

Technical Brief

HEALTH WORKFORCE

Physicians' Distribution and Registry

VOL. 1



SUMMARY of The PMAC Side Meeting 2022

The Partnership Project for Global Health and Universal Health Coverage
(GLO+UHC Phase 2) — JULY 2022



Table of Contents

Introduction	3
Summary	5
1. Define the problems of physician distribution in each country	6
2. Construct alternative measures for physician distribution	10
2-1. Basic concept of measures	10
2-2. Individual measures	11
2-3. Ways of applying measures in the country context	17
3. Registry and regular survey for Monitoring, Assessment, Projections, and Planning	19
3-1. Usage and importance of the registry and regular surveys	20
3-2. Survey design	20
3-3. Items of the registration and regular survey conducted on individual physicians	23
3-4. The challenges in establishing an effective regular survey	25
4. Lessons learnt and future challenges	26
Acknowledgement	29



Introduction

The Partnership Project of Global Health and Universal Health Coverage (GLO+UHC) Phase 2 between Thailand and Japan has been implemented with the focus on health finance and health workforce to promote UHC. Considering the commonality within the region, the approach to health workforce issues was narrowed down to health workforce distribution, Continuing Professional Development (CPD) and Interprofessional Education (IPE).

The health workforce distribution is a long-lasting issue in health policy. In this era of SDGs, to pursue UHC, the distribution of health workforce is one of the keys to ensure the access to a qualified health care. SDGs has set the target goal concerning the national density of health workforce to population. In addition, the United Nations (UN) asks for the indicator of health worker distribution by sex and type of occupation. However, the more detailed data of the distribution, including the density at sub-nation level or other health professionals' distribution, might also be essential indicators to ensure the access to health care from the view point that some countries may have lower national density of physicians, but better service delivery according to SDGs indicator 3.8.1.

WHO has been taking the initiative of health workforce issues through the publishing of Global Strategy on Human Resource for Health Workforce 2030 and has led the principles of health workforce management with National Health Workforce Accounts: A Handbook. The follow-up of the global strategy would be useful to push the progress in each country. Also, the measures to improve the distribution are more sensible and are context-based policy. Hence, knowledge sharing among the countries, with their backgrounds and contexts, is helpful to establish effective measures and overcome their challenges.

On December 20, 2021, GLO+UHC held the PMAC 2022 Side Meeting “*Where is our doctor? Measures for the future distribution of health workforce*” to share knowledge relating to the measures and its assessment. The project invited the government officers who were in charge of the policies on health workforce and the relevant researchers to be the speakers and commentators. Practical lessons learnt on policy making were shared with participants, and the constructive reflections were provided by experts from WHO and other academia.

This technical brief was mainly compiled based on the presentations, discussions, comments, and reflections at the PMAC 2022 Side Meeting. The project also added some analysis essentially based on the above publications by WHO and some relevant papers. The Side Meeting and the technical brief focus on the distribution of physicians, as it is one of the major health workforce.

Nevertheless, it does not mean that physician distribution should be prioritized in every country. The project affirms that some countries should put more focus on other health professionals or the retention of health workforce. Also, the project should mention that, generally, physician distribution includes at least three different dimensions: distribution by geographical region, distribution by sector (public, private or others) and distribution by area (primary care vs. secondary care and specialties). However, this technical brief will focus mainly on the geographical distribution. For the current updated evidence, the project would recommend [“WHO guideline on health workforce development, attraction, recruitment and retention in rural and remote areas”](#) as a reference.

The project aims that this technical brief would contribute to the sharing of lessons learnt among countries and to the improvement of physician distribution.



Summary ✦ ✦ ✦ ✦

This technical brief: HEALTH WORKFORCE VOLUME 1 Physician Distribution and Registry is summarized based on the GLO+UHC's PMAC 2022 Side Meeting "*Where is our doctor? Measures for the future distribution of health workforce*" and additional input from the presenters and commentators.

In the first part of this technical brief, "**1. Define the problems of physician distribution in each country,**" the project shows the difference in the features of physicians' geographical distribution among countries. This part also includes the validated data in comparison with other countries and the indicators from NHWA Handbook, which are helpful for each country to discover the hidden issues and bottlenecks of the disproportional distribution.

Next, "**2. Construct alternative measures for physician distribution**" describes 22 measures to improve the distribution. The measures are classified by the timing of physicians' career and also provide some examples from the participating countries at the Side Meeting. Furthermore, the paper puts emphasis on the importance of the unified and coordinated interventions.

As the feature of this technical brief, "**3. Registry and regular survey for monitoring, assessment, projections, and planning**" presents the usage and importance of this registry and regular survey, survey design, and essential items for considering the physician distribution measures. This paper shows the items used in the participating countries and the challenges for conducting a unified survey that covers all the physicians.

Last but not least, "**4. Lessons learnt and future challenges**" delivers strong messages from the commentators and presenters to the policy makers, including multisectoral approaches, distributions among specialty and general practitioners, the effectiveness of the registry, and some approaches to improve health care in the under-distributed areas such as Interprofessional Education (IPE) and Continuing Professional Development (CPD).

1. DEFINE THE PROBLEMS OF PHYSICIAN DISTRIBUTION IN EACH COUNTRY

Comparison of the background of physician distribution could clarify the differences and features of each country.

Ensuring an access to physicians is one of the major factors to improve the equity and quality of health services. The PMAC Side Meeting recognized that every country has been suffering from disproportional geographical distribution of physicians. Nonetheless, the background, bottlenecks, and measures differ in every country.

During the Side Meeting, every country mentioned their backgrounds or contexts of the distribution in their presentations. From the viewpoint of the education sector, some countries have many medical universities in urban areas, including publicly and privately funded education, which might make a big impact on the number and the distribution of physicians. However, Bhutan does not have a medical school for undergraduate degree in medicine and thus financially supports medical students to study in neighboring countries. From the viewpoint of the labour markets, Japan has more private health facilities than public health facilities. As a consequence, it is difficult to attain equal distribution of physicians to populations. In Thailand and Indonesia, the proportion of private hospitals is increasing. As a result, more physicians may be hired by these hospitals in the future. From the viewpoint of geography, Japan and Indonesia have many islands, while Lao PDR, Bhutan, and Thailand have many mountainous areas.

Bottlenecks should be found in an analysis conducted using the tracking data.

The factors affecting the distribution are easy to identify, but the relevant contributors to these different factors are not easily analyzed. Sometimes, countries recognize these contributors as the context or history of medical doctor education and political situation. However, the comparison with other countries is also helpful to understand the bottlenecks. Developing a common understanding of the bottleneck among stakeholders in each country is one of the keys to proceed to implement measures.



Chart 1: Comparison charts of the background of physician distribution in each country (The data was shown partially in each country's presentation.)

	Thailand	Lao PDR	Bhutan	Japan	Indonesia
General situation beyond health					
Population (2020 million)	69.80	7.26	0.77	125.84	273.52
Rate of aging: Population ages 65 and above (% of total population) (2020)	13	4	6	28	6
GDP (2020 billion)	501.64	19.13	2.32	5,060	1,060
Data of health workforce					
Number of Physicians	39,156 (2019)	1,981 (2012)	391 (2022)	339,623 (2020)	76,807 (2018)
Density of physicians per 1,000	0.9 (2019)	0.4 (2017)	0.5 (2022)	2.7 (2020)	0.5 (2019)
Production of physicians per year	2,470 (2018)	134 (2021)	17 (2018)	9,222 (2022)	18,928 (2021)
Geographical Distribution (%Rural)		22.3 (2020)	11.6 (2021)	47.4 (2012)	41.8 (2019)
Educational institution					
No of Medical school	25 (2022)	1 (2022)	-	82 (2022)	89 (2019)
No of accredited medical universities recognized by World Federation for Medical Education	23 (2022)	0 (2022)	-	82 (2022)	89 (2022)
Service Delivery					
SDGs Indicator 3.8.1: Coverage of essential health services (2019)	83	50	62	85	59

Reference:

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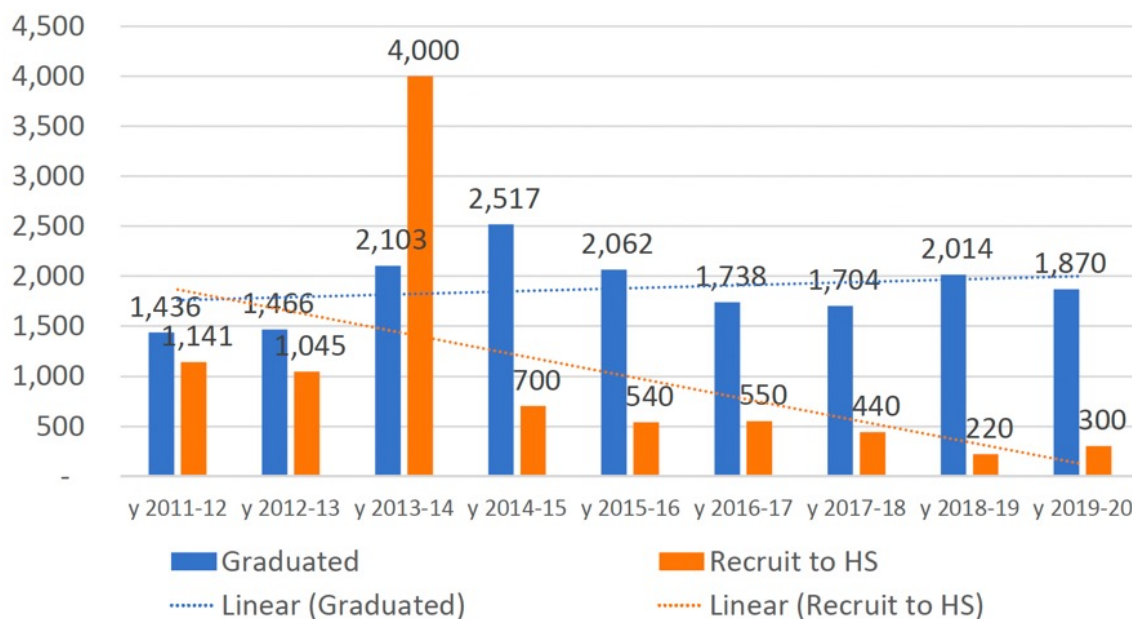
Indicators from NHWA Handbook are useful to grasp the whole aspects.

Adding to the above factors relating to health workforce distribution, Bhutan and Lao PDR mentioned the limitation of civil servant quota from the government, while Indonesia mentioned the safety and security issues in rural areas. These points are included in the indicators from *NHWA Handbook* published by WHO. It shows that the indicator 5–06 and 5–07, which are unemployment rate and vacancy rate, are crucial for some countries. In addition, the indicator 6–10, attacks on health-care system, can be another essential focus which may not be fully recognized in the process of policy making.

Column: Health workforce production and recruitment in public sector in Lao PDR

Some countries including Lao PDR are suffering from limited posts in health facilities. Even if they produce new health professionals, they could not improve the distribution due to the inadequate posts allocated in underserved areas. So do physicians. Here is the example from Lao PDR.

Production vs recruitment in public sector (newly recruited but excluding contracting staff)



* HS = Health Sector

Education and training are the universal issues for achieving better distribution and retention.

The education to train general practitioners or physicians to have the abilities to work in rural areas was repeatedly pointed out by several countries. The contents and methods of education and training directly impact the quality of health care, including tertiary care. The government should consider this issue together with professional organizations. For instance, Bhutan needs to send their medical students to the neighboring countries. Lao PDR has only one faculty of medicine which produces physicians, but the country has put an emphasis on the post-graduate training to enable the post-graduated physicians to provide the needed health services in rural areas. Japan is also striving to establish the pre-service education in general medicine.

Column: Terminology of health workforce distribution

The words 'distribution,' 'retention,' and 'recruitment' are often used interchangeably in this sphere. Nevertheless, the definition should be clear when referring to these words:

- Distribution – looking at the allocative mechanism and efficiency in the system to ensure the match between the numbers and skills of health workforce and demands.
- Retention – keeping people where they are most required or have been allocated to within the health system.
- Recruitment – attracting sufficient people with the necessary skills to meet the demand at the defined places within the health system.



2. CONSTRUCT ALTERNATIVE MEASURES FOR PHYSICIAN DISTRIBUTION

2-1. Basic concept of measures

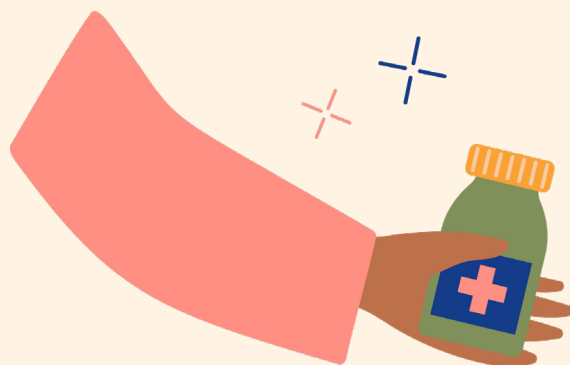
Necessity of measure for the distribution

Why do policy makers need to design the measures for health workforce distribution? The answer is that countries have the mission to ensure the access to health care, which means the access to health workforce, as SDG 3 aims to achieve universal health coverage that seeks equitable access of healthcare services to all citizens.

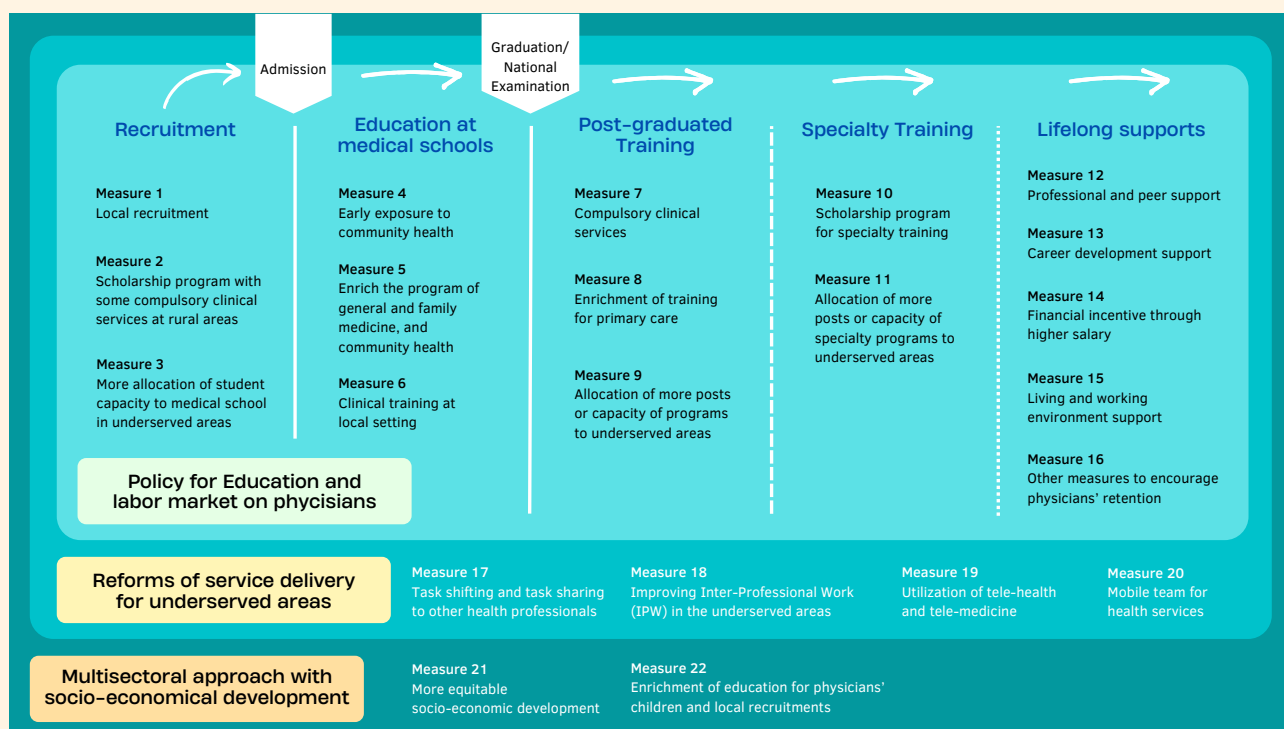
Nature of physician distribution and background

Without any measures, the history shows that health workforces tend to live in urban areas for the sake of convenience. They tend to choose big health facilities, as these facilities have more colleagues and offer more good trainings. Plus, urban areas provide better schooling for children, better housing and more cultural opportunities. Therefore, the policy makers should consider the characteristic of physicians, and understand how such characteristic was shaped during the process of physicians' career. At the same time, the policy makers should keep in mind that the measures for health workforce distribution relate to the quality of health workforce and health care.

In this sense, the project compiled and put the measures that were presented at the Side Meetings and were more in line with the timing of intervention in the educational and training process.



2-2. Individual measures



A. Policy for education and labour market on physicians

Recruitment

Measure 1: Local recruitment

Local recruitment, a recruitment of students from the locality where staffing is required, is one of the established measures to get better distribution and retentions in rural areas. The concept is that, after graduating, locally recruited students could be expected to work for a long time at their hometown. Some may be expected to play the role of general physicians, such as family physicians.

Measure 2: Scholarship program with some compulsory clinical services at rural areas

Some countries provide a full scholarship with some compulsory clinical services at rural areas for certain enrolled students. The amount and timing of the scholarship and the restriction of areas and period for compulsory clinical services vary in different countries and systems, which are the topics to be determined and assessed in each country.

Measure 3: More allocation of student capacity to medical school in underserved areas

The government's allocation of medical schools and medical students' capacities into the university in underserved areas might be the most effective measures to increase the number of physicians in the concerned areas. In general, physicians often feel most comfortable being located in the area around their medical schools. They have connections to get more training from their medical schools' trainers. Hence, locating medical schools and allocating more student capacity to underserved areas would be a potentially effective option to get more physicians in such areas.

Education at medical schools

Measure 4: Early exposure to community health

Early exposure to clinical service and training in community health and primary care could attract young medical students to community health and family medicine to align students' future careers to public health needs. Also, they may meet some role models whom they cannot meet in schools.

Measure 5: Enrich the program of general medicine, family medicine, and community health

Medical schools in most countries dedicate many hours for classes held by organ specialists. Re-orienting the curriculum so that it places a higher value on general and family medicine or community health would be expected to produce more physicians who would retain in rural areas.

Measure 6: Clinical training at local setting

Every country has clinical training for certain hours, which is in alignment with the standard of World Federation for Medical Education. The environment of pre-service clinical training also impacts the medical students' career options.

Post-Graduate Training

Measure 7: Compulsory clinical services

Some countries enforce compulsory clinical services at certain rural areas on post-graduated physicians for 1–3 years. The wage, degree of urbanization and availability of trainers differ in each country and region. Governments should carefully consider the impact toward the distribution and retention rate as a result of policies of compulsory clinical services.

Measure 8: Enrichment of training for primary care

Post-graduate training is a key element for young physicians in their choice of careers. The governments need to prepare the training sites where adequate trainers could provide quality training for post-graduated physicians. In Lao PDR, the residency program focuses on the training for primary care to improve the quality of health services in primary level.

Measure 9: Allocation of more posts or capacity of programs to underserved areas

If the governments have the authority to deploy the post-graduated physicians, or to allocate the capacity of initial training, more capacity should be allocated to underserved areas. When Japan introduced the new national post-graduate training program in 2004, the country failed to control the number of new physicians among prefectures without strict regulations. Currently, the governments gradually decreased the number of posts in urban areas. Then, the distribution of post-graduated physicians was improved in some extent.

Specialty Training

Measure 10: Scholarship program for specialty training

In the countries where physicians need to pay high fees to get specialty training and certification, the scholarship program for specialty training with the rural services in return could be an option, although the government should consider which specialty is needed in rural areas.

Measure 11: Allocation of more posts or capacity of specialty programs to underserved areas

Currently, more physicians take specialty training after post-graduate training. Compared with post-graduate training, more specialty training tends to be provided in urban areas. The government and professional associations/councils could prepare more programs in underserved areas with the support in terms of trainers and budget allocation.

Column: Scholarship for specialty training in Indonesia

In Indonesia, the medical specialty training system is university based. The duration of training is approximately 4–6 years depending on the specialty. The tuition fee varies across universities, ranging from 7 million to 23 million Indonesian Rupiah per semester. This scholarship covers the tuition fee and other related costs with

a mandatory return of service commitment either as civil servants or contractual employees in public hospitals. The shortest period of the mandatory service is equal to the duration of training for medical specialists assigned at hospitals located in rural districts and eastern Indonesia. From 2008 to 2021, the Ministry of Health provided scholarship for 8,880 doctors; approximately 6,682 specialists had graduated and returned service in public hospitals.

Lifelong education support

Measure 12: Professional and peer support

Physicians working at clinics in rural areas often feel isolated and lonely. Providing system-based support to them in terms of clinical services and living conditions would be beneficial to improve the distribution and, especially, the retention.

Measure 13: Career development support

It is difficult for solo practitioners in rural areas to develop and to keep their career and specialty. The professional association or university could provide opportunities for solo practitioners to train or retrain themselves by sending substitutes to work in place of them during the training period, and by providing online courses.

Measure 14: Financial incentive through higher salary

The use of financial incentives is one of the most commonly used measures to improve the distribution in rural areas. Some surveys and studies show that it would work in certain settings but has limitations.

Measure 15: Living and working environment support

Adequate support for transport and housing are required for physicians, especially for those who are not familiar with the area. In addition, to reduce their stress and contribute to their effectiveness, it is important to provide well-equipped facilities with adequate medical supplies for them.

Measure 16: Other measures to encourage physicians' retention

To increase their social recognition, Thailand provides awards to physicians who contributed to underserved areas. In Indonesia, the government regulates by laws the number of working places in order to limit physicians' private practice and improve the retention at public facilities and the availability of public health facilities.

B. Reforms of service delivery for underserved areas

Measure 17: Task shifting and task sharing to other health professionals

In rural areas where no physicians have been allocated, and even in the setting where the distribution of physicians is not adequate to the need, other health professionals have to perform some of the physicians' tasks, although other tasks should still be taken responsibility by physicians. Hence, clarifying the tasks and skills to be shifted or shared, and providing training, could be the options to ensure an access to health care through task shifting and task sharing.

Measure 18: Improving Inter-Professional Work (IPW) in the underserved areas

In rural areas, the healthcare workforce, including physicians, need to cover population and areas more efficiently. Greater focus across teams of workers, by IPW, and the opportunity to engage with communities through IPW could improve the quality of health services as well as provide efficient health services in more coordinated manners.

Measure 19: Utilization of tele-health and tele-medicine

The COVID-19 pandemic highlights the importance of tele-medicine, especially in remote areas. The service delivery system based on harmonized and coordinated tele-health and in-person services should be established to continuously improve health care access.

Measure 20: Mobile team for health services

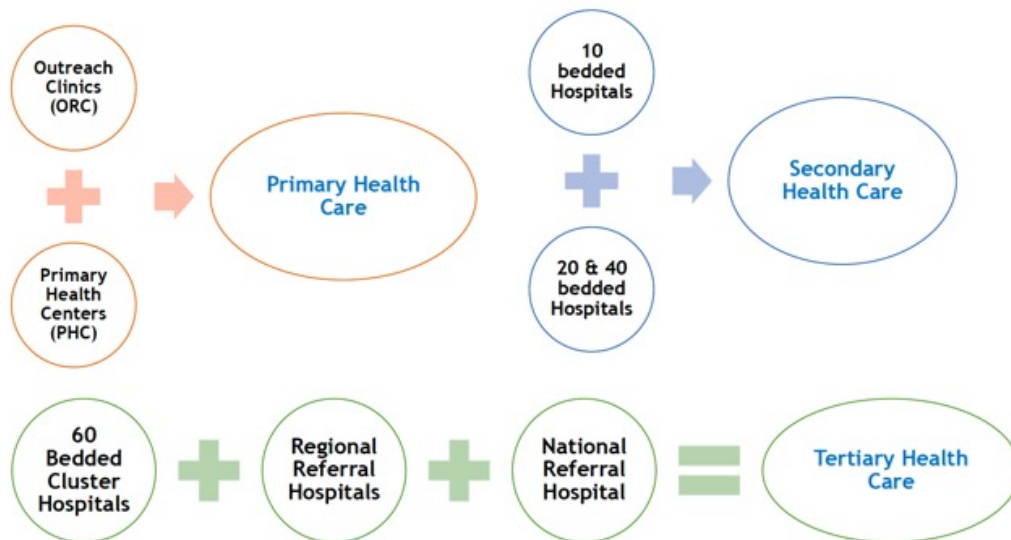
Mobile team for health services remains an essential model to ensure that people in remote areas, like mountains and islands, could access to qualified health services.



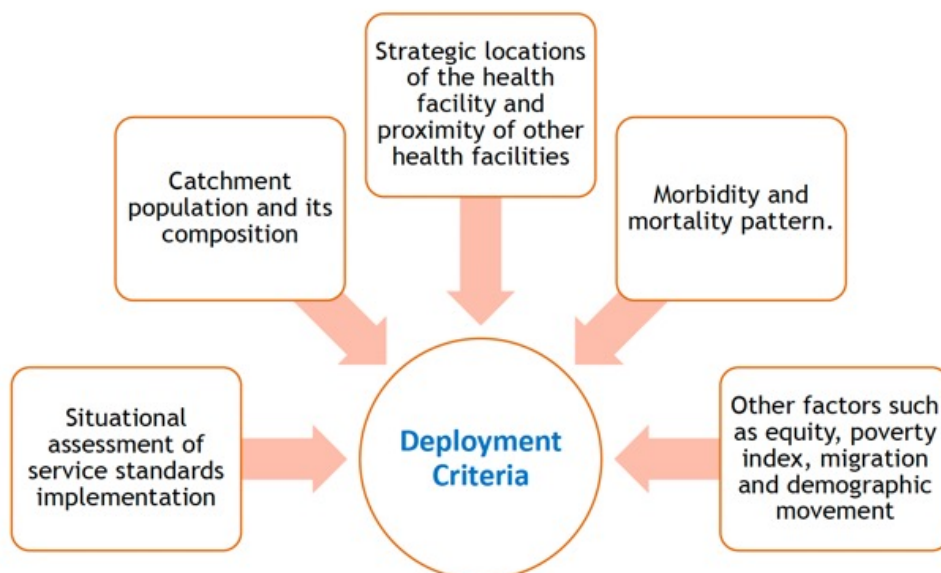
Column: Maximum use of health professionals in Bhutan

Bhutan does not have a medical school for undergraduate degree in medicine and allied health sciences. However, Bhutan makes the most use of health professionals through deployment criteria and well-coordinated standards of health facilities at each level. Deployment criteria was determined by the situation analysis of service standards implementation and morbidity and mortality pattern in each area.

Categories of Health Facilities



Implementation Modality



C. Multisectoral approach with socio-economic development

Measure 21: More equitable socio-economic development

In this brief, we have described specific measures to distribute and to retain physicians in the context of physicians' career development and health service delivery models. Nonetheless, many physicians ask for more pleasant environment for their family as well. Further emphasis on social development would be a necessary factor to solve the disproportional distribution in the future.

Measure 22: Enrichment of education for physicians' children and local recruitments

Several surveys show that more physicians who retained for some years shift to urban areas to provide better education for their children. Additionally, for efficient local recruitment, enrichment of education in rural areas is crucial to produce sufficient students who can pass the licensing examination for physicians and for other categories of health professional.

2–3. Ways of applying measures in the country context

Coordinated and unified policy intervention

It is impossible for all the nations to find a single common solution to dramatically improve the distribution of physicians. While responding to the changes of demographic structure, diseases prevalence, socio-economic status and the current trend of health workforce distribution, the governments need to consider the necessary measures whilst also taking into account that it takes about 6–10 years to see the effects of interventions on enrollments or the early year of medical schools.

As the map of interventions in Thailand highlights (see below), several focuses of the interventions, including the recruitments and social supports, should be covered by various sectors beyond the scope of MOH. The governments need to cooperate with relevant organizations to implement the consistent measures. Fragmented interventions might get medical students and young physicians confused. In order to attain high rate of deployment to underserved areas and to improve retention rate, the well-coordinated package of measures is one of the key success factors, based on common recognition for health workforce strategy.

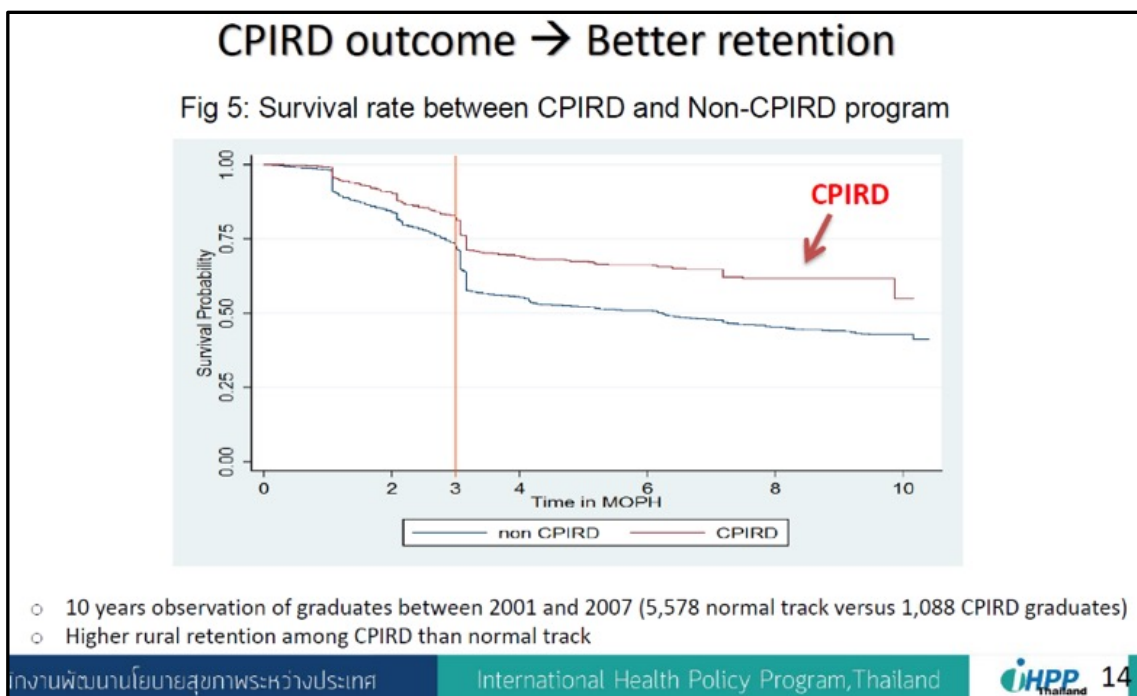
Column: Example of well-coordinated policy: CPIRD (Collaborative Project to Increase Production of Rural Doctor)

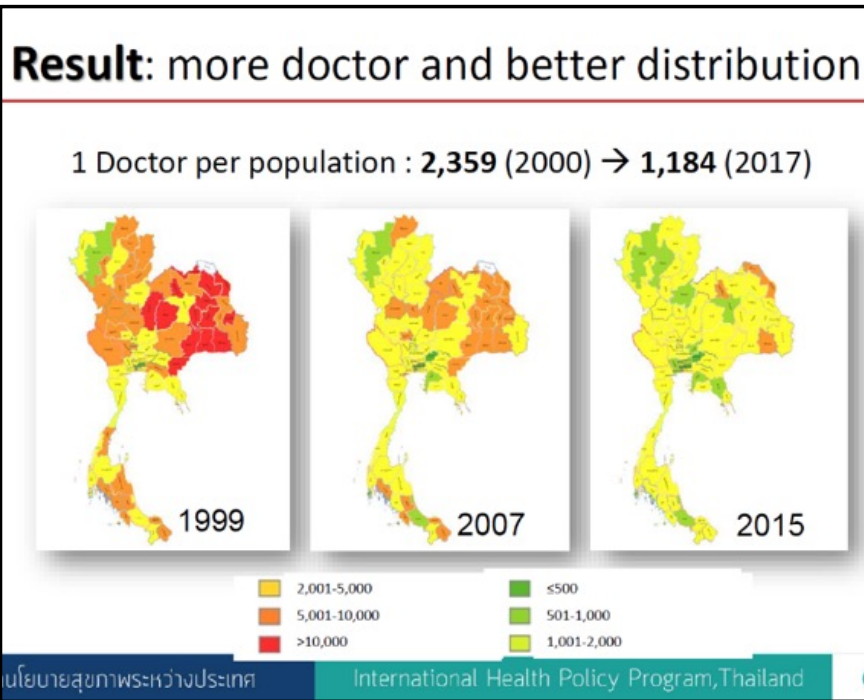
CPIRD program, which was enforced by Thai government, is a fine example of well-coordinated and bundled measures of enrollment, local training, and hometown placement.

CPIRD program started in 1995. It is a collaboration between 19 faculties of medicine in Ministry of Education and 39 Medical Education Centers under Ministry of Public Health. This program combines 3 key concepts: rural recruitment, local training and hometown placement. Currently, it produces 36% of total physician production capacity per year. CPIRD students get pre-service clinical training at medical education centers to learn the competency which physicians have to acquire based on the people's needs in the community level. CPIRD requires compulsory public services from post-graduated physicians and dentists for 3 years. The program allocates them into their hometown provinces. Furthermore, ODOD (One District One Doctor) program started with more focus on rural and developing areas. ODOD recruits students from certain rural district pool, whereas CPIRD recruits from provincial pool except Bangkok.

Retention rate of CPIRD graduates is better than others at least until 10 years.

1 Doctor per population was improved from 2,359 in 2000 to 1,184 in 2017.





3. REGISTRY AND REGULAR SURVEY FOR MONITORING, ASSESSMENT, PROJECTIONS, AND PLANNING

[*Global strategy on Human Resource for Health Workforce 2030*](#) clearly states that countries need to make progress on health workforce registry as one of the global milestones by 2020: “All countries are making progress on health workforce registries to track health workforce stock, distribution, flows, demand, supply, capacity, and remuneration”.

The monitoring and assessment of health workforce distribution is essential to support the development of a plan for appropriate policies. There is also a need for timely follow-up regarding the changing situation of the physician distribution, together with the rapidly changing context of health care education and health care labour market. Additionally, the countries must keep in mind that it will take some years to be able to fully assess the impact of some measures supporting the recruitment of medical students, such as the local recruitment policy. In that sense, for the effective monitoring and assessment of these measures, the government should establish the registry, regular survey and interlinked data systems (i.e., MOH,

Councils, Education institutions and also with regular Health Information System) with effective data collection mechanism and theoretical items, based on the clear vision for the health workforce.

3–1. Usage and importance of the registry and regular surveys

- The registry and regular survey system enable users to take evidence-based measures effectively at every step of PDCA (Plan – Do – Check – Act) cycle.

The regularly updated data is helpful for the monitoring, assessment, and planning for the measures. Also, the government could make the projection of physicians based on the data provided by regular surveys and other data relating to future needs.

- The regular survey can help detect new challenges relating to the distribution through the follow-up of the individual situation.

The labour market may rapidly show new trends, such as the flow to specific areas, the popularity of a specific specialty and the change of impact on working time and wages.

- In particular, the projection of health workforce using the registry is required to reduce future distribution gap.

The measures for the distribution, especially for the recruitments of medical students, take at least more than 6 years to attain their effect at the fields. The projection using the current data should be conducted for the timely measures.

3–2. Survey design

The implementers need to design the method of regular surveys to update the registry in coordinated manner with other stakeholders including councils. The type of design will affect the response rates and the feasibility of some indicators such as the outflow to foreign countries. When a government develop or reform the survey of physicians, each option should be taken into consideration to explore the best design for the survey.

- Implementer of the survey
 - The government (Ministry of Health or statistic offices)
 - Professional councils or associations
 - Others

- Subjects of the regular survey
 - All physicians who have got the national license in a certain country
 - Only physicians working actively for clinical services of the above
 - Only physicians working at any fields of the above

- Collecting methods
 - Facility-based registration (Public: MOPH, university hospitals, Ministry of Defense and private hospitals)
 - Direct submission to implementers.

When the government asks the private sector for the cooperation for the survey, the administrative measures including a requirement for authentication of the data submission is significant.

- Alternative method
 - The consistent data management of health personnel, such as “Health Personnel Information Management System (HPIMS)” managed by Lao PDR, is the alternative way for the data collection of health workforce based on an employment record system. If the system covers all the subjects, the regular survey is not required. It might be an option for relatively small countries where public health facilities is the main provider of the services.

To develop effective registry systems and measures, it is crucial to consider the consensus building with stakeholders and the arrangement of incentives or regulations to encourage physicians to respond to the census survey. Many countries rely on medical councils or professional associations to conduct national examinations. Then, the registry is managed by each council. The government needs to collaborate with them since the beginning of the process. In addition, the cooperation with private sector is essential for following up on the situation.

Sometimes, the cooperation between professional councils and private sectors for the registry and survey is uncertain, because they are concerned about the governments' strict restrictions. However, the government needs to carefully explain and show the importance of registry and survey in terms of sustainability and equity of health services.

Column: The projection of physicians' distribution and needs in Japan

Ministry of Health, Labour and Welfare (MHLW) in Japan has calculated the projection of physician shortage in 2036. The required number of physicians in 2036 was calculated based on the expected demographic changes and the data of the current registry, compared with estimated number of physicians based on the current supply level. Prefectures in blue boxes are predicted to face physician shortages even in 2036. Hence, the government can prioritize such prefectures when they plan the measures.



Projection of physician shortage in the future

Projected shortage and surplus in 2036

Prefecture	Higher estimation	Lower estimation		
	Shortage of physicians	Surplus of physicians		
Hokkaido	-188	-1571		
Aomori	-439	-1225	Shiga	541 -149
Iwate	-474	-1361	Kyoto	4006 1291
Miyagi	1142	-604	Osaka	7703 4393
Akita	-204	-646	Hyogo	3642 77
Yamagata	32	-653	Nara	1236 -403
Fukushima	-804	-3500	Wakayama	1093 193
Ibaraki	202	-2376	Tottori	216 -237
Tochigi	98	-1700	Shimane	168 -411
Gunma	-51	-1837	Okayama	2232 815
Saitama	-1044	-5040	Hiroshima	849 -356
Chiba	636	-2302	Yamaguchi	-88 -965
Tokyo	26645	13295	Tokushima	649 268
Kanagawa	5009	-260	Kagawa	476 183
Niigata	-1534	-1969	Ehime	317 -659
Toyama	222	-432	Kochi	452 -120
Ishikawa	911	217	Fukuoka	5111 2684
Fukui	503	-164	Saga	820 176
Yamanashi	325	-250	Nagasaki	716 49
Nagano	-87	-550	Kumamoto	1671 -229
Gifu	542	-587	Oita	573 -234
Shizuoka	-402	-2187	Miyazaki	-8 -472
Aichi	1357	-727	Kagoshima	762 -182
Mie	391	-553	Okinawa	1021 99

- The table shows the shortage and surplus of physicians in each prefecture in 2036
- The numbers are calculated by required number of physicians based on the expected demographic changes and estimated number of physicians based on the current supply level.
- Prefectures in blue boxes are predicted to be facing physician shortages in 2036

3–3. Items of the registration and regular survey conducted on individual physicians

The items of the registration and regular survey should be appropriately set in accordance with their objectives. Essentially, data should be disaggregated by age, sex, ethnic group and place of employment as a prerequisite to understand health labour markets and to design and follow up measures in each country. Every country refers to [Human resources for health information system: minimum data set for health workforce registry](#) published by WHO as the minimum requirement. Also, the in-flow and out-flow of health workforce should be followed at the sub-nation levels through the national regular survey for active and inactive health workforce.

To analyze the situation, possible affecting factors like birthplace, educational institutions, ages and some fundamental factors should be included. Items relating to the current or past measures like scholarship should be included as well. The modules and indicators shown in [the National Health Workforce Accounts](#) published by WHO are helpful to grasp the general background of workforce distributions and to make evidence-based policy for health workforce at national levels.

The project picks up the items of the registry or survey from NHWA Handbook. The items should be regularly updated, as the data of individual physicians shown in the following chart, together with the actual items, were included in the regular or ad-hoc survey of some participating countries in this Side Meeting. Please note that even some participating countries do not collect the data regularly and struggle to get high response rate when collecting the data.

Table 1: NHWA Modules: Data items reported in the surveys conducted in Thailand, Indonesia and Japan

	Thailand	Indonesia	Japan
Module 1 : Active health workforce stock			
01 Health worker density	✓	✓	✓
02 Health worker density at subnational level	✓	✓	✓
03 Health worker distribution by age group	✓	✓	✓
04 Female health workforce	✓	✓	✓
05 Health worker distribution by facility ownership	✗	✓	✓

	Thailand	Indonesia	Japan
Module 1 : Active health workforce stock			
06 Health worker distribution by facility type	✗	✓	✓
07 Share of foreign-born health workers	✓	✗	✗
08 Share of foreign-trained health workers	✓	✓	✓
09 Share of workers across health and social sectors	✗	✗	✓
Module 5 : Health labour market flows			
01 Graduates starting practice within one year	✓	✗	△
02 Replenishment rate from domestic efforts	✗	✗	△
03 Entry rate of foreign health workers	✓	✗	△
04 Voluntary exit rate from health labour market	✗	✗	✗
05 Involuntary exit rate from health labour market	✗	✗	✗
06 Unemployment rate	✗	✗	✗
Module 6 : Employment characteristics and working conditions			
01 Standard working hours	✓	✓	*1
02 Health workers with a part-time contract	✗	✗	✓
Module 8 : Skill-mix composition for models of care			
01 Percentage of health workforce working in hospitals	✗	✓	✓
02 Percentage of health workforce working in residential long-term care facilities	✗	✗	✓
03 Percentage of health workforce working in ambulatory health care	✗	✗	△
04 Specialist surgical workforce	✓	✓	✓
05 Family medicine practitioners	✓	✓*2	△

*1: Japan has been conducting another survey on the working hours of physicians

*2: Family medicine is a new specialty in Indonesia

3–4. The challenges in establishing an effective regular survey

Private sector

One of the common challenges for most countries is that the government can only obtain the data from public health facilities. Currently, many countries in the region increase the ratio of private health facilities to public ones. This makes it hard for the governments to follow up on the situation, including the distribution of private sector. Japan shows the possible ways to obtain the data of all physicians, including those working in private sector, through the legal duty of individual reporting to the government.

Column: Japan’s law for regular survey

The Medical Practitioners’ Act in Japan regulates the physicians’ duty of notification based on the order issued by the Ministry of Health, Labour and Welfare.

Medical Practitioners’ Act Article 6 (3)

“A medical practitioner must notify their name, address (and the address of the place the person engages in medical practice), and any other matters specified by Order of the Ministry of Health, Labour and Welfare as of December 31 of every second year as specified by Order of the Ministry of Health, Labour and Welfare, to the Minister of Health, Labour and Welfare through the prefectural governor for the residential location, by January 15 of the following year.”

The cooperation of councils or association

In Southeast Asia, many countries have medical doctor councils. They conduct national licensing examination with subsequent registration. In some countries, the basic database of the registry is generally managed by the medical doctor councils. The governments may be required to cooperate with the councils to establish the national registry.

Column: The efforts of Indonesia toward the integrated registry

Indonesia is working on improving national health workforce account by integrating different data resources into the unified health workforce information systems.

The National Health Workforce Account (NHWA) is managed by the Ministry of Health. The NHWA has been developed to record individual data, which should be regularly updated by the employer at health facilities. The registration data of health professionals is recorded by two councils: medical council and health professional council, depending on the type of health professionals. So, there are three different systems for recording health worker data. Currently, there is an ongoing effort among the councils and the MoH to integrate the systems involving the civil registration office to minimize the data discrepancy and to improve accuracy of the data.

4. LESSONS LEARNT AND FUTURE CHALLENGES

In this section, the project summarizes lessons learnt and future challenges implied at the PMAC Side Meeting and adds some points from the publication or papers. Italic sentences show original comments or messages from presenters or commentators, which have not been edited.

Analyze the situation and set targets

- *A moving target: be clear about the socio-political and cultural context circumstances and priorities vary and change over time.*
- The government needs to find the features of the background and the bottlenecks using the indicators of NHWA, regarding health workforce education, labour market, and the circumstances.

Education and training should be the heart of the measures

- The content, quality, and environment of education and training create a strong impact on medical students regarding their working places and careers—generalists or specialists.
- However, more attention should be paid to “a hidden curriculum” related to the negative impression toward general practitioner career in medical education, as it makes medical students want to become a specialist more.
- Education reforms, which should advance population health needs through the quality improvement of general medicine and community health, should be the core of the solution.

- The quality and the characteristic of the health workforce are essential, especially for rural retention. Hence, education and training play an important role. Lao PDR and Bhutan provided good instances of the attempt to improve the accreditation, licensing and registration.

Coordinated policymaking for better distribution while considering service delivery

- *“Bundles’ of coordinated policy interventions rather than single shot”*
- *“It is not just a workforce “problem” – service solutions (redesign/ relocate services, use of tele-health, IT, mobile teams, etc.)”*
- The positions and the committee from different departments should be set to design well-coordinated measures and to monitor their effects with common understanding.

Policy to improve teamwork, Inter-Professional Work (IPW) and task shifting

- *As seen from the COVID-19 situation, it is important for various health professions, not only doctors, to work together as a team. For the integrated, seamless health system, many workforces, such as primary health care workers, have to be involved. For example, in Thailand, there are Village Health Volunteers.*
- *“Interprofessional Health Education, or IPE, is one of the interventions that is worth trying, because these professions know each other’s scope and practice.”*
- Task shifting and inter-professional works are important to improve the access to health services and the quality of health services. In Thailand, Village Health Volunteers work to fill the gap of service capacity in primary health care. They take care of health problem in general as a backbone of the health system.

Disproportional distribution of specialists and generalists

- *It is crucial to balance specialists and general practitioners in rural area. Japan’s case is a good example that could update the registry and use the quota for specialists and general practitioners. This could contribute to the rural retention in the future.*

- To experience many special cases, specialists tend to get training and provide services in urban areas. The education as described above, the balancing of salary between generalists and specialists, and the training supports to specialists working in rural areas might be some focuses to combat this problem.

Clarify the medium and long-term effect of the measures using registries

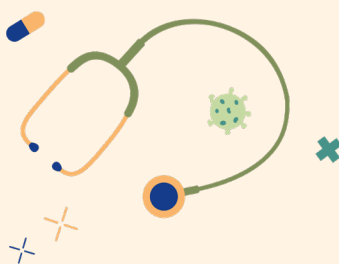
- *“Even though some countries use the compulsory service, it is a short-term intervention for rural retention. In Thailand, some doctors and nurses move from rural to urban area after completing their compulsory services. So, its impact is observably short-term.”*
- Regular survey could help the government assess the impact of each measure, if the survey is constructed to identify the subject of each measure.

Continuing Professional Development (CPD) to improve the retention

- *“Continuous Professional Development, or CPD, is important, including for the rural retention. Because of the COVID-19 situation, we have to conduct it online”.*

Multisectoral measures should be developed based on town and city planning

- Multiple stakeholder engagement should be ensured while identifying and developing relevant interventions on retention or distribution.
- In the context of urbanization, the design of health service delivery should be in alignment with the town and city planning.
- Coordination among neighboring municipalities could help improving the allocation of health facilities and health workforce.
- Socio-economic disparity, which causes less retention of physicians, should be tackled in multisectoral ways.



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Presenters (except Thailand and Japan)

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- Mr. Tenzin Chopel (Director of Directorate Services, Ministry of Health, Royal Government of Bhutan)

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- Prof. Dr. James Buchan, Adjunct Professor, University of Technology Sydney (UTS), Australia; Editor in Chief, Human Resources for Health

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Project Website Phase 2

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-  www.jica.go.jp/project/english/thailand/033/index.html (Phase 2)
-  www.jica.go.jp/project/english/thailand/021/index.html (Phase 1)
-  www.facebook.com/jica.glo.uhc.thailand



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