating population, and in some countries make up 70–80 per cent. Often, migrant women are forced into low-paid jobs that are unregulated, such as domestic work. They are at high risk of exploitation, violence and abuse, including human trafficking. These can lead to long-term health and social problems for women, including sexually transmitted infection and increased numbers of unplanned pregnancies. Often too, they are rejected by their families when they return home (Schneider, 2017).

Recent global epidemics and pandemics

An epidemic refers to a situation when more cases of a health issue occur than expected in a certain part of the world, but it does not spread further, such as Zika virus. A pandemic is the global spread of a new disease that affects a large number of people; for example, a new influenza virus or the coronavirus, COVID-19 (Madhav at al., 2018). This section outlines some of the recent and serious epidemics and pandemics around the world.

HIV/AIDS epidemic

The HIV/AIDS epidemic has entered its fourth decade and continues to pose a major public health problem worldwide (HIVGov, 2021a). Although earlier in the epidemic it affected mostly intravenous injecting drug users, sex workers and men, it is now also affecting a large number of women and children. According to UNAIDS (2021), in 2020, there were 37.6 million people worldwide living with HIV/AIDS and 1.5 million people became newly infected with it. Around 690 000 people died from AIDS. 34.7 million people have died from AIDS-related illnesses since the beginning of the epidemic. Women and girls made up about 50 per cent of all new HIV infections in 2020 (UNAIDS, 2021). Among young women in developing countries in particular, the rates of infection are increasing rapidly. In sub-Saharan Africa (the region most heavily affected by HIV), women and girls comprised 63 per cent of all new HIV infections. In sub-Saharan Africa, 6 in 7 new HIV infections among young people aged 15–19 years are in girls (UNAIDS 2021). Young women aged 15–24 years are twice as likely to be living with HIV than men in the same age group. Children and young people are also heavily affected by the HIV/AIDS epidemic (UNAIDS, 2021). In 2020, about 1.7 million children and young people aged 0–14 years were living with
HIV/AIDS (UNAIDS, 2021). Women and children tend to suffer from the adverse effects of HIV and AIDS to a greater extent than men (Liamputtong, 2013, 2016). Despite the recent reduction in the number of people infected by HIV/AIDS around the globe, it is suggested that the number of individuals living with HIV/AIDS will continue to grow in sub-Saharan Africa (UNAIDS, 2021).

H1N1 swine ‘flu pandemic

The swine ‘flu pandemic was brought about by a new strain of H1N1, which emerged in Mexico in the spring of 2009 and then spread to countries all over the world. In one year, the virus affected around 1.4 billion people across the globe. It also killed between 151,700 and 575,400 people in a year (Madhav et al., 2018). The 2009 ‘flu pandemic infected children and young adults to a greater extent than older people. About 80 per cent of the deaths were in people younger than 65 years. Older people had built up sufficient immunity to the group of viruses to which H1N1 belongs, and thus they were not as affected by the virus as much as young people. Nowadays, there is a vaccine for the H1N1 virus and this is included in the annual ‘flu vaccine in most nations.

West African Ebola epidemic

The first known cases of Ebola occurred in the Democratic Republic of Congo and Sudan in 1976. The virus is believed to have its origin in bats. Between 2014 and 2016, Ebola spread across West Africa with 28,646 reported cases and 11,323 deaths (Madhav et al., 2018). In December 2013, the first case was found in Guinea; it then quickly spread to Sierra Leone and Liberia. Most Ebola cases and deaths occurred in those three countries. However, there were also several cases diagnosed in Mali, Senegal, Nigeria, Europe and the United States. Thus far, there is no cure for Ebola, but efforts to develop a vaccine are continuing.

Zika virus epidemic

The Zika virus is dispersed through mosquitoes of the *Aedes* genus. However, in humans, it can also be sexually transmitted. Usually, Zika is not harmful to children or adults, but it can harm infants who are still in the womb, resulting in birth defects. The mosquitoes that transmit Zika multiply well in warm, humid climates. This makes South America, Central America and the southern United States perfect locations for the virus to spread. It has affected 76 countries thus far (Madhav et al., 2018). The effects of the Zika epidemic in South America and Central America will not be known for several years, but scientists have attempted to bring the virus under control.

SARS

Severe Acute Respiratory Syndrome (SARS) is believed to have begun with bats and then spread to humans (Piret & Boivin, 2021). SARS was first detected in humans in China; it was first identified in 2003 after several months of increasing incidence. This was followed by cases in 29 other countries in Asia, Europe, North America and South America, affecting 8,437 people, with 774 deaths (Piret & Boivin, 2021). SARS is identified by respiratory problems including fever, dry cough, headaches and body aches. It is transmitted through respiratory droplets from coughs and sneezes. SARS rapidly became a global threat due to its accelerated spread and immense mortality rate (Piret & Boivin, 2021). By July 2003,