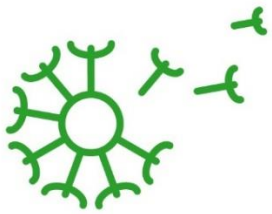

Irving & Bloom

COVID-19, Older Adults and Long-Term Care in the Asia Pacific

Report prepared for HelpAge International Asia Pacific

November 2020

This consultant's report was commissioned by HelpAge International and financially supported by UNFPA. The views and opinions expressed in this report are those of the consultant and do not necessarily reflect those of HelpAge International or UNFPA.

Contents

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Executive Summary

Globally older adults appear to be disproportionately affected by the COVID-19 pandemic through increased severity of COVID-19 impact and mortality. Recent data suggest that Asia Pacific as a region has performed comparatively well with regard to reducing infection and subsequent mortality rates. Older adults living in countries that have been able to implement containment and mitigation measures relatively early, appear to have fared better with regard to transmission and mortality than those living in countries for which the response was slower. A lower number of cases and deaths in less developed countries has been attributed in part to a younger population structure. Former immunity from exposure to other coronaviruses, hygiene etiquette, and lower infectious load are also factors speculated to play a role in COVID-19 mortality in some countries. Greater risk of mortality or complications has also been consistently associated with pre-existing, comorbid conditions such as hypertension, cardiovascular disease, diabetes, cancer or respiratory issues. Low to middle income countries (LMICs) contain 69% of the global population aged 60 years and older and where health systems are weaker, events such as COVID-19 may have the greatest impact. Given that older adults experience higher multi-morbidity including a greater number and severity of chronic diseases and disabilities, as well as immune dysfunction, it is intuitive that COVID-19 will affect this population to a greater extent than those younger and in better health. Further to this non-communicable diseases disproportionally affect adults living in LMICs; the main types being cardiovascular diseases (heart disease or stroke), cancers, chronic respiratory diseases (such as chronic obstructive pulmonary disease and asthma) and diabetes. Of deaths attributed to non-communicable disease, over 85% are estimated to occur in LMICs.

This paper has been prepared to explore and discuss the impact of COVID-19 on older adults and the long-term care sector across the Asia Pacific region. The content of this paper reflects information available as at mid-November 2020.

Long-term care and COVID-19 mortality

Long-term care (LTC) typically comprises care and assistance with everyday tasks (including dressing, bathing, shopping, cooking and cleaning), support with social participation, and management of advanced chronic conditions. LTC can be provided by unpaid or paid care staff and delivered within the home, community, or facility setting. LTC facilities (LTCFs) vary in name and suite of services within and between countries but are those facilities that traditionally house and provide services to support people who are unable to live independently. LTCFs include nursing homes, skilled nursing facilities, assisted living facilities, residential facilities and residential long-term care facilities. The LTC system for older adults across the Asia Pacific varies in formality, policy, funding, legislation, eligibility and model of delivery. Some economies have comparatively well-developed LTC systems, whereas many remain in a nascent stage. Regardless of formality or development, reliance on unpaid family caregiving underpins most LTC systems across the region. Some Asian countries have introduced filial-support laws as a way of ensuring families meet the ongoing LTC needs of older citizens. Within cultures where abdicating care of an older person to a LTCF can be considered shameful, such facilities are fewer or difficult to access. Japan and the Republic of Korea have established LTC insurance systems, to manage financing of LTC and ensure the provision of services through a network of providers. In contrast to an increase in institutional LTC provision, community based LTC systems remain less formally developed in many Asia Pacific countries.

Accurate data on deaths associated with LTC are variable between countries and international comparisons are difficult due to differences in COVID-19 testing, confirmation and how deaths are recorded and attributed; including location (acute setting versus LTCF for example). Effective viral testing and tracking is further complicated by the asymptomatic or 'atypical symptomatic' presentation of COVID-19 for some. All of which may lead to under or over estimation of deaths associated with any one setting, such as LTCFs. However, available data from a range of countries and localities (most commonly middle to high income) indicate that

older adults living in LTCFs are disproportionality affected by COVID-19. The proportion of COVID-19 deaths attributed to older adults living within LTCFs range from 88% of all deaths in Canada to 8% of all deaths in Republic of Korea. Informed by what is publicly available, mortality within LTCFs across the Asia Pacific is reported to be lower than the global average and that of the Americas and European regions in particular. Evidence regarding COVID-19 mortality and outcomes for Asian Pacific older adults receiving LTC in the community setting, including the home, is limited. An exception being the Australian Government which routinely publishes data on the number of COVID-19 cases and related deaths of adults receiving federally subsidised home-based care.

COVID-19 mortality across long-term care settings

Greater risk for older adults living in LTCFs appears influenced by age of the resident, rates of chronic illness and/or multimorbidity, communal living, and close contact between care staff and resident required to provide the necessary daily care. Institutional factors affecting risk of infection include facility design which impedes optimal social distancing and targeted isolation, staff working across multiple sites, poor governance, communication or oversight, and insufficient access to the recommended personal protective equipment and training. Many LTCFs are struggling to remain viable due to insufficient workforce, high rates of staff absenteeism, the need to self-isolate staff who are suspected or confirmed to have COVID-19 and workforce fear of exposure to COVID-19 at their workplace. Other forms of congregant living arrangements, including assisted living, independent living, and continuing care retirement communities are also at risk during a time of pandemic. Whilst these community residents may not share the health complications of those living in LTCFs they remain at risk due to living arrangements within some communities in which they may share spaces, facilities and community meals. Extrapolating from better recognised risk factors it is likely that community based older adult LTC recipients are at greater risk of disease exposure and impact due to age, frailty (specifically existence of chronic health conditions and/or multimorbidity), close or intergenerational living arrangements traditional in some Asia Pacific countries, interaction with care staff who work across settings and with a range of care recipients, and cessation of community based health and respite services in some countries.

COVID-19 mortality and informal settings

According to United Nations estimates, about 1 billion people worldwide currently live in settings described as “informal settlements”, “deprived areas” or “slums”. The often high-density living quarters coupled with a large number of persons per dwelling and the lack of adequate sanitation makes physical distancing and self-quarantine impractical, and the rapid spread of an infection highly likely amongst this population. Informal settlements are home to high numbers of homeless and destitute people who are particularly vulnerable to the direct and indirect consequences of COVID-19. High rates of pre-existing medical conditions, and inadequate access to medicines, supplies or health services place older residents at greater risk from COVID-19. Residents of refugee camps, including older adults, are at greater risk of infection due to limited access to clean water, and safe and nutritious food, and appropriate health care to prevent and manage chronic health conditions. Living arrangements are often crowded and residents are required to share common facilities which prevents enforcement of social distancing recommendations. Despite high numbers of cases within each hosting country, there has been very few cases reported of mass outbreaks within refugee camps across the World. The lack of more widespread confirmed cases in these camps has been attributed to a lack of knowledge regarding COVID-19 infection and symptoms, limited or no access to test kits and fear of further stigmatization. Further to this are anecdotal reports of resident fears that foreign aid might decrease or withdraw from the camps due to the pandemic.

Caregiving and COVID-19

COVID-19 has required family to assume increased caregiving responsibility for older adults. Long term caregivers can be paid or unpaid and may include family members, friends, neighbours, volunteers, care workers and health professionals. The COVID-19 pandemic has significantly disrupted the delivery of community-based care and respite services across most countries. This means that even greater care responsibility for people with LTC needs has been delegated to family and informal caregivers. Caregivers have

needed to take additional preventative measures to reduce risks of infection, whilst others have concurrently experienced a loss in household income. Many older caregivers are not only impacted by their care recipients' risk of exposure to the disease, but many caregivers report being in a high-risk category should they themselves be exposed to the virus. As one of the least supported groups prior to the pandemic, the circumstance associated with COVID-19, including reduced access to community and respite services and social distancing, have worsened the stressful aspects of caregiving.

Due to prevailing norms and policies, female caregivers particularly wives, daughters, and daughters in law, are expected to act as primary caregivers for older persons in Asia and the Pacific and underpin much of the care provided to older adults. Even within developed countries LTC is rarely considered with regard to gender. The social and economic costs of care are borne disproportionately by women by which older women as caregivers are overrepresented whilst concurrently less likely to receive quality LTC themselves in later life. Gender disparities exist at all ages but when women become older, the consequences of engendered roles become more explicit. Globally women are more vulnerable to poverty in old-age, due to their lower labour force participation in the formal sector throughout their adult life and reduced access to pensions (ESCAP, 2017; World Bank, 2020b). Older women are more likely to be widowed, living alone, with no income, fewer assets and fully dependent on family for support. They also tend to live with higher incidence of chronic illness or disability, poorer health status and in greater need for support in later life.

Regional COVID-19 response specific to long-term care

In many countries the LTC system was not included in early priority testing, allocation of personal protective equipment and collection of data specific to COVID-19. However, in response to high numbers of deaths observed within LTCFs, governments with more established LTC systems introduced formal mechanisms to mitigate the spread of COVID-19 amongst LTC recipients. Within LTCFs interventions have focused on reduction of morbidity and mortality among those infected; transmission minimisation; protection of workers; maintenance of care system function; and ongoing communication with all stakeholders including residents and families. Individual countries have developed their own set of policy responses, including implementing national task forces to coordinate responses, the use of disease surveillance tools to monitor outbreaks in LTCFs, deployment of rapid response teams, reducing LTCF occupancy and policies to increase the number of available LTC staff. Other responses are aimed at preventing the disease entering LTCFs including isolation of residents, restrictions or banning of visits, cancellation of group activities, restriction of staff movement, implementation of strict hand washing and sanitisation mechanisms, ongoing screening and quarantining of residents discharged from hospital upon re-entering the care home.

Tangible efforts to support community-based LTC remain lacking in most countries. Several governments have provided specific guidance for LTC provided in community-based settings. The intent is to help caregivers reduce the risk of spreading infection and provide guidance to those caring for people infected with COVID-19. The COVID-19 pandemic has led to many community services closing or operating within a reduced capacity. This can be disruptive and stressful for many family caregivers, who now have to provide longer hours of caregiving in the context of decreased psychosocial support from family and professional services. Overarching strategies within the Asia Pacific region have included a focus on the development of guidance and resources for unpaid caregivers produced by governments, advocacy and other organisations. In some Asia Pacific countries, family caregivers are able to access financial support such as a caregiver allowance or similar funding. Despite these efforts, in many other countries, there have been little or no substantial measures introduced to support older adults in receipt of informal care nor those who provide it.

Efficacy of long-term care interventions

Some countries were quicker to understand the potential implications of COVID-19 and introduce rapid infection control responses based on prior experience with pandemics. Countries that implemented specific, mandatory prevention measures targeted to the LTC sector at the same time as broader community interventions had fewer COVID-19 infections and deaths in LTCFs. Emerging evidence suggests that some countries in the Asia Pacific may have reduced the impact of COVID-19 for older LTC recipients through early action and preparedness based on prior pandemic experience (such as SARS), application of clear prevention

and response guidelines for care staff, older adults and care staff, restricted staff movement across and within LTCFs and community homes, regular temperature and symptom screening, targeted testing, daily facility and equipment sanitisation, social distancing of staff and residents where feasible, isolation of suspected or confirmed residents and staff, and appropriate use of personal protective equipment. A study into policy impact across a range of OECD countries tentatively suggested that implementation of workforce hazard payment, support staff and recruitment, funding for PPE, LTC isolation wards, testing, infection control training and audit and LTCF rapid response control and prevention teams were associated with a lower percentage of all COVID-19 deaths in LTCFs specifically. Information on effectiveness of community based LTC interventions is less developed.

Longer term implications for long-term care

LTC patterns and demand in the Asia Pacific continue to change in line with fundamental demographic, social, cultural, policy and economic change between and within countries. The longer-term impacts of COVID-19 on the LTC sector are yet to be fully realised. However, it is likely to affect public perceptions of the risk associated with LTCFs in particular and subsequent demand for different types of care. With increased global focus on older adults during the time of COVID-19 it is timely to direct future efforts to not only better understand what constitutes an effective pandemic response for older adults in receipt of diverse LTC, but to also consider the LTC system more broadly, including sustainability, breadth, appropriateness and quality of care. Drawing from and consolidating lessons learned across the international community, recommendations can be proposed that promote successful pandemic control and management, whilst concurrently considering opportunities to improve overall LTC provision for older adults in a range of settings and that which is sensitive to the available resources, sociocultural context and readiness of each country. Without robust data it is difficult to inform and monitor evidence-based responses to COVID-19. There is an urgent need for systemic information on LTC users and their caregivers, including prevalence and impact of COVID-19. This will entail greater consistency in how mortality is defined, confirmed, attributed and reported. It is also valuable to better understand social, cultural, economic and other indicators that affect the health and wellbeing of older adults specific to LTC systems into the future.

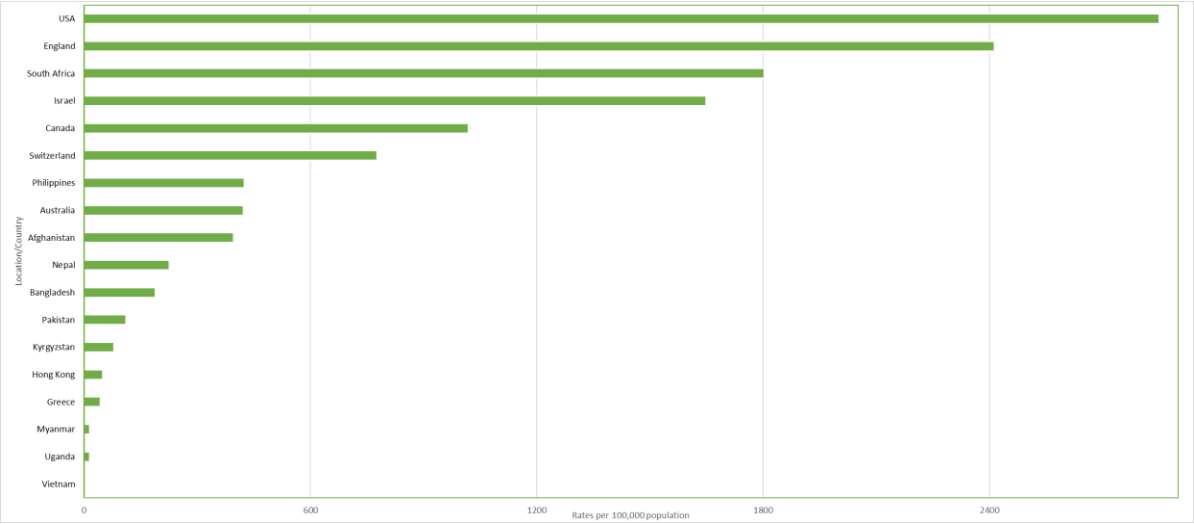
1. Older adults and COVID-19

COVID-19 is a disease caused by the new coronavirus SARS-CoV-2. The novel coronavirus SARS-CoV-19 was first detected in the city of Wuhan in Hubei Province in China late December 2019. Three months later, the World Health Organization pronounced COVID-19, the infection caused by the virus, as a global pandemic. Recent data suggest that Asia Pacific as a region has performed well with regard to reducing infection and subsequent mortality rates. The majority of new cases have been identified within India, Iran, Nepal, Indonesia, the Philippines, Bangladesh, Myanmar, Pakistan and Malaysia. Lower numbers of new cases have been reported for Japan, Sri Lanka, Republic of Korea, China, Viet Nam, Singapore, Australia, Thailand and New Zealand. India has reported the highest number of recent confirmed COVID-10 cases and deaths across the region and is second only to the United States of America (WHO, 2020f). Patterns of rates and deaths can also vary significantly within countries themselves (Hayashi, 2018; HelpAge International, 2020d). Countries across the World, each with its own unique health and social care system, have responded to the pandemic with varying containment and mitigation strategies and appear to experience differing rates of mortality (Sung & Kaplan, 2020). This can be based on intervention type, speed and breadth of response and also how COVID-19 infection and mortality is defined and recorded (for example death for people with existing chronic illness co-morbidity)(Sung & Kaplan, 2020). After correcting for the effects of age there is early evidence to suggest that underlying population health, timely identification of and care for COVID-19, preparedness of health systems and quality of care can all influence mortality risk (Ioannidis, 2020; Sudharsanan, Didzun, Bärnighausen, & Geldsetzer, 2020).

Older adults appear to be disproportionately affected by the COVID-19 pandemic (OECD, 2020c). Available outcome evidence suggests that advanced age is associated with increased severity of COVID-19 impact and mortality (Jefferies et al.; Landi et al., 2020; Leung, 2020; Lloyd-Sherlock, Ebrahim, Geffen, & McKee, 2020; Lu et al., 2020; Morley & Vellas, 2020; Z. Wu & McGoogan, 2020; Xing, Xue, & Zhi, 2020; J. Zhang et al., 2020). Susceptibility to infection for individuals under 20 years of age is approximately half that of adults aged over 20 years, and clinical symptoms may manifest in approximately 69% of infections in people aged over 70 years compared with 21% of infections in 10- to 19-year-olds (N. G. Davies et al., 2020). A general population study found that adults aged 75 years or older experienced a mortality risk 13 times greater than those aged under 65 years. However, 'healthy' older adults were at much lower risk of mortality with over one third of excess risk attributed to other factors such as poor lung function, hypertension, low hand grip strength and multiple long-term conditions (Ho et al., 2020). Amongst older people (70 years and older) reported infection fatality rates (IFR), or probability of dying from COVID-19, have ranged from 0.00% to 0.57% with median of 0.05%. The estimated age-specific IFR is very low for children and younger adults (e.g., 0.002% at age 10 and 0.01% at age 25) but increases progressively to 1.4% at age 65, 4.6% at age 75, and 15% at age 85 (Levin et al., 2020).

Population based IFRs can vary substantially across different locations within Asia Pacific countries with Japan, China (excluding Wuhan), Singapore, Iran and India reporting lower IFRs than other parts of the World. An analysis of IFR estimates across 36 studies suggest IFR for people 70 years and older were lower than 0.1% in all but seven jurisdictions including Belgium, Wuhan, Italy, Spain, Connecticut, Louisiana and New York (Ioannidis, 2020). Significant variation in age specific IFR estimates observed across locations and settings may reflect differences in population age structure, prevalence of higher risk populations (older adults and those with chronic health conditions), the extent to which more vulnerable groups were exposed to the virus, quality of care and other local factors. Older adults living in countries that have been able to implement containment and mitigation measures relatively early, appear to have fared better with regard to transmission and mortality than those living in countries for which the response was slower (United Nations, 2020). Variations in reporting of COVID-19 deaths, and diversity of study methodology and representativeness of seroprevalence studies can also limit comparability of IFRs between countries (Ioannidis, 2020; Levin et al., 2020; O'Driscoll et al., 2020). The rate of older adult death per 100,00 for a range of countries is provided in Figure 1. Of those presented rates are significantly lower for many countries within the Asia Pacific including Viet Nam, Myanmar, Hong Kong and Pakistan.

Figure 1: Older Adult Deaths* per 100,000



Source: (ICRW & APHRC, 2020) *There are variations in categories across these countries and older adult age may commence at 60, 61 or 65 years.

The impact of COVID-19 on older adults is highly dependent on location with those living in jurisdictions of outbreak being particularly at risk (HelpAge International, 2020d). Incident fatalities from COVID-19 depend on the age groups that are infected, which in turn can reflect the age structure of that population and the extent to which public health measures limit the incidence of infections among identified vulnerable age groups (Levin et al., 2020). A lower number of clinical cases and deaths in less developed countries has been attributed in part to a younger population structure. Former immunity from exposure to other coronaviruses, hygiene etiquette and lower infectious load are also factors speculated to play a role in COVID-19 mortality in some countries (Ioannidis, 2020). However, the prevalence of comorbidities, poverty, and congested living common in many low to middle income countries (LMICs) can influence disease severity (N. G. Davies et al., 2020; Ioannidis, 2020).

Greater risk of mortality or complications has also been consistently associated with pre-existing, comorbid conditions such as hypertension, cardiovascular disease, diabetes, cancer or respiratory issues (Cohen & Tavares, 2020; Jefferies et al.; Landi et al., 2020; Peter Lloyd-Sherlock et al., 2020; Lu et al., 2020; Morley & Vellas, 2020; Rajagopalan, Hurzuk, Arshad, Raja, & Alladi, 2020; Rui, Sirui, Xuebei, Xujun, & Yanggan, 2020; Xing et al., 2020; Yanover et al., 2020; J. Zhang et al., 2020). Additional risk factors identified in the literature include occupation (retirees having higher case fatality rate)(Xing et al., 2020), living in a rural area, limited access to health or social care, living in poverty (Henning-Smith, 2020), depression, cognitive and neurological disorders (Yanover et al., 2020) or living with dementia (Covino et al., 2020). Risk of infection seems greater for those providing front line care (health and aged care workers) or informal care (AIHW, 2020; Peter Lloyd-Sherlock et al., 2020). Gender norms in many countries means that women are more likely to be assuming formal or informal caregiving roles, thereby increasing their risk of exposure to COVID-19 (S. E. Davies & Bennett, 2016).

Older adults who have contracted the virus may also experience greater health vulnerabilities *post recovery*. Currently, data indicate that most people who contract COVID-19 will see a full recovery, but the long-term effects of the illness are not fully understood, particularly for patients who need more intensive care. It is probable that these ongoing complications will more likely impact older people in poorer health and more susceptible to virus-related complications. People who require the use of ventilators may experience damage to the lungs or a longer recovery period and not all will return to full functionality (Morrow-Howell, Galucia, & Swinford, 2020). Additionally, researchers are concerned that COVID-19 may be associated with cardiac injury in patients with and without prior heart problems (S. Shi et al., 2020).

Low to middle income countries (LMICs) contain 69% of the global population aged 60 years and older and where health systems are weaker, events such as COVID-19 can have the greatest impact (Peter Lloyd-Sherlock

et al., 2020). Given that older adults experience higher multi-morbidity including a greater number and severity of chronic diseases and disabilities, as well as immune dysfunction, it is intuitive that COVID-19 will affect this population to a greater extent than those younger and in better health (Cohen & Tavares, 2020; D'Adamo, Yoshikawa, & Ouslander, 2020; OECD, 2020a; Rui et al., 2020). Further to this non-communicable diseases disproportionally affect adults living in LMICs; the main types being cardiovascular diseases (heart disease or stroke), cancers, chronic respiratory diseases (such as chronic obstructive pulmonary disease and asthma) and diabetes. Of deaths attributed to non-communicable disease, over 85% are estimated to occur in LMICs (AHWIN, 2019; OECD, 2020a; WHO, 2018).

2. Long-term care and COVID-19 mortality

The LTC system for older adults across the Asia Pacific varies in formality, policy, funding, legislation, eligibility and model of delivery. Long-term care (LTC) typically comprises care and assistance with everyday tasks (including dressing, bathing, shopping, cooking and cleaning), support with social participation, and management of advanced chronic conditions. LTC facilities (LTCFs) vary in name and suite of services provided within and between countries but are those facilities that traditionally house and provide services to support people who are unable to live independently. LTCFs include nursing homes, skilled nursing facilities, assisted living facilities, residential facilities and residential long-term care facilities. LTC can be provided by unpaid or paid care staff and delivered within the home, community, or facility setting (WHO, 2020e). Many LMIC governments support or run a small number of LTCFs but they vary in admission inclusion or exclusion criteria (including level of functional impairment and dependency) and degree of support provided (P Lloyd-Sherlock et al., 2020). Although in many LMICs, religious and non-government organisations continue to provide LTC to older adults, some countries have seen an increase in privately run LTC organisations and providers. Not all LTCFs are registered or regulated and quality assurance can be weak (P Lloyd-Sherlock et al., 2020).

East Asian and Pacific jurisdictions that have more established formal LTC system, or key elements thereof, are Australia, New Zealand, Hong Kong, Japan, Korea, Singapore, and Taiwan (World Bank, 2016). LTC policies and programmes in other countries such as China, Thailand, Bangladesh, Mongolia, Viet Nam, Tonga, Pakistan, India, and the Philippines continue to develop (Balaswamy & Adamek, 2017). In many countries LTC for older adults remains a component of the broader health-care system. However, Japan and the Republic of Korea, have established LTC insurance systems, to manage financing of LTC and ensure the provision of services through a network of providers. In Japan, LTC services are now delivered through an integrated system of public, private and community providers and financed through LTC insurance as well as subsidies from national and local government bodies. In the Republic of Korea, LTC insurance encompasses both home based and institutional care and is managed by the National Health Insurance Corporation. Since the introduction of this type of insurance, there has been a noticeable increase in the availability of non-family LTC services in these countries (ESCAP, 2017, 2018).

Reliance on unpaid family caregiving underpins most LTC systems across the region. In traditional Asian-Pacific societies, the family (most commonly female family members) is a fundamental provider of LTC. In many LMICs, non-government and charitable organisations play an important role in the provision of LTC services to older adults and may be the only source of support for unpaid caregivers. Where such support is lacking or non-existent LTC responsibility will be entirely that of the family (WHO, 2020e). Some Asian countries (such as Bangladesh, China, India and Singapore) have implemented filial-support laws as a way of meeting ongoing LTC care needs of older citizens (R. Serrano, R. Saltman, & M. Yeh, 2017). In cultures where abdicating care of an older person to a LTC institution can be considered shameful, availability of such facilities is reduced. Despite increased need and cultural preference to age within the home, community based LTC services remain underdeveloped in many Asian countries (He & Chou, 2019; Zhang, Zeng, Wang, & Fang, 2020).

Nevertheless, the proportion of older persons living alone is increasing globally (UN, 2017b). This change is particularly prominent in Japan and the Republic of Korea, and to a lesser extent China, Viet Nam, Cambodia, and Indonesia (Hayashi, 2018; Woo, 2020). Rapid population ageing in the Asia Pacific region, combined with changing family patterns and gender roles, has increased demand for LTC for older adults (ESCAP, 2018). Further to this many Asian countries continue to experience ongoing demographic, social and economic

change that disrupts traditional patterns of care. Family sizes have declined, younger people may migrate to urban areas for work or education and increasing numbers of women are entering the labour force. It has also been suggested that whether the family plays a predominant role depends more on the economic status or development of a particular society (Woo, 2020). Importantly with an increasing gap between life expectancy and healthy life expectancy, LTC needs of older persons have become more complex to manage for those without sufficient training or support to do so (AHWIN, 2019; ESCAP, 2018; Manik, 2020; UNPF, 2017).

COVID-19 mortality and LTCFs

There are three main approaches to quantifying deaths in relation to COVID-19: deaths of people who test positive (before or after their death), deaths of people suspected to have COVID-19 (based on symptoms or epidemiologically linked), and excess deaths (comparing total number of deaths with those in the same weeks in previous years). Data specific to COVID-19 deaths in LTCFs are variable between countries and international comparisons are difficult due to differences in testing availabilities and policies, approaches to recording deaths, update frequency and definitions of what constitutes a "care home" (Abrams, Loomer, Gandhi, & Grabowski, 2020; Comas-Herrera, Zalakaín, Litwin, et al., 2020). The approach a country make take to determine location of death, rather than source of exposure, can also lead to an over or under estimation of mortality relevant to LTCFs (Comas-Herrera, Zalakaín, Litwin, et al., 2020; M. Salcher-Konrad et al., 2020). However available data from a range of countries and localities (most commonly middle to high income) indicate that LTCF residents are disproportionally affected by COVID-19. Older people living in LTCFs are particularly vulnerable to severe COVID-19 infections and higher rates of mortality; in some case a mortality incidence more than 13 times greater than that seen in community-living adults during a similar period (AIHW, 2020; Brandén et al., 2020; CIHI, 2020; Dosa, Jump, LaPlante, & Gravenstein, 2020; Fisman, Bogoch, Lapointe-Shaw, McCready, & Tuite, 2020; Ioannidis, 2020; United Nations, 2020; WHO, 2020e; Z. Wu & McGoogan, 2020). In countries with higher proportions of older persons living in LTCFs or similar institutions (such as Australia, Denmark and Switzerland), older adults are over 60 times as likely to die from COVID-19 than those at younger ages. Conversely, for countries with relatively low proportions of older persons living in LTCFs (such as China, Mexico and Nigeria), older persons are less than 9 times as likely to die from COVID-19 than those at younger ages (United Nations, 2020).

Based on available data from 20 countries the average share of the population living in LTCFs was 0.73%, whilst the average share of deaths of residents in LTCFs was 46% of all COVID-19 deaths (Comas-Herrera, Zalakaín, Lemmon, et al., 2020). Table 1 provides an overview of COVID-19 deaths specific to LTCFs as available. This includes countries beyond the Asia Pacific region and is predominantly that from high income countries/jurisdictions(Comas-Herrera, Zalakaín, Lemmon, et al., 2020). Within the Asia Pacific region, a higher percentage of all COVID-19 deaths linked to LTCFs has been reported in Australia (75%), New Zealand (64%), and Hong Kong (29%). Singapore (11%) and Republic of Korea (8%) have experienced fewer deaths associated with LTCFs. Indicative data for Japan (not presented in this table) suggest that approximately 14 percent of all COVID-19 related deaths have been linked to LTCFs (Taylor, 2020). The share of all LTCF residents who have died (linked to COVID-19) ranges from 0.01% in Republic of Korea to over 4% in Belgium, Ireland, Spain, the United Kingdom and the United States. Although available evidence suggests that many LTCFs across Asian countries have adopted strategies to manage infection, the ability to respond in an optimal manner can be impeded by available resources, infrastructure and external support (Rajagopalan et al., 2020). Many LTCFs are not designed to effectively isolate residents or provide care necessary for serious respiratory illnesses (Gardner, States, & Bagley, 2020). This situation is further exacerbated by inadequate supplies of masks and other personal protective equipment (PPE) for care workers, insufficient training on proper sanitary practices and infection protocol, and systems that rotate staff among multiple LTCFs (AHWIN, 2020).

Table 1: Number and % of COVID-19 Deaths associated with LTC population and/or settings

Country	Total number deaths linked to COVID-19*	Number of LTC resident deaths *linked to* COVID-19 (place of death may not be in LTCF)	Number of deaths *within* LTC settings	Number of LTC resident deaths as % of *all COVID-19 deaths*	Deaths attributed to COVID-19 as % of all care home/residents/beds
Australia	898	677	-	75	0.32
Austria	771	276	-	36	0.40
Belgium	10,175	6249	4892	61	5.0
Canada	9,319	7411	-	88	1.74
Denmark	663	232	-	35	0.58
Finland	346	-	145	-	0.29
France	32,365	14955	10785	46	2.47
Germany	9,615	3752	-	39	0.46
Hong Kong	105	30	0	29	0.04
Hungary	612	142	-	23	0.26
Ireland	1,748	-	985	-	-
Israel	1,824	704	-	39	1.56
Jordan	9	0	0	0	-
New Zealand	25	16	-	64	0.04
Norway	276	-	145	-	0.37
Singapore	27	3	0	11	0.02
Slovenia	149	121	78	81	0.53
Republic of Korea	336	27	0	8	0.01
Spain	32,929	20649	-	63	6.18
Sweden	5,863	2714	2646	46	3.30
England (UK)	49,982	22287	14850	45	5.24
Wales (UK)	2,575	745	707	29	3.13
N. Ireland (UK)	900	437	356	49	2.93
Scotland (UK)	4,236	1997	1966	47	5.55
United Kingdom	57,693	25466	17879	44	5.09
United States	199,509	82105	-	41	4.24

*For some countries the national total number of COVID-19 related deaths only refers to confirmed deaths, so the national figures may be an underestimate as, particularly in the early part of the pandemic, people who died outside hospitals were not tested. The number of deaths was correct at time of the analysis. The data represent that identified by the authors as at 14th of October 2020 (Comas-Herrera, Zalakaín, Lemmon, et al., 2020; Ma'u, Robinson, Cheung, Miller, & Cullum, 2020)

The combination of older, chronically multimorbid people, living in close proximity to each other has contributed to this population being particularly vulnerable to the COVID-19 pandemic (Abrams et al., 2020; Brandén et al., 2020). High-risk individuals combined with congregant living arrangements, typically shared rooms, lead to both high transmission risk and high risk for severe COVID-19 symptoms, hospitalizations, and deaths (Coe & Van Houtven, 2020). Thus it is not surprising that older adults residing in LTCFs living with multimorbidity have the greatest susceptibility to COVID-19, as well as the poorest outcomes from this infection (D'Adamo et al., 2020; Jefferies et al., 2020). Many aspects of LCTFs make them conducive to rapid spread of infectious disease including cohabitation in confined spaces, communal meals and group social activities. They are also more likely to share the same food, water and other facilities with staff and fellow residents (Dosa et al., 2020; Gardner et al., 2020; T. Kim, 2020; C.-C. Lai et al., 2020). Issues such as crowding, use of communal space and low staffing ratios are also recognised as enablers of outbreaks in the LTC facility setting (Gardner et al., 2020). Single rooms are few and meant for immuno-compromised residents or isolation of those with infectious diseases (Wee & Yap, 2020). Transfers of residents who may have been exposed to

infection are not readily accepted by other hospitals, owing to inadequate facilities for quarantine combined with fear of broader contamination (T. Kim, 2020).

LTCF resident characteristics, including functional or cognitive impairment, require close contact between caregivers and residents and limit the potential for social distancing and isolation interventions (Dosa et al., 2020; Gardner et al., 2020; C.-C. Lai et al., 2020). Many residents are incapable of practicing the levels of personal hygiene required to minimise transmission (Gardner et al., 2020). Maintaining the same LTC staff for a smaller group of residents within a single or limited setting has the advantage of reducing the risk of cross-infection during an outbreak (Gardner et al., 2020). It has also been suggested that infection in LTCF staff, as opposed to residents, is a strong identifiable risk factor for mortality in residents, by which residents are more likely to be infected by staff and not vice versa (Fisman et al., 2020). Many LTCFs are struggling to remain viable due to staff sickness and self-isolation measures. Recommendations such as increased sick leave, training, hiring or replacement staff are not a possibility for all LTCFs in LMICs (Comas-Herrera, Zalakaín, Litwin, et al., 2020; Gardner et al., 2020). Fear of COVID-19 can result in staff absenteeism increasing the risk of poor resident outcomes due to neglect, dehydration and lack of necessary critical health care (Fisman et al., 2020). Early anecdotal evidence suggests that cessation of family visits and associated monitoring of resident wellbeing can further exacerbate risk of poor quality care or neglect in LTCFs (Gardner et al., 2020).

Other forms of congregant living arrangements, including assisted living, independent living, and continuing care retirement communities are also at risk during a time of pandemic (Coe & Van Houtven, 2020). Amenities and support within these settings are more heterogeneous than the more regulated LTCFs with marked differences in staffing levels and their training, policies and procedures. Whilst these community residents may not share the health complications of those living in LTCFs they remain at risk due to living arrangements through which they may share spaces, facilities and community meals. Assisted living settings are generally not staffed nor equipped to provide the type of care that LTCFs can provide and external service providers and care staff working across sites can introduce further risk (Coe & Van Houtven, 2020; Dosa et al., 2020).

COVID-19 mortality and community based LTC

The definition of LTC community-based services varies by country although can be defined as services that are provided in non-residential care centres either in one's home or through services in the community, such as adult day centres. Formal community-based care services are an important component of the LTC system in many countries (Dawson, Ashcroft, Lorenz-Dant, & Comas-Herrera, 2020). Recipients and providers of LTC in the community represent a group that is potentially highly vulnerable to infection and severe outcomes. Health and other care workers have been greatly affected by the pandemic due to high risk of contamination, lack of adequate equipment (masks, hand sanitizer and screening tests), lack of access to necessary health care, and a deterioration of working conditions for some (Giordano, 2020). Care providers may come into contact with service users who are infected with COVID-19, who are part of a household with infected or suspected members, or who have been placed into isolation/quarantine (Chan, Gobat, Hung, & al., 2020).

Reducing the spread of COVID-19 whilst ensuring continuity of necessary care in the community is particularly challenging (Chan, Gobat, Hung, et al., 2020; Dawson et al., 2020). Living in neighbourhoods with high population density (common in many LMICs) has been associated with higher COVID-19 mortality compared with living in the least densely populated neighbourhoods (Brandén et al., 2020). The dispersed nature of community-based care suggests that direct governmental action and oversight may be more difficult to provide than for LTCFs (Dawson et al., 2020). Further, many LTC workers provide services to multiple people across multiple settings. This increases the risk of the spread of infection amongst caregivers and the individuals they support (Dobbs, Peterson, & Hyer, 2020). The recipients of community based LTC, often older people and/or those with chronic conditions or disabilities, in itself necessitates additional precautions to minimise exposure. Older adults living within larger households, as often the case within Asia Pacific countries, experience additional risk due to enforced social distancing including school closures or family members not able to participate in work outside of the home (HelpAge International, 2020d).

Despite the number of older people who receive LTC in the community, and the potential risks associated with this care, evidence on the impact of COVID-19 on older adults accessing, and caregivers providing, formal community based LTC is scarce (Comas-Herrera, Zalakaín, Lemmon, et al., 2020; M. Salcher-Konrad et al., 2020; WHO, 2020e). Australia is one of the only Asia Pacific countries identified that routinely publishes data on the number of COVID-19 cases and related deaths of adults receiving Australian Government subsidised care in their own home. As at November 4 there were 81 cases, of which eight older adults died; representing 0.8% of all COVID-19 deaths nationally in comparison with 685 or 76% of deaths occurring in LTCFs in this country. The majority of these cases and deaths have occurred in the state of Victoria (Australian Department of Health, 2020a).

COVID-19 mortality and other informal settings

According to United Nations estimates, about 1 billion people worldwide currently live in settings described as "informal settlements", "deprived areas" or "slums" (United Nations, 2016). Informal settlements are ill prepared for pandemics due to poor access to clean water, toilets, sewers, drainage, waste collection, and secure and adequate housing. The often high-density living quarters coupled with a large number of persons per dwelling makes physical distancing and self-quarantine impractical, and the rapid spread of an infection highly likely amongst this population. Informal settlements are home to high numbers of homeless and destitute people particularly vulnerable to the direct and indirect consequences of COVID-19. High rates of pre-existing medical conditions are further exacerbated by inadequate access to medicines, supplies or health services during times of pandemic (HelpAge International, 2020f). The economic vulnerability of older people and their families in informal settlements can be further entrenched by COVID-19 restrictions, including limited community movement (Buckley, 2020; Corburn et al., 2020). Infection case testing and tracking is notably lacking for this population (Friesen & Pelz, 2020).

Residents of refugee camps, including older adults, are similarly at greater risk of infection due to limited access to clean water, and safe and nutritious food, and appropriate health care to prevent and manage chronic health conditions (Kassem, 2020). Living arrangements are often crowded and residents are required to share common facilities which prevents enforcement of social distancing recommendations. Broader community competition for PPE, disinfectants, soaps and tests introduces increased challenges for camp residents (Kassem, 2020). Despite high numbers of cases within each hosting country, there has been very few cases reported of mass outbreaks within refugee camps across the World. Within the Asia Pacific region, the first case of COVID-19 has been confirmed in Cox's Bazar, Bangladesh nearby to refugee camps which are home to the Rohingya who fled persecution in Myanmar. Bangladeshi healthcare workers have expressed concerns increased pressure of available health services, lack of test kits and challenges of physical distancing. (Raju & Ayeb-Karlsson, 2020). The lack of more widespread confirmed cases in these camps has been attributed to a lack of knowledge regarding COVID-19 infection and symptoms, limited or no access to test kits and fear of further stigmatization. Further to this are anecdotal reports of resident fears that foreign aid may decrease or withdraw from the camps due to the pandemic (Kassem, 2020).

3. Caregiving and COVID-19

Caregivers can be paid or unpaid and may include family members, friends, neighbours, volunteers, care workers and health professionals. The risks associated with caregiving are bi-directional in that those who provide care to older adults may themselves be exposed to COVID-19 whilst also inadvertently transferring the infection to others for which they provide care. The distinction between paid care workers and unpaid family caregivers is not always clear. Family caregivers may receive cash or similar benefits from the state or through LTC insurance schemes. Conversely, some care workers in institutional settings, such as community or faith-based LTCFs, may be volunteers and not receive any remuneration (UN Women, 2017). The paid workforce providing LTC in both community and LTCFs is highly diverse, ranging from domestic workers with little formal education working in private homes to highly trained geriatric care professionals in hospitals and LTCFs. Although some more qualified caregivers receive adequate remuneration in some settings, most LTC workers, predominantly women, are paid poorly in comparison to other professionals (UN Women, 2017).

There is limited information published exploring how the pandemic continues to impact *family or other unpaid caregivers*. The COVID-19 pandemic has significantly disrupted the delivery of community-based care and respite services across most countries. This means that even greater care responsibility for people with LTC needs has been delegated to family and informal caregivers (Lorenz-Dant, 2020). In such population-wide public health emergencies, home care can be the only option for people in low-income and resource constrained settings who do not have ready access to alternative health or social support (Chan, Gobat, Hung, et al., 2020). Available data has indicated increased pressure on family to assume greater caregiving responsibility in response to COVID-19. Caregivers have needed to take additional preventative measures to reduce risks of infection, whilst others have concurrently experienced a loss in household income (Rajagopalan et al., 2020). There persists an assumption that family caregivers possess the appropriate level of health literacy, disease knowledge, psychological readiness, and medical care abilities to provide care to older adults in the community (Chan, Gobat, Kim, et al., 2020). Many older caregivers are not only impacted by their care recipients' risk of exposure to the disease, but many caregivers report being in a high-risk category should they themselves be exposed to the virus (Brennan, 2020). As one of the least supported groups prior to the pandemic, the circumstance associated with COVID-19, including reduced access to community and respite services and social distancing, have worsened the stressful aspects of caregiving (Dawson et al., 2020).

Paid LTC workers predominantly comprise nurses and personal care workers; the overwhelming majority of which are women in OECD countries (OECD, 2020c). In Japan and the Republic of Korea, the introduction of LTC insurance has contributed to a dramatic increase in personnel engaged to provide this care. While the increasing demand for LTC provides employment opportunities this work is often poorly remunerated and linked to vulnerable working conditions (ESCAP, 2017). LTC workers are more likely to be female, foreign born working in roles with low entry requirements yet asked to meet often complex care demands for which they may not be adequately trained or supported (OECD, 2020c). Reliance on LTC workers from other countries can also vary across the Asia Pacific. For example in Japan, only 0.6 percent of the LTC workers are foreign citizens, while in Australia, 45 percent of LTC workers are foreign born (AHWIN, 2019). During times of pandemic, frontline long-term and other care workers are at high risk of infection (M. H. Lee, Lee, Lee, & Park, 2020)

In 2018, the International Labour Organisation (ILO) estimated that over two billion (61.2%) of the world's employed population is informal *Unregistered or informal workers* make up an estimated 78 percent of the total working population in Southeast Asia while women comprise the majority of the informal sector in Myanmar, Laos, Cambodia, the Philippines, and Indonesia (ILO, 2018; Shaikh, 2020). Women from these five countries also account for a significant portion of the domestic workforce in the rest of the Asia Pacific. Informal workers are excluded from legal and contractual protections of formal workers and are particularly vulnerable to the economic impacts of COVID-19 (J. Lai, 2020; Shaikh, 2020). The Philippines and Indonesia are primary providers of caretakers in Hong Kong and elsewhere, but until recently, travel restrictions limited economic opportunities for mostly female foreign domestic workers. Filipinos and Indonesians make up the bulk of Hong Kong's foreign domestic workers (Carvalho, Chueung, & Siu, 2020). A lack of regulatory, policy, and legislative structure to reach informal workers in the region limits the ability of governments to provide relief and take measures to restore basic livelihoods for informal workers. The situation of foreign live-in caregivers, who are also main income earners for the family, places them in a particularly difficult position in which they seek to maintain family and care obligations from abroad whilst continuing paid work for another family (Giordano, 2020).

Due to prevailing norms and policies, *female caregivers* particularly wives, daughters, and daughters in law, are expected to act as primary caregivers for older persons in Asia and the Pacific and underpin many LTC systems. Even within developed countries LTC is rarely considered with regard to gender. Currently, the social and economic costs of care are borne disproportionately by women by which older women as caregivers are overrepresented (and often exploited) whilst concurrently less likely to receive quality LTC themselves in later life (UN Women, 2017). Gender disparities exist at all ages but when women become older, the consequences of engendered roles become more explicit. Globally women are more vulnerable to poverty in old-age, due to their lower labour force participation in the formal sector throughout their adult life and reduced access to pensions (ESCAP, 2017; World Bank, 2020b). Older women are more likely to be widowed, living alone, with no income, fewer assets and fully dependent on family for support (UNPF, 2017). They also tend to live with

higher incidence of chronic illness or disability, poorer health status and greater need for support in later life (Australian Institute of Health and Welfare, 2018; He & Chou, 2019).

4. Regional COVID-19 response specific to long-term care

At a population level government measures are primarily intended to slow or prevent epidemic spread, reduce pressure on existing health systems and respond appropriately to those in need of medical response. In the absence of a vaccine, management is mainly dependent on effective public health measures to mitigate spread and to flatten the pandemic curve. These measures include limited travel, border closures, bans on public gatherings, compulsory stay-at home policies, mandating closures of schools and nonessential business, use of face masks or other PPE and selective quarantine (Chang, Harding, Zachreson, Cliff, & Prokopenko, 2020; Lim et al., 2020). These can also include a focus on reducing the number of interactions between individuals and ensuring physical distancing measures are used when interactions are unavoidable. Alongside prevention measures, a vital component of the public health response is isolation of cases and quarantine of cases' contacts or others at high risk, to stop transmission of the virus (Chang et al., 2020). For example in China, those identified with COVID-19 were immediately isolated in designated wards in existing hospitals, and two new hospitals were rapidly built to isolate and care for the increasing numbers of cases in Wuhan and Hubei. People who had been in contact with COVID-19 cases were asked to quarantine themselves at home or were taken to special quarantine facilities, where they could be monitored for onset of symptoms (Z. Wu & McGoogan, 2020). Individuals are further encouraged to adhere to population-wide measures and to introduce their own infection risk management strategies such as handwashing or sanitising, not touching the face, good respiratory hygiene, staying home when unwell, getting tested if necessary, and following physical distancing measures. Such interventions are mandated across countries through varying degrees of rigour from reliance on a sense of civic responsibility through to advisory notices fines, or laws (Chang et al., 2020).

LTC facility based COVID-19 response

In many countries, LTC was not a priority in the early stages of the pandemic. However, in response to high numbers of deaths observed within LTCFs, governments with more established formal LTC systems subsequently established guidelines and other support measures to mitigate the spread of COVID-19 within LTCFs and to a lesser degree to community based LTC recipients. Within LTCFs, interventions have focused on reduction of morbidity and mortality among those infected; transmission minimisation; protection of workers; maintenance of care system function; and ongoing communication with all stakeholders including residents and families (Dosa et al., 2020). Individual countries have developed their own set of policy responses, including implementing national task forces to coordinate responses, the use of disease surveillance tools to monitor outbreaks in LTCFs, deployment of rapid response teams, reducing LTCF occupancy and policies to increase the number of available LTC staff. Other responses are aimed at preventing the disease entering LTCFs including isolation of residents, restrictions or banning of visits, cancellation of group activities, restriction of staff movement, implementation of strict hand washing and sanitisation mechanisms, ongoing screening and quarantining of residents discharged from hospital upon re-entering the care home (Dosa et al., 2020; T. Kim, 2020; S. H. Lee, Son, & Peck, 2020; M. Salcher-Konrad et al., 2020; Wang, Qi, Zhou, & Zhang, 2020).

The Korean National Health Insurance Service (the insurer of public LTC) released a response manual for welfare and LTC organisations in February 2020. Containment measures within Korean LTCFs include site monitoring, resident quarantining, identification of high risk staff and visitors, targeted screening, and stringent personal hygiene measures for staff and residents (H. Kim, 2020). A LTC hospital intervention included care worker quarantining, widespread testing, and resident transfer or isolation (S. H. Lee et al., 2020). One Korean study described strategies including resident and staff testing, contact tracing, PPE use, quarantine, repositioning beds to support social distancing, restricted staff movement within the LTCF and frequent sanitation. Selected residents and staff were also isolated at home or together. A facility wide quarantine was upheld for 14 days during which nurses and nurse assistants voluntarily agreed to be quarantined in the LTCF to continue resident care (T. Kim, 2020). LTCF responses in Japan included the development of a disease prevention manual, restricted or temporary suspension of access to LTCFs in regions where infection was prevalent, and implementation of stricter hygiene practices, staff and visitor health

screening and limited resident visitation. It is suggested that Japan responded more immediately to the threat of COVID-19 in LTCFs in comparison with Western countries. This has been attributed to cultural respect for older adults, and existing high standards of hygiene and infection control (Denyer & Kashiwagi, 2020).

Within Malaysia LTCF interventions have included early mass testing (since ceased) and adoption of strict infection control measures including restricted resident visitation and transfer. Many staff in Malaysian LTCFs have also elected to temporarily move in to better self-quarantine during this time (Hasmuk et al., 2020). The Malaysian Government provided cash disbursement to individual LTCFs as part of a broader welfare package (Povera, 2020). Despite this, issues continue with poor access to basic PPE and physical distancing due to confined space (Hasmuk et al., 2020). Singapore's overall LTCF sector response has been guided by the Disease Outbreak Response System Condition (DORSCON) framework and the 2018 National Infection Prevention and Control Guidelines for Long Term Care Facilities. Early on targeting screening was introduced for visitors and staff, and movement of staff between facilities was curtailed and traced. Resident visitation is restricted and PPE provided to facility staff as needed. The creation of independent zones to minimise interaction between staff and residents was made mandatory mid April 2020 and staff communication conducted through non face- to- face mechanisms where possible. Where a positive case is identified, the resident is transferred to an acute hospital for care and undertakes a system of post-identification sanitation, communication and management. A small number of designated centres remained open for older adults without alternative caregiving arrangements requiring intensive care (Graham & Wong, 2020). Within Kannur, in Southern India, the district government operated LTCF involved residents in a novel in-house hand wash production facility to manufacture hand wash for their own use and that of other organisations across the state (Moonakal, Jayaram, & Lloyd-Sherlock, 2020).

New Zealand LTCF operators were advised to act in line with national guidance with regard to prevention and control of outbreaks in LTC settings, including visitation and service restriction. Most residents with confirmed COVID-19 were transferred to hospital. To respond to staff shortages, registration and training was fast tracked or scaled up (Ma'u et al., 2020). Hong Kong LTCF responses included regular environment sanitation, suspension of non-essential visitation, quarantining (where feasible) and transfer to an isolation facility for some residents. Funding was allocated to enable LTCFs to purchase PPE and sanitising equipment as well as allowances specific to workforce support and/or social care provision. All LTCFs received face masks for their staff (K. Wong, Lum, & Wong, 2020). Within China, LTCFs have been supported with provision of guidance on prevention and control of infection, establishment of sector steering committee, implementation of an information technology system to support data sharing and communication, provision of essential PPE equipment and other necessary resources. Site visitation and group activities were suspended, and regular health checks and use of PPE were introduced. Residents were expected to be isolated within those facilities that had capacity to do so (Shi, Hu, Feng, & Wong, 2020).

Australian interventions in LTCFs encompassed federal funding to support aged care workforce upskilling, leave arrangements, surge staffing needs and retention. Commonwealth action also entailed the production of national guidelines and provision of necessary PPE across the sector. LTCF based responses included restricted visitation, social distancing, isolation of unwell residents, increased hand and facility sanitation and the use of PPE during routine care of residents (Charlesworth & Low, 2020). Under certain circumstances and in line with formal guidelines, LTCF residents are able to take leave from the facility and relocate to their family or other home for care during the COVID-19 period in many Australian states (Victorian Health and Human Services, 2020). The Victorian state health department have also recently proposed regular asymptomatic testing or other surveillance of all staff working in residential aged care facilities from October 2020 (Victorian Health and Human Services, 2020).

Globally and region specific LTCFs guidelines, checklists and other resources have been produced. These include *COVID-19 Infection Prevention and Control: Preparedness Checklist for Long-Term Care Facilities* (WHO, 2020b); *Infection prevention and control for the safe management of a dead body in the context of COVID-19* (WHO, 2020c); *Communication Toolkit for Long-Term Care Facilities: Communication Toolkit for Long-Term Care Facilities* (WHO, 2020a). The COVID IAGG Asia Oceania Regional Group produced a draft consensus guideline regarding the prevention of COVID-19 infection in the older adults of the Asia-Oceania region

(*COVID-IAGG-AO*) (Chhetri et al., 2020). The American Geriatrics Society also produced a policy brief: *COVID-19 and Nursing Homes* (American Geriatrics, 2020).

LTC community based COVID-19 response

Tangible efforts to support community-based LTC are still lacking for most countries (Dawson et al., 2020). Prevention of COVID-19 transmission within the community LTC sector can directly influence the risk for older adults in LTCFs. This is because staff working across sectors remain vulnerable to catching the virus and inadvertently spreading it within a LTCF (L. F. Tan & S. K. Seetharaman, 2020). Several governments have provided specific guidance for LTC provided in community-based settings. The intent is to help caregivers reduce the risk of spreading infection and provide guidance to those caring for people infected with COVID-19 (Dawson et al., 2020). Although some countries have significantly reduced access or delivery of LTC community based services others have adapted the way they provide these supports to minimise the spread of COVID-19 whilst ensuring continuity of necessary care within the community (Dawson et al., 2020). For example, in Hong Kong Day care centres have suspended their services but remain open to those with particular needs. Centre staff may continue to offer social and emotional support by telephone. All essential home support services for older adults have continued but adaptations have been made including the use of disposable containers for meal provision and cessation or reduction in non-essential services. A number of non-government organisations have also assumed increased responsibility for the provision of emergency support, PPE and other essential supplies and social, creative and cognitive stimulation for older community dwelling adults (K. Wong et al., 2020).

The Korean Ministry of Health and Welfare recommended the closure of social welfare facilities from later February 2020. Care services such as meals and monitoring of welfare are encouraged to be delivered within the home of the older adult rather than ceased all together (H. Kim, 2020). The Republic of Korea has also taken steps to address worker shortages by seeking volunteers and paying family members to provide the necessary care to older adults care at the same wage as professional caregivers after they receive two hours of training (Lyu, 2020). Within China, all community-based service facilities have been suspended to comply with social distancing recommendations. Older adults who live alone with intensive care needs, or who do not have access to informal care have been provided with home based service or temporary residential care (C. Shi et al., 2020). Within Australia community-based care organisations have ceased non-essential group activities or services. Home care providers have also been able to redirect funds to better meet the needs of clients and to apply for government grants where necessary to continue service operations. Workforce support and retention incentives have been introduced to support all aged care workers, including those providing care in the community. A range of other non-government organisations such as “Meals on Wheels” have been allocated additional funds to meet increase in community demand (Charlesworth & Low, 2020). Other countries, such as Malaysia or Indonesia, have less developed responses to support the continuation of LTC to older adults living in the community (Hasmuk et al., 2020; Sani, Tan, Rustandi, & Turana, 2020). Within Malaysia, demand for private nursing or care providers continues but is unregulated and dependent on the individual providers themselves to determine their willingness and ability to provide such care at this time (Hasmuk et al., 2020).

The *Society of Community Health Oriented Operational Links* (SCHOOL) has been providing care to 180,00 older adults living in informal settlements or “slums” within India. SCHOOL in collaboration with Pune Municipal Corporation (PMC) and the World Health Organization initiated this work in 40 slums of Pune city. This care encompasses a comprehensive, community-based emergency response plan with a focus to protect vulnerable older adults in these settings. The process entailed identification and training of ‘peers’ that reside in each slum; introduction or upscaling of tele-health service provision (both counselling and consultations); implementation of a system to identify and manage the provision of basic supplies (raw ration, hygiene products for standard precaution, medicines, multi-vitamins, adult-diapers and other life sustaining items) and creation of an individual care plan based on ‘Saving Life Checklist’ for older adults with chronic illnesses. The society was also responsible for the rapid training of 3,278 health and front line workers on various aspects of the COVID-19 management and response (SCHOOL, 2020).

LTC informal or family-based response

The cessation or reduction of community LTC services has been disruptive and stressful for many family caregivers, who now have to provide longer hours of caregiving in the context of decreased support. The behaviours of persons of dementia may also be worsened due to disruption of usual routine and prolonged periods indoors (Lim et al., 2020). Overarching strategies within the Asia Pacific region have included a focus on the development of guidance and resources for unpaid caregivers produced by governments, advocacy and other organisations. These documents usually capture information on hygiene measures to prevent a COVID-19 infection, advice on how to respond if the person receiving and/or providing care develops COVID-19 related symptoms but also on how unpaid caregivers may be able to support the specific needs of the person they care for, maintain meaningful activities and minimise the impact of social isolation. HelpAge International has also produced resources for family caregivers to promote their own wellbeing and that of those they care for (HelpAge International, 2020a, 2020b).

In some Asia Pacific countries, family caregivers are able to access financial support such as a caregiver allowance or similar funding. People with LTC needs may also access paid domiciliary caregivers, respite or day care interventions (Lorenz-Dant, 2020). Within New Zealand, government funding guidelines have been temporarily relaxed for caregivers, including the ability to pay resident family members (Ma'u et al., 2020). Within Malaysia an existing financial assistance programme supports some informal caregivers but as the cash transfer programme targets poor or lower income households, most unpaid caregivers receive only receive tax relief to offset the healthcare costs incurred by the care recipient (Hasmuk et al., 2020). Japan has offered payments to all citizens as part of their economic stimulus packages, which may help offset some of the economic burden of care (AHWIN, 2020). Within China, family caregivers have access to psychological support services and interdisciplinary health professionals for those with confirmed, suspected or treated COVID-19 and their families in some regions (C. Shi et al., 2020). Despite these efforts, in many other countries, there have been no substantial measures introduced to support older adults in receipt of informal care nor those who provide it (Hasmuk et al., 2020; HelpAge International, 2020d; Sani et al., 2020). There is also limited information on the experience of informal caregivers at this time (Rajagopalan et al., 2020).

5. Efficacy of LTC interventions

In many countries the LTC system for older adults is not the responsibility of a single government department and quite often national, regional and local governments are also involved in their management and governance. In many countries LTCFs were not included in early priority testing, allocation of PPE and collection of data specific to COVID-19. A number of countries have encountered problems in coordinating an effective response to COVID-19 in LTCFs and have created National Taskforces or similar to bring together different government departments and levels and representatives from relevant bodies. In the absence of sufficient evidence as to determine impact and efficacy of interventions specific to LTC services, it is necessary to identify aspects of promising practice. The combination of case isolation, quarantine, widespread use of face masks and social distancing for older adults and those with comorbidity appear amongst the most effective epidemic mitigation behaviours (Ferguson et al., 2020; Morley & Vellas, 2020; Nanda, Vura, & Gravenstein, 2020; Park et al., 2020). It is important to note that whilst social distancing can reduce COVID-19 incidence and prevalence, population compliance must be at a rate of 80% or higher (Chang et al., 2020).

A summary of measures that may play a role in the containment of COVID-19 outbreaks within LTCFs include early detection and rapid response after detection of a case, systematic testing of all residents and staff, transferring infected or suspected cases to an alternative location or isolation within the LTCF, and appropriate use of PPE (CIHI, 2020; M Salcher-Konrad & Comas-Herrera, 2020). A modelling study comparing Europe, UK and China strategies also suggested that LTCF based isolation, as adopted in China, appeared to be more effective than home-based isolation at reducing household and community transmission (in some cases due to issues with compliance within the home setting)(Dickens, Koo, Wilder-Smith, & Cook, 2020). A study into policy impact across a range of OECD countries tentatively suggested that implementation of workforce hazard payment, support staff and recruitment, funding for PPE, LTC isolation wards, testing, infection control training and audit and LTCF rapid response control and prevention teams were associated with a lower percentage of all COVID-19 deaths in LTCFs (for this study these countries included Australia, Austria and Slovenia) (CIHI,

2020). Countries that implemented specific, mandatory prevention measures targeted to the LTC sector at the same time as broader community interventions (Australia, Austria, the Netherlands, Hungary, Slovenia) had fewer COVID-19 infections and deaths in LTCFs (CIHI, 2020).

In Hong Kong, prior to July, effective interventions introduced into the LTCFs included strict hand hygiene, near 100% compliance of mask wearing amongst staff, prohibition of visitors including reducing the frequency of on-site physician visits (Shea et al., 2020). Within the Republic of Korea successful containment of outbreaks in LTC hospital settings was attributed to early identification of potential cases, testing and rapid quarantine (T. Kim, 2020; S. H. Lee et al., 2020). In addition, care workers who were considered to have been in close contact with cases were quarantined at home, whilst those who continued to work were temporally housed in a hotel (S. H. Lee et al., 2020) or voluntarily moved into the LTCF (T. Kim, 2020). Quarantine measures were maintained for two weeks. Although the evidence is observational only and findings are to be interpreted with caution, patients and staff administered hydroxychloroquine as post-exposure prophylaxis did not develop COVID-19 in the LTC hospital setting (S. H. Lee et al., 2020). A study into the Indian response suggested that LTCFs in India ceased all visitors and other non-essential contact, decongested the facility by sending some residents to stay with relatives; and provided care workers with temporary accommodation in the homes themselves. Daily sanitisation of the facility and all food items was also undertaken (Panchamia & Mavalankar, 2020). A study of 17 French nursing homes in which 794 staff confined themselves to the facility with their 1250 residents found that COVID-19 mortality rates were lower among those LTCFs that implemented staff confinement with residents compared with those in a national survey. These findings suggest that self-confinement of staff members with residents may help protect LTCF residents from infection and mortality related to COVID-19 (Belmin et al., 2020). The success of the intervention was heavily reliant on voluntary investment of staff and managers and may not be readily adopted across other LTCFs (Belmin et al., 2020).

Some countries were quicker to understand the potential implications of COVID-19 and introduce rapid infection control responses based on prior experience with pandemics such as severe acute respiratory syndrome (SARS) in 2003 (LASA & ACSA, 2020; J. E. L. Wong, Leo, & Tan, 2020; Xing et al., 2020). This includes a greater social collective awareness for those countries most affected in the past. It has been suggested that the public may be better prepared to respond to pandemic intervention strategies, including front line care staff who feel sufficiently equipped and trained to work under these contexts (LASA & ACSA, 2020). For example, since the SARS outbreak Singapore has been systematically strengthening its ability to manage another emerging infectious disease outbreak (J. E. L. Wong et al., 2020). These include the construction of a new National Centre for Infectious Diseases and National Public Health Laboratory; introduction of the Disease Outbreak Response System Condition (DORSCON) system; significant expansion in the number of negative-pressure isolation beds throughout the public hospital system; stockpiling of PPE and masks; establishment of formal platforms for multi-Ministry and cross-agency coordination; development of a strong capability to perform contact tracing quickly and at scale; training of health professionals including in the correct use of PPE; and building additional biosafety laboratories. In addition, as part of Singapore's major investments in biomedical science and clinical research and translation capabilities, a significant focus has been placed on building expertise in infectious diseases specifically (J. E. L. Wong et al., 2020). It has also been suggested that for some Asian countries, such as Singapore and Viet Nam, a culture of compliance and acceptance of surveillance and monitoring during times of crisis, has supported more ready adoption of population based measures such as wearing of face masks and social distancing (Han et al.; Searight, 2020).

Effectiveness of responses can be impacted by lack of leadership and communication amongst the relevant agencies responsible for emergency response and interagency operations. Adequate staffing during the COVID outbreak has continued to be a major issue for many countries. In some cases, the depletion of staff numbers was exacerbated because of poor quality or incorrect use of PPE (Charlesworth & Low, 2020; Ma'u et al., 2020). LTC Staff pay and living conditions may be an important barrier to effective infection controls, particularly if staff do not have access to sick pay, need to work across multiple facilities or may live in crowded accommodation (Comas-Herrera, Ashcroft, & Lorenz-Dant, 2020). It is important that guidance is reviewed and updated regularly to incorporate emerging evidence on COVID-19 and that staff are trained accordingly (AHWIN, 2020). LTC staff who are responsible for a large number of LTC recipients, whilst working with insufficient PPE and reduced peer support due to staff shortages may struggle to comply strictly with

recommended infection control precautions. It is also the case that not all LTCFs are appropriately equipped to isolate at risk or unwell residents for which alternative accommodation may be required (Comas-Herrera, Ashcroft, et al., 2020).

6. Impact of COVID-19 on LTC access, quality and acceptability

Strategies designed to respond to COVID-19 for older adults have introduced social isolation, disruption of routine health or aged care, poor access to accurate and up to date information, increased burden of caregiving and economic uncertainty (WHO South East Asia & Indian Institute of Public Health Gandhinagar, 2020). The full impact of COVID-19 on LTC access, quality, delivery and public perception is yet to be fully realised. Some studies have already suggested an early effect on community perception and willingness to engage with formal LTC services. For example, Australian data suggest a slight reduction in LTC enquiries and/or cancellation of formal community-based services. LTCF occupancy has also fallen to 89%; a reduction from 91% occupancy or over 3000 residents earlier in the year (Fitzsimmons, 2020; LASA, 2020). In Japan, applications for LTC (both community and facility based) through the national insurance scheme decreased by more than 20% across many cities compared to the previous years due to concerns regarding infection from care assessment workers (Fujinami et al., 2020). United Kingdom and United States anecdotal evidence also indicates a reduction in LTCF occupancy with direct implications for organisation profitability and viability (Egan, 2020).

Concerns have been raised regarding potential neglect of vulnerable and highly dependent LTC recipients and negative consequences associated with resident isolation in LTCFs, including increased falls and use of restraints. It is also often reported that the use of full PPE prior to resident contact complicates interaction and affects the ability to provide person centre care to people with cognitive impairment or dementia (L. F. Tan & S. Seetharaman, 2020; Wee & Yap, 2020; WHO, 2020e). As face to face LTC community services reduce during a time of pandemic, people living with dementia in their homes, who have little knowledge of telecommunication and depend primarily on in-person interactions, may feel lonely, abandoned, and become withdrawn (Denyer & Kashiwagi, 2020; H. Wang et al., 2020). Stigma associated with COVID-19 in some countries has caused older people to hide early symptoms of the disease and affected willingness to seek testing, compliance with treatment and disclosure of disease status. Even older adults who do not have the disease but are exhibiting common characteristics and symptoms may experience this stigma. The hypothesis that older people are more likely to have COVID-19 leads to people in the community being less likely to have contact with older people. Further evidence demonstrates that fear of communicable diseases prevents an older adult from not only participating in screening but also obstructs reliable COVID-19 data collection for many countries (Hadid & Ghani, 2020; Tehrani, 2020).

However, not all unintended outcomes of LTC or broader community interventions have necessarily been negative. Australian data suggest almost 1,000 fewer residents died within LTCFs, compared to the same time period in 2019 (McCauley, 2020). This has been attributed to influenza immunisation rates and increased infection controls introduced in response to the pandemic (McCauley, 2020). The state of Victoria (with the highest proportion of COVID-19 deaths in LTCFs nationally) recorded no resident deaths due to influenza compared with 121 in 2019. The lower rate of influenza in particular may also be influenced by lower rates within the community during this time period. There were 28 older adult deaths attributed to influenza in 2020 compared with 837 the prior year. Within New Zealand, there has been an overall decrease in the incidence of most notifiable diseases in August 2020, compared with August 2019 attributed to behavioural changes as a result of COVID-19 and reduction in overseas travel (New Zealand Ministry of Health, 2020). Although to be interpreted with caution, international data suggests that influenza activity remains at lower levels than expected. However, this patterns varies by jurisdiction and sporadic or increased influenza reporting continues across Southern and South East Asia (for example increased cases in Cambodia and Lao People's Democratic Republic) (WHO, 2020d)

7. Longer term implications for LTC in the Asia Pacific Region

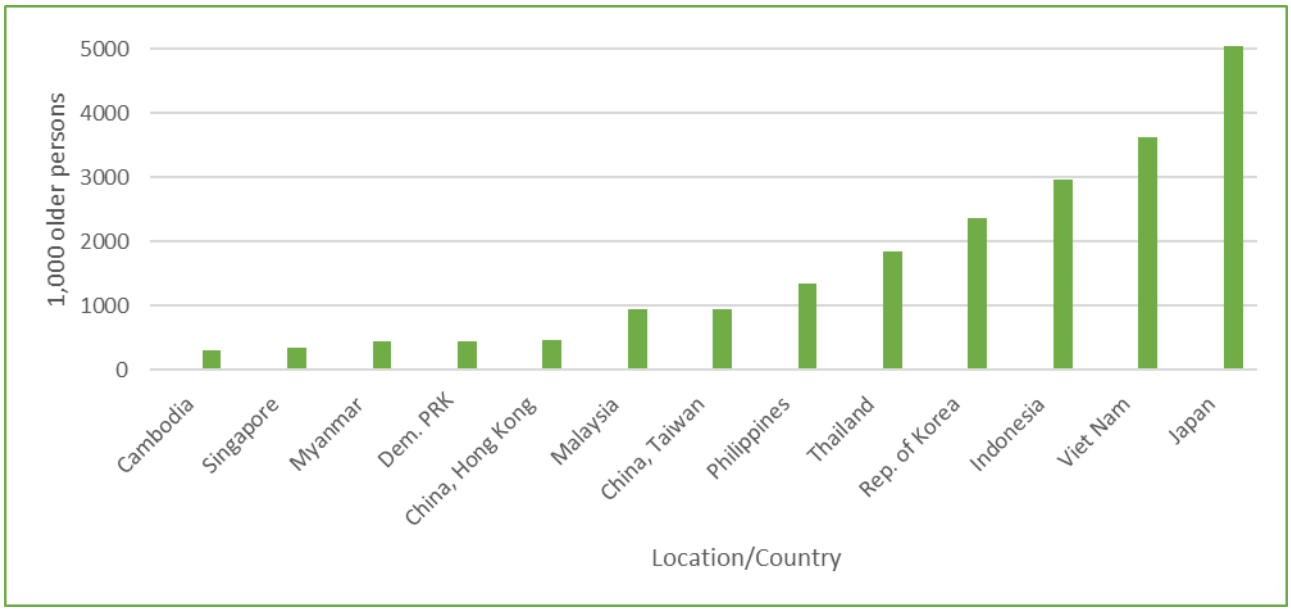
The longer-term impacts of COVID-19 on the LTC sector are yet to be determined. However, it is likely to affect public perceptions of the risk associated with LTCFs in particular and subsequent demand for different types of

care. Many governments are expected to introduce greater regulatory changes aimed at preventing the risk of the spread of infectious diseases in LTCFs into the future, through mechanisms including increased training, use of PPE, testing regimes and staffing levels. Such changes are likely to raise overall costs of providing institutional care in particular, affecting ongoing affordability and organisational viability (Comas-Herrera, Zalakaín, Litwin, et al., 2020). Irrespective of the impact of COVID-19 itself, the health and social care systems of many LMICs are not sufficiently resourced or equipped to provide the necessary LTC for their older population. The well regarded models of LTC provided within Japan and Korea, are only possible due to sufficient funding accessed through LTC insurance (AHWIN, 2019). Despite ongoing reliance on informal caregivers, less than half of OECD countries (45%) have implemented policies to strengthen the coordination of care provided by both formal and informal LTC workers (OECD, 2020c).

Demand for LTC across the Asia Pacific region will continue to increase in line with population ageing, and social, cultural, and policy changes affecting availability of family to provide this care for those countries that rely on a predominantly informal system of care. Changing expectations within some Asian countries, associated with higher educational levels and better financial literacy for some, may also influence expectations of type and quality of future LTC services (He & Chou, 2019). In all countries, a shortage of trained personnel remains a challenge to the provision of quality LTC across settings (AHWIN, 2019). Development and upskilling of volunteer networks can enable a rapid increase LTC provision for older adults and whilst this group form an important component of a broader LTC system, they cannot be relied on as standalone LTC policy response (Lloyd-Sherlock, Pot, Sasat, & Morales-Martinez, 2017).

Based on the estimates prepared by Hayashi (2018), presented in Figure 2, countries anticipated to experience highest absolute numbers of older adults with LTC needs by 2100 include China (with an estimated 35 million older adults- not included in figure), Japan, Indonesia, Viet Nam and Republic of Korea. Lesser demand is anticipated for Cambodia, Singapore and Myanmar. (Hayashi, 2018). Despite a persistent preference for community-based services, the more traditional family informal caregiver may struggle to meet the multi-level care needs of older adults, particularly those with chronic health conditions or dementia. As a fundamental element of the LTC system in many countries there is a strong need for formal LTC community based services to better support this group and enable older adults to age in place as desired (L. Zhang et al., 2020).

Figure 2: Estimates of Care Need in Selected East and Southeast Asia locations (1,000 older persons) for 2100



Source: Hayashi, R. (2018). *Demand and Supply of Long Term Care for Older Persons in Asia*. Indonesia: Economic Research Institute for ASEAN and East Asia (ERIA). * Care need is defined as the need for intensive assistance which should be that supported by social welfare systems.

The COVID-19 pandemic presents a unique opportunity for many countries to consider and redesign the overarching system of LTC for older adults. The LTC system should seek to promote the well-being, dignity and rights of care recipients, and better support those who provide this care; including greater distribution of

responsibilities so often placed upon unpaid family caregivers. All countries have scope to better integrate health and social care for older people at the community level (UN Women, 2017). A key step towards improving the health and wellbeing of older adults is to develop a national LTC policy or plan for those countries for which this is lacking (Rajagopalan et al., 2020). Learning from the past and present experiences of pandemics, key lessons can be applied to introduce or refine formal country-wide responses to future epidemics or similar public health crises (Sudharsanan et al., 2020). Despite challenges stemming from the COVID-19 pandemic, opportunities for improving the lives of older adults more broadly have also presented themselves. Such opportunities have included increased connectivity through technology, improved family, and intergenerational relationships and programs, greater awareness of social isolation, better promotion of self-care and management across the life span and recognition of the importance of advanced directives and other legal documents. Finally, there may be opportunities to address the shortage of professionals specialising in the field of ageing (Morrow-Howell et al., 2020).

Countries within the Asia Pacific are diverse with regard to population distribution and pace of ageing, socioeconomics, culture, geography, availability of resources and maturity and formality of aged and health care systems. Income inequality is also variable across and within Asian countries. With respect to these differences potential opportunities to respond to COVID-19 or other pandemics in the future, and to evolve the LTC sector more generally, will be necessarily region and population specific. These may include the following:

- **Improved quality, transparency and consistency of data collection specific to LTC recipients and the impact of COVID-19 on older adults.** Without robust data it is difficult to inform and monitor evidence-based responses to COVID-19. There is an urgent need for information on the prevalence of COVID-19 amongst individuals with LTC needs and their caregivers, across settings. This requires greater consistency in how mortality is defined, confirmed, attributed and reported (AHWIN, 2020; AIHW, 2020; American Geriatrics, 2020; HelpAge International, 2020e; Oke & Heneghan, 2020; Rajagopalan et al., 2020; Sharma, 2020).
- **Evidence of intervention outcomes specific to LTC.** The ability to determine efficacy of interventions designed to reduce risk, prevent transmission and manage COVID-19 amongst LTC recipients across settings is impeded by insufficient outcome information. An understanding of variance in disease management and severity of outcomes for the LTC sector across countries will be underpinned by an evolving body of evidence. Direction on how to deliver LTC for people living in informal settlements and other special dwelling conditions is also needed (Chan, Gobat, Kim, et al., 2020; WHO, 2020e).
- **Consideration of interventions with promising evidence of efficacy into the LTC settings.** Whilst robust evidence is lacking, interventions that appear effective with regard to reduced transmission in particular include: sector wide leadership and guidance; formal policies and guidelines to support LTC recipients and caregivers; ongoing external monitoring and supervision; provision of sufficient testing and PPE; LTC human resource management, such as limiting workers to a single facility or client group whilst ensuring maintenance of a living wage; and isolation of residents and staff with identified COVID-19. Greater application of artificial intelligence and other technology to prevent transmission of disease, provide continuity of care and to also minimise the negative impact of social isolation as a result of social distancing is also recommended (AHWIN, 2020; Chan, Gobat, Hung, et al., 2020; Comas-Herrera, Ashcroft, et al., 2020; Cormi, Chrusciel, Laplanche, Dramé, & Sanchez, 2020; Fisman et al., 2020; Gardner et al., 2020; T. Kim, 2020; M. Salcher-Konrad et al., 2020; WHO South East Asia & Indian Institute of Public Health Gandhinagar, 2020).
- **Ongoing development, refinement and strengthening of LTC systems and policy**. It is timely to review and strengthen existing LTC systems including the introduction or update of national policies, plans or strategies. This includes a greater focus on improved working conditions for the LTC workforce. The overwhelming preference for ageing in the community in many Asian countries, particularly in light of associated stigma of LTCFs and persistent sense of filial piety in many cultures (He & Chou, 2019; L. Zhang et al., 2020) coupled with reduced informal care access will also mean that greater policy and funding focus will need to be directed toward strengthening or introducing community-based LTC systems and strategies in particular (Rajagopalan et al., 2020; Weon, 2020; WHO, 2020e; WHO South East Asia & Indian Institute of Public Health Gandhinagar, 2020).

- **Recognize and value unpaid care and domestic work**: In line with Target 5.4 of the United Nations' *Sustainable Development Goals* to recognize and value unpaid care and domestic work, this is an opportune time to review existing structures or lack thereof, in place to better support the informal care 'workforce' during extraordinary times and beyond. The sustainability of LTC systems that rely heavily on informal care will be dependent on capacity of family and friends to provide and maintain the appropriate level and quality of care into the future (AHWIN, 2019; Chan, Gobat, Kim, et al., 2020; WHO, 2020e).
- **Application of a gender lens to COVID-19 and other response efforts**. Recognising the extent to which disease outbreaks affect women and men differently is necessary to inform effective, equitable policies and interventions. Women are more likely to live alone and in greater poverty, with greater reliance of family, and experience higher social and economic disadvantage in many LMICs. Prior outbreak experience has demonstrated the importance of incorporating a gender analysis into preparedness and response efforts to improve the effectiveness of health interventions and promote gender and health equity goals (ADB, ESCAP, & HelpAge International, 2020; UN Women, 2020; Wenham, Smith, & Morgan, 2020)

8. Conclusion

The COVID 19 pandemic has highlighted vulnerabilities in public health and social care systems across the World; in particular those specific to LTC for older adults in a range of settings. Furthermore COVID-19 has exposed the overwhelming reliance on traditional systems of family-based caregiving during this time (Rajagopalan et al., 2020). As able to be determined based on available data, there exist significant variations in incidence and mortality associated with COVID-19 in older LTC populations between and within countries. It has been questioned as to why Western countries, in which LTC is often part of a comparatively well developed, structured and funded formal system of care, have experienced such high rates of COVID-19 infection amongst staff and residents in comparison with Eastern countries (Panchamia & Mavalankar, 2020). However, it is challenging to draw inferences from approaches and policy in the absence of data on LTC cases of COVID-19 within many countries. Further to this is the need for greater research exploring the outcomes of COVID-19 interventions across LTC settings. Evolving evidence will help to inform the development of a more effective pandemic response for many countries within the Asia Pacific region and other parts of the World.

Patterns and demands for LTC in the Asia Pacific continue to evolve in line with fundamental demographic, social, cultural, policy and economic change between and within countries. With increased global focus on older adults during the time of COVID-19 it is fitting to target future efforts to not only better understand what constitutes an effective pandemic response for older adults in receipt of LTC but to also consider the LTC system more broadly, including sustainability, breadth, appropriateness and quality of care. Drawing upon insights gathered from the experience of all countries, recommendations can be proposed that promote successful pandemic control and management, whilst concurrently considering opportunities to improve overall LTC provision for older adults in a range of settings and that which is sensitive to the available resources, sociocultural context and readiness of each country.

9. Appendix

This appendix presents an overview of selected countries/jurisdictions in the Asia Pacific region, most of which are referred to within the main body of the report. Inclusion is based primarily on availability of relevant data specific to COVID-19 and LTC systems. Older adult population data are sourced from the World Bank for all countries except Taiwan (World Bank, 2020a). Data for COVID-19 mortality overall has been sought from the WHO Coronavirus Disease (COVID-19) Dashboard (WHO, 2020f) or John Hopkins Coronavirus Reporting Centre (John Hopkins Coronavirus Resource Center, 2020) and represent figures as at 16 October unless otherwise stated. Data for COVID-19 mortality specific to older adults and LTC recipients and providers (including family caregivers) was not available for many countries within this region. Due to diversity in COVID-19 mortality data definitions, comprehensiveness, quality, frequency and detail attributed to older adult and LTC specifically, comparative analyses are problematic. The countries/jurisdictions summarised in this appendix are Australia, Bangladesh, China, Hong Kong, India, Indonesia, Japan, Malaysia, New Zealand, the Philippines, Singapore, Republic of Korea, Taiwan, Thailand, and Viet Nam.

Many countries in the region are ageing rapidly in line with declines in fertility and increases in life expectancies. However, the pattern and pace of ageing across Asia Pacific is variable ranging from “advanced ager” countries such as Japan, the Republic of Korea and Singapore; to rapidly ageing countries such as China, Indonesia, Thailand, Mongolia and Viet Nam; to younger countries such as Cambodia, Lao People’s Democratic Republic, Myanmar, Papua new Guinea, Pacific Island countries, the Philippines and Timor-Leste demonstrating a slower pace of ageing. Across East Asia and the Pacific, formal LTC systems are developing and LTC for older persons is highly reliant on informal care provided by unpaid family members (World Bank, 2016). Of the locations/countries summarised in this appendix, seven have more developed systems of LTC (Australia, Hong Kong, Japan, New Zealand, Republic of Korea, Singapore and Taiwan) and eight have less developed or developing LTC systems (Bangladesh, China, India, Indonesia, Malaysia, the Philippines, Thailand and Viet Nam). All countries have COVID-19 data recorded at a population level. Data on the impact of COVID-19 within LTC systems were identified for seven countries/locations only (Australia, Hong Kong, Japan, New Zealand, Malaysia, Republic of Korea and Singapore). All but one of these (Malaysia) are jurisdictions with more formalised, regulated and developed LTC services in place.

Australia

The Australian government is the primary funder and regulator of the LTC system. It funds both for-profit and not-for-profit aged care providers who are governed by the federal Aged Care Act 1997. The LTC system in Australia is highly regulated. Aged care is delivered within the home (Commonwealth Home Support Program and Home Care Packages Program and flexible care) and in residential aged care facilities. Access is universal and based on assessed need. Although the Government funds the majority of LTC services, those consumers able to afford to are asked to contribute through co-payments. The Commonwealth Home Support Program provides support in the home for lower levels of care need and respite is available for caregivers. Services include social support, transport, domestic assistance, personal care, home maintenance and modification, nursing care, meals and allied health services. For older adults requiring more intensive support in the home, they can apply for coordinated personal and clinical care through the Home Care Packages program. Packages are individually tailored and categorised into one of four support levels. The degree of access to informal care is considered in this assessment of need. Through these packages the consumer is allocated a budget with which they can purchase services from approved providers. There is high demand for these packages and a long waiting list. Residential facilities are available for older adults requiring greater assistance than can be provided in the home on a short (respite) or long-term basis. Services include accommodation, meals, nursing, health, social and laundry. Residential aged care is primarily funded by the Commonwealth government but most recipients financially contribute to varying degrees based on available income and assets (Dyer et al., 2020).

LTCFs are owned and operated through a mix of non-profit (the majority), private for profit and state or local government providers. All providers of LTC are accredited, regulated and inspected (LTCFs) by the federal Aged Care Quality and Safety Commission (Charlesworth & Low, 2020). Australia provides care for almost 20% of the population aged 80 years and older, and approximately 6% of those aged 65 years and older within LTCFs;

placing Australia as a nation with a comparatively high proportion of older people living in institutional care (Dyer, Valeri, Arora, Tilden, & Crotty, 2020). As at 16 October there have been 2,028 LTC residents diagnosed with COVID-19. Of those residents, 675 have died and 1,349 recovered with 4 active cases. LTCF residents represent 74.6% of all COVID-related deaths. As of 16 October, a total of 2,219 aged care workers in residential aged care facilities had been infected by COVID-19 (Australian Department of Health, 2020c). There have also been 82 confirmed COVID-19 cases in Australian government-subsidised home care. Victoria accounts for 63.4% of all Australian home care COVID-19 cases. Of these cases there have been 16 deaths recorded (Australian Department of Health, 2020a). Despite government measures, on 2 October, the Royal Commission into Aged Care Quality and Safety found deficiencies in government planning and responses specific to COVID-19 in residential aged care. It was also suggested the Australian government did not learn sufficiently from the experience of COVID-19 in residential care in the first wave and was not sufficiently prepared for the second COVID-19 wave (Charlesworth & Low, 2020).

LTC System	Developed
Ageing Population Data (2019) % of total population aged 65 years and older	15.92%
Total recorded COVID-19 Deaths as at 16th October	• 904 • 422 per 100,000 deaths are adults aged 60 years and older (as at 27/10/2020)
Older Adult Care Data- Current and/or projected demand	• 51.2 LTCF beds per 1,000 older adult population • 234,617 or 6% of older adults residing in LTCFs (2018) • 269,034 or 6.9% of older adults in receipt of community based LTC (2018) • 6.2 Formal LTC workers per 100 older adult population (2016)
Impact of Covid-19 on older adults in formal care and community setting	• 2050 COVID-19 cases in LTCFs across 216 LTCFs • 675 COVID-19 deaths in LTCFs • Approx. 75% of deaths linked to LTCFs • Approx. 0.82% of all population living in LTCFs • 81 COVID-19 cases for older adults in receipt of community based LTC • 8 COVID-19 deaths for older adults in receipt of community based LTC
Policy Responses (high level)	LTC relevant interventions included: • Federal funding to support aged care workforce upskilling, leave arrangements, surge staffing needs and retention • Production of national guidelines and provision of necessary PPE across the sector • Resident testing (targeted) • Aged Care Quality and Safety Commission Infection Control Monitoring visits • Facility based responses included restricted visitation, social distancing, isolation of unwell residents, increased hand and facility sanitation and the use of PPE during routine care of residents • Within Australia community-based care organisations have ceased non-essential group activities or services • Home care providers able to redirect funds as needed to better meet the needs of clients and to apply for government grants where necessary to continue service operations • Workforce support and retention incentives have been introduced to support all LTC workers, including those providing care in the community • A range of other non-government organisations such as “Meals on Wheels” have been allocated additional funds to meet increase in community demand.

(Australian Department of Health, 2020b; Charlesworth & Low, 2020; CIHI, 2020; Comas-Herrera, Ashcroft, et al., 2020; Comas-Herrera, Zalakaín, Lemmon, et al., 2020; Hayashi, 2018; ICRW & APHRC, 2020; John Hopkins Coronavirus Resource Center, 2020; OECD, 2020b; World Bank, 2020a)

Bangladesh

The Maintenance of Parent's Care Act, 2013 has been implemented within Bangladesh to ensure the social security of the older citizens by compelling adult children to assume primary responsibility for their care. In line with this law adult children must take the necessary steps to look after their parents and provide them with food, accommodation, or a reasonable amount of money for maintenance if the parents do not live with the children. If adult children do not provide their parents maintenance without justification the parent is able to formally complain. The Act specifies that noncompliance should lead to fines and, if the fines go unpaid, a period of incarceration (R. Serrano, R. Saltman, & M.-J. Yeh, 2017). A 2019 study of older adults living in two LTC facilities in Bangladesh suggested that this group were more likely to come from economically well off families, and were living in these settings due to issues with family or children, children living abroad, lack of alternative care at home, burden on family or home properties occupied by others (Chanda, Wara, & Das, 2015). However, most LTCFs in Bangladesh are there for older adults considered poverty stricken (such as the Elders Rehabilitation Centre) in which they receive free accommodation, food, clothing and some medical care. The Elders Rehabilitation Centre can accommodate approximately 1200 older adults. The Bangladesh Association for the Aged and Institute of Geriatric Medicine operate a retirement facility in which independent older adults, or those without significant care needs, from 60 to 80 years can reside. There are two government LTCFs within Bangladesh in the Faridpur and Barisal district. Although private providers are an option for those who are able to afford it, LTC provided in the home tends to be informal and unregulated (Nayak, 2018).

In Bangladesh, the majority of older persons live in rural areas where there are insufficient health or social care services. In the slums of Bangladesh, population density is very high which limits effective mitigation responses to COVID-19 such as physical distancing, adequate sanitation and remaining within the home (many adults must leave the home to sustain an income)(T. Islam & Kibria, 2020). The Health Services Division under the Ministry of Health and Family Welfare directed the authorities to test older adults at their residence, following a decision made on 16 July 2020 by the National Technical Advisory Committee. The committee earlier suggested introducing specialised testing facilities for older adults who may face challenges participating in testing due to location and lengthy queues (M. Islam, Hossain, & Sultan, 2020).

LTC System	Developing
Ageing Population Data (2019) % of total population aged 65 years and older	5.18%
Total recorded COVID-19 Deaths as at 16th October	• 5,593 • As at 26 October 2020, the highest death rate (31.4%) was reported in the age group of 61 to 70 years old, 29.0% in the older age group of 71 and above and 22.5% - in the age group between 51 and 60 years. • 422 per 100,000 deaths for adults aged 60 years and older (as at 26/10/2020)
Older Adult Care Data- Current and/or projected demand	Data not identified
Impact of Covid-19 on older adults in formal care and community setting	Data not identified
Policy Responses (high level)	LTC relevant responses include: • Government initiated Social Safety Net Programs (SSNPs) in the country, both in the form of 'cash' and 'in-kind' transfers. Cash transfers under social protection include the Old Age Allowance Program (OAAP) which constitutes a cash transfer program in which the beneficiaries are the destitute older people of society

	• Government declared support for poor older adults in 100 Upazila (sub-districts) by providing them with the old age allowance • The National Technical Advisory Committee on COVID-19 of the Government suggested introducing specialised testing facilities for older adults • The Needs Assessment Working Group (NAWG) initiated the *COVID-19: Bangladesh Multi Sectoral Anticipatory Impact and Needs Analysis*. This anticipatory needs analysis aims to provide timely evidence with which to plan an effective and coordinated humanitarian response focusing on the most vulnerable communities impacted by COVID-19, including older persons.

(M. Islam et al., 2020)(ICRW & APHRC, 2020; WHO Bangladesh, 2020)

China

In China, population ageing has been proceeding rapidly and LTC system development is a key policy priority. The Law on the Protection of the Rights and Interests of the Elderly in China was enacted in 1996. This law emphasises support of older adults by their family members, specifically adult children. This law was amended in 2012 to address further population ageing and the increase of solo households. The amended law continues to emphasise the obligations of sons and daughters to support their ageing parents, including periodical visits if they live in separate residences. The law also stipulates the role of national and local governments. Article 30 provides for the phased implementation of LTC policy by the national government. Articles 37 and 38 provide for social services for older persons, such as health care and LTC by local governments, and Article 46 is on human resource development for elderly social service (Hayashi, 2018).

Traditionally, family care plays the key role in LTC, and it remains the first preference in many Chinese societies. Changes in family structure and labour force participation for women will continue to impact the availability of informal caregiving provided by adult children, in particular adult daughters. A three-tiered senior care system is established in China comprising home-based care, community-based care, and institutional-based care. This system is based on the expectation that approximately 90% of older adults will remain in the home (age in place), 7% will be supported by community centres and 3% will reside within LTCFs. Some provinces and municipalities, including Beijing and Shanghai, enable senior care centres to be created without a government permit. Privately run senior care centres now make up 44% of the total number in the People's Republic of China (Habib, 2020).

Institutional care has been traditionally provided by non-government organisations financially supported by the government as well as by LTCFs operated by the private sector. In light of the rapid growth of LTC needs and the limited capacity of non-government operated LTCFs, the government also introduced the Bought Place Scheme, under which quality private home operators are contracted to provide additional beds. In China there are not enough professional caregivers so many depend on domestic workers (AHWIN, 2019).

Since 2016 China has been exploring LTC insurance through pilots in 15 cities. An assessment of these pilots suggests that although promising, coverage remains limited and many vulnerable older adults in need of LTC are excluded through strict eligibility criteria (Zhu & Österle, 2019). However, on 9 April 2019, further expansion of the LTCI pilot program was announced by the Ministry of Human Resources and Social Security and National Health care Security Administration (Sun, Hu, & Jiang, 2020).

LTC System	Developed/Developing
Ageing Population Data (2019) % of total population aged 65 years and older	11.47%
Total recorded COVID-19 Deaths as at 16th October	• 4,746 • 14,238 confirmed COVID-19 cases were 65 years and older in Wuhan China at 17 March 2020 • 2,758 COVID-19 deaths were 65 years and older in Wuhan China at 17 March 2020
Older Adult Care Data- Current and/or	• 116,000 LTCFs with 6.73 million beds (2015)

projected demand	• 2.2%- 3% older adults living in LTCFs • Projected- 9,013 per 1,000 older persons will require LTC by 2030
Impact of Covid-19 on older adults in formal care and community setting	Data not identified
Policy or Care Sector Responses (high level)	LTC relevant responses include: • Guidelines to support LTC issued by national ministries and commissions, such as the Joint Prevention and Control Mechanism of the State Council, the Ministry of Civil Affairs and the National Health Commission • Central Leadership Group for Epidemic Response has been established and response mechanism initiated. • Ministry of Civil Affairs formulated 'Guidelines on the Prevention and Control of the Pneumonia Epidemic caused by a Novel Coronavirus in Eldercare Institutions' • Development of a LTC sector steering committee for providing guidance and integrating resources • Roll out of an integrative IT system for information and data sharing between service providers and local governments • An emergency medical service plan for LTCF residents • Provision of healthcare service, medical resources, pharmaceutical and PPE to care homes • A referral system set up with specific care homes and designated hospitals for COVID-19 • Facility based responses included strict regulations and restrictions on entry into care facilities, including a 14-day quarantine before check-in or returning to care homes for all residents, care workers and other staff; group activities suspended; non-essential visits banned; staff and residents in care homes are required to have their health status checked every day, and sent to the hospital if symptomatic; staff use of masks and other PPE; and temporary isolation for people with symptoms • All community-based service facilities such as day care centres suspended • Older people who live alone, with intensive care needs, or whose family caregiver is in quarantine or is a healthcare worker were provided with a service such as home-based or temporary residential care • Psychological support services for older people requiring care and their family caregivers were strengthened, with prompt assessment and intervention • In Hubei province and other regions heavily impacted by the COVID-19, interdisciplinary teams consisting of mental health professionals, social workers and other staff provided mental health services and support to persons who have confirmed, suspected, or cured COVID-19, and to their families and the general public.

(Comas-Herrera, Ashcroft, et al., 2020; Hayashi, 2018; OECD, 2020b; C. Shi et al., 2020)(W.-S. Lim et al., 2020)(Guo et al., 2020; Z. Wu & McGoogan, 2020)

Hong Kong

LTC services in Hong Kong are part of the social welfare system, while the health-care system plays only a supportive role. The Hong Kong Government funds the majority of LTC services through its social welfare budget but it does not directly provide services itself. Not for profit non-government organisations deliver

almost all home and community based LTC and approximately 40% of residential care in LTCFs. The remaining 60% of residential care services are provided by private-for-profit companies. There are two types of LTCFs in Hong Kong, namely Care and Attention Homes for frail older adults and Nursing Homes for those with higher needs and level of frailty. There is no means test to determine eligibility for government-funded LTC services which are provided at a nominal fee for all Hong Kong residents (Lum, Shi, Wong, & Wong, 2020). Co-payment for residents of LTCFs can be waived for low-income older adults. All LTCFs are licensed by the Social Welfare Department of Hong Kong and operate according to the code of practice set by the Government. As of March 31, 2020, there were 76,343 residential care beds in Hong Kong, 63% (or 47,988 beds) were non-government-funded and 37% (or 28,355 beds) were government-funded (Social Welfare Department, 2020).

In response to increased need the Hong Kong Government continues to expand LTC services. Community care services in Hong Kong are underdeveloped in comparison to services provided in LTCFs. Largely operated by non-government organisations, LTC community services in Hong Kong comprise home and community care services, integrated home-care services and day-care centres. Subsidies are available for local non-profit providers to operate various community care services. All these services are tax-funded without any means-test and are operated on a first-come-first-served basis with a screening mechanism. In addition to formal home-care services, paid domestic helpers can also be hired as formal care-givers for frail older adults (He & Chou, 2019). Recently a "money follows the older person" funding scheme has been introduced as a pilot project, through which funds are provided directly to eligible older adults by means of a voucher. Using the voucher, participants in the pilot project directly contract with LTC providers of their choice for services (Lum et al., 2020).

LTC System	Developed
Ageing Population Data (2019) % of total population aged 65 years and older	17.50%
Total recorded COVID-19 Deaths as at 16th October	• 105 • 48.6 per 100,000 deaths are adults aged 60 years and older (as at 26/10/2020)
Older Adult Care Data- Current and/or projected demand	• As of March 31, 2020, there were 76,343 residential care beds in Hong Kong, 63% (or 47,988 beds) were non-government-funded and 37% (or 28,355 beds) were government-funded • Projected- 125 per 1,000 older persons will require LTC by 2030
Impact of Covid-19 on older adults in formal care and community setting	• 30 COVID-19 deaths in LTCFs (29% of all deaths) as at 28/9/2020 • 0.98% of all population living in LTCFs
Policy or Care Sector Responses (high level)	LTC relevant responses include: • Hong Kong's Social Welfare Department operation guideline late January • Social Welfare Department Special allowance for the procurement of personal protective equipment and sanitising items for LTC providers; provision of face masks; and special allowance for workforce support • Facility based responses included stringent visitation rules and hygiene practices, remote meetings via information technology to replace face to face visits, regular staff and resident temperature and other health monitoring, and staff use of masks and PPE • All residents advised to eat meals and limit interaction with other residents • Residents with fever or respiratory symptoms are required to wear surgical masks or isolated within the facility • Recommendation that staff avoid all non-essential travel, all who travelled overseas in last 14 days are subject to compulsory quarantine • All day care centres for older people remain open at limited capacity to serve those who do not have anyone at home to care

	for them during the daytime • Community based services limited to provision of meals, escort to medical appointments, nursing care, and administration of medicine • Financial support for NGO service providers to procure sanitary and PPE and to hire additional temporary staff for extra cleaning and hygiene practice • Suspension of all non-essential medical services, including regular doctor visits for chronic diseases • The not for profit sector has also provided support through provision of tablet computers to older adults, videos or online activities, telehealth or counselling, emergency support for community based older adults, and financial assistance.

(Comas-Herrera, Ashcroft, et al., 2020; Comas-Herrera, Zalakaín, Lemmon, et al., 2020; HKSAR Government, 2020; Social Welfare Department, 2020)(K. Wong et al., 2020)(ICRW & APHRC, 2020)

India

While there are a large number of older people with comorbidities in India, there is also a lack of data available on the proportion with LTC needs. There is limited formal or organised LTC in India. LTC is more often community based, with families providing the majority of care. Quality and formality of LTC differs significantly across regions and socioeconomic groups. Paid care workers such as home care attenders are often untrained and unpaid caregivers tend to be family members (predominantly daughters or daughters in-law). (Rajagopalan et al., 2020). The proportion of older persons living alone without spouse (solo living) has increased over time. While most older adults continue to reside with their children in India, about one fifth either live alone or with a spouse and therefore must manage material and physical needs independently (UNPF, 2017). Although approximately half of older adults may maintain some type of personal income in India, this income is rarely sufficient in itself and they are therefore likely to be financially dependent on others. Almost three out for four older adults are either fully or partially dependent on others; for older women this dependency is even higher (UNPF, 2017).

The Indian Government introduced the Maintenance and Welfare of Parents and Senior Citizens Act 2007 in which it is mandatory for legal heirs (child/relative) to provide care to their older parents or relatives after they reach the age of 60 years. The Ministry of Social Justice and Empowerment prepared the National Policy for Senior Citizens in 2011, which states that "institutional care should be seen as the last resort" for senior citizens (Manik, 2020). However, in recent years the family system of care is changing and as such greater numbers of older adults are moving into LTC homes. Although there are no formal data for LTC institutions in India, their number is estimated to be more than 1,000 (Menezes & Thomas, 2018). Earlier data suggested that many of these organisations are free for older adults, whilst a smaller number incur a residence fee. Some LTC homes operate under a mixed model of funding (Manik, 2020). The Integrated Programme for Old Persons underpins the establishment and maintenance of Old Age Homes, day-care centres, mobile medical units, regional resource and training centres and formation of senior citizen associations in India. The States are expected to establish and maintain 'Old-Age Homes', with at least one old-age home for every 150 persons to be provided in every district (Manik, 2020).

LTC System	Developing
Ageing Population Data (2019) % of total population aged 65 years and older	6.38%
Total recorded COVID-19 Deaths as at 16th October	• 111,266 • As of 9 July 2020, older adults accounted for 53 per cent of COVID deaths (21,624 in total).
Older Adult Care Data- Current and/or projected demand	• Estimated to be more than 1,000 LTCFs across India (but formal data lacking) • Total capacity across LTCFs estimated to be approximately 97,000 beds.

Impact of Covid-19 on older adults in formal care and community setting	No data identified
Policy or Care Sector Responses (high level)	LTC relevant responses include: • Adult (and other day care) centres temporarily closed • Psychosocial behavioural helpline established. • LTCFs are largely unregulated and there is limited data available on their activities • Non-government organisations (NGOs) such as Alzheimer's Related Disorder's Society of India (ARDSI), Nightingales Medical Trust (NMT) and Silver Innings have published guidelines for family caregivers for people with dementia, are reaching out to families via social media platforms, providing one-on-one counselling via telephone and holding caregiver support meetings via Zoom • HelpAge India created a free Elder Helpline and Mobile Healthcare Unit through which outreach is being done in 24 states to support emergency needs, such as groceries and medicines • Non-government organisations (primary LTCF providers) have adopted sanitization and disinfection measures, provided training to LTC staff, restricted visitors and created separate rooms/wards to isolate residents that have influenza like symptoms • Basic care and support provided to older adults living in informal settlements/slum by non-government organisations (SCHOOL) • In Kerala, government run LTCFs have installed additional washbasins and conducted disinfection programs supported by local fire brigades. Dietary changes have been introduced to boost immunity and residents are encouraged to engage in recreational activities • The Kannur district government LTCF developed an in-house hand wash production facility involving residents.

(HelpAge International, 2020c; Manik, 2020; Menezes & Thomas, 2018; Moonakal et al., 2020; Rajagopalan et al., 2020; SCHOOL, 2020)

Indonesia

The provision of LTC in Indonesia for older people consists of social security mechanisms and healthcare services. Other care services such as day care and respite care are very limited and mostly operated by private providers. As in many other Asian countries, there persists an expectation that adult children should support their parents in older age. Therefore, LTC is underpinned by informal care provided by the family. The impact of population ageing and the growing demand for LTC on population mobility is anticipated to be greater in rural areas, where expectations regarding family provided care are more deeply entrenched and LTC services are underdeveloped (AHWIN, 2019; Sani et al., 2020). An increased demand for non-family provided LTC for older Indonesian adults brought about by changes in fertility rate and family size, including number of siblings in each household, will also impact the role of Indonesia as a major supplier of overseas migrant care workers in the Asia-Pacific region (Hayashi, 2018).

Institutional care in the form of LTCFs is provided by the government for those without means. In 2016 the National Strategic Plan for the Elderly was launched. Health based LTC is provided and coordinated by the Ministry of Health (Sani et al., 2020). Bina Kelarga Lanksia is a program which seeks to upskill families to better support their older family members in the community. Local Social Offices have set up Government run LTCFs in some provinces. Private providers also provide LTC within the home and in a small number of LTCFs across Indonesia for those who are able to afford these services. The Lembaga Kesejahteraan Sosial (LKS) is a community-based organisation through which home care and day services are provided to older adults in

selected provinces. As part of the implementation of the Ministry of Health's Long-Term Program, LTC can be provided to older clients of Puskesmas (government funded health services) within their home. These are intended for older adults who have health issues but are not eligible for hospital or more intensive health care (Suriyastini et al., 2020). LTC service provision in Indonesia is highly dependent on local government, volunteers and local leadership.

LTC System	Developing
Ageing Population Data (2019) % of total population aged 65 years and older	6.05%
Total recorded COVID-19 Deaths as at 16th October	12,156
Older Adult Care Data- Current and/or projected demand	• Not identified • Projected- 665 per 1,000 older persons will require LTC by 2030
Impact of Covid-19 on older adults in formal care and community setting	Not identified
Policy or Care Sector Responses (high level)	LTC relevant responses include: • There has been no specific guideline or protocol regarding COVID-19 prevention and management or for LTC system users in general. However, there are protocols and education materials issued to support vulnerable population groups who may be in need of LTC, such as older people and people with disability in institutional care settings. There are also guidelines for the protection of women with disabilities and older women • The Ministry of Home Affairs issued a national guideline for local governments on COVID-19. This document has a section for care workers, detailing advice for LTCFs to prevent COVID-19 infection in the facility • The Ministry of Health also released a guideline for caregivers who are responsible for older family members • All regular health programmes conducted by local health volunteers have been stopped. Groups of volunteers have organised themselves into WhatsApp groups to report on local circumstances in real-time • Home and LTC institution visits require all volunteers to wear gloves and a mask.

(Hayashi, 2018; Sani et al., 2020)

Japan

Japan is the most aged society in the world, with more than 28 percent of its population now aged 65 or older. As Japan's population has aged, society has found it more difficult to rely on family members to take care of older people at home. In response LTC insurance was introduced in April 2000 which enabled society as a whole to support those older persons who are in need of care (AHWIN, 2019). Everyone over the age of 40 is to be insured and they are divided into two age groups: those aged 65 and over are "primary insured persons," while those between the ages of 40 and 64 are deemed "secondary insured persons." The premiums paid by those insured persons are to cover half the funding for the system. The municipalities serve as the insurers and service users will contribute a small amount toward LTC service they receive (approximately 10%). The LTC insurance system aims to integrate medical and welfare services by bringing together all such services previously offered under the Act on Social Welfare for the Elderly and the Health and Medical Services Act for the Aged under its system (Nakamura, 2018).

Japan's LTC services are roughly divided into two categories according to the place where service-recipients live. One category encompasses services for home-dwelling recipients, which include nursing, medical support, bathing, rehabilitation, and renting of welfare equipment such as wheelchairs and care beds; day services for care and rehabilitation; and short-stay services for care and care with medical services. The other category

covers services for LTCF residents. A trained and qualified care manager determines the type of LTC services appropriate for each applicant in consultation with the older adult and their family (Abe, Miyawaki, Kobayashi, Watanabe, & Tamiya, 2020). Community based LTC services are provided by a mix of private and non-profit organisations. LTCFs are predominantly public or non-profit as private LTCFs are only partly covered by LTC insurance.

LTC System	Developed
Ageing Population Data (2019) % of total population aged 65 years and older	28.00%
Total recorded COVID-19 Deaths as at 16th October	• 1,646 • The highest fatality rate reported in older adults aged ≥85 years, being from 10.4 to 27.3%, followed by 4.3 to 10.5% in those aged 75–84 year
Older Adult Care Data- Current and/or projected demand	• 24.1 LTCF beds per 1,000 older adult population (2017) • 945,900 or 2.6% of adults aged 65 years and older receive care in LTCFs (2019) • 5.9 Formal LTC workers per 100 older adult population (2017) • Projected- 3,238 per 1,000 older persons will require LTC by 2030 • By 2025 Estimated that Japan will have a shortage of 380,000 LTC workers.
Impact of Covid-19 on older adults in formal care and community setting	• 14% COVID-19 deaths within LTCFs • As at May 9, 1,038 cases (27.4% of cluster cases) reported in LTC hospitals/facilities
Policy or Care Sector Responses (high level)	LTC relevant responses include: • Manual for Infectious Disease Prevention in Nursing Homes provided • Japan Geriatrics Society published the COVID-19 Practice Caution for Older People guide • Government recommended suspending or restricting temporary use of LTC facilities in areas where infection was prevalent • LTCF staff implemented stricter hygiene practices, staff health screening and limited visitation • Closure of day centres and short-term care facilities.

(AHWIN, 2019; Fujinami et al., 2020; Hayashi, 2018; Iritani et al., 2020; OECD, 2020b; Taylor, 2020)

Malaysia

Malaysia has 15 government-run residential homes and two government-run homes for people who are terminally ill. There are an additional 320 registered LTCFs in Malaysia, which at present are either registered with the Ministry of Women, Family and Community Development (or the Welfare Department) under the Care Centre Act (Act 506), or the Ministry of Health under the Private Healthcare Facilities Act (Act 586). As of 2020 LTCFs will be registered under the new Private Aged Care Facilities Act 2018 (Act 802). Over 1,000 LTCFs in Malaysia, however, remain unregistered. It is estimated that available LTCFs serve less than one percent of the older population, which further enforces the primary role of families in providing LTC. Community and home-based LTC are currently unregulated in Malaysia and the new Private Aged Care Facilities Act does not refer to home-based care (Hasmuk et al., 2020).

Most LTCFs offer residential or nursing care, and apart from a small number of government-funded beds, are primarily operated by non-governmental or religious organisations or private operators. Non-governmental organisations tend to manage residential homes and lack the resources to care for those who require nursing-level care. Therefore, nursing homes are primarily privately run. Predominantly privately run, day-care facilities for older adults are growing in numbers. Home care is usually provided by foreign domestic

workers/helpers who are engaged through agencies from mainly Indonesia, Philippines, Cambodia and Sri Lanka. In addition, the Malaysian Welfare Department introduced a Home Help programme to assist older persons living in the community with tasks such as shopping, financial transactions or just companionship. The volunteers receive a small cash incentive in return for two visits per month to the older adult (Hasmuk et al., 2020).

LTC System	Developing
Ageing Population Data (2019) % of total population aged 65 years and older	6.92%
Total recorded COVID-19 Deaths as at 16th October	167
Older Adult Care Data- Current and/or projected demand	• 15 Government run LCTFs, 320 registered other LTCFs and over 1,000 unregistered LTCFs (or similar) • Projected- 125 per 1,000 older persons will require LTC by 2030 Available LTC facilities support less than 1% of older adults
Impact of Covid-19 on older adults in formal care and community setting	• As at 2 October four LTCFs known to have COVID-19 cases with a total of 37 individuals (staff and residents) affected • 4 COVID-19 deaths in LTCFs (10.8% of cases) and 2.9% of all COVID-19 deaths in the country • Data is limited.
Policy or Care Sector Responses (high level)	• Malaysia adopted a mass-testing strategy for all registered and unregistered care homes from April 2020- 31st July. • Whole sector measures have been driven through coordinated efforts between the Association of Aged Care Operators of Malaysia (AgeCOpe), medical societies, various Ministry of Health departments, the Selangor COVID Taskforce, the Ministry of Welfare, the Malaysian Ageing Research Institute and other interested parties who developed an "Interim Recommendations for the COVID-19 Pandemic in Private, Public, and NGO Residential Aged Care Facilities" • The Malaysian Welfare Department also provided cash disbursement to individual care homes, as part of the federal government's welfare package • A guideline on "Care of Older Persons in Residential Aged Care Facilities and in the Community during COVID-19 Pandemic" was released and distributed by the Ministry of Health • Restricted visitation with contactless temperature checks, symptom screening, and travel and health declarations. • Some staff have moved into the care homes as part of self-quarantine. the entire home throughout the Movement Control Order • Isolation and transfer of resident with suspected COVID-19 to the nearest hospital as soon as they are able to safely do so. • No specific guidance for community-based care during COVID-19 has been developed. • Closure and suspension of day centres, senior citizen clubs and activity centres and the home help program (KBDR) for the disabled and older persons • No COVID-19 related relief measures are currently available for informal caregivers.

(Hasmuk et al., 2020; Hayashi, 2018)

New Zealand

In Aotearoa New Zealand the LTCF sector comprises 38,000 beds accommodated in over 650 facilities throughout the country. LTC provision is publicly funded as part of a universal health care system and involves

the provision of medical, nursing and social services for people with aged related healthcare needs. There are 20 District Health Boards (DHBs) in New Zealand who have responsibility for providing healthcare for geographically defined populations. LTC is overseen on a population level by DHBs who are contracted by the Ministry of Health to purchase residential care and home-based support services for all who meet the eligibility criteria. LTC facilities are owned by private companies or non-profit organisations and operate within a fixed price environment, with different fees for different levels of care. There are four levels of LTC in NZ: rest home level of care for those requiring minimal support with activities of daily living, hospital level of care for those requiring increased nursing care, dementia level of care for those requiring a more secure environment, and psychogeriatric level of care for residents with more challenging behaviours requiring specialist nursing care. Access to the residential care government subsidy is asset tested. Residents with assets over a certain threshold pay the cost of their care, up to a maximum amount, with their local DHB covering any additional cost associated with dementia, hospital or psycho-geriatric care. LTC home-based support services include household management support and/or personal care. Personal care services are provided free regardless of a person's financial position, while household management support is means tested and generally limited to people on low incomes. Respite care services are provided by aged care facilities, and are funded by a government Carer Support Subsidy, or day care, including dementia day care (Ma'u et al., 2020).

LTC System	Developed
Ageing Population Data (2019) % of total population aged 65 years and older	15.99%
Total recorded COVID-19 Deaths as at 16th October	25
Older Adult Care Data- Current and/or projected demand	• 53 LTCF beds per 1,000 older adult population (2018) • 38,000 beds in over 650 LTCFs • 32,434 or 4.2% of older adults living in LTCFs (2019) • 6,4437 or 8.4% of older adults in receipt of community based LTC (2019) • 6.8 Formal LTC workers per 100 older adult population (2018)
Impact of Covid-19 on older adults in formal care and community setting	• 16 deaths in LTCFs (64% of all deaths) • 4% of LTCF beds in the five affected LTCFs and 0.04% of all LTCF beds
Policy or Care Sector Responses (high level)	LTC relevant responses include: • Ministry Health and District Health Boards developed COVID-19 specific guidelines to all services caring for older people • LTCFs were supported to undertake appropriate infection prevention and control (IPC) training including the use of PPE, management of residents or staff contracting COVID-19 infection, prevention and management of COVID-19 outbreaks, entry, exit and transfer from or between residential aged care facilities, visitation to facilities, and the management of at risk staff • Funding eligibility and guidelines for home-based caregivers were relaxed and included flexibility to pay resident family members providing caregiver support.

(Comas-Herrera, Zalakaín, Lemmon, et al., 2020; Hinton, 2020; Ma'u et al., 2020; OECD, 2020b)

The Philippines

The Philippines remains a relatively young country. Currently, eight percent of older persons are receiving LTC, of whom 56 percent are female. Care of older adults in the home is predominantly provided by family, particularly wives and daughters. There is a gap between the need for and availability of more intensive LTC options at present and some adults are uncertain as to who will provide their future care (AHWIN, 2019). There are few nursing homes in the Philippines, and they are mostly institutions run by government or religious groups for abandoned older persons without family members to take care of them. There are a number of private LTCFs for those able to afford them. However, persistent attitudes regarding LTCFs and

abdication of responsibility to non-family members means that few older adults will seek out this form of care (AHWIN, 2019).

LTC System	Developing
Ageing Population Data (2019) % of total population aged 65 years and older	5.31%
Total recorded COVID-19 Deaths as at 3 November	7,318 34% of COVID-19 deaths are those aged over 70 years followed by 27.5% for adults 60-69 years
Older Adult Care Data- Current and/or projected demand	• Approximately 8% of older adults in receipt of LTC • Projected- 249 per 1,000 older persons will require LTC by 2030
Impact of Covid-19 on older adults in formal care and community setting	No Data identified
Policy or Care Sector Responses (high level)	LTC relevant responses include: • UNICEF webinar for home-based caregivers (not just those specific to older adults) • No other LTC specific information identified

(Hayashi, 2018; WHO Western Pacific, 2020)

Republic of Korea

A universal public long-term care insurance (LTCI) was introduced in 2008 in Korea and all people aged 65 years and over are eligible for LTC. Most LTC providers are private and LTC is funded by a mix of insurance contributions, tax subsidies and service user co-payment (generally 20% for residential and 15% for home-based services). Low income groups receive a higher subsidy for co-payment and those eligible for the medical aid program are not required to contribute (Jeon & Kwon, 2017). Long-term care hospitals (LTCHs) under the national health insurance also take a role in LTC provision (H. Kim, 2020). A LTCH provides medical services to older adults who need LTC due to illness or disability; as such it is under the control of the National Health Insurance Service and is required to have more than 30 beds for hospitalization, one doctor per 40 patients, and one nurse per six patients. Unlike a LTCH, it is not mandatory to provide medical services in a nursing home/facility which instead seeks to support activities of daily living life for older adults. (T. Kim, 2020). LTCFs in Korea have mandated staff to resident ratios and a national curriculum of minimum requirements for LTC workers has been established. The National Health Insurance Corporation and local government assume joint responsibility for quality assurance across LTC services (Jung, Jang, Seok, & Kwon, 2014).

LTC System	Developed
Ageing Population Data (2019) % of total population aged 65 years and older	15.06%
Total recorded COVID-19 Deaths as at 16th October	439
Older Adult Care Data- Current and/or projected demand (*as available)*	• 24 beds in LTCF per 1,000 older adult population (2018) • 202,193 or 2.7% of older adults living in LTCFs (2018) • 457,928 older adults in receipt of community based LTC (2018) • 6.2% of older adults in receipt of community based LTC (2018) • 3.9 Formal LTC workers per 100 older adult population (2018) • Projected- 664 per 1,000 older persons will require LTC by 2030 (Rep. of Korea)
Impact of Covid-19 on older adults in formal care and community setting (as available)	• 27 COVID019 deaths linked to LTCFs or 8% of all deaths • 64 deaths of people in LTC hospitals or 26% of total deaths • 0.01% of population living in LTC
Policy Responses (high level)	LTC relevant responses include: • Korean National Health Insurance Services (KNHIS) developed and released a response manual for all welfare and LTC facilities. The government introduced a monitoring system to check social

	welfare facilities' compliance with the guidelines • The Korean Geriatric Society released the recommendation on the prevention of COVID-19 in LTCFs • The Korean Ministry of Health and Welfare recommended the closure of social welfare facilities from later February 2020. • Care services such as meals and monitoring of welfare adapted to be home based • Ministry of Health and Welfare issued a temporary regulation that allows telephone-based consultation and prescription • Volunteers and family members sought to provide the necessary care to older adult at the same wage as professional caregivers after they receive two hours of training • Within LTC settings, screening and testing for potential cases and rapid quarantine (including care workers) • Temporary re-imbursement packages, low-cost masks for care workers and provision of PPE guidelines • Patients and staff administered hydroxychloroquine as post-exposure prophylaxis in the LTC hospital setting.

(Comas-Herrera, Ashcroft, et al., 2020; Comas-Herrera, Zalakaín, Lemmon, et al., 2020; Hayashi, 2018; OECD, 2020b)

Singapore

Family and surrogate caregivers are the primary providers of LTC needs of older adults in the community. However older adults who cannot receive care appropriate for their needs at home are able to seek accommodation in a LTCF. Singapore has over 16,000 LTCF places as of 2019 of which 40% are run by the government, 37% by non-profit organisations and 23% by the private sector (L. F. Tan & S. K. Seetharaman, 2020). In 2019, there were 7,600 day care places, 10,300 home care places and 1,986 community hospital beds in Singapore (C.-R. Chen, Huang, Huang, & Chen, 2020). Day care services are centre-based full-day programmes are for older adults to socialise and enjoy organised leisure activities. The different types of day care centres for older adults in Singapore include: senior care centres, day rehabilitation centres, general and enhanced dementia day care, and day hospices (Agency for Integrated Care, 2020; Singapore Ministry of Health, 2020). Home care services include medical, nursing, therapy, personal care, and hospice. Nursing homes provide long-term residential care in the community (Graham & Wong, 2020). The *Singapore Programme for Integrated Care for the Elderly* (SPICE) centres operate integrated services but also deliver in home settings as required. Family and other care worker funding is provided by the Singapore Ministry of Health and includes Seniors' Mobility and Enabling Fund, Caregivers Training Grant, Home Caregiving Grant and Foreign Domestic Worker (FDW) Levy Concession for Aged Persons and Persons with Disabilities (Singapore Ministry of Health, 2019)

LTC System	Developed
Ageing Population Data (2019) % of total population aged 65 years and older	12.39%
Total recorded COVID-19 Deaths as at 16th October	28
Older Adult Care Data- Current and/or projected demand	• 16,059 LTCF places (2019) • 77 LTCFs: 23 public, 23 not for profit and 31 private (2019) • 143 Centre-based Care Facilities • 24 Home Care Providers • Projected- 75 per 1,000 older persons will require LTC by 2030
Impact of Covid-19 on older adults in formal care and community setting	• 3 COVID-19 deaths in LTCFs or 11% of all deaths • 0.27% of population living in LTCFs
Policy or Care Sector Responses (high level)	LTC relevant responses include: • Singapore's response to outbreaks of infectious diseases is guided by the Disease Outbreak Response System Condition

	(DORSCON) framework • The first advisory to the LTC sector advising against travel to Wuhan was issued on January 23, 2020 • LTC organisation interventions include exposure minimisation, limiting health workers to up to four facilities to work within, visitor suspension, wearing PPE, social distancing measures, staff and resident testing, infection control, contact tracing, regular stakeholder communication and split-zones for facilities with more than 200 residents.

(Comas-Herrera, Zalakaín, Lemmon, et al., 2020; Graham & Wong, 2020; Hayashi, 2018; Singapore Ministry of Health, 2020; L. F. Tan & S. K. Seetharaman, 2020)

Taiwan

The four main models of LTC for older people in Taiwan are institutional care, community and home-based care, live-in migrant care and family care (Chou, Kröger, & Pu, 2014). While most older adults in Taiwan age within the community supported by their families, the numbers of those who have relocated from family residences to LTCF continues to increase influenced by factors such as urbanization, changes in family structure, longer life spans, and complexity of elder care (C.-S. Wu & Rong, 2020; S. C. Wu, White, Cash, & Foster, 2009). A study exploring patterns of LTC use suggested that older adults living within institutional care settings, were more likely to have weaker family networks whilst those living within the home and in receipt of care by migrant workers were more likely to have stronger family networks. These community/home-based care services are most commonly provided by non-government organisations, contracted by local authorities. Once older people develop higher care needs, families are less likely to seek out community/home-based care services but rather access institutional care or hire migrant care workers (Chou et al., 2014).

Under current policy, the majority of resources are allocated to in home care and community care with less investment in LTC provided in formal institutions (C.-F. Chen & Fu, 2020). LTC facilities in Taiwan include assisted living facilities and nursing homes that provide the rehabilitative, restorative, and/or ongoing skilled nursing care needed in general or in relation to specific health conditions. Nursing homes offer health care services, medical care and skilled nursing care for residents who are seriously ill or require LTC for chronic diseases. Some nursing homes also provide services such as physical therapy, occupational therapy, or speech-language therapy. An assisted living facility provides care for people not able to live independently through assistance with daily living activities, meal provision and group activities (C.-S. Wu & Rong, 2020).

In recognition of increasing demand for LTC services The Ministry of Health and Welfare's National Ten-year Long-Term Care Plan 2.0 (LTC 2.0) was implemented in 2017 and the Department of Long-Term Care was established in 2018 in Taiwan. Under this plan a range of services are articulated including care services (including home care, day care, and family), home nursing care, home based/community-based rehabilitation, respite care services and LTC institution services, community-based preventive care, family caregiver support services, programs to prevent or delay disability and dementia, integration of discharge planning services and integration of home-based medical care (Ministry of Health and Welfare, 2019). The delivery flow for accessing LTC within the LTC 2.0 system begins with a long-term care management centre, which is a department of local governments. Evidence to date suggests that the reforms associated with the LTC 2.0 reform has increased population coverage and access by almost 52%; a reduction of co-payments considered to be an enabling factor for the increased in applications (C.-F. Chen & Fu, 2020).

LTC System	Developed
Ageing Population Data (2019) % of total population aged 65 years and older	15.28%
Total recorded COVID-19 Deaths as at 16th October	7
Older Adult Care Data- Current and/or projected demand	• 1,098 LTCFs with 62,724 beds (2018) • Over 180,000 older adults received some form of LTC service (ranges from food, transport to formal LTC care) during 2018

	• Projected- 282 per 1,000 older persons will require LTC by 2030
Impact of Covid-19 on older adults in formal care and community setting (as available)	No data identified
Policy or Care Sector Responses (high level)	LTC relevant responses include: • Central Epidemic Control Center (CECC) prepared guidelines for all long-term care facilities for face mask wearing, regular body temperature checks, enhanced personal hygiene, visitor restrictions and all necessary actions for infection control • Government assistance with selected purchase supplies such as thermometers and ethyl alcohol for LTC facilities • Government worked with individual facilities to understand occupancy beds and plans for COVID-19 prevention and management • Within some LTCFs, visitors were restricted and required to wear a mask, comply with screening, voluntarily declare their history of travel, occupation, contacts and cluster; and register before entering the building • Staff training and education • Staff screening and travel restrictions and reporting. • Cancellation of group activities and communal dinners. • Opportunity to return home for residents • Currently, community-based activities for health promotion and disability/dementia prevention are temporarily discontinued.

(C.-R. Chen et al., 2020; Hayashi, 2018; Ministry of Health and Welfare, 2019; National Development Council, 2020)

Thailand

In Thailand, formal state or paid private LTC services are at an early stage of development and data on LTC systems are limited. Responsibility for LTCFs is divided across different government departments and there are no official standards or service guidelines for the sector. Draft guidelines have been developed by the Ministry of Public Health but are yet to be made into law. In line with much of the developing world, responsibility for care and support of older Thais in need of assistance traditionally rests with the family, especially with their adult children (J Knodel, Teerawichitchainan, & Pothisiri, 2018). Children and spouses remain predominant sources of informal care support constituting approximately 90% of main caregivers (J. Knodel, Kespichayawattana, Wiwatwanich, & Saengtienchai, 2013; J Knodel et al., 2018). Institutional based LTC Care in Thailand can be divided into five main categories. A residential home is for older adults who are physically independent and do not require assistance with activities of daily living. These LTCFs are generally available to those who cannot afford alternative care or have no family to live with. An assisted living care facility is for adults with physical dependence or disabilities who do require assistance for some activities of daily living. Residents of these centres do not generally require medical or nursing care. A nursing home provides care for older adults with chronic illness, high dependency and physical and/or cognitive impairment and residents are provided with 24-hour nursing care. LTC hospitals are for those who require longer term hospital care. Hospice care centres provides end of life care for older adults (S. Sasat, Choowattanapakorn, Pukdeeprom, Lertrat, & Aroonsang, 2013).

The city of Bangkok contains two government-run residential homes, with a combined capacity of 350 people. These government facilities operate to some extent as shelters for indigent older people and do not admit people with pre-existing functional impairments. A small number of care homes are also operated by non-government and religious organisations. However, the LTCF sector is dominated by private for-profit providers. Some of these run expensive facilities comparable to those in high-income countries. But there is also evidence

of rapidly growing numbers of more unregulated, informal, small-scale LTCFs that may be operated by untrained or unskilled management or staff (S Sasat, Sanee, & Lloyd-Sherlock, 2020).

In 2012 the Thai Government published the Health Development Strategic Plan for the Elderly (2013-2023) underpinned by the principles that quality of life of older persons at advanced ages can be best retained through a combination of assistance within their family and a supporting system of health care and social services within their own community. It emphasizes the need for the community and local administrative organizations to cooperate in implementing the LTC system, including allocating a budget for the purpose (J Knodel et al., 2018). The Department of Older Persons (now named) established the Home Care Service Volunteers for the Elderly program in 2003. The program supports older people who need support with activities of daily living and care is provided by volunteers from local communities. Volunteers receive 18 hours training and may be responsible for providing domiciliary care and health worker liaison for approximately 15 older adults in their community. Volunteers receive approximately $14 US per month travel allowance (Lloyd-Sherlock et al., 2017). Although by 2013, the program had been extended nationwide reaching almost 800,000 older people, the perceived quality of services provided by the volunteers were reported to be variable or insufficient to meet older people's LTC needs (Suwanrada, Pothisiri, Siriboon, Bangkaew, & Milintangul, 2016) In response the Ministry of Public Health further developed the volunteer caregiver training in 2016.

LTC System	Developing
Ageing Population Data (2019) % of total population aged 65 years and older	12.41%
Total recorded COVID-19 Deaths as at 16th October	• 59 • 26 or 45% aged 60 years and older
Older Adult Care Data- Current and/or projected demand	• There is no government register or list of LTCFs in Thailand information about the sector remains limited • Earlier data (2013) reported 138 LTCFs institutions across 5 regions in Thailand (49.3%, n=68 in Bangkok). • 60 were 'nursing homes', 44 were 'residential home's and 3 were hospice care. • Projected- 601 per 1,000 older persons will require LTC by 2030
Impact of Covid-19 on older adults in formal care and community setting	Data not identified
Policy or Care Sector Responses (high level)	LTC relevant responses include: • Village Health Volunteers- support community including older adults • The Thai Society of Gerontology and Geriatric Medicine created a guideline regarding the care of older people • Limited government initiated LTC sector response due to limitations in regulation and quality assurance. Official guidance provided to government run providers in early May • LTCFs responses included increased hygiene and sanitation measures, temperature screening, limited staff movement or moving into the workplace, and postponement of hospital and health visits for residents • Access to PPE reported to be limited.

(Hayashi, 2018; Narkvichien, 2020; S. Sasat et al., 2013; S Sasat et al., 2020; WHO South East Asia & Indian Institute of Public Health Gandhinagar, 2020)

Viet Nam

In Viet Nam, LTC for older adults operates within a framework of social welfare (Hayashi, 2018) The majority of older persons in Viet Nam live in rural areas with family and caregiving is still primarily dependent on family members to provide. The Law on the Elderly, in effect from 2010, requires families to assume prime responsibility for the care of older adults or to authorise a non-family member to provide this care on behalf

of the children. There are no formal LTC services provided in the home. Family caregivers are generally not able to access financial support or benefits. For older adults without access to family caregivers there are 182 local social protection centres which provide LTC support at no cost. As these services are limited the government provides incentive payments for volunteer primary caregivers to care for older adults without alternative care or the ability to live independently. Social assistance payments are provided to both the care recipient and the caregiver (Vietnam Ministry of Health, 2018). The most comprehensive community-based source of LTC in Viet nam is the intergenerational self-help club (ISHC) of which there were 1,300 clubs at the end of 2017. Established with help from HelpAge International, each club has 50 to 70 members and a small group of volunteers deliver home-based care and social assistance, as well as learning and enterprise programmes. Volunteers care for older adults with chronic illnesses, who live alone, lack caregivers or have financial difficulties. Once a week, volunteers visit older adults in their homes to talk, provide support with housework and personal hygiene and seek care and other community support as needed.

LTC System	Developing
Ageing Population Data (2019) % of total population aged 65 years and older	7.55%
Total recorded COVID-19 Deaths as at 16th October	• 35 • 2.8 per 100,000 deaths are adults aged 60 years and older (as at 22/10/2020)
Older Adult Care Data- Current and/or projected demand	Projected- 614 per 1,000 older persons will require LTC by 2030
Impact of Covid-19 on older adults in formal care and community setting	No data identified
Policy or Care Sector Responses (high level)	No information identified specific to LTC recipients or providers

(Hayashi, 2018; ICRW & APHRC, 2020)

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