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Joint Report on the Situational Analyses of ASEAN Primary Health Care and Traditional and Complementary Medicine Capacities:

Towards the Enhancement of Quality Health Care through Primary Health Care Capacities in ASEAN Member States

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The Association of Southeast Asian Nations (ASEAN) was established on 8 August 1967. The Member States are Brunei Darussalam, Cambodia, Indonesia, Lao PDR, Malaysia, Myanmar, Philippines, Singapore, Thailand and Viet Nam.

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ASEAN: A Community of Opportunities for All

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List of Abbreviations

AO	Administrative order
AMO	Assistant Medical Officer
AMS	ASEAN Member States
APHDA	ASEAN Post-2015 Health Development Agenda
ATFTM	ASEAN Task Force on Traditional Medicine
BHS	Barangay Health Station
BHW	Barangay Health Workers
BLUD	Badan Layanan Umum Daerah
CAM	Complementary and alternative medicine
CHC	Communal Health Centers
CHED	Commission on Higher Education
CHV	Community Health Volunteers
CHW	Community Health Worker
CMMDs	Chinese medicinal materials dispensers
COPD	Chronic obstructive pulmonary disease
CPA	Complementary Package of Activity
CPM	Chinese pharmaceutical material
CSMBS	Civil Servant Medical Benefit Scheme
DA	Department of Agriculture
DCA	Drug Control Authority
DDF	Department of Drug and Food
DENR	Department of Environment and Natural Resources
DepEd	Department of Education
DHC	District Health Centres
DHIS	District Health Information Software
DHS	District Health System
DHSS	Department of Health Service Support
DMSc	Department of Medical Sciences
DOH	Department of Health
DRGD	Drug Registration Guidance Document
DTAM	Department of Thai Traditional and Alternative Medicine
ECG	Electrocardiogram
EPI	Expanded Programme on Immunisation
FMS	Family medicine specialist
FOHAI	Formularium Obat Herbal Asli Indonesia
FROTI	Formularium Ramuan Tradisional Indonesia
GDP	Good Distribution Practice

GIDA	Geographically Isolated and Disadvantaged Areas
GMP	Good Manufacturing Practice
GP	General practitioner
HAG	Health At a Glance
HIA	Health impact assessment
HIV	Human immunodeficiency viruses
HM	Herbal medicine
HMIS	Health Management Information System
HRH	Human Resources for Health
HSTP	Health Sector Transformation Plan
ITM	Institute of Traditional Medicine
JCI	Joint Commission International
Lao PDR	Lao People's Democratic Republic
LGU	Local Government Unit
LHV	Lady Health Visitor
M&E	Monitoring and evaluations
MBBS	Bachelor of Medicine, Bachelor of Surgery
MCH	Maternal child health
MD	Doctor of Medicine/Medical Doctor
MDG	Millennium Development Goals
MLT	Medical lab technician
MOH	Ministry of Health
MoPH	Ministry of Public Health
MOU	Memorandum of Understanding
MP	Medicinal plant
MRA	Mutual Recognition Agreement
MTM	Myanmar traditional medicine
NCC	National Certification Committee
NCD	Non-communicable disease
NCTM	National Center of Traditional Medicine
NGO	Non-governmental organisation
NPRA	National Pharmaceutical Regulatory Agency
OD OECD	Operational Districts The Organisation for Economic Cooperation and Development
OPD	Out-patient department
PC	Primary Care
PCC	Primary Care Cluster
PHC	Primary Health Care
PITAHC	The Philippine Institute of Traditional and Health Care
PHO	Public Health Officer

PHS	Public Health Supervisor
PMTCT	Prevention of mother-to-child transmission
Polindes	Pondok Bersalin Desa
Posbindu	Pos Pembinaan Terpadu
Poskesdes	Pos Kesihatan Desa
Puskesmas	Primary health care centres
Pusling	Puskesmas Keliling
Pustu	Pusat Kesehatan Masyarakat Pembantu
RA	Republic Act
RHS	Region-Based Health Services System
RHU/UHC	Rural Health Unit/Urban Health Centres
SARA	Service Availability and Readiness Assessment
SOMHD	Senior Officials Meeting on Health Development
SPA	Solus Per Aqua
SRMNAH	Sexual, Reproductive, Maternal, New born and Adolescent Health
T&CM	Traditional and complementary medicine
T/CAM	Traditional, complementary and alternative medicine
TCM	Traditional Chinese Medicine
TCMP	Traditional Chinese Medicine Practitioners
TCMPB	Traditional Chinese Medicine Practitioners Board
Thai FDA	Thai Food and Drug Administration
THPH	Tambon Health Promotion Hospital
TIM	Traditional Indian medicine
TM	Traditional medicine
TMHS	Traditional medicine and health supplement
TMM	Traditional Malay medicine
TOR	Terms of Reference
TTM	Thai traditional medicine
TVM	Traditional Vietnamese medicine
UCH	University of Community Health
UCS	Universal Coverage Scheme
UHC	Universal Health Coverage Urban Health Centers
VHV	Village Health Volunteer
VHW	Village Health Worker
WB	World Bank
WHO	World Health Organisation
WM	Western medicine

Foreword

The ASEAN post-2015 Health Development Agenda envisioned a healthy, caring, and sustainable ASEAN community. Guided by these principles, the ASEAN Health Cooperation has listed four health priority clusters for the State Members to achieve their maximal health potential. Strengthening the health system and securing equitable access to care will enable the Member States to attain United Nation's Sustainable Development Goals. These commissions must include warranting reliable, trustworthy, and high-quality health care delivery through primary health care (PHC) due to its focal role as the heartbeat of public health and serves as the fundamental core of community health. A solid PHC foundation will pivot ASEAN State Members onto the right projection towards achieving WHO's priority to provide health for all.

The timely delivery of the joint report between Malaysia and Thailand on the Situational Analyses of ASEAN Primary Health Care and Traditional and Complementary Medicine Capacities will emphasise and strengthen this process. On behalf of the Malaysia Ministry of Health, we are honoured to spearhead the Technical Working Group (TWG) for PHC through the Institute for Health Systems Research and related divisions. I am certain that our colleagues in Thailand are equally exhilarated in leading the TWG for Traditional and Complementary Medicine Capacities.

Notwithstanding the monumental challenges faced in the ongoing COVID-19 pandemic, I am delighted that this project has been completed successfully within the agreed timeline. It forms a basis for the ASEAN Recommendation for Quality Healthcare in PHC which I believe will be the very first recommendation developed in this region on essential areas of primary health care facilities, human resources, and service packages.

I would like to extend our gratitude to the ASEAN Member States for the active participation, particularly for continuous feedback, and input. In addition, the support and assistance from the Health Division of the ASEAN Secretariat has been vital in accelerating this health quality improvement exercise. A special commendation dedicated to the central role of the WHO Office of Malaysia in supporting this activity coupled with the invaluable guidance and contribution of Prof Niek Klazienga as the project consultant.

Building onto this concerted effort, the ASEAN Member State now is in the best position to accelerate the quality improvement exercise. May we continue to strive to the highest quality of healthcare to our ASEAN people. My aspiration is that this ASEAN Recommendation on Quality Healthcare will serve as a directional reference point not just within this region but globally.

TAN SRI DATO' SERI DR. NOOR HISHAM BIN ABDULLAH

Director-General of Health Malaysia

Acknowledgement

Malaysia as lead for Primary Health Care

This report was made possible through the collaboration of the Ministry of Health Malaysia, the ASEAN Secretariat and the Ministries of Health in Brunei Darussalam, Cambodia, Indonesia, Lao PDR, Myanmar, Philippine, Singapore, Thailand and Viet Nam, as well as other government bodies involved. We sincerely thank the focal points and contributors from all ASEAN Member States who took time despite their schedule in lending their expertise, in answering to our call for inputs, in making a presence to our in-house workshop and in responding to our request for review and feedback.

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We genuinely thank the strong people of Public Health Programme of Ministry of Health Malaysia, who has been the backbone in delivery of primary health care in the nation. We specifically thank Datuk Dr Faridah Abu Bakar, the former Director of Family Health Development Division, Datin Dr Nazrila Hairizan Nasir, the former Deputy Director (Primary Health Care) in the Family Health Development Division, and Dr Nik Jasmin Nik Mahir, the Director of Public Health Development Division, for their continuous cooperation and engagement over the years. Our heartfelt gratitude to all data owners who has been generous and cooperative in sharing the inputs, which include, but not limited to, the heads and colleagues from the Sectors or Divisions for Primary Care, Maternal Health, Child Health, School Health, Adult Health, Men's Health, Elderly Care, Non-communicable Disease, Communicable Disease, Pharmacy and Medical Practice. Without your inputs, this report will be far from complete.

Our special thanks also go to Datin Dr Siti Haniza Mahmud and Dr Nor Izzah Ahmad Shauki,, the former-Director of Institute for Health Systems Research, for their support and guidance in conducting the situational analysis and preparation of this report.

We would also extend our gratitude to the ASEAN Secretariat personnel who have been facilitating and assisting us over the years in accomplishing this task. Genuine appreciation to Associate Professor Dr Kamaliah Mohd Noh, Public Health Medicine Specialist s and Dr Nor Izzah Ahmad Shauki for taking the time to review this report.

Finally, yet importantly, to all contributors whose names have not been mentioned, we sincerely thank you for your invaluable contribution in making this report a reality.

Thailand as lead for Traditional and Complementary Medicine

We would like to express our deep gratitude to the focal points of traditional medicine of all ASEAN Member States and all responsible staff for their contribution on the baseline information survey on traditional and complementary medicine (T&CM), which made the report on the situation analyses of T&CM capacities possible. We also would like to thank all relevant government agencies, institutions, and universities for providing the necessary information to all member states to complete their questionnaire.

Furthermore, we gratefully acknowledge Dr. Marut Jirasrattasiri, Director-General of Department of Thai Traditional and Alternative Medicine (DTAM), Ministry of Public Health Thailand for his valuable advice on the direction of ASEAN cooperation in the future, Ms. Jennifer Frances dela Rosa, the Senior Officer of the ASEAN Secretariat for her wise guidance to finalize the joint report and recommendations, Ms. Alautiah M. Rahmunanda and Ms. Trisya Rakmawati, the Officers of the ASEAN Secretariat for their enthusiastic assistance and facilitation to keep our progress on schedule.

We wish to thank the focal points of Cambodia, Malaysia, Thailand and Singapore, as well as Mr. Michael Glen, the Officer of the ASEAN Secretariat, who attended the ASEAN side meeting on the concept note for ASEAN T&CM dialogue in Malaysia on 5 August 2019 for their useful comments on the gap analysis on baseline information results.

Last but not least, we would like to extend our heartfelt thanks to staff of the Technical and Planning Division, DTAM who helped conduct the virtual meeting between the focal points of traditional medicine of ASEAN Member States and ASEAN Secretariats on 28 May 2020 and made the discussion on the T&CM activities successful.

Executive Summary

The ASEAN Post-2015 Health Development Agenda (APHDA) is composed of the ASEAH Health Cluster Work Programmes for 2016-2020 and 2021-2025. The later was adopted by the 15th ASEAN Health Ministers Meeting (AHMM) in May 2022. The APHDA is comprised of 4 ASEAN Health Cluster Work Programmes including ASEAN Health Cluster 3 (AHC 3) on Strengthening Heath Systems and Access to Care Work Programme. In this Work Programme, improving quality health care was recognised as a regional priority where primary health care and traditional and complementary medicine play crucial roles in strengthening health care systems through regional cooperation.

Within the 2016-2020 and 2021-2025 Work Programmes, this AHC 3 activity on the development of ASEAN Recommendations on Quality Health Care through Primary Health Care and Traditional and Complementary Medicine was undertaken by co-lead countries Malaysia (for primary health care) and Thailand (for traditional and complementary medicine) and their respective contact points across ASEAN Member States (AMS).

Global frameworks were referenced to provide substantial anchor this activity; these are the Declaration of Alma Ata Promoting the Strengthening of Primary Health Care (PHC) that was adopted on 12 September 1978 by the World Health Organization (WHO) and The Astana Declaration adopted in 2018 which restated the key principles of PHC and recommitted to the PHC goals to serve as driving forces for achieving SDGs. Another vital reference is the Southeast Asian Region's extensive experience on the use of traditional and complementary medicine. Traditional medicine in the Southeast Asia Region is greatly diverse with hundreds or even thousands of years of development throughout the countries' history and is regarded as a part of national cultural heritage of health care of each country. However, during the 20th century, western medicine (WM) replaced the role of traditional medicine (TM) and became the mainstream of the health care system in almost all AMS. The start of the revival of traditional medicine as part of the service plan and the establishment of the government offices responsible for the integration of TM in the health service system for primary health care in most AMS began only about two to three decades ago. Efforts are continuing to reintegrate TM in the overall healthcare delivery system.

Based on these, as well as the regional priority to enhance quality health care, this project aimed to develop the ASEAN recommendations for policy and standards on quality health care through primary health care and traditional and complementary medicine and in the essential areas of health facilities, human resource and type of services. The recommendations may provide a reference to all AMS in the areas of primary health care and traditional and complementary medicine.

Two situational analyses or technical assessments, on primary health care and traditional and complementary medicine, were conducted by the co-lead AMS to realize the objective. This joint report presents the baseline methodologies, findings and issues and challenges related to primary health care and traditional and complementary medicine in separate chapters. Recommendations for these two areas were developed based on their respective baseline findings and issues and challenges.

The situational analysis showed that the spectrum of PHC facilities in AMS differs by country context of demography and geography, ranging from a uniform public polyclinic throughout the country providing the same scope of services, to complex, multi-tiered facilities in different parts of the country, offering a varying range of services. The core health workforce density for PHC ratio ranges from 9.72 to 21.72 per 10,000 populations, this data however needs to be interpreted with caution. The PHC in AMS functions to provide wide range of services including womb-to-tomb care,

communicable and non-communicable diseases, clinical procedures, pharmaceutical, laboratory and radiological services where the extent of services provision differs from country to country, depending on the different PHC models undertaken by the respective country and segregation of function between PHC, public health and hospital-based care.

Some principal recommendations based on this analysis include: improvement on data availability and accuracy on PHC human resource, PHC facilities and service packages available, establishment and enforcement of minimum standards or requirement for human resources for PHC and facilities, and sharing of expertise among AMS in these 3 areas. Emphasis should also be given to human resource workforce planning for PHC, expansion of PHC services to include the changing need of the population and enhanced public-private collaboration in improving.

For the T&CM situational analysis, findings showed that eight AMS have integrated their traditional medicine that is the countries' cultural heritage in the public health service system while people's can access to TM in private health facilities or at TM healers' homes are limited to two AMS. The numbers of public health service facilities also reflect the level of integration of T&CM in the health system of AMS and depend mainly on national T&CM policy of each AMS, fiscal budget support and the number of licensed TM practitioners available to provide the service. Musculoskeletal disorders, e.g. muscle pain, joint pain, arthritis, are the top health problems that people seek T&CM treatments in 4 AMS. There are 4 groups of T&CM providers in AMS including T&CM practitioners. Some of the challenges identified include data and information and financial support for T&CM facilities and personnel.

A few of the T&CM recommendations developed include the necessity to increase the number of T&CM health service facilities and equipment at all levels, especially at primary health care level and ensure that key health system elements are in place for integration; to conduct an assessment survey to identify the common training needs for T&CM among AMS; to promote the inclusion of T&CM service package in the national health insurance systems and; to develop database of T&CM services in all T&CM health facilities in order to monitor and evaluate T&CM services.

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CHAPTER 1

Introduction to Why, What and How of Strengthening Primary Health Care

1. Importance of strengthening primary health care: Review of Global Frameworks

In 12 September 1978, the World Health Organization (WHO) adopted the **Declaration of Alma Ata Promoting the Strengthening of Primary Health Care** (PHC). The International Conference on Primary Health Care agreed that primary health care "is an essential health care based on practical, scientifically sound and socially acceptable methods and technology made universally accessible to individuals and families in the community through their full participation and at a cost that the community and country can afford to maintain at every stage of their development in the spirit of self-reliance and self-determination. It forms an integral part both of the country's health system, of which it is the central function and main focus, and of the overall social and economic development of the community. It is the first level of contact of individuals, the family and community with the national health system bringing health care as close as possible to where people live and work, and constitutes the first element of a continuing health care process (1)."

PHC services can be described as a whole-of-society approach of care that includes health promotion, disease prevention, treatment, rehabilitation and palliative care (2). Through PHC's key elements on reducing exclusion and social disparities in health and establishing health services around populations' needs and expectations, PHC is able to deliver comprehensive and coordinated health care services to populations at the forefront of health care systems. As the first contact point for populations, it provides multidisciplinary, patient-centred care focusing on the delivery of promotion, prevention, and treatment related-services as part of a rational health care referral system. A robust and accessible PHC system ultimately supports higher level health facilities, in the management and provision of relevant patient care needed and vice versa.

After more than 40 years, the Heads of State and Government, ministers and representatives of States and Governments participated in the Global Conference on Primary Health Care and reaffirmed the commitments expressed in the visionary Declaration of Alma-Ata of 1978 and the 2030 Agenda for Sustainable Development, in pursuit of Health for All in 2018 in Astana, Kazakhstan through the Astana Declaration (3). PHC is essential to assure easy and timely access of citizens to health care. It enforces effectiveness by dealing with diagnoses and therapy of health risk factors and diseases at an early stage and minimizes spending resources on more expensive secondary care such as in hospitals. The reason for strengthening PHC becomes even more compelling when universal coverage of health care cost is considered. The Astana Declaration restates the key principles of PHC and renews these as driving forces for achieving SDGs (4). The present introduction of universal financial access schemes in many ASEAN Member States (AMS) simultaneously asks for strengthening of primary health care systems.

Many countries, especially developing nations, are suffering from the common bottlenecks in managing triple burden of disease; the unfinished agenda of communicable diseases including malnutrition and maternal and child health, non-communicable disease including mental health, and those related to globalization such as pandemics caused by emerging and infectious diseases and health related problems of climate change (5).

Particularly, strengthening of PHC is required as the world faces an increasing non-communicable disease (NCD) burden and rapidly ageing population. The NCDs accounted for 71% of global deaths in 2016 and there is still growing disproportionate increase in the burden of these diseases among lower income countries and populations (6). The changing demography directly impacts the prevalence of non-communicable diseases and the ensuing increase in multi-morbidities. The strengthening of PHC is vital in responding to the fundamental shift of the public's expectations

and needs by providing health care services that are highly accessible and coordinated, and focus on comprehensiveness and continuity of care (7). Investing in PHC generates good returns for the society, however, this requires commitment and adequate resources. A robust and accessible PHC system requires inputs such as sufficient competent workforce, well developed technological facilities, sufficient supplies of medication and an organizational set-up that is appropriate to a given country or region's specific context. Apart from these inputs, there should also be an adequate monitoring and continuous improvement of the quality of PHC services. More investment is needed to equip the PHC system in dealing with the growing complexity of populations' care needs.

After more than 40 years, the Alma-Ata has not been fully realized due to various factors including the siloed approach towards addressing diseases and in developing health programmes (8,9). Literature have shown that countries with health systems that refocused on primary care are better placed to achieve SDGs than those with hospital-focused systems (4). The 2018 Astana Declaration calls for holistic strengthening of PHC, focusing on three pillars of PHC, namely, community empowerment, multi-sectoral policies and actions, and integrated delivery of quality primary care and public health services (9). As the first point of contact with the health system and provision of comprehensive, continuous, and coordinated care, PHC plays an essential role in creating a greater influence and better relationship among populations, especially those with greater health care need such as vulnerable groups, and healthcare workers in community-based settings. Improvement in access to care can greatly influence the strengthening and improvement of PHC services catering to the needs of communities.

2. Overview of different international efforts in strengthening PHC

Apart from the various national efforts initiated to strengthen PHC, there are also four global initiatives and tools which include the following: 1) the WHO Service Availability and Readiness Assessment (SARA) which focuses on service availability and readiness of the health sector and to generate evidence to support the planning and managing of a health system; 2) the WHO/EURO Primary Health Care Impact, Performance and Capacity Tool (PHC-IMPACT) which mainly focuses on the assessment of the development and performance of PHC through various indicators captured in a coherent framework; 3) the Organisation for Economic Co-operation and Development (OECD) which compare international statistics and analytical reposts and lastly; and 4) The Primary Health Care Performance Initiative (PHCPI) by the World Bank and Gates Foundation. Each of these initiatives has resulted in conceptual models, indicators and measurement tools that can be used for the present initiative within ASEAN.

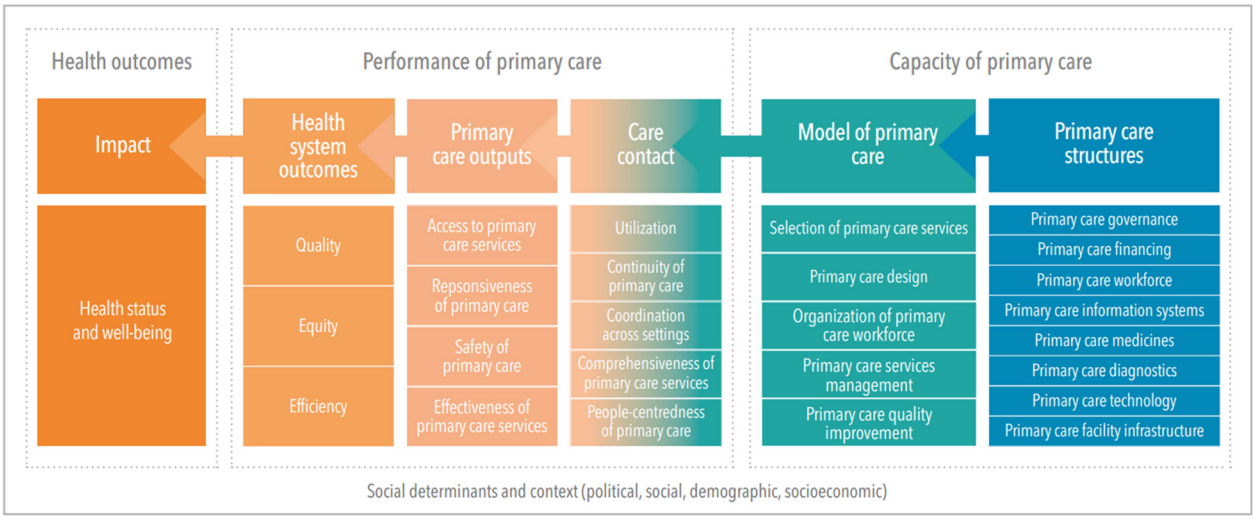
I. Service Availability and Readiness Assessment (SARA) Tool

In 2010, WHO had developed SARA as a measuring tool to monitor the strength of health system and to support annual verification of data and service delivery at the facility level (10). It was developed to gather more information needed to track on how health systems respond to the increased inputs, improved outputs, and the impact on health outcomes. Using the SARA Tool, countries were able to conduct a better and stronger monitoring system of health facilities and their readiness to deliver their services in both public and private sectors. This measuring tool for SARA was useful in terms of addressing the critical data gaps in service availability and readiness. Global core set of indicators and measurement methods to detect change and monitor progress in health system strengthening (HSS) were identified and was implied vital at the end of the data collection period.

ii. Primary Health Care Impact, Performance and Capacity Tool (PHC-IMPACT)

In 2019, PHC-IMPACT was launched following the endorsement of the WHO European Framework for Action on Integrated Health Services Delivery in 2016, which called for intensifying health services delivery monitoring (11) focusing on the PHC as the cornerstone of services delivery and foundation of integrated health services (12). This tool guided with the framework is introduced with several indicators that are suitable and sensitive to the European models of primary care, policy priorities, and information systems. The PHC-IMPACT is organised in three main components of capacity, performance and impact featuring the logic of inputs, process, outputs and outcomes as can be seen in Figure 1.

Figure 1: Framework of WHO Europe PHC-IMPACT



iii. Organisation for Economic Co-operation and Development (OECD)

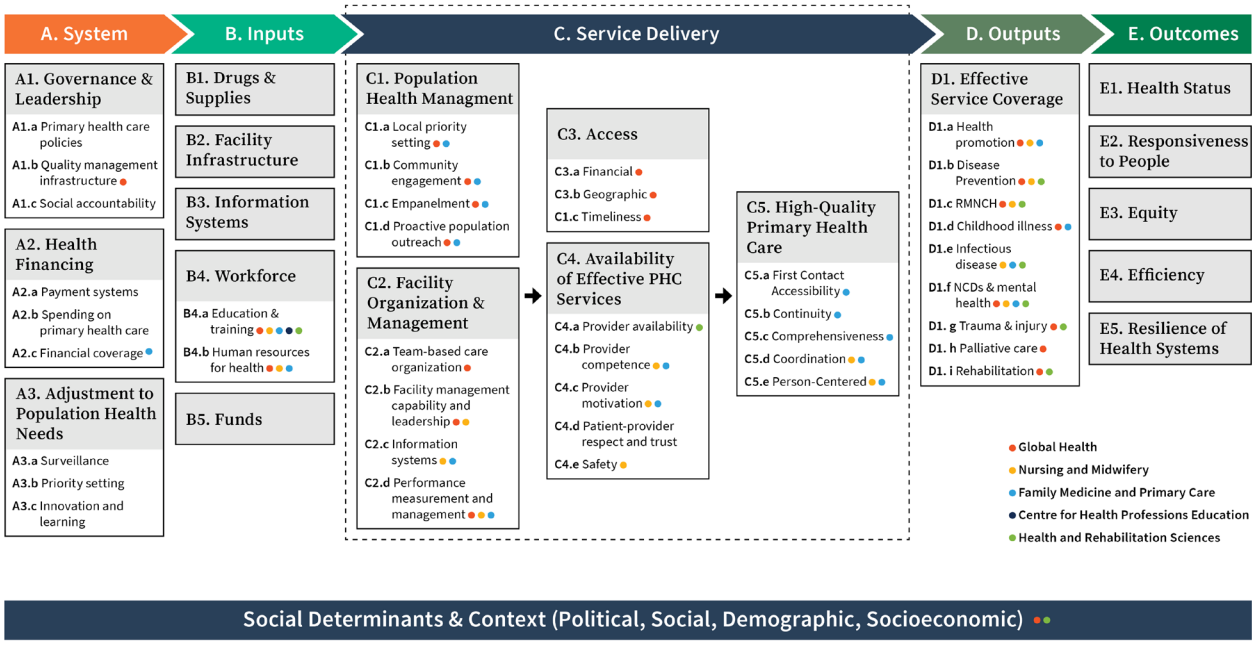
Through its biennial Health at a Glance report, the OECD provides the latest comparable data and trends on different aspects of the performance of health systems in OECD countries. The OECD particularly put an emphasis on strengthening primary health care as can be seen in its recent publication highlighting the importance of the under-pressured primary health care (13) . In order to strengthen PHC in each country, several sets of indicators are introduced to cater each country's needs and concerns. The OECD used a list of Health Care Quality Indicators specifically for Primary Care to make comparison between the OECD countries as part of an effort to improve national and international measurement of primary health care outcomes (14). OECD believes that the right resources, right organisation, right incentives and right measurement are keys to strengthen PHC across the globe (13).

iv. The Primary Health Care Performance Initiative (PHCPI) Model

The PHCPI was introduced in 2015 by the Bill and Melinda Gates Foundation, WHO, and Word Bank Group which aims at transforming the global state of primary health care. It was built on the belief that PHC is the cornerstone of sustainable development and strengthening PHC starts with better measurement. The PHCPI Conceptual Framework (Figure 2) depicts the important components of strong PHC denoting different elements of PHC that a country should measure (15). Vital signs profiles

of individual countries were made available to give a snapshot on the strength and weaknesses of PHC in the respective countries. Ultimately, this measurement initiative aims to drive evidence-based improvement and accountability which will lead to strengthening of the PHC across the globe.

Figure 2: The Primary Health Care Performance Initiative conceptual framework



3. Achieving Quality Health Care through Traditional and Complementary Medicine

Traditional medicine in the Southeast Asia Region is greatly diverse with hundreds or even thousands of years of development throughout the countries' history and is regarded as a part of national cultural heritage of health care of each country. However, during the 20th century, western medicine (WM) replaced the role of traditional medicine (TM) and became the mainstream of the health care system in almost all ASEAN Member States (AMS). The start of the revival of traditional medicine to become a part of the service plan again and the establishment of the government offices responsible for the integration of TM in the health service system for primary health care in most AMS began only about two to three decades ago. In addition, some AMS also include other TMs, complementary or alternative medicines into their health service system as well. Therefore, the national policy on TM, the types of traditional and complementary medicine (T&CM) covered, and the level of integration of T&CM in the public health service system vary a great deal among AMS, from the countries that has no T&CM service in public hospitals yet like Brunei Darussalam and Cambodia, to the country with 'stand-alone' TM hospitals, TM departments in western medicine (WM) hospitals as well as thousands of public and private TM clinics distributed nationwide like Viet Nam (16).

Even though modern medicine has eventually replaced TM as the mainstream health care in all AMS, T&CM can complement and improve the quality of care and patient satisfaction in the health service system in ASEAN, especially in primary health care (17,18). These include herbal medicines for common and minor diseases and symptoms, post-partum care for mothers (19), or massage and acupuncture for rehabilitation of post-stroke (20–23) or osteoarthritis (24–26) patients. As a result, the role of T&CM in health care system has gradually risen in most AMS, as evidenced by the increase of the number of hospitals providing T&CM service and the increase of the percentage of outpatients receiving T&CM treatment (27).

T&CM practice which mostly does not rely on expensive or high-tech medical equipment and use of herbal medicines prepared from locally grown medicinal plants, may also help lower the patients' and countries' health expenditure, and promote self-reliance on health care of the people and the countries. Further, health literacy for the public on appropriate use of selected medicinal plants and herbal medicines should also be promoted as self-health care to relieve or treat common and minor diseases or symptoms, as therapeutic efficacy and safety of many medicinal plants and herbal medicines are time-tested and scientifically proven (28). The use of herbal medicines in such cases and some T&CM self-care methods, such as acupuncture, yoga, traditional forms of exercise, will not only promote public self-reliance on health care, but also can help alleviate hospital burden, workload of medical personnel and country's expenditure on health care.

ASEAN context in strengthening Quality Health Care through Primary Health Care and Traditional and Complementary Medicine

The ASEAN Socio-Cultural Blueprint paved the way for the development of the ASEAN Post-2015 Health Development Agenda (APHDA) is comprised of Work Programmes for 2016-2020 which was adopted by the 12th AHMM in 2014 and for 2021-2025 as adopted by the 15th AHMM in 2022. The APHDA for 2021-2025 has 21 health priorities across four (4) Work Programmes and implemented by four (4) ASEAN Health Clusters. Ten AMS namely Brunei Darussalam, Cambodia, Indonesia, Lao PDR, Malaysia, Myanmar, Philippines, Singapore, Thailand and Viet Nam are all engaged and committed to implementing the strategies and activities under the Work Programmes of the APHDA. In partnership with Dialogue and Development Partners, the APHDA's vision is to move towards a healthy, caring and sustainable ASEAN Community. To achieve this, its mission is to promote a healthy and caring ASEAN Community, where the people achieve maximal health potential through a healthy lifestyle, universal access to quality health care and financial risk protection; have safe food and healthy diet and live in a healthy environment with sustainable inclusive development where health is incorporated in all policies (29).

As listed in Table 1, four ASEAN Health Clusters with individual goals and health priorities were developed to achieve regional health challenges.

Table 1: ASEAN Health Clusters Goals and Health Priorities in the APHDA for 2021-2025

Cluster	Goals for 2021-2025	Health Priorities
1. Promoting healthy lifestyle	a) To achieve health potential of ASEAN Community through promoting healthy lifestyle. b) To ensure healthy lives and promote well-being for all at all ages.	i. Prevention and control of non-communicable diseases (NCDs)
		ii. Reduction of tobacco consumption and harmful use of alcohol
		iii. Prevention of injuries
		iv. Promotion of occupational health
		v. Promotion of mental health
		vi. Promotion of healthy and active ageing
		vii. Promotion of good nutrition and healthy diet
2. Responding to all hazards and emerging threats	a) To promote resilient health system in response to communicable diseases, emerging infectious diseases, neglected tropical diseases and zoonotic diseases; b) To enhance regional preparedness and response to public health emergencies and ensure effective disaster health management in the region. c) To prepare and respond to environmental health threats and other hazards, including the health impacts of climate change in the region.	viii. Prevention and control of communicable diseases, emerging infectious diseases neglected tropical diseases and zoonotic diseases
		ix. Regional preparedness and response to public health emergencies
		x. Strengthening laboratory capacity
		xi. Combating antimicrobial resistance
		xii. Environmental health and health impact assessment (HIA)
		xiii. Disaster health management
3. Strengthening health system and access to care	a) To provide the ASEAN Community with universal access to safe, affordable, quality, holistic health care and essential medical supplies, including traditional and complementary medicines; and b) To advance health care deliveries by adapting towards innovation and digital health technology. c) To promote health care delivery to vulnerable population, such as among others, women, children and migrant workers[1]	xiv. Traditional & Complementary Medicine
		xv. Reproductive, Maternal, Neonatal, and Child Health
		xvi. Universal health coverage (UHC), including health financing and health service delivery
		xvii. Migrants' health
		xviii. Pharmaceutical development
		xix. Human resources for health
		xx. Digital health and health information system
4. Ensuring food safety	a. To promote access to safe food. b. To strengthen food safety risk analysis in ASEAN.	xxi. Food safety

[1] The definition of migrant workers is based ASEAN's Consensus on the Protection and Promotion of the Rights of Migrant Workers, 2017.

Under the new Governance and Implementation Mechanism of APHDA which commenced in 2016, four (4) ASEAN Health Cluster Work Programmes were developed and endorsed by respective ASEAN Health Clusters. These were further endorsed by the 12th Senior Officials on Health Development (SOMHD) and adopted by the 13th ASEAN Health Ministers Meeting (AHMM) in 2017 in Brunei Darussalam. For ASEAN Health Cluster 3 (AHC 3) on Strengthening Heath Systems and Access to Care, its Work Programme was endorsed during the 2nd AHC 3 Meeting held from 5-6th July 2017 in Manila, Philippines. In this Work Programme, improving quality health care was recognised as vital and that PHC and T&CM play crucial roles in strengthening the regional cooperation in enhancing health care systems across AMS. Malaysia agreed to lead the AHC 3 activity on the "Development of ASEAN Recommendations on Quality Primary Care" together with Thailand as the lead for T&CM as Health Priority under AHC 3 and its activities. It was also agreed in the Meeting, that regional quality health care baseline studies and recommendations should focus on human resources, service packages and health facilities. These 3 areas are essential inputs to the capacity of Primary Health care systems as well as in the delivery of T&CM.

These three elements are prerequisites to quality services looking at service availability and readiness, i.e., the health facilities should have the capacity to deliver the services offered. This capacity includes the presence of trained staff, guidelines, infrastructure, equipment, medicines, and diagnostic tests. It also includes a clear vision on the service package that is delivered according to the population health needs and an adequate organization of services in health care facilities, distributed in the country to assure equity and efficiency. These elements will be assessed in the context of providing PHC and T&CM.

Developing regional and national recommendations in these three areas will help improve regional cooperation and country approach to PHC through accepted minimum standards and mutual learning hence accelerating PHC health system strengthening. Future plans need to be in place for continuous improvement of PHC capacities and to expand the scope of the initiative towards monitoring of outputs, outcomes and evaluation of PHC performance in ASEAN countries.

Following the external Mid-term Assessment of APHDA 2016-2020 and the series of SOMHD virtual planning meetings in 2021, another planning meeting was held virtually on 8-10 February 2022 on the development of AHC 3 Work Programme for 2021-2025. The Meeting agreed to continue the finalization of this report as one of activities in the AHC 3 Work Programme.

Both APHDA and AHC 3 Work Programme for 2021-2025 have been adopted at the 15th ASEAN Health Ministers Meetings held in Bali on 14 May 2022.

ASEAN Health Sector Collaboration on Traditional and Complementary Medicine (T&CM) under the ASEAN Health Cluster 3 Work Programme

Regardless of the diversities in the types of T&CM and the level of integration of T&CM in the health service system, AMS has continuously collaborated to develop T&CM in each country via regional experience sharing, technical conference, field visits, various trainings and meetings.

"The first Conference on Traditional Medicine in ASEAN Countries" was held in Bangkok in 2009, with the financial support from the Nippon Foundation, marked the beginning of the collaborative activities of AMS in traditional medicine followed by the Second Conference held in Hanoi in 2010 which led to the establishment of ASEAN Task Force on Traditional Medicine (ATFTM) in 2011. ATFTM

was tasked to jointly carry out regional actions related to traditional, complementary and alternative medicine (TM/CAM), as stated in items B4 vii and xviii of the ASCC Blueprint (2010-2015) and in Terms of Reference (TOR) and the Work Plan of ATFTM.

ATFTM work plan covered five areas, i.e. the integration of TM/CAM in the health care system, exchange of information, the use of TM/CAM in primary health care, training and education, and research. Viet Nam, Malaysia, Thailand, Myanmar and Indonesia served as the lead countries in each of the above-mentioned areas, respectively. Key accomplishments of ATFTM during 2011-2015 to support the use of T&CM for primary health care were:

- Experience sharing on "Traditional Medicine (TM) Box project" in Thailand in 2012 (30).
- The development and publication of the book on "Herbal Medicines Used in Primary Health Care in ASEAN" in 2014 covering 65 medicinal plants for 27 common and minor diseases and symptoms.
- The Consultative Workshop on the Development of Training Model for Volunteers Health Workers & Assistant Doctors in Viet Nam in 2015 where AMS participants learned how Viet Nam promoted the use of traditional medicine in primary health care.

Under APHDA for 2016-2020, traditional medicine was categorized as one of the health priories under the AHC 3 on Strengthening Health System and Access to Care. ATFTM was dissolved and transformed into country contact points of traditional medicine under the AMS country coordinators of AHC 3. Contact points of T&CM implement the program activities of traditional medicine under to Cluster 3 work program (2016-2020) including the strengthening of quality health care. One of the program activities is the development of baseline information on health facilities, human resource, and service packages involving T&CM services and develop recommendations on T&CM quality health care as a part of ASEAN Recommendations on Quality Primary Care for further actions at the national and regional levels during the next 5 years (2021-2025) based on the current baseline situations.

T&CM continued to be one of health priorities under AHC 3 in the adopted APHDA for 2021-2025. AHC 3 also agreed for T&CM activities to be pursued and implemented in the AHC 3 Work Programme for 2021-2025.

4. General and Specific Objectives

This project aimed to develop the ASEAN Recommendations for policy and standards in strengthening quality health care through primary health care and traditional and complementary medicine in specific areas of health facilities, human resource and type of services. The recommendations may serve as a reference to all AMS in the areas of primary health care and traditional and complementary medicine.

Specific Objectives:

i. To assess baseline information on AMS health facilities, human resource, and service package
ii. To develop the ASEAN Recommendations on quality healthcare in Primary Health Care and Traditional and Complementary Medicine based on the baseline information.

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CHAPTER 2

Situational Analysis: Primary Health Care

2.1 Methodology

A review of various existing health services assessment tools related to primary health care (31–33), followed by consultations with local public health experts for additional content especially in areas that were missing in existing tools, was conducted to develop the data collection tool. The draft of the data collection tool was then circulated to all AMS for feedback to derive the ASEAN modified SARA Questionnaire (see Appendix 4).

The ASEAN modified SARA Questionnaire consisted of two main components, namely, general service and service packages. The general service domain covers information on physical infrastructure of health facility and human resources in PHC. The service package component covers a broad spectrum of services provided in primary health care, including family planning, child health, communicable and non-communicable diseases as well as dental services, among others. Data collection was conducted from July 2018 until July 2019 where the questionnaire was distributed to all AMS via emails. The AMS was given a stipulated time to fill up the questionnaire and submit their baseline data. Data analysis was performed in tandem following the completion of questionnaire by respective AMS. Data and information from published literature and government documents were used for countries who did not respond to the questionnaire.

Countries' performance was then presented to the AMS representatives for validation during the Workshop for the Development of ASEAN Recommendation on Quality Healthcare in Primary health care held from 20th to 22nd August 2019 in Shah Alam, Selangor, Malaysia. The workshop participant list is as in Appendix 7. During the workshop, in-depth expert consultation sessions with the AMS representatives, facilitated by the Consultant, were conducted to clarify and verify baseline findings, as well as building narratives around the three focus areas. For health care workforce, their composition, distribution, and training background were detailed out pertaining to three main healthcare professionals i.e., doctors, nurses and midwives. All listed service packages provided in primary health care were mapped to summarise the availability and readiness of the services across AMS.

For the third component on health care facilities, various types of health care clinics/facilities in ASEAN countries were mapped to their nearest equivalent to gain some sense of standardisation for ease of reference, as illustrated in section 2.1 of Chapter 2. Further deliberations were made according to 8 topics as listed below:

i. Gatekeeping function
ii. Patient listing
iii. Primary health care link with Public Health
iv. Primary health care link with Hospital sector
v. Primary health care link with pharmacy
vi. Primary health care link with information
vii. Availability of Acute Emergency Services
viii. Initiatives to organise Primary Health Care networks

Key challenges for the three focus areas were discussed and highlighted. Recommendations to address challenges in each area were formulated, considered, deliberated, and agreed upon based on the above quantitative and qualitative feedback from the AMS supported by literature for

each country. Draft report of the ASEAN recommendation was prepared by the Malaysian team in consultation with the AMS and WHO Consultant, and is to be reviewed and endorsed by the various levels i.e. (i) AHC 3 and (ii) Senior Officials Meeting on Health Development (SOMHD); and adopted by the (iii) ASEAN Health Ministers for Adoption.

The preliminary report went through comprehensive rounds of feedbacks and deliberations over the period from 2020 until 2023 involving stakeholders at various levels from each AMS. The data and information outlined in this report correspond to the period of their collection (2018 – 2019) and may not accurately reflect the current circumstances at the time of its publication.

General Principles Related to Capacity Building for PHC in AMS

As part of the overall methodology, discussions about the survey results during the workshop revealed the following general principles that should be considered when further developing international comparative data on the quality of PHC within ASEAN.

1. Quantitative data need to be supplemented by narratives; figures about a country can only be properly interpreted when they are accompanied by a narrative from the organisation that delivered the data to explain the methodological limitations and how the data should be interpreted.
2. Findings on manpower, service packages and facilities need to be interpreted in the socio-economic context of the respective countries. An approach as done by the OECD in Health at a Glance (HAG) 2018, grouping countries by income levels, can be a way to do this.
3. Quantitative "stand alone" standards on the required number of a specific professional or facility, need to be avoided; it is better to assess in the perspective of all relevant professionals and facilities in PHC in a particular country.
4. The reasons behind differences between countries should be explored and contribute to mutual dialogue and learning (this point is tied to #2 – to be meaningful, country comparisons are to be made within their respective socio-economic peers).
5. Information/measures used to compare AMS should not only be valid and reliable, but also actionable. The information should be relevant for individual countries and ideally be embedded in their national governance mechanisms.
6. Although the focus is on comparing countries, AMS vary considerably in size and level of economic development. Several comparisons based on regions within large countries that have similar level of economic development, instead of country level comparison, should be considered.
7. Although quantity is important (sufficient numbers of professionals/facilities), this should always be combined with considerations of quality, for example, the need of licensing for professionals and facilities.
8. The present work and recommendations are limited to assessment of the capacity/input of PHC in AMS. For future work the goal should be to broaden to assessment of other components of PHC systems such as actual performance and impact (output/outcome). International frameworks are available to support such a PHC-system assessment approach.

2.2 Findings

2.2.1 Primary Health Care Facilities

The spectrum of primary health care facilities in AMS differs by country context of demography and geography, ranging from a uniform public polyclinic throughout the country providing the same scope of services, to complex, multi-tiered facilities in different parts of the country, offering a varying range of services. They are categorised into four major categories based on scope of services offered, the complement of human resources, as well as the supporting services available.

The A1 facilities are facilities which provide a relatively full range of services for all key stages of life that is from antenatal care to elderly care. Each service is provided in considerable depth, including preventive, promotive, diagnostic, and curative, and some extent of rehabilitative and palliative care as compared to other types of facilities. The A1 facilities are also staffed by large numbers of healthcare providers including specialist doctors (e.g., family medicine specialist) and diverse professional healthcare personnel, including allied health providers, such as physiotherapist and dietitian. These facilities are also supported by pharmacy, laboratory, and radiology services.

On the other hand, the A2 facilities can be either a) providing full range of services for all key stages of life but services are provided not at considerable depth as in the A1 facilities, for example, offering curative care only; or b) providing a specific service (not the full range of womb-to-tomb) and the service is provided in considerable depth. This is commonly seen in stand-alone maternal and child health clinics in Malaysia. Healthcare providers in A2 facilities include minimum numbers of medical doctors and provided with basic laboratory support, mainly point-of-care testing, such as hemoglobinometer and glucometer. Pharmacy support is usually available, but types of medicines are usually limited. No radiology service is available in A2 facilities.

The Type B facilities are usually small primary health care facilities providing basic MCH services and minimal preventive and curative care. Example of services provided in type B facilities are uncomplicated pregnancy antenatal care, child immunisation, and treatment for minor ailments e.g. common cough and cold. Primary health care services are usually provided by nurses, medical assistant or midwives and no doctor is available in this facility. This type of facility usually exists in areas where accessibility is an issue, for example, in remote areas. Basic medications are available, but they may not have the full complement of essential medicines as outlined by the WHO. A dedicated laboratory or pharmacy is not usually available in this type of facility.

Another type of PHC facility is the mobile squad or team that performs outreach services to hard-to-reach areas. This type C facility may also exist in the form of mobile post or clinic. Although their categorisation as a facility is debatable, the role of this mobile team is very significant, especially in AMS where geographical challenges are great. Most countries also make a separate distinction between mobile team and the rest of the PHC facilities. Type C facility usually provides very basic preventive and curative care, including MCH care. The services are usually provided by doctors, nurses, midwives and medical assistants.

The characteristics of the different types of PHC facilities in AMS are summarised in Table 2.

Table 2: The four categories of PHC facilities in AMS

Criteria	Type A1 Facility	Type A2 Facility	Type B Facility	Type C Facility
Scope of services provided	All key stages of life	All key stages of life OR one specific stage of life (e.g. MCH)	Basic MCH and other adult care	Basic MCH and other adult care – mobile in nature
Depth of services provided	Preventive, promotive, diagnostic, curative and some extent of rehabilitative. May have inpatient beds.	Curative care (for all key stages of life) OR full depth of one specific area	Minimal preventive or curative care	Minimal preventive or curative care
Human resource	Family medicine specialist, doctors, support services including allied health professionals.	Doctors, nurses, midwives, medical assistant	Nurses, midwives, medical assistant	Doctors, nurses, midwives, medical assistant
Clinical support services	Radiology, laboratory, pharmacy	Laboratory (mainly point-of-care testing), pharmacy	Not available	Not available

Table 3 summarises the different types PHC facilities that are available in respective countries. The most common type of PHC facilities is the type A2 where it exists in all countries especially in the private sector. In Singapore, all public PHC facilities are of one type - A1 whereas in Indonesia and Malaysia all types exist to cater for the different needs of the population and geographical challenges that exist in the countries. Only four countries have mobile PHC services, which are Brunei, Malaysia, Myanmar and Indonesia. Brunei, although small in size, has remote areas and therefore has Type C facilities together with Type A1 and A2 but not Type B. Cambodia, Lao PDR and Philippine have middle range PHC facilities which are Type A2 and Type B.

Table 3: Different types of PHC facilities that are available in respective countries.

No.	AMS	Type A1	Type A2	Type B	Type C
	Brunei	▪ Health Centres ▪ Medical Reception Station (Army)	▪ Health Clinics ▪ Private Clinics	N/A	Flying and Travelling Clinic
	Cambodia	Operational Health Districts consist of referral hospital and Health centre and health post	▪ N/A	▪ Health Post	N/A
	Indonesia	▪ Puskesmas Rawat Inap (Inpatient) ▪ Puskesmas non-Rawat Inap(non-inpatient)	▪ Primary Clinic	▪ Village Health Post / PHC Centres / Subcentres (Pustu, Polindes) ▪ Community Health Posts (Posbindu, Poskesdes)	▪ Village Health Post (Pusling) ▪ Integrated Health Post (Posyandu) ▪ Flying Healthcare
	Lao PDR	N/A	Health Centres	Health Centres	N/A
	Malaysia	Health Clinics – *Klinik Kesihatan* (KK) Type 1 - 4	▪ Health Clinics – KK Type 5 -7 ▪ MCH Clinic – *Klinik Kesihatan Ibu & Anak* (KKIA) ▪ Community Clinic (Kkom)	▪ Rural Clinic – *Klinik Desa* (KD) ▪ Community Clinic (Kkom)	Mobile team / clinic
	Myanmar	Township Health Department, Station Hospital	Urban Health Center	▪ Rural Health Centres ▪ Sub-Rural Health Centres	Mobile Team/Clinic

No.	AMS	Type A1	Type A2	Type B	Type C
	Philippines	N/A	▪ Rural Health Unit (RHU) / Urban Health Centres (UHC) – Public sector	Barangay Health Station (BHS)	N/A
	Singapore	Polyclinics (Public) GP clinics (Private)	N/A	N/A	N/A
	Thailand	Primary Care Cluster	Tambon Health Promotion Hospital	N/A	N/A
	Viet Nam	District Health Centres	N/A	Commune Health Centres	N/A
	All countries		▪ Private GP ▪ Dental Primary Care Clinics	N/A	N/A

BRUNEI DARUSSALAM

PHC services are provided through a network of health centres and health clinics throughout the country. The components of primary health care consist of Primary Health Care Clinics, Maternal and Child Health Services, Travelling Clinics, Flying Medical Services, Community Nutrition Services, Community Psychology Services (34) with the support of other allied health professionals services, dental services, the community pharmacist and ophthalmology and podiatrist services . Currently there are 14 comprehensive government health centres in the country, six health clinics, two flying health services and travelling clinics as well as 44 private clinics. Additionally, a private hospital facility, has their own separate primary health care service, which works closely with the government health service.

In Brunei Darussalam, most health centres function as a comprehensive health centre. From the year 2000, the primary health care services had undergone a paradigm shift from a hospital-based care to community based primary health care through a decentralization project. Prior to the year 2000, the services delivered in the health clinics throughout the country was the maternal and child health services. Hence Brunei Darussalam's first purpose-built health centre was built to be a comprehensive health centre that catered for primary health care services, maternal and child health services and the other related community-based services. Twenty-three years on, the primary health care system has expanded and is now playing a major role in the provision of care to the population of Brunei Darussalam and the country had achieved the universal health coverage status. One of the health centres has Joint Commission International (JCI) Accreditation while all the other health centres are using a standardised clinical and non-clinical guideline as well as standard operating procedures.

All comprehensive health centres in the country are able to handle acute or emergency cases presented to the health centres. Referrals and transfers of patients will be made to the respective hospitals for cases that needed further management. With regards to health promotion, population-based strategy is under the jurisdiction of public health. However, at the primary health care level, opportunistic health promotion activities and counselling are done individually by PHC practitioners (doctors, nurses, midwives) and each facility provides health promotion materials. The National Health Screening Programme (NHSP) was introduced in 2019. This programme is a nationwide health screening programme, organised by the Ministry of Health Brunei Darussalam, to detect and prevent non-communicable diseases such as high blood pressure, diabetes mellitus, high cholesterol and cancer, hence allowing for early and effective management of these diseases. The targeted populations are being screened and followed up in all the health centres in Brunei Darussalam. Primary health care after hours service is available in strategically selected health facilities.

The Maternal and Child Health Services which have been established in the health centres and health clinics aim to improve the health standards of pregnant women throughout their antenatal and postnatal periods and for children aged 0-5 years in the country. The services offered includes routine antenatal clinics, postnatal clinics, Well Women Clinics, Child Health Clinics (routine development clinics), eye screening, community nutrition, health education and promotion as well as immunisation programme. The Expanded Programme on Immunisation (EPI) for the 0-5 years is delivered by Maternal and Child Health Services. For school going children, the immunisation is delivered by the School Health Services. Brunei Darussalam's immunisation coverage has consistently been above 95.0% for all vaccinations in the National Immunisation Programme which met the targets set by the WHO (35). Primary health services to the remote areas in the country had been delivered by the Travelling Health Services (by car or boat) and the Flying Medical Services. With the improvements in the infrastructure especially on the roads, the population in the rural area has increased accessibility to primary health care services where they are able to attend the nearest comprehensive health centres and hospitals for their health care. The travelling clinics and the flying medical teams delivers general health services, the management of the chronic diseases such as diabetes, hypertension

as well as providing treatment for minor ailments. Other services also include ophthalmology, dental and the pharmaceutical services.

The gatekeeping role of primary health care doctors in both the public and private sectors are able to refer cases to the hospitals. Other health professionals such as the podiatrists are significant in Brunei Darussalam where patients may be referred to the appropriate hospitals. Patients admitted and discharged from hospital not needing further specialist care are usually followed up in primary health care. The introduction of several nurse-led clinics such as the National Health Screening Programme, the Diabetes Nurse Educator, the Smoking Cessation Clinics, the PAP Test Clinics has enabled the services delivered to be more efficient and the nurses have direct access to the doctors in the health centres for referrals as per the standard guidelines and protocols. In terms of patients list, each comprehensive health centre is built in consideration of the population's catchment areas and all data are readily available to all health practitioners in the country. There is close coordination and collaboration in activities between the separate departments especially in managing any infectious diseases of public health concerns.

In terms of information technology (IT) infrastructure, Brunei Darussalam has a well- established electronic medical record system called the Bru-HIMS. It is a One Patient One Record system containing patients' medical data that has been recorded from all government health facilities. This comprehensive medical record system improves the accessibility of medical records and care of patients. Each individual in Brunei has one Electronic Patient Record which contains a comprehensive collection of their medical history including information on prescribed medications and medical tests that has been done. This record can be accessed in any health care facilities in the country. With this system, links between all the different health services in the country had greatly improved including the provision of pharmaceutical services, procedures and appointments which are all linked together. A mobile application, the Bru-Health Apps, is another platform that provides the population with an access to their own health information. From its initial role during the COVID-19 pandemic, it has now expanded to be a platform where patients are able to see their medical conditions, blood and other investigation results and list of medications. This has expanded further to enable patients to book doctor's appointments, video consultations and gather health related information. There is also plan to connect with private general practitioners in the future.

Despite free healthcare to all citizens, Brunei Darussalam realises the risk on sustainability of this system especially with the rising trend of non-communicable diseases and the aging population. Brunei Darussalam is working towards a more sustainable health care system and is committed in strengthening the primary health care services.

CAMBODIA

Primary health care facilities in Cambodia are based in the Operational Health District and is comprised of referral hospital, health centres and health posts. There are 1,288 health centres in Cambodia, or approximately one health centre for every 13,000 people. The health centres provide services according to the Minimum Package of Activity (MPA) and each health centre is connected to a referral hospital which provide Complementary Package of Activity (CPA) 1 – 3. Services listed in MPA include initial consultations and primary diagnosis, prevention and curative of non-communicable and communicable diseases, emergency first aid, chronic disease care, maternal (including normal delivery) and child care, family planning advice, immunisation, health education and referral (36). Most health centres have services provided by nurses and midwives and a few health centres have medical doctors.

Acute emergency healthcare services are available at the referral hospitals. Referral system between health post/health centre to referral hospital have been strengthen to ensure referral of patients to health services that they need.

Cambodia primary health care does not have patient listing but has a link with pharmacies. The use of IT infrastructure in PHC and internet usage among the general population is rising rapidly in urban areas but remains relatively low nationally. Web-based HMIS system is used in all public facilities.

In terms of the challenges faced in Cambodia's PHC system, the lack of financial resources and referral system between health centre/health post to referral hospital remain as challenges particularly in rural and remote areas. Other barriers to an effective referral system include road and travel conditions, lack of transportation and limited working hours at health centres. PHC have not yet become the first point of contact for wider population. In addition, PHC in Cambodia currently gives more priority to treating acute illnesses or health conditions rather than prevention, health promotion, counselling services, or patients support. While there are adequate numbers of referral hospitals to serve the population, primary health care delivery remains understaffed.

INDONESIA

The largest unit of primary health care facilities in Indonesia is Puskesmas, community health centres located across the nation that functions as an almost one-stop centre, delivering integrated services of primary health care and public health. Seeking to improve geographic access across the country's islands, the network of care extended to include auxiliary puskesmas (pustus), integrated health posts (posyandus), mobile puskesmas (pusling), village-level labor/delivery posts (polindes), and village health posts (poskesdes). Additions of new extension to service delivery were in response to identified gaps in primary health care, for example pustus were created at village level in 1979 to improve access to preventive and curative ambulatory care in more remote areas (37). Similarly, puslings, or mobile clinics, were established so that populations that lacked access to formal health services were able to receive such services.

The *puskesmas* network provides six essential including public health services: 1) Health promotion, 2) Communicable disease control, 3) Ambulatory care, 4) Maternal and child health and family planning, 5) Community nutrition, and 6) Environmental health. One-third of puskesmas also provide basic inpatient care such as Basic Emergency Obstetric and Neonatal Care. Community health efforts of the puskesmas are geared towards preventive and promotive care while the primary health care focuses more on outpatient and inpatient services as well as home care. Acute care or emergency services are provided in primary health care setting in Indonesia by 24-hour emergency services in inpatient type of puskesmas or on-call services in other puskesmas with no inpatient facility especially in rural area. The link of primary health care services and the pharmacy services is also strong. Over time, the puskesmas network has continuously evolves to reflect identified challenges and incorporate new national initiatives.

Primary health care in Indonesia, acting as the gate keeper, is responsible for appointing appropriate service levels according to patient needs, providing primary health services, fostering community-based health services and referring every case that could not be treated at the primary level to secondary or tertiary health care facilities. Indonesia primary health care works with patient listing where via the national health insurance scheme, which currently has about 85% coverage, every citizen is registered to a specific GP or puskesmas. Involvement of private sector in the scheme is on a voluntary basis in all areas of Indonesia.

For the past 40 years, Indonesia had made remarkable efforts in improving delivery of primary health care services targeting access to care. Nevertheless, due to its expansive geographical challenges, major regional disparities in terms of access to healthcare services remain as the biggest challenge for Indonesia's primary health care. Indonesia's diverse population that spans across thousands of islands creates both transportation obstacles and culture and language differences that make access to care more difficult (37). Aside the challenges of access to health facilities and the availability of

health workers, the fulfilment of health facilities, infrastructure, and equipment is also a concern of the government. As for the service package, in accordance with the policy of transforming the primary health care system, a service package has been trialled in an integrated manner into clusters based on a life cycle that also accommodates screening for 14 diseases (congenital hypothyroid screening, anaemia, and childhood cancer, thalassemia, breast cancer, cancer cervix, stroke, ischemic heart disease, hypertensive heart disease, tuberculosis, hepatitis, diabetes, COPD, colon cancer, and lung cancer).

LAO PDR

Primary health care in Lao PDR is provided by public health centres and private clinics or "hospitals" as some private clinics prefer to use "hospital" for marketing purpose (38). Currently there are about 1,054 public health centres and slightly more than 800 private clinics in Lao PDR. Lao PDR is a landlocked country with an estimated 66.8% of the population are dispersed and living in rural areas. Many places are difficult to access due to the highly mountainous landscape and up to 21% of the population lives in areas with no roads.

Health centres provide range of basic services including treatment of common diseases, vaccination, health promotion on communicable and non-communicable diseases, early essential and emergency new-born care, antenatal care, birth assistance and postnatal care services. The extent of services provided at each health centre differ according to district, sub-district, or village level. In some hard-to-reach areas with no health centres, village drug kits are managed by village health volunteers (VHV) to deliver basic drugs and treatment of common diseases. VHVs also provide health education and certain community health promotion services (38).

Lao PDR has started to introduce tax-based National Health Insurance scheme in 2016 but has not work with patient listing. As for gatekeeping function, health centres act to link patients and villages to higher district-level care. However, implementation and effectiveness of referral system varies between districts and there is a need to strengthen the system. In areas where PHC is too far way, patient can go directly to hospital without referral letter. There is a direct link between PHC facilities and district, community, provincial and central hospitals. There is also strong linkage between PHC and public health where these departments are placed in the same ministry. Acute care services are available 24-hours in public health centres and in areas where health centre is too far away, patient can go directly to the hospitals for acute care.

The primary health care facility has direct link to pharmacy where medications are controlled by the central agency. Availability of essential medicines in public health facilities is however, suboptimal. Public health facilities must rely on drug revolving fund for the supply of essential medicines that are not supported by the Global Fund to Fight AIDS, Tuberculosis and Malaria. About 80% of pharmaceuticals services are provided by the private sector. Due to the mushrooming growth of private pharmacy, the department of drug administration is trying to regulate the private pharmaceutical sector using the emerging legal system of laws, decrees, and regulations.

As for the Health Management Information System (HMIS), the Ministry of Health and the Government of Lao PDR uses the DHIS2 as the official national health information reporting platform to generate programme reports, national health system and statistics reports for monitoring purposes. The platform now provides a data warehouse that collects and manages routine data from all public health facilities nationwide and dashboards for dissemination of information although it is still not fully complete and limited to public sector only.

MALAYSIA

The Malaysian public primary health care facilities comprise of health clinics (*Klinik Kesihatan, KK*), dental clinics *(Klinik Pergigian, KP),* MCH clinics (*Klinik Kesihatan Ibu & Anak, KKIA*), rural clinics (*Klinik Desa, KD*), community clinics (*Klinik Komuniti, KKom*), mobile health and dental clinics. There are more than 1,000 KKs, 90 KKIAs, 2,000 KDs, 200 KKoms, 17 mobile clinics and 534 dental clinics throughout Malaysia. KKs are categorized into Type 1 to 7 based on the daily outpatient workload and services provided and are located across Malaysia. Type 1 are clinics with more than 800 patients per day and providing outpatient (minor ailments, communicable and non-communicable cases), emergency, maternal child health, laboratory, imaging, pharmacy and dental services. Type 7 are clinics with less than 50 patients per day and provide basic outpatient and maternal and child health. KDs, which are located in rural areas, offer MCH services and are managed by community nurses. KKoms on the other hand, are clinics in urban locations providing outpatient services and are usually staffed by at least a doctor, a nurse and a medical assistant.

There are more than 7000 private general practitioners (GP) in Malaysia and are mostly concentrated in urban areas. Most private GP provide basic treatment of common illness, management of chronic disease, vaccination, basic surgical procedures, and antenatal care. Laboratory services are usually provided in private practices by subcontracting private laboratories.

Malaysia does not have a patient list. Patients can walk-in and receive treatment at any clinic, though some services, for example MCH service in public health facilities, is relatively strict in accepting patients according to clinic's catchment area. Extended-hour services are available in limited number of large KKs and on-call system is available in most rural KKs. Patients may also access emergency department of any hospital for out-of-office-hour care though there is a tendency to abuse this lenient system as can be seen in overcrowding of hospital emergency department with non-emergency cases.

Gate keeping function of primary health care is well implemented in public sector where a referral letter from primary health care doctor is required for a patient to get an appointment in public specialist clinic. It is however not applicable in private sector where patients are free to see specialist doctors in private hospitals without referral from primary health care. In public sector setting, patients who are discharged from hospital inpatients and not requiring further specialist follow-up will be managed at a primary health care facility closer to home. These shared responsibilities between primary health care and hospitals are important in ensuring continuity of patient's care. Public health in the community is managed by District Health Offices (DHOs), which gives a close linkage between primary health care and public health as DHOs also oversee the operations of primary health care clinics in the district.

MYANMAR

The Ministry of Health has been taking the responsibility for the provision of health care services to the whole country in Myanmar. Therefore, the healthcare in Myanmar is mainly provided by public sector and some by the private sector. There are different levels of health care services such as national level, state and regional level, district level, township level and community level. Township Level and below is defined as primary health care level which provide promotive, preventive, curative, rehabilitative and palliative care. The basic unit is located at village level which are Rural Health Center (RHC) and Sub Rural Health Center (SRHC) that mainly provide promotive, preventive, and curative care services. At the township level, primary health care is served by township health department as well as the urban health centres, MCH centre and school health team. In rural areas, there are station hospitals with provision of inpatient care, outpatient care, and RHC and SRHC with provision of promotive, preventive and curative care for all ages of the people.

The private health sector is mostly located in urban areas. They were initially limited to ambulatory care. The private sector has expanded rapidly and is currently providing health care through the public medical professionals who are allowed to practise privately outside office hours, (39) and licensed medical professionals who are not working in the public sector.

Health services provision in Myanmar is extended down to rural settings through a network of hospitals and health centres, providing curative services ranging from primary to tertiary health care. Township health departments manage the PHC and provide comprehensive health services at the local level. Regional and State Health Departments on the other hand provide supervisory and technical assistance on primary health care services and are also responsible in managing the provision of tertiary care and referral services (40).

PHILIPPINES

The Philippines' primary health care facilities consist of Barangay Health Station (BHS) and Rural Health Unit/Urban health centres (RHU/UHC). Generally, the Rural Health Unit/Urban Health Centre (RHU/UHC) takes the lead in the delivery of primary care services in its defined catchment areas and the Barangay Health Stations serve to augment the health services of the RHU/UHC as its extension facility. The RHU/UHC offers basic consultation medical services, basic laboratory and diagnostics, tuberculosis DOT, birthing facility, animal bite centre, community-based drug rehabilitation and coordinate gatekeeping mechanism to some extent. Whereas, BHS mainly offers community health profiling, family visit, diagnostic screening, health promotion and prevention, population intervention and scheduled maternal and child health visits.

In the Philippines, there is a national policy on the gatekeeping mechanism at primary health care. This mechanism is part of the primary care network strategy under the Universal Health Care (UHC) Law of the Philippines which was signed in 2019. It is perceived that the transition to UHC will take at least 10 years. Currently, the Philippines is still in the stage of establishing primary care facilities and strengthening capacities for primary care services. Due to the COVID-19 pandemic in 2020-2021, there was a slow implementation transition in the upgrading and accreditation of Primary Care Facilities (PCF) nationwide which depended on the level of rigor and commitment of the local government.

Some provinces require patients to go through referral system before going to the hospital while some do not. Implementation of patient listing has yet to commence in the Philippines under the primary health care network which is a UHC Law requirement. Public health activities like disease surveillance, health promotion, and vector control are provided by the local government through the local health office linking closely with the PHC facilities, namely, BHS and RHU/UHC. As for emergency services, it is provided only by the RHU/UHC with birthing facility which operates for 24 hours and caters only to maternal delivery. Facilities without birthing facilities only operate during office hours. The Philippines aims to regulate facilities, such as the RHUs/UHCs, in compliance with the set minimum standards and requirements for licensing primary care facilities.

The IT infrastructure is part of the PHC requirements in the Philippines thus, continuous efforts are being done to ensure interoperability of information systems being used by the health facilities. Some of the BHS, RHU and UHC facilities have a linkage with the pharmacy. There is also an attempt to organise primary health care in the Philippines via contracting of private facilities by the local government, based on services needed. However, not all data from the private facilities are captured by the DOH-National Government, and there is an effort to mandate data reporting from private sector to the ministry to overcome this problem.

SINGAPORE

According to Singapore Ministry of Finance's (MOF) healthcare factoid 2023, primary care is provided island-wide in Singapore by 25 public polyclinics and over 1,900 private GP clinics. Polyclinics constitute 20% of the primary care market share and provide a comprehensive range of subsidised medical care for both acute and chronic medical conditions in the community in Singapore. This includes primary care services such as medical treatment for acute conditions, chronic disease management, women's and children's health services, as well as radiological, laboratory and pharmacy services, allowing them to be a one-stop health centre for the community (41,42). To cope with an ageing population and rising chronic disease burden, Singapore is ramping up on public primary care capacity with an aim of 32 polyclinics by 2030.

Private GP clinics constitute about 80% of the primary care market share. The private GP sector is more heterogenous comprising solo clinics, as well as small and large health care group GP practices (41). Singapore's Ministry of Health partners GP clinics through national schemes such as the Chronic Disease Management Programme (CDMP), Community Health Assist Scheme (CHAS) and the Primary Care Network (PCN) scheme to improve affordability and strengthen quality of care to patients. Under the CDMP, which polyclinics also participate in, patients can tap on MediSave (a national medical savings scheme) to pay for the management of selected chronic conditions,. CHAS enables eligible patients to tap on government subsidies at over 1,300 CHAS GP clinics for the treatment of acute conditions and management of chronic conditions, and over 1,000 CHAS dental clinics for treatment of oral health conditions. About half of the CHAS GP clinics are also on the PCN scheme, which gather solo clinics and group GP practices to form networks and deliver multidisciplinary care to improve chronic disease management.

Primary care in Singapore also functions as a gatekeeper for specialist care in the public sector. Referrals from polyclinics and CHAS GP clinics for CHAS card holders provide access to subsidised care at specialist outpatient clinics in public hospitals. (43). After-office-hours emergency care is fully hospital based and not provided in primary health care.

To develop the next phase of primary care in Singapore and facilitate better right siting of patients within the community, Singapore introduced a national Healthier SG initiative in mid-2023. Under Healthier SG, residents are invited to enrol with a participating clinic to receive holistic preventive and chronic care with a regular doctor of their choice Additional incentives are given for residents to seek care at the enrolled clinic, for better continuity of care

Electronic medical record systems are fully adopted and utilised in the public healthcare institutions. Despite their heterogeneity, through Healthier SG efforts, private GP clinics have mostly adopted electronic medical record systems, or clinic management systems, which have linkages to national electronic health records and integrated with systems processing claims under government financing schemes (e.g., CDMP and CHAS).

THAILAND

The healthcare facilities in Thailand are divided into three different levels; region-based health services system (RHS), district health system (DHS) and primary care cluster (PCC) (44). PHC are managed under two levels of healthcare facilities which are DHS and PCC. PCC provides health prevention, promotion, and other primary health care services. These services are provided through family care teams consisting of family physicians and local multidisciplinary teams of health personnel. A sub district or Tambon health promotion hospital (THPHs) was introduced in 2009, based on Thailand's existing health facilities. THPHs are considered as polyclinics that deliver preventing medicine, health promotion, and treatment for minor trauma and minor ailments (45).

All healthcare services including curative care, health promotion, disease surveillance and other public health programs are managed under the Ministry of Public Health (MoPH) (44). PHCs in Thailand do not work with patient listing. In terms of gatekeeping, it is compulsory for all Thai citizens to register under the provided health protection schemes. It is not permissible for beneficiaries to seek treatment at hospitals without seeking referrals from PHC beforehand, with an exception of accidents and emergency cases.

There are three main health protection schemes available in the country, which are the Universal Coverage Scheme (UCS), Civil Servant Medical Benefit Scheme (CSMBS) and Social Health Insurance (SHI) (46). However, there is still a lack of coordination amongst the three available schemes. Each scheme is managed individually by different bodies resulting in unequal access to health for the population (46). Therefore, Thailand plans on reducing the differences between these schemes by introducing a tax-financed scheme, named Universal Health Coverage (UHC), one that is given to all citizens with equal access to health facilities regardless of status (46).

Some of the big challenges faced by the country include fiscal sustainability in the long term and maintaining the quality of healthcare services (47). Other challenges would be the shortage of healthcare professionals to meet the demands of UHC and the wide gap in the distribution of quality healthcare services between urban and rural PHCs as there are more PHCs and better facilities in the urban as compared to the rural areas (44,48).

VIET NAM

In Viet Nam, the network of healthcare delivery system has been tiered into four different levels: central, provincial, district and communal (49,50). The Communal Health Center (CHC) has the capacity to deliver preventive, acute and chronic care, and treatment services for individuals in each commune (51). District Health Center (DHC) covers both primary and secondary care. There are DHC-operated outpatient polyclinics, staffed by physicians from a variety of specialities, which provides health care for several nearby communes in a region, supplementing local CHC activities. DHCs in every district also provide more complex, curative services, and typically include an outpatient department for diagnostic and therapeutic services. They also receive patients who are referred by CHCs in the local region, as DHCs offer more diagnostic services, as well as inpatient department, with disciplines such as internal medicine, paediatrics, surgery, obstetrics and gynaecology (51). The network of grassroots primary healthcare providers is extensive, with more than 11,000 CHCs, and 620 district hospitals (52).

Patients are given the freedom to choose their place of medical care. Nevertheless, there is a referral system in Viet Nam, which is related to the reimbursement mechanisms of health insurance. Those enrolled in the social insurance system must designate a single facility as their primary destination of care or first point of contact, usually in the commune or district. Patients are referred to higher level hospitals when they need to receive more advanced healthcare services. If patients are not referred from lower level facilities and instead directly visit hospitals at a higher level, they need to pay a higher co-payment or instead choose to self-pay for services directly to the private hospitals and clinics (53). Therefore, CHC plays a key role as a gatekeeper in order to ensure the efficiency of the health referral system in Viet Nam (49,52,54).

There are some gaps in the facilities at the district and communal level of healthcare. The grassroots of the health system performed less well in terms of being able to address the growing health needs on managing NCDs. Some CHCs in certain districts lack basic amenities such as clean water. On average, district hospitals have only half of the essential medicines in stock and CHCs have only one-third of the medicines. Nearly all facilities have computers and internet access, but only 22% of district hospitals and almost no CHCs utilise those tools by using any form of information management system. A significant number of district hospitals do not have important equipment such

as anaesthetic equipment, electrocardiograms and blood glucose analysers, indicating difficulty in providing emergency response or managing diseases such as diabetes (52).

2.2.2 Health Workforce for Primary Health Care

Health workers for primary health care in AMS range from physician to lay person. The definition of lay person varies between countries, where in some countries this implies fully trained village workers, whereas in other countries, no structured or official training by health authorities is provided. It is rather challenging to collate numerical data on human workforce for primary health care at country level as most AMS do not have data on private sector health workforce for primary health care. Some AMS also do not disaggregate data for health workforce by primary, and secondary or tertiary care, and these countries are not included for comparison in Figure 3.

Figure 3 depicts the core health workforce density ratio for PHC across different countries (where the data is readily available), calculated as total number of doctors, nurses, and midwives in primary health care per 10,000 population. The core health workforce density for PHC ratio ranges from 9.72 to 21.72 per 10,000 population. However, interpretation is limited as some of the data are not comparable between countries due to varying scope of data availability and definitions of healthcare professionals. Data for Brunei, Cambodia, Indonesia, Viet Nam and Lao PDR is limited to health workforce in public sector only. Data for primary health care doctors in Malaysia include both public and private sector with estimation of 1 doctor to 1 clinic for the private sector. Data for PHC nurses for Malaysia include midwives as no separate data available for midwives and this was only from public sector as minimal nursing personnel work in primary health care private sector. Singapore, Myanmar, and Thailand particularly do not disaggregate data on human resource for health by primary health care and other levels of care, hence human resource for primary health care could not be calculated.

Bearing in mind these limitations, Lao PDR has the highest core health workforce density for PHC at 17.9 per 10,000 population and Vietnam the lowest at 5.8 per 10,000 population. Across all countries, nurses form the largest workforce, except for Indonesia, where midwives are double the workforce strength of nurses. The medical doctor workforce strength ranges from 0.7 per 10,000 population in Indonesia to 5.5 per 10,000 population in Lao PDR.

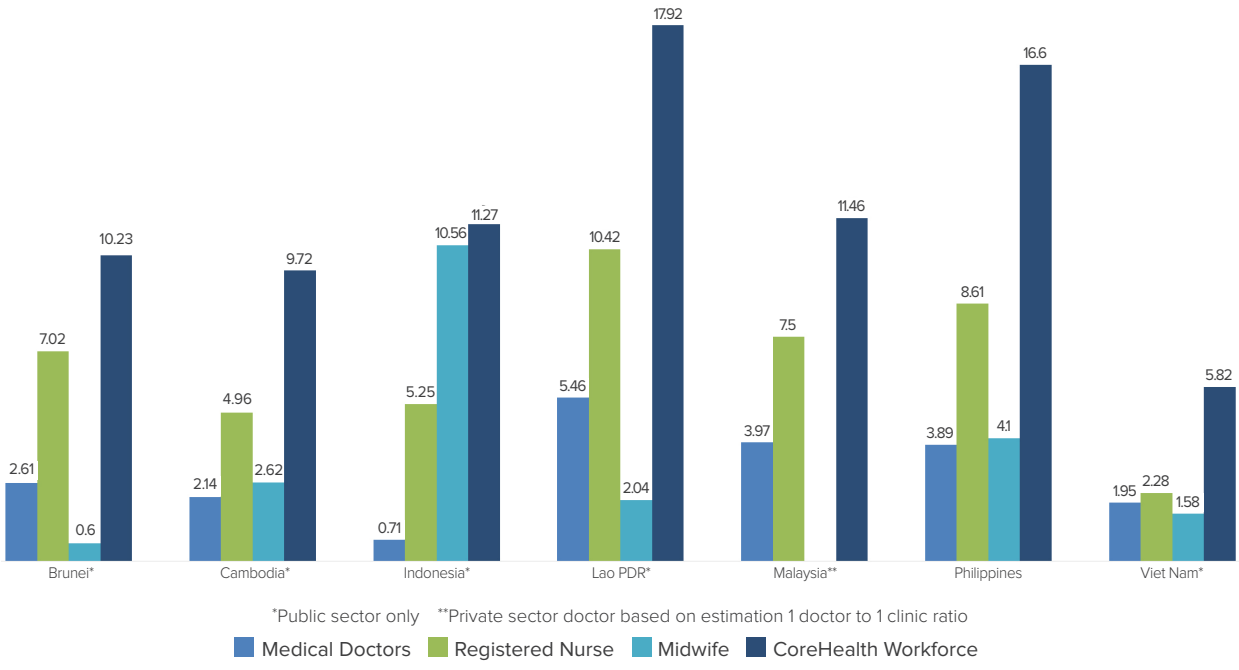

Figure 3: Core health workforce density for PHC per 10,000 population ratios in each AMS

The composition of the primary healthcare team varies by the functional level of various types of facilities delivering PHC services. While medical doctors, nurses, midwives are common members of the PHC team across countries, in many countries, nurses deliver most of the primary healthcare services. There are country-specific cadres of staff, for example, public health practitioner, PHC staff, PHO, lady visitor, health assistants and assistant medical officers. The contribution of voluntary community health workers varies between countries, with varying structured training and scope of functions.

BRUNEI DARUSSALAM

In Brunei Darussalam, the primary health care team comprises of doctors, dentists, community ophthalmologist, nurses, midwives, optometrists, orthoptist, physiotherapist, occupational therapist, dental hygienists, dental technicians, phlebotomist, pharmacists and dispensers, podiatrists and psychologists (55). A few health centres also provide radiological services within the health centre.

The primary health care doctors provide services for the general clinics, flu clinics and chronic disease clinics as well looking after the acutely ill who presented to the health centres. The general clinics comprises of a range of illnesses from acute emergency cases, communicable to non-communicable diseases for all age range. Each facility has their own list of patients with chronic diseases who are being followed up regularly with a set appointment system. The doctors providing the services in the maternal and child health clinics mainly focuses on antenatal care including ultrasound, post-natal care, and women's wellness care. They do not routinely conduct deliveries in the health centres or health clinics although safe deliveries had been conducted in the health centres, as nearly all deliveries are hospital-based.

To become a doctor in Brunei, one must undergo a recognised 5-6 years of undergraduate medical course and a two-year mandatory foundation training to enable them to be recognized as a medical officer. To become a primary health care doctor, the doctor must undergo a post-graduate basic specialty training of 3 years where the trainees build up their experience in the hospitals and in the primary care. This training is mandatory for all local primary health care doctors.

The nurses providing the services in the primary health care are all trained nurses. They must undergo recognised nursing training and pass the internship programme. There are always opportunities for the nursing staffs to undergo further training to enable them to perform certain tasks. With the additional training and experience, the nurses have been able to run the nurse-led clinics such as the Diabetes Nurse Clinics, Smoking Cessation Clinics, the National Health Screening Programme Clinics, the Child Health Clinics, and the Antenatal Clinics.

One of the challenges in Brunei Darussalam's primary health care services is human resource in terms of recruitments and retention of doctors. The shortage of doctors and nurses plays a part in the delay in the expansion of services to cater to the increasing rate of patients with NCDs and the aging population in the country. Hence for primary health care in Brunei Darussalam, there are plans for primary health care system to be strengthened, for example through working together with health promotion centres to increase the patients' health literacy and to develop more nurse-led clinics in the future.

CAMBODIA

Primary health care in Cambodia is primarily provided by nurses where doctors are concentrated mainly at central and provincial health facilities, national, charitable and referral hospitals. Most nurse-led primary health care health centres provide only health promotional activities whilst few health centres also perform medical-doctor functions such as basic management of chronic NCD. In

these health centres, the nurses are given the authority to prescribe limited number of medications. Cambodia has its own training programs for nurses locally and all nurses graduate from institutional training centres. There are two categories of nurses, namely primary and secondary. Cambodia made it a policy that all newly-graduated nurses must be posted first in a health centre in rural area then only to urban or city area. They also offer post-basic training program after some work experience, such as community health and MCH that have different special training programmes in nursing. Some health centres also have midwives who are specifically trained for antenatal and postnatal care. With regards to nurses at the health post, there are one to two nurses designated per post. In addition, Cambodia also provides minimal non-compulsory training to laypersons to become volunteers in providing health services. These volunteers are then based at health posts and centres throughout the country.

The shortage of midwives is worse than that of general nurses. Due to the limited numbers of midwives, there is a government policy to provide higher incentives through salaries, compared to the general nurses, based on the number of deliveries conducted, antenatal care and family planning services. Besides the shortage in numbers of nurses, there is a very high turnover rate, in addition to maldistribution between the urban and rural healthcare facilities. There have been strategic recruitment efforts to address both the shortage and the skill-mix of government health staff, particularly in maternal health, with a significant increase in the number of midwives and a more modest increase in nurses since 2005.

As a way forward, Cambodia plans to build capacity of coordinators on PHC. In addition to that, Cambodia plans to provide guidance on PHC approaches to health workers at all levels. For future planning of the healthcare in Cambodia, there is a plan to invest more in health personnel in rural areas.

INDONESIA

Each *puskesmas* comprises of at least nine mandatory workforce categories which are medical doctor, dentist, nurse, midwife, public health practitioner (which includes epidemiologists, health promotion and behavioural-science personnel and biostatisticians), lab assistant, pharmacist, nutritionist, and environmental & occupational health professional. The workforce profile differs in other types of primary health care facilities at suburban or village levels. All registered medical doctors have at least undergraduate medical training and it is mandatory for all local universities to include 6-month internship in primary health care centre as part of the undergraduate medical training curriculum. The country is currently in the process of setting up family medicine specialty pathway for career progression of primary health care doctors.

Registered nurses and midwives in Indonesia have a qualification of diploma or degree and no mandatory additional training for nurses in primary health care. Currently, there is a surplus of nurses and midwives in Indonesia's primary health care, with the number of nurses and midwives working in rural primary health care is more than double than in the urban area.

One of the main challenges in human resource for primary health care in Indonesia is maldistribution of medical doctors between the urban and rural areas. There are enough doctors in urban areas but the number falls short in rural areas. Since 2015, as part of the *Nusantara Sehat* Programme, Indonesia introduced a voluntary programme with incentives and benefits for recruitment at border or remote area for a team of medical doctor, nurse, midwife, dentist, and public health practitioner to overcome this issue. Nevertheless, improving the health workforce imbalance, especially in terms of capacity and high turnover rate, remains a challenge for Indonesia's primary health care.

LAO PDR

Each health centre in Lao PDR has 3 to 5 or 5 to 7 staffs depending on the type of health centres. The team comprises of doctor, nurse, midwife, PHC staff, and village health volunteers (VHVs). There are, however, severe shortage of doctors where there is a very small number of doctors in primary health care in the urban areas and no doctor working in primary health care in the rural areas. There are less than 100 family doctor specialists nationwide who are positioned only at the community and district level. There is no dentist or pharmacist in the public primary health care sector.

Most primary health care services are provided by nurses, midwives or PHC staff. Post-basic training is required to upgrade the qualifications of nurse to the level of midwife, except in some remote areas where it is difficult to retain nurses and new recruits can enter a midwifery training course directly. VHVs, who receive 1-2 weeks of training on dispensing basic drugs and treating common diseases, offer primary health care services in hard-to-reach areas where there is no health centre (38).

PHC staff, which is rather unique to Lao PDR healthcare, was initially introduced for vaccination and prevention care only. They had to undergo three years of training for diploma certification which is fully funded and managed by the MOH at three provincial-level health sciences colleges situated in Luang Prabang, Savannakhet and Champassack. With the need to increase competency and skills of these PHC staff, an additional mandatory 2-year training was introduced to upgrade PHC staff to assistant general practitioner or assistant midwife. There are currently about 2000 PHC staff nationwide, which is still insufficient to meet the need for service provision in health centres, especially in remote areas.

The main challenge in human resource for primary health care is to provide sufficient health workforce in the rural area. Due to severe shortage of health workforce in the rural area, the government has made it compulsory for all new graduates to work in the rural areas for at least three years. They are also considering providing adequate financial and non-financial incentives to retain health staff in rural and remote areas.

MALAYSIA

The primary health care services in Malaysia are delivered by approximately 3,000 public and 7,000 private primary health care facilities. The core workforce of the public primary health care consists of family medicine specialists (FMS), medical officers (MO), dental officers, assistant medical officers (AMO), registered nurses and community nurses, and supported by medical laboratory technicians, radiographers, pharmacists, and assistant pharmacists. In addition, nutritionist, dietician, occupational therapist, physiotherapist, and medical social workers are available in selected facilities. The profile of the human workforce differs by the type of primary health care facility, depending on its functional level.

An MO needs to complete a five to six-year undergraduate medical degree from a university recognised by the government of Malaysia, followed by two years of houseman-ship before serving in primary health care. Those who undergo further specialised training in Family Medicine will serve as an FMS. To become an AMO or a registered nurse, one needs to undergo a three-year diploma or a four-year degree program, recognised by the MOH. Advanced diploma programs in public health, midwifery, diabetes, and others are available, but not mandatory for nurses in primary health care. As deliveries in Malaysia is more than 95% hospital-based, many nurses with post-basic midwifery qualification are positioned in hospitals, rather than primary health care. Community nurses have a 2.5-year certification training in general nursing and basic maternal and child healthcare. However,

this post is being phased out in an effort to integrate the nursing profession into a single cadre with a minimum basic qualification at the diploma level.

All doctors, dentists, pharmacists, nurses and AMOs must register with their respective professional bodies and obtain an annual practicing certificate to practise. The private primary health care services are provided by registered medical practitioners who have completed their mandatory public service. Further specialisation in family medicine is available through 3-year master program or parallel pathway program. Currently, there are about 500 family medicine specialists working in the public sector. Malaysia also conducts credentialing and privileging for nurses, AMOs or allied health professional for specific procedures in order to facilitate task shifting from doctors to other healthcare personnel.

More than 50% of medical and dental officers are concentrated in urban health facilities. More officers and other healthcare providers are required in rural facilities to strengthen the services provided. There is also a challenge of sustainability as public primary health care sector disproportionately cares for patients with chronic illness as compared to private sectors which largely serves the healthy ill patients. This is further evidenced by a survey conducted in 2014 where in Malaysia, the top two reason for visit to public PHC clinics are hypertension and diabetes, whereas the top two reason for visit to private clinics are fever and cough (56).

MYANMAR

The Ministry of Health in Myanmar is responsible for providing comprehensive healthcare services to the entire population in the country. PHC and basic health services, nutrition promotion and research, occupational health and environmental sanitation, maternal and child health services, reproductive health services, school health services, prevention and control of communicable diseases, neglected tropical diseases and non-communicable diseases, expanded immunization program including COVID-19 vaccination, Disaster preparedness and responses, and health literacy promotion are mainly provided by the Department of Public Health.

Almost 70% of the Myanmar's population resides in rural areas. Basic Health Staff (BHS) are the main health care providers to provide PHC services to the rural community. The BHS is responsible for MCH (clinic or homecare), school health, nutritional promotion, immunisation, community health education, environmental sanitation, disease surveillance and control, treatments of common illnesses, referral services, birth and death registration, and training of CHW (57). The BHS is generally made up of Public Health Supervisor (PHS) Grade I, PHS Grade II, Midwife, Lady Health Visitor, and Health Assistant (57). In general, each Rural Health Centre (RHC) has at least one of each staff category. Each sub-RHC is staffed by a midwife and a PHS Grade II with outreach services provided by BHS, mainly midwives and supported by Community based Health Workers who are auxiliary midwives (AMWs) or community health workers (CHWs) (40,58–60).

The MOH and Ministry of Defence are responsible for the training and production of different categories of health workforce through 15 universities and 53 nursing and midwifery training schools (57,59,60). Medical doctors require six years of training and one year of internship and in primary health care, they exist at township health department, urban health centre, station hospital and maternal and child care centre (40). Health Assistants are the main providers of PHC in rural areas, graduates of a four-year Bachelor of Community Health degree programme and one-year Master of Community Health from the University of Community Health (UCH) (61). A two-year diploma course is required to be a certified midwife (62). At present, those who apply for nursing or midwifery training must pass matriculation. Applicants with higher marks in the matriculation are selected for the nursing university and the remaining applicants are allocated to nursing training school or midwifery training school (40).

PHS Grade I requires a certificate course for a period of nine months offered by the UCH (62,63). On the other hand, training for PHS Grade II is conducted by the State and Regional Training Teams under the Department of Public Health (40). Lady Health Visitor (LHV) is a midwife with additional training (Certificate level) conducted at the Lady Health Visitor Training School in Yangon about one year training which produces approximately 100-200 LHVs each year (40).

MOH through BHS, trains and supervises Community Based Health Workers (CBHW) using different sources of funding, either through domestic funding or from international development partners (63,64). The criteria for CBHW include; a person who is interested in delivering health care and messages to the rural community, preferably those who are under the age of 35, having at least a middle school-level education, and living in the rural area but not in a village where a sub-centre exists. This is to ensure all CBHWs have sufficient education to read and write in Myanmar and speak the local dialect (63,65). On the other hand, auxiliary midwife require 6 months training (40).

PHILIPPINES

Human resources for primary health care in the Philippines is comprised of doctors, nurses, midwives, medical technologists, dentists, and Barangay Health Workers (BHWs). Doctors are available only in Rural Health Units (RHUs) or Urban Health Centres (UHCs) which are operated by the national government. Barangay Health Station (BHS), operated by the Local Government Unit (LGU), has at least one nurse or midwife and BHW.

Doctors, registered nurses, and midwives are required to take licensure exams to become a registered primary health care provider under the Universal Health Care (UHC) Law and according to the DOH-PRC JAO 2020-0001 on Guidelines on Certification of Primary Care Workers for Universal Health Care (which was issued in July 2020), certification of primary care workers is required. This is different from the licensure exams administered by the Philippine Regulation Commission (PRC) through the Medicine, Nursing, and Midwifery Boards, respectively. The Joint Administrative Order (JAO) further details the transitory provisions for this certification. While the JAO was issued in 2020, the actual implementation of the certification process has not yet commenced. The Philippines is still in the process of developing the curriculum and practice guidelines for Primary care workers, and the systems to conduct the process is still being improved. Provisional certificates are still being issued to health workers who are currently engaged in primary care practice until the end of 2022. Majority of healthcare professionals in the country receive their degrees from private institutions. These institutions also provide specialisation program, for example, family medicine.

BHW, which is unique to the Philippine healthcare, is a person who has undergone accredited training programs and who voluntarily renders primary health care services in the community, accredited to function as such by the local health board in accordance with the guidelines promulgated by the DOH. They are primarily placed at the BHS. To become an accredited BHW, one must have at least two years of secondary education, five years of voluntary services, underwent training for BHW and they must be living in the local area. BHWs are trained for health prevention and promotion services, but not curative care. The Philippines aims to recruit 1% of the population as the BHWs. In 2019, 207,872 BHWs have been accredited by the LGU.

Maldistribution of human resources between urban and rural areas is a problem in the Philippines. Doctors, nurses, midwives, medical technologists, dentists, pharmacists, nutritionists-dietician HRH deployment program were introduced to overcome issue of shortages of doctors and nurses in remote areas. In this two-year deployment program, doctors are sent to low-income municipalities or remote areas and are paid according to the national government rate salary which is usually higher than the Local Government Unit (LGU) salary. The DOH also provides postgraduate scholarship

programs, such as Master of Public Health, as an incentive in this program. Similar deployment program is also available for nurses. Nonetheless, the country still finds difficulties in solving this problem due to the lack of interest in doctors to stay in Geographically Isolated and Disadvantaged Areas (GIDA) because of financial considerations and their chosen career pathway.

The Philippines also plans to increase the number of permanent positions for healthcare workers in PHC and solve the problem of shortages of doctors and nurses in primary health care centres. It is found that many doctors and nurses have minimal preference to serve in primary health care centres due to the low salary offered and unpredictable career pathway. Nurses on the other hand, are commonly found working in hospitals for a few years and would later migrate or work abroad for better work opportunities. Under the UHC law, and the DOH-PRC JAO 2020-0001 on Guidelines on Certification of Primary Care Workers for Universal Health Care (which was issued in July 2020), certification of primary care workers is required. This is different from the licensure exams administered by the PRC through the Medicine, Nursing, and Midwifery Boards, respectively. The JAO further details the transitory provisions for this certification. Another challenge faced by the LGUs is finding financing source for to fund compensations and benefits of the health workforce – which mainly depends on the local government income. On the profile of healthcare providers, the Philippines through the Department of Health has implemented in 2022 the Health Facility Profiling System which includes the Primary Care Facility Module.

SINGAPORE

Human resources for primary health care in Singapore include family physicians, general practitioners, dentists, oral health therapists, nurses, pharmacists, and various allied health professionals such as psychologists, dietitians, physiotherapists and podiatrists. Public sector polyclinics are multi-doctor institutions which function as one-stop centres with radiological, laboratory and pharmacy services on site. They typically have a team of allied health professionals practising in each centre. On the other hand, private general practices (GP) clinics operate on a smaller scale, typically staffed by one or more doctors, and assisted by clinical assistants. For GPs who are on the national CHAS scheme, they are encouraged to join a Primary Care Network which can deploy nurses and care coordinators to support and augment care for their patients. Most private GP clinics do not have allied health, laboratory, or radiological services on-site and hence they may choose to partner with external ancillary service providers to deliver holistic care. There are a small number of GP clinics, such as those belonging to large corporate chains and multi-doctor practices, that may have such services on site. Private allied health practices are usually staffed by one or more allied health professionals providing a narrower scope of services. Private dental clinics are also sited within the community and provide general and/or specialist dental care, and may sometimes be co-located with private GP clinics.

Medical graduates, who received their medical degree from local universities recognised by the Singapore Medical Council (SMC), must pass the one-year mandatory postgraduate year one (PGY1) training in a public healthcare institution before becoming a fully registered doctor for independent practice. Not all local graduates who complete their PGY1 training will automatically become fully registered; some may be conditionally registered instead. Foreign trained medical graduates with overseas medical degrees recognised by the SMC and have completed their houseman-ship overseas, will be conditionally registered and must work under supervision for a stipulated period. They may progress to full registration after completing the period of supervision successfully. Fully registered doctors can work in private practice. Conditionally registered doctors who fulfil SMC's provisions can work in approved private clinics with trained supervisors. Postgraduate qualification

is not mandatory to practise family medicine independently in Singapore, but are pursued for professional advancement or specialisation. Postgraduate family medicine training has been available since 1971 and the Register of Family Physicians was established in 2011 with the aim to set the standards of family medicine training and family physician accreditation in the country.

Dental graduates, who have obtained a dental degree from the local university recognised by the Singapore Dental Council (SDC) would be fully registered for independent practice. Foreign trained dental graduates with registrable basic dental qualifications wouldbe conditionally registered if they have secured employment with licensed private clinics or healthcare institutions. Conditionally registered dentists must work under close supervision of fully registered dentists for a specified period (typically equivalent to 2 years full-time) and upon meeting the prevailing requirements set by the SDC, they may then apply for conversion to full registration..

The qualification needed to become a registered nurse is either a diploma or degree in nursing while for enrolled nurses, the minimum qualification is a National Institute of Technical Education (ITE) certificate. Advance nursing training, which facilitates the deepening of nursing knowledge in an area of specialty, is available for nurses working in hospitals, primary and community care sectors. Midwives in primary care setting do not carry out deliveries in Singapore. Over the years, through national publicity efforts, Singapore has grown the local nursing training pipelines to strengthen the local core of nurses

THAILAND

Thailand's healthcare system has significantly improved ever since the implementation of free access and coverage on healthcare in 2002. The health workforce in Thailand aims in providing care related to health promotion and prevention, curative care and rehabilitation (48). Doctors, nurses, and public health officers (PHO) play a significant role in bridging the gap in access to PHC services especially in rural districts. Although the number of doctors in Thailand has increased throughout the years, PHC services in sub district areas are provided mainly by nurses, PHOs and community health volunteers (CHV). Doctors are found more in district hospitals and private urban clinics. CHV helps in controlling communicable diseases and provide basic care services, for example, measuring blood pressure and providing emotional and mental support to the local community (44,48). Nonetheless, PHOs remain the largest group of staff and are responsible in promoting health, preventing diseases and providing simple curative care in the local community (66).

In Thailand, doctors are trained for six years in medical school and are expected to undergo a compulsory training in the government sector after graduating (67). Currently, there are 20 universities offering medical programs in the country, mostly public universities (68). Nurses are trained for four years in nursing colleges and it is mandatory for all registered nurses to be competent in midwifery (67). PHOs are people with no medical background who are trained for two years at local institutes to help in basic curative care and increase health awareness in the community. They are then required to serve at primary health care centres (PCCs) located at their respective hometowns (66). To combat the discrepancy of Thailand's primary health care services in both urban and rural districts, several programs and incentives were introduced by the government for the past few years. Education schemes were announced to recruit more medical and nursing students specifically from the rural communities and more universities were built in this area. Under these schemes, graduates are needed to undergo compulsory services for three to twelve years in their hometown and a risk of penalty will be enforced if the bond is broken (67).

Although Thailand is on track in improving their primary healthcare system (PHS), several challenges have yet to be solved. The country aims in attaining a functioning PHS at a district level by producing

an adequate number of competent healthcare workers. Nevertheless, there is still insufficient primary health care staffs in the country despite the increased number of healthcare workers in general (45). It is also found that curative care are still the main focus of Thailand's PHS as compared to the other three services which are health promotion, disease prevention and home healthcare (46).

VIET NAM

In Viet Nam, the role of primary health care is covered by district centres and communal health centres (CHC), however primarily by the CHCs (49). District health centres (DHC) cover both primary and secondary care. CHCs also collaborate with village health worker (VHW) in outreach activities (69). Most CHCs typically have five healthcare workers which are general practitioner, assistant doctor, nurse, midwife and pharmacist (49). Typical services include immunisation, epidemic prevention, first aid, maternal and child health care and treatment of common health problems such as chronic and infectious diseases. In addition to CHCs, there are district health centre-operated outpatient polyclinics, staffed by physicians from a variety of specialties which offer diagnostic and treatment services for a range of health problems. A polyclinic provides health care for a number of nearby communes in a region, supplementing local CHC activities (51).

The qualifications of the respective professions involved in CHC are rather difficult to distinguish and comprise a mixture of various qualifications levels across the professions (52). Fully qualified doctors comprise just 11% of health care providers at the commune health stations. The remainder are staffed by assistant doctors, who have a lower level of qualification. Most "fully qualified" doctors at commune health stations do not have the standard university doctor training but instead have been promoted from assistant doctor through "twinning" training programs or pursued degrees through less competitive "direct entry" programs available in the country (52). This mixture cuts across all the different healthcare professions at the CHCs.

Several challenges that they have include a lack of truly qualified healthcare staff, the ability to sustain a quality workforce and a shortage of career development opportunities as family medicine is not considered widely as a speciality. Other than that, there are also unsatisfactory rewarding, poor working conditions and a lack of learning opportunities due to inadequate working staff at geographically difficult areas (49). The system may also face the challenge of finding doctors to staff CHCs in the future, after older doctors begin to retire, as the younger doctors prefer to work at hospitals (52).

2.2.3 Primary Health Care Service Packages

The Primary Health Care (PHC) in AMS functions to provide wide range of services including womb-to-tomb care, communicable and non-communicable diseases, clinical procedures, pharmaceutical, laboratory and radiological services. The extent of services provision differs from country to country, depending on the different PHC models undertaken by the respective country and segregation of function between PHC, public health and hospital-based care. The different functions are also segregated according to type of facilities, with the summary of the extent of services provided in respective AMS as in Table 4. The extents of services are graded from 0 (zero) to 3+ according to the number of facilities providing the service throughout the country and/or the comprehensiveness of respective service provided n PHC facilities. This grading is done qualitatively by panel of expert and representative of AMS during the in-person workshop.

The extent of service depicted in Table 4 is influenced by the proportion of total PHC facilities delivering the respective service. The Philippines in particular, 90% of PHC facilities are Barangay

Health Stations which provide only health promotion and prevention care but not curative care services. More comprehensive PHC services are provided in Rural Health Unit (RHU) or Urban Health Centres (UHC) which comprise about 10% of total number of PHC facilities. This resulted in The Philippines scoring only 1+ in most of the service package. It is important to bear this in mind as a limitation in interpreting this finding, as it is not possible to sum the different types of PHC facilities across the country, when each type functions differently.

Most MCH services are provided at a great extent in primary health care setting in most AMS. This is particularly true for family planning, antenatal care, child immunisation and child health services where these services are provided by almost all PHC facilities in most countries. Child immunisation service particularly is provided to a great extent by all countries. The availability of basic obstetric care service in the PHC setting show widest range among AMS, where in some countries such as Singapore and Brunei, minimal or no delivery service is provided in PHC as almost 100% deliveries are hospital-based. On the other extreme, basic obstetric care are largely provided in almost all PHC facilities in some countries such as in Indonesia, especially in catering for remote areas deliveries.

School health services in Malaysia and Indonesia are provided by certain types of PHC facilities, for example, all Health Clinics (KKs) in Malaysia have a school team comprising of doctors and nurses, but not in other PHC facilities type, such as the MCH and Rural Clinic. School health in Myanmar is also provided in PHC setting where a total of 80 school health teams provide school health services throughout the country (70). On the other hand, school health in other countries is not performed by PHC facilities but embedded as part of the public health function or under the ministries of education.

Singapore provides adolescent health extensively in the PHC setting. Malaysia, Indonesia, Cambodia, The Philippines, Myanmar, and Lao PDR have started to embed this service into PHC function where adolescent health services is provided in PHC setting but to a lesser extent. All other countries provide services to adolescent as part of the general population and not specifically targeting adolescent health. Men's health is also scored lower in terms of provision in PHC setting. Again, most countries provide preventive and curative care to men as part of the general population and there is no specified module or guideline in addressing men's health. Brunei Darussalam particularly does not make separate distinction for adolescent or men's health, generally provided in the outpatient care. Singapore and Thailand, particularly, have these services well established in their PHC setting.

Elderly care is provided in all countries', but to a lesser extent in some countries like Malaysia, Brunei Darussalam and the Philippines, where this service is available only in the bigger health centres. Singapore, Indonesia, Myanmar, and Thailand have managed to provide elderly care to a great extent in their primary health care setting. Myanmar, specifically has a dedicated clinic day in every RHCs and Sub-RHCs for elderly care services (40). Additionally, domiciliary care is extensively provided in primary health care setting in Cambodia and the Philippines. This care was minimally provided in PHC in Malaysia and is not provided in PHC setting in Singapore and Brunei Darussalam. Considering the phenomenon of aging population in most countries, more emphasis should be placed in extensively expanding PHC function to provide elderly and domiciliary care.

The trend of communicable disease provision in PHC setting in each country was very much dependent on disease burden of the country. Singapore, being a malaria-free country, does not provide malaria service in PHC setting and is available only in hospitals. In other countries where malaria is more prevalent, for example, in Indonesia and Myanmar, PHC plays an important role in providing extensive and accessible malaria care services to the population. All countries provide services related to tuberculosis and sexually-transmitted infection in PHC setting, as they remain a significant disease burden in all countries. In some countries, for example, Malaysia, DOTS can be

performed even in the smallest unit of PHC facility to ensure accessibility to tuberculosis treatment.

HIV counselling and testing is provided rather extensively in primary health care setting in most of the countries. On the other hand, the care and support of HIV patients were shifted to secondary or tertiary care as can be seen in Brunei Darussalam and Singapore, where HIV care and support is fully hospital-based. In other countries that do provide HIV care and support in primary health care setting, the service is provided in a lesser extent where only limited facilities are involved in provision of the service.

Diabetes and cardiovascular diseases (CVD) care are provided in primary health care setting in all countries. Five countries – Brunei Darussalam, Singapore, Cambodia, Myanmar, and Indonesia provide these services in great extent where almost all facilities in the country were involved. In Malaysia particularly, two types of PHC facilities (Rural Clinic and Maternal and Child Health Clinic) only provide point-of-care services for diabetes and CVD and other aspect of services are available extensively in the bigger health clinics. As for the Philippines, as mentioned earlier, 90% of primary health care facilities in the country are Barangay Health Stations where the main services provided are child immunisation and basic medical care. Diabetes and CVD care are otherwise provided extensively in other PHC facilities in the Philippines.

Primary health care in all countries also provide various clinical procedures. The extent differs in term of types of procedures available and type of facilities that provide the services. Diagnostic capacity such as ECG machine, ultrasound and x-ray are present to a lesser extent in most countries' primary health care facilities. X-ray machine specifically exist minimally in most countries except in Singapore where all public PHC facilities are equipped with x-ray machine. Indonesia provides only ECG in their PHC facilities.

Many of the countries has included oral health services as part of the primary health care though the extent of oral health services provided varies between countries. Singapore and Brunei Darussalam have most of the services and procedures in all of their public PHC clinics. Most countries provide at least basic oral hygiene service at community or school level. Oral health procedure is less available, especially for non-schoolchildren general population. In Myanmar, oral health in urban areas is mainly provided by dental surgeons from township hospital and township public health department. There are private dental clinics available as private sector in urban areas.

Table 4: Summary of the extent of PHC function in respective AMS

AMS/ Service package	Brunei Darussalam	Cambodia	Indonesia	Lao PDR	Malaysia	Myanmar	Philippines	Singapore	Thailand	Viet Nam
1. Family Planning	+++	+++	+++	++	+++	+++	+	+++	+++	N/A
2. Antenatal Care	++	+++	+++	++	+++	+++	+	+++	+++	N/A
3. Basic Obstetric Care	0	+++	+++	+++	+	+++	+	+	+++	N/A
4. Child Immunisation	++	+++	+++	+++	+++	+++	+++	+++	+++	N/A
5. Child Health	+++	+++	+++	++	+++	+++	+	+++	+++	N/A
6. School Health	0	+	++	0	++	+++	0	++	+++	N/A
7. Adolescent Health	0	++	++	+	++	+++	+	+++	++	N/A
8. Men's Health	0	+	0	+	++	+	+	+++	+++	N/A
9. Elderly	+	++	+++	+	+	+++	+	+++	+++	N/A
10. Person with Disability	0	++	++	+	++	+	+	++	+++	N/A
11. Domiciliary	0	+++	++	+	+	+++	+++	0	++	N/A
12. Malaria	++	+++	+++	++	++	+++	+	0	+	N/A
13. Tuberculosis	++	+++	++	+	++	+++	+	+++	++	N/A
14. HIV Counselling & Testing	++	++	+++	++	++	+++	+	++	+	N/A
15. HIV Care & Support	0	++	0	++	+	+	0	0	+	N/A
16. HIV/AIDS PMTCT	0	+++	0	+	+	++	+	0	+	N/A
17. STI	+++	+	+++	++	++	+++	+	+++	+	N/A
18. Diabetes	+++	+++	+++	+	++	+++	+	+++	+++	N/A
19. CVD	+++	+++	+++	+	++	+++	+	+++	+++	N/A
20. Chronic Respiratory Disease	++	+++	0	+	++	++	+	+++	+	N/A
21. Cervical Cancer Screening	+++	++	+++	+	+++	++	+	+++	+++	N/A
22. Clinical Procedure	+++	+++	+++	++	++	N/A	+	+++	+++	N/A
23. High level Diagnostic Capacity	++	++	+	+	++	+	++	+++	+	N/A
24. Oral Health Services	+++	N/A	++	+	+++	++	++	+++	+++	N/A
25. Oral Health Procedures	+++	N/A	++	+	++	++	+	+++	++	N/A

+++ Extensively provided in PHC setting; in respect to number of facilities or types of service comprehensiveness
++ Provided in PHC setting to a lesser extent; in respect to number of facilities or types of service comprehensiveness
+ Provided in PHC setting in minimal extent; in respect to number of facilities or types of service comprehensiveness
0 Not provided in primary health care setting
N/A Data not available / unsure

2.3 Primary Health Care Issues and Challenges

2.3.1 General Common Issues and Challenges

A common challenge facing the three areas of health facilities, human resource and service packages, is the lack of readily available data to regularly monitor the primary health care capacity of each country. Most countries are still lacking a disaggregated Master Facility List by public and private sector, and by urban and rural region. The profile of healthcare providers and the different types of primary health care services provided in each facility are also not available, making the attempt to accurately profile the primary health care capacity of each AMS a great challenge.

2.3.2 Primary Health Care Facilities

Most AMS especially those with geographical variations undertook different types of health facilities to improve accessibility to health care. In some areas, there is no common standard on what and how a primary health care facility should be. There are still areas where primary health care facilities infrastructures are in dire need of improvement especially in remote areas where basic amenities are a scarcity. Essential medicines availability is still an issue in some of the countries especially in rural areas.

Most countries have data on number of primary health care facilities but lack of details on types of services provided, human resource in each centre and specific service availability and readiness. Most countries have some basic data on public primary health care facilities readily available, however, it is a common challenge across countries to have similar readily available data for the private sector. Some countries are working towards ways on embedding and engaging private sector more effectively in the overall PHC system.

Information technology infrastructure in primary health care is also under-developed in most countries. Most countries have a more established IT system in tertiary or secondary care but less in primary health care as primary health care exist even in the remotest area of the nation. Patient listing has not been implemented in all AMS except in Indonesia, and some countries for example The Philippines is working towards it. Gatekeeping system is in place in most countries; however, its implementation and effectiveness vary, especially in the private sector where it tends to be less effective.

2.3.3 Health Workforce for Primary Health Care

The main issue in monitoring human resource for primary health care in AMS is unavailability of country-level data on human resource specifically for primary health care. Most countries have number of health professionals in aggregate form, not distinguishing between primary and secondary or tertiary care. Data on human resource in private sector is also lacking in almost all AMS.

Most AMS are experiencing shortage of qualified manpower, more profound in remote or rural areas. There is a maldistribution of human resources between urban and rural facilities as majority of the health workforce prefer to work in the urban setting. Most healthcare professionals, especially doctors, are not sufficiently motivated to practice or remain in rural regions due to lack of incentives. There is also a high turnover of non-local workforce in remote areas. Nevertheless, most countries tried to implement various strategies to balance this maldistribution and increase retention of healthcare professionals in remote areas, with some notable success. In countries facing critical shortage of qualified healthcare professionals, a common strategy is to recruit layperson who have basic or minimal training as part of healthcare providers.

Recruitment of lay workers or volunteers to increase access to primary health care is one practical solution in addressing human resource for primary health care scarcity. Some countries are doing very

well in this area, where layperson is properly trained, sufficiently monitored and efficiently recruited with certain standards of requirement in ensuring uncompromised delivery of care. Nevertheless, in some countries, this operation is not well monitored or regulated, leading to varying standards and quality of care.

There also seem varying definition and standard of qualified healthcare professional across countries, where in some countries, some years of experience in primary health care is sufficient to make a person with non-medical degree to become a "qualified" doctor. This is mainly due to poor regulation of medical practitioners' registration causing unregulated medical practices. There is also varying degree of recognition among countries in specialty pathway for primary health care doctors possibly rendering perception on less popular career pathway in primary health care.

2.3.4 Primary Health Care Service Packages

Most AMS had provided a great extent of communicable and non-communicable disease service in their primary health care, with good coverage of services for family planning, antenatal care, child immunisation, child health, tuberculosis, diabetes, cardiovascular disease, cervical cancer screening and clinical procedures. There are also varying profiles of primary health care especially in terms of demarcation between primary health care and public health, or between primary health care and secondary level care, making comparison between countries a challenging task. Different models that were undertaken by each country is very much customised to each country's unique challenges.

A profound issue that is found in almost all AMS in terms of service packages in primary health care is the lack of attention or expansion of services to attend to the needs of the ageing population. In some of the countries, elderly care is mainly provided at secondary or tertiary level setting. Considering that the AMS are not exempted from the ageing population phenomenon, this is particularly worrying. Rehabilitation and domiciliary care are still minimally present in primary health care setting, except for a few countries.

Mental health care is also not widely available in most countries' primary health care. Patients needing aid in mental health issues will need to visit a secondary or tertiary care facility. Mental health in ASEAN has been highlighted in the past decade as one of the health priorities in the ASEAN Post-2015 Health Development Agenda(29). Nevertheless, a lot of effort towards improving mental health services is still needed in most of the countries, especially where social stigma on mental health illness is still strong.

Another issue that is identified in some AMS is the lack of widely accessible services for non-communicable diseases in PHC setting. The availability of services for these diseases especially on initiation of treatment are limited to larger PHC facilities which are skewedly distributed in urban areas hence make it less available in smaller units of PHC facilities.

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CHAPTER 3

Situational Analysis: Traditional and Complementary Medicine

3.1 Methodology

The development of survey form for baseline information of T&CM in ASEAN was based on:

1. WHO Traditional Medicine Strategy 2014-2023 which emphasized on the development in 3 areas, i.e. practice, practitioners and products (medicines),
2. WHO Core and Reference Indicators in Traditional, Complementary and Alternative Medicine (T/CAM) in South-East Asia,
3. The three areas of health care specified in Health Cluster 3 Work Programme (2016-2020), i.e. primary health facilities, human resource, and service packages.

The survey topics included not only the areas specified in Health Cluster 3 Work Programme, but also covered other aspects specified in the two WHO documents mentioned above in order to have a more complete picture of T&CM system in ASEAN for future development. The draft survey form developed by Thailand, the lead country on the part of T&CM on this activity, was sent to health cluster 3 coordinators and focal points of T&CM for approval in 2018 prior to data collection.

The baseline information on T&CM was then reported by T&CM focal points and sent back to Thailand for compilation. The information was later sent to Malaysia for gap analysis in 2019. The information received from AMS and Malaysia was then analysed and transformed into tables covering each AMS information on 1) National policy and governance, 2) T&CM service packages, 3) Education, training, and human resource for health, 4) Traditional and herbal medicine, and 5) T&CM knowledge management. In the case where the information on certain issues was not reported by some AMS, data and information from published literature and government document were used instead.

However, as the information obtained was incomplete on various items and some were unclear or outdated, Thailand therefore sent the information table back to T&CM focal points for final update in order for Thailand to make the draft baseline report and recommendations that were the most up-to-date and valid as the meeting inputs. Based on the 4th Health Cluster 3 meeting in Singapore in 2019, due to the drastic difference between T&CM service system and mainstream service system, T&CM baseline report and recommendations would be a separate chapter in the ASEAN Recommendations on Quality Health Care in Primary Care: Technical Report on Situational Analysis of ASEAN Primary Care Capacity.

ASEAN Meeting of T&CM focal points was held via zoom meeting on 28 May 2020 to brainstorm on the draft baseline report and to formulate recommendations. The edited version of draft baseline report and recommendations was later sent to T&CM focal points for final revision and comments and sent back to Thailand to finalize the baseline report and recommendations prior to submission to the ASEAN Secretariat.

In order to show the complete current baseline situations of T&CM in AMS, the scope of the situation analysis will cover the followings:

a. Policy and government office responsible for T&CM policy making and implementation
b. Systems/types of T&CM in ASEAN
c. Numbers of public health facilities providing T&CM service
d. Coverage of T&CM service in the health security systems
e. Common health problems treated with T&CM service
f. Types, T&CM educational system, and numbers of T&CM personnel in public health service facilities

g. Herbal medicinal products and quality assurance

h. Research on T&CM to develop evidence-based T&CM

Detailed information of each AMS on each topic is presented in the Tables following the text of the report.

3.2 Findings

3.2.1 Policy and government office responsible for T&CM policy making and implementation

Nine AMS, except for Brunei Darussalam, have the policies and strategies on the integration of T&CM in the health service system and T&CM is a part of service plan of the countries, and almost all countries can effectively implement such policies and strategies, while Brunei Darussalam is in the process of formulating T&CM policy. In contrast to mainstream modern medicine healthcare service, the role of T&CM service in the healthcare system and the establishment of the government offices responsible for policy formulation and the implementation of T&CM has just started no longer than 35 years ago, except for Viet Nam, of which the office responsible for T&CM service was established in 1957. Details of policy and responsible offices in AMS are presented in Appendix 6, Table 1.1.

3.2.2 Systems and Types of T&CM in ASEAN

Eight AMS, except for Brunei Darussalam and Cambodia, have integrated their traditional medicine that is the countries' cultural heritage in the public health service system. In Brunei Darussalam, and Cambodia, people can access to TM in private health facilities, private TM establishments, or at TM healers' homes.

In addition to traditional medicine, complementary and alternative medicines (CAM), e.g. TCM, acupuncture, traditional Indian medicine, homeopathy, chiropractic, etc. are also available in AMS. Some CAM are integrated in public health service system and some are available in private clinics or hospitals. For AMS having multi-ethnic groups, such as, Malaysia, Singapore, several types of ethnic-specific TM are provided in public and private health facilities, i.e. TCM, Malay traditional medicine, Indian traditional medicine, Islamic practice. Of all CAM, TCM is the most widely accepted as TCM service is available in all AMS. Types of T&CM found in AMS are as shown in Appendix 6, Table 1.2.

In each TM, there are different modalities of treatment, e.g. traditional herbal formulae, massage, acupuncture, herbal compression, herbal poultice, etc., of which, traditional herbal formulae are the most frequently prescribed modality in all TM. As a result, most countries selected effective and safe herbal formulae into their National List of Essential Medicines as shown in Appendix 6, Table 2.4.

In addition, to standardize the quality of T&CM service in different health facilities, most AMS therefore developed practice guidelines, based either on treatment modalities or diseases. In Brunei Darussalam, guidelines on the registration of T&CM practitioners (which includes training requirements) allowed to practice in Brunei Darussalam as well as on infection control related to T&CM practice are available. In the Philippines, where acupuncture is one of the recognized T&CM, guidelines on the national certification and accreditation of acupuncturists and training centers and clinics were developed. Aside from that there were also guidelines and competency developed for Naturopathy, Chiropractic, Tuina Massage, Traditional Chinese Medicine, Hilot, Osteopathy, Homotoxicology/ Homeopathy, Anthroposophy and Anthroposophic Art therapy in the Philippines.

In each AMS, T&CM service is provided in 1) T&CM units or clinics in western medicine hospitals, e.g. in Indonesia, Lao PDR, Malaysia, Singapore, Thailand, and the Philippines or 2) separate T&CM hospitals, i.e. in Myanmar and Viet Nam. Some AMS, e.g. Thailand and Viet Nam, have both forms of facilities in their service system. In addition, in some AMS, certain types of T&CM services are also provided outside health facilities as a part of home visit service, e.g. postnatal or postpartum care

in Malaysia and Thailand and traditional Thai massage and hot herbal compression for homebound and bedridden patients in the rural areas of Thailand. In a few AMS, i.e. Brunei Darussalam and Cambodia, T&CM services are available only in private sector as consultation and treatment facilities in addition to home service.

The practitioners who provide T&CM services in public health service facilities usually are licensed practitioners in each discipline of T&CM as well as medical doctors or other health professionals who finished diploma or certificate courses in each particular T&CM. At the sub-district level – in Indonesia, Myanmar, Thailand, and Viet Nam – selected herbal medicines and other T&CM treatment modalities are also available at health centers/stations, depending on the existence of T&CM practitioners or T&CM trained health workers in the health centers/stations. In the Philippines, initial efforts in promoting T&CM in government hospitals has resulted in the accreditation of T&CM Centres in 8 Department of Health Hospitals.

More information of health facilities and T&CM services provided appears in Appendix 6, Table 2.

In addition, in some AMS, namely Cambodia, Indonesia, Philippines, Thailand, and Viet Nam, folk medicine and folk healers also play a role in providing health service for rural community people, and patients usually go to folk healer's home to receive their treatments. To ensure safety and quality of their practice, the recognition and registration system for folk healers was established. In Thailand, some community hospitals invite well-recognized folk healers to provide OPD service for patients, under the supervision of medical doctors, on a weekly or monthly basis and their herbal formulae may be included in the hospital formulary.

3.2.3 Numbers of public health service facilities providing T&CM services

The numbers of public health service facilities reflect the level of integration of T&CM in the health system of AMS and depend mainly on national T&CM policy of each AMS, fiscal budget support and the number of licensed TM practitioners available to provide the service. Appendix 6, Table 2.1 shows the numbers of health facilities providing T&CM service in each AMS.

Viet Nam, the first country in ASEAN that made their traditional Vietnamese medicine (TVM) a part of service plan with the most advanced integrative system of TVM at all levels of service, has the highest number of public and private TVM service facilities distributed throughout the country with the highest number of practitioners (TVM doctors). One distinct characteristic of TM hospitals that is different from other AMS is the 'stand-alone' TVM hospitals equipped with modern medicine equipment for diagnosis of the patients, while the treatments are mainly based on TVM principles and therapies. Viet Nam has the policy to establish such TVM hospitals in every province and the country has already accomplished her goal. At the secondary level, TVM service is provided by the TM departments or units in district hospitals, while at the primary level, TM organizations are responsible for giving TVM service in health communes.

In Thailand, Thai traditional medicine (TTM) clinics have been established in public health service facilities to provide TTM service. Such clinics are now available in all tertiary (regional & general hospitals) and secondary (community) level hospitals, while about 51.19% of Tambon health promoting hospitals (primary level) have TTM doctors to provide full TTM services. There is one TM hospital under the Department of Thai Traditional and Alternative Medicine (DTAM), Ministry of Public Health, providing mostly OPD service, with the plan to gradually expand TM hospitals in each region of the country in the future. Meanwhile, acupuncture, the only modality of TCM that is a part of T&CM service plan, is provided in some hospitals where there are medical doctors trained in acupuncture or TCM doctors available. In addition, TCM service is also available in private TCM hospitals and clinics.

Myanmar has 46 'stand-alone' Myanmar traditional medicine (MTM) hospitals at different sizes, ranging from 100 beds (3), 50 beds (9), 25 beds (13), 16 beds (24), with 260 TM clinics at the district level. The services provided by MTM doctors cover MTM, panchakarma of ayurvedic medicine, acupuncture and cupping of TCM.

In Indonesia, people can gain access to traditional health services from:

- Public hospitals and community health centers for PHC where medical doctors trained in Jamu medicine or acupuncture and midwives trained in baby massage licensed traditional health workers can prescribe licensed traditional medicines and provide T&CM modalities for the treatment of their patients.
- Griya Sehat (traditional health facilities) for licensed traditional health workers who can prescribe his/her own potions and licensed TM products and provide T&CM modalities for the treatment of their patients; or
- Traditional healers' premises where registered healers can prescribe his/her own potions or licensed TM products for health promotion or disease prevention only.
- Community empowerment through self-care by utilizing/consuming family medicinal garden (TOGA) and practicing acupressure.

In Malaysia, there are 15 public health care facilities providing T&CM services covering almost all states in Malaysia, except for Perlis and Perak. Most of such facilities provide two main treatment modalities, i.e. traditional massage for chronic pain and stroke, acupuncture for chronic pain and stroke. Of the 15 health service facilities, four hospitals provide herbal therapy as adjunct treatment for cancer, two hospitals provide shirodhara (an Ayurveda therapy involving gently and steadily pouring liquids, e.g. warm medicated oil, over the forehead) and external basti therapy (Ayurvedic oil pooling treatment where warm medicated oil is retained within a boundary over a certain area of the body for a period of time) and one hospital provides only varmam therapy, a manual therapy of Siddha system of traditional medicine. Traditional postnatal care which previously offered at public health care facilities had undergone transformation and delivered at client's home since 2019.

As the majority of Singaporeans are of Chinese descent, TCM is a popular form of traditional medicine used by the public. In Singapore, TCM services are mostly available in private TCM clinics and non-profit TCM organisations, while acupuncture service is available in 6 public hospitals. Since 2007, acupuncture can be used to complement mainstream medicine therapy in private clinics or dental clinics and the service providers should only be medical doctors or dentists trained and licensed in acupuncture or TCM doctors.

The national medicine policy of Lao PDR is available to promote of TM integration into the health care system. Lao PDR traditional medicine services have been provided by Institute of Traditional Medicine since the year of establishment in 1976. There is one Traditional medicine treatment center under the Institute of Traditional Medicine. Other T&CM services are available in 3 central hospitals, 4 regional hospitals, 13 provincial hospitals, some community hospitals (district hospital), and some health centers. In addition, the monitoring of the practices of TM used in health facilities, the indicators for the monitoring of TM was developed and in term of the training of the human resource in TM. The T&CM providers are medical doctors who received training in T&CM, usually from abroad; therefore, the types of T&CM service available in such hospitals depend on the expertise of the medical staff. Meanwhile, acupuncture, the only modality of TCM that is a part of T&CM service in Lao PDR, is provided in 3 central hospitals and some provincial hospitals where there are medical doctors trained in acupuncture or TCM doctors available. TCM service is also available in private hospitals and clinics.

Similarly, in the Philippines, T&CM services are currently available in eight (8) government/public and three (3) private hospitals. The services offered depend on the areas of T&CM training the medical staff have received. In addition, T&CM services are also offered by 50 Philippine Institute of Traditional and Health Care (PITAHC)-accredited T&CM clinics, of which 5 clinics are in the PITAHC building in Quezon City. TCM treatment modalities (acupuncture, tuina massage, and cupping), homeopathy naturopathy, Chiropratic, osteopathy, homotoxicology and traditional Filipino healing (Hilot) are among T&CM services available.

Brunei Darussalam has not yet integrated T&CM in the National Healthcare system; therefore, there is no T&CM service in public health service facilities. However, T&CM services are provided in 111 T&CM private facilities; the distribution of which, 3 medical clinics providing acupuncture or chiropractor or osteopathy along with western medicine, 6 private T&CM health facility providing T&CM, and the remaining 102 at beauty and health establishments. The Majority of the beauty and Health establishments are providing massage therapy in the wellness category. Traditional Malay Medicine services and Islamic Medicine may also be offered at these beauty and health establishments as well as at home service. Additionally, there is a legislation which regulates wellness and health services in Brunei Darussalam namely the Beauty and Health Establishment Order 2016, under the purview of the Ministry of Home Affairs, which regulates amongst others, massage therapists (including the therapeutic category) and reflexologists in these establishments with the support of the Ministry of Health.

With a predominantly Muslim population, Islamic Medicine also plays a significant role as part of T&CM services offered in Brunei and is under the purview of the Ministry of Religious Affairs

Similarly, Cambodia also does not have T&CM service in public health service facility. However, diagnosis, treatment, care and rehabilitation and disease prevention with Khmer traditional medicine, TCM or traditional Indian medicine may be found in private T&CM clinics and home's service. National Center of Traditional Medicine provided short-term training for folk healers to ensure the quality and safety of their traditional Khmer medicine service, those who passed the training course can then apply for the establishment of TM clinics or pharmacies. Currently, there are 78 and 196 of such clinics and pharmacies, respectively.

3.2.4 Coverage of T&CM service in the health security systems

Regarding the coverage of T&CM service in the State's health security system, currently, only three AMS, namely, Indonesia, Thailand, and Viet Nam, have already established such system as shown in Appendix 6, Table 2.5.

3.2.5 Common health problems treated with T&CM services

Musculoskeletal disorders, e.g. muscle pain, joint pain, arthritis, are the top health problems that people seek T&CM treatments in Malaysia, Myanmar, Philippines, and Thailand. This may partly be explained by the types of service provided, namely acupuncture, massage and hot herbal compression, which can effectively relieve musculoskeletal pain. Cough and cold are common chief complaints in T&CM clinics in Indonesia, Malaysia, and Thailand, followed by gastrointestinal problems, e.g. flatulence, dyspepsia, constipation. In addition, traditional postpartum or postnatal care is a common type of T&CM services well-received by people in Cambodia, Malaysia, and Thailand. Details of top 10 health problems treated with T&CM services of AMS are shown in Appendix 6, Table 2.8.

3.2.6 Types, T&CM educational system, and numbers of T&CM personnel in public health service facilities

There are 4 groups of T&CM providers in AMS, namely:

1. T&CM practitioners include traditional medicine practitioners/doctors and complementary or alternative medicine doctors, e.g. TCM doctors, acupuncturists, homeopaths, chiropractors, naturopaths, etc. The educational system of T&CM practitioners is mostly via academic institutions offering diploma or Bachelor's degree education in accredited universities or schools. In Thailand, in addition to Bachelor's degree education, there is also the apprenticeship system of education where TTM trainees would receive training from institutes or TTM health facilities certified by the Thai Traditional Medical Council.
2. Medical doctors and other health professionals trained in particular T&CM course from accredited local or foreign institutions
3. Indigenous folk healers who gained their experiences from practicing with their teachers. To ensure the safety and quality of their practice, the recognition and registration system for folk healers was established in Cambodia, Indonesia, Philippines, Thailand, and Viet Nam.
4. Foreign T&CM practitioners who received license to temporarily practice in each AMS.

For consumer protection, all AMS, except Brunei Darussalam, have laws or regulatory measures to ensure the quality of T&CM providers through the accreditation of schools or universities teaching T&CM of both degree and certificate levels, certifying training courses, as well as registration and licensing systems of T&CM personnel. Brunei Darussalam, however, does require for foreign T&CM practitioners to be registered with the relevant agencies, including the Ministry of Health, which assesses the qualifications and training of prospective foreign T&CM practitioners and henceforth, provides recommendations to the relevant agency for the eligibility of the T&CM practitioner to practice in Brunei Darussalam.

Details of educational system of T&CM and the numbers of each type of T&CM providers in each AMS are shown in Appendix 6, Table 3.

3.2.7 Herbal medicinal products and measures to ensure product quality

For consumer protection, all AMS, except Brunei Darussalam, have laws to regulate the quality, production, import, sale and licensing of T&CM products. Whilst, Brunei Darussalam is in the process of drafting the regulations of T&CM products, the country controls the importation and sale of T&CM administratively by using the available guidelines and related laws such as Poisons Acts and Medicines Order, 2007. Any T&CM products for import and sale to the public will require permission and screened by the TMHS unit for their safety and quality. Samples are also sent to laboratory randomly for analysis of controlled substances. In addition, in all AMS, except Cambodia, the production of T&CM products by local manufacturers must comply with Good Manufacturing Practice (GMP) standard. The numbers of registered products from licensed traditional medicine industries and the numbers of licensed T&CM manufacturers in each AMS are shown in Appendix 6, Table 4.1 and Table 4.2, respectively.

To ensure the quality of traditional and herbal medicines, most AMS have developed monographs of standard specifications of herbal materials commonly used for the production of their traditional or herbal medicines in their National Herbal Pharmacopoeias. Appendix 6, Table 4.3 presents the availability of National Herbal Pharmacopoeia and the current numbers of monographs of herbal materials covered.

3.2.8 Research on T&CM to develop evidence-based T&CM

It is well recognized by all AMS that for T&CM therapies and medicinal products to gain better acceptance by the public and the healthcare community, T&CM needs to be evidence-based medicine through researches. Multidisciplinary researches on all areas involved in traditional and herbal medicines development, particularly clinical research, are therefore crucial to ensure safety, efficacy, and quality of herbal medicinal products. Research evidence is also vital for the coverage of new T&CM therapy under the national health security system and the inclusion of a new herbal medicine into the National List of Essential Medicines, as well as for the licensing of the products for commercial purpose and for the export to bring income for the country. As a result, research is a part of the national policy on T&CM in almost all AMS and is under the responsibility of the national authority on T&CM or separate research institutes established. In addition, research network from various faculties or schools from academic institutions and various research institutes inside and outside Ministry of Health also play an important role in T&CM development in ASEAN.

3.3 Issues and Challenges

3.3.1 General common issues and challenges

As the data and information obtained from AMS in certain aspects of the survey is incomplete, e.g. the figures related to T&CM personnel, facilities and services, esp. those of the private sector, and major health problems treated with T&CM, it is difficult to have complete situation analysis of T&CM in ASEAN. The databases for the monitoring and evaluation of T&CM service system should therefore be developed in all AMS to facilitate better assessment of T&CM situations in the future. In the Philippines, an initial profiling survey was conducted in 2020 to determine the number of T&CM practitioners nationwide. The said study includes ethnolinguistic terms in health from various regions in the Philippines.

The issues and challenges in the three areas, i.e. health facilities, human resource, and service packages, as specified in the Health Cluster 3 Work Programme (2016-2020), are as follows:

3.3.2 Issues and challenges in T&CM Health Facilities

The laws and regulations on T&CM and the national policy on the integration of T&CM services in health service facilities play a key role in the number of health service facilities providing T&CM services in each AMS. As the selected T&CM treatment modalities and traditional formulas or herbal medicines used are mostly for the treatment and alleviation of common and minor diseases/ symptoms and rehabilitation; hence, the T&CM services in AMS are mostly provided for primary care regardless of the level of health facilities.

In general, for the countries that have already integrated T&CM in the public health system, more service facilities providing T&CM service are being expanded at the district and sub-district levels to increase people access to T&CM in the rural communities. The challenge is to increase more budget support and T&CM personnel for such facilities.

For countries that have yet not integrated T&CM in the public health service system, this may partly be due to the lack of local qualified T&CM practitioners and/or the interest of T&CM by health policy makers, and stakeholders (i.e. practitioners). However, public needs of T&CM should be assessed to formulate policy and strategy on T&CM in the future, if necessary. In the meantime, at least, the regulatory measures, e.g. law and regulation or registration system on T&CM providers in private facilities and on T&CM products should be established for consumer protection.

One of the major challenges is T&CM still has not been widely accepted by other health care professions. This is mostly because it is often viewed as a non-evidence-based medicine for the lack of researches to support therapeutic efficacy and safety. Therefore, in addition to service facilities, T&CM research facilities and necessary infrastructure should also be established, including strengthening of research capacity of T&CM practitioners and researchers.

3.3.3 Issues and challenges in Human Resources in T&CM

As mentioned above, to increase T&CM service in primary care to cover primary level of public health facilities at the district and sub-district levels, this can be a challenge of several AMS as more T&CM practitioners, government official or employee positions, and personnel budget are required to expand the service.

In some AMS, the educational system of T&CM, e.g. schools that teach Bachelor's Degree in T&CM has just been established about 10-20 years ago or even less than 10 years, the training of clinical skill and experience, the availability of T&CM educators and their teaching skill, as well as the competency of T&CM graduates or trainees must be closely monitored and evaluated for continuous improvement of human resource in T&CM in ASEAN.

In addition to clinical skill, research capacity of T&CM practitioners and researchers should also be strengthened so that they will be able to generate and publish more evidence-based research work to support the use and the expansion of new T&CM treatment modalities in the health service system and/or in the coverage of health security system.

According to the MOUs between ASEAN and China and the Plus Three countries, the development of traditional medicine is an area of collaborations, short- and long-term trainings to improve T&CM clinical skill and research capacity should be promoted.

3.3.4 Issues and challenges in T&CM Service Packages

As T&CM services are different in each AMS, to standardize the service in different health facilities, each country should develop their own practice guidelines. Information sharing document on the T&CM guidelines established by AMS will be published in 2020 as a T&CM output of Health Cluster 3 Work Programme (2016-2020).

To include or increase a new T&CM treatment modality in the primary care service system and the national health security system or new T&CM medicinal products in the National List of Essential Medicines service packages is still a challenge for most AMS as clinical evidence to support safety and efficacy must be established and researches in T&CM treatment and medicines is a time consuming and costly process. Therefore, it is crucial for AMS to formulate regional and national medium- and long-term plan on knowledge management to strengthen T&CM research and innovative capacity and to conduct and publish more T&CM research work.

Moreover, as currently, T&CM services are included in the national health security system in only 3 AMS, other AMS that already integrate T&CM in the public health service system should make all necessary attempts to include T&CM in the coverage of the national health security of their countries as well.

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CHAPTER 4

Recommendations based on the Findings of the Baseline Situational Analysis

4.1 On Primary Health Care

There are two general recommendations that are applicable to all three areas of PHC facilities, health workforce and service packages, which are:

1. Establishment of country-level database which include all three components, that is crucial for regular assessment of PHC capacity in the ASEAN region.
2. Sharing of best practices among all AMS on ways to overcome issues and challenges concerning PHC facilities, health workforce and service packages. Some of the identified best practices include, but not limited to: establishment of documented standard equipment and drugs for PHC facilities, implementation of financial incentives using the social health insurance and the nationwide survey of T&CM practitioners in the Philippines, use of geographical information system of PHC facilities in Malaysia and various training programs for PHC health workforce competencies.
3. Discussion of primary health care should include dental / oral healthcare related to preventive and curative activities for children and young people.

4.1.1 Recommendations on Primary Health Care Facilities

1. A broad variety of facilities for PHC can be identified together with large variations in facility density between countries. Variations between primary health care organisational models can be identified and relate to public and/or private facilities and facilities in urban and rural areas.
2. It is recommended for AMS to have a Master Facility List (MFL) in place which lists all existing PHC facilities (public or private and rural or urban). This is to ensure that minimum benchmarking across countries, using PHC health facility to population density ratio, can be done across public and private sector, and across urban and rural area. This will provide a basic indicator to monitor capacity of PHC facilities in the country.

This list, apart from listing all facilities, can be expanded to include basic information on the human resources and service package of the facility including opening hours

   a. MFL Minimum version: List of facilities, address, contact and location
   b. MFL Extended version: Type of facilities, opening hours, human resources and service package.

3. In principle, all countries have a gatekeeper function for PHC in place and the strengthening of the functioning is recommended for all AMS.

4. Only a few countries work or plan to work with patient listing. Patient listing in primary health care particularly will help in prevention of doctor shopping hence ensuring a better continuity of care. The experiences of these few countries in implementing patient listing could be shared and further implementation should be considered across AMS.

5. Twenty-four-hour availability of services and handling of related emergencies is being addressed differently in AMS. The model in each country, including the use of IT technology, could be the focus of more extensive sharing of good practices.

6. All AMS should strive to expand the scope of PHC services to include current population needs, particularly in the area of NCDs, elderly care, domiciliary care and mental health. This expansion should be accompanied by strengthening of PHC facilities capacity and human resource competencies. This strengthening is very relevant in addressing the health care needs of aging populations. Technology can play an important role and examples how to use these effectively can be the topic of shared learning.

7. It is recommended to further strengthen the information infrastructure in PHC to improve care delivery and governance. Good examples, stimuli used and barriers in implementation (for example PhilHealth in the Philippines or TelePrimary Care system in Malaysia) can be shared between countries.

8. Most AMS are looking for ways to engage the private facilities more effectively in the overall PHC system. Contracting private practices to provide government-funded services can be used as a policy instrument to align private practices with standards and accountability of performance in place for public facilities. Working towards PHC networks (Singapore, Philippines, and Malaysia) is one of the identified more recent reform initiatives. Exchange of experiences with these public/private initiatives/reforms can be a focus area of further shared learning.

4.1.2 Recommendations on Health Workforce for Primary Health Care

1. Accurate data

AMS are encouraged to record accurate data on human resources for PHC, disaggregated according to rural or urban area and public or private sector. Number and types of professionals working in PHC should be specifically recorded compared to other sector (e.g. hospital care). This will allow fair assessment of PHC capacity in terms of available workforce for PHC.

2. Clearinghouse on Training/definitions/diplomas/TOR/competency of human resources in PHC

i. Comparability of medical, nursing and applied health services professions between AMS could be further explored. A clearinghouse of training programmes for physicians, nurses and midwives working in PHC in AMS is recommended. This work should be aligned with the broader ASEAN work on mutual recognition of professional diploma's/degrees in health care.

ii. Working in PHC asks for specific competencies amongst medical and nursing professionals. Having PHC internships as part of regular training for all health care professionals should be uniform.

iii. When countries use "lay person or volunteers" to provide care in PHC, a formalised structured training with minimum standards or diploma is required such as in the Philippines wherein acupuncturists are certified as "Associates" while in training and "Acupuncturists" once they have fulfilled the minimum standards set by the National Certification Committee.

3. Effective Health Primary health care Workforce Planning

Planning of workforce in PHC should be based on population needs and take into account the total mix of professionals. Planning needs a strong link with policy making and management of training capacities to be effective.

4. Promoting sharing of expertise

Similar to sharing of best practice in the ASEAN work program experiences with specific programs can be shared across AMS. An example would be the programs to assure adequate human resources in remote and border areas, and programmes to monitor and upgrade competencies of HRH in PHC, such as post-basic training and credentialing and privileging of paramedics in Malaysia.

4.1.3 Recommendations on Primary Health Care Service Packages

1. Basic requirements / minimum standards of health care services (amenities, diagnostics, and essential medications) seem to be mostly met in all participating AMS. Standards as embedded in the WHO/SARA survey on PHC capacity and readiness that was used to assess the baseline situation seem widely accepted. Repeating of the SARA survey in 5-year time is recommended to document progress in the capacity and readiness of health care services in AMS.
    a. Additional point: the survey reflects core elements relevant for ASEAN AMS. Specific element to be included in the survey shall be customized according to country's specific context.
    b. Development of electronic version of the tool for monitoring shall be considered as a regional initiative.
    c. The regular conduct of survey to measure PHC Capacity can be included in ASEAN Health Cooperation Plan
2. Specific service functions as assessed with the survey seem largely covered in PHC in the participating countries. Existing differences could be explained by the fact that services are sometimes not embedded in PHC but in Public Health Services or in Hospital Care.

3. Explicit attention should be given to services related to mental health and elderly care. More emphasis shall be given to provision of mental health and elderly care in PHC setting due to increasing NCD burden and functional disability and increasing disease burden if mental health.

4.2 On Traditional and Complementary Medicine

Recommendations to AMS on the three areas, i.e. health facilities, human resource, and service packages, as specified in the Health Cluster 3 Work Programme (2016-2020), are as follows:

4.2.1 Recommendations on T&CM Health Facilities

AMS are encouraged to:

1. Increase the number of T&CM health service facilities and provision of adequate equipment at all levels, especially at primary health care level and ensure that key health system elements are in place for integration
2. Increase budget support to improve T&CM health service system
3. Improve infrastructure of T&CM research, e.g. research facilities, equipment, funding, network so as to facilitate evidence-based T&CM service
4. Develop and strengthen laws and regulations on T&CM premises that comprise the protection for patients and practitioners.

4.2.2 Recommendations on Human Resources in T&CM Healthcare

AMS are encouraged to:

1. Conduct an assessment survey to identify the common training needs for T&CM among AMS;
2. Increase the numbers of competent T&CM practitioners to all health service facilities that provide T&CM services based on the health care needs;
3. Accredit training facilities and improve teaching skill of T&CM educators so as to elevate the standard of training for T&CM students and practitioners;
4. Establish accreditation system for community T&CM health educators;

5. Assess the quality of T&CM graduates by professionals or practitioners to improve clinical competency and T&CM curriculum;
6. Collaborate with research networks & academic centers to carry out ethnomedicine studies to document data from indigenous and local healers, taking into consideration access and benefit sharing policy of each AMS;
7. Promote regional collaboration to establish training or curriculum to improve the competency of T&CM practitioners across AMS; and
8. Conduct regional workshop and training on the use of technologies to help improve the capability of T&CM practitioners, educators, and researchers in cooperation with ASEAN-China and ASEAN Plus Three.

4.2.3 Recommendations on T&CM Service Packages

AMS are encouraged to:

1. Promote the inclusion of T&CM service package in the national health care delivery system, especially in the area of PHC;
2. Promote the inclusion of T&CM service package in the national health insurance systems;
3. Establish country-specific T&CM practice guidelines;
4. Establish T&CM service at outpatient department, as part of multidisciplinary care;
5. Increase T&CM treatment modalities and herbal medicine items in the National List of Essential Medicines through clinical research evidence; and
6. Develop database of T&CM services in all T&CM health facilities in order to monitor and evaluate T&CM services

It is agreed by all AMS that as the levels of development and integration of T&CM in the health service system are quite different among AMS, the planning on related projects and the implementation of the above-mentioned recommendations would depend on the readiness of AMS and on their national policy on T&CM. However, these recommendations can serve as guides to all AMS in their goal to achieve quality health care in T&CM in the future.

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Appendices

Appendix 1: ASEAN Recommendations on Quality Health Care

ASEAN Recommendations on Quality Health Care

The ASEAN Recommendations on Quality Health Care were developed as part of the ASEAN Health Cluster 3 (AHC 3) on Strengthening Health Systems and Access to Care Work Programme for 2016-2020. The ASEAN Recommendations comprise components on Primary Health Care and Traditional and Complementary Medicine. The goal of the AHC 3 and its Work Programme is to have an ASEAN Community that has universal access to essential health care, safe and good quality medical products including traditional and complementary medicine.

Situational analyses were conducted on primary health care and traditional and complementary medicine across ASEAN Member States (AMS) to provide baseline information. The analyses showed the variances in scope and progress of Primary Health Care and Traditional and Complementary Medicine as well as their integration in national health care systems in AMS. The ASEAN Recommendations aim to provide relevant guidance on enhancing and promoting quality health care in AMS and in the region.

In working towards a Healthy, Caring and Sustainable ASEAN, ASEAN Member States are encouraged to:

On Primary Health Care (PHC)

1. Promote an integrated and needs-based planning and development of human resources for health (HRH) for PHC in AMS to harness the mix of skills and competencies of HRH teams in the delivery of quality health services; and to ensure HRH's alignment with the broader objectives of the ASEAN Mutual Recognition Arrangements in Services.
2. Ensure compliance to basic requirements and minimum standards of health care service including master listing of PHC facilities, the development of a system to monitor PHC capacity and readiness in order to support AMS' implementation of Universal Health Coverage and capacitate AMS to implement the Continuous Quality Improvement program within its facility and adopt patient safety and people-centred approach in the delivery of health services at the PHC level.
3. Promote broader community access to PHC services and information, through access to PHC practitioners as gatekeepers of the health system, to PHC facilities at the local and national levels, and through the appropriate use of information technology and its applications.
4. Support PHC through the utilisation of HRH data and information that is disaggregated by gender, category, affiliation and sector in order to support decision making and policy and programme development on PHC at the national and ASEAN levels.
5. Promote regional sharing of good practices on PHC such as in the planning and development of PHC HRH, in addressing relevant health care needs of elderly populations and other vulnerable groups, in improving governance and the delivery of health care services and in promoting collaboration across public and private and rural and urban settings on PHC.

On Traditional and Complementary Medicine (T&CM)

6. Develop and strengthen laws, policies and programmes on T&CM at the national and regional levels to promote evidence-based T&CM practices and service delivery to enhance patients' access to quality, safe, and effective T&CM services and products, and protect the interest of patients and practitioners, as well as to foster the integration of evidence-based T&CM into the health care system and Universal Health Coverage in the future.
7. Support the national T&CM planning and development of HRH, T&CM programmes and quality service packages, T&CM health care facilities including essential infrastructures and equipment to support the delivery of T&CM services in public and private health care systems, the allocation of adequate budget, and for the development of a national database for the monitoring and evaluation of T&CM service in the health care system as appropriate.
8. Support accreditation of T&CM training facilities and systems to improve the standard of training and the educational programme of T&CM students, practitioners, educators and others as part of multidisciplinary teams in the health care system.
9. Collaborate at the regional level on, but not limited to, the conduct relevant T&CM researches, capacity building activities, information sharing sessions, and curriculum development to improve competencies of T&CM practitioners, educators and researchers across AMS and in cooperation with Dialogue and Development Partners.
10. Noting that levels of socio-economic development and integration of T&CM in the health care system are varied across AMS, these recommendations shall serve as a guide to national T&CM policies, programmes and goals in order to achieve quality health care in T&CM. As a Health Priority of the ASEAN Health Sector, these recommendations will serve as one of the references to continue the relevant work on T&CM in ASEAN.

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Appendix 4: The Modified SARA Content

(The full version of the questionnaire can be accessed via this link: https://tinyurl.com/ASEAN-PHC-Q)

This questionnaire consists of:	
Information for ASEAN Member States	
Glossary	
ASEAN Member States: Country Information	
Part 1. General Policy and Health Financing	
Part 2. Types of Health Facilities	*To be filled by AMS-appointed representatives*
2.1 Types of facilities 2.2 Basic Amenities 2.3 Basic Equipment 2.4 Quality Improvement Effort	
Part 3: Human resource for Health	
Part 4: Service Packages	
4.1: Maternal & Women's Health 4.1.1 Antenatal Care Services 4.1.2 Delivery Service In Primary Care Facilities 4.1.3 Post Natal Care 4.1.4 Family Planning Services 4.1.5 Pap Smear 4.1.6 Breast Self-Examination 4.1.7 Prevention Of Mother To Child Transmission Services 4.1.8 Miscellaneous Services	*To be filled by AMS-appointed representatives*
4.2: Child Health Services 4.2.1 Immunisation 4.2.2 Preventive and Curative Care Services 4.2.3 Miscellaneous Services	
4.3: School Health Services 4.3.1 School Health Services 4.3.2 Miscellaneous Services	
4.4: Adolescent Health Services 4.4.1 Adolescent Health Services 4.4.2 Miscellaneous Services	
4.5: Men's Health 4.5.1 Men's Health Services 4.5.2 Miscellaneous Services	
4.6: Elderly Health Services 4.6.1 Elderly Health Services 4.6.2 Miscellaneous Services	

This questionnaire consists of:	
4.7: Person with Disabilities 4.7.1 Person with Disabilities Health Services 4.7.2 Miscellaneous Services	
4.8: Domiciliary Services 4.8.1 Domiciliary Services 4.8.2 Miscellaneous Services	
4.9: Communicable Disease 4.9.1 HIV Counselling And Testing 4.9.2 HIV Treatment 4.9.3 HIV Care And Support 4.9.4 Sexually Transmitted Infections 4.9.5 Tuberculosis 4.9.6 Malaria 4.9.7 Dengue 4.9.8 Miscellaneous Services	
4.10: Non-Communicable Disease 4.10.1 Diabetes 4.10.2 Cardiovascular Disease 4.10.3 Respiratory Disease 4.10.4 Cancer 4.10.5 Miscellaneous Services	
4.11: Clinical Procedures 4.11.1 Clinical Procedures 4.11.2 Miscellaneous Services	
4.12: Emergency Services 4.12.1 Emergency Services 4.12.2 Miscellaneous Services	
4.13: Clinical Support Services 4.13.1 Laboratory Services 4.13.2 Pharmacy Services 4.13.3 Imaging And Other Services 4.13.4 Miscellaneous Services	
4.14: Additional Services 4.14.1 Methadone Replacement Therapy 4.14.2 Violence & Abuse 4.14.3 Tobacco Use Disorders 4.14.4 Miscellaneous Services	

This questionnaire consists of:	
5.0: Primary Dental Services 5.1 General Policy and Health Financing 5.2 Types of Facilities 5.3 Basic Amenities & Equipment 5.4 Quality Improvement Effort 5.5 Community Involvement 5.6 Human Resource for Health 5.7 Oral Health Services	

Appendix 5: The Questionnaire of Baseline Information on Traditional and Complementary Medicine

This questionnaire consists of:	
ASEAN Member States: Country information and given date	
Part 1. National policies and governance	
1.1 Systems of traditional & complementary medicine (T&CM)	*To be filled by AMS-appointed representatives*
1.2 Policy and administration - Availability of Policy on T&CM - List of the government agencies responsible for T&CM in various aspects (if different from the national office)	
1.3 National office responsible for T&CM	
Part 2. Education, Training, and Human Resource for Health (HRH)	
2.1 Education & School or University - Levels of formal education, numbers of years of education, and number of schools/ universities offering degree in T&CM - List of institutions (if any) - Number of T&CM graduates	*To be filled by AMS-appointed representatives*
2.2 Training - List of training courses organized	
2.3 Law & regulation on T&CM practice and licensing system - Availability and information of laws & regulations on T&CM practice - Availability and information of licensing system	
2.4 Human Resource for Health (HRH) - Number of licensed T&CM practitioners	
Part 3. Traditional / Herbal medicines	
3.1 Manufacturing - Number of licensed T&CM manufacturers that meet GMP standards	*To be filled by AMS-appointed representatives*
3.2 Manufacturing standard - Standard required for manufacturing traditional / herbal medicines	

This questionnaire consists of:	
3.3 Law & regulation on traditional & herbal medicines - List of laws & regulations on traditional & herbal medicines	
3.4 Product registration - Number of traditional / herbal medicines & products registered	
3.5 Herbal pharmacopoeia or monographs - Availability of herbal pharmacopoeia and number of monographs of herbal pharmacopoeia	
3.6 List of Essential Medicines - Availability and Number of Selected Essential Medicines (Traditional Medicine and Herbal Medicines)	
Part 4. Traditional & Complementary Medicine knowledge management	
4.1 National Research Institute - Name of National Research Institute responsible for T&CM research	*To be filled by AMS-appointed representatives*
4.2 Other research institutes - List of other research institutes related to T&CM	
4.3 National traditional medicine textbooks - Number and list of national traditional medicine textbooks	
4.4 Traditional/herbal medicine database - Availability of traditional/herbal medicine database	
Part 5. T&CM Service Package	
5.1 Facilities offering T&CM Service - Number of facilities offering T&CM services, including T&CM unit, T&CM hospitals, integrated hospitals that provide both T&CM and modern medicine service	*To be filled by AMS-appointed representatives*
5.2 T&CM service provided - Types of T&CM service provided	
5.3 Standards of service - Benchmark/ Guidelines /Standard required	
5.4 T&CM practitioner density and distribution	

This questionnaire consists of:	
- -Number of T&CM practitioners per 1000 population	
5.5 Outpatient department visit for T&CM services - Number of outpatient (OPD) visit for T&CM services compared with total OPD visit	
5.6 Top 10 health problems as reasons for seeking T&CM services - The 10 leading health problems as reasons for seeking T&CM services, whether for inpatient or outpatient care	
Part 6. T&CM Financing	
6.1 Total health expenditure for T&CM - The sum of general government health expenditure for T&CM in a given year, expressed in local currency and in current US dollars for comparison.	*To be filled by AMS-appointed representatives*
6.2 Per capita health budget allocated to T&CM - Per capita government budget allocated to T&CM in a fiscal year, expressed in local currency and US dollars per capita for comparison.	

Appendix 6: Current Situation of Traditional & Complementary Medicine in ASEAN (status as of 2020)

Table 1 National Policy and Governance									
Brunei	**Cambodia**	**Indonesia**	**Lao PDR**	**Malaysia**	**Myanmar**	**Philippines**	**Singapore**	**Thailand**	**Viet Nam**
Table 1.1 Policy and Administration									
(1) Availability of Policy on T&CM									
☒	☑	☑	☑	☑	☑	☑	☑	☑	☑
(2) National office(s) responsible for T&CM and relevant agencies									
1.T&CM Unit, Boards Management Office, Department of Medical Services **2. Traditional Medicine and Health Supplement Unit** (TMHS Unit), **Department of Pharmaceutical Services** (Product – TMHS)	**1. National Center of TM (NCTM)** **2. Department of Drug and Food (DDF) (product)** **3. Department of Human Resource Development (budget & need for capacity building)** **4. National Health Product Quality Control Center**	**1. Directorate of Traditional Health Service** 2. Center of Research and Development of Health Services (research) 3. Hospitals and Primary Health Center under MoH (service) 4. Directorate General of Pharmacy and Medical Device (product) 5. Center of Research and	**1. Traditional medicine and Health Supplement Division, Food and Drug Department** **2. Department of Healthcare and Rehabilitation (service)** **3. Institute of TM** 4.Faculty of Pharmacy, University of Health Sciences	**1. T&CM Division** **2. T&CM Council** **3. National Pharmaceutical Regulatory Agency (NPRA)** **4. Drug Control Authority (DCA)**	**1. Department of TM** 2. (15) States & Divisions of TM Department in intermediate level 3. (50) District TM Department 4. (210) Township TM Department	**1. Philippine Institute of Traditional and Alternative Medicine Health Care (PITAHC).** (T&CM research, accreditation of modalities, and advocacy) 2. Philippine Food and Drug Administration (product, device) 3. Health Regulation Team of the	**1. Traditional and Complementary Medicine Branch** 2.Health Science Authority (product) 3. TCM Practitioners Board (TCMPB)	**1.Department of Thai Traditional & Alternative Medicine (DTAM)** 2. Thai Food and Drug Administration (FDA) (product) 3. Department of Medical Sciences (DMSc) (Research & THP) 4. Department of Health Service Support (DHSS)	**1.Administration of TM**

Table 1 National Policy and Governance									
Brunei	**Cambodia**	**Indonesia**	**Lao PDR**	**Malaysia**	**Myanmar**	**Philippines**	**Singapore**	**Thailand**	**Viet Nam**
	5. Provincial Health Department/ Municipal Health Department (licensing/ regulation control of TM sale premises and consultation room)	Development of MP and TM (research) 6. Center of Health Education (certifying TM school and curricula) 7. Indonesia Medical Council (practitioner) 8. School and Universities (higher education)				Department of Health 4. PITAHC Board of Trustees composed of Department of Education (DepEd), Commission on Higher Education (CHED), Department of Agriculture (DA), Department of Environment and Natural Resources (DENR), Philippine Council for Health Research and Development (PCHRD) and Department of Health (DOH) 5. University of the The Philippines		(certifying schools and curricula of TCM and Chiropractic, licensing AM practitioners, and wellness centers) 5. Thai Traditional Medical Council (licensing and registration of TTM practitioners, establishing TTM curricula, certifying TTM schools) 6. Schools and Universities (Higher education on TTM and TCM)	

Table 1 National Policy and Governance									
Brunei	**Cambodia**	**Indonesia**	**Lao PDR**	**Malaysia**	**Myanmar**	**Philippines**	**Singapore**	**Thailand**	**Viet Nam**
						National Institute of Health- Institute of Herbal Medicine			
Table 1.2 Types of T&CM found in AMS									
1. Traditional Chinese Medicine 2. Traditional Malay Medicine 3. Traditional Indian Medicine 4. Homeopathy 5. Other Complementary Medicines - Chiropractic - Osteopathy - Acupuncture - Massage therapist - Reflexology	1. Traditional Khmer Medicine 2. Traditional Chinese Medicine 3. Traditional Indian Medicine	1. Jamu 2. Traditional Chinese Medicine 3. Other Alternative Medicines - Indonesia traditional massage - Acupuncture - Acupressure - Baby Massage - Hypnotherapy - Yoga - Dry cupping	1. Lao Traditional Medicine 2. Traditional Chinese Medicine	1. Traditional Malay Medicine 2. Traditional Chinese Medicine 3. Traditional Indian Medicine 4. Homeopathy 5. Chiropractic 6. Osteopathy 7. Islamic Medical Practice	1. Myanmar Traditional Medicine 2. Traditional Indian Medicine 3. Traditional Chinese Medicine	1. Filipino Traditional Massage "Hilot" 2. Acupuncture 3. Chiropractic 4. Homeopathy 5. Naturopathy 6. Tuina Massage 7. Traditional Chinese Medicine 8. Ayurveda 9. Osteopathy	Traditional Medicines 1. Traditional Chinese Medicine 2. Malay Traditional Medicine 3. Traditional Indian Medicine **Complementary and Alternative Medicines (not exhaustive)** Chiropractic Osteopathic	1. Thai Traditional Medicine 2. Traditional Chinese Medicine 3. Chiropractic	1. Vietnam Traditional Medicine

Table 1 National Policy and Governance									
Brunei	**Cambodia**	**Indonesia**	**Lao PDR**	**Malaysia**	**Myanmar**	**Philippines**	**Singapore**	**Thailand**	**Viet Nam**
- Cupping - Herbalist/ Herbal dispenser		- SPA (Solus Per Aqua)				10.Anthroposophic Medicine) 11. Anthroposophic art therapy			

Table 2 T&CM Service Package									
Brunei	**Cambodia**	**Indonesia**	**Lao PDR**	**Malaysia**	**Myanmar**	**Philippines**	**Singapore**	**Thailand**	**Viet Nam**
Table 2.1 T&CM Health Facilities									
(1) Availability of Health Facilities offering T&CM Service									
Private facilities	Private facilities	Both Public and Private facilities	Both Public and Private facilities	Both Public and Private facilities	Public facilities	Both Public and Private facilities	Both Public and Private facilities	Both Public and Private facilities	Both Public and Private facilities
(2) Numbers of Facilities offering T&CM Services, including T&CM Unit, T&CM hospitals, integrated hospitals that provide both T&CM and modern medicine service									
Total of T&CM private facilities: 111 Private Health Medical clinics (T&CM	1.Numbers of T&CM private clinics/ consultation parlors: 482. 2. The list of private TM consultation parlor is available at	1.Premises of traditional healers with STPT: 3045 2. Integration of traditional health services in	1.Insitute of TM 2. Most of public hospitals: • Central hospitals: 3 • Regional hospitals: 4	1. Public hospitals offering T&CM services: 15 2. Private T&CM premises:	1. TM hospitals: 46 • 100 beds: 3 • 50 beds: 9 • 25 beds: 13 • 16 beds: 24	1. Government/ public hospitals: 8 2. Private hospitals: 3 3. Accredited T&CM clinics: 50	1. Restructured hospitals: 6 2. Numbers of T&CM private clinics are not available	1. Western Medicine Hospitals under the Office of the Permanent Secretary, MoPH providing	1.TM hospitals: 63 •National Central hospitals: 2 •Hospitals in TM Academy: 1

Table 2 T&CM Service Package								
Brunei	**Cambodia**	**Indonesia**	**Lao PDR**	**Malaysia**	**Myanmar**	**Philippines**	**Singapore**	**Thailand**	**Viet Nam**
and Modern Medicine): 3 Private T&CM Health facility: 6 Beauty and Health Establishments: 102 Majority of the beauty and Health establishments are providing massage therapy in the wellness category.	Provincial Municipal Health Department	health care facilities •Government Hospitals: 250 •Primary health care: 5.139 3. Griya Sehat: 2	• Provincial hospitals: 13 • Some District hospitals 3.Chinese medicine hospitals: 5 4. Private Traditional medicine clinics:5	info not available	2. TM clinics in district level: 260 3. VHV	(5 T&CM Clinics in the PITAHC Bldg.)		T&CM service: • Tertiary level: regional and general hospitals: 117 (100%) • Secondary level: community hospitals: 779 (100%) • Primary level: Tambon health promoting hospitals: 5,019/9,804 (51.19%) 2. Public TM Hospital under DTAM, MoPH: 1 3. T&CM Units in Psychiatric hospitals under the Department of Mental Health, MoPH: 10	•TM hospitals in other ministries: 2 •TM hospitals in provinces: 58 2. TM departments/ units • 91.3% of general hospitals • 82.3% of faculties of TM in district hospital • 88.23% of TM organizations in health communes 3. Private TM hospitals: 1 4. Private TM clinics: 6,524

Table 2 T&CM Service Package									
Brunei	**Cambodia**	**Indonesia**	**Lao PDR**	**Malaysia**	**Myanmar**	**Philippines**	**Singapore**	**Thailand**	**Viet Nam**
								4. T&CM units in western hospitals under Bangkok Metropolitan Administration, incl. • Hospitals under Department of Medical Service, MoPH: 8/10 (80%) Public health center under Department of Health, MoPH: 5/68 (0.74%) 5. Health facilities providing TCM service: 405 • Public hospitals both within and outside MoPH: 302 • Private sector: 103	

Table 2 T&CM Service Package									
Brunei	**Cambodia**	**Indonesia**	**Lao PDR**	**Malaysia**	**Myanmar**	**Philippines**	**Singapore**	**Thailand**	**Viet Nam**
Table 2.2 Types of T&CM service provided in public hospital									
No T&CM service available in public hospital as T&CM services are NOT yet integrated in the National Healthcare System but some T&CM services that may be found in private T&CM clinics are: 1.Consultation and treatment of TCM in private TCM clinics 2.Consultation and	No T&CM service available in public hospital but the services that may be found in private T&CM clinics are: 1.Diagnosis, Prevention, Treatment, Care, and Rehabilitation with Khmer Traditional Medicine, TCM or TIM	1.Diagnosis and Treatment with • Acupuncture • acupressure • Herbal medicines • Baby massage • Hypnotherapy	1. Lao traditional medicine 2. Import different T&CM modalities available in health facilities, depending on the availability of medical doctors or health professions trained in T&CM courses 3. Acupuncture	1. Malay massage 2. Acupuncture 3. Herbal medicines 4. Shirodhara 5. External Basti Therapy 6. Varmam Therapy 7. Traditional postnatal care (service delivered at client's home)	Diagnosis Method for diseases (ICD code 10) by Myanmar Traditional Medicine is "Stu Smuthana" 1.Examination of Karma Smuthana 2. Examination of Sitta Smuthana 3.Detection of Utu Smuthana 4.Detection of Ahara Smuthana	1. Acupuncture 2. Tuina Massage 3. Cupping 4. Homeopathy / Homotoxicology remedies 5. Naturopathic Medicine 6.Anthroposophic medicine	1.Acupuncture	1. Treatment and diagnosis with TTM and Applied TTM 2. Treatment & rehabilitation with • Herbal medicines or Thai traditional medicines comprising of medicinal plant materials; • Therapeutic massage for treatment and rehabilitation;	1. Examination and treatment of TM with or without application of TM and Herbal products

Table 2 T&CM Service Package									
Brunei	**Cambodia**	**Indonesia**	**Lao PDR**	**Malaysia**	**Myanmar**	**Philippines**	**Singapore**	**Thailand**	**Viet Nam**
practice of TMM in beauty boutiques and massage parlour 3. Various techniques practiced pf TIM in Muslim community					Treatment with 1. Traditional Medicine Formulation and Herbal Decoction 2.Myanmar Massotherapy 3. Acupuncture 4. Panchakamma Therapy			• Herbal steam bath for therapeutic purpose; • Hot herbal compress for therapeutic purpose Hot salt pot compress for post-partum care 3. Acupuncture	
Table 2.3 Standards of Service									
☑	☒	☑	☒	☑	☑	☑	☑	☑	☑
Table 2.4 Essential Medicines Monographs (Availability and Numbers of Selected Essential Medicines)									
☒	☒	☑	☑ 23	☒	☑ 86	☑ 5	☒	☑ 74	☑ 520 (including 186 HM and 334

Table 2 T&CM Service Package									
Brunei	**Cambodia**	**Indonesia**	**Lao PDR**	**Malaysia**	**Myanmar**	**Philippines**	**Singapore**	**Thailand**	**Viet Nam**
									traditional or herbal remedies)
Table 2.5 Coverage of T&CM service in the Health Insurance System									
☒	☒	☑ 1. Capitation Funds in Primary Health Centre (acupuncture, acupressure, herbal medicine) 2. National Health Insurance (acupuncture, with medical indication, herbal medicine)	☑ National Health Insurance (Acupuncture)	☒	☒	☒ In order for modalities to be reimbursed in the Universal Health Care PITAHC should develop evidence-based research based on the clinical practice guidelines for each modality. All researches should go to the Health Technology Assessment	☒	☑ 1. Universal Health Coverage Scheme (UHC) 2. Social Security Scheme 3. Civil Servant Medical Benefit Scheme (Services covered by all 3 national health insurance systems are different in details)	☑ 1. National Health Insurance

Table 2 T&CM Service Package									
Brunei	**Cambodia**	**Indonesia**	**Lao PDR**	**Malaysia**	**Myanmar**	**Philippines**	**Singapore**	**Thailand**	**Viet Nam**
						Bureau of DOH			
Table 2.6 T&CM practitioner density and distribution									
N/A No information available	2/10000	N/A	0.0075/1000 (Acupuncturists)	N/A	1/7317	Ongoing nationwide profiling of TAHC practitioners for 4 pilot Provinces	1.75/1000	N/A	N/A
Table 2.7 Outpatient department visit for T&CM services									
None (No T&CM services offered in Government Hospital Outpatient Dept)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	23.4% (19 million visits for T&CM service, out of a total of 83 million visits)	N/A
Table 2.8 Top 10 health problems treated by T&CM services									

Table 2 T&CM Service Package									
Brunei	**Cambodia**	**Indonesia**	**Lao PDR**	**Malaysia**	**Myanmar**	**Philippines**	**Singapore**	**Thailand**	**Viet Nam**
	1. Gastroenteritis 2.Leucorrhea 3.Hemorrhoid 4.Arthritis 5.Rhinitis 6.Hepatitis 7.High Blood Pressure 8.Postpartum diseases and care 9.Diarrhea 10. Bone broken	1.Common cold 2.Cough 3.Dyspepsia 4.Migrain 5.Dismenorhea 6.Nausea 7.Constipation 8.Osteoathritis 9.Anorexia 10.Muscle relaxation 11. asthma Bronchial 12. Tension Headache 13.Bell's Palsy 14.Frozen Shoulder 15. Low back pain 16. Trigeminal neuralgia 17. Neuralgia Post herpetika		1. Myalgia 2. Joint pain & muscle ache 3. Back pain 4. Sprain 5. Cough 6. Wellness 7. Postnatal care 8. Body weakness 9. Spiritual disturbance 10. Energy booster	1. Un-classified arthritis 2.Un-classified soft tissue disorders 3.Injury 4.Stroke 5.Spondylosis 6.Disturbance of skin sensation 7.Polyneuropathies 8.Shoulder lesions 9.Primary hypertension 10.Scabies	1. Musculoskeletal Disorder 2. Myalgia 3. Constipation 4. Neuropathic pain 5. End of life cancer patient 6. Osteo-arthritis 7. Hypertension 8. Allergic Reaction 9. Liver problem 10. Kidney problem		1. Musculoskeletal disorders 2. Cough 3. Flatulence 4. Common cold 5. Post-partum care 6. Paralysis 7. Constipation 8. Diabetes 9. Numbness 10. Allergic rhinitis	

Table 2 T&CM Service Package									
Brunei	Cambodia	Indonesia	Lao PDR	Malaysia	Myanmar	Philippines	Singapore	Thailand	Viet Nam
		18. Insomnia 19. Rhinitis allergic 20. Hypertension 21 Tennis elbow 22. Tunnel carpal Syndrome 23. Post Stroke Hemiparesis 24. Morning sickness 25. Lactation Insufficiency 26. Osteoarthritis 27. Achilles tendinitis 28. Urticaria							

Table 3 Education, Training, and Human Resource for Health									
Brunei	Cambodia	Indonesia	Lao PDR	Malaysia	Myanmar	Philippines	Singapore	Thailand	Viet Nam
Table 3.1 Education & Certified Schools or Universities									
(1) Availability of Formal Education and Level of Formal Education									
☒	☒	☑	☒	☑	☑	☑	☑	☑	☑

Table 3 Education, Training, and Human Resource for Health									
Brunei	**Cambodia**	**Indonesia**	**Lao PDR**	**Malaysia**	**Myanmar**	**Philippines**	**Singapore**	**Thailand**	**Viet Nam**
	The subject of medicinal plant is included in Bachelor of Modern Pharmacy program	Higher Education ✓ Diploma ✓ Bachelor's Degree ✓ Master's Degree ✗ Doctor of Philosophy	Note: Bachelor of Pharmacy in Lao Traditional Medicine program - The subjects for pharmacy students in this program under the ministry of Health to provide knowledge on herbal medicine formulation and quality control of herbal medicine products - There are 30 students per year - The length to study for 5 years - After students	Higher education ✓ Diploma ✓ Bachelor's Degree ✓ Master's Degree ✓ Doctor of Philosophy	Higher education ✓ Diploma ✓ Bachelor's Degree ✓ Master's Degree ✗ Doctor of Philosophy	Higher education ✓ Diploma ✗ Bachelor's Degree ✓ Master's Degree ✗ Doctor of Philosophy	Higher education ✗ Diploma ✓ Bachelor's Degree ✓ Master's Degree ✓ Doctor of Philosophy	Higher education ✗ Diploma ✓ Bachelor's Degree ✓ Master's Degree ✓ Doctor of Philosophy Other education	Higher education ✗ Diploma ✓ Bachelor's Degree ✓ Master's Degree ✓ Doctor of Philosophy

Table 3 Education, Training, and Human Resource for Health									
Brunei	**Cambodia**	**Indonesia**	**Lao PDR**	**Malaysia**	**Myanmar**	**Philippines**	**Singapore**	**Thailand**	**Viet Nam**
			graduated the program they can work at Herbal Manufactory, Traditional Medicinal Plant Center, Department of Traditional Medicine and Herbal drug store						
(2) Level of Formal Education on T&CM									
a. Diploma (Numbers of School or University/ Numbers of Years of Education)									
		1. Jamu (1 /3 yr.) 2. Acupuncture (3/3 yr.) 3. TM (Indonesia Traditional Health) (1/3 yr.)		1.TCM (2 / 2.5-3yrs) 2.Acupuncture (1 / 3yrs)	1. Myanmar Traditional Medicine (1/4 yr.)	1. Acupuncture- 2 yrs. 2. Traditional CM- 2 years 3. Naturopathy-2yrs 4. Homeopathy/Homotoxicology- 2 yrs.	1. TCM (Advance dip.) (1/5 yr. (full time) &7 yr. (part-time) 2. Acupuncture for MD and dental practitioner (1/2 yr.) 3.Chinese medicinal		

Table 3 Education, Training, and Human Resource for Health									
Brunei	**Cambodia**	**Indonesia**	**Lao PDR**	**Malaysia**	**Myanmar**	**Philippines**	**Singapore**	**Thailand**	**Viet Nam**
							materials dispensers (CMMDs) (1/NA) Note: the above 3 courses are no longer available.		
b. Bachelor's Degree (Numbers of School or University/ Numbers of Years of Education)									
		1. TM (Indonesia Traditional Health) (1/4 yr.)		1. Homeopathy (1 / 4yrs) 2. Chiropractic (1 / 4yrs) 3. TCM (7 / 4.5-5yrs)	1. Myanmar Traditional Medicine (1/5 yr.) 2. Myanmar Traditional Medicine (B.M.T.M.) (Bridge course) (1/2 yr)		1. TCM (3/ 5 yr. (full time) & 7 yr. (part-time))	1. Thai Traditional Medicine (TTM) (19/ 4 yr.) 2. Applied TTM (10/ 4 yr.) 3. TCM (9/ 5 yr.)	1. Vietnam Traditional Medicine (9/ 6 yr. and 4 yr. for persons who graduated at intermediate level)
c. Master's Degree (Numbers of School or University/ Numbers of Years of Education)									
		1. Herbal Medicine (1/ 2 yr.) 2. Acupuncture (1/2 yr.)		1. Acupuncture (1/ 2.5-5yrs) 2. TCM (1 / 2-6yrs)	1. Myanmar Traditional Medicine (1/ 2 yr)	1. Master Science in ASEAN Practices- 2 yrs.	2. TCM (1/3 yr. (part-time))	1. TTM (3/2 yr.) 2. Applied TTM (3/2 yr.)	1. Vietnam Traditional Medicine (NA/NA)
d. Doctor of Philosophy (Course name/ Numbers of School or University/ Numbers of Years of Education)									

Table 3 Education, Training, and Human Resource for Health									
Brunei	**Cambodia**	**Indonesia**	**Lao PDR**	**Malaysia**	**Myanmar**	**Philippines**	**Singapore**	**Thailand**	**Viet Nam**
				1. TCM (1 / 3-8yrs)			1. TCM (1/3 yr. (part-time))	1. TTM (2/NA) 2. Applied TTM (3/NA)	1. Vietnam Traditional Medicine (NA/ NA)
(3) Numbers of Graduates (Most are cumulative numbers) Diploma									
		Diploma	Bachelor's Degree	Diploma	Diploma	Diploma	Diploma	Bachelor's Degree	Bachelor's Degree
		Jamu/Acupuncture/TM: 626		TCM: 7	Myanmar TM: 2187	1. Acupuncture: 1,083 2. Naturopathy: 116 Homeopathy /Homotoxicology: 32	TCM: 3,045 (Diploma and above)	TTM: 3422	Vietnam Traditional Medicine: 3000
		Bachelor's Degree		Bachelor's Degree	Bachelor's Degree	Master's Degree	Acupuncture for MD and dental practitioner: 259	Applied TTM: 3110	Master's Degree
		TM: 16		TCM: 190 Homeopathy: 49 Chiropractic: 190	Myanmar TM (regular): 1468 Myanmar TM (bridge): 180	All info.is not available	Chinese medicinal materials dispensers (CMMDs): 830	TCM: 599	Doctor of Philosophy
		Master's Degree		Master's Degree	Master's Degree		Bachelor's Degree	Master's Degree	All info.is not available
		Herbal Medicine: NA		Info not available	Myanmar TM: 77		Master's Degree	Doctor of Philosophy	

Table 3 Education, Training, and Human Resource for Health									
Brunei	**Cambodia**	**Indonesia**	**Lao PDR**	**Malaysia**	**Myanmar**	**Philippines**	**Singapore**	**Thailand**	**Viet Nam**
		Acupuncture: 151		Doctor of Philosophy			Doctor of Philosophy	All info.is not available	
				Info not available			All info.is not available (Breakdown not available)		
Table 3.2 Training									
(1) Availability of Training									
☒	☑	☑	☑	☑	☑	☑	☑	☑	☑
(2) List of Training Courses and Duration of Training									
	1. For TM healer with exp. > 10 yrs.: 6 m. 2. For TM healer with exp. > 5 yrs.: 10 m. 3.PHC of WHO training package: 3 days	1. TCM: 3-6 m. 2. Acupuncture for MD: 172 hrs. 3. Acupressure for nurse, midwife, physiotherapist: 60 hrs. 4. Selfcare of Traditional Health for health	1. Training course for use traditional medicines in primary health care: 3 days 2. ASEAN GMP Training on TMHS for industry: 3 days	1. Mamacare Postnatal/ 2400-5400 hours + 3-6 months industrial training (based on level) 2. Ruqyah Treatment/ 1600-5400 hours + 3-6 months industrial	1. TM for NGOs: NA 2. ASEAN GMP training on TMHS for Industry: NA 3. Quality Control, Stability and Shelf-life Training: NA	1. Tuina massage and preparation of herbal medicines for Barangay: NA 2. Acupuncture for medical doctors and non-medical personnel	1. For TCM assistant (part-time): 2 yrs. 2. TCM (part-time): 9 m.	1. Thai massage Level 1 for TTM practitioner in spa business: 150-330 hrs. 2. Thai massage Level 2 for TTM assistants: 300-800 hr.	4. Training course to improve the professional skills: NA 5. Training for TM nurses, caring staff, and assistant to doctors: 3 yrs.

Table 3 Education, Training, and Human Resource for Health									
Brunei	**Cambodia**	**Indonesia**	**Lao PDR**	**Malaysia**	**Myanmar**	**Philippines**	**Singapore**	**Thailand**	**Viet Nam**
		practitioners: 51 hrs. 5. Training of Trainer baby Massage 43 hrs.	3. Acupuncture for traditional practitioners: N/A	training (based on level) 3. Therapeutic Massage & Care/ 2400-3600 hours + 3 months industrial training 4. Massage Therapy/ 1600-2400 hours 5. Ayurvedic Panchakarma Therapy/ 1600-2400 hours 6. Wind Cupping Therapy/ 1600-2400 hours 7. Tuinalogy Services/ 1600-2400 hours	4. On-job training (Desana Naya, Paediatric and Physical Medicine, Hospital Management and Leadership Trainings for In-service TM Practitioners 5. Research Methodology Training for TM Practitioners 6. Acupuncture Course (6 months training from Yunnan Chinese Traditional Medicine University)	from private and government sector: 900 hrs. (for MD) and 990 hrs. (for non-medical personnel)		3. Thai massage Level 3 for professional level: Not less than 2 yrs. 4. Thai Massage for Health (practiced by the Blind): 255 hrs. 5. Acupuncture for MD: 3 m., etc.	
Table 3.3 Law & Regulation on T&CM practice and licensing system									

Table 3 Education, Training, and Human Resource for Health									
Brunei	**Cambodia**	**Indonesia**	**Lao PDR**	**Malaysia**	**Myanmar**	**Philippines**	**Singapore**	**Thailand**	**Viet Nam**
(1) Availability of Law & Regulation on T&CM practice									
☑ • Beauty and Health Establishment Order	☑ • Law on Regulation of Health Practitioner • Sub-decree on regulation of TM Practitioner (in process), etc.	☑ • Law on Health and Health Worker • Presidential Regulation on National Health System • Gov. Regulation on Traditional Health Services • Minister of Health Regulation on Formulary of Indonesian Original Herbal Medicine • Minister of Health Regulation on Self Care in the Community by Utilizing Family	☑ • Law on Health Care	☑ • T&CM Act 2016	☑ •Traditional Drug Law and its notifications enacted in 1996 (revised 2014) - update in progress •TM Council Law (enacted in 2000) - updated in 2019 •the Law Relating to Private Health Care Services by Traditional Medicine (in process)	☑ • RA 8423 Traditional and Alternative Medicine Act (TAMA) of 1997 • RA 8423 with revised Implementing Rules and Regulation • Guidelines Implementing Republic Act (RA) 8423 on the national certification of acupuncturists and accreditation of acupuncture training center and clinic (Note: There is also an	☑ TCMP Act	☑ • Thai Traditional Medical Professions Act • Regulations of Thai Traditional Medical Council related to license of TTM practice • Practice of the Art of Healing Act, etc.	☑

Table 3 Education, Training, and Human Resource for Health									
Brunei	**Cambodia**	**Indonesia**	**Lao PDR**	**Malaysia**	**Myanmar**	**Philippines**	**Singapore**	**Thailand**	**Viet Nam**
		Medicine Garden and acupressure • Minister of Health Regulation on Empirical Traditional Health Services • Minister of Health Regulation on Integration of Traditional Health Service • Minister of Health Regulation on Complementary of Traditional Health Service • Minister of Health Regulation on Solus Per Aqua (SPA)				existing Guidelines for Chiropractic, Homeopathy/Homotoxicology, Naturopathy, Tuina Massage and Filipino Traditional Massage			
(2) Availability of Licensing system									

Table 3 Education, Training, and Human Resource for Health									
Brunei	**Cambodia**	**Indonesia**	**Lao PDR**	**Malaysia**	**Myanmar**	**Philippines**	**Singapore**	**Thailand**	**Viet Nam**
☒ Voluntary basis is applied for registration of T&CM practitioners.	☑ Practitioners must apply to **provincial/ municipal health department** for opening their consultation parlor or to MoH for clinic/hospital	☑ 1.**Indonesia Medical Council** responsible for issuing the license of practice for traditional health practitioners with diploma, bachelor, and master degree **2. Board of Integrated Licensing** responsible for issuing the license of practice for traditional healers and traditional wellness centers	☒	☑ T&CM Council responsible for registration of T&CM practitioner	☑ **Traditional Medical Council** responsible for issuing the license of practice	☑ PITAHC thru the **National Certification Committee (NCC)** is responsible for approving and issuing the certification to practice of the different T&CM modalities and accreditation of the clinic and training center. Each modality has its own NCC	☑ **Traditional Chinese Medicine Practitioners Board** responsible for issuing the license of practice	☑ 1. **Thai Traditional Medical Council** responsible for issuing the license of practice for TTM and Applied TTM doctors/ practitioners 2. **DTAM** responsible for issuing certificate for Thai indigenous healers/ folk healers 3. **Department of Health Service Support (DHSS)** responsible for issuing the license of practice for TCM doctors	☑ 1. At Central level: **TM Administration, MoH** responsible for receiving applications for registration of TM practice from healthcare facilitates affiliated to MoH 2. At Local level: **Department of Health** in province or city responsible for receiving applications for registration of TM practice from healthcare facilitates located in their areas

Table 3 Education, Training, and Human Resource for Health									
Brunei	**Cambodia**	**Indonesia**	**Lao PDR**	**Malaysia**	**Myanmar**	**Philippines**	**Singapore**	**Thailand**	**Viet Nam**
								and Chiropractors	
(3) Licensed practitioners									
☒ Numbers of registered T&CM practitioners are 25 as of 31st July 2021; 1. Acupuncturists :12 2. Chiropractor: 1 3. Osteopath: 1 4. Massage Therapist(therapeutics): 2 5. Cupping Practitioner: 8 6. Homeopathy: 1	☑ 1. Licensed TM Clinical practice and TM consultation parlor: 78 2. Traditional pharmacists: 196	☑ .1Health Workers with Jamu, Acupuncture, and Traditional Medicine Diploma: 229 2. Medical Doctor of acupuncture: 151 3. Traditional healers: 3766	☒ Numbers of T&CM practitioners are not also available. Most of TM practitioners are medical doctors or other health professions who completed training in T&CM courses from local or international institutions Training on the promotion on the use of TM linked to Primary health care for healers. (Herbal	☒ Number of licensed practitioner is not available. Official registration has yet to start.	☑ 1. TM practitioners : 7435	☑ 1. Acupuncturists (incl. registered MD): 1,083 2. Chiropractors: 66 3. Homeopaths: 32 4. Naturopaths: 116 5. The Philippines Traditional Massage: 8	☑ 1. TCM practitioners and acupuncturists: 3,304	☑ 1.TTM doctors who hold the license in the following branches: • Thai traditional practice: 22094 • Thai traditional pharmacy: 29265 • Thai traditional midwifery: 9929 • Nuad Thai: 4880 • Indigenous Medicine: 156 (One TTM doctor may hold more than one	☑ 1. TM doctors: 6000 2. Assistant TM doctors: 4500 3. TM Nurses: 1634 4. TM pharmacists: 620 5. TM healers in public facilities: 228

Table 3 Education, Training, and Human Resource for Health									
Brunei	**Cambodia**	**Indonesia**	**Lao PDR**	**Malaysia**	**Myanmar**	**Philippines**	**Singapore**	**Thailand**	**Viet Nam**
			Medicines used in Primary Health Care in ASEAN) Sourced by ITM.					license in this case) 2. Applied TTM doctors: 3106 3. TCM doctors: 1066 4. Chiropractors: 31 5.Folk healers: 2533	

Table 4 Traditional/ Herbal Medicines									
Brunei	**Cambodia**	**Indonesia**	**Lao PDR**	**Malaysia**	**Myanmar**	**Philippines**	**Singapore**	**Thailand**	**Viet Nam**
Table 4.1 Products									
(1) Availability of Law & Regulations on Traditional & Herbal Medicines									
☒	☑	☑	☑	☑	☑	☑	☑	☑	
	1. Law on the Management of Pharmaceuticals; 2. Sub-decree on Production,			No separate law for TM/HM (using the same law as conventional medicine)	Traditional Drug Law and its notifications enacted in 1996 (revised 2014)	AO 172 for registration of herbal medicine AO 184 for traditionally-	Specific TM/HM Law, separate from those for conventional medicines available	Drug Act B.E. 2510 T&CM Product Act B.E.2562	

Table 4 Traditional/ Herbal Medicines									
Brunei	**Cambodia**	**Indonesia**	**Lao PDR**	**Malaysia**	**Myanmar**	**Philippines**	**Singapore**	**Thailand**	**Viet Nam**
	Import-Export and Trade of TM for the health sector; 3.Prakas on formalities and conditions for opening or closure or relocation of where TM are sold; 4.Directive on the implementation of visa/registration of TM			Guideline under DRGD - Appendix 5: Guideline on Registration of Natural Products		used medicine RA 9711 AO 2016-0008 Generic labeling requirements of Drug Product for human use AO-2005-0016 brand name clearance			
(2) Numbers of Product Registration									
None (No registration for TMHS products in Brunei as there is no regulation yet in place.)	474 (including local & imported products)	11,042 (10,959: Jamu, 63: Standardized HM, 24: Fitopharmaca)	280 (including 157 local & 123 imported products	12,226 (including 8,481 local and 3,745 imported products)	15,000 (only local products)	50	11,340 (for CPM only)	694 (including 36 manufacturers with Pic/s GMP and 38 facilities in public hospitals with WHO-GMP)	62 (for GMP-WHO)

Table 4 Traditional/ Herbal Medicines									
Brunei	**Cambodia**	**Indonesia**	**Lao PDR**	**Malaysia**	**Myanmar**	**Philippines**	**Singapore**	**Thailand**	**Viet Nam**
Table 4.2 Manufacturing									
(1) Numbers of Licensed T&CM manufacturers									
1	N/A (Most manufacturers are households and private small-scale companies)	41 (32 ITM modern manufacturers and 9 ITM simple manufacturers)	3 (public manufacturers)	138 (as of April 2020)	3275	9	37 (Chinese Proprietary Medicines manufacturers)	694 (including 36 manufacturers with Pic/s GMP and 38 facilities in public hospitals with WHO-GMP)	62 (for GMP-WHO)
(2) Manufacturing Standard required									
GMP	N/A	GMP	National GMP	Guidelines on Good Manufacturing Practice (GMP) for Traditional Medicines and Health Supplements, 1st Edition 2008 Guidelines on Good Distribution Practice	National GMP	GMP	GMP	GMP/ Pic/s GMP /WHO-GMP	GMP-WHO/ GMP/EU-GMP

Table 4 Traditional/ Herbal Medicines									
Brunei	**Cambodia**	**Indonesia**	**Lao PDR**	**Malaysia**	**Myanmar**	**Philippines**	**Singapore**	**Thailand**	**Viet Nam**
				(GDP), 3rd Edition (2018)					
Table 4.3 Herbal Pharmacopoeia or Monographs (National Pharmacopoeia: Numbers of Monographs contained)									
☒	☑	☑	☑	☑	☑	☑	☒	☑	☑
	1. Plants used in Cambodia: 64 2. Medicinal plants of Cambodia: 763 3.List of medicinal plants year 2012: 763	1. Indonesia Herbal Pharmacopoeia 2008 (1st ed.): 70 2. (6) Vol. of Indonesia Materia Medica: 237 3. *Vademekum Bahan Obat Alam*: 100 4. Formularium Obat Herbal Asli Indonesia (FOHAI) 5. Formularium Ramuan Tradisional	1. Lao Herbal Pharmacopoeia Vol.1: 160	1. Malaysian Herbal monograph Vol. 1-3: 60 2. Malaysian Herbal Monograph 2015: 69 3. Malaysian Herbal Monograph (published on Global Information Hub on Integrated Medicine www.globinmed.com): 76	1. (2) Vol. of Myanmar Herbal Pharmacopoeia: 40 2. (2) Vol. of the Monograph of Myanmar Medicinal Plants: 120	1. Philippine Pharmacopeia: 52 2.Philippine Herbal Pharmacopoeia	China's Pharmacopoeia is applied instead	1. Thai Herbal Pharmacopoeia 2019: 90 2. Thai Herbal Preparation Pharmacopoeia 2018: 4	1. Vietnamese pharmacopoeia (5th ed.): 342

Table 4 Traditional/ Herbal Medicines									
Brunei	**Cambodia**	**Indonesia**	**Lao PDR**	**Malaysia**	**Myanmar**	**Philippines**	**Singapore**	**Thailand**	**Viet Nam**
		Indonesia (FROTI)							

Table 5. T&CM Knowledge Management									
Brunei	**Cambodia**	**Indonesia**	**Lao PDR**	**Malaysia**	**Myanmar**	**Philippines**	**Singapore**	**Thailand**	**Vietnam**
Table 5.1 National Research Institute responsible for T&CM									
☒	☑ 1. National Center of TM (NCTM) 2. University of Health Sciences 3. University of Puthisastra 4. National Health Product Quality Control Center	☑ 1. Center of Research and Development of Health Services 2. Indonesian Institute of Sciences 3. Medicinal Plants Research Institute, Ministry of Agriculture 4. Schools of Pharmacy and Schools	☑ 1. Institute of Traditional Medicine (ITM) (research and development)	☑ 1. Herbal Medicine Research Center (research), Institute for Medical Research 2. Forest Research Institute Malaysia 3. Universities eg University Science of Malaysia, Universiti Kebangsaan	☑ 1. Research Unit, Department of TM 2. Research Unit, University of TM	☑ 1.PITAHC 2. University of the The Philippines National Institutes of Health-Institute of Herbal Medicine 3. Philippine council for health research and development 4. Mindanao State University-Illigan	☒ NA	☑ 1. Research Unit, DTAM 2. Medicinal Plant Research Institute, DMSc 3. Thailand Institute of Scientific and Technological Research 4. National Center for Genetic Engineering and Biotechnology	☑ 1. National Institute of Medicinal Materials 2. National Institute of Drug Quality Control

Table 5. T&CM Knowledge Management									
Brunei	**Cambodia**	**Indonesia**	**Lao PDR**	**Malaysia**	**Myanmar**	**Philippines**	**Singapore**	**Thailand**	**Vietnam**
		of Medicine in universities		Malaysia, Universiti Putra Malaysia 4. Malaysian Agriculture Research and Development Institute		Institute of Technology		5. Schools of Pharmacy and TTM in most universities	
Table 5.2 National TM Textbooks									
☒	☑	☑	☑	☑	☑	☑	☒	☑	☒
	1. Medicinal Plants Book: 5 volumes 2. Health and Herbs in Ancient Cambodia 3. Your Medicines in your garden 4. Treatment disease by TM from palm leaves 5. Book list of Cambodia Medicinal Plants	1. Body of Knowledge Indonesia Traditional Health	1. Palm Leaf script in Tarm or antique Lao: 982 sets consists of TLMK/TLM/ LM remedies 2. Book on Medicinal plants in your garden (30 plants) 3. Book on simple plants for self-	1. A Dictionary of the Economic Products of the Malay Peninsula Vol I & II 2. Compendium of medicinal plants used in Malaysia Vol.1-2: 17 3. Khazanah Perubatan Melayu Tumbuhan	1. Myanmar Traditional Medicine National Formulary 2. Medicinal Plants of Myanmar 3. Standard Treatment Guideline for TM 4. *Dartuviparka Deepani* TM Textbook 5. Myanmar Herbal Pharmacopo	1. Encyclopedia of Medicinal Plants of the The Philippines: 3 volumes 2. *Patnubay sa Paggamit ng Halamang Gamot* 3. Medicinal Plants of the The Philippines, Eduardo Quisimbinmg		1. National TTM formulas: 16547 2. National TTM treatises: 213	

Table 5. T&CM Knowledge Management									
Brunei	**Cambodia**	**Indonesia**	**Lao PDR**	**Malaysia**	**Myanmar**	**Philippines**	**Singapore**	**Thailand**	**Vietnam**
			medication (12 plants) 4. Book on Herbs and Medicinal Plants in Lao PDR: 2 volumes 5. Book of Hmong medicinal plants 6. Medicinal plants of Lao PDR/ Selected and Uses of Medicinal Plants for Community: 2 volume 7. Handbook of Medicinal Plants of Lao PDR 8. Medicinal Plants of Northern Laos 9. 162 Medicinal Plants List	Ubatan Vol 1-3 4. MSS 2999 Kitab Tib A Modern Medical Insight into and Interpretation of A Malay Medical Manuscript 5. Kitab Tib Muzium Terengganu. Edisi dan Huraian Teks 6. Kitab Tib MSS 1292 PNM. Edisi dan Suntingan Teks 7. Dermatologi dalam Kitab Tib Muzium Terengganu. 8. Malay Poisons	eia: 2 volumes 6. Monographs of Common Medicinal Plants: 2 volumes 7. Myanmar TM handbook				

Table 5. T&CM Knowledge Management									
Brunei	**Cambodia**	**Indonesia**	**Lao PDR**	**Malaysia**	**Myanmar**	**Philippines**	**Singapore**	**Thailand**	**Vietnam**
			10 Medicinal and Food Plants in Dongsouth Dong long forest. 11 Medicinal Plants of the Ex-situ Medicinal Plants Preserve in Veunkham Volume 1. 12. China-ASEAN Traditional Medicine 2018.	and Charm Cures 9. Royal Healer. Malay Culture of Healing Vol 1					
Table 5.3 Traditional/ Herbal Medicine Database									
☒	☒	☑	☑	☑	☒	☑	☒	☑	☒
		1. https://cekbpom.pom.go.id 2.www.kemkes.go.id to download Decree of the Minister of Health Number HK.01.07 /	Natural Products Information System (NAPIS Database)	Malaysian Herbal Monograph (published on Global Information Hub on Integrated Medicine	www.dtm.gov.mm (in process)	1. Traditional knowledge digital library http://www.tkdlph.com/ 2. Philippine Herbal Medicine		1. http://ttdkl.dtam.moph.go.th/ 2. www.medplant.mahidol.ac.th 3. www.pharmacy.mahidol.ac.th/medplantdatabase	

Table 5. T&CM Knowledge Management									
Brunei	**Cambodia**	**Indonesia**	**Lao PDR**	**Malaysia**	**Myanmar**	**Philippines**	**Singapore**	**Thailand**	**Vietnam**
		MENKES / 187/2017 and etc.		www.globinmed.com): 76		http://www.philippineherbalmedicine.org/ 3. herbs.ph 4.https://dpw.doh.gov.ph/ 5. Philippine National Formulary (PNF) 6. herdin.ph		4. www.pharg arden.com and etc.	

Appendix 7: Workshop on Development of ASEAN Recommendation on Quality Healthcare in Primary Care. 20 - 22 August 2019, at Geno Hotel, Selangor, Malaysia.

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Appendix 8: ASEAN Side Meeting on the Concept Note for the ASEAN T&CM Dialogue, 5 August 2019, One World Hotel, Selangor, Malaysia

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Appendix 9: Meeting of Focal Points of Traditional Medicine to discuss the report on the situation analyses of traditional and complementary medicine and recommendations, 28 May 2020, via Zoom Meeting

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