

GHSA WFD Side Meeting-Turning Crisis to Opportunities for  
Workforce Development:

# Review Results of JEE Scores



**Charung Muangchana**

M.D., B.P.H. (Public Health Administration), M.P.H., Ph.D.,  
Certificate of Expertise in Preventive Medicine (Epidemiology)

Field Epidemiologist Networking, Thailand

# Rationale & Objectives

- **Joint External Evaluation (JEE)** of IHR Core Capacities in response to public health threats.
  - ✓ A tool assessing the country capacity, partly, on health workforce
  - ✓ JEE reports are available on WHO websites  
(<https://www.who.int/ihr/procedures/mission-reports/en>)
- **Objective of the JEE score review and analysis** is to understand the **situation** on workforce development in Asia-Pacific Countries (APAC), as well as to determine **associated factors**

# Methodology & Study Frame Work

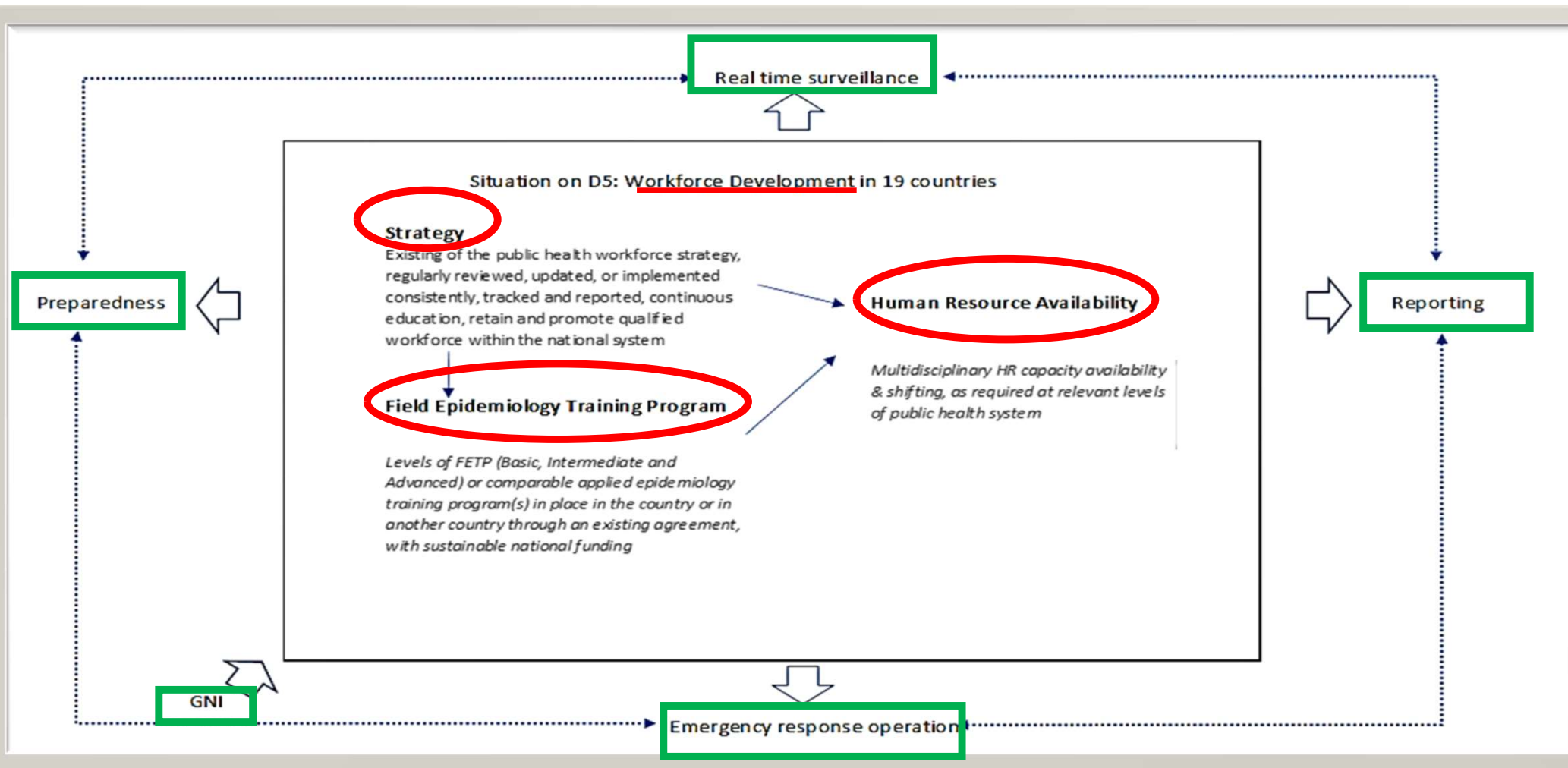
- 19 JEE country reports of the APAC were available on WHO websites & used to identify status levels for workforce development among the country members
- Quantitative analyses were applied
  - Epi info 7 applied for data entry and analysis
  - JEE scores or health workforce indicators ranged from 1 to 5 & satisfied if  $\geq 4$  (green color)
  - GNI, country income classified by WB was applied, given as 1, 2, 3, and 4 scores for low, low-middle, upper-middle, and high income, respectively
  - For the associations, Chi-square test, simple and multiple regressions were applied

World Health Organization Regions	Countries with mission reports (JEE) available
South-East Asia Region	Bangladesh, Bhutan, Indonesia, Maldives, Myanmar, Sri Lanka, Thailand, Timor-Leste
Western Pacific Region	Australia, Cambodia, Federated states of Micronesia, Japan, Lao People's Democratic Republic, Mongolia, New Zealand, Republic of Korea, Republic of the Philippines, Singapore, Viet Nam

Year	Frequency	%	Countries
2016	3	15.79	Bangladesh, Cambodia, Vietnam
2017	9	47.37	Bhutan, Indonesia, Korea, Lao PDR, Maldives, Mongolia, Myanmar, Sri Lanka, Thailand
2018	7	36.84	Australia, Japan, Micronesia, New Zealand, Philippines, Singapore, Timor-Leste

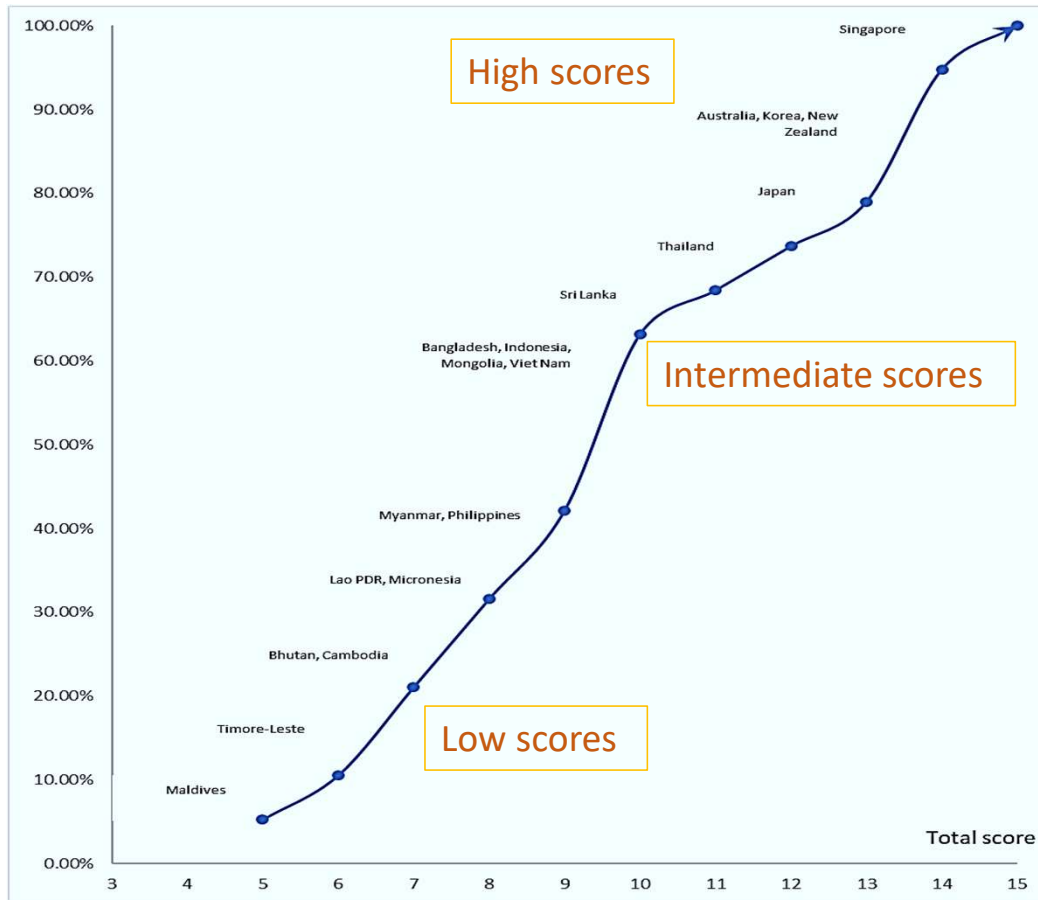
■ Score 1   
 ■ Score 2   
 ■ Score 3   
 ■ Score 4   
 ■ Score 5

# Methodology & Study Frame Work (2)



# Results

- The advancement of the workforce development among the APAC was high variation, from high, to intermediate and low



Cumulative percentages of countries classified by total scores (N=19)

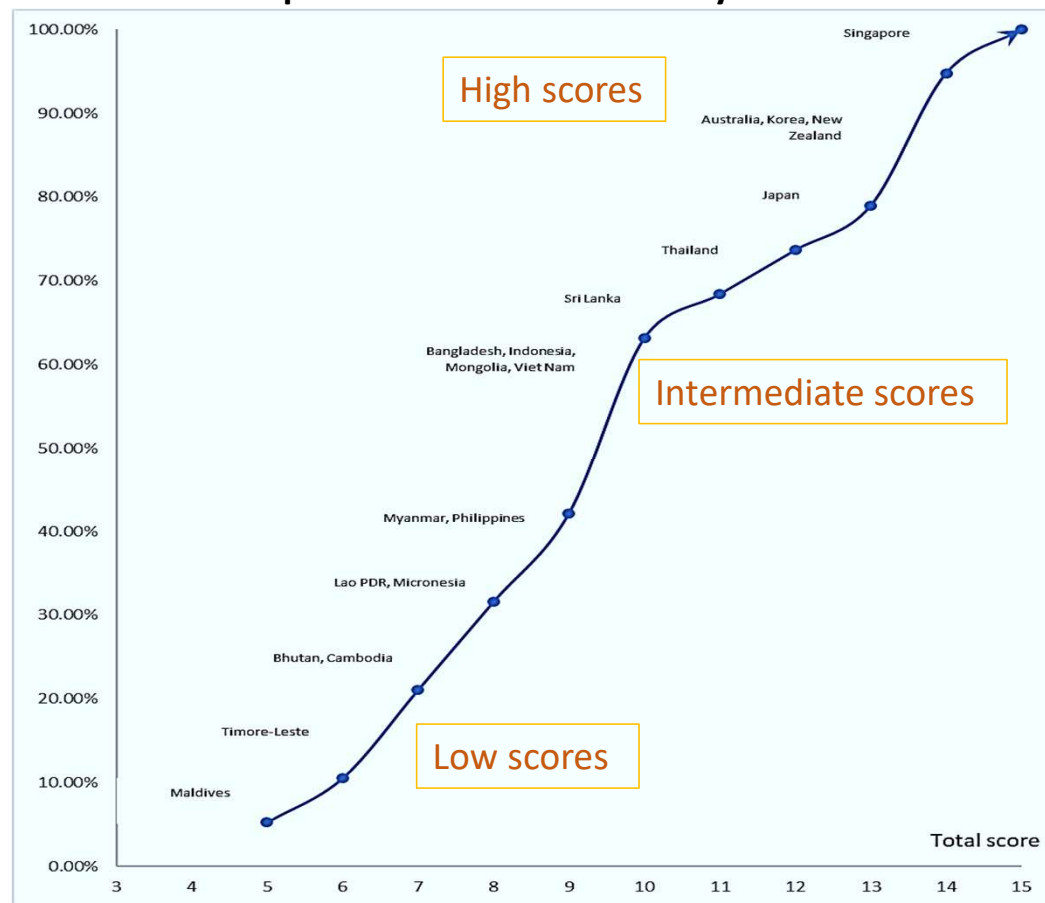


# Results(2)

- The advancement of the workforce development among the APAC was high variation, from high, to intermediate and low

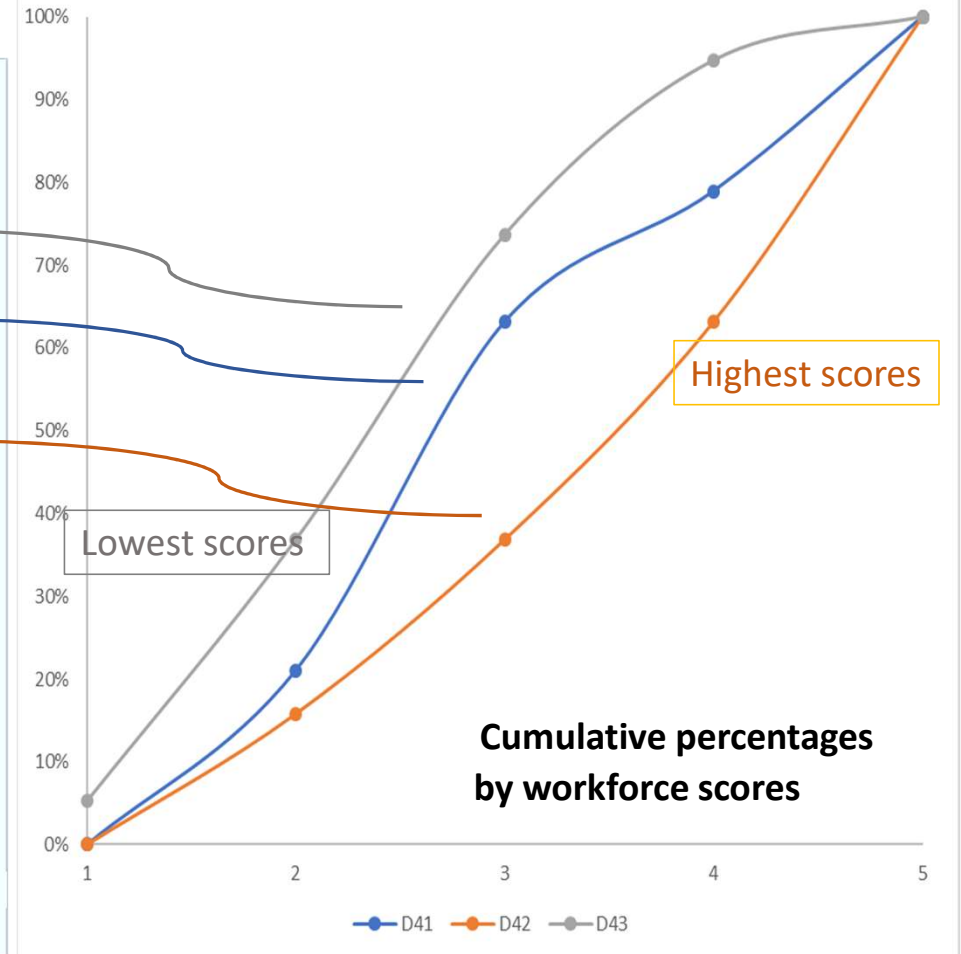
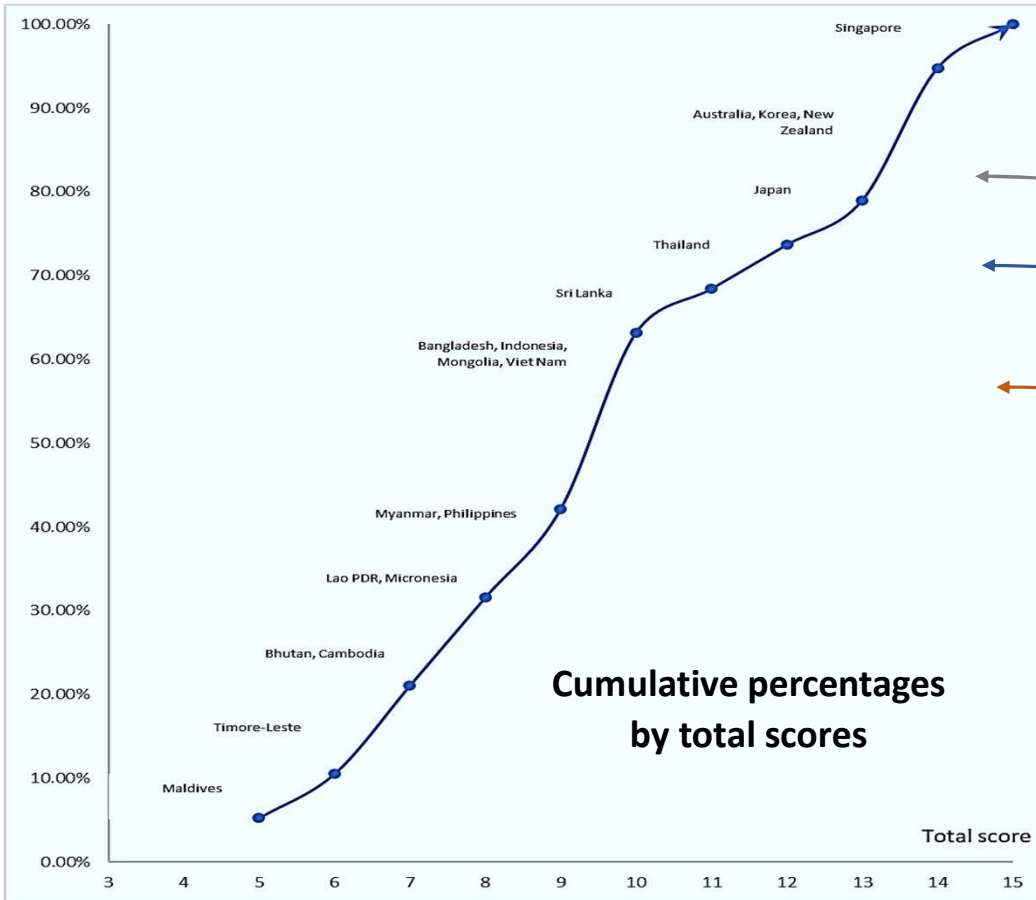
Country Groups	Indicators			Total Scores
	Human resources	Field Epidemiology Training Program	Workforce strategy	
<b>A. High scores</b>				
Singapore	5	5	5	15
Australia	5	5	4	14
Korea	5	5	4	14
New Zealand	5	5	4	14
Japan	4	5	4	13
<b>B. Intermediate scores</b>				
Thailand	4	5	3	12
Sri Lanka	4	4	3	11
Bangladesh	3	4	3	10
Indonesia	3	4	3	10
Mongolia	3	4	3	10
Viet Nam	3	4	3	10
<b>C. Low scores</b>				
Myanmar	3	3	3	9
Philippines	2	5	2	9
Lao PDR	3	3	2	8
Micronesia	3	3	2	8
Bhutan	3	2	2	7
Cambodia	2	3	2	7
Timore-Leste	2	2	2	6
Maldives	2	2	1	5

Groups of countries classified by total score



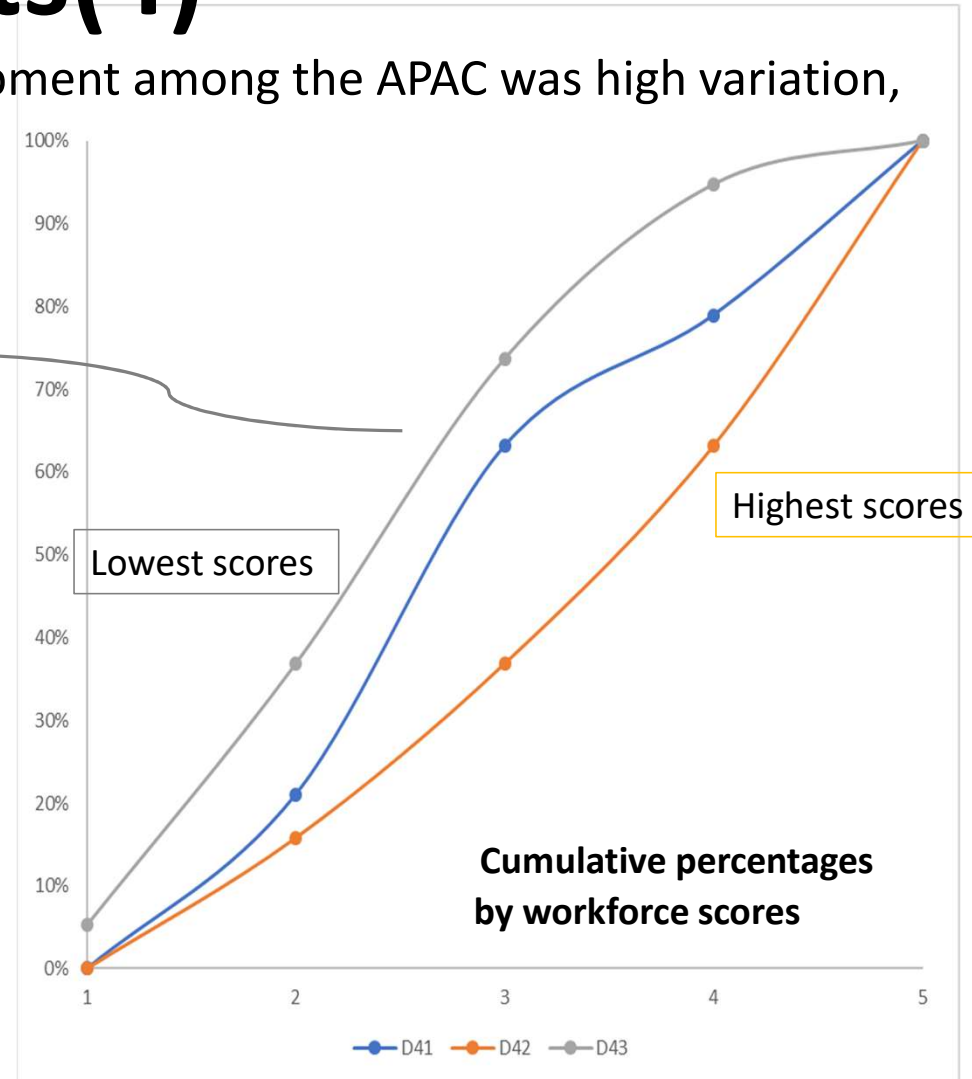
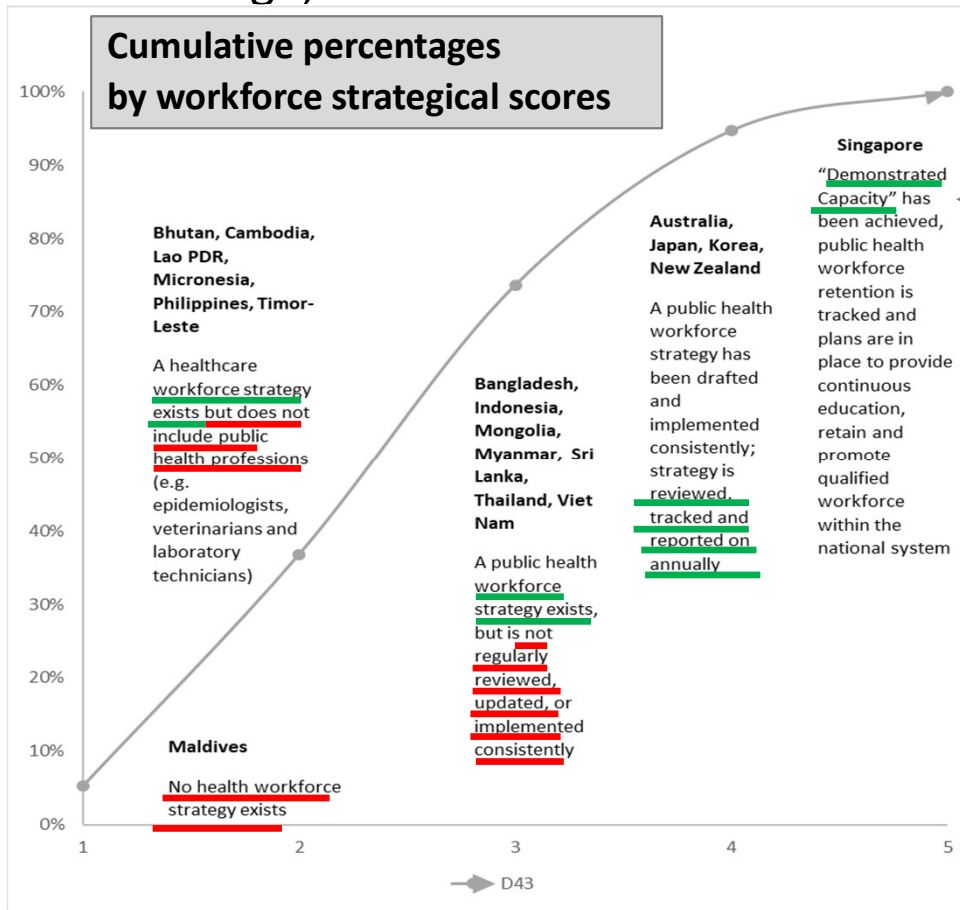
# Results(3)

- The advancement of the workforce development among the APAC was high variation, from high, to intermediate and low



# Results(4)

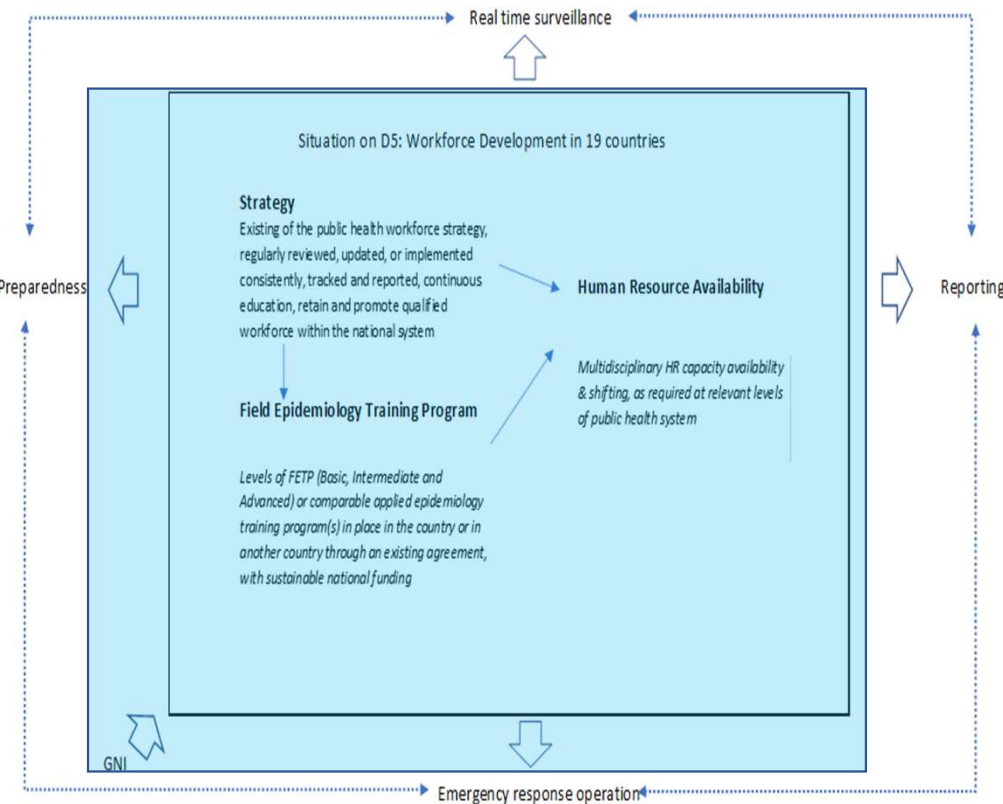
- The advancement of the workforce development among the APAC was high variation, from high, to intermediate and low





# Results(5)

## Associated factors:



Outcome variable: Human resource scoring

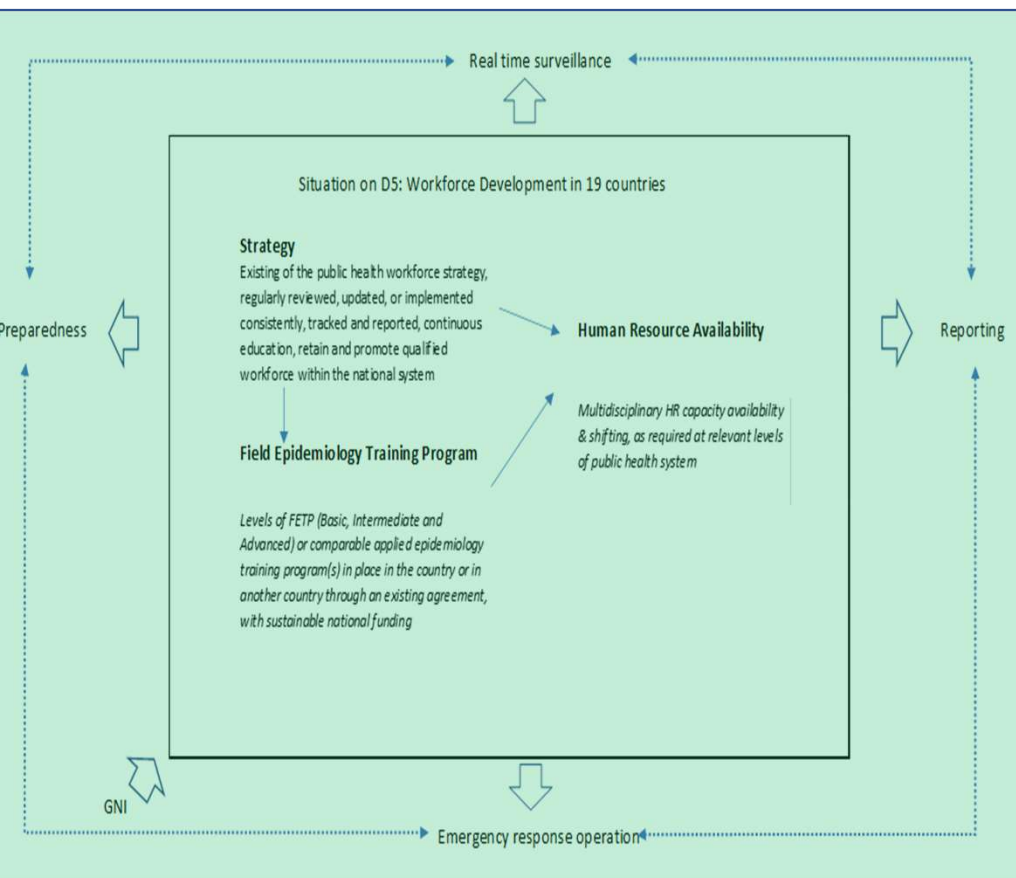
Co-variables: GNI, Field epidemiology scoring (D42), and Workforce strategy (D43)

Co-variables	Coefficient	Std Error	F-test	P-Value
GNI	0.009	0.249	0.0013	0.971750
D43	0.903	0.222	16.6228	0.000991
D42	0.038	0.200	0.0357	0.852572
CONSTANT	0.579	0.608	0.9094	0.355384

Correlation Coefficient:  $r^2 = 0.77$

# Results(6)

## Associated factors:



Outcome variables	Covariates (Predictor variables)		
	Regression coefficient( $\beta$ )	P-value	Correlation coefficients( $r^2$ )
<b>Workforce development (Total scores)</b>			
Real-time surveillance (Detect)	0.552	0.000155	0.58
Reporting (Detect)	0.510	0.000363	0.54
Preparedness (Respond)	0.679	0.000079	0.61
Emergency response operations (Respond)	1.0	0.000047	0.63
<b>Human resource</b>			
Real-time surveillance (Detect)	1.469	0.000356	0.54
Reporting (Detect)	1.461	0.000164	0.58
Preparedness (Respond)	1.825	0.000161	0.58
Emergency response operations (Respond)	2.642	0.000159	0.58
<b>Field epidemiology</b>			
Real-time surveillance (Detect)	1.332	0.000890	0.49
Reporting (Detect)	1.075	0.008326	0.34
Preparedness (Respond)	1.612	0.000749	0.50
Emergency response operations (Respond)	2.430	0.000343	0.54
<b>Workforce strategy</b>			
Real-time surveillance (Detect)	1.462	0.001336	0.46
Reporting (Detect)	1.432	0.000975	0.48
Preparedness (Respond)	1.811	0.000774	0.50
Emergency response operations (Respond)	2.651	0.000628	0.51

# Conclusions

- This study confirmed the high variations of workforce development among the APAC countries, by total and individual scores.
  - ✓ Only 5 countries had satisfied level of all 3 workforce development indicators.
  - ✓ Moreover, the “workforce strategy” was the most lag behind, in term of development
- Workforce Strategy indicators strongly related to the availability of human resources for Public Health response, more than the availability of epidemiology training alone
- Re-affirmed that workforce development was a critical component to prevent, detect and respond to public health threats and international spread of diseases.

# Suggestions

JEE is a useful tool for countries to assess the development of workforce. The scores could reflect gaps and level of development, as well as to guide for strategic direction and implementation plan.

- In low score (and intermediate score) countries, governments and development partners should emphasize the investment in IHR/JEE workforce development in order to get the better prepared for emerging/pandemic diseases.
- Countries should strive for better “JEE workforce scores” to achieve level 4-5 and maintain the capacities to response promptly.
- “Workforce Strategic Plan” is strongly encouraged, with resources and continuous support, to ensure the sustainability of PH workforce in the country.
- Countries could mutually benefit from shared “good practices”, by collaborations and networking in the region as well as with development partners.

# Acknowledgement



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Dr. Teerasak Chuxnum

Bureau of Epidemiology, Department of Diseases Control, Ministry of Public Health, Thailand



Ms. Vanlaya Setapanai

International FETP Project Co-ordinator, Bureau of Epidemiology, Department of Diseases Control, Ministry of Public Health, Thailand



Dr. Komchaluch  
Taweeseeneepitch

ASEAN Plus 3 FETN Coordinator, Bureau of Epidemiology, Department of Diseases Control, Ministry of Public Health, Thailand