Analysis

Integrating public health and primary care:

the response of six Asia–Pacific countries to the COVID-19 pandemic

INTRODUCTION

Strong primary health care (PHC) is the cornerstone for universal health coverage (UHC), reinforced by the Astana Declaration of 2018[1] as the best means to achieve an inclusive, effective, and efficient approach to enhance people's physical and mental health and social wellbeing.

PHC includes both public health (PH) and primary care (PC). A highly performing PC system provides access to first-contact, patient-centred care that is comprehensive, and continuous over time while coordinating services.[2] The World Health Organization (WHO) resolution on the primary health care draft operational framework, approved by the WHO Executive Board in January 2020, notes that a key lever is *'Models of care that promote high-quality, people-centred primary care and essential public health functions as the core of integrated health services throughout the course of life.'*[3]

Effective PHC therefore requires a coherent integration of PH and PC services, which involves a number of actions that include comprehensive PC services to a defined population, improved communication between PH and PC providers, knowledge sharing between individual- and population-focused health services, and strengthened and coordinated PC and PH surveillance functions.[4]

The year 2020 saw the advent of the COVID-19 pandemic, and now more than ever PH and PC measures are needed to form the foundation of the crisis response and provide continued health care to all those suffering the ongoing direct and indirect effects of this health crisis. There is a need for adaptation, flexibility, and innovation, with task shifting in the workforce to mount the response, and a move to telehealth where possible for provision of non-COVID-19 care.[5]

We report on the PHC approaches of six different countries in the Asia–Pacific region (Fiji, Japan, Macao (a Special Administrative Region of China), New Zealand (NZ), Philippines, and Thailand) and describe the degree to which their PH and PC systems have mounted an integrated response to the spread of COVID-19 in their country. Our analysis is based on the data provided by expert academic family doctors, using PHC framework developed by the World Organization of Family Doctors (WONCA) Working Party on Research. Our aim is to identify the relative strength of PHC and integration of PH and PC in each country, and relate this to their response to COVID-19.

Table 1. Comparison of the six countries' characteristics and primary health care attributes

	Fiji	Japan	Macao SAR (China)	New Zealand	Philippines	Thailand
Population/million 2020[6]	0.88	126.5	0.65	5.0	109.6	69.8
Population urban, %[7]	56.8	91.7	100	86.6	47.2	50.7
Life expectancy at birth, total, years[8]	67	84	84	82	71	77
Median age population in years[6]	27.9	48.4	39.3	38.0	25.7	40.1
Neonatal mortality rate (per 1000 live births)[9]	11	1	n/a	3	13	5
Probability of dying from CVD, cancer, diabetes, or CRD bet. age 30–70, %[10]	37.7	8.3	n/a	10.3	24.5	13.7
GDP per capita, USD[11]	6176	40 247	84 096	42 084	3485	7807
Out of pocket, % of current health expenditure[12]	14.2	12.8	n/a	12.9	54.0	11.0
Doctors/1000 inhabitants[13]	0.9	2.4	1.6	3.6	0.6	0.8
Primary healthcare attributes, before the COVID-19 pandemic						
UHC implementation (year)	–	1961	1985	1938[a]	2019	2002
PHC financing	GOV	UHC	UHC	UHC	Local GOV	UHC
Gatekeeping PC	+	–	+	+	+	+
Interdisciplinary team	+	–	+	+	+	+
PH and PC integration	–	–	+	+	+	+
Community workers	+	+	+	+	+	+
Community integration with PHC	–	–	+	+	+	+
Public/private PC integration	–	–	+	+	–	+/–

[a]All health care except PC. CRD = chronic respiratory disease. CVD = cardiovascular disease. GDP = Gross Domestic Product. GOV = government funded. n/a = not available. PC = primary care. PH = public health. PHC = primary health care. UHC = universal health coverage. + = existing function in primary care. – = nonexistent. +/– = exist in few places.

CHARACTERISTICS OF PRIMARY CARE IN THE SIX COUNTRIES BEFORE COVID-19

Key characteristics of PHC in the six countries are outlined in Table 1. Gatekeeping was well established in NZ, Macao, Thailand, and Fiji. In Thailand and Macao, this was largely through the public sector, whereas private GP clinics generally provided this role in NZ and Fiji. In all countries, governments funded PH, but there were different funding arrangements for PC services that range from out-of-pocket through blended to government-funded models. PC services were largely delivered by interdisciplinary teams in coordination with other community-based providers in Thailand, Macao, NZ, Philippines, and Fiji. In Japan, care managers were responsible for coordinating social services for long-term care; however, there was little coordination between them and community-based doctors.

REORGANISATION OF PRIMARY HEALTH CARE DURING THE COVID-19 PANDEMIC

Table 2 outlines the various responses to COVID-19 in the six countries. In NZ, GPs and practice nurses have been staffing COVID-19 community-based testing clinics as well as separating their practice for

Table 2. Degree of stringent measures, primary healthcare responses, and COVID-19 statistics in six countries

	Fiji	Japan	Macao SAR (China)	New Zealand	Philippines	Thailand
Government response stringency index, 1 April 2020, 0–100,100 = strictest[14]	88.89	40.74	41.67	96.30	100	68.06
PC separated acute respiratory infection clinic	Yes	Partially[a]	Yes	Yes	Yes	Yes
Telehealth: triage, mental support, maintain continuity of care for NCDs	Yes	Partially[a]	Yes	Yes	Yes	Yes
PC engagement with community risk communication and surveillance	Yes	Partially[a]	Yes	Yes	Yes	Yes
Set up community-based testing	No	Partially[a]	Yes	Yes	Yes	Yes
PC coordinated active case finding with community workers	No	Partially[a]	Yes	Yes	Yes	Yes
Government funding/ support for private PC	No	Partially[a]	No	Yes	No	No
COVID-19 cases and mortality						
Cases — cumulative (15 April 2021)[15]	68	512 169	49	2591	904 285	37 453
Total cases/million[15]	75	4059	75	518	8167	536
Total deaths	2	9469	0	26	148	97
Deaths/million	2	75	0	5	141	1

[a]In Japan, very few COVID-19 countermeasures have been standardised (or nationally implemented). NCDs = non-communicable diseases PC + PH activities are voluntarily taken by each doctor, clinic, hospital, community, and/or local government. PC = primary care. PH = public health.

patients with respiratory symptoms and those with regular consultation teams. In Thailand, as well as rearranging their practices, PC teams had village health volunteers (VHVs) implementing community surveillance and preventive measures. Macao benefited from experience with the SARS epidemic in instigating fever clinics, physically isolated from other parts of community health centres, contributing to a timely response. In NZ, Philippines, and Thailand, PC and PH professionals worked together at the borders to provide care at community and state quarantine facilities.

In Japan and the Philippines, where there was no gatekeeping, hospitals that accepted suspected COVID-19 patients had to deal with everything from PC to secondary and tertiary care, saturating finite resources. Similarly, in Fiji, PH facilities were challenged with greater workload, necessitating collaboration between public and private sectors. In the Philippines the situation has helped the government focus on strategies for PH and community interventions against the spread of infection, with the development of health professional alliances urging the government to establish COVID-19 referral networks to enable people to access diagnostic centres, clinics, and hospitals according to their need.

In some countries the private sector has significantly contributed to PH measures. In the Philippines, the private sector has supported implementation of the plans in the provision of mass testing, setting up of community quarantine sites, and procurement of personal protective equipment (PPE). Private PC providers in Fiji procure their own PPE without government support. In Thailand, other sectors have stepped in to assist, such as engineering providing construction of negative pressure testing booths, as well as offering amenities for community quarantine.

Most of the countries have used telehealth to help mitigate risk of COVID-19 infection. In the Philippines, the Academy of Family Physicians collaborated with the government in supporting free PC telemedicine consults. In Fiji, with the shortage of PPE and need to maintain routine care, GP private practices largely moved to telemedicine. However, digital information systems were not fully operated in the public sector, hence the health information linkage remained fragmented. Private clinics have found challenges in getting patient payments for telehealth services. In NZ and Thailand, the use of telecommunication during the pandemic has highlighted disparities and inequities through the lack of Information technologies (IT) literacy or lack of internet access.

None of the six countries had large first waves that overwhelmed their health systems. NZ and Macao managed to eliminate COVID-19. NZ had occasional small community outbreaks that were soon under control. However, the other countries have had further waves. Fiji and the Philippines are having a second surge with the emergence of COVID-19 variants, the third wave is on the rise in Thailand, and the fourth in Japan.[16]

The countries report different degrees of involvement and coordination of PC and PH. In NZ and Thailand, there is generally a collaborative approach with both dedicated community-based centres and general practices delivering testing and now vaccination, whereas, in Thailand, the government's involvement of private PC needs to be improved, and in Japan there has been poor coordination, with family doctors needing to ask the local PH centre to test, impeding prompt triage and referral.

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All countries have introduced vaccination programmes, with vaccines generally free to all. In Macao, families of workers on visas pay a subsided fee with all other residents free. In NZ, Thailand, and Fiji, the vaccination target is 100% of the adult population by the end of 2021. The Philippines hopes to vaccinate two-thirds of the population by the end of this year. Macao aims to vaccinate 100% of adults and Japan 100% of those aged ≥65 by the end of July. All countries have a mixture of vaccination sites with dedicated centres. In NZ, vaccination is community based in dedicated centres and general practices. In all the other countries there are also hospital-based vaccination programmes.

DISCUSSION

In summary, these six countries vary in the strength of their PHC approaches, and the degree to which their PH and PC sectors have mounted a unified response to COVID-19. In countries where the PHC system is well established, such as Macao, NZ, and Thailand, COVID-19 has strengthened the relationship between PC and PH. However, the COVID-19 pandemic has highlighted the need for gatekeeping and strengthening PC and PH integration in Japan, the Philippines, and Fiji. Macao has recorded no deaths from COVID-19, and Thailand, Fiji, and NZ have had relatively low deaths at 1, 2, and 5 deaths per million respectively, as of 15 April 2021.[15] The GDP for these countries per capita ranges widely from $6176 for Fiji, $7807 for Thailand, $42 084 for NZ, through to $84 096 for Macao. Japan and the Philippines have a higher death rate of 75 and 141 deaths per million respectively. Again their GDP varies widely from $40 247 per capita for Japan down to $3485 for the Philippines. It is clear that being an affluent country is not sufficient. We suggest that a strong and coordinated PC and PH response may be a major factor in preventing COVID-19 fatalities.

Gatekeeping provides primary care with a key function to help ensure appropriate resource utilisation, enabling better quality of care, especially in relation to preventive care and appropriate referral.[17] Our cross-country comparison study found lower mortality rate due to COVID-19 in countries with a gatekeeping system (Fiji, Macao, NZ, and Thailand), in comparison with those without (Japan and the Philippines). The COVID-19 pandemic underscores longstanding problems of the health system in Japan[18] and the Philippines.[19] Poor collaboration between PH and medical institutions results in inefficient resource utilisation.[19,20]

Deployment of PHC response to COVID-19 pandemic through PH and PC integration is crucial for the containment of COVID-19.[21] Desirable outcomes need efficient PHC organisation, including rapid response, reorganisation of the health system, capacity building, and community engagement.[22] In Thailand, healthcare facilities were understaffed. PHC largely functioned through primary care units staffed by nurses and PH professionals who work closely with VHVs and community leaders from different sectors. Their capacity to provide PC services are strengthened through support from physicians and interdisciplinary teams from hospitals under the district health system.[23] In responding to the COVID-19 pandemic, VHVs provided the backbones of PHC, implementing community surveillance, risk communication, and preventive measures, with training from PH staff. VHVs also supported PC teams in connecting the care to patients with chronic diseases, since healthcare services were reorganised with the application of telehealth.[24]

NZ's rapid escalation of National COVID-19 suppressions strategies limited the burden of disease and inequity.[25] Generally, a coordinated response led by the Ministry of Health and mediated through the district health boards and primary health organisations facilitated integration between PH and private PC providers with comprehensive community-based testing.[26] PC services are largely delivered by GP clinics with multidisciplinary teams, with blended funding of capitation, performance incentives, and patient co-payments.

Since public PC care facilities are not well funded in many middle-income countries, private clinics often complement state services, for example, in Fiji[27] and the Philippines.[28] This results in a high proportion of patients paying out-of-pocket for PC services. However, at the onset of the COVID-19 pandemic, the Philippines applied strategic purchase for COVID-19, including testing, community isolation, and inpatient cases management, so that providers are reimbursed.[29] This emphasises the need for public–private partnership (PPP) as a means to overcome the challenge of limited resources and financial constraint, to improve service quality and access.[30] However, the success of PPP requires transparency between partners.[31]

LESSONS LEARNT

In NZ, closing borders early and sharp lockdown eliminated community spread. Good science and strong leadership working together engendered trust in the measures applied. In Fiji, lack of public support for restrictions is making the second wave hard to get under control. In Thailand, the whole society recognised the urgency for collaboration, hence contributed to preventive and control measures. The private and public sectors and the community stepped up for a coordinated response. There has been a similar PPP in the Philippines, although the involvement of PC was lacking. Poor PC and PH coordination in Japan is hindering effective detection and early management.

CONCLUSION

The pandemic has tested the resiliency of

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health systems around the globe. UHC is key for equitable access for essential health services. However, being well resourced and having established UHC is not sufficient for prompt pandemic responses. A whole-society approach is needed; a strong PHC system plays a key role in enabling multisectoral coordination. The success of the PHC pandemic response requires the integration of PC and PH. PC coordination has a key role in the horizontal integration of the vertical PH programmes in the care for communities. District health systems and innovative financing mechanisms can enable the integration of PH and PC. This pandemic has sped up the utilisation of telehealth, which highlights the need for building research capacity and for sustainable remuneration options.

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