

## National Health Workforce Accounts Data Platform – part 1

WORKSHOP ON INFORMATION SYSTEMS ON HUMAN RESOURCES FOR HEALTH (HRH), 15-17 October 2018

Health Workforce Department, WHO, Geneva

#### **NHWA training - Where are we?**





### Why the need for a platform?



NHWA data platform enables users to record, analyse and visualize information and evidence on health workforce.

The data platform is developed bearing in mind a country perspective

- To have a national level system to systematically record time trend data in a structured manner
- To provide a common place for multi-stakeholder data exchange without disrupting existing stakeholder databases.
- Where all national level stakeholders can view data and visualise data graphics of the recorded national level

#### **NHWA data platform for countries**





### **Overview of the platform architecture**



- NHWA data platform is developed on a DHIS2 instance, hosted in WHO.
- Following all the WHO security clearance and data sharing policies.
- The server is co-shared with other departments.
- 4 instances dev, training preprod, prod
- All exercises we do will be on the dev server

### What can you do in the platform?

















# WHO DOES WHAT ? ROLES AND DATA MANAGEMENT





#### **Users and user access**



- Access to the NHWA data platform is possible through individual password protected user accounts
- Each account is assigned a role and geographic location (country/region)
- Multiple users from the same country can access the system
- Main 2 categories of users
  - Those who are responsible to enter and maintain the numbers
  - Those who have access to view charts/graphics and download data

#### Who can? What they can?



	Data viewer	Data clerk	Data manager
View data entered in the platform in pivot tables	$\checkmark$	$\checkmark$	$\checkmark$
Create charts and dashboards using the data visualization tools	$\checkmark$	$\checkmark$	$\checkmark$
Enter new data in the platform		$\checkmark$	$\checkmark$
Edit entered/existing data in the platform		$\checkmark$	$\checkmark$
Approve entered data in the platform			$\checkmark$

For this week, we will all be using Data Manager profiles

### **Data management responsibilities**



Data clerk

- Enter and maintain data in the system in a periodic fashion
- Conduct basic data checks on data collection and data entry
- Complete/submit the data
- Maintain audit trail and comments
- Create and update the relevant visualizations based on the team requests

Data Manager

- In addition to all of the above.
- Responsible to validate and approve the data submitted

### Data as a global public good



Data as a public good

- Increased collaboration with various stakeholders at national level
- Data used for monitoring trends, analysis and development of national policies

Selected indicators will then be published

- Global Health Observatory, World Health Statistics report, NHWA web portal hosted by WHO
- UN SDG database hosted by the United Nations Statistics Division, United Nations Department of Economic and Social Affairs

Multi- stake holders engagement and data sharing and data visualisation







## INTRODUCTION TO THE NHWA DATA PLATFORM

# Login page



#### http://who-dev.essi.upc.edu:8081





### Access to functions/apps



Functions are referred to as 'Apps' in the system

Available from the Landing page, also from any other page



### What can you do in the platform?















#### **NHWA maturity assessment**



	~	World Heal								
NATIONAL HEALTH WORI	KFORCE ACCOUNTS ONLI	NE DATA PLATFORM								
Alcome		User Guide Logo								
NHWA maturity assessment										
NHWA maturity assessment enables countries to as	sess their national information system and its capacity to add	iress the NHWA indicators.								
Validate existing baseline data										
The validation exercise enables countries to view existing data and undertake necessary action of data correction/update as required.										
NHWA data entry										
Data entry into the system can be done (i)directly through the	he system interface or (ii) as batch upload through excel she	ets								
Data entry through the system interface	Batch upload through excel sheets									
Visualise data										
Access programmed data infographics or create customised	d data visualisation with the existing data									
Pivot Table	Data Visualizer	GIS								
Enables users to create pivot tables, using available data	Enables users to easily create dynamic data analysis and visualizations through charts and data tables.	Enables users to visualize data in Geographical locatio system.								
Dashboard	Dashboard	NHWA reports								
Access pre populated data infographics based on existing data	Access to an interactive dashboard	Access to the NHWA reports								

#### **NHWA maturity assessment**



The NHWA maturity assessment feature enables countries to assess the capacity of their information system to generate NHWA indicators

Organisation Unit	France				
Data Set	NHWA Matur	ity a	ssessment		
Period	2016			\$	Prev year
Filter on section	Show all sect	ions			
M01 - Activ	ve health w	VOI	kforce stock		
Filter in section			Value		
Health occupations at natio	onal level ?	0	No value 🔿 Yes (	) No	9
Health occupations by acti	vity level data ?	0	No value 🔿 Yes 🤇	) No	9
Health occupations at subr	national level ?	0	No value 🔘 Yes (	) No	9
Health occupations by age	group?	0	No value 🔿 Yes (	) No	9
Health occupations by sex	?	0	No value 🔿 Yes (	) No	9
Health occupations by faci	lity ownership?	0	No value 🔿 Yes 🤇	) No	9
Health occupations by faci	lity type?	0	No value 🔿 Yes 🤇	) No	9
Health occupations by fore	ign-born?	0	No value 🔿 Yes (	) No	9
Health occupations by fore	eign-trained?	0	No value 🔿 Yes (	) No	9

- A separate dataset to the Modules, to function as a baseline at the start of the NHWA implementation at country level
- List of Yes/No questions against each of the NHWA indicators
- Providing the possibility to record comments to indicate special cases, exceptions etc.

# What would you country dashboard look like?

 NHWA dashboard presents the assessment results for easy interpretation and becomes a valuable resource for stakeholders dialogue at the national level.

 Green indicates that country has the country 'has data on' a particular indicators, while Red indicating that 'country does not have data ' on a particular indicators





#### NHWA maturity assessment tutorial



https://vimeo.com/265561781/f446326134



### **Data validation & reporting**







### **Data validation & reporting**

Period / Data	Medical Doctors stock Total	General Medical Practitioners stock Total	Specialist Medical Practitioners stock Total	General Paediatricians Practitioners stock Total	Obstetricians Practitioners \$ stock Total	Psychiatrists Practitioners ¢ stock Total	PP stock ‡ Total	SSP stock ‡ Total	OSP stock ‡ Total	Nursing general stock Total	Nursing Professionals ¢ stock Total	Nursing Associate stock Total	Midwifery personnel stock Total	Midwifery Professionals ¢ stock Total	Midwifery Associate Professionals stock Total	Dentists stock ‡ Total	Dental Assistants and ¢ Therapists stock Total	Dental Prosthetic Technicians stock Total	Pharmacists stock Total 🕈	Pharmaceutical Technicians ¢ stock Total	Paramedical Practitioners ¢ stock Total	Li s
2014	11 087 173	164 541	1 920	261 381	206 632	166 569	1 049 817		243 536	13 305 610			398 075			873 845	5 869	4 652	1 423 647	95 011	419	
2012	10 219 055	86 261	301	259 855	208 885	162 107	1 044 842		228 748	11 766 702			509 669			709 827	19 544	7 728	1 830 600	79 590	21 952	
2010	7 984 729			250 011	189 744	142 068	902 659		226 519	14 607 084			488 106			859 191	15 215	12 820	2 115 328	80 955	23 938	
2013	9 755 145	1 187	312	247 982	198 502	150 233	1 066 878		244 725	15 160 055			357 685			524 358	5 693	5 667	1 668 508	6 600	3 030	
2011	7 870 036			239 188	179 265	131 035	929 314		219 699	13 625 161			368 963			607 860	4 999	2 443	1 618 842	88 924	13 527	
2015	8 219 645	100 862	50 245	115 567	106 608	103 140	631 147		54 196	11 219 473			406 239			425 698	7 811	2 999	1 084 962	108 005	530	
2016	2 060 091	8 870	5 419	49 923	41 134	54 438	258 632		15 614	4 949 811			132 191			362 953	5 624	91	1 036 095	25 127	1 873	
2017	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	11	1	1	
2008	2 810 095	79 931								8 828 117			322 048			700 877	27 553	2 287	1 075 596	60 782	19 057	
2001	1 782 255									3 616 384			116 500			431 796	30 174	387	294 556	3 256	3 593	
2000	4 168 250									8 273 483			164 547			637 205	330 711	55 889	1 083 395	11 557	569 037	
2002	3 566 057									5 1 56 0 30			278 454			557 549	23 102	2 161	892 009	10 194	155 962	
2003	1 674 499									4 878 707			233 560			387 373	1 638	4 634	742 767	13 1 29	72 808	
2004	3 292 955									6 881 617			858 264			617 746	46 997	28 545	921 884	19 120	63 667	
2005	2 309 035									8 163 377			760 802			502 978	198	503	677 464	11 113	26 730	
2006	2 337 533									5 743 608			291 333			601 721	23 437	162	1 534 335	11 542	17 286	
2007	2 698 075									6 962 020			242 220			540 791	4 941	2 117	772 995	24 607	16 402	
2009	4 831 274									6 824 820			247 632			596 677	5 199	9 387	1 330 368	69 654	20 200	

#### **Data entry**





#### **Data entry**

Data entry through the system interface

• Data entry through excel sheets







### **Data entry forms**

Applicable to Data Clerks and Data Managers

To enter data, choose you Data Set and year

NHWA modules are categorized into Datasets in the platform

• Within each data set, indicators are categorized into tabs as according to the NHWA Handbook dimensions







#### **Data entry through the system interface**



WHO Integ	rated data platform	
* < >	Data Entry 💡	
	Organisation Unit	Bahrain
	Data Set	✓ [Select data set ]
	Period	NHWA Maturity assessment
		NHWA Module 1
		NHWA Module 2
		NHWA Module 3
		NHWA Module 4
		NHWA Module 5
		NHWA Module 6
		NHWA Module 7
		NHWA Module 8-10
		Population UN

#### **NHWA Modules**



#### Education

Module 2 Education and training

**Module 3** Education and training regulation and accreditation

Module 4 Education finances

#### Labour Force

Module 1 Active health workforce stock

**Module 5** Health labour market flows

**Module 6** Employment characteristics and working conditions

**Module 7** Health workforce spending and remuneration Serving Population Health Needs

**Module 8** Skill-mix composition for models of care

**Module 9** Governance and health workforce policies

Module 10 Health workforce information systems

#### World Health Organization

#### **NHWA Indicators**



#### **Data entry through the system interface**



Working Details Demographic Place of Birth and training Country				Country of tra	ining Ot	her indicators in M	lodule 1	Other Resources	
SECT	FION 1:	HWF WORK	ING DETAILS						
						Activity Level			
SN			Occupation	Total	Practising	Professionally Active	Licensed to practice		Sou
1	Medical I	Doctors		1				Select an option	1
1.1	Gener	al Medical Practition	ers	2				Select an option	•
1.2	Specia	alist Medical Practitio	oners	3				Select an option	•
1.2.1	Gener	al paediatricians		4				Select an option	1
1.2.2	Ot	ostetricians and Gyna	aecologists	5				Select an option	1
1.2.3	Ps	ychiatrists Practition	iers					Select an option	•
1.2.4	Me	edical group of Speci	alists Practitioners					Select an option	1
1.2.5	Su	rgical group of Spec	ialists Practitioners					Select an option	•
1.2.6	Ot	her Specialists Pract	itioners					Select an option	1
2	Nursing	Personnel						Select an option	1
2.1	Nursin	ng Professionals						Select an option	1
2.2	Nursin	ng Associate Profess	ionals					Select an option	•
3	Midwifer	y personnel						Select an option	1
3.1	Midwi	fery Professionals						Select an option	l

#### **Data entry through the system interface**



41	Engineering and maintenance staff	99	
42	Other non-medical professional staff	99	
43	Other non-medical support staff	99	



#### **Comments and audit trail**





### **Excel data importer**

#### Alternative way to enter data



World Health Organization



Template	Module 1 Template	۳
OrgUnit Scheme	UID	٠
UPLOAD		
Liele Tire		
Help Tips:		
<ul> <li>Single or Mulitple xls button.</li> </ul>	× data files can be uploaded using up	load
<ul> <li>Template xlsx file c this is useful to con template.</li> </ul>	an be generated using download but mpare the datasheet format with ac	ton, :tual
Make sure that the te	emplate and datasheet mapping in syn	ic, if

find any descripencies please contact admin.



#### Data approval

#### Applicable to Data Managers only

• In addition to the data entry functions, Data Approver data

$\leftarrow \rightarrow \mathbf{C}$ $\triangleq$ Secure   htt	ps://extranet.who.int/dhis2/dhis-web-reporting/showDataApprovalForm.action
ино г	ntegrated data platform
★ € Report Standard Report	Data Approval     Approval status: Please make a selection below
Reporting Rate Summary	Data criteria
Resource	Data set NHWA Module 1
Data Approval	Report period Yearly ▼ Prev year Next year
Report Table	2023   Report organisation unit
Analytics	自 <mark>Global</mark> 中AFR
Analytics	Burkina Faso         -Central African Republic         -Democratic Republic of Sao Tome and Principe         B Democratic Republic of the Congo         -Ertrea         B-Federal Democratic Republic of Ethiopia         -Federal Republic of Nigeria         -Gabonese Republic of Gambia         Islamic Republic of Gambia         Islamic Republic of Linuthonia

### **Keywords to know**



Organisation unit

Periods

Indicators

Datasets

NHWA maturity assessment

# **Experiences from countries in the South East Asia Region**





Background paper on:

Second review of progress on the Decade of Strengthening Human Resources for Health in the South-East Asia Region 2015–2024

#### Why this meeting and why now?

The South-East Asia Region has a number of well-known health workforce challenges. These include shortages, unequal distribution; out-migration; adapting health workers' education to fit rapidly changing health needs and health worker performance. These challenges matter, because health services cannot be delivered without health workers<sup>1</sup>. The graph below shows the level of essential health services coverage in the South-East Asia Region, using latest data.





Source: Based on the UHC services coverage index estimates, WHO 2017

#### 14 agreed indicators to monitor progress on the Decade of HRH in SEAR

	Health Workforce indicator	NHWA*
Не	alth worker density and distribution	
1	Health worker density	1-01
2	Health worker density at subnational level	1-02
3	Health worker distribution by age group	1-03
4	Female health workforce	1-04
He	alth professional education	
5	Graduation rate from education and training programmes	2-07
6	Accreditation mechanisms for education and training institutions and their programmes	3-02
7	Continuing professional development	3-08
Ret	tention of health workers	
8	Vacancy rate	5-07
9	Share of foreign-born health workers	1-07
10	Share of foreign-trained health workers	1-08
HR	H Governance	
11	Mechanisms to coordinate and intersectoral health workforce agenda	9-01
12	Central health workforce unit	9-02
13	Health workforce planning processes	9-03
HR	H information systems	
14	HRHIS for reporting on outputs from education and training institutions	10-04
	HRHIS for tracking the number of entrants to the labour market	10-05
	HRHIS for tracking the number of active stock on the labour market	10-06
	HRHIS for tracking the number of exits from the labour market	10-07
	HRHIS for producing the geocoded location of health facilities	10-08

\* refers to NHWA handbook



Regional Office for South-East Asia



### Data availability and sharing improved

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
BAN	5		1 MD, MW, DT, PH	4 PH					N/A	3 MD, DT				
BHU	5		1 MW, NS, DT, PH	1 MW, NS, DT, PH				5	5	5				
DPRK	5	N/A	N/A	N/A	N/A			N/A		N/A				
IND														
INO	5	5												
MAL	partial	MOH working	partial						partial	partial				
MMR														
NEP	5	4 MW	4 MW partial	4 MW pertial	N/A			N/A		N/A				
SRL	5	5	N/A	N/A	5			N/A	5	N/A				
THA	5	5	5	5	4 (MW included NS)				3 DT, PH	4 MW				
TLS	5	5	4 MW		N/A				4 MW	N/A				

#### 2018 data so far-much improved, but more to do

COMPLETED

NOT YET COMPLETED

NOT AVAILABLE

#### Health worker distribution by age group



#### Female health workforce



Source: country data reported to WHO















Decade for health workforce strengthening in the South-East Asia Region 2015–2024

Second review of progress, 2018









Ex 1.1

**BASELINE – NHWA Maturity assessment** 

• Complete and approve the NHWA Maturity assessment for your country

Ex 1.2

Data entry - Tables provided

- Enter the data provided in the exercise sheet, complete and approve
- Login URL : <u>http://who-dev.essi.upc.edu:8081</u>

#### **NHWA data entry tutorial**



https://vimeo.com/265561404/0e6d7301ba



### **User Guide**

NHWA User guide

- Guides users to navigate through the system
- Detailed steps for data entry and data visualizations
- Accessible from the NHWA data platform









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