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.

VIGNETTE

Breastfeeding and HIV-positive children: Is it a public health issue?

At the end of 2016, 2.1 million children were living with HIV/AIDS (UNAIDS, 2017). Globally, about 400 newborn babies are infected with HIV and 290 die of AIDS-related illnesses every day (UNAIDS, 2016). In the year 2015 alone, about 150000 [110000–190000] children were infected with HIV (UNAIDS, 2016). Most of these children are born in poor nations, particularly in sub-Saharan Africa, and will die before they reach their fifth birthday. Approximately 40% 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% (Nassalia et al., 2009; see also Blumental, Ferster, Van den Wijngaert & Lepage, 2014).

The transmission of HIV through breast milk has created a dilemma for HIV-positive mothers. Often, the benefits of breastfeeding as well as the risks of not breastfeeding must be considered against the risk of HIV transmission through breastfeeding (Liamputtong, 2013a). Indeed, public health specialists and healthcare workers in many resource-poor settings have been greatly challenged by the dilemma of infant feeding posed by HIV risk.

As part of the prevention of MTCT of HIV, HIV-positive women who are not on antiretroviral therapy (ART) have been asked to select one of two options for the feeding of their infants: exclusive breastfeeding with early weaning and replacement feeding (with breastmilk substitutes) (Desclaux & Alfieri, 2009; Suwankhong & Liamputtong, 2017). These options may be feasible for women who can afford to do so, but for many HIV-positive mothers residing in resource-poor nations, who also practice prolonged breastfeeding for economic, social and/or cultural reasons, asking them to adopt exclusive replacement feeding with their infants can be problematic and a challenge, indeed (Liamputtong, 2013a).

Very often, women living with HIV/AIDS are advised not to breastfeed their infants. Many of these mothers are from poor backgrounds, and their poverty has a great influence on their feeding practices (Liamputtong, 2011, 2013a; Suwankhong & Liamputtong, 2017). In poor nations, where sanitary conditions are not good, this can be difficult as unsuitable handling of infant formula may result in dehydration and diarrhoeal disease, which are major causes of infant mortality (Desclaux & Alfieri, 2009). According to Maru and colleagues (2009, p. 1114), in settings where there is poor access to clean water and sanitation, such as those in sub-Saharan Africa, HIV-positive mothers are confronted with 'the choice of breastfeeding, which confers an increased risk of HIV, or formula feeding, which increases the risk of malnutrition, respiratory tract infections, and diarrheal diseases'.

Introduction

The health of the public is determined by a spectrum of complex individual, social, cultural, economic and environmental factors (White, Stallones & Last, 2013; Australian Institute of Health and Welfare, 2016, 2017; 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 6).

Determinant of health a factor within and external to the individual that determines their health; the specific social, economic and political circumstances into which individuals are born and live.

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 (Schneider, 2014; Hou, 2015; Baum, 2016; Turnock, 2016a, b).

New public health the concept of public health that moves the focus from behavioural change to healthy public policy, and focuses on the concept of life-skill enhancement. It also addresses inequalities in health in the population.

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.

Public health the health of the public, the health profession, health services and the healthcare system, and the knowledge and techniques used to alleviate suffering and disability.

What is public health?

Definition of public health

Public health means different things to different people (White et al., 2013; Lin, Smith & Fawkes, 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, 2015a).

It is here that the definition of health needs to be discussed. Health is constructed socially and culturally (Taylor 2008, p. 5; Fleming, 2015a; Turnock, 2016a, b; Liamputtong & Suwankhong, 2019). According to the Australian Institute of Health and Welfare (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, 2014). 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 (2014), 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 do (Schneider, 2014; Fleming, 2015a; Turnock, 2016a, b). 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, 2014; Fleming, 2015a). Primary prevention focuses on the prevention of a disease or injury. This includes, for example, anti-smoking campaigns, regulation 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.

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 12). 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 (2014) points out that social and behavioural sciences have increasingly become major components of public health. More and more people in contemporary societies have to 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, 2014; see also chapters 18 and 19). 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 6 and 7). 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, 2014). 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.

SPOTLIGHT 1.1 SEX RATIOS AND SON PREFERENCE IN ASIA

Sex ratios in any given population are influenced by social factors such as large-scale migration, gender-related health patterns, violent conflicts and the country's changing ethnic and racial composition. In Asia, sex ratios have been influenced by longstanding cultural preferences and social practices that prefer the birth and survival of male children over females (UNFPA, 2011). In East Asia, the male-to-female sex ratio at birth began to increase between 1980 and 1985, and in South-Central Asia between 1985 and 1990. Elsewhere in Asia, the ratio has remained relatively stable (UNFPA, 2011). Preferred sex ratios vary between religious, ethnic and socio-economic groups. In some settings, such as Guangdong and Hainan in China, the ratio exceeds 1.30: 1.00. The deeply rooted preference for male children is due to factors including 'social customs, marriage costs, and old-age support', which prompt parents to 'decide against allowing a girl to live, even before birth' (White et al., 2013, p. 113). Following the introduction of technologies such as ultrasound and amniocentesis, in the late 1970s prenatal sex selection became available in many Asian countries. We thus have witnessed an increase in sex ratios in many Asian countries. What is the result of this imbalance in male-to-female sex ratios and of son preference? Nowadays, men of marriageable age have difficulty finding their potential brides because there is a shortage of eligible women. More importantly, girls and women of all ages bear the burden of this phenomenon. There has been an increase in incidents of abduction, trafficking, discrimination and gender-based violence against girls and women. This makes girls and women in many parts of Asia extremely vulnerable in many aspects of their lives. The implications of sex preference will continue for decades to come (White et al., 2013).

QUESTIONS

1 In your view, why is gender imbalance a public health concern?

2 Why is knowledge about this sociocultural issue important for public health practitioners?

Public health in the Australian context

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 (Australian Institute of Health and Welfare, 2016, 2017). 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 Australian Institute of Health and Welfare (2017), average life expectancy at birth is 84.5 years for women and 80.4 years for men. Australians also enjoy longer years of living free of disability. According to Germov (2019a), 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, 2015b).

However, among some population groups there are a number of public health issues that need significant improvement. These groups include people from lower socio-economic backgrounds, Indigenous people, people with disabilities, older people, immigrants and refugees, and people living in rural and remote areas (Australian Institute of Health and Welfare, 2016, 2017). The health concerns of most of the population groups mentioned here are covered in the chapters of Part 4.

Key public health organisations in Australia

Public health is closely linked with 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 (National Public Health Partnership, 1998; Lin et al., 2014; Fleming, 2015a). These characteristics are complex and necessitate the commitments and skills of different professions from different disciplines (Fleming, 2015a). 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 9). 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, 2015a).

In Australia, there are a number of key players in public health (see also Chapter 9). These include organisations both within the government and outside (National Public Health Partnership, 1998; Lin et al., 2014; Fleming, 2015a). 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 an encouragement for the adoption of 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 (National Public Health Partnership, 1998; Lin et al., 2014). GPs play an important role in the provision of health services in the community. Access to a number of health and social services is provided to the community by GPs. 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) (National Public Health Partnership, 1998; Lin et al., 2014).

SPOTLIGHT 1.2 VULNERABLE PEOPLE AND HEALTH IN AUSTRALIA

Despite the fact that 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; Australian Institute of Health and Welfare, 2016, 2017). **Vulnerable people**, according to Flaskerud and Winslow (1998, p. 69), are 'social groups who have an increased relative risk or susceptibility to adverse health outcomes'. Based on these descriptions, vulnerable people may include children, women, older people, ethnic minority groups, immigrants, refugees, sex workers, homeless people and LGBTI communities. People living with chronic illness or mental illness and their caregivers are also referred to as vulnerable populations (Liamputtong, 2007, 2013b; see also Chapter 6).

Vulnerable people social groups that are at relative risk or susceptible to negative health outcomes.

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?

Public health: Global concerns

A number of global public health concerns are prevalent in the 21st century. Several global major public health concerns are discussed in this section.

HIV/AIDS epidemic

The HIV/AIDS epidemic has entered its fourth decade and continues to pose a major public health problem worldwide. Although earlier it affected people ranging from intravenous injecting drug users and sex workers to heterosexual men, it is now also affecting a large number of women around the globe (UNAIDS, 2017). Many of these women are also mothers with young infants. According to UNAIDS (2017), at the end of 2016 there were 36.7 million people worldwide living with HIV/AIDS and 1.8 million people became newly infected with it. Among this number, 17.8% were women. Among young women in developing countries in particular, the rates of infection are increasing rapidly. Among 5.6 million people in South Africa who are living with HIV/AIDS, women account for an estimated 58% of all HIV infections (Visser & Sipsma, 2013). In 2015, there were 25.6 million people with HIV/AIDS in sub-Saharan Africa (the region most heavily affected by HIV), and women comprised more than half of this number (UNAIDS, 2017). Overwhelmingly, the HIV/AIDS pandemic has disproportionately affected women of reproductive age (UNAIDS, 2014). Children and young people are also affected badly by the HIV/AIDS epidemic (Lowenthal et al., 2014). In 2016 about 2.1 million children and young people aged 10–24 years were living with HIV/AIDS (UNAIDS, 2017). Women and children tend to suffer from the adverse effects of HIV and AIDS more than men (Liamputtong, 2013a, 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, 2014).

Migration issues

There are about one 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 250 million international migrants live outside their countries of origin, and 763 million internal migrants and displaced people live within their countries of birth (WHO, 2018a). It is projected that by 2050, there would be 405 million international migrants in the world (IOM, 2017). Migration is a result of a number of social determinants (for example, poverty, political persecution and occupational and educational opportunities) (Castaneda et al., 2015). Many people flee armed conflict, persecution and

natural disaster. Economic migrants are 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, 2014; see also Chapter 19). 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 of their daily life and can have great social, economic and health consequences (Quesada et al., 2014; Castaneda et al., 2015; IOM, 2017). 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 it is 70–80%. 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, such as human trafficking. These 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 own families when they return home (Schneider, 2014).

Overweight and obesity

Overweight and obesity are now considered as contributing to the global burden of disease (White et al., 2013; Hou, 2015; OECD, 2017). In 2015, a total of 603.7 million adults and 107.7 million children were identified as obese. The prevalence of obesity has doubled in more than 70 nations since 1980, and it continues to increase in most other countries (GBD 2015 Obesity Collaborators, 2017). Overweight and obesity are among the key risk factors for non-communicable diseases, including type 2 diabetes, circulatory disease and musculoskeletal problems (Schneider, 2014). In many developing 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, 2014; Australian Institute of Health and Welfare (AIHW), 2016). Rural to urban population movements have also contributed to increasing overweight and obesity in many countries (Schneider, 2014). The obesity **pandemic** has become a challenge for both developed and developing nations (White et al., 2013). In Australia, according to the Australian Institute of Health and Welfare (2016), between 1995 and 2015, the percentage of overweight or obese adults escalated from 56% to 63%; an average surge of 4.4 kg for both women and men. Of the estimated 11.2 million adults who were overweight or obese in 2014 and 2015, 4.9 million were obese. As the prevalence of overweight and obesity has increased so quickly in recent decades, according to Schneider (2014, p. 275), 'the health risks caused by overweight and obesity threaten to reverse many of the improvements in public health that were achieved in the 20th century' (see Chapter 2).

Pandemic worldwide spread of a disease.

Prevalence rates for overweight and obesity vary in different regions. Central and Eastern Europe, North America and the Middle East have higher prevalence than northern Europe and Asia (Hou, 2015). For developing countries with overstretched healthcare systems, this is a major concern. They have to deal with the 'double burden' of an 'unfinished agenda' of widespread undernutrition and infectious diseases, as well as an emerging burden of diseases 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 illness

In developed nations, according to the World Health Organization (WHO), mental illnesses constitute greater disability than other illnesses (Schneider, 2014, p. 325). Among adults, the most common mental illnesses are anxiety and mood disorders. One of the most common mental illnesses 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, 2014). This is particularly so for 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 illnesses 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, 2014; Sawyer, 2019).

It is estimated that, like people in most Western countries, about 45% of Australian adults (aged 16–85) will develop at least one mental illness during their lifetime (AIHW, 2016, 2018). In 2015, about 4 million Australian people experienced a common mental disorder (AIHW, 2018). The anxiety and depressive disorders that currently affect Australia and other Western 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 (Sawyer, 2019; Schneider, 2014). 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, Liamputtong & Monfries, 2015; Kurban & Liamputtong, 2017; see also chapters 17, 18 and 19).

SPOTLIGHT 1.3 URBANISATION AND PUBLIC HEALTH

Where we live influences our health and chances of having thriving lives. Despite the fact that people living in urban areas do better in terms of health and healthcare access in Australia, globally we witness a somewhat different pattern. Urbanisation creates major environmental challenges, particularly climate change, for many nations. It is a significant impact in many low-income countries and among vulnerable people (McMichael, Friel, Nyong & Corvalan, 2008). They are not only vulnerable to health hazards from climate change, but also need to deal with increasing problems associated with rapid development (Commission on Social Determinants of Health, 2014). Urbanisation has reshaped the health problems of individuals and groups with increasing alcohol and substance abuse, injuries and non-communicable diseases, and from ecological disasters. This is particularly so among the urban poor (Campbell & Campbell, 2007).