Chapter 9: Health, Happiness and Wellbeing: Implications for Public Policy

— Julia C Kim

> "A wise man should consider that health is the greatest of human blessings"
>
> ~ Hippocrates

> "The health of the people is really the foundation upon which all their happiness and their powers as a state depend"
>
> ~ Benjamin Disraeli (July 24, 1877)

Introduction

Health has long been valued as a good in itself – vital to human well-being and the flourishing of society. Since the mid-20th Century, health has been increasingly framed as a fundamental human right, with every country in the world now party to at least one treaty that addresses health-related rights (WHO, 2012). Similarly, the instrumental value of a healthy population has been historically promoted, whether in relation to a productive workforce, a secure nation-state, or a thriving economy. Reflecting this central importance, most countries now routinely collect national data on health status, and the most widely used global development indicators, such as UNDP's Human Development Index (HDI), the World Bank Development Indicators, and the United Nations Millennium Development Goals (MDGs) all include a health dimension.

Over the past century, our conceptualization of health has evolved considerably, shifting from narrow disease-focused perspectives towards a more holistic understanding, expressed by the World Health Organization in 1948 as "a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity". This conceptualization was groundbreaking at the time because of its breadth and ambition. It recast health in a positive sense, rather than emphasizing disease control; it expanded beyond physical health to include the state of one's mind, or mental well-being, and it challenged us to consider the broader conditions necessary for collectively achieving a 'healthy society'.

In this Report, health encompasses these physical, mental, and social dimensions. Health is one of the nine core domains of Bhutan's index of Gross

National Happiness (GNH), and this chapter will focus upon the importance of health for the achievement of happiness and well-being. It will cover three main areas: 1) Health, happiness and well-being- an overview; 2) Current global health challenges and prevailing approaches to health; 3) Key findings and policy recommendations

Health, happiness and wellbeing - An overview

> All the evidence that we have indicates that it is reasonable to assume in practically every human being, and certainly in almost every newborn baby, that there is an active will toward health, an impulse towards growth, or towards the actualization
>
> ~ Abraham Maslow

From the perspective of GNH, the purpose of development is seen as not merely to further economic growth but rather *to create the conditions for happiness and the well-being of all life*. In this context, human health is seen as one important component within a greater whole. It invites and challenges us to envision our own well-being and survival within a broader landscape that recognizes the interdependence of human life and the wider world that we inhabit. This is a vital and urgent perspective, which aligns with current global efforts to situate health within the emerging Sustainable Development Goals and the post-2015 agenda.

Moreover, this view places health within a development context that goes beyond basic physical survival to encompass the actualization of human potential in its widest sense. At its root, GNH refers to the deep, abiding happiness that comes from living life in full harmony with the natural world, with our communities and fellow beings, and with our culture and spiritual heritage — in short, from feeling totally connected with our world (Thinley, 2012). Given this fundamental interdependence, it is important to consider how health is related to happiness and well-being, and to the other development domains encompassed by GNH.

How is health related to the other GNH domains? The relationship between health and the other GNH domains spans a vast literature. For brevity, key findings of relevance to this report have been summarized here. These relationships are of vital importance in considering some of the persistent health challenges we continue to face in spite of technological advancement and growing investment in the health sector. They are also critical for envisioning what elements and new perspectives might need to be incorporated within a more holistic approach to health and sustainable development.

Psychological wellbeing

In Bhutan's GNH index, the happiness and well-being of the population is measured through a series of questions which include indicators of subjective well-being (SWB). There is a vast literature on this area, which is covered in more detail in Chapter 6 (Psychological Well-being). In relation to health, it is not surprising that across the world, healthier people tend to be happier, as reflected by higher reported levels of subjective well-being (Pinquart and Sörensen, 2000; Kirby, Coleman and Daley, 2004; Steverink et al., 2001). These relationships hold, both for self-reported health as well as for more objective measures of health, including disabilities, doctor visits, or hospitalizations (Layard, Clark and Senik, 2011).

What is perhaps less obvious is that the reverse is also true – happiness and well-being also impact on physical health. Studies that have prospectively followed people over many years have repeatedly shown that those with a more positive outlook and greater life satisfaction have a lower risk of disability and mortality over the course of their lives (George, 2010). Conversely, there is a strong correlation between low subjective well-being and subsequent coronary heart disease, strokes, suicide, and length of life (Layard, Clark and Senik, 2011). There are many potential pathways between SWB and better physical health. Some evidence suggests that people with a negative outlook will tend to engage in riskier health behaviours such as smoking, a sedentary lifestyle, or alcohol use (Steptoe, Dockray and Wardle, 2009). It has also been shown that people with high levels of SWB have greater sources of social support, coping strategies and self-esteem (Pinquart and Sörensen, 2000). Finally, greater SWB has been linked to a number of healthy physiologic effects including lower cortisol levels, improved cardiovascular recovery profiles, lower levels of harmful inflammatory markers, less frequent sleep disturbance, and better immune responsiveness (Pinquart and Sörensen, 2000).

Education

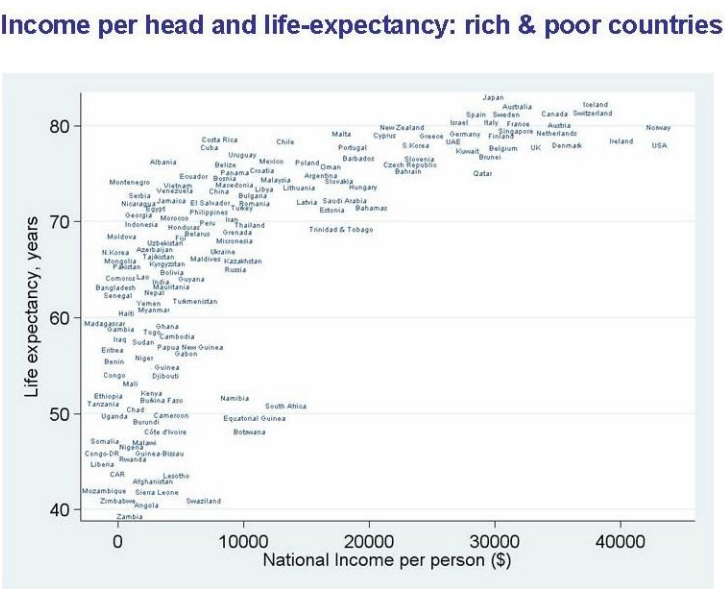
It is well known that higher levels of education are positively associated with a longer life as well as better mental and physical health profiles (Eide and Showalter, 2011; WHO, 2007). Education provides us with stable social networks, increases our sense of agency and improves our access to social, material and health-related resources that are important to health and well-being.

Living standards

Socioeconomic status and living conditions influence health through many direct pathways. Poverty impedes access to basic needs such as food, safe water, transport, medicine and infrastructure. It constrains our opportunities for social participation and our ability to shape and respond to life circumstances

(Marmot, 2002). Poverty also can be a barrier in accessing health services which are too distant or too costly to reach (Yates, 2009). The poor are more likely to be employed under high-risk working conditions, and live in neighborhoods that concentrate poverty amidst a host of other social problems (WHO, 2008). Finally, just as these deprivations have impacts on physical well-being, they have equally negative consequences on mental health (Desjarlais and Kleinman, 1997). Low socio-economic status, poor income, or being unemployed are all associated with higher rates of depression (WHO, 2007).

In relation to GDP, as countries become wealthier, their health prospects (measured by life expectancy) generally improve – but only up to a certain threshold. Once living standards rise and basic needs are met, the relationship between economic growth and life expectancy virtually disappears. Simply stated, for well-off countries, becoming richer doesn't necessarily lead to progressively better health outcomes. Figure 4 demonstrates that after a GDP of approximately $10,000 per person, further gains in wealth do not lead to corresponding longevity gains.



Source: Wilkinson & Pickett, The Spirit Level (2009)

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Figure 4. ***Income per head and life-expectancy: rich and poor countries***

Importantly, it is not only absolute poverty, but rather *inequalities* in our living conditions that impact on the health of societies as a whole. (Berkman and Kawachi, 2001b; Kawachi and Kennedy, 1997). Growing evidence points to the association between income inequality and a host of negative health and social

outcomes– including reductions in life expectancy and rising infant mortality rates (Wilkinson, 1996; Davey-Smith, 1996; Waldman, 1992), age-adjusted all-cause mortality (Kennedy, Kawachi and Prothrow-Stith, 1996; Kaplan et al., 1996), rates of mental illness, and behavioral risk factors such as smoking or sedentary behavior (Kaplan et al., 1996), and high levels of accidents, crime and violence (Kennedy, Kawachi and Prothrow-Stith, 1996). Figure 5 profiles the striking linear relationship between income inequality and a composite measure of health and social problems.

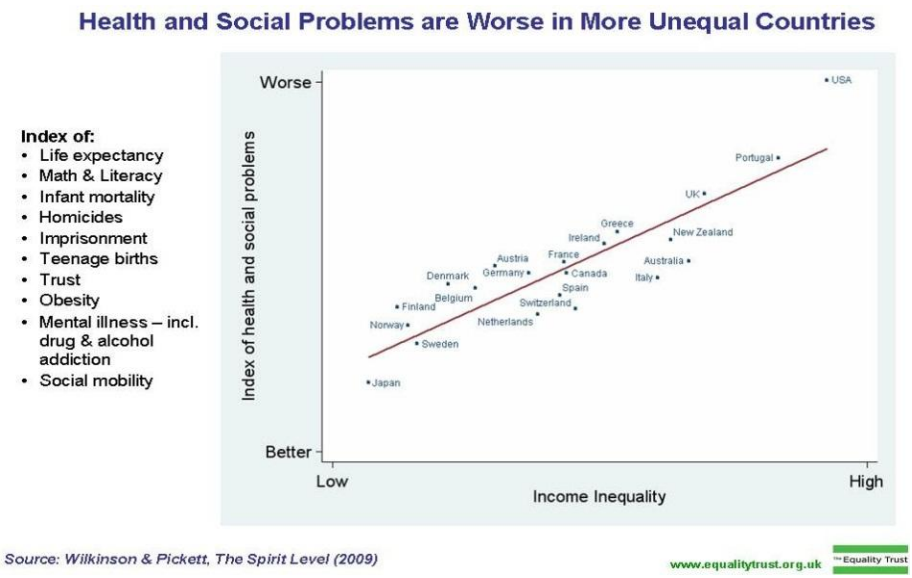

Figure 5: ***Health and social problems are worse in more unequal countries***

The relationships highlighted above are important for a number of reasons. First, they suggest that a range of critical health and social problems are between three and ten-fold more common in unequal societies (Wilkinson, 2009). Moreover, they reveal that *inequality harms the rich as well as the poor.* The mental and physical stressors associated with inequality lead to higher disease rates across all socio-economic groupings, not just those at the bottom of the economic ladder. Finally, these deprivations have long-term and inter-generational consequences which further entrench the cycle of inequality. At one extreme, stress *in utero* has been linked to patterns of disease in adult life (Barker, 1993). Furthermore, the lived experience of socioeconomic differences has been shown to have negative health consequences throughout one's life, even once the relative difference has abated (Marmot and Shipley, 1996).

Community vitality

The strength of community connections also has a major bearing on health and well-being. The term 'social capital' has been used to reflect the system of networks, norms, and trust relationships that enable communities to address common concerns (Coleman, 1988; Putnam, Leonardi and Nanetti, 1993). Over the past decade, social capital has been widely regarded as a key component of the development equation. Research has demonstrated that countries with higher 'stocks' of social capital experience lower mortality rates (Berkman and Syme, 1979; Kawachi and Kennedy, 1997), better child health outcomes (Drukker et al., 2005), lower rates of mental illness (De Silva et al., 2005), and have higher levels of self-reported health (Miller et al., 2006). Communities with more social capital and community cohesion engage in fewer risky health behaviours such as alcohol abuse (Weitzman and Chen, 2005), crime and violence (Galea, Karpati and Kennedy, 2002), and unprotected sex which can result in sexually-transmitted infections, including HIV (Holtgrave and Crosby, 2003).

Among the major contributors to the decline of social capital has been the advent of television, and more recently the digital age of media (Putnam, 2000). American children between the ages of 8 and 18 spend an astonishing 8 hours and 33 minute per day watching television or using digital media (Henry-J-Kaiser-Family-Foundation, 2007). Television has long been understood to be bad for our health – with excessive watching linked to obesity, tobacco and alcohol use, risky sexual behaviours, and violence (Christakis and Zimmerman, 2006). People and countries that watch more television also have lower levels of social trust (Sachs, 2011).

Cultural diversity and resilience

A loss of cultural resilience and community cohesion can have devastating health and social consequences. For example, among Canada's aboriginal communities, historical policies of assimilation, forced removal of children to reservation schools, and displacement from traditional lands has led to social and cultural dislocation resulting in some of the highest rates of violence and substance abuse in the world (Shkilnyk, 1985). Similarly, in South Africa, the forced displacement of communities from their traditional lands, accompanied by the further erosion of cultural resilience through widespread migrant labor has contributed to unprecedented levels of HIV and tuberculosis (Campbell, 2003). In the face of rapid urbanization and globalization, the rich cultural traditions of many communities are under threat. Yet despite consistently worse indicators of mental and physical health, the well-being of indigenous peoples around the world have been largely excluded from global initiatives such as the MDGs (Heineke and Edwards, 2012).

Ecological diversity and resilience

With improvements in human life expectancy, our world's population has more than tripled in just 60 years – from 2 billion in 1950 to over 7 billion people today. The resulting human pressures on the environment, combined with our focus on maximizing economic growth have contributed to deforestation, global warming and a loss in biodiversity (Wilson, 2002). Our ecological footprint, a measure of human demand on the earth's ecosystems (Rees, 1992), has drifted on an unsustainable course. We are contributing to an ecological overshoot - where it takes 1.5 years for the Earth to fully regenerate the renewable resources that people are using in a single year (World-Wildlife-Foundation, 2012). In this context, a recent scientific review suggests climate change is the biggest global health threat of the 21st century (Costello et al., 2009). Major health consequences result from changing patterns of disease, worsening water and food insecurity, increasingly vulnerable shelters and human settlements, and extreme climactic events (McMichael, 2001; World-Wildlife-Foundation, 2012).

Human migration and the drive towards urban living are related to this population explosion. In 2008, our planet reached a landmark with half the global population living in urban areas. Fifty years ago this figure was 30% and a century before it was 10% (United-Nations, 2008). Echoing historical precedents, such as the emergence of Europe's Black Plague in 1348, and the rise of tuberculosis during England's industrial revolution, this renewed push towards urbanization has carried with it a range of familiar but amplified health hazards. These include substandard housing, overcrowding, air pollution, insufficient or contaminated drinking water, inadequate sanitation and solid waste disposal services, vector-borne diseases, industrial waste, and increased motor vehicle traffic, all alongside the stress associated with rising inequality and unemployment (Moore, Gould and Keary, 2003). In developing regions of the world, 33% of the urban population lives in slums –where such deprivations are especially concentrated. From a global perspective, cross-border migration driven by vast social and economic inequalities and the prospect of a better life, has created conditions of profound vulnerability where human trafficking, exploitation and rampant disease can flourish (UNDP, 2007).

Time use

The balance of how we spend our time, and our freedom to make choices around this, play a critical role in influencing our overall happiness and well-being. Although this is covered more fully in Chapter on Time Use, the nature of work and work-life balance is an area where many important influences on health are played out (World Health Organization, 2008). With the increase in global market integration in the 1970s, there has been an emphasis on productivity and supply of products to global markets. Institutions and employers wishing to compete in this market have argued the need for a flexible and ever-available global workforce. However, this has brought with it a range

of potential negative health effects (Benach and Muntaner, 2007). For example, mortality is higher among temporary workers compared to permanent workers (Kivimäki et al., 2003). Poor mental health outcomes are associated with precarious employment (e.g. non-fixed term temporary contracts, being employed with no contract, and part-time work). Workers who perceive work insecurity experience significant adverse effects on their physical and mental health (Ferrie et al., 2002). Moreover, adverse working conditions can expose individuals to a range of physical health hazards that tend to cluster in lower-status occupations. Stress at work is associated with a 50% excess risk of coronary heart disease (Marmot, 2004; Kivimäki et al., 2006), and there is consistent evidence that high job demand, low control, and effort-reward imbalance are risk factors for mental and physical health problems (Stansfeld & Candy, 2006).

Good governance

Historically, the locus of health governance has rested with national and subnational governments, as individual countries have assumed primary responsibility for the health of their domestic populations. However, in the context of globalization, the capacity to influence health determinants, status and outcomes can no longer be assured through national actions alone, given the intensification of cross-border flows of people, goods and services, and ideas (Dodgson, Lee and Drager, 2002). This is particularly so because so many health determinants are increasingly affected by factors outside of the health sector, as described earlier. Because so many aspects of government and the economy have the potential to affect health and health equity – whether education, finance, housing, employment, or transport - policy coherence is crucial. However, different government departments' policies often contradict one another in relation to their impacts on health. Growth-oriented development is often unhealthy. For example, trade policy that actively encourages the unfettered production, trade, and consumption of foods high in fats and sugars to the detriment of fruit and vegetable production is contradictory to health policy, which recommends relatively little consumption of high-fat, high-sugar foods and increased consumption of fruit and vegetables. Similarly, urban planning, that produces sprawling neighbourhoods with little affordable housing, few local amenities, and irregular public transport does little to promote health for all (World Health Organization, 2008). Finally, health governance is not simply the concern of government institutions. The challenge of involving civil society and the voluntary and private sectors has been raised as a vital and necessary step for strengthening community engagement and social participation in policy processes.

In summary, this section has presented a brief overview of the complex web of factors shaping human health. While healthier individuals are better able to

participate in and contribute to education, livelihoods, community life, and other domains, it is also apparent that these relationships work in reverse. Moreover, there are qualities of *society as a whole* that fundamentally shape our health prospects – from economic inequality, to community vitality and cultural resilience, to our rural-urban balance and our connection to the natural environment. These are perhaps the most pressing and complex health challenges we will confront in the post-2015 era, and they fundamentally underpin the need for a more holistic health strategy.

Current global health challenges and prevailing approaches to health

The following section lays out a range of global health challenges that have arisen amidst the interdependencies outlined above. It examines how health has been approached within our current development paradigm, and applies a "GNH lens" to highlight successes as well as emerging challenges and opportunities.

Global health challenges: Health in transition

> For 80 per cent of humanity the Middle Ages ended suddenly in the 1950's
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> ~ Eric Hobsbawm (Age of Extremes, 1994)

The past century has witnessed unparalleled shifts in patterns of health and disease in the wake of profound social change. Globally, average life expectancy has more than doubled – from 31 years in the early 20th century to 67 years by 2010 (Wikipedia, 2012). Due to the related demographic transition, shifting from high to low levels of fertility and mortality, our global population is ageing at an unprecedented rate. By 2050, the number of older persons (60 years or older) in the world will exceed those who are young (under age 15) for the first time in history (United Nations Department of Economic and Social Affairs (UNDESA) Population Division, 2001).

During this period we have seen major reductions in preventable deaths among children (notably from pneumonia, diarrhoea and newborn deaths), and fewer mothers dying in childbirth. These changes have been largely attributable to improvements in living standards, better nutrition, hygiene and sanitation as well as access to more effective healthcare interventions (Link and Phelan, 1995; Schofield, Reher and Bideau, 1991). Yet major health inequalities persist. While impressive health gains have been made in some settings, these have not been shared equally. While life expectancy is 82 years in Japan, it remains only 32 years in Swaziland. A country such as China, with unprecedented development over three decades, faces a 6-fold difference in child mortality rates between rural and urban provinces (World-Bank, 2005). Currently, more than 95% of all

maternal and child deaths occur in 75 countries which include the 49 lowest-income countries in the world (Bhutta et al., 2010).

Given the powerful linkages between health, education, living standards, and the other domains described earlier, it is not surprising that we are witnessing the complex health consequences of profound social change. While deaths from preventable infectious diseases are trending downwards, new epidemics are emerging. Diabetes and cardiovascular disease, already major killers in industrialized countries, now account for up to half the disease burden in many poor countries (WHO, 2012a; Nugent, 2008). Increased consumption of processed foods, high in fat and sugar, accompanied by more sedentary lifestyles has led to skyrocketing levels of obesity (Wilkinson, 2009). The pressures of modern life and economic instability have been linked to growing rates of mental illness and suicide (Fu et al., 2012; Patel, 21 August 2004). Depression now ranks first as the most important contributor to the burden of disease in high and middle-income countries (WHO, 2008a). Nearly one in four adults in the UK and the US were mentally ill in the past year, and one in ten British children suffer from eating disorders, obsessive compulsive tendencies, depression or distress (Wilkinson and Pickett, 2009). In the US, the use of prescription drugs to treat attention deficit hyperactivity disorder in children has increased by 46% in a decade. In the UK, it has quadrupled (Doward, Saturday May 5, 2012).

There can be no doubt that the rapid pace of social, economic and technological transitions over the past century has led to major health breakthroughs. However, these have been accompanied by new and unforeseen challenges that will require creative approaches and fresh perspectives.

Prevailing approaches to health and problems with the current paradigm

Our growing scientific understanding of disease and its distribution has had important bearings on global health priorities. With accelerated technological advances over the past several decades and a detailed understanding of the biological basis for disease, our ability to prevent, diagnose, and treat common illnesses have been greatly enhanced. This has been reflected both in the management of preventable and largely infectious diseases common to poor countries as well as in the chronic and non-communicable conditions increasingly prevalent across all countries.

In poorer countries, our priorities have centered upon preventing avoidable deaths and meeting basic physical health needs. The building blocks of a health system are well-understood (WHO, 2007a) and there is growing experience to suggest that an integrated package of proven low-cost interventions could prevent two-thirds of avoidable child and maternal deaths (Bhutta, Ahmed et

al., 2008; UNICEF, 2008; Bhutta, Ali et al., 2008). A range of rapid diagnostics and standardized protocols have been developed which can greatly assist the management of common conditions (Pai et al., 2012). Global initiatives such as the MDGs have played a crucial role in harnessing momentum and sharpening our focus in addressing major development and health challenges (UN-Millennium-Project, 2005). Finally, there has been a four-fold increase in global support for health to low and middle income countries over the past two decades (Ravishankar et al., 2009). A number of independent funding mechanisms such as the Global Fund for AIDS, tuberculosis and malaria and the Global Alliance for Vaccines and Immunization (GAVI Alliance) have been instrumental in providing predictable year-on-year sources of support.

Our current approaches to health have contributed impressive scientific, technological, and health systems advances. Yet many populations have not benefited equally from this progress, and complex health challenges remain. While firmly grounded in our best biomedical understandings of human health, our current approach has not adequately engaged broader considerations, including the social determinants of health (the economic, political, cultural and environmental factors arising from how we organize our society, which carry profound impacts on health) (World Health Organization, 2008) or the linkages between health and the wider dimensions of happiness and well-being described in this report.

There are also serious concerns regarding the sustainability of current approaches, including our predominant focus on treatment rather than prevention, the disproportionate and unsustainable amount of resources channeled towards end-of-life care, glaring inequalities in health financing, and the diminishing returns between spending and outcomes.

Limited spending on prevention: While poor countries battle to cover the basics, health systems in rich and poor countries alike are increasingly being challenged to meet the long-term care needs of chronic illness among aging populations (Huber et al., 2011). Many chronic diseases are preventable, yet as Figure 6 illustrates, among wealthy countries over 90% of health spending is devoted to curative inpatient and outpatient care, with less than 5% spent on prevention (Conference-Board-of-Canada, May 2011).

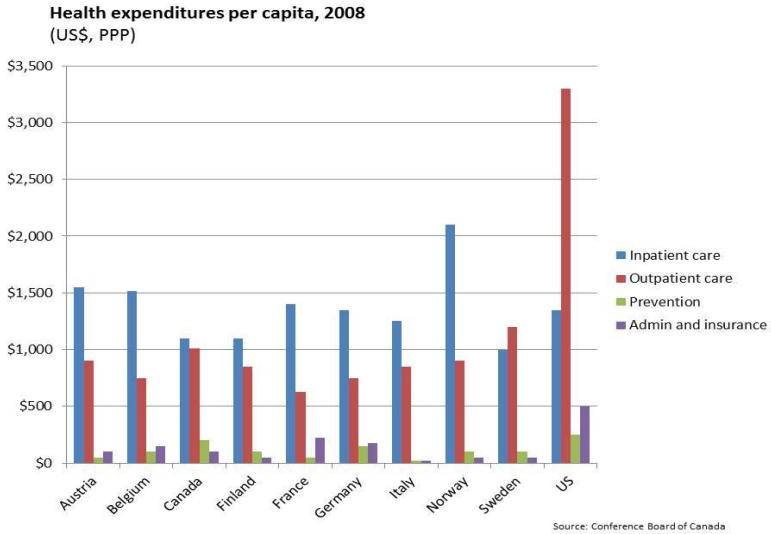

Figure 6: ***Health expenditures per capita, 2008***

End-of-life care: As medical science has become better at prolonging life, wealthier countries are orienting a disproportionate amount of health care resources towards end-of-life care. At the start of this century, the world population included approximately 600 million older persons (60 years or older), triple the number recorded fifty years earlier. By mid-century, there will be some 2 billion older persons – once again, a tripling of this age group in a span of 50 years (United Nations Department of Economic and Social Affairs (UNDESA) Population Division, 2001). Such rapid growth will demand far-reaching economic and social adjustments in most countries. In the United States, 30% of Medicare expenditures (a federally funded program for the elderly) are attributable to the 5% of beneficiaries who die each year (Barnato et al., 2004) – with about one third of the expenditures in the last year of life spent during the last month (Emanuel et al., 2002). Most of these costs result from life-sustaining care (e.g. ventilator use and resuscitation), with acute care during the last 30 days of life accounting for 78% of costs incurred during the final year of life (Yu, n.d.). However, recent research on the 'quality of dying' suggests that higher levels of spending are correlated with *worse levels* of physical and psychological distress in the time leading up to death (Figure 7) (Zhang et al., 2009).

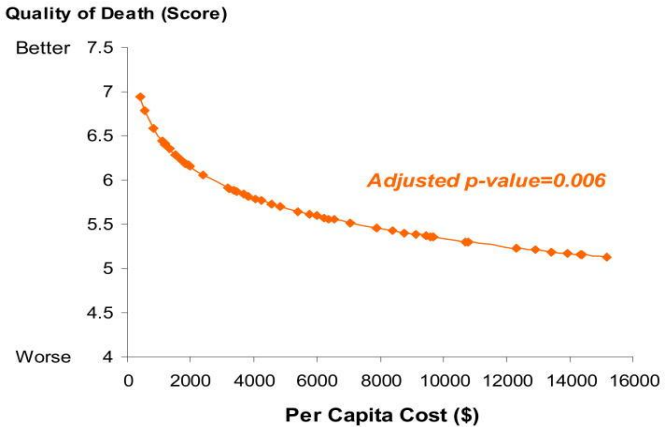

Figure 7: ***Association between Cost and Quality of Death in the Final Week of Life***

Health financing and health outcomes: A strong health system depends on adequate resources for health care financing. Global evidence suggests universal coverage can be attained where public financing of health is at least 5% of GDP (World Health Organization, 2008). However, there are currently major inequalities in health financing (OECD, 2012). The health sector is a major contributor to GDP in rich countries – employing healthcare providers and managers, building and equipping facilities, purchasing drugs and laboratory equipment, and financing research. The wealthiest 20% of countries spend more than 16 times the amount spent by countries in the lowest wealth quintile. The top 5% of the countries spend over 4000% more than the lowest quintile (UC-Atlas-of-Global-Inequality, 2012). However, benefits of this additional spending are unclear (The-Economist, 2009; OECD, 2012). For example, the United States, which spends more than any country in the world (17% of GDP and over $2 trillion, 2010), has the lowest life expectancy among its peer countries, while Japan, with the lowest spending, boasts the highest life expectancy (OECD, 2010). Rather, it seems that the efficiency of spending, the balance between private and public interests, and the capacity of a system to address wider issues of prevention and social determinants that seem to generate better outcomes and value-for-money in the face of limited resources (Balabanova, McKee and Mills, 2011).

In summary, for much of the world, basic health services are still insufficient, with preventable deaths taking place far too often. Increasingly, low and middle income countries face a double-burden of infectious and chronic conditions, placing strains on already fragile health systems. Worsening levels of mental health and the neglect of wider social determinants of health remain persistent challenges.

At the same time, many wealthy countries face diminishing returns on health investments, where further increases in GDP or health-related spending do not seem to be leading to better outcomes. Despite the growing burden of chronic conditions and aging populations, spending on prevention remains far too low and health costs around the time of death remain exorbitant.

As we look towards the future, longstanding priorities to address basic needs are being joined by calls for a broader social movement for health that is holistic, sustainable, and global in scale. Given the scope of these challenges, it is both timely and imperative that a wider vision for a healthy society begins to take shape.

Key findings and policy recommendations

This chapter began by noting that from the perspective of GNH, the higher purpose of development is regarded as not merely serving further economic growth but rather creating the conditions for happiness and the well-being of all life. In this context, regarding health through a "GNH lens" invites us to look for synergies that benefit our own well-being while supporting the sustainability of our planet as a whole. By addressing how health is related to other development domains - through research, measurement, and policy-making (as Bhutan has begun to), we have an opportunity to begin addressing the root causes of ill health through a wider range of policies that include, but go beyond the health sector.

A number of important efforts are currently underway to draw out key lessons from global development initiatives, and to consider how health can and should be addressed in the post-2015 agenda. Common themes are emerging, including the importance of addressing equity and human rights, strengthening health systems, promoting universal healthcare coverage, bringing more attention to non-communicable diseases, mental health, and disabilities, as well as ensuring and that the unfinished agenda of the MDGs is not abandoned. These are important recommendations, and many are also supported by the analysis presented above.

In order to complement and enrich these wider deliberations, this section presents a range of Policy Case Studies that aim to shed light on areas that to date may have not received adequate attention, but which could be instrumental in reframing our approach to health as part of a larger endeavour to promote happiness and well-being. The examples illustrate the interdependence between domains, and how efforts have been made to address this interdependence through policy and action. Some draw from relevant work of the WHO Commission on Social Determinants of Health. Given the diverse contexts in which health problems are situated, the case studies cannot be seen

as universal in their application. Instead they are intended to inspire fresh perspectives on how the principles and approaches of GNH may be adapted and applied in different contexts.

Policy case studies

Good health at low cost

Context: As highlighted above, neither economic growth nor health sector spending *on their own* necessarily translate into better health outcomes. After basic needs are met, additional spending may result in diminishing health returns, as evidenced by many middle income countries which have longer life expectancies and lower mortality rates than much wealthier countries. To better understand this apparent paradox, the Rockefeller Foundation first in 1985 and again 25 years later drew together lessons from countries that were able to achieve "good health at a low cost."

Case Study 1: Good health at a low cost

Overview: In 1985, the Rockefeller Foundation commissioned a series of papers that explored the question of why some poor countries were able to achieve better health outcomes that others at similar (or greater) levels of income. The original report, entitled *Good health at a low cost* (GHLC) identified Costa Rica, China, Sri Lanka and Kerala State in India as areas of the world where dramatic reductions in infectious disease, infant mortality rate, and improvements in life expectancy were experienced in the absence of a parallel rise in their economic output (Halstead, Walsh and Warren, 1985).

This report was followed-up 25 years later by a similar assessment of a new group of GHLC countries. Bangladesh, Ethiopia, Kyrgyzstan, the Indian state of Tamil Nadu and Thailand had more recently been achieving major health gains well in excess of what one would expect based on their incomes (Balabanova, McKee and Mills, 2011). For example:

- Thailand witnessed steep reductions in maternal mortality between 1960-1990
- In Tamil Nadu, maternal mortality rates were less than half the Indian national average.
- Ethiopia had gone from being one of the worst performers in under-5 mortality to outperforming neighbouring Tanzania and Uganda.
- Bangladesh and Tamil Nadu had among the longest life expectancies for men and women in their regions.
- Thailand, a country that had achieved all the health MDGs, now adopted MDG+, a set of targets which go well beyond the internationally agreed goals.

- Thailand and Kyrgyzstan achieved universal health care coverage through expansion of health insurance schemes, unique among countries at their income level.

Benefits and impacts: What were these countries doing differently that resulted in such major gains health outcomes relative to their per capita income? A number of common elements were observed across countries assessed in both time periods, with striking similarity in the lessons learned. For GHLC countries, a number of crucial perspectives emerged to explain their progress:

- Health was conceived as a social good, and not just the end-product of health sector spending.
- Solid policies and programs were put into place to address the social determinants of health – including education (particularly for women), nutrition, land reform, basic infrastructure and livelihood security.
- There was a commitment to social equity with a special emphasis on reaching out to the most vulnerable groups. This included deploying 'ancillary nurse midwives' to rural areas in Kerala, India and 'barefoot doctors' in rural China.
- Investments focused on primary health care with a strong emphasis on prevention. This was particularly true in the follow-up report, where strong health systems have become an even more important driver of health improvements than ever before.
- There was a commitment to high-levels of community involvement in health care

Potential critiques and Potential Policy Recommendations: The GHLC work and the Alma-Ata Charter upon which it was based are not without their critics. The WHO definition itself, conceiving health as "physical, mental and social well-being," while aspirational, was not felt to be a measurable objective. Growth-oriented economic policies resulted in cuts in public funding for health in many poor countries, with privatization of health care, and the implementation of user-fees as a mechanism to recover costs (Lawn et al., 2008). A comprehensive primary health care system was simply out of reach and unaffordable. Many countries still opt for a 'selective' approach, where a few services and commodities are prioritized and administered vertically (Cueto, 2004).

Despite these reservations, the GHLC experience continues to resonate and a range of policy recommendations have emerged. First, access to an integrated package of basic health services is a fundamental right. Every effort should be made to develop an appropriately staffed and well-equipped health system, and to ensure universal coverage for all citizens, irrespective of income, social status

or residency. Second, a comprehensive package of PHC services with a strong emphasis on prevention can be implemented at a relatively low cost. Third, addressing health inequalities is possible – with GHLC countries making major inroads to addressing the needs of remote and vulnerable populations Fourth, global partnerships are essential. The four-fold increase in development assistance for health over the past two decade and the emergence of predictable and stable global financing mechanisms such as the Global Fund has created new opportunities for countries to ensure basic needs are met. Fifth, for rich and poor countries alike is the imperative of community involvement in health care policies and programs. Finally is the crucial importance of efforts to work across sectors to address the social determinants of health.

Improving end of life care

Context: As we enter a period of unprecedented population growth and aging, it is imperative that we begin to pay more attention to the quality and the costs of end of life care. The Institute of Medicine has defined "quality of death" as a death that is free from avoidable distress and suffering for patients and their families, in accord with the patients' and families' wishes, and reasonably consistent with clinical, cultural, and ethical standards (Field and Cassel, 1997). Studies suggest that doctors and patients are ambivalent about talking about death, and often avoid end-of-life (EOL) conversations. They worry that such conversations raise the limitations of medical treatment and the reality that life is finite - both of which may cause psychological distress. However, studies show that EOL discussions may have cascading benefits for patients and their caregivers, including less aggressive medical care near death, earlier hospice referrals, and better quality of death. Conversely an absence of EOL conversations has been associated with more aggressive medical care in the final week of life, worse quality of death, and worse bereavement adjustment for caregivers (Wright et al., 2008). Advanced cancer patients who reported EOL conversations with physicians had 35.7% lower health care costs in their final week of life, largely due to more limited use of intensive life-sustaining interventions. Conversely, higher health care costs were not associated with better outcomes at the EOL: there was no survival difference associated with health care expenditures, and patients who spent more on health care actually had worse quality of life in their final week of life (Zhang et al., 2009).

From a more holistic perspective, patients and loved ones undergo tremendous stress and suffering in facing critical illness. Professional caregivers may also face similar stress and sadness. There is growing recognition that in caring for critically ill patients, health care professionals need to recognize the potential importance of spirituality in the lives of patients, families, and loved ones and in their own lives (Puchalski, 2004). Recent research shows that across many cultures, spiritual care can play an important role in coming to terms with

suffering and illness, coping with disease-related symptoms, improving quality of life, and shaping medical decision-making near death (El Nawawi, Balboni and Balboni, 2012). Yet despite such empirical evidence, spiritual care remains insufficiently addressed by the current medical system. The following case study illustrates a national level effort in the United States to improve the quality of end of life care across a diverse range of patient populations and settings. Advancing innovative and effective policies in this area could potentially address important issues across a range of domains beyond health, such as the well-being of patients and those who care for them, healthcare expenditures, and the spiritual needs and cultural traditions that surround death and dying (*psychological well-being*, *living* standards, *cultural resilience*).

Case Study 2: Improving the quality of end of life care

Overview: From 1998-2004, the Promoting Excellence in End-of Life Care, a national program of The Robert Wood Johnson Foundation, provided funding ($9.2 million) and technical assistance to 22 demonstration projects representing a wide range of health care settings and patient populations to develop innovative models for delivering palliative care that addressed documented deficiencies in the care of patients and families facing the final stage of life. The programs were implemented across a range of urban and rural health care settings (e.g. in integrated health systems, hospitals, outpatient clinics, cancer centers, nursing homes, renal dialysis clinics, inner city public health and safety net systems and prisons). Populations served included prison inmates, military veterans, renal dialysis patients, Native Americans, Native Alaskans, and African American patients, inner-city medically underserved patients, pediatric patients, and persons with serious mental illness. Projects were selected which had potential national implications (e.g. one project included eight dialysis centers in Western Massachusetts; another included 32 Alaskan Native villages) for improving the quality of end-of-life care by expanding availability of and access to palliative care for people with progressive, life-threatening conditions.

Benefits and impact: Project sites developed and utilized new palliative care services and addressed quality through implementation of new standards and clinical protocols, which included advance care planning and spiritual palliative care tools. Each project conducted its own evaluation using different measures and the specific methods and depth of evaluation varied widely. The projects demonstrated that by individualizing patient and family assessment, effectively employing existing resources and aligning services with specific patient and family needs, it is possible to expand access to palliative services and improve quality of care in ways that are financially feasible and acceptable to patients, families, clinicians, administrators, and payers. Costs of care, where they could be assessed, were unaffected or decreased for project patients versus historical

or concurrent control. Hosting or adopting institutions sustained or expanded twenty of the 22 models, and feedback from stakeholders was positive (Byock et al., 2006).

Potential Critiques and Policy Implications:
Potential critiques*:* Despite the extensive literature on the cost-effectiveness of hospice care and palliative care relative to curative-oriented conventional care, a clear consensus on findings has been difficult due to lack of consistency in methodological approaches (Robinson & Pham, 1996). However, the most definitive review of various studies assessing the cost-effectiveness of hospice care relative to conventional care that occurred after the U.S. Medicare hospice benefit had become widely utilized concluded that the cost-savings attributable to the benefit was 25-40% during the last month of life, but only 10-17% during the last 6 months of life (Emanuel, 1996). The most current comprehensive study found that hospice use reduced Medicare program expenditures over the last year of life by an average of $2309 per hospice care recipient (Taylor, Ostermanna, Van, Tulskyc, & Steinhauserc, 2007). Significant also, from a policy standpoint, is this study's findings that in 70% of cases, earlier introduction of hospice care would have resulted in increased saving (Almgren, n.d.).

Potential Policy Recommendation: Large-scale regional projects that track resource utilization, quality of care and satisfaction should further test the findings from Promoting Excellence projects on a population basis and investigate the potential value of these approaches to national health care systems.

It is worth noting that the challenge of providing palliative care will become increasingly relevant to developing countries, where the pace of population ageing is much faster, and is taking place at much lower levels of socio-economic development (United Nations Department of Economic and Social Affairs (UNDESA) Population Division, 2001). Already, given the high burden of life-threatening illnesses, including HIV/AIDS and cancer and, there is a need for palliative care in developing countries. Current provision is at best limited, and at worst non-existent. Access to essential medicines for control of pain is extremely limited and far below the global mean. There is a general lack of government policies that recognize palliative care as an essential component of health care and there is inadequate training for both health care professionals and the general public about palliative care. Appropriate models for translating knowledge and skills into evidence-based, cost-effective interventions in developing countries is needed (Ddungu, 2011).

Conducting health impact assessments (HIA)

Context: As noted earlier, diverse sectors such as transport, agriculture and housing have profound impacts on health. For example, transport is a major factor in traffic injuries, air pollution and noise – and "healthy transport policies" can help reduce these risks, as well as promoting walking and cycling. In agriculture, fertilizers and pesticides may boost crop yields. But wise use is important to protect farm workers and consumers from excessive chemical exposure. WHO estimates that healthier environments in homes and workplaces, in rural settings and cities, including access to healthy foods, water, energy and transport, could prevent up to one quarter of deaths annually worldwide (http://www.who.int/hia/en/). In this context, Health Impact Assessment (HIA) have received increasing attention as a potential means of addressing social determinants of health through public policy. It is a structured process that uses scientific data, professional expertise, and stakeholder input to identify and evaluate the public-health consequences of proposals and suggests actions that could be taken to minimize adverse health effects and optimize beneficial ones.

Case Study 3: Health Impact Assessments

Overview: HIA's are being undertaken in a wide range of countries across the development spectrum. As an example, research on HIA in Thailand began in 2000 and a HIA Commission was appointed by the National Health Commission in 2007. In 2009 the commission proposed a paper to the ASEAN secretariat to promote HIA in ASEAN to member states. There are currently more than 20 ongoing cases of community based HIA in Thailand, examining projects such as biogas and mining concessions. The HIA Commission, in cooperation with the Ministry of Commerce and Ministry of Foreign Affairs, have conducted a study on how to integrate HIA into the Free Trade Agreement (FTA) negotiation process. This study was conducted in accordance with Thailand's National Health Assembly resolution on ensuring participation in the Free Trade Agreement negotiation process.(Thailand National Health).

Benefits and impact: Thailand has been successful at explicitly introducing HIA as part of its recent health sector reforms. HIA is now required as part of the new National Health Act 2002. National and regional HIAs have been focused on infrastructure or development projects, seeking to balance the health of local communities with other policy pressures. For example, the HIA of Pak Mon Hydro Power Dam showed that the local villages had suffered due to a reduction in fishery resources, which had a negative impact on local income and socioeconomic status. The HIA has led to the needs of the local villages being taken into account and mitigation measures initiated to improve rural livelihoods by changing the dam opening frequency to aid a return of the

fishing industry. Thailand has also developed HIA at a national policy level, for example, looking at the health and economic effects of sustainable agriculture.

Potential Critiques and Policy Implications:
Potential critiques*:* Few evaluations of HIA practice have been conducted. The quality of HIA could be substantially improved with better evidence on the relationship of "distal" factors to health outcomes. Nevertheless, despite acknowledging the need for scholarship in health impact assessment, the Committee on HIA (National Academy of Sciences, USA) and WHO conclude that HIA is valuable even with a lack of perfect forecasting data and tools because it is better to consider potential health risk and benefits than to ignore them routinely.

Potential Policy Recommendation: The further development and evaluation of HIA should be encouraged, at both a practitioner and research level, to advance the evidence base for HIA.

The Thai example shows that it is possible in a short timescale to implement a strong and effective system of HIA of policy if there is government commitment, the presence of a policy framework, and sufficient resources (World Health Organization, 2008). Similar to Bhutan's approach to GNH, HIA's locate health within a range of interdependent domains which collectively impact on overall happiness and well-being. By using data to examine these relationships and to screen potential projects and policies, they are a promising application of GNH principles and practice.

The link between mindfulness and health – implications for public policy

Altruistic (other-regarding) emotions and behaviours are associated with greater well-being, health, and longevity. With some caveats, a strong correlation exists between the well-being, happiness, health, and longevity of people who are emotionally and behaviourally compassionate, so long as they are not overwhelmed by helping tasks. Increasing research data on altruism and its relation to mental and physical health suggests several complimentary interpretive frameworks, including evolutionary biology, physiological models, and positive psychology. Potential public health implications of this research need to be expanded, as well as directions for future studies, and this is an area of growing interest.

Case Study 4: Mindfulness and stress reduction education

Overview: ERASE-SPS (Enhancing Resiliency among Students Experiencing Stress and Promoting Pro-social orientation) is a skill-oriented, school-based and teacher mediated program that utilizes cognitive-behavioural, narrative and somatic interventions in combination with a mindfulness approach. The

premise of the program is that in order to help pupils develop empathy, compassion and pro-social orientation, one needs to simultaneously strengthen natural coping skills and acquire resiliency strategies as well as impart values of shared/common humanity and promote tolerance toward the other. Thus, the goals of the program are:

- To provide pupils with a rational framework with which they can understand and normalize their stress-related reactions
- To help pupils identify and strengthen their natural coping resources
- To equip pupils with resiliency strategies
- To develop pupils' empathy toward self and other
- To promote pupils' tolerance toward the other (shared humanity)
- To strengthen teachers coping skills and enhance their resiliency
- To develop teachers' empathy and compassion toward their pupils

The program is a 16-weekly hour and a half sessions delivered by homeroom teachers within the on-going school curriculum during the school year. It has been designed for elementary-school pupils, secondary-school pupils and high-school pupils. The program has been implemented by the Center for Compassion and Altruism Research and Education (CCARE), Stanford University School of Medicine (USA), PREPARED Center for Emergency Response, Ben Gurion University, (Israel), and Brit Olam International Volunteering & Development, Disaster Relief and Rehabilitation Unit, Bnie Brak, (Israel).

Benefits and impact: Thus far, the program has reached approximately 60,000 children worldwide have been adapted and implemented in more than 14 different cultures (e.g. Israel, Palestine, Turkey, China, India, Sri Lanka, Thailand, Samoa, Haiti, Indonesia, USA, New Zealand Tanzania and Congo), The program uses the train the trainers cascade method, and has proven to be highly scalable and effective. For instance, in the aftermath of the Tsunami, 40 mental health professionals were trained to deliver the program, who then trained over 300 hundreds teachers who delivered the program to approximately 20,000 pupils at a cost of less $2.00 per pupil. There have been several randomized control trials empirically demonstrating the efficacy of Erase-Stress in reducing stress-related symptoms, in enhancing children and adolescents' resiliency and in improving school atmosphere (Berger et al., 2007; Berger and Gelkopf, 2009; Berger et al., 2011). Data suggested that the program is feasible and affordable.(Gelkopf et al., 2008) Application of ERASE-SPS among Jewish and Arab elementary school children has demonstrated that it is possible to reduce stress, depression and anxiety, as well as teach children the values of shared/common humanity and promote tolerance toward the other

(Gelkopf and Berger, 2009).

Potential critiques and policy implications: Potential challenges in implementing the program include:

- The school administration needs to be committed to the program as it requires freeing the time within the regular curriculum to implement the 16 sessions of the program.
- The homeroom teachers also need to be committed to the program as the require to free 24 hours for training and 8 hours for supervision
- If implemented through a cascade model, the educational or mental health professional need to have the skills and the availability to train the homeroom teachers.
- The parents need to be involved in the program
- Though overall the program is not financially prohibitive, it does require funds for the training and for the teachers' manuals and workbook of the pupils.

Potential Policy Recommendation: Mindfulness and compassion training programs such as ERASE-SPS should be integrated within the regular education curricula (e.g. as part of social studies or life skills).

Other Case Studies (drawn from the WHO Commission on Social Determinants of Health) (World Health Organization, 2008)

Designing urban environments to be safe, accessible, attractive, and to encourage physical activity

Overview: The Heart Foundation in Victoria, Australia, developed Healthy by Design to assist local government and associated planners in the implementation of a broader set of Supportive Environments for Physical Activity guidelines. Healthy by Design presents design considerations that facilitate 'healthy planning', resulting in healthy places for people to live, work, and visit. Healthy by Design provides planners with supporting research, a range of design considerations to promote walking, cycling, and public transport use, a practical design tool, and case studies. The 'Design Considerations' demonstrate ways planners can improve the health of communities through their planning and design. This is encouraged by providing: well-planned networks of walking and cycling routes; streets with direct, safe, and convenient access; local destinations within walking distance of homes; accessible open spaces for recreation and leisure; conveniently located public transport stops; local neighbourhoods fostering community spirit. Traditionally, planners consider a range of guidelines that have an impact on health, safety, and access, often in isolation from each other. The Healthy by Design matrix has been developed as a practical tool that demonstrates the

synergies between the different guidelines that influence built environment design, all of which contribute to positive health outcomes.

Working across sectors to tackle obesity

Overview: Obesity is becoming a real public health challenge in transitioning countries, as it already is in high income nations. Obesity prevention and amelioration of existing levels require approaches that ensure an ecologically sustainable, adequate, and nutritious food supply; material security; a built habitat that lends itself to easy uptake of healthier food options and participation in both organized and unorganized physical activity; and a family, educational, and work environment that positively reinforces healthy living and empowers all individuals to make healthy choices. Very little of this action sits within the capabilities or responsibilities of the health sector. Positive advances have been made between health and non-health sectors – for example, healthy urban living designed by urban planners and health professionals working together, and bans on advertisements for foods high in fats, sugars, and salt during television programmes aimed at children. However, a significant challenge remains: to engage with the multiple sectors outside health in areas such as trade, agriculture, employment, and education, areas in which action must take place if we are to redress the global obesity epidemic. (Can sharpen focus to describe policies on advertising)

National level action to tackle work place stress

Overview: The Health and Safety Commission identified work stress as one of its main priorities under the Occupational Health Strategy for Britain 2000: Revitalising Health and Safety, which set out to achieve, by 2010, a 30% reduction in the incidence of working days lost through work-related illness and injury; a 20% reduction in the incidence of people suffering from work-related ill-health; and a 10% reduction in the rate of work-related fatal and major injuries. Moreover, excessive working hours and night work have also been shown to contribute to health problems; for example, various studies have shown that people who do not regularly take vacations are at greater risk for heart disease, and women who do not take vacations are at greater risk for depression.

In 2004, the United Kingdom Health and Safety Executive (HSE) introduced management standards for work-related stress. These standards cover six work stressors: demands, control, support, relationships, role, and change. A risk assessment tool was released at the same time as the management standards; this consists of 35 items on working conditions covering the six work stressors. The HSE management standards adopted a population-based approach to tackling workplace stress aimed at moving organizational stressors to more desirable levels rather than identifying individual employees with high levels of

stress. Instead of setting reference values for acceptable levels of psychosocial working conditions that all employers should meet, the standards set aspirational targets that organizations can work towards. The management standards are not in themselves a new law but can help employers meet their legal duty under the Management of Health and Safety at Work Regulations 1999 to assess the risk of stress-related ill-health activities arising from work.

As part of a 3-year implementation programme, in 2006/07 the HSE actively rolled out management standards to 1000 workplaces by providing support for both conducting risk assessments and making changes based on results of risk assessments. So far, evaluations in workplaces adopting the management standards approach have mostly been qualitative and good practice case studies are being made available on the HSE website (www.hse.gov.uk/stress). A national monitoring survey was conducted in 2004 before the introduction of the management standards, to provide a baseline for future monitoring of trends in psychosocial working conditions.

Public policy to reduce reliance on cars and encourage public transport and physical exercise

Overview: The primary objective of the London Congestion Charge (LCC) scheme was to address the ever-increasing congestion problem that was hampering business and damaging London's status as a world city. A major strength of the LCC is its long-term incremental nature. The LCC area was widened and the cost level raised 2.5 years after its implementation. This is fundamental to a behaviour change programme, as it means that the public can take decisions about their future behaviour based on a firm expectation that the balance of financial advantage will continue to move away from the car. Key outcomes were:

- Between 35000 and 40000 car trips/day switched to public transport, creating an average 6 minutes' additional physical activity per trip compared with private motor transport.
- Between 5000 and 10000 car trips switched to walking, cycling, motorcycle, taxi, or car share.
- Cycling mileage within the zone rose by 28% in 2003 and by a further 4% in 2004.
- Survey respondents reported improvement in comfort and overall quality of walking and public transport systems.
- A large portion of the scheme revenues were reinvested in improvements in public transport, walking, cycling, and safe routes to schools.

Conclusion

Health and happiness are unquestionably connected. Most current global health initiatives continue to focus on provision of healthcare (or rather, the treatment of illness). Effective future interventions should focus on the broader dimensions of health as defined by the World Health Organization – including physical, mental and social well-being, and their contribution to the flourishing of human potential. It might be useful to understand health through the metaphor of a HOUSE in which the healthcare system is merely the roof, the last protection against disease. But healthy societies should pay attention to the FOUNDATION (socioeconomic conditions, care for children, both pre-natal and in their early years) and the WALLS, including lifestyle, social connection and environmental and workplace conditions. An expensive roof (as in the United States) on a house with a weak foundation and walls will likely provide little advantage in terms of health outcomes, and may well come crashing down. A simpler, less-costly roof may be enough where the foundation and walls are strong, and attention is paid to preventive health measures and social determinants of health. Viewing health through a "GNH lens" invites us to look for approaches and policies that address the root causes of ill health and to build a strong house that is in harmony with a sustainable planet.

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