Policy Options to Promote Wellness in Asia

Katherine Johnston, Ophelia Yeung, and Gerard Bodeker

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POLICY OPTIONS TO PROMOTE WELLNESS IN ASIA

White Paper for the Asian Development Bank

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Authors

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I.   Introduction

Wellness is not well understood by governments and, therefore, has not been broadly incorporated into policymaking as an overarching framework or priority.

There has been little research on "wellness policy" or evidence that governments have adopted wellness as an overall policy goal, strategy, or priority at the national, regional, and local levels. This could be because wellness is not well understood by governments, and has emerged as a primarily consumer-driven, private sector-oriented phenomenon over the last several decades. Wellness, as defined by the Global Wellness Institute (GWI), is the "active pursuit of activities, choices and lifestyles that lead to a state of holistic health". Wellness is tied to individuals' behavior, lifestyle, choice, and agency. While wellness is holistic and has many dimensions (e.g., mental, emotional, spiritual, and physical), physical health is paramount to the concept of wellness.

"Wellness policy" is distinct from what is currently within the realms of public health and health policy. Both public health and health policy emerged from the scientific and medical advances of the 19th and 20th centuries, which enabled societies to treat and control diseases and injuries. Across the world, public health policy has accomplished a lot in the prevention and control of infectious disease (e.g., via immunization, and sanitation), and in addressing other major health threats, such as workplace safety, food safety, sanitation and water safety, and motor vehicle safety.[1]

In recent decades, noncommunicable diseases (NCDs) have replaced communicable/infectious diseases as the leading causes of death globally. NCDs (including heart disease, stroke, cancer, diabetes, and chronic lung disease) are collectively responsible for 71% of deaths worldwide,[2] and they account for more than one-half the global burden of disease.[3] NCDs are sometimes labelled "lifestyle diseases" because they are largely preventable: at least 80% of heart disease, stroke, and type 2 diabetes, as well as 40% of cancers, could be prevented by addressing key risk factors related to our modern, unhealthy lifestyles (e.g., sedentary behavior, poor eating habits, stress, lack of sleep, loneliness, addiction, and environmental toxins).[4] The last 5–10 years have also brought growing awareness of a mounting global mental health crisis, including stress, anxiety, loneliness, depression, and suicide. While public health efforts have made great strides in addressing certain types of lifestyle risks and environmental diseases—such as smoking cessation and reducing childhood lead poisoning—the public health community is no match for the big business interests that promote and sell tobacco, alcohol, and unhealthy/processed foods, especially in developing countries (including in Asia).[5] Lifestyle disease and mental health stem

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[1] U.S. Centers for Disease Control and Prevention. 2011. Ten Great Public Health Achievements – United States, 2001–2010. *Morbidity and Mortality Weekly Report*, 60(19), 619–623. https://www.cdc.gov/mmwr/preview/mmwrhtml/mm6019a5.htm; and Public Health Association Australia. 2018. Top 10 public health successes over the last 20 years. *PHAA Monograph Series* No. 2. Canberra: Public Health Association of Australia. https://www.phaa.net.au/documents/item/3241.

[2] World Health Organization (WHO). 2018. *Fact Sheet: Noncommunicable diseases*. http://www.who.int/en/news-room/fact-sheets/detail/noncommunicable-diseases.

[3] C.P. Benziger, G.A., Roth, and A.E. Moran. 2016. The Global Burden of Disease Study and the Preventable Burden of NCD. *Global Heart*, 11(4), 393–397. https://doi.org/10.1016/j.gheart.2016.10.024.

[4] WHO. 2005. *Preventing Chronic Diseases: A Vital Investment – Misunderstanding #4*. https://www.who.int/chp/chronic_disease_report/part1/en/index11.html.

[5] V. Tangcharoensathien et al. 2019. Addressing NCDs: challenges from industry market promotion and interferences. *International Journal of Health Policy and Management*, 8(5): 256–260–731. http://www.ijhpm.com/article_3589.html; and

from a confluence of factors, and are closely linked with the socioeconomic and physical environments in which people live. These factors do not fit neatly within government policy "siloes," and they are typically outside the control and purview of both public health and health policy.

Although lifestyle-related disease and mental illness represent some of the greatest future challenges to global health,[6] the public health system and the medical care system are not designed or equipped to address the underlying issues that lead to these challenges, or to change the environments that shape people's health-related behaviors. For example, our ability to engage in physical activity depends on urban planning, infrastructure, transportation, parks and recreation, and youth/education policies and programs, while our eating habits are heavily shaped by agriculture, economic, trade, and food-related government agencies and policies. All of these are far outside the realm of the public health and health care systems, and they also span multiple levels of government (from the local to the national). Simply put, the policies that shape our wellness cut across numerous government domains, and they have not been effectively put under a unifying framework for policymaking or prioritization.

In fact, one of the major drivers for the emergence and growth of the "wellness industry" has been the gap left by health care systems in addressing these very real and rising physical and mental health challenges faced by people around the world. If we are to address the global physical and mental health crises, it is imperative for governments to adopt wellness as a policymaking priority because they cannot be solved by the private sector alone. In addition to addressing the shortcomings of health policy and health care systems (e.g., the emphasis on acute care over lifestyle and prevention), governments will need to take a crosscutting approach to prioritize and address the many factors that shape people's health, wellness, lifestyles, and environments across multiple government domains and agencies, and at both the national and local levels. A government's role is especially critical for bringing healthier lifestyle options and enabling environments to lower-income, disadvantaged, and marginalized populations—who are typically at higher risk for chronic disease and other health issues—because these populations are not well-served by the current offerings of private sector wellness industry and businesses.

"Wellness policy" is distinct from the emerging field of wellbeing and happiness policy.

Wellness is often conflated with wellbeing and happiness because all three concepts reflect human experience in a complex, subjective, and multidimensional way, including physical, mental, emotional, social, financial, environmental, spiritual, and other aspects. In recent years, subjective wellbeing and happiness have become growing fields of economic/academic study that have garnered interest from governments and policy communities. The measurement of happiness at the country level was initiated in Bhutan, which introduced its Gross National Happiness Index as an alternative to gross national product

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P. Delobelle. 2019. Big tobacco, alcohol, and food and NCDs in LMICs: an inconvenient truth and call to action. *International Journal of Health Policy and Management*, 8(12): 727–731. http://www.ijhpm.com/article_3663.html.

[6] World Health Organization. 2005. *Preventing Chronic Diseases: A Vital Investment*. http://www.who.int/chp/chronic_disease_report/contents/en/; A. Adler-Waxman. 2017. This is the biggest challenge to our health. *World Economic Forum: Shaping the Future of Health and Healthcare Initiative*. https://www.weforum.org/agenda/2017/12/healthcare-future-multiple-chronic-disease-ncd/; United Nations. 2018. *New UN high-profile panel set to take on noncommunicable diseases, cause of seven in 10 deaths globally*. https://news.un.org/en/story/2018/02/1002921; and Council on Foreign Relations. 2014. *The Emerging Crisis: Noncommunicable Diseases in Low- and Middle-Income Countries.* https://www.cfr.org/report/emerging-global-health-crisis.

for assessing the country's level of progress. Country-level happiness is now measured in a global index sponsored by the United Nations (publicized annually in the World Happiness and Wellbeing Policy Report).

The measurement of happiness and subjective wellbeing has spurred interest in the role of government and policy in increasing people's happiness. In 2017, the Global Happiness Council (later renamed Global Council for Happiness and Wellbeing) was founded by the ruler of the Emirate of Dubai. Headed by Jeffrey Sachs and anchored by economists and experts in the field of happiness, the council sponsors research on the policy approaches and best practices that could enhance happiness and individual wellbeing. To date, the council has published two editions of its policy report and convened discussions at the World Government Summit, an annual event held in Dubai and sponsored by the Government of the United Arab Emirates.[7] The council's policy research efforts are grouped under six themes: education, workplace, personal happiness, public health, city design, and metrics.[8] In recent years, several other countries have institutionalized subjective wellbeing and happiness as a policy priority by establishing new ministerial positions (e.g., the Minister of State for Happiness in the United Arab Emirates); embedding wellbeing in national budgeting priorities and process (e.g., wellbeing budgets in New Zealand and Iceland); and instituting new accountability mechanisms (e.g., appointing a new Future Generations Commissioner in Wales).[9]

As far as we know, the only global metrics on wellness that currently exist are for the wellness economy, produced and published by the authors under the auspices of GWI. Therefore, insofar as governments are paying attention to wellness at all, they tend to view it through the lens of industry clusters that can bring economic development impacts (e.g., foreign investments, tourism receipts, employment, and tax revenues). For this reason, the wellness sector that seems to have garnered the most government attention is wellness tourism and, to a smaller extent, the associated spa and thermal springs sectors that also cater to tourists. This is an unfortunate and extremely narrow view of the potential impact of wellness on society and the economy, or the potential space for policy interventions.

Wellness brings an important perspective to policymaking that is complementary to public health and health policy, and to the emerging field of happiness.

The wellness paradigm and the ever-increasing consumer engagement with wellness activities suggest its strong appeal, as well as the potential for behavioral changes that can lead to healthier lifestyles and better health outcomes. The rapidly growing wellness economy, both globally and in Asia, represents a consumer response to the inadequacy and failure of many interrelated factors and systems (e.g., capitalism, economic development policies, health systems, urban planning, environmental regulations, food policies, and social protection) in enabling and supporting good health and holistic health. In turn,

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[7] Global Council for Happiness and Wellbeing. 2019. *Global Happiness and Wellbeing Policy Report* 2019. New York: Sustainable Development Solutions Network. http://www.happinesscouncil.org; and Global Happiness Council. 2018. *Global Happiness Policy Report* 2018. New York: Sustainable Development Solutions Network. http://www.happinesscouncil.org/report/2018/.

[8] Global Council for Happiness and Wellbeing (2019).

[9] Global Council for Happiness and Wellbeing. 2019. *Global Happiness and Wellbeing Policy Report* 2019. Chapter 8: Adopting a well-being approach in central government: policy mechanisms and practical tools. New York: Sustainable Development Solutions Network.

the consumer-centric and business-led wellness movement has spurred new interest in healthy lifestyles and wellness modalities across the world and in Asia, as well as increased public awareness that many aspects of our lives and our environments are detrimental to our health.

Compared with the happiness/wellbeing movement, the wellness movement places more emphasis on the physical aspects of health (such as physical movement and healthy eating). Therefore, it can draw attention to key areas that have received scant attention from the happiness movement or happiness-driven policymaking. Complementary to public health, the vibrant private sector in the growing wellness economy has developed new thinking, frameworks, innovations, systems, technologies, services, and products that enable consumers to adopt healthier lifestyles, while also spurring interest in wellness traditions, particularly those that have Asian roots (e.g., traditional Chinese medicine, Ayurveda, yoga, tai chi, meditation, plant-based diets, and indigenous herbs). And yet, as with any new industry or service, the early adopters are usually the privileged class, i.e., higher-income, more educated, and urban consumers. Governments and policies have many important roles to play in wellness, such as: encouraging new innovations; enabling the adoption of healthy lifestyles; scaling effective services and activities; increasing access through public investments; funding new research; collaborating with the private and nonprofit sectors; and using tax and regulatory tools, where appropriate.

In this white paper, we define wellness policies as those that (i) encourage people to make healthy choices proactively and live healthy lifestyles, and (ii) create living environments that support/encourage healthy behaviors and lifestyles. We present two policy approaches in two separate sections. Section II focuses on the role of government and public policy in four wellness domains that are most critical and central to encouraging healthy behaviors and lifestyles: healthy built environments, physical activity, healthy eating, and workplace wellness. For each of these domains, we discuss the ways and areas in which government and policies can have the greatest impacts. Each domain includes a set of sample policies, categorized by the form of intervention (e.g., planning, public investment, regulation, tax and fiscal incentives, and public education). Section III presents a life span approach to wellness, highlighting the areas where governments and policy interventions can create a health-enhancing environment from the first 1,000 days of life (prenatal to early years) and school years to healthy aging.

II. Crosscutting Wellness Policy Domains

Our health outcomes are not predetermined. While we may carry genetic tendencies for many types of disease, external factors (including physical environment, socioeconomic environment, health care environment, and our lifestyles) can account for 70%–90% of our disease risks and health outcomes. Governments exert enormous influence on all of these environmental factors, from economic and social policies to health systems and environmental regulations. Therefore, it would be exhaustive and unproductive to list all the policy areas in which governments can influence our health and wellness. Instead, section II will address four major areas where policies and government actions can enable people to live a healthier lifestyle, and help them establish healthy living habits and make healthy choices: built environment, physical activity, healthy eating, and workplaces.

Create a healthy built environment.

Our modern built environment—both urban and suburban—is often described as obesogenic, with many factors interacting and conspiring against a physically active lifestyle and encouraging sedentary behavior. The built environment also influences our social interactions, our mental wellness, and even levels of civic engagement. Several policy areas offer opportunities to counter and reverse the unwellness that is embedded in today's living environments. Policy interventions that focus on infrastructure and built environment can have some of the widest-ranging impacts because they affect the entire population of a neighborhood or community. They also provide an opportunity to target policies toward disadvantaged or marginalized neighborhoods and population groups.

In addition to the wellness policy areas elaborated in detail below, two other areas in the built environment also have an important impact on population health and wellbeing:

- **Modern sanitation.** Globally, 2 billion people lack access to basic sanitation services.[10] Investment in this infrastructure (e.g., modern toilets, sewage systems, and wastewater treatment) would have a direct impact on health in underdeveloped regions across the world.
- **Pollution and environment.** Pollution of the air, water, and soil has a large and growing impact on human health. Environmental policies that address the reduction of pollution levels will also have a direct impact on people's physical and mental wellbeing.

1. Prioritize walkability and physical movement in urban/regional planning.

Across Asia, economic development has brought rapid urban growth and the mounting pressures of crowding, congestion, and traffic. In response, urban planning has increasingly prioritized vehicular traffic flow over pedestrians and public transit, leading to widening of roads, stripping of sidewalks, increases in speed, and other auto-centric features that make it more difficult and less attractive for people to walk or ride bicycles. Perhaps the People's Republic of China (PRC) offers the most extreme example of replacing millions of bicycles with cars over the span of just 1.5 generations. Better urban and regional planning by governments can help reverse this trend, and encourage/enable people to choose walking

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[10] World Health Organization. 2019. *Sanitation Fact Sheet*. https://www.who.int/news-room/fact-sheets/detail/sanitation.

and biking instead, embedding more physical activity into daily life in the process. Embedding and prioritizing active transportation in urban planning aligns with sustainable infrastructure goals, by reducing traffic congestion and the environmental pollution associated with motor vehicle use. Over the last couple of decades, many planning frameworks and design approaches have emerged that provide comprehensive and detailed guidance to policymakers on how to encourage active transit, including New Urbanism, form-based codes, Traditional Neighborhood Development principles, Active Design Guidelines, Complete Streets policies, and Smart Growth policies. Examples and best practices of how communities have improved walkability and bikeability exist across every country and region around the world. For example, in Shanghai, the PRC, the old Bund used to be the sight of an 11-lane, elevated highway cutting through the city center. Between 2008 and 2010, the Bund was redeveloped into a pedestrian-friendly, signature waterfront area, by eliminating seven lanes and 70% of vehicular traffic, replacing elevated sections with pedestrian crosswalks, and the creation of a 7-kilometer (km) nonmotorized transport zone along the river.[11] The success has inspired other similar projects in the PRC. In Seoul, the Republic of Korea (ROK), the Skygarden project has redeveloped a 1970s elevated motorway into a walkway and garden, with bridges that connect to adjoining buildings and structures, creating new cafes, performance spaces, and markets for pedestrians.[12]

2. Create green spaces and natural sanctuaries for urban residents.

Rapid population growth has led to rising density and sprawl in many Asian cities. Overcrowding, traffic, polluted air, noise, stress, and lack of green space are becoming the way of life for people who live in the largest and expanding metropolises across Asia. Yet, a growing body of research shows that urban green space and contact with nature can enhance mental, physical, and psychological wellbeing. Positive impacts include buffering or reduction of noise and air pollution, increased physical activity, reduction of childhood obesity, and even reduced mortality, as well as improvements in cognitive abilities and moods, promotion of healing, and reduction of aggression and negative feelings.[13] This research has informed a growing movement of incorporating biophilic design into the building of neighborhoods and cities.[14] Governments can leverage the ecological and green assets in city and urban environments—from parks and trees to rivers, lakes, and riparian habitats—to help residents benefit from increased contact with nature. Policy measures to expand green space can include planting street trees, rehabilitating vacant lots into pocket parks or community gardens, or rails-to-trails projects, as well as larger-scale initiatives to expand urban park systems, greenways, and multiuse trails.[15] Also, the building of greenways and multiuse trails helps encourage active transport and support sustainable infrastructure in urban settings.

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[11] EMBARQ Network. 2015. China's pedestrianization: Reviving a tradition of walking for healthier cities. *Smart Cities Dive*. https://www.smartcitiesdive.com/ex/sustainablecitiescollective/china-s-pedestrianization-reviving-tradition-walking-healthier-cities/1089003/.

[12] R. Moore. 2017. A garden bridge that works: How Seoul succeeded where London failed. *The Guardian.* https://www.theguardian.com/cities/2017/may/19/seoul-skygarden-south-korea-london-garden-bridge.

[13] For a recent review of scientific evidence: M.C. Kondo et al. 2018. Urban Green Space and its Impact on Human Health. *International Journal of Environmental Research and Public Health*, 13(3), 445. https://doi.org/10.3390/ijerph15030445.

[14] Terrapin Bright Green. 2014. *14 Patterns of Biophilic Design: Improving Health and Well-Being in the Built Environment*. https://www.terrapinbrightgreen.com/report/14-patterns/; T. Beatley and P. Newman. 2013. Biophilic cities are sustainable, resilient cities. *Sustainability,* 5(8), 3328–3345. https://doi.org/10.3390/su5083328.

[15] For an in-depth review of urban greening policies, approaches, and case studies in Europe and North America: I. Anguelovski et al. 2018. *Green Trajectories: Municipal policy trends and strategies for greening in Europe, Canada and United States (1990–2016)*. Barcelona: Barcelona Lab for Urban and Environmental Justice and Sustainability. http://www.bcnuej.org/wp-content/uploads/2018/06/Green-Trajectories.pdf.

For example, Guangzhou is one of the first cities in the PRC to develop a greenway. The redevelopment of the Pearl River banks has created an ecological corridor that connects multiple biking/walking paths, resulting in 3,500 km of greenway that provides a natural respite and active recreational spaces for residents, while also linking scenic spots and sporting venues. According to the PRC's Ministry of Housing and Urban-Rural Development, by the end of 2018, the PRC had developed 56,000 km of greenways that have transformed multiple cities across the PRC.[16]

3. Protect people from harmful indoor built environments and materials.

The design and construction of homes and other buildings typically prioritize safety, comfort, cost-effectiveness energy efficiency, and, in some instances, the health of the planet. Yet, modern construction techniques, materials, and products often expose inhabitants to numerous potentially harmful substances inside buildings, such as polyvinyl chloride and phthalates, flame retardants, volatile organic compounds, antimicrobials, bisphenol A, nanomaterials, mold, and fungus among many others. Indoor air quality and "sick building syndrome" were identified as major concerns by the World Health Organization (WHO) over 30 years ago, and studies have shown that indoor air pollution can be 2–5 times worse than outdoors.[17] In addition, the shifting of focus from environmental to human welfare is also beginning to bring attention to whether "green" buildings are necessarily healthy buildings; for example, sealing windows and building envelopes for energy efficiency can negatively affect air quality, while many "green" and recycled building materials contain toxic materials and emit hazardous compounds.[18] In lower-income regions, the greatest source of indoor air pollution is the reliance on coal, kerosene, or biomass fuels for cooking and heating, causing nearly 4 million premature deaths every year.[19] None of these issues have received adequate attention, and they continue to threaten the health of people in buildings around the world. Governments need to expand research to understand these impacts, as well as keep up with the latest research and clinical studies in order to update building standards and regulations.

While indoor air quality, currently, is the most recognized health risk inside buildings, it is not the only risk. Scientists are only beginning to understand how synthetic and natural materials, light, sound, temperature, and other features in the built environment affect occupants' health and wellbeing. The scope of things in the built environment that can impact health is vast (and is affected by how buildings are used and maintained over time), including construction materials and finishes; design, operation, and maintenance of ventilation and temperature control systems; cleaning products and practices; furnishings and appliances; and lighting. The environmental and sustainability movements have advanced some design and construction techniques that can enhance the wellness of both the planet and individuals, such

[16] X. Yi. 2019. East lake greenway now a tourist hub. *China Daily.*
https://www.chinadaily.com.cn/a/201906/19/WS5d097192a3103dbf14328fa7.html.

[17] U.S. Environmental Protection Agency. No date. *Volatile Organic Compounds' Impact on Indoor Air Quality*.
https://www.epa.gov/indoor-air-quality-iaq/volatile-organic-compounds-impact-indoor-air-quality (accessed 5 February 2020).

[18] A .Steinemann et al. 2017. Ten questions concerning green buildings and indoor air quality. *Building and Environment*, 112, 351–358. https://doi.org/10.1016/j.buildenv.2016.11.010; Harvard T.H. Chan School of Public Health. 2011. *Energy-efficient buildings can be hazardous to health*. https://www.hsph.harvard.edu/news/hsph-in-the-news/environmental-health-green-buildings-spengler/; and K. Schwab. 2017. Are "Green" Buildings Killing Us? *Fast Company*. https://www.fastcompany.com/90459953/the-iowa-caucuses-app-was-a-design-nightmare.

[19] World Health Organization. 2018. *Household Air Pollution and Health Fact Sheet*.
http://www.who.int/mediacentre/factsheets/fs292/en/.

as access to fresh air (windows that open or access to outdoor spaces); access to daylight and other natural elements indoors (windows with views or greenery and plants inside); thermal control and good air quality; and the use of environment-friendly, natural, healthy, and "toxin-free" materials. At a minimum, buildings and built environments should not make their inhabitants unhealthy or sick. In Japan, the government has worked with the Institute for Building Environment and Energy Conservation (IBEC) to launch a health and wellness certification for offices as part of the country's Comprehensive Assessment System for Built Environment Efficiency (CASBEE) certification system in 2019.[20]

4. Support wellness real estate and make healthy homes affordable/accessible.

Over the past decade, a burgeoning global wellness real estate movement drew attention to the importance of prioritizing human health in the design and construction of homes, offices, and other buildings. The wellness real estate sector is substantial, valued by GWI in 2017 at $46.8 billion in Asia, and growing at an annual rate of 7.3% between 2015 and 2017.[21] Most wellness-focused real estate projects prioritize walkability and physical activity, in addition to providing amenities such as fitness clubs, swimming pools, meditation or yoga spaces, exercise classes, social events, and green space. With poor and vulnerable populations typically at higher risk for disease, governments should find it in their interest to make healthy homes and wellness real estate accessible across the income spectrum, including in the public and subsidized housing categories. Importantly, many wellness real estate features are affordable and cost-effective with good planning and design, especially those that encourage healthy behaviors and active lifestyles, such as attractive sidewalks, walking/jogging paths, pocket parks, playgrounds, outdoor gyms, community gardens, recreational centers, and well-designed spaces that make residents feel motivated and safe to be physically active on a daily basis.

In the United States, affordable wellness homes have been spearheaded by partnerships among design leaders (e.g., Center for Active Design), private developers, nonprofits, and municipal and public housing authorities in cities such as Seattle, Denver, and New York.[22] For example, a mixed-income community in South Bronx, New York was rehabilitated with healthy and sustainable features, such as using nontoxic low volatile organic compound materials to improve indoor air quality; design and aesthetics that encourage walking and use of stair; green roofs with community gardens; bike storage areas; a fitness center; an amphitheater; and ample community spaces.[23] At the national level, the Government of the United States sponsored mortgage securitization corporation (Fannie Mae) introduced a Healthy Housing Rewards™ program that provides financial incentives for borrowers who incorporate healthy design features into newly constructed or rehabilitated affordable multifamily rental properties. Properties are

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[20] Japan readies certification for healthier office buildings. *Nikkei Asian Review*. 16 August 2017. https://asia.nikkei.com/Politics/Japan-readies-certification-for-healthier-office-buildings2; and CASBEE Wellness Office Evaluation Certification. *IBEC*. http://www.ibec.or.jp/CASBEE/certification/WO_certification.html.

[21] Global Wellness Institute. 2018. *Build Well to Live Well: Wellness Lifestyle Real Estate and Communities*. https://globalwellnessinstitute.org/industry-research/wellness-real-estate-communities-research/.

[22] The Center for Active Design and Partnership for a Healthier America has recently launched the Active Design Verified program to encourage developers to commit to incorporating low-cost wellness design features into affordable residential developments. https://www.ahealthieramerica.org/articles/active-design-verified-3.

[23] Urban Land Institute (ULI). 2014. *ULI Case Studies: Via Verde*. https://casestudies.uli.org/via-verde/.

qualified by meeting or exceeding minimum standards of the Fitwel™ certification system (sponsored by the Center for Active Design and the Centers for Disease Control and Prevention in the United States).[24]

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[24] Fannie Mae. *Health Housing Rewards™.* https://multifamily.fanniemae.com/financing-options/specialty-financing/healthy-housing-rewards.

Sample Policies: Create a Healthy Built Environment	
1. Prioritize walkability and physical movement in urban/regional planning.	
Planning and prioritization	• Active transit and public transit master plans that proactively address how a neighborhood/city/region will deploy resources to prioritize walkability and bikeability in all infrastructure projects

Public investment	• Infrastructure planning, design, and investments that emphasize walkability/bikeability, including:
	   o complete streets: ensure that street infrastructure enables safe, convenient, and comfortable travel for walking, biking, and public transit as well as automobiles (e.g., wide sidewalks, accessible crosswalks, pedestrian signals, separated bike lanes, special bus lanes, median "refuge" islands, curb extensions, and narrower vehicle lanes);
	   o connectivity: walkability is affected by connectivity of streets, grid networks, and length of blocks, as well as connectivity of pedestrian and biking infrastructure to each other and to public transit, workplaces, parks, and other key destinations;
	   o streetscape design: design amenities like street trees, lighting, benches, way-finding signage, public art, street-level storefronts, and bike parking that can promote walking and improve both real and perceived safety;
	   o public investment in multiuse trails;
	   o public support or funding for bike-sharing programs;
	   o parking design and policies: quality, quantity, and location of parking can affect walkability; and
	   o traffic calming measures and slower speed limits on key thoroughfares for pedestrians and cyclists.
	• Prioritize and/or fund infrastructure and building projects located near public transit and walking/cycling routes.
	• Investment in public transit also encourages active transit because most transit trips begin and end with walking or cycling.

Regulation	• Zoning, building codes, and land use regulations that enable higher density and mixed-use development (these encourage people to walk and bike as transportation) • Designation of car-free zones (especially in city centers) • Use of congestion pricing to reduce traffic
Tax and fiscal incentives	• For people who commute via active transit or public transit • For developers that include walkability/bikeability in their projects

Sample Policies: Create a Healthy Built Environment	
2. Create green spaces and natural sanctuaries for urban residents.	
Planning and prioritization	• Green/open space master plans that proactively address and prioritize green space as part of all infrastructure projects

Public investment	• Infrastructure planning, design, and investments that emphasize green/open space, including:
	   o public investment in parks, multiuse trails, greenways, and outdoor recreation facilities (and locating these near public transit, residential areas, and schools), including maintenance and expansion of existing spaces, as well as creating new spaces through land acquisition, easements, and partnerships;
	   o green street design (e.g., incorporating bioretention facilities into streets, including vegetation, soil, and permeable surfaces to capture stormwater)
	   o street trees (maintenance and planting);
	   o rehabilitation of vacant lots and blighted areas into pocket parks, community gardens, urban farms, or other types of green spaces; and
	   o rails-to-trails projects (e.g., conversion of out-of-service rail corridors into multiuse trails).

Regulation	• Ordinances that require reserving a portion of land for trails, greenways, and open spaces in new residential and commercial developments
Tax and fiscal incentives	• For developers to incorporate clean-up, maintenance, expansion, or construction of new parks/green spaces into their projects; plant street trees; incorporate green walls/roofs; and other features beneficial to human health. etc.

Sample Policies: Create a Healthy Built Environment	
3. Protect people from harmful indoor built environments and materials.	
Regulation	• Update building/construction codes and regulations to incorporate the latest research on human health issues. • Regulate, use warning labels, and/or ban construction/building/furnishing materials, substances, or products that are demonstrated to adversely impact human health. • Expand and improve testing and emissions protocols for building materials/products to incorporate latest research on human health issues. • Develop voluntary certification systems or labels for healthy buildings, building materials, and related products and furnishings.
Public awareness and education	• Expand government data collection and dissemination efforts on health/built environment issues. • Communicate issues and risks to consumers via public awareness campaigns. • In lower-income regions, provide public education programs (especially targeting women) on the importance and use of clean cookstoves and fuels.

Workforce and industry development	• In partnership with schools and licensing agencies, integrate science and information about healthy built environments into professional curricula and training for:
	   o building, construction, engineering, architecture, and design trades;
	   o those involved in ongoing building maintenance (such as building managers, engineers, custodians, sanitation, and trash/recycling handlers); and
	   o those involved in real estate and sales (such as insurance and real estate agents, mortgage lenders, and code enforcement).

Public investment	• Establish and fund research centers/labs within government-funded research facilities to focus on human health and the built environment.
	• Prioritize, mandate, and implement healthy building practices in new or renovated government facilities, such as government offices, public schools and government-funded housing.
	• In lower-income regions:
	   o programs to distribute or lease modern/clean cookstoves to households, and to install chimneys and ventilation systems in homes; and
	   o public investment in expanding infrastructure and distribution systems for cleaner fuels and energy sources.

Tax and fiscal incentives	• Grants or tax incentives to encourage research and development and product development in fields related to human health and the built environment • Grants, tax incentives, or special mortgage lending instruments to encourage developers to use healthy materials and building practices (especially in homes and buildings targeting disadvantaged populations, children, and seniors) • Tax incentives to consumers or companies who use healthier building materials/practices in building projects (new construction and renovations).

Sample Policies: Create a Healthy Built Environment	
4. Support wellness real estate and make healthy homes affordable/accessible.	
Regulation	• Review and update zoning, building codes, and land use regulations to ensure that they encourage (and do not prevent) building and development practices that enhance human health (e.g., density, mixed-use, sidewalk and road design, open space requirements, building materials, waste and stormwater practices, energy efficiency standards, and unconventional residential developments, such as accessory dwelling units or cohousing).
Public investment	• Incorporate wellness-focused design and construction practices into government-funded public/affordable housing projects. • Government provision or support for indoor and outdoor public spaces and programs (e.g., parks, plazas, community centers and meeting areas, classes, and social clubs)
Tax and fiscal incentives	• Grants, tax incentives, or special mortgage lending instruments to encourage developers to incorporate wellness-enhancing features in their projects (especially in homes and buildings targeting disadvantaged populations, children, and seniors).

Enable and support physical activity.

Physical activity is essential to good health, and yet over 27% of the world's adult population has insufficient levels of physical activity. Rates of inactivity vary across Asia, from over one-third of the population inactive in Japan, Singapore, the ROK, and South Asia, to only 15%–16% inactive in East Asia/Southeast Asia and Oceania.[25] People can engage in physical activity via "natural movement" (for transportation, work, or domestic activities) or via recreational activities done during leisure time. As natural movement is declining around the world (progressively discouraged by our modern lifestyles and built environments), recreational physical activities are becoming more essential for people to stay healthy.

When people in Asia are asked why they do not participate in recreational physical activity, the most often-cited reasons are lack of time, lack of energy, their physical and health conditions, and lack of interest. For children, the most important barriers are lack of time, lack of interest, and lack of access to facilities.[26] Governments can play an important role in enabling, encouraging, and widening participation in recreational physical activity by making investments in public infrastructure and facilities (especially in disadvantaged areas and targeting at-risk groups), engaging the medical community to prescribe exercise, and helping children and the youth to build lifelong healthy habits through school and youth sports. Government initiatives that prioritize walkability and active transit in the built environment (as elaborated in the previous section) are also critical for encouraging more "natural movement" physical activity.

1. Publicly funded infrastructure, facilities, and programs for recreational physical activities

Historically, in most countries, public funding and programs for sports have focused on training a pipeline of elite athletes for the Olympics and other high-level competitions as a matter of national pride and reputation. This narrow focus has started to change with the growing awareness of the rising health crisis that stems from physical inactivity. In recent decades, many countries, especially in Europe and Latin America, have shifted their national policy focus toward "sports for all" approaches, which aim to increase sports and physical activity participation across the population (rather than channeling resources to elite sports and high-prestige events). Widespread participation in recreational physical activity relies on publicly funded infrastructure, such as parks; athletic fields; running and biking paths; outdoor gyms; and community sports, recreation, and exercise facilities and programs. In Asia, recreational physical activity participation rates tend to be the highest in the places where governments have adopted "sports for all" approaches and aggressively invest in such infrastructure for the public (e.g., the ROK, Singapore, Japan). According to the authors' research, 6.5 million people in Asia utilize public, nonprofit, and public–private gyms and fitness facilities, across 7,600 locations, typically with low or subsidized membership fees. These include government-subsidized (but often privately run) gyms and leisure centers in Australia and New Zealand; public and city-operated gyms and community centers in Japan; Singapore; the ROK; and Hong

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[25] R. Guthold et al. 2018. Worldwide trends in insufficient physical activity from 2001 to 2016: a pooled analysis of 358 population-based surveys with 1.9 million participants. *The Lancet Global Health*, 6(10), e1077-1086. https://doi.org/10.1016/S2214-109X(18)30357-7.

[26] Global Wellness Institute. 2019. *Move To Be Well: The Global Economy of Physical Activity.* https://globalwellnessinstitute.org/industry-research/global-economy-physical-activity/.

Kong, China; and nonprofit facilities such as YMCAs (Australia, New Zealand, and Japan). In addition, about 3.7 million people in Asia (mostly students and young adults) access gyms and fitness facilities on nearly 4,500 (mostly public) university campuses.

Importantly, physical activity does not always require specialized facilities and equipment. Safe, open spaces such as parks and public squares are equally important. For example, in the PRC, older men and women gather daily in public parks to do tai chi, while millions of people, mostly women, engage in "plaza dancing", often spontaneously and without formal organization. The authors' research finds that many developing Asian countries (especially those in South Asia and Southeast Asia) lag behind other parts of the world in adopting "sports for all" priorities in national policymaking, investing in public infrastructure, and developing free/low-cost programs. In 2016, the PRC made a major policy shift with the announcement of its National Fitness Plan (part of a comprehensive strategy to improve the general health of the Chinese people). The plan laid out ambitious goals of having 700 million engaged in exercise at least once a week, and 435 million exercising regularly, through all types of fitness, sports, and active recreational activities, with the involvement of both the public and private sector. In the past few years, the PRC has made substantial investments in public sports and recreational facilities, outdoor gyms, and running paths, as well as in sports programs and promotional campaigns. A separate plan aims to build 3,000 martial arts schools. These efforts have greatly increased the awareness and interest of the Chinese public in physical activity, and they have contributed to rising participation in running, walking, hiking, community sports, and fitness training. Across Asia, more government investments like these can help to boost participation and reduce the level of physical inactivity throughout the population.

2. Prioritize government investments in physical activity infrastructure in communities that are at higher risk for physical inactivity.

Physical activity participation is not evenly distributed across all groups. For example, physical activity tends to drop from youth to adulthood, and often falls further among senior populations. In some regions, there is a huge disparity in the rates of physical activity between male and female populations (e.g., in South Asia). Overall, the availability of recreational physical activity infrastructure and facilities, both private and public, tends to be concentrated in urban areas and first-tier cities in Asia, leaving other less-developed regions with limited options and fewer opportunities to exercise. Governments should target these populations in their investments in physical activity infrastructure and programming. For example, about 7,500 free outdoor gyms have been installed across Asia, and many of these are designed to serve seniors (they are often referred to as "senior playgrounds"). In Europe and North America, senior playground facilities tend to be co-located with children's playgrounds (so that seniors can exercise while minding their grandchildren) or designed as multigenerational spaces.[27] Facilitating seniors to exercise in public spaces also provides other important benefits, such as encouraging social interactions for those who are susceptible to loneliness and social isolation. In New Delhi, India, members of Parliament have used local development funds to install 1,700 open-air gyms in parks throughout the city since 2016, and hundreds more are in development, each costing about US$10,000 to install.[28]

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[27] L. Abbit. 2015. Playgrounds for Seniors Coming Your Way. *Senior Planet*. https://seniorplanet.org/playgrounds-for-seniors/.
[28] M. Manohar and P. Singh. 2018. New Delhi: Open gyms make fitness a mass exercise. *Times of India*. https://timesofindia.indiatimes.com/city/delhi/open-gyms-make-fitness-a-mass-exercise/articleshow/65507526.cms; and A.

In some countries, the fear of harassment and even violence can greatly discourage women and girls from exercising outdoors. In these cases, governments can take the lead in creating dedicated public parks to provide a safe place for women to engage in outdoor recreation and exercise, or simply to get some fresh air. For example, in 2012, the city of Lahore, Pakistan opened its first "women only" park in a four-acre space secured behind 7-feet high walls, with its own jogging track, gymnasium, and badminton court.[29] Women-only parks have also been opened in Afghanistan so that women can enjoy the outdoors and engage in physical activity without being accompanied by male family members.[30] Other strategies to provide women with safe spaces include setting aside certain hours in parks and gyms for use exclusively by women. Outside Asia, new policies in Saudi Arabia that grant business licenses to female-only gyms have spurred the opening of private fitness facilities to serve female exercisers.

3. Prescribe exercise as part of patient care.

The majority of people who exercise are fit and capable of physical activities, while those whose medical or physical conditions make it difficult for them to exercise are often marginalized by the mainstream physical activity options. Public health authorities and publicly funded health care systems can be a leader in prescribing exercise as part of patient care for those whose health conditions are partly caused or exacerbated by a lack of physical activity. Exercise is Medicine (EIM), co-launched by the American College of Sports Medicine and the American Medical Association in 2007, advocates for physical activity to be included as a standard part of medical treatment and the patient care process, with physicians providing assessments, counselling, a prescription for exercise where appropriate, and a referral to available resources. A number of Asian countries have joined the EIM global network, including the PRC; Hong Kong, China; Taipei,China; the ROK; Japan; Indonesia; Malaysia; the Philippines; Thailand; Singapore; and Sri Lanka.[31] EIM host institutions include a variety of academic, scientific, medical, industry, nonprofit, or government organizations that focus on sports medicine and fitness. As part of the EIM initiative, Singapore has launched Active Health Labs as a collaboration between Sports Singapore and other public health institutions. Active Health Labs conduct free assessments and provide personalized exercise advice, as well as take referrals from physicians, to prescribe and implement appropriate physical activity for patients in order to treat, manage, and prevent common chronic health conditions. In Australia, "accredited exercise physiologists" (AEPs) have been recognized as an allied health profession and integrated into clinical guidelines for major chronic diseases since 2006. AEPs deliver services for people with acute or chronic conditions throughout the national health system (including public and private hospitals, primary care facilities, rehab facilities, and specialist clinics), and patients can receive a referral from their primary care provider and have these services covered by the national Medicare system. The AEP referral system has shown to be cost-effective for treating chronic conditions; for example, one study

Mishra and R. Chitlangia. 2019. Why open-air gyms topped Delhi MPs' list of development projects. *Hindustan Times*. https://www.hindustantimes.com/delhi-news/why-open-air-gyms-topped-delhi-mps-list-of-development-projects/story-uVwa3VLjcn8de5flfcROxJ.html.

[29] S. Ali. 2012. Are women-only parks the answer to street harassment in Pakistan. *Independent*. https://www.independent.co.uk/voices/comment/are-women-only-parks-the-answer-to-street-harassment-in-pakistan-8223147.html; and R. Khan. 2012. Six women's-only parks being developed. *Tribune*. https://tribune.com.pk/story/434063/harassment-protection-six-womens-only-parks-being-developed/.

[30] Institute for War and Peach Reporting Afghanistan. 2016. Afghanistan's women-only parks. *Global Voices Asia*. https://iwpr.net/global-voices/afghanistans-women-only-parks.

[31] *Exercise is Medicine Global Presence: Global Directory*. https://exerciseismedicine.org/eim_map/.

estimated savings of US$3,900 per patient with type 2 diabetes who goes through an AEP-led exercise intervention.[32]

4. Support youth to build healthy habits and interest in physical activity.

Physical education classes in schools can help children build awareness, skills, and lifelong habits of physical activity. While 90% of Asian countries have legal or de facto requirements for some provision of physical education in schools, these requirements vary greatly, and on average fall short of the 1 hour of activity per day recommended for children by the WHO.[33] In some countries, the physical education requirement may drop sharply from primary to secondary school, e.g., from 100 minutes to 25 minutes per week in Myanmar. In Asia, the culture of academic achievement and testing often relegates physical education to a lower status than academic subjects, thereby giving physical education a lower priority in terms of teacher training, funding, facilities, and consistency of holding classes. The quality of physical education facilities is reportedly inadequate in 40% of the Asian countries surveyed by the United Nations Educational, Scientific and Cultural Organization (UNESCO). Given that many children and teens do not have access to private sporting clubs and activities, placing more emphasis on physical education and investing more resources in the public education system may be one of the most broad-based ways to increase physical activity among the youth and to build lifelong habits. It is also important to ensure gender equity and inclusion in physical education in Asia, which is the region with the greatest inequity between girls and boys with respect to the amount, quality, and content of physical education programs in schools.[34] In some communities, girls are discouraged and may even be forbidden by parents to participate in sports or exercise outdoors. In these instances, policies and public-awareness campaigns can help promote a broader understanding of the beneficial impacts of physical education and physical activities for females.

The public education system can also take the lead in facilitating movement throughout the school day. Some schools (mostly outside of Asia) are experimenting with ways to incorporate movement and play into the classroom and the school day, such as play-based lessons, movement breaks, and activity-based equipment and active seating (e.g., balance balls, pedal desks, yoga mats, and balance boards), departing from the tradition of having children sitting quietly at desks all day. The Daily Mile initiative, first conceived by a Scottish teacher in 2012, is an initiative that has primary school students take a 15-minute break every school day (outside of formal physical education classes) to run or jog outside. The initiative has been lauded for its simplicity and inclusiveness, helping children get exercise and fresh air without any special equipment, funding, or training required of the schools and teachers. More than 9,300 schools, including in a dozen countries in Asia, now take part in the Daily Mile, and research has shown significant

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[32] M.A. Kennedy. 2019. What Physicians Need to Know, Do, and Say to Promote Physical activity. In J.M. Rippe (ed.), *Lifestyle Medicine*, 3rd ed., pp. 153–162. Boca Raton, Florida: CRC Press. For a review of the role of exercise in a few healthcare systems in Asia: S. Zhou et al. 2019. The roles of exercise professionals in the health care system: A comparison between Australia and the PRC. *Journal of Exercise Science & Fitness*, 17(3), 81–90. https://doi.org/10.1016/j.jesf.2019.04.001.

[33] Asian countries included in the UNESCO study include Afghanistan; Bangladesh; Bhutan; Cambodia; Hong Kong, China; India; Indonesia; Japan; Kazakhstan; the Kyrgyz Republic; the Lao PDR; Malaysia; Mongolia; Myanmar; Nepal; Pakistan; the ROK; the PRC; Singapore; Sri Lanka; Turkmenistan; Uzbekistan; and Viet Nam. UNESCO. 2014. *World-wide Survey of School Physical Education*. Paris. https://en.unesco.org/inclusivepolicylab/e-teams/quality-physical-education-qpe-policy-project/documents/world-wide-survey-school-physical.

[34] UNESCO (2014).

health benefits for participants.[35] Public schools can be a leader in sponsoring new models such as these to help children develop habits of incorporating movement into their daily lives.

Public policy can also encourage wider participation in youth sports by making it more fun and accessible. Outside of physical education classes, sports provide the most important access point for children to learn physical skills and build a lifelong habit and love of being active. However, over the past few decades, there has been a global trend of youth sports becoming formalized, more expensive, and competitively focused. This trajectory discourages youth from participating in sports unless they are playing at a competitive level. When it is simply considered "play" or recreation, sports are often not valued by Asian parents, especially when compared with the importance of academic studies or other "achievements." Elsewhere in the world, the most lauded and healthy approach to youth sports can be founded in the Nordic countries, which treat youth sports as a major public health and welfare concern. In Norway, organized sports clubs and teams are guided by policies established in the 1987 "Children's Rights in Sport" doctrine, which prohibits high-level competition before ages 11–13, prohibits publishing scores or rankings for younger children, emphasizes fun and friendship, keeps costs low, and encourages children to plan and execute their own sporting activities and training. These policies have resulted in more children playing more sports for fun, more free play, overall higher levels of physical activity among the youth, and a higher persistence of sports involvement into adulthood. These policies can be considered and emulated in Asian countries.[36]

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[35] *The Daily Mile.* https://thedailymile.co.uk/; J. McIvor. 2018. Daily Mile 'significantly improves health.' *BBC News*. https://www.bbc.com/news/uk-scotland-44053387.

[36] The United States-based Aspen Institute's Project Play initiative (launched in 2013) has developed also a comprehensive set of strategies that can help parents, coaches, and communities to make sports a more accessible and enjoyable experience for all children. https://www.aspenprojectplay.org/.

Sample Policies: Enable and Support Physical Activity	
1. Publicly funded infrastructure, facilities, and programs for recreational physical activities **2. Prioritize government investments in physical activity infrastructure in communities that are at higher risk for physical inactivity.**	
Planning and prioritization	• Establish a national "sports for all" policy framework or action plan to prioritize and guide resources towards investments and programs that aim to increase physical activity participation rates and increase access to physical activity infrastructure across the entire population.

Public investment	• Public investments to expand community-based sports/recreation infrastructure that is accessible to the entire population:
	     o build public-access or publicly subsidized fitness and gym facilities, as well as indoor and outdoor sports/recreation facilities;
	     o install outdoor gym equipment (for adults/seniors) in public parks; and
	     o build or expand walking/biking paths, multiuse trails, and greenways.
	 • Government-sponsored free fitness and exercise classes in public spaces, offered on a regular basis, especially in regions that do not have public-access or government-funded exercise facilities
	 • "Open streets" events that close city streets weekly (or on a regular basis) to provide safe access for biking, walking, running, and recreation
	 • Joint-use agreements that allow community members to use school-owned sports/recreation facilities, especially in regions that do not have public-access or government-funded facilities
	 • Provide free access to government-funded exercise/sports/recreational facilities for the youth, seniors, or other disadvantaged populations.
	 • For women and girls, invest in the development of women-only parks, gyms, or exercise facilities, or designate women-only hours in these spaces.
	 • Ensure that public and community sports/recreational facilities are equipped for access by people with disabilities and special needs.

Public awareness and education	• Public awareness and education campaigns on the importance of physical activity for health and the risks of inactivity • Organize periodic special events (e.g., "national sports week," "national fitness week") or national "challenges" with incentives/prizes to catalyze public interest in physical activity. • Expand government data collection and dissemination efforts on physical activity participation rates across the entire population and in higher-risk groups.
Workforce development	• Support for training and credentialing of physical activity professionals, coaches, and others delivering physical activity programs in community and public settings • Special support for students of diverse backgrounds to become trained physical activity professionals, to build a diverse workforce that can engage underrepresented and at-risk population groups

Tax and fiscal incentives	• Tax credits or incentives for individuals/families to offset their out-of-pocket expenditures on physical activities, such as gym memberships and sporting club fees.
	• Tax incentives to promote the development of community/public spaces and facilities for physical activity programs.

Sample Policies: Enable and Support Physical Activity	
3. Prescribe exercise as part of patient care.	
Health policy	• National adoption of "exercise is medicine" platform
	• Make physical activity a key "vital sign" that health professionals monitor and discuss with patients, and integrate this into electronic health records.
	• Policies that support physical activity promotion in clinical guidelines, as well as physical activity/exercise counselling and exercise referrals/prescriptions in the health system
	• Partnerships between public/community-based or nonprofit exercise facilities/programs and health systems to deliver exercise prescription programs
Public awareness and education	• Health sector and health officials can provide evidence-based advocacy and educational campaigns on the importance of physical activity for health.
	• Expand, support, and disseminate research on the scientific evidence, outcomes, and cost-effectiveness of promoting physical activity for inactive populations and those with chronic disease.
Workforce development	• Recognize, train, and accredit specialized exercise professionals to work within the context of health care and exercise referral systems.
	• Expand education for health professionals on physical activity and health, how to counsel and support at-risk patients, and how to integrate exercise into patient care.
	• Include physical activity content in licensing and certification exams for health professionals.

Sample Policies: Enable and Support Physical Activity	
4. Support the youth to build healthy habits and interest in physical activity.	
Planning and prioritization	• Establish a national youth sports/physical activity plan to prioritize and guide resources toward the pathways and infrastructure that support physical activity participation among the youth.
Public investment	• Invest in school-based physical education and sports infrastructure, facilities, and equipment (e.g., gyms, sporting facilities, sports equipment, playground equipment, and bike racks). • Public funding for extracurricular and community-based youth sports clubs and organizations, especially in underserved and disadvantaged areas • Provide free or reduced-cost access to government-funded exercise/sports/recreational facilities for the youth, or offer free youth classes such as "learn to swim" programs. • Public subsidies for disadvantaged youth to support their participation in sports and recreational activities, such as paying for sports club fees and sports equipment. • Ensure that school and community sports/recreational facilities are equipped for access by youth with disabilities and special needs.
Education policy	• Maintain or expand physical education as a compulsory subject in public schools for all levels, and ensure that sufficient time is dedicated to physical education each day or week. • Expand the types of sports/recreational activities that are included in physical education classes to make them more appealing to a wide range of youth. • Expand the amount of "recess" time in the curriculum each day (separate from formal physical education classes). • Integrate movement and exercise into national guidelines on curricula (e.g., recommendations on exercise breaks). • Partner with nonprofits and community organizations to develop after-school and holiday sports, recreation, exercise, and "unstructured play" programs for students. • Develop "walking school bus" or bike-to-school programs.
Workforce development	• Training and professional support for physical education teachers at the primary and secondary levels • Training general teachers in primary/secondary schools on how to increase movement throughout the school day and engage children in exercise • Training for youth sports coaches, physical activity professionals, and school staff on developing physical activity programs that are safe, fun, inclusive, developmentally and culturally appropriate, and encourage multisport play and sport sampling.

Encourage healthy eating.

Most of the world has experienced a major nutrition transition over the last century, shifting from insufficient food and undernutrition, to a rise in poor eating patterns and overconsumption of unhealthy foods (e.g., increased consumption of processed foods, foods prepared outside the home, and foods from animal sources; increased portion sizes; and increased use of oils and sweeteners).[37] In 2017, 8.6% of the population in Asia was undernourished, down from 16.5% in 2000.[38] Meanwhile, the prevalence of overweight and obesity has doubled or tripled in most Asian countries since 2000, with adult obesity rates reaching 21.3% in Papua New Guinea, 15.6% in Malaysia, 10% in Thailand, 6.2% in the PRC, and 3.9% in India in 2016.[39] The proliferation of the modern, industrialized system of farming and food production, distribution, and marketing (supported and encouraged by government policy) is linked to the spread of unhealthy, nutrition-poor, highly processed Western diets across Asia and other developing regions. These unhealthy eating patterns contribute to the rise of obesity and chronic disease in Asia and worldwide. According to the Global Burden of Disease study, poor diet is a factor in one out of five deaths around the world.[40]

Today's health and wellness challenges related to food and nutrition encompass a host of concerns, from poor nutrition, processed foods, and obesity, to "food deserts," food insecurity, food equity, and food safety. While individuals are responsible for the foods they purchase and consume, unhealthy food environments, unhealthy ingredients/additives, ease of access, cost of food, and a lack of awareness facilitate poor eating choices, and government policies have a major influence on all of these factors.[41]

In addition to the wellness policy areas elaborated in detail below, there are other policy areas related to food that also have an important impact on population health and wellbeing. These are not covered in this white paper because they are "upstream" factors and not directly related to consumer behaviors.

- **Agriculture and trade policy.** Upstream agricultural policies and practices have many impacts on human health, from the kinds of crops grown and livestock raised in a region, the way they are grown/raised and processed, to agricultural subsidies and trade policies that affect the supply and cost of many types of agricultural commodities. Liberalization of trade and foreign investment has also had a major impact on availability of processed foods and fast food/franchised restaurants

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[37] M. Kelly. 2016. The Nutrition Transition in Developing Asia: Dietary Change, Drivers and Health Impacts. In F. Sultana, P. Jackson, and W. Spiess (eds.). *Eating, Drinking: Surviving*, (pp. 83–90). Cham, Switzerland: Springer. https://doi.org/10.1007/978-3-319-42468-2_9.

[38] World Bank. *World Development Indicators*. https://databank.worldbank.org/ (drawing on data from the Food and Agriculture Organization) (accessed 12 February 2020).

[39] World Health Organization. *Global Health Observatory Data: Overweight and obesity*, https://www.who.int/gho/ncd/risk_factors/overweight_obesity/obesity_adults/en/ (accessed 12 February 2020).

[40] S. Boseley. 2017. Poor diet is a factor in one in five deaths, global disease study reveals. *The Guardian*. https://www.theguardian.com/society/2017/sep/14/poor-diet-is-a-factor-in-one-in-five-deaths-global-disease-study-reveals. Cites data from *The Lancet*, Global Burden of Disease Study. https://www.thelancet.com/gbd.

[41] D. Mozaffarian et al. 2018. Role of government policy in nutrition – barriers to and opportunities for healthier eating. *BMJ*, 361. https://doi.org/10.1136/bmj.k2426; Actions for Healthy Eating. 2009. In L. Parker, et al (eds.). *Local Government Actions to Prevent Childhood Obesity*, (pp. 49–69). Washington, DC: National Academies Press. http://nap.edu/12674; and M.T. Gorski and C.A. Roberto. 2015. Public health policies to encourage healthy eating habits: recent perspectives. *Journal of Healthcare Leadership*, 7, 81–90. https://doi.org/10.2147/JHL.S69188.

around the world, as well as the growth of transnational food corporations and globalization of processed food marketing and distribution.[42]

- **Food (and water) safety.** Food safety and foodborne disease are growing health issues in countries around the world. Contaminated foods are responsible for 600,000 million illnesses (nearly 1 in 10 people) and 420,000 deaths every year, resulting in the loss of 33 million healthy life years.[43] Government policies on food safety and quality throughout the food supply chain—from farms to factories to restaurants—are a critical component in preventing a wide range of health issues related to food. Equally important is ensuring access to fresh, contaminant-free drinking water for all households.

1. Improve consumer information and awareness of nutrition and diet.

In order to make healthy choices, consumers need knowledge about good nutrition and healthy diets, as well as transparency and information about the foods they purchase in stores and restaurants. Education and point-of-purchase labelling are the most widely adopted healthy eating initiatives in most countries around the world because they are "soft" policies that place the burden of choice on consumers rather than imposing regulations on the food industry. At least 90 countries (including 17 in Asia) have established national food-based dietary guidelines, which are used by governments to educate the public about healthy eating. There are challenges related to dietary guidelines as they currently exist in most countries, including whether they actually reflect the latest scientific knowledge on nutrition (e.g., few countries' guidelines recommend limits on processed foods, sugar, or caffeine); whether guidelines are unduly influenced by food industry interests; and whether guidelines are culturally relevant and adaptable for different socioeconomic and indigenous groups.[44]

While the United States was the first country to enact mandatory food labelling for weight/quantity in 1913, labels for nutrition and ingredients were not used until the 1960s and the 1970s and did not become mandatory until the 1990s.[45] Today, at least 72 countries have either mandatory or voluntary nutrition labelling standards (including 17 countries in Asia). In recent years, the global trend is a movement toward mandatory labelling, as well as a movement toward some standardization across countries. For example, a regional initiative in the Association of Southeast Asian Nations was launched in 2016 to encourage consistency in front-of-package labelling for "guideline daily amounts." Governments play a critical role in ensuring that food labels and warnings are clear and understandable to consumers, as well as ensuring that the labels and symbols used by food producers are not making false claims (e.g., regulating how food packages can use terms like "healthy" or "natural"). Many countries are now adding front-of-package

[42] For more information on some of the relationships between agriculture and health and wellness: R.J. Jackson, et al. 2009. Agriculture Policy Is Health Policy. *Journal of Hunger & Environmental Nutrition*, 4(3-4), 393–408. https://doi.org/10.1080/19320240903321367; R. Nugent. 2011. *Bringing Agriculture to the Table*. Chicago, IL: Chicago Council on Global Affairs. https://www.thechicagocouncil.org/sites/default/files/Bringing_Agriculture_To_The_Table%281%29.pdf; R.A. Neff et al 2015. A Food Systems Approach To Healthy Food And Agriculture Policy. *Health Affairs*, 34(11), 1908–1915. https://doi.org/10.1377/hlthaff.2015.0926.

[43] World Health Organization. 2017. *Food Safety Fact Sheet*. http://www.who.int/news-room/fact-sheets/detail/food-safety.

[44] A. Herforth et al. 2019. A Global Review of Food-Based Dietary Guidelines. *Advances in Nutrition*, 10(4), 590–605. https://doi.org/10.1093/advances/nmy130; and A. Jacobs. 2019. A Shadowy Industry Group Shapes Food Policy Around the World. *New York Times*. https://www.nytimes.com/2019/09/16/health/ilsi-food-policy-india-brazil-china.html.

[45] E. Neswald et al (eds.). 2017. *Setting Nutritional Standards*. Rochester, New York: University of Rochester Press.

labels or symbols to highlight certain nutritional qualities or "healthy choices," adding standardized warning labels for unhealthy foods/ingredients, adding color-coded or "traffic light" labels for certain ingredients, and adding labels for other qualities (such as allergens, gluten, or genetically engineered foods). In 2011, Thailand was the first Asian country to introduce mandatory front-of-package labels for snack foods, while the ROK was first in the region to place voluntary "traffic light" warning labels on children's food. In 2016, Sri Lanka launched a "traffic light" labelling system for sugar levels in beverages, while a number of Asian nations use "healthy choice" symbols on food packaging (e.g., Singapore, Thailand, Malaysia, the PRC, and Viet Nam).[46] Labelling is also moving beyond packaged foods, with a growing number of countries and regions now requiring menu labelling in restaurants as well. For example, Singapore's voluntary Healthier Dining Programme encourages restaurants, food courts, and hawker centers to post "healthier choice" labels on healthy menu options and provides grants to partners to develop healthy dishes for their menus. According to the Health Promotion Board, after the program's launch the sales of healthier meals increased from 7.5 million in 2014 to 26 million in 2017.[47]

While dietary guidelines and labelling are important informational tools, there is limited evidence of their effectiveness in actually spurring changes in eating behaviors, especially among marginalized and high-risk groups. The greater impact of labelling policies may be that they can spur industry to voluntarily reformulate products in order to avoid negative labels (e.g., by removing harmful ingredients, or by reducing calories or portion sizes).[48] For example, after Chile implemented some of the most stringent regulations on front-of-package labelling for unhealthy ingredients in 2016, major producers (including Nestlé and Coca-Cola) reformulated hundreds of products, such as reducing sodium in salad dressings and substituting artificial sweeteners for sugar in soft drinks.[49] Similar reformulations are happening for packaged beverages in Singapore in response to increasingly strict government regulations on sugar labelling and warning symbols.[50]

2. Create economic incentives for healthy eating choices.

Price can have a strong influence on consumers' food purchasing decisions. Over the last decade, many national and municipal-level governments have instituted sugar, soda, and/or junk food taxes to disincentivize the purchase and consumption of unhealthy foods that contribute to obesity and chronic disease. The underlying idea behind these kinds of taxes is that they raise the price of junk foods to be closer to their true "societal cost" (i.e., accounting for negative externalities, such as their direct and indirect costs on health). Price sensitivity to junk food taxes is stronger among lower-income groups,

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[46] European Food Information Council. 2018. *Global Update on Nutrition Labelling (2018 edition): Executive Summary*. https://www.eufic.org/images/uploads/healthy-living/Executive-Summary-GUNL-2018-V2.pdf.

[47] Singapore Health Promotion Board. No date., *Healthier Dining Programme.* https://www.hpb.gov.sg/healthy-living/food-beverage/healthier-dining-programme/about-the-healthier-dining-programme; and Singapore Health Promotion Board. No date. *Healthier Dining Programme Extended to Include Food in Hawker Centres and Coffee Shops*, https://www.hpb.gov.sg/article/healthier-dining-programme-extended-to-include-food-in-hawker-centres-and-coffee-shops.

[48] D. Mozaffarian et al (2018).

[49] A. Jacobs. 2020. Sugary Drink Consumption Plunges in Chile After New Food Law. *New York Times*. https://www.nytimes.com/2020/02/11/health/chile-soda-warning-label.html.

[50] A.H. Min. 2019. New mandatory nutrition labels, advertising ban for pre-packaged drinks high in sugar. *Channel News Asia*. https://www.channelnewsasia.com/news/singapore/high-sugar-drinks-new-nutrition-labels-advertising-ban-11987416; and A.H. Min. 2019. Manufacturers supportive of new regulations for pre-packaged sweetened drinks. *Channel News Asia*. https://www.channelnewsasia.com/news/singapore/high-sugar-drinks-pre-packaged-manufacturers-support-measures-11988542.

which can help to address the nutritional disparities among these higher-risk populations. Studies indicate that junk food taxes are more effective than consumer education and package labelling at changing consumer behavior.[51] About 40 countries globally now have sugar taxes (along with many municipalities in the United States), and in Asia these countries include India (2017), Sri Lanka (2017), Thailand (2017), the Philippines (2018), Malaysia (2019), and many Pacific island countries.[52] A much smaller number of countries (e.g., Mexico and Hungary) have broader taxes that apply to a wide range of junk foods, fast foods, or high-sodium/high-fat foods, and studies have found these approaches to be very effective.[53] In 2016, the state government of Kerala, India passed a 14.5% tax on fast food, and Bangladesh proposed a 10% supplementary duty on fast food in 2017 (although it is not clear if the measure was implemented).[54]

However, policymakers and economists also argue that junk food taxes should be paired with price reductions or incentives for healthier foods, to reduce their financial regressiveness and to increase health effects by supporting consumers in selecting healthier substitutes. One tool used by many governments is to embed financial incentives for healthier foods (e.g., subsidies, vouchers, or lower prices for fresh fruits and vegetables) into food assistance programs for lower-income families, children, and pregnant women, thereby improving the purchasing power of higher-risk populations to access healthy food choices. Studies indicate that cost reductions and subsidies for healthier foods (alongside junk food taxes) can have a significant impact on purchasing and consumption of these products.[55]

3. Create healthier food environments and expand access for high-risk groups.

The accessibility of different types of foods is another important factor in people's eating choices and habits. There are many "nudge strategies" available to policymakers that can support healthy eating by making changes in the default food environment, essentially making healthier food choices the easiest and most obvious choice.[56] Food environments and food access are especially critical for lower-income and marginalized populations, who are typically at higher risk for chronic disease and other health conditions. At the most basic level, food access policies must address the 8.6% of the population in Asia who are undernourished and those who are food insecure. Looking beyond undernutrition, many people

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[51] World Health Organization. 2017. *Taxes on sugary drinks: Why do it?*
https://apps.who.int/iris/bitstream/handle/10665/260253/WHO-NMH-PND-16.5Rev.1-eng.pdf;sequence=1; and L.M. Powell et al. 2013. Assessing the potential effectiveness of food and beverage taxes and subsidies for improving public health: a systematic review of prices, demand and body weight outcomes. *Obesity Review*, 14(2), 110-128.
https://doi.org/10.1111/obr.12002.

[52] Obesity Evidence Hub. 2020. *Countries that have implemented taxes on sugar-sweetened beverages (SSBs)*,
https://www.obesityevidencehub.org.au/collections/prevention/countries-that-have-implemented-taxes-on-sugar-sweetened-beverages-ssbs.

[53] A. Weintrub. 2018. Should We Tax Junk Foods to Curb Obesity? *Forbes*.
https://www.forbes.com/sites/arleneweintraub/2018/01/10/should-we-tax-junk-foods-to-curb-obesity/#63680c97df6d; and J. Belluz. 2018. Mexico and Hungary tried junk food taxes — and they seem to be working. *Vox*.
https://www.vox.com/2018/1/17/16870014/junk-food-tax.

[54] S. Menon. 2016. Why has an Indian state imposed a 'fat tax'? *BBC News*. https://www.bbc.com/news/world-asia-india-36771843; and *Dhaka Tribune.* 2017. 10% supplementary duty on fast food proposed.
https://www.dhakatribune.com/business/economy/2017/06/01/duty-fast-food-proposed.

[55] Tufts University. 2017. Food subsidies, taxes significantly improve dietary choices. *Science Daily*.
https://www.sciencedaily.com/releases/2017/03/170301142157.htm; and R. An. 2013. Effectiveness of Subsidies in Promoting Healthy Food Purchases and Consumption: A Review of Field Experiments. *Public Health and Nutrition*, 16(7), 1215–1228. https://doi.org/10.1017/S1368980012004715.

[56] P.G. Hansen et al. 2016. Making Healthy Choices Easier: Regulation versus Nudging. *Annual Review of Public Health*, 37, 237–251. https://doi.org/10.1146/annurev-publhealth-032315-021537.

across the world, in both developed and developing regions, have limited access to high-quality, fresh, and nutritious foods (e.g., fresh produce). As populations become more urbanized, a growing number of people (especially the urban poor) live in "food deserts" where grocery stores and outlets selling fresh healthy foods are scarce or nonexistent, and fast food and packaged/convenience foods may be overabundant. Governments can address "food deserts" by supporting the construction of grocery stores and corner stores in underserved areas, as well as supporting existing stores to stock more fresh produce and healthy food options. Other strategies include many things that are typically linked with healthy built environment initiatives (discussed earlier in this white paper), such as the development of urban farming, farmers' markets, community gardens, food co-ops, mobile produce markets, free/low-cost community dining rooms, and other channels for people to access fresh/local meals, produce, and farm products. However, these efforts do not guarantee that local residents will change their food consumption habits, unless efforts are also made to ensure that fresh/healthy foods sold via these outlets are affordable to lower-income residents. Some stores and markets also offer cooking and nutrition classes to encourage people to adopt healthier eating habits.[57] Some cities and regions are also working to reduce access to unhealthy foods; for example, by changing zoning laws to restrict the construction of fast food outlets or convenience stores close to schools or within neighborhoods designated as "food deserts." Installing drinking fountains and water refilling stations in public spaces can also discourage consumption of unhealthy beverages by making fresh water more readily available.

Policymakers can also change food environments and nudge consumers toward better choices by reshaping the default options available within existing restaurants, stores, and food service outlets. Some strategies include removing soft drinks or French fries from children's menus in restaurants, reducing portion sizes or cup/plate sizes in restaurants, restricting free refills on soft drinks, and changing the placement of fresh and healthy foods in grocery stores. Governments (who are major employers and food purchasers) can take the lead in this regard by changing food procurement practices and menus within publicly funded facilities (including schools, military installations, parks/recreation/tourism facilities, hospitals, prisons, and government agencies); for example, changing nutritional guidelines for all foods served in these outlets, replacing high-sugar menu options with healthier choices, procuring more locally sourced fresh foods and produce, removing soft drinks from menus, reducing portion sizes, and replacing candy/snack foods/soft drinks in vending machines with healthier options. In Japan, for example, the mandatory and highly subsidized public school lunch program requires all students to eat the same school lunch each day, and meals are specially planned by nutritionists to be healthy and emphasize fresh ingredients. School lunch is viewed as an opportunity for food and nutrition education (*shokiuku*), where children can learn about healthy eating habits.[58] In Western Australia, public school cafeterias use a "traffic light" labelling system to educate students about the nutritional value of the foods being served and to guide what can be served in school menus.[59]

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[57] C. Kaplan. 2018. Full Shelves, Empty Stomachs: Socioeconomic Interventions to Address Food Deserts. *Brown Political Review*. http://brownpoliticalreview.org/2018/04/full-shelves-empty-stomachs-socioeconomic-interventions-address-food-deserts/.

[58] Hunter College New York City Food Policy Center. 2019. *Japan's School Lunch Program Serves Nutritious Meals with Food Education*. https://www.nycfoodpolicy.org/food-policy-snapshot-japans-school-lunch-program/.

[59] Hunter College New York City Food Policy Center. 2018. *Western Australian Schools Adopt Traffic Light Food Labeling System*. https://www.nycfoodpolicy.org/15781-2/.

4. Strengthen industry standards and regulations on ingredients and marketing.

In some countries and cities, governments are exploring more stringent regulations on the food and restaurant industry to support healthier population-wide eating habits, although these measures can be challenging because they are typically met with significant industry opposition. Regulations typically take three forms: restrictions on the use of certain ingredients or additives in processed or restaurant foods (e.g., trans fats or salt), restrictions on the sales of certain foods deemed unhealthy, and restrictions on marketing of certain foods. Globally, trans fats have been the biggest target for regulation. Denmark was the first country to ban trans fats in food in 2003. In 2018, the WHO released a major report calling for the elimination of industrially produced trans fats in the global food supply, indicating that it could save at least 500,000 lives per year, and at least 40 countries around the world are now pursing this cause.[60] For example, Thailand became the first member country in the Association of Southeast Asian Nations to ban imports, production, and sales of partially hydrogenated oils (PHO), the main source of artificial trans fats, in 2019. In India, the government has set a goal to limit trans fats in fats/oils to no more than 2% by weight by 2022. Singapore's Ministry of Health plans to ban PHOs in all foods sold in Singapore by 2021, and most local manufacturers have already reformulated products after trans fat limits were initially instituted in 2013.[61] In the face of industry opposition to these kinds of regulations, some governments have had more success in focusing their regulatory bans on certain populations (e.g., restricting sales of energy drinks to children under age 18) or on publicly funded venues over which they have direct control (e.g., banning sales of junk food or sugar-sweetened beverages in public schools).

Many governments also target food marketing as a "softer" approach to regulating the industry, most often via restrictions on the types of foods, imagery, and advertisements that can be marketed at children. According to the WHO analysis conducted in 2004, more than 60 countries have some type of mandatory or voluntary regulations on food and beverage television advertising directed at children (and the number is likely higher now).[62] In 2010, the ROK instituted restrictions on TV advertisements of energy-dense/nutrient-poor foods targeting children, resulting in a measurable decrease in advertising placements and budgets for such products. In 2016, Taipei,China implemented similar limits on TV advertisements for unhealthy foods on dedicated TV channels for children, as well as banning free toys paired with unhealthy foods in restaurant and fast food meals.[63] Other children-focused measures include

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[60] World Health Organization (WHO). 2018. WHO plan to eliminate industrially-produced trans-fatty acids from global food supply. *WHO News Release*. https://www.who.int/news-room/detail/14-05-2018-who-plan-to-eliminate-industrially-produced-trans-fatty-acids-from-global-food-supply; and M. Stobbe. 2018. UN agency calls for all countries to rid foods of trans fat. *AP News*. https://apnews.com/d588cc36dfb34844829f34b66bb4bb9d/UN-agency-calls-for-all-countries-to-rid-foods-of-trans-fat.

[61] Ban on trans fats comes into force. *Bangkok Post.* 10 January 2019. https://www.bangkokpost.com/thailand/general/1608342/ban-on-trans-fats-comes-into-force; FSSAI launches new campaign to eliminate trans fats by 2022. *The Hindu Business Line.* 30 November 2018. https://www.thehindubusinessline.com/news/national/fssai-launches-new-campaign-to-eliminate-trans-fats-by-2022/article25636525.ece; R. Kurohi. 2019. Singapore to ban key source of artificial trans fats by 2021. *The Straits Times*. https://www.straitstimes.com/singapore/health/spore-to-ban-key-source-of-artificial-trans-fats-by-2021.

[62] C. Hawkes. 2004. *Marketing food to children: The global regulatory environment*. Geneva, Switzerland: WHO. https://apps.who.int/iris/bitstream/handle/10665/42937/9241591579.pdf?sequence=1.

[63] S. Kim et al. 2013. Restriction of television food advertising in South Korea: Impact on advertising of food companies. *Health Promotion International*, 28(1), 17–25. https://doi.org/10.1093/heapro/das023; and World Cancer Research Fund International. 2019. *Nourishing Framework: Restrict food advertising and other forms of commercial promotion*. https://www.wcrf.org/sites/default/files/4_Restrict_advertising.pdf.

banning advertisements of unhealthy foods and beverages in or near schools, or banning the use of celebrities or cartoon characters and imagery in food advertisements and packaging that target children. In 2019, Singapore passed a sweeping measure to ban all advertisements, across all media platforms, for sugar-sweetened beverages, the first country in the world to do so.[64]

One challenge with these kinds of regulatory standards and mandates is that there is not always clear evidence of the "best" nutritional choices. For example, the scientific evidence on the long-term health effects of artificial sweeteners is not conclusive, and so the impact of substituting artificial sweeteners for sugar in processed foods and beverages is unknown. In the case of eliminating trans fats, one of the major substitutes for PHOs is palm oil, which has major environmental and sustainability issues. Greater investment in scientific research on various food ingredients, additives, and substitutes is essential to ensure that new food regulations achieve their desired outcome of healthier populations over the long-term.

5. Implement "food as medicine" in patient care.

The health care arena is an important setting for delivering education, counselling, and incentives on healthy eating, especially for people with chronic disease or elevated risk factors. Health policy, especially in countries with nationalized or single-payer health systems, can encourage the integration of nutritional education courses, nutritionist/dietician referrals, menu planning support, and other measures to make food, eating, and nutrition a formal part of treatment and patient care protocols. Nutrition counselling can be especially effective for pregnant women and new mothers, and often includes support for breastfeeding. Asian countries with government-supported "food as medicine" initiatives include Malaysia, Singapore, Thailand, and Fiji.[65] In the United States, some cities and medical providers are experimenting with "produce prescriptions" and "food farmacy" programs, whereby doctors write "prescriptions" for reduced-price or free fresh fruits and vegetables that can be redeemed at participating stores and farmers' markets. These schemes typically target lower-income regions or at-risk patients, and are mostly funded via nonprofit partnerships, government grants, or existing government food assistance programs. Some hospitals and clinics even host on-site "therapeutic food pantries," food banks, farmers' markets, and cooking classes to increase patient access.[66]

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[64] E. Cheung. 2019. Singapore to become first country banning ads on sugary drinks. *CNN*. https://www.cnn.com/2019/10/11/health/singapore-sugar-drink-ads-intl-hnk-scli/index.html.

[65] World Cancer Research Fund International. 2019. *Nourishing Framework: Nutrition advice and counselling*. https://www.wcrf.org/sites/default/files/9_Nutrition_advice_and_counselling.pdf.

[66] S. Radcliffe. 2019. Why 'Food Prescriptions' Are the Best Medicine for Chronic Diseases. *Healthline*. https://www.healthline.com/health-news/heres-how-healthy-food-prescriptions-could-save-lives-and-money; and C. Szabo. 2019. Food 'farmacies,' produce prescriptions gain lawmaker support. *ABC News*. https://abcnews.go.com/Politics/food-farmacies-produce-prescriptions-gain-lawmaker-support/story?id=63552564.

Sample Policies: Encourage Healthy Eating

1. Improve consumer information and awareness of nutrition and diet.

Public awareness and education	• Establish national food-based dietary guidelines, and ensure that these guidelines are up-to-date, reflect the latest scientific evidence on healthy eating, and are culturally sensitive and adaptable. • Conduct public awareness and educational campaigns on nutritional guidelines and healthy eating practices, especially targeting children, the disadvantaged, and at-risk populations. • Add food and nutrition education, and cooking skills, to the public school curricula. • Develop community-based cooking and nutrition programs, especially targeting high-risk populations and communities.

Regulation	• Establish food labelling standards and guidelines for packaged foods and beverages (either mandatory or voluntary), including:
	  o clear and consistent labelling of ingredients, additives, sizes, nutrition, and "guideline daily amounts" or recommended intake;
	  o front-of-package labels, warnings, symbols, or color-coding to alert consumers to unhealthy ingredients or additives, or to highlight "healthy choices"; and
	  o regulate the use of labels or claims on food packaging (such as "low fat," and "low sugar") to ensure that they are used consistently and not making false claims.
	• Establish menu labelling standards and guidelines for restaurant menus (either mandatory or voluntary), e.g., providing calorie information or developing special labels for healthier options.

Sample Policies: Encourage Healthy Eating

2. Create economic incentives for healthy eating choices.

Tax and fiscal incentives	• Institute a "sugar tax" or "junk food tax" to raise the cost of high-sugar or unhealthy and sugar-sweetened foods and beverages. • Institute import tariffs on unhealthy foods (or lower import tariffs on healthy foods). • Offer subsidies, vouchers, or price reductions for healthy foods (e.g., fresh produce), especially targeting lower-income populations, children, pregnant women, or other at-risk groups. Ensure that these vouchers/coupons/subsidies are accepted at farmers' markets and by local fresh food producers.

Sample Policies: Encourage Healthy Eating	
3. Create healthier food environments and expand access for high-risk groups.	

Public investment	• Establish food access and food assistance programs for undernourished populations.
	• Invest in infrastructure to ensure that all households have access to fresh, contaminant-free drinking water.
	• Invest in the development of new access points for healthier foods in underserved communities, such as:
	    ○ community gardens and urban farms, including conversion of blighted areas and vacant lots;
	    ○ farmers' markets and food co-ops;
	    ○ mobile produce markets;
	    ○ community/public dining rooms and kitchens;
	    ○ community cooking classes; and
	    ○ new public transit routes or shuttles that connect underserved communities with healthy food retail outlets.
	• Install drinking fountains and water refilling stations in public spaces, such as parks and playgrounds.
	• Change government procurement practices and nutritional guidelines for all publicly funded facilities (e.g., replacing high-sugar menu options with healthier choices, procuring more locally sourced fresh foods and produce, removing soft drinks from menus, reducing portion sizes, and replacing candy/snack foods/soft drinks in vending machines with healthier options).
	• Invest in better food and nutrition in public schools:
	    ○ ensure that public school lunch programs offer nutritious and balanced choices, and remove unhealthy foods and soft drinks; and
	    ○ develop school garden programs, farm-to-school programs, and other initiatives to encourage the use of fresh and locally sourced ingredients, as well as to educate students about fresh foods.

Regulation	• Adjust zoning laws to restrict or ban construction of fast food or convenience stores close to schools or parks, or within areas designated as "food deserts." • Adjust zoning laws to enable and encourage the location of healthy food retailers, community gardens, and urban farms in underserved areas. • Adjust building codes to require outlets for drinking fountains or water refill stations. • Ban or restrict vending machines with soft drinks or unhealthy foods in or near schools, parks, hospitals, or other publicly funded venues. • Remove soft drinks, French fries, and other unhealthy foods as default options on children's menus in restaurants. • Ban or restrict oversized soft drink cups and food portions in restaurants and other food outlets (or ban free refills). • Regulate the placement of healthy versus unhealthy foods in grocery stores (to encourage easier access to healthy and fresh foods).
Tax and fiscal incentives	• Subsidies, grants, loans, or tax incentives to attract grocery stores, corner markets, and other providers of fresh foods to "food deserts," or to encourage existing retailers to stock more healthy and fresh food options.

Sample Policies: Encourage Healthy Eating	
4. Strengthen industry standards and regulations on ingredients and marketing.	

Regulation	• Restrict or ban the use of unhealthy ingredients or additives in processed, packaged, and restaurant foods and beverages (e.g., trans fats, salt, and added sugars).
	
	• Restrict or ban the sales of unhealthy foods and beverages in particular venues or locations (e.g., in or close to schools) or to children (e.g., no energy drink sales to children under 18).
	
	• Restrictions on marketing and advertising of unhealthy foods and beverages:
	
	   o bans on marketing in or close to schools,
	   o bans on advertisements for unhealthy foods directed at children (on television or via other media),
	   o bans on use of cartoon characters or celebrities in advertisements for unhealthy foods, and
	   o bans on free toys packaged with unhealthy foods.

Public awareness and education	• Expand, support, and disseminate research on the long-term healthfulness of various foods, ingredients, additives, and substitutes (e.g., artificial sweeteners).
Tax and fiscal incentives	• Incentives, grants, or loans to support the reformulation of processed/packaged/unhealthy foods, beverages, and restaurant meals to remove certain ingredients/additives or to create healthier options.

Sample Policies: Encourage Healthy Eating	
5. Implement "food as medicine" in patient care.	
Health policy	• National adoption of "food as medicine" platform • Make eating habits, nutrition, and food security a key "vital sign" that health professionals monitor and discuss with patients, and integrate this into electronic health records. • Policies that support promotion of healthy eating and nutrition in clinical guidelines, as well as nutrition counselling and nutritionist/dietician referrals in the health system • Locate nutritionist clinics, counselling centers, and weight management clinics on-site at hospitals and health clinics. • Develop "product prescription" or "food farmacy" programs in partnership with nonprofits/community organizations, food banks, farmers' markets, and local retailers. • Host "therapeutic food pantries," food banks, farmers' markets, and cooking classes on-site at hospitals and health clinics. • Develop education and counselling programs that target pregnant women and new mothers, including support for breastfeeding.
Public awareness and education	• Health sector and health officials can provide evidence-based advocacy and educational campaigns on the importance of healthy eating. • Expand, support, and disseminate research on the scientific evidence, outcomes, and cost-effectiveness of healthy eating for populations with chronic disease, those with high risk factors, and overall prevention/health promotion.
Workforce development	• Recognize, train, and accredit nutritionists and dieticians to work within the context of health care systems. • Expand education for health professionals on nutrition and healthy eating, how to counsel and support at-risk patients, and how to integrate food and nutrition into patient care. • Include food and nutrition content in licensing and certification exams for health professionals.

Enhance wellness in the workplace.

Workers in Asia are plagued by unwellness: rising chronic disease; workplace illness, injuries, and death; financial insecurity; rampant stress and burnout; and widespread employee disengagement. Some of these issues are closely intertwined with globalization, technological change, new business models, and the shifting relationships between workers and employers, as well as with the economy in general (e.g., the rise of the "gig economy" and short-term contract work). Within this evolving landscape, governments can help to protect and enhance workers' wellbeing through policies and regulations, as well as by being a leader and by promoting best practices through their role as an employer of a large government workforce.

1. Ensure a safe and healthy physical work environment.

Every job or workplace brings with it different types of physical health hazards and risks; for example, nurses risking back injuries from lifting heavy patients; office workers with carpal tunnel syndrome; truck drivers facing road accidents; and factory workers dealing with hazardous chemicals, heavy equipment, or loud noises. Regardless of the type of work or the place of work, every worker has a basic human right to a safe and healthy working environment.[67] Despite the proliferation of government regulations on workplace and occupational safety and health, work is unhealthy and unsafe for many workers across Asia. An estimated 1.8 million people died from occupational injuries or work-related diseases in Asia in 2015 (accounting for over two-thirds of all work-related mortality globally). An additional 267 million persons suffered from nonfatal occupational accidents that resulted in at least 4 days absence from work in 2014.[68] Governments have a responsibility to monitor and enforce existing standards, while stepping up regulations where protections are lacking. For example, Singapore's strong enforcement of workplace safety and health policies has reduced work-related fatal injuries from 4.9 per 100,000 to 1.2 in 2017–2018. Recent measures aim to reduce this rate to 1.0 per 100,000 by 2028, in part by encouraging employers to take more ownership of safety, increasing transparency about injury and fatality rates, and empowering workers to speak up about risky situations.[69]

2. Protect workers against hostile work environments, overwork, and other triggers of emotional and mental distress.

The culture and social environment in a workplace can have a profound impact on workers' mental wellness. Research has shown that daily interactions that are characterized by kindness, respect, collegiality, openness, teamwork, and a shared purpose can enhance our sense of wellbeing. While it is

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[67] International Labour Organization (ILO). 2009. *Health and life at work: A basic human right – World Day for Safety and Health at Work 2009*. Geneva, Switzerland. https://www.ilo.org/safework/WCMS_108590/lang--en/index.htm.

[68] P. Hämäläinen, J. Takala, and T.B. Kiat. 2017. *Global Estimates of Occupational Accidents and Work-Related Illnesses 2017*. Singapore: Workplace Safety and Health Institute. http://www.icohweb.org/site/images/news/pdf/Report%20Global%20Estimates%20of%20Occupational%20Accidents%20and%20Work-related%20Illnesses%202017%20rev1.pdf.

[69] G.W. Hoe and C.K. Sing. 2019. Why Singapore's new approach to workplace safety and health matters (to you). *Today*. https://www.todayonline.com/commentary/why-singapores-new-approach-workplace-safety-and-health-matters-you. Singapore's Ministry of Manpower and the Workplace Safety and Health Council also provide extensive resources and case studies on best practices in Asia. https://www.mom.gov.sg/workplace-safety-and-health/wsh-best-practices and https://www.wshc.sg/.

impossible to mandate kind and friendly behavior, governments and policy can set a baseline by defining the behaviors that are unacceptable because they can harm others and create a hostile work environment. Behaviors that can be regulated by policy may include, but be not limited to, sexual harassment and discrimination based on race, sex, religion, sexual orientation, and disability. Sexual harassment is an important and sensitive issue in Asia, as more women are entering the workplace, and often working in informal arrangements and low-paid jobs supervised by men. With rising awareness of sexual harassment in Asia, some countries and governments have taken legislative action to address it. For example, Singapore implemented the Protection from Harassment Act in 2014, and the Tripartite Advisory on Managing Workplace Harassment in 2015, while India implemented the Prevention of Sexual Harassment of Women at Workplace Act in 2013, and the ROK enacted new laws on workplace harassment in 2019. However, implementation and enforcement of these laws remain weak. In the case of Singapore, the policies only provide guidelines to employers, with no legal enforcement mechanism; in the case of India, the guidelines and provisions are not widely known, followed, or enforced.[70]

Governments can also help to mitigate overwork and workplace stress by limiting work hours and mandating breaks. In Japan, a country known for its entrenched culture of overwork, the government enacted a "work-style reform" bill in 2018 that, among other things, caps overtime work hours at 45 hours per month and 360 hours per year, with penalties stipulated for employers that violate these regulations. The bill also requires workers to take at least 5 days of paid leave time each year.[71] The law sends a signal to employers that dangerously long work hours are not acceptable, and there is anecdotal evidence that the workplace culture is slowly changing in Japan. However, the long-term impacts of these reforms on Japan's overtime and overwork culture remain to be seen.[72] An additional measure in Japan is the National Stress Check Program, launched by the Ministry of Health, Labour, and Welfare in 2015 to focus on prevention of mental health issues among workers. Companies with more than 50 employees are required to offer employees the option of taking an annual stress survey. Workers with high stress levels can request a meeting with an occupational health physician to receive advice and address workplace challenges, while employers can analyze team-level data to identify and improve work environment issues. The Stress Check Program was the first mandatory workplace policy in Japan related to mental health. It is unique in its focus on the stress of individual workers, but follow-up studies on its effectiveness have been mixed.[73]

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[70] National University of Singapore, Lee Kuan Yew School of Public Policy. 2018. Tackling workplace sexual harassment in Asia: A necessary paradigm shift. *Global-is-Asian*. https://lkyspp.nus.edu.sg/gia/article/tackling-workplace-sexual-harassment-in-asia-a-necessary-paradigm-shift; and K. Vaswani. 2017. The costs of sexual harassment in the Asian workplace. *BBC News*. https://www.bbc.com/news/business-42218053.

[71] Trends: Work Style Form Bill Enacted. 2018. *Japan Labor Issues*, 2(10). https://www.jil.go.jp/english/jli/documents/2018/010-01.pdf; and D. Demetriou. 2019. New labour law puts limits on Japan's overworking culture. *The Telegraph*. https://www.telegraph.co.uk/news/2019/04/02/new-labour-law-puts-limits-japans-overworking-culture/.

[72] H. Okunuki. 2018. Abe's work-style reforms give Japan's employers the green light to demand unpaid and unsafe overtime. *The Japan Times.* https://www.japantimes.co.jp/community/2018/09/23/issues/abes-work-style-reforms-give-japans-employers-green-light-demand-unpaid-unsafe-overtime/#.Xh5kKS2ZNBw.

[73] Healthy Work Campaign. 2019. *Stress Check: A national policy in Japan for prevention of workplace stress*. https://healthywork.org/wp-content/uploads/2019/09/016-HWC-Website-Page-Content-Resources-Healthy-Work-Strategies-Stress-Check-Japan-v1-092019-300res-CYMK.pdf; N. Sugawara et al. 2016. What is the purpose of the Stress Check Program? *Journal of Occupational Health*, 58(6), 653–655. https://doi.org/10.1539/joh.16-0170-OP; and K. Imamura et al.

3. Provide living wages, unemployment benefits, and paid family/sick leave.

Income insecurity can be an important source of stress and distress for workers, leading to a host of other health and wellbeing issues. In recent years, workers in many Asian countries have experienced stagnating wages or slower wage growth, while losing job security with the rise of the contract work and the "gig economy." According to the International Labour Organization (ILO), wage growth in high-income Asian economies was close to zero in 2017, and a meager 2.4% in Southeast Asia and the Pacific.[74] While market wages are set through the dynamics of supply and demand, a mandated minimum wage can help define the baseline for workers at the lowest rungs of the economic ladder. To meet the demands of the labor sector, several Southeast Asian countries have raised minimum wages in recent years (e.g., Cambodia, Myanmar, and the Lao People's Democratic Republic), while governments have to continue to balance workers' welfare with the country's competitive position vis-à-vis its neighbors and rivals.[75] In addition to reducing stress and financial insecurity, research increasingly shows that higher minimum wages can improve workers' physical and mental health.[76] Other areas where governments can improve workers' financial security is through mandated unemployment benefits and state-sponsored unemployment schemes; paid parental leave and family leave; and sick leave. For example, in addition to providing financial stability, paid parental leave has been linked with better health outcomes for children and improved mental health in mothers.[77] Generally, however, these benefits protect workers only in formal, contract-based employment and exclude the very large share of workers in Asia who are self-employed, work on short-term contract arrangements, or work in the informal economy. With the rapid rise in the "gig" economy across Asia, governments are only beginning to explore what kinds of regulations or protections are needed or even feasible for these workers.[78]

2018. Effect of the National Stress Check Program on mental health among workers in Japan: A 1-year retrospective cohort study. *Journal of Occupational Health*, 60(4), 298–306. https://doi.org/10.1539/joh.2017-0314-OA.

[74] International Labour Organization. 2018. Asia-Pacific wage growth stalls but stays ahead of the rest of the world. *Global Wage Report 2018/19.* https://www.ilo.org/asia/media-centre/news/WCMS_651039/lang--ja/index.htm.

[75] J. Yap. 2018. Laos government approves minimum wage increase. *The Laotian Times.* https://laotiantimes.com/2018/04/24/laos-government-approves-minimum-wage-increase/; N.L. Aung and P.T. Phyo. 2018. Government sets new daily minimum wages at K4800. *Myanmar Times.* https://www.mmtimes.com/news/government-sets-new-daily-minimum-wage-k4800.html; P.C. Thul. 2018. Cambodia hikes textile workers' minimum wage, falls short of union demands. *Reuters.* https://www.reuters.com/article/us-cambodia-garment/cambodia-hikes-textile-workers-minimum-wage-falls-short-of-union-demands-idUSKCN1MF18B; and Y. Nakamura et al. 2018. Minimum wages surge across Southeast Asia. *Nikkei Asian Review.* https://asia.nikkei.com/Economy/Minimum-wages-surge-across-Southeast-Asia.

[76] L.P. Leigh and J. Du. 2018. Effects of Minimum Wages on Population Health. *Health Affairs Health Policy Brief.* https://doi.org/10.1377/hpb20180622.107025; and American Public Health Association. 2016. Improving Health by Increasing the Minimum Wage. *APHA Policy Statement No. 20167.* https://www.apha.org/policies-and-advocacy/public-health-policy-statements/policy-database/2017/01/18/improving-health-by-increasing-minimum-wage.

[77] Z. Aitken et al. 2015. The maternal health outcomes of paid maternity leave: A systematic review. *Social Science and Medicine*, 130, 32-41. https://doi.org/10.1016/j.socscimed.2015.02.001; and M. Rossin-Slater and L. Uniat. 2019. Paid Family Leave Policies And Population Health. *Health Affairs Health Policy Brief.* https://doi.org/10.1377/hpb20190301.484936.

[78] R. Phua. 2020. The Singapore gig economy: Right balance on regulations needed to unlock its full potential, say experts. *Channel News Asia.* https://www.channelnewsasia.com/news/singapore/the-singapore-gig-economy-right-balance-on-regulations-needed-to-12235556.

4. Make government a workplace wellness leader and best practice employer.

As discussed in a recent white paper by the authors,[79] a holistic approach to workplace wellness must go far beyond simply protecting workers from unsafe and unhealthy work conditions and workplace harassment, or ensuring fair wages and fair labor practices. True workplace wellness extends to creating a work environment that encourages healthy behaviors and habits, cultivates a collegial and supportive work culture, recognizes stress and burnout, and motivates and engages workers. Holistic workplace wellness strategies span a wide range of approaches: ergonomic workstations and equipment; on-site facilities or subsidies for gyms and fitness classes; healthy foods in cafeterias; nap rooms; active design or biophilic design of workspaces; establishing work arrangements and systems that allow for more flexibility, autonomy, and mitigation of stress and burnout; and alignment of work with individual interests and motivations. However, most of these features are "nice to have" or "perks" that cannot be mandated by policy. What governments *can* do is to model best practices within government worksites and workplaces. Since government is often the largest employer in many places, the implementation of workplace wellness strategies within government can affect a significant share of the workforce, while raising the standard of workplace wellness practices across the board and also providing a model for private sector employers.

5. Establish legal structures that enable and support "benefit corporations" and environmental, social, and governance reporting.

An important aspect of workplace wellness is allowing employees to align work with their personal values and intrinsic motivations, i.e., work that people are self-motivated to do, not just because of their paycheck and the imperative to maximize their company's profits. This intrinsic motivation is usually related to people's individual interests, values, and sense of purpose. In recent years, some businesses have begun to frame their missions and visions in terms of broader societal and environmental impacts, moving toward a purpose-driven mission rather than a profit-driven one. The concept of corporate social responsibility has been around for decades, and it broadly translates into practices that promote ethical business behavior, environmental sustainability, fair labor practices, and social impact in the community. In recent years, a new type of corporate entity—the "benefit corporation"—has emerged, explicitly recognizing social and environmental benefits as a core corporate mission.[80] In the United States, more than 35 states have passed benefit corporation laws, which expand the obligations of boards to consider environmental and social factors, while giving directors and officers the legal protection to pursue a mission and consider the impact their business has on nonfinancial stakeholders (e.g., employees, community, and the planet) as well as shareholder interests. The benefit corporation movement is gaining momentum around the world, including in Asia, where benefit corporations can now be legally certified in a number of countries (e.g., Japan, the ROK, India, Australia, and New Zealand). However, in most

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[79] O. Yeung and K. Johnston. 2019. *Improving workplace wellness in Asia: A business case, approaches, and successful practices.* Unpublished white paper for the Asian Development Bank.

[80] Fourth Sector Network. No date. *For-Benefit Corporations*. http://www.fourthsector.net/learn/for-benefit-corporations (accessed 15 January 2020); and Benefit Corporation. No date. *What is a Benefit Corporation?* https://benefitcorp.net/what-is-a-benefit-corporation (accessed 15 January 2020).

countries, policies and regulation have yet catch up in order to clarify the duties of directors and their legal obligation/protection under this new company structure.[81]

In addition, the spread of environmental, social, and governance (ESG) reporting, the development of ESG guidelines, and the growth of socially responsible investing and impact investing are helping to encourage companies to consider their business mission, practices, and impacts.[82] While ESG reporting frameworks have traditionally focused heavily on environmental metrics (with "social" metrics confined to traditional corporate social responsibility measures or occupational safety), there is now a growing movement to expand employee health and wellbeing metrics within ESG guidelines.[83] This shift is important to wellness because it provides a market-based incentive for the private sector to contribute positively to individual and social health and wellbeing, recognizes that the way companies treat their employees has an impact on their financial performance, provides transparency on corporate practices that affect employee wellness, and provides internal data to inform and improve corporate decision-making on these matters. Government policies and regulations play an important role in supporting these developments by providing mandates and clear standards for ESG reporting to ensure a fair marketplace, as well as clarifying regulatory guidelines on fiduciary duties so that investors do not feel that they are prohibited from considering ESG factors in their decisions.[84] As some of the largest institutional investors in the world, governments also support this movement by integrating ESG considerations into their own investment decisions.[85] For example, in 2015 the Government of Japan paved the way for the growth of ESG in Japan's private markets when the Government Pension Investment Fund, the world's largest public pension fund, became a signatory to the United Nations Principles for Responsible Investment and began emphasizing ESG criteria in investment decisions.[86]

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[81] Lift Economy. 2019. *Key developments in the B Corp movement (since the first edition)*. https://www.lifteconomy.com/blog/2019/4/24/key-developments-in-the-b-corp-movement-since-the-first-edition; and Benefit Corporation. No date. *Policymakers Overview*. https://benefitcorp.net/policymakers (accessed 15 January 2020).

[82] For more information on ESG in Asia and globally: CFA Institute and Principles for Responsible Investment (PRI). 2019. *ESG Integration in Asia Pacific: Markets, Practices, and Data*. https://www.cfainstitute.org/-/media/documents/survey/esg-integration-apac.ashx; A. Holt. 2019. Asian Companies Get Serious About ESG. *IR Magazine*. https://www.irmagazine.com/reporting/asian-companies-get-serious-about-esg; R.G. Eccles and S. Klimenko. 2019. The Investor Revolution. *Harvard Business Review*. https://hbr.org/2019/05/the-investor-revolution; and G. Kell. 2018. The Remarkable Rise of ESG. *Forbes*. https://www.forbes.com/sites/georgkell/2018/07/11/the-remarkable-rise-of-esg/#37ea24571695.

[83] M. Tulay. 2019. Executive Perspective: Corporate Sustainability Strategy Starts with Employee Health. *Thomson Reuters*. https://blogs.thomsonreuters.com/sustainability/2019/02/26/executive-perspective-corporate-sustainability-strategy-starts-with-employee-health/; A. Walsh. 2019. Where is the 'social' wellbeing in ESG reporting? *Reward & Employee Benefits Association (RIBA)*. https://reba.global/content/the-worth-of-the-workforce-where-is-the-social-in-esg-reporting; Pensions and Lifetime Savings Association (PLSA) and High Pay Centre. 2019. *Hidden Talent 2: Has Workforce Reporting by the FTSE Improved?* http://highpaycentre.org/files/Hidden-Talent-2-Has-workforce-reporting-by-the-FTSE-100-improved.pdf; and Delos. 2017. The Rise of Health Metrics in ESG Investing. *GRESB*. https://gresb.com/the-rise-of-health-metrics-in-esg-investing/.

[84] Organisation for Economic Co-operation and Development. 2017. *Investment governance and the integration of environmental, social and governance factors*. https://www.oecd.org/finance/Investment-Governance-Integration-ESG-Factors.pdf; D. Stanley. 2018. ESG Investing and Government Regulation. *Seven Pillars Institute for Global Finance and Ethics*. https://sevenpillarsinstitute.org/esg-investing-and-government-regulation/.

[85] E. Chasen. 2018. Governments push ESG investing forward. *Bloomberg Briefs*. https://www.bloomberg.com/professional/blog/governments-push-esg-investment-forward/.

[86] E. Woodland. 2019. Abe's green arrow: The rise of ESG investing in Japan. *AMPCapital*. https://www.ampcapital.com/au/en/insights-hub/articles/2019/october/abes-green-arrow-the-rise-of-esg-investing-in-japan; B. Eccles. 2019. How To Further Accelerate Sustainable Investing In Japan: Taking It To Mainstream Asset Managers.

In many ways, the development of "benefit corporations" and ESG reporting in the private sector is analogous to the nascent rise of "wellbeing budgeting" in the public sector. Both represent an important "top–down" shift in priorities, moving away from purely financial and economic considerations and toward an emphasis on the health and wellbeing of people (and planet) as a key factor for decision-making and a key metric for "success."

Forbes. https://www.forbes.com/sites/bobeccles/2019/09/07/how-to-further-accelerate-sustainable-investing-in-japan-taking-it-to-mainstream-asset-managers/#20faf2e7e467.

Sample Policies: Enhance Wellness in the Workplace	
1. Ensure a safe and healthy physical work environment.	
Planning and prioritization	• Set and work towards national targets for reduction of workplace safety and health incidents.
Regulation	• Strengthen, monitor, and enforce laws and regulations on workplace and occupational health and safety.
	• Expand or establish public disclosure requirements for companies to report on workplace health and safety incidents.
	• Deploy the latest technologies to monitor, enforce, and apply workplace health and safety standards.
	• Require companies to provide reasonable accommodations and adaptations for employees with physical or health conditions (such as chronic disease and pregnancy).
	• Protect employees who speak out about unsafe work conditions in their workplaces, and provide channels for employees to report issues.
	• Develop certifications, accreditations, or other standards for third party workplace health, safety, and wellness programs and services.
	• Develop guidelines and certifications for healthy built environments in workplaces.
	• Review and address the application of workplace health and safety standards for "gig" workers and contingent workers.
Public awareness and education	• Expand government data collection and dissemination efforts on workplace and occupational health, safety, accident, illness, and fatality statistics.
	• Expand, support, and disseminate research on the scientific evidence, outcomes, and cost-effectiveness of different types of workplace health, safety, and wellness programs, services, and interventions across different types of workplaces, settings, and employee populations.
	• Develop recognition and award programs for best-in-class employers.
	• Provide training tools and manuals for companies on workplace and occupational health and safety topics.
Tax and fiscal incentives	• Grants or tax incentives for small-sized/medium-sized businesses to implement evidence based health, safety, and wellness programs for employees.

Sample Policies: Enhance Wellness in the Workplace	
2. Protect workers against hostile work environments, overwork, and other triggers of emotional and mental distress.	
Regulation	• Strengthen, monitor, and enforce laws and regulations on sexual harassment and discrimination in workplaces. • Set and enforce limits on work hours, overtime, and breaks. • Establish "right to disconnect" laws that limit or prohibit electronic communications outside of regular work hours.
Public awareness and education	• Expand government data collection and dissemination efforts on workplace culture, working hours, and related statistics. • Expand, support, and disseminate research on the scientific evidence, outcomes, and cost-effectiveness of healthy work cultures. • Develop recognition and award programs for best-in-class employers. • Provide surveys and tools to employers to monitor and address workplace-related mental health issues.

Sample Policies: Enhance Wellness in the Workplace	
3. Provide living wages, unemployment benefits, and paid leave.	
Regulation	• Raise mandated minimum wages to a level that meets living wage standards. • Expand mandates for unemployment benefits to more companies/employees, or develop state-sponsored unemployment coverage. • Establish or expand sick leave, paid family leave (for new mothers, fathers, or others providing family care), child care benefits, disability benefits, and other wellness-enhancing benefits for workers. • Regulate scheduling practices for shift workers and hourly workers (e.g., limiting or banning practices such as unpaid on-call or last-minute scheduling) to create more stable work and reduce stress and insecurity. • Develop "portable benefits" models in places where these kinds of benefits are not provided via universal/social welfare models. • Review and address the availability of these kinds of benefits for "gig" workers and contingent workers.
Tax and fiscal incentives	• Tax incentives for company expenditures on certain types of wellness-enhancing employee benefits.

Sample Policies: Enhance Wellness in the Workplace	
4. Make government a workplace wellness leader and best practice employer.	

Public investment	• Prioritization, investment in, and implementation of best practice workplace wellness practices across government and government-funded agencies, such as:
	   o strong adherence to and monitoring of workplace and occupational health and safety standards;
	   o cultivation of healthy workplace cultures, including limits on overtime and overwork, and anti-harassment policies;
	   o pay living wages and provide wellness-enhancing employee benefits, such as paid family leave or health insurance.
	   o incorporate healthy and wellness-enhancing features into the design and construction of government buildings and workplaces;
	   o support healthy habits among government employees with benefits and programs, such as healthy food in cafeterias, exercise breaks during the workday, free or subsidized gym/exercise offerings, and onsite health services; and extend these benefits to employees' families; and
	   o train government managers and leaders in healthy leadership styles and in building healthy workplace cultures.

Sample Policies: Enhance Wellness in the Workplace	
5. Establish legal structures that enable and support "benefit corporations" and environmental, social, and governance reporting.	
Regulation	"Benefit corporations:" - establish "benefit corporation" as a legal business registration category, and - establish reporting and transparency requirements and responsibilities for "benefit corporations." - ESG reporting: - encourage the expansion of environmental, social, and governance (ESG) metrics to incorporate more human health/wellbeing metrics; - set mandates for companies to report on certain ESG metrics; - set regulatory standards and rules for disclosure and reporting of ESG metrics, and ensure that these are comparable across companies, industries, and markets; - create a classification system or taxonomy to identify what activities can be considered as socially or environmentally sustainable under ESG frameworks; and - set mandates for institutional investors and financial firms to disclose how they account for ESG criteria in their investment decisions and advisory processes. - Clarify fiduciary responsibilities with respect to "benefit corporations" and ESG investing.
Public investment	- Government investment funds can sign on to the United Nations Principles for Responsible Investment (UN PRI). - Government investment funds can prioritize ESG criteria in their investment decision-making or allocate a certain percentage of holdings to ESG investments.
Public awareness and education	Support and disseminate research to strengthen information about the links between ESG or health/wellness and financial returns.

III. Life Span-Based Wellness Policy Domains

Understanding brain plasticity

Given all of the foundational influences on human development and mental health during infancy and childhood, is there any hope for change in adulthood? A growing number of studies on wellness modalities (e.g., meditation, yoga, and dance) are finding positive changes in the brains of regular practitioners. At the heart of this emerging body of research findings is the concept that the brain can continue to grow and develop new neural pathways and connections well into adulthood. This evidence stands in contrast to earlier views that brain development ceases in adolescence.

As reported in the GWI's Pathways, Evidence, Horizons: A White Paper on Mental Wellness,[87] there is now substantial scientific evidence that explains how wellness habits promote our brain to change and rewire itself through a lifelong process termed "neuroplasticity". The strengthening and integration of the neural connections in the higher-level brain regions, particularly the prefrontal cortex, are fundamental in the benefits of wellness practices. Neuroplasticity refers to our brain's intrinsic ability to continuously alter its structure and function throughout our lifetime. Neural changes occur on multiple levels, ranging from the microscopic to the observable. It happens on different time scales, spanning from mere milliseconds to years and decades. In gaining a deeper understanding of neuroplasticity and its practical applications, we can better harness its immeasurable potential, empowering ourselves and each other toward meaningful growth and positive change. We will ensure that we not only survive in our fast-changing modern-day world, but also learn to thrive both individually and collectively in a shifting landscape of unpredictability and uncertainty. With the awareness, knowledge, and practice of self-directed neuroplasticity, we can achieve mental and overall wellness.[88]

This is a new foundation for establishing pathways to wellbeing throughout the life span and to building a firm foundation for mental wellness. The intrinsic capacity for the brain to grow and develop integrated neural connections in response to lifestyle changes and routines offers new insights into just how far human development can advance within an individual life span.

Wellness in the first 1,000 days.

The arc of life, we are learning, begins before conception. The health of the parents prior to and at the time of conception is known now to influence our life course and some determinants of both health and lifestyle diseases. The first 2 years of life are especially critical in shaping people's future physical and mental health. Parenting styles, nutrition, and air quality are just some of the factors that shape future patterns of health and mental wellbeing. A 2018 *Lancet* series on "Preconception Health" highlights the study of preconception health as of foundational importance in understanding and shaping future

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[87] G. Bodeker (Ed.). *Pathways, Evidence, Horizons: A White Paper on Mental Wellness*. Miami, Florida: GWI. https://globalwellnessinstitute.org/wp-content/uploads/2018/10/GWI-MWI-WhitePaper2018.pdf.

[88] L. Choy. 2018. Neuroplasticity and Mental Wellness: Our Path Forward. In G. Bodeker (ed.). *Pathways, Evidence, Horizons: A White Paper on Mental Wellness*, (pp. 18–29). Miami, Florida: GWI. https://globalwellnessinstitute.org/wp-content/uploads/2018/10/GWI-MWI-WhitePaper2018.pdf.

health.[89] One article in the series, entitled "Before the beginning," notes that "observational studies show strong links between health before pregnancy and maternal and child health outcomes, with consequences that can extend across generations."[90]

Policy Implications: Preventive interventions in the first 1,000 days

Today, there is agreement that the first 1,000 days of life, from conception to the second year of life, are the most important determinants of the health of individuals, and probably account for 70% of good health and wellness in the life span.[91] To date, efforts to prevent NCDs have primarily focused on adult individuals' risk factors (e.g., poor diet, physical inactivity, and smoking and alcohol consumption), while almost ignoring the early stages of individuals' development. Effective preventive interventions for populations can be created to significantly lower the burden of health care costs and increase the quality of life. The target of interventions needs to be an individual (the fetus/infant) who is not responsible for his or her own lifestyle, and involves addressing that individual's environment. Policy recommendations in this field are based on six pillars of perinatal health to prevent NCDs in later life.

- Movement
- Nutrition
- Mental health
- Environment
- Fun
- Support

This approach has been developed by the First 1,000 Days Initiative of GWI, which helps translate evidence from research in this field into actionable and tangible life course strategies for cross-cultural and demographically diverse global populations. The aim is that future mothers and fathers of various socioeconomic backgrounds will be armed with knowledge about the critical lifelong impacts of parental and baby health, and will be actively engaged in positive lifestyle habits during preconception, pregnancy, and the first 2 years of life.

Wellness during school years

In New South Wales, Australia, the state government has introduced a program to mainstream wellbeing throughout the school system.[92] Their policy framework puts wellbeing at the heart of education.

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[89] Preconception health series. 2018. *The Lancet*, 391(10132). https://www.thelancet.com/series/preconception-health.

[90] J. Stephenson et al. 2018. Before the beginning: nutrition and lifestyle in the preconception period and its importance for future health. *The Lancet*, 391(10131), 1830-1841. https://doi.org/10.1016/S0140-6736(18)30311-8.

[91] S. Pecorelli. 2018. The First 1,000 Days of Life. In G. Bodeker (ed.). *Pathways, Evidence, Horizons: A White Paper on Mental Wellness*, (pp. 13–17). Miami, Florida: GWI. https://globalwellnessinstitute.org/wp-content/uploads/2018/10/GWI-MWI-WhitePaper2018.pdf.

[92] For more information: New South Wales Department of Education and Communities. 2015. *The Wellbeing Framework for Schools*. https://education.nsw.gov.au/content/dam/main-education/student-wellbeing/whole-school-approach/media/documents/Wellbeing-Framework-for-schools-Accessible.pdf.

- The school has a comprehensive and integrated strategy in place to support the cognitive, emotional, social, physical, and spiritual wellbeing of students in a context of quality teaching and learning.
- Students, teachers, staff, and members of the wider school community have a shared understanding of the behaviors, attitudes, and expectations that enhance wellbeing and lead to improved student outcomes.
- Individuals care for self, and also contribute to the wellbeing of others and the wider community.
- Effective leadership guides the development of a highly effective school.
- The resources and expertise of the system at every level are targeted to meet the wellbeing needs of all students.
- Quality teaching and effective professional practice are evident in every learning environment.
- Teaching and learning occur in environments that celebrate differences and diversity and recognize, respect, and respond to identity and cultural backgrounds.

Wellness for seniors

According to World Population Prospects 2019, by 2050, 1 in 6 people in the world will be over the age of 65, up from 1 in 11 in 2019.[93] All societies in the world are in the midst of this longevity revolution; some are at its early stages and some are more advanced. But all will pass through this extraordinary transition, in which the chance of surviving to age 65 rises from less than 50%—as was the case in Sweden in the 1890s—to more than 90% at present in countries with the highest life expectancies. What is more, the proportion of adult life spent beyond age 65 has increased from less than one-fifth in the 1960s to one-quarter or more in most developed countries today.

These changes for individuals are mirrored in societal changes: older persons are a growing demographic group in society. Older people account for more than one-fifth of the population in 17 countries today, and projections to the end of the century indicate that this will be the case in 2100 for 155 countries, covering a majority (61%) of the world's population.

An estimated 23% of the total global burden of disease is attributable to disorders in people aged 60 years and older.[94] The leading contributors to disease burden in older people are cardiovascular diseases (30.3% of the total burden in people aged 60 years and older), malignant neoplasms (15.1%), chronic respiratory diseases (9.5%), musculoskeletal diseases (7.5%), and neurological and mental disorders (6.6%).

Governments worldwide are moving with urgency to introduce policies that address population aging. The Global Burden of Disease Study has noted that whether increased longevity is an opportunity or a threat to the stability of societies depends not only on whether populations are living longer, but also whether they are experiencing the negative health effects of aging. The negative health effects of aging

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[93] United Nations. 2019. *2019 Revision of World Population Prospects*. https://population.un.org/wpp/.

[94] M.J. Prince et al. 2014. The burden of disease in older people and implications for health policy and practice. *The Lancet*, 385(9967), 549–562. https://doi.org/10.1016/S0140-6736(14)61347-7.

are characterized by progressive loss of physical, mental, and cognitive integrity, leading to impaired functions and increased vulnerability to morbidity and mortality.[95]

While primary prevention in adults aged younger than 60 years will improve health in successive cohorts of older people, much of the potential to reduce disease burden will come from more effective primary, secondary, and tertiary prevention targeting older people. Policy and health care practices addressing psychological health issues in social context and early in the life course could be effective strategies for reducing health inequalities.

Policy Implications: Lifelong learning and reskilling

The authors of The 100-Year Life, Andrew Scott and Lynda Gratton, professors of economics and business at London University, argue that people will have to work and reskill until age 75–85 in order to live a 100-year life.[96] They take the view that the importance of reskilling lies in its broader perspective towards life. One might want to explore the world to have a deeper understanding of human beings and different cultures and races. In the United Kingdom, young people often take off for a "gap year," during which they travel the world. "Why don't we do that at the age of 40 or 50 or 60?" Gratton has asked. "Why don't we take more time out in our long life to explore the world? In a long life, we have opportunities to build our own business. We call that the independent producer; actually creating our own business." During retirement, life after the age of 65 up to 100 is a very long time, and Gratton argues that we should consider, instead, a much more phased way of retirement where people can work until their 70s.[97]

Developing "intangible assets:" In a long life, money as a tangible asset is important, of course. But what actually helps in our 60s and 70s is not having more money, but rather having intangible assets, which are something like personal qualities. The three types of intangible assets listed in The 100-Year Life are:

1. The first is one's own capacity to be productive. Especially at the age of 60 and beyond, one has to have skills that other people acknowledge in order to make a reputation. To maintain it, one has to continue learning throughout one's life. Also, it is important to surround oneself with friends and colleagues from whom one can learn. Advanced technologies, such as artificial intelligence, may help us.
2. The second is vitality, which means being physically and mentally healthy. However good, people's ideas and talents mean little without good health. Deep friendships are also key. Some research shows that people live longer because they have great community friendships. Long working hours are harmful to vitality. To build one's life, a person needs time with their children, with their partner, and with the community.
3. The last is transformation, which is our capacity to change. None of us is going to be able to begin life with a particular set of skills and keep those skills throughout life. We have to change. At any point in time, each of us has a number of possible selves. We can be many different things. In order to change, we have to know ourselves and must be prepared to make tough decisions.

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[95] A. Y. Chang et al. 2019. Measuring population ageing: an analysis of the Global Burden of Disease Study 2017. *The Lancet Public Health*, 4(3), 159–167. https://doi.org/10.1016/S2468-2667(19)30019-2.

[96] A. Scott and L. Gratton. 2017. *The 100-Year Life: Living and Working in an Age of Longevity*. London: Bloomsbury Business.

[97] Future of Work: A conversation with Lynda Gratton. 2017. *Fujitsu Insights*. https://www.fujitsu.com/global/vision/insights/201712event2/.

Social networks are also important. If one can interact with people who are different, then it gives one the opportunity to imagine being someone else.

Historically, companies have tended to focus on tangible values like profits or revenue, and not very much on their employees' intangible assets. Intangible assets are much more difficult to measure. Yet, looking at how young people choose jobs, it is clear that they are more conscious about a company's intangible assets, including its contribution to employees and communities. Hence, a company should work hard to increase these assets.

Japan's One Hundred Year Life Program. In Japan, there is a gap of about 10 years between "healthy life span" and "average life span." The healthy life span is estimated at 72.14 years for Japanese men in 2016 (up 0.95 years from 2013), and 74.79 years for women (up 0.58 years from 2013), as reported by the Ministry of Health in March 2018. In 2016, the average life span for Japanese men stood at 80.98 years, and for Japanese women at 87.14 years. The expected lifetime after healthy years was shortened by 0.18 years for men and 0.05 years for women. Japanese people spend most of their medical expenses in the 10-year period between healthy life span and average life span, placing a considerable and growing pressure on the health system and the national budget as life span increases for the Japanese population.[98]

To address this challenge, Japan has introduced a One Hundred Year Life Program to promote wellness and a healthy life across the life span, which is being addressed cross-sectorally in Japan. Traditionally, planners have tended to consider life in three-stages: the first for education, the second for employment, and the last for retirement. The new paradigm of the One Hundred Year Life Program is a shift toward a multistage life, in which people do many things at different stages. During the 100-year life, there is a need to continually reskill because having a single skill or ordinary skills will not help us traverse a long life. The new approach is to acquire new skills and knowledge as we progress through life.

Japan has established a Council for Designing 100-Year Life Society to formulate a grand design for the policies to be implemented by the Government of Japan. Key ideas from the 100-Year Life Council include significant improvements in long-term care worker pay, a "drastic expansion of recurrent education" to expand mid-career employment, and laying the groundwork for raising employment levels of the elderly.

The priorities of the council have been laid out as:

1. Secure educational opportunities that are open to all people. Reduce the cost burden of education. Promote recurrent education for adults who want to resume their education at any age.
2. Reform higher education to address the above issues. Conventional liberal arts courses for young students offered at universities alone may be insufficient in meeting the needs of society.
3. Diversify corporate hiring practices, going beyond the current practice of hiring new graduates once a year. Introduce various formats for elderly employment. This is a key to securing capable

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[98] T. Maruyama. 2020. Enriching the Lives of Seniors in Japan: Ikigai Healthy Ageing Policy. In C. Goh, G. Bodeker, and K. Kariippanon (eds). Miami, Florida: Taylor & Francis Miami (in preparation).

human resources. Companies cannot secure necessary human resources only by employing new graduates all at once.

4. The current social security system emphasizes benefits for the elderly based on the three stages of youth and students, adults and workers, and retired elderly. This elderly centered system will be reformed into a social security system that equally benefits all cohorts of the population.

Policy Implications: Safe and enabling homes for seniors

From a policy perspective, aging-in-place (typically at home) is only desirable if conditions are met to optimize function to enable coping with common chronic disabling diseases such as arthritis and stroke, as well as age-related syndromes such as sensory impairments; chewing difficulties; cognitive impairments (such as deficits in the domains of memory, processing speed, and executive function); and impairments in instrumental activities of daily living, physical function, and psychosocial needs.[99] Desirable goals with respect to aging-in-place include optimizing function by manipulating home design, furniture, and aids; reducing isolation with the help of social network/support; as well as technology. For the majority of people, aging-in-place will be synonymous with home living. However this may not be possible, and moving to a more enabling environment may be indicated to achieve active aging in spite of declining physical and cognitive function.

Ways to create a safe and enabling home include aids for bathing, dining, fall prevention, visual obstacle detection, transfer/lifting, cooking, emergency links, and ramps. Availability of personal care, communication external to home, and disease management are also needed. Personal care may be provided by family members and/or formal caregivers. Both may require training in caring techniques, especially for those with dementia. A communication channel needs to be in place, to allow rapid contact between the older person and caregivers in emergency situations (provided by alarm systems linked to mobile phones or dedicated services). In some countries, medical consultation may be provided with the primary care physician via telemedicine. From the point of view of maintaining social contacts to maintain a social network, technological advances have major contributions, such as smart TVs and mobile devices and related software (e.g., Facetime). In terms of disease management, technology has also provided various monitoring devices that can identify deviations in usual patterns of movement, aid physical training, medication management, as well as promotion of healthy diets.[100]

As one example of the implications for housing policy, Daiwa House, one of Japan's largest house builders, is transitioning into the "home reform" business. The company foresees the mass aging of Japan's construction workforce and the need for two innovations: labor-saving construction techniques and house designs that can be easily upgraded by elderly renovators.

Age-friendly environments outside of the home should also be considered, including the immediate surroundings as well as the spaces and urban characteristics at a further distance from the home, such as walkability, supportive neighborhoods that build a sense of community, green spaces, and design of healing environments for hospitals. The design of immediate environments for homes and hospitals that

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[99] J. Woo. 2020. Ageing in Place. In C. Goh, G. Bodeker, and K. Kariippanon (eds). Miami, Florida: Taylor & Francis Miami (in preparation).
[100] J. Woo (2020).

have health benefits (i.e., "healing environments") has been championed by some architects, emphasizing close proximity to nature.

The overall principles of age-friendly environments are summarized by the WHO's concept of age-friendly cities, which encompass age-friendly transport, housing, respect and social inclusion, civic participation and employment, health and community services, information and communication, social participation, outdoor spaces, and buildings. Since many older people live in urban cities, attention to these principles may make a difference to promoting healthy aging instead of being obstacles.[101]

Policy Implications: Nutrition for seniors

Reflecting a life span perspective, the WHO has noted that many of the diseases suffered by older persons are the result of dietary factors, some of which have been operating since infancy. These factors are then compounded by changes that naturally occur with the aging process.[102]

Dietary fat seems to be associated with cancer of the colon, pancreas, and prostate. Atherogenic risk factors, such as increased blood pressure, blood lipids, and glucose intolerance, all of which are significantly affected by dietary factors, play a significant role in the development of coronary heart disease. Degenerative diseases such as cardiovascular and cerebrovascular disease, diabetes, osteoporosis, and cancer, which are among the most common diseases affecting older persons, are all diet-affected. Increasingly in the diet/disease debate, the role that micronutrients play in promoting health and preventing NCD is receiving considerable attention. Micronutrient deficiencies are often common in elderly people because of a number of factors, such as their reduced food intake and a lack of variety in the foods they eat.

Of these dietary risks, the biggest contributors to the global burden of disease in 2017 were diets that are low in whole grains; high in sodium; or low in fruits, nuts, and seeds, or vegetables. Additionally, there is an effect of higher body mass index on disease outcomes. Another factor is the price of foods rich in micronutrients, which further discourages their consumption.

Elevated serum cholesterol, a risk factor for coronary heart disease in both men and women, is common in older people, and this relationship persists into very old age. Dietary changes seem to affect risk-factor levels throughout life and may have an even greater impact in older people. Relatively modest reductions in saturated fat and salt intake, which would reduce blood pressure and cholesterol concentrations, could have a substantial effect on reducing the burden of cardiovascular disease. Increasing consumption of fruit and vegetables by one or two servings daily could cut cardiovascular risk by 30%.

Francesco Branca, Director of the Department of Nutrition for Health and Development, WHO, Switzerland, and colleagues have argued in an article in the British Medical Journal that food systems and the infrastructure on which they depend must be restructured. Reforms to the supply side of food systems

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[101] WHO. No date. *Ageing and life-course: Global age-friendly cities project*,
    https://www.who.int/ageing/projects/age_friendly_cities/en/.
[102] WHO. No date. *Nutrition for older persons*, https://www.who.int/nutrition/topics/ageing/en/index1.html.

are needed to improve the availability of healthy sustainable diets, from research and production through to processing, storage, transportation, marketing, and retailing.[103]

Food, agriculture, and trade policies, which were often originally devised to ensure quantity rather than quality of food, must remove incentives to produce less-healthy foods and create incentives to produce diverse and nutritious foods using sustainable practices. Investment must be made in green transport, storage, and distribution infrastructure in order to give access to perishable, nutrient-rich foods, such as fruits and vegetables. Measures that affect demand for certain foods—what we buy, how we prepare it, and what we eat or throw away—are urgently needed. These should include actions to create healthy food environments, supported by nutrition education, especially in schools, to ensure that even the most vulnerable people can access healthy diets. Along with regulatory measures on food composition, marketing, labelling, and nutrition standards for food in schools and other public institutions, taxes and subsidies are among the tools available.

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[103] F. Branca et al. 2019). Transforming the food system to fight non-communicable diseases. *BMJ*, 364:l296. https://doi.org/10.1136/bmj.l296.

IV. Key Takeaways

Wellness is not well understood by governments and, therefore, has not been incorporated into policymaking as an overarching framework or priority. Yet, wellness brings an important perspective to policymaking that is complementary to public health, health policy, and the emerging field of happiness. This white paper defines wellness policies as those that (i) encourage people to make healthy choices proactively and live healthy lifestyles, and (ii) create living environments that support/encourage healthy behaviors and lifestyles. It proposes policies in four crosscutting policy domains, as well as policies using a life span approach.

Create a healthy built environment by (i) prioritizing walkability and physical movement in urban and regional planning, (ii) creating green spaces and natural sanctuaries for urban residents, (iii) protecting people from harmful indoor built environments and materials, and (iv) supporting wellness real estate and making healthy homes affordable/accessible.

Enable and support physical activity by (i) funding public infrastructure, facilities, and programs for recreational physical activities; (ii) prioritizing government investments in physical activity infrastructure in communities that are at higher risks for physical inactivity; (iii) prescribing exercise as part of patient care; and (iv) supporting the youth to build healthy habits and interest in physical activity early in life.

Encourage healthy eating by (i) improving consumer information and awareness of nutrition and diet, (ii) creating economic incentives for healthy eating choices, (iii) creating healthier food environments and expanding access for high-risk groups, (iv) strengthening industry standards and regulations on ingredients and marketing, and (v) implementing "food as medicine" in patient care.

Enhance wellness in the workplace by (i) ensuring a safe and healthy physical work environment; (ii) protecting workers against hostile work environments, overwork, and other triggers of emotional and mental distress; (iii) providing living wages, unemployment benefits, and paid family/sick leave; (iv) making government a workplace wellness leader and best practice employer; and (v) Establishing legal structures that enable and support "benefit corporations" and ESG reporting.

Policies via a life span approach will address (i) preventive interventions in the first 1,000 days of life; (ii) incorporating wellness and wellbeing approaches as part of the formal education system, from curricula to learning/social environments; (iii) policies that support healthy aging, including lifelong learning, reskilling, and personal growth/transformation over a much longer horizon (i.e., the "One Hundred Year Life"); safe and wellness-enabling homes for seniors; and nutrition for seniors.