

National Health Workforce Accounts Online Platform – part II

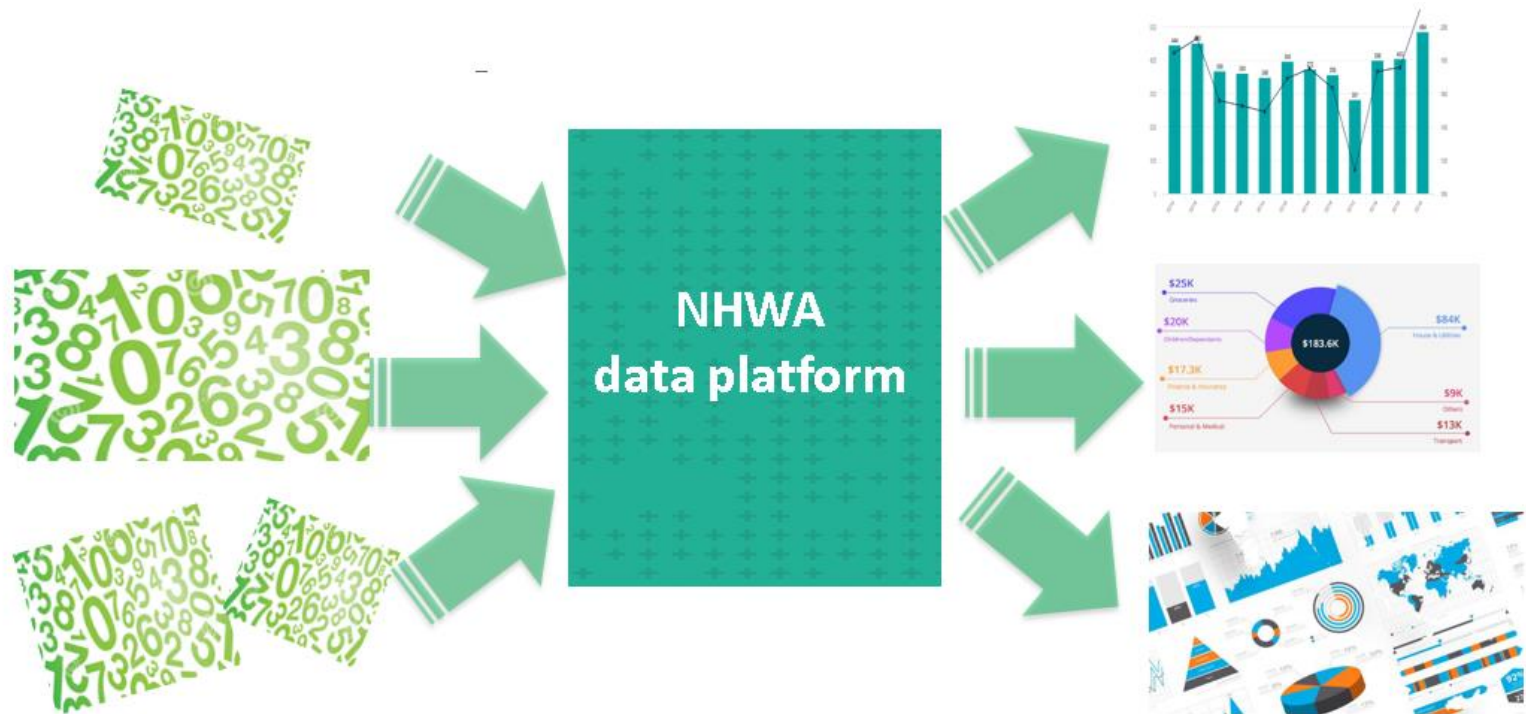
Functions and visualization

Exercises. Data approval, pivot tables, graphs,
dashboard

Dr Mathieu Boniol

PAHO NHWA workshop, Brasilia August 2019

NHWA data platform for countries



NATIONAL HEALTH WORKFORCE ACCOUNTS ONLINE DATA PL

Welcome Aurora Saares

NHWA maturity assessment



NHWA maturity assessment enables countries to assess their national information system and its capacity to address 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 system interface or (ii) as batch upload through excel sheets



Data entry through the system interface



Batch upload through excel sheets

Visualise data

Access programmed data infographics or create customised data visualisation with the existing data



Pivot Table

Enables users to create pivot tables, using available data



Data Visualizer

Enables users to easily create dynamic data analysis and visualizations through charts and data tables.



GIS

Enables users to visualize system.



Dashboard

Access pre populated data infographics based on existing data



Dashboard

Access to an interactive dashboard



NHWA reports

Access to the NHWA repo

Other Useful features



Browser Cache Cleaner

Enables the users to clear the browser cache.



Data Quality

Enables the users to run data quality checks such as validation and Std dev outlier analysis.



Messaging

Enables the user to comm system and give feedback



Approval

Enables the users to approves the data submitted in the system



User Profile

Enable the user to set his profile and account credentials

Data approval

Secure | <https://extranet.who.int/dhis2/dhis-web-reporting/showDataApprovalForm.action>

Report

Standard Report
Data Set Report
Reporting Rate Summary
Resource
Organisation Unit Report
Data Approval
Report Table

Analytics

Analytics

Data Approval

Approval status: Please make a selection below

Data criteria

Data set

NHWA Module 1

Report period

Yearly

Prev year

Next year

2023

Report organisation unit

Global

AFR

B

C

D

D

E

F

F

G

I

I

I

I

I

I

I

I

I

I

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WHO Integrated data platform

Search apps



MB

Data Approval

Approval status: Ready for approval

Data criteria

Approve

Tuvalu - 2015

Active Health Workforce Demographic Details

[Access the NHWA HANDBOOK](#)

[Access the NHWA USER GUIDE](#)

[Access the NHWA OCCUPATION MAPPING](#)

Working Details

Demographic

Place of Birth and training

Country of training

Other indicators in Module 1

Other Resources

SECTION 1: HWF WORKING DETAILS

NHWA landing page

NATIONAL HEALTH WORKFORCE ACCOUNTS ONLINE DATA PLATFORM

Welcome [REDACTED]

[User Guide](#)

[Logout](#)

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Access to an interactive dashboard

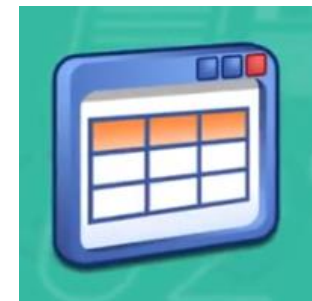


[NHWA reports](#)

Access to the NHWA reports

Pivot tables

- User can select country, year, indicator to create pivot table
- Export in various formats
 - Tabulated (xlsx, csv, HTML etc)
 - Raw data (JSON, XML etc)



Secure | <https://extranet.who.int/dhis2/dhis-web-pivot/?id=mEID0yiuFpU>

DHIS 2 Pivot Tables

Stock : data validation table

Update Favorites Layout Options Download Embed

Bahrain

Data / Period	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Medical Doctors stock Total	678	742	792	816	803	928	972	1 052	1 103	1 149	1 178	1 208	1 244	1 254	1 279	1 270
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	1 981	2 166	2 111	2 200		2 389	2 605		2 856	2 990	3 052	3 192	3 224	3 293	3 330	3 422
Nursing Professionals stock Total																
Nursing Associate stock Total																
Midwifery personnel stock Total																
Midwifery Professionals stock Total																
Midwifery Associate Professionals stock Total																
Dentists stock Total					180	98	103		119	118	122	127	139	134	131	134
Dental Assistants and Therapists stock Total					96											
Dental Prosthetic Technicians stock Total					66	145	150		154	159	172	181	191	196	208	82
Pharmacists stock Total	127	135	134	139		164	172	180	186	186	196	193	205	194	219	222
Pharmaceutical Technicians stock Total																
Paramedical Practitioners stock Total																
Medical Laboratory scientists stock Total					111	4	4		4	5	6	3	3	3	2	
Medical Imaging Technicians stock Total	78	85	88	91	149	89	102		107	112	123	124	126	123	132	158

Pivot table, interface Data selection

Terminology :

- Data (indicators, data element)
- Periods (year)
- Organisation unit (country)

DHIS 2 Pivot Tables

The screenshot shows the DHIS 2 Pivot Tables interface. Red arrows highlight the following components:

- Data** tab: The top section of the interface.
- Indicators** dropdown: The first dropdown menu under the Data tab.
- Module 1 Indicators** dropdown: The second dropdown menu under the Data tab.
- Available** list: The list of indicators on the left side of the selection area.
- Selected** list: The list of indicators on the right side of the selection area.
- Navigation buttons**: The buttons between the Available and Selected lists, including a magnifying glass, a right arrow, a double right arrow, a double left arrow, and a left arrow.

The interface is divided into several sections:

- Data**: Contains the Indicators and Module 1 Indicators dropdowns, and the Available/Selected indicator lists.
- Periods**: A section for selecting the time period.
- Organisation units**: A section for selecting the geographical area.
- Age group**: A section for selecting the age group.
- Age group (BU)**: A section for selecting the age group by organisation unit.
- Animal ownership**: A section for selecting the animal ownership.
- Animals**: A section for selecting the animals.
- Category (BU)**: A section for selecting the category by organisation unit.

Pivot table, interface Period selection

DHIS 2 Pivot Tables

Data

Periods

Yearly

Prev year

Next year

Available

>

>>

<<

<

Selected

2018	2017
2009	2016
2008	2015
	2014
	2013
	2012

Days
☐ Today
☐ Yesterday
☐ Last 3 days
☐ Last 7 days
☐ Last 14 days

Bi-months
☐ This bi-month
☐ Last bi-month
☐ Last 6 bi-months
☐ Bi-months this year

Financial years
☐ This financial year
☐ Last financial year
☐ Last 5 financial years

Weeks
☐ This week
☐ Last week
☐ Last 4 weeks
☐ Last 12 weeks
☐ Last 52 weeks
☐ Weeks this year

Quarters
☐ This quarter
☐ Last quarter
☐ Last 4 quarters
☐ Quarters this year

Years
☐ This year
☐ Last year
☐ Last 5 years

Months
☐ This month
☐ Last month
☐ Last 3 months
☐ Last 6 months
☐ Last 12 months
☐ Months this year

Six-months
☐ This six-month
☐ Last six-month
☐ Last 2 six-months

Organisation units

Manipulate a table/graph/...






Layout: manage table

DHIS 2 Pivot Tables

Data

Indicators

Module 1 Indicators

Available      Selected

% of active health workers in 20-39 age groups

% of medical Doctors in P4P

% of medical Doctors in PN4P

% of medical Doctors in Public

Density of Dentists per 10,000 population

Density of Midwifery per 10,000 population

Density of Nurse per 10,000 population

Density of Pharmacist per 10,000 population

Percentage of domestic-trained Medical Doctors








Percentage of foreign-trained Medical Doctors

Density of Medical Doctors per 10,000 population

Periods

Organisation units

Untitled

 **Update**  Favorites  Layout  Options  Download  Embed 

Bangladesh

Layout Options Download Embed

TABLE LAYOUT

Excluded dimensions	Report filter	Column dimensions
Assigned categories	Organisation units	Periods

Row dimensions
Data

Hide Update

Medical Doctors Stock Total	274 032	579	322			163 941			
-----------------------------	---------	-----	-----	--	--	---------	--	--	--

Save/open a table/ graph/...

NHWA Bangladesh Medical doctor

<div> <div><<< Update</div> <div>Favorites</div> <div>Layout</div> <div>Options</div> <div>Download</div> <div>Embed</div> </div>		
Period / Data		0,000 population
2017		5.263
2016		4.823
2015		4.715
2014		4.747
2013		4.1
2012		3.891
2011		3.736
2010		3.538

New

Open

Save

Save as

Rename

Translate

Share

Write interpretation

Get link

Delete

Under the “favorites”:

- Save the table/ visual (save as)
- Search for saved and shared tables (open)
- Set Shared settings to NHWA team (share)

Defining sharing settings



<<< Update Favorites Layout Options Download Embed

Period / Data	Den
2017	
2016	
2015	
2014	
2013	
2012	
2011	3.736
2010	3.538

SHARING SETTINGS

NHWA Bangladesh Medical doctor

Add users and user groups

Created by Mathieu BONIOL

Allow external access

Public access

None

Save

SHARING SETTINGS

NHWA Bangladesh Medical doctor

miriam

Miriam Nanyunja

Allow external access

Public access

None

Groups access

NHWA Country Team

Users access

Bernard Badié Yao

Can view

Can view

Save

Download options

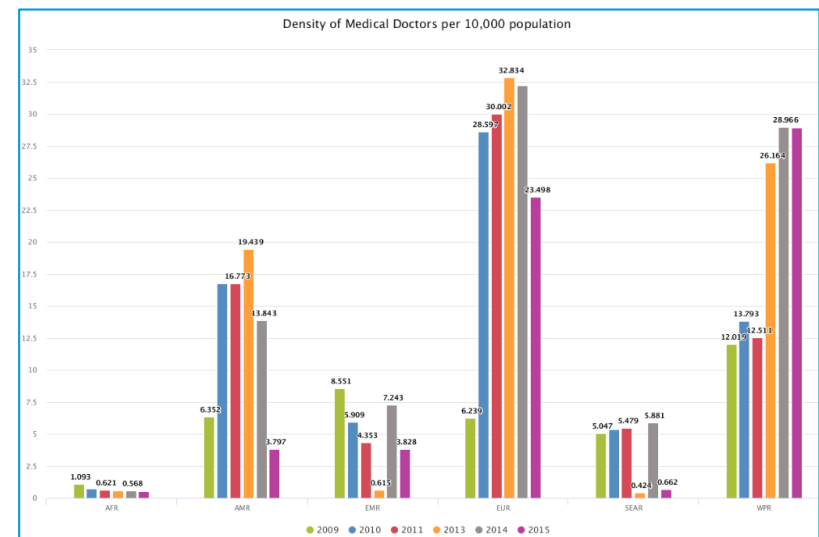
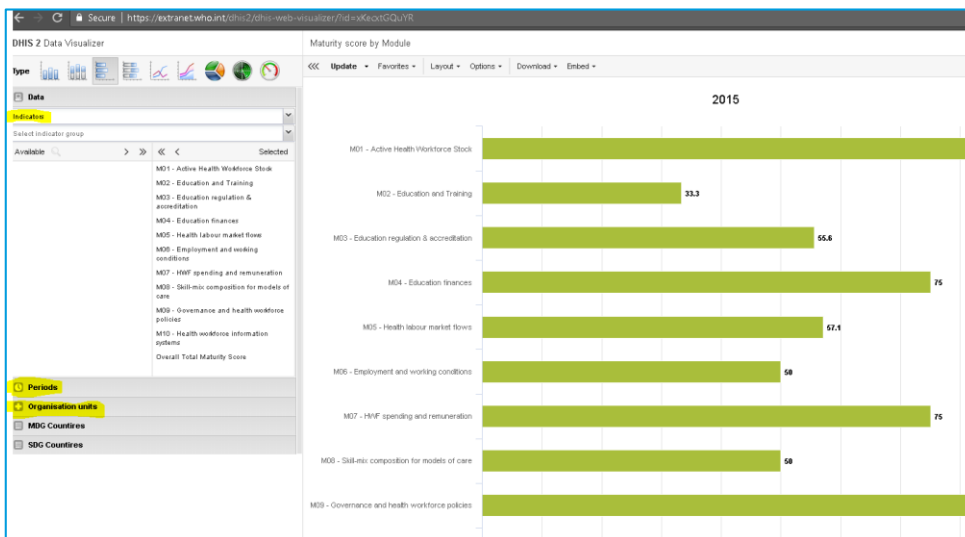
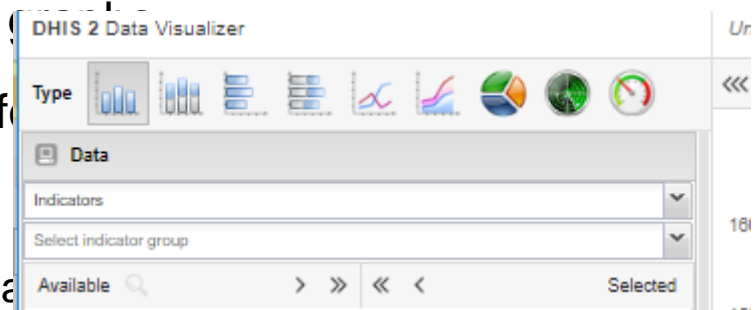
Stock : data validation table

[Update](#)
[Favorites](#)
[Layout](#)
[Options](#)
[Download](#)
[Embed](#)

Data / Period		Table layout		Global					
				3	2004	2005	2006	2007	2008
Medical doctors not further defined Stock Total	1 236 328	Microsoft Excel (.xls)	979	1 359 262	1 347 928	544 400	544 540	613	
General Medical Practitioners Stock Total		CSV (.csv)							
Specialist Medical Practitioners Stock Total		HTML (.html)							
Gen Paediatricians Practitioners Stock Total		Plain data source							
Obstetricians and Gynaecologists Stock Total									
Psychiatrists Practitioners Stock Total									
Medical Specialists Practitioners Stock Total									
Surgical Specialists Practitioners Stock Total									
Other Specialists Practitioners Stock Total									
Nurses not further defined Stock Total	3 472 675	JSON	399 549	266 503	238 264	219 438	279 275	440 777	287 239
Nursing Professionals Stock Total		XML							279
Nursing Associate Professionals Stock Total		Microsoft Excel							81
Midwives not further defined Stock Total	1 254	CSV	5 509	3 351	2 504	6 297	1 523	2 265	1 636
Midwifery Professionals Stock Total		Advanced							2
Midwifery Associate Professionals Stock Total									
Dentists Stock Total	399 549		266 503	238 264	219 438	279 275	440 777	287 239	290 818
									309

Data visualization

- Saved Pivot table can be viewed as a chart
- A new chart can be created
- Selection of country, year, indicator to create
- Data and graphs can be exported in various formats
 - Graphical (png, pdf)
 - Tabulated data (xlsx, csv, HTML etc) or raw data



Dashboards

NATIONAL HEALTH WORKFORCE ACCOUNTS ONLINE DATA PLATFORM

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Access to an interactive dashboard

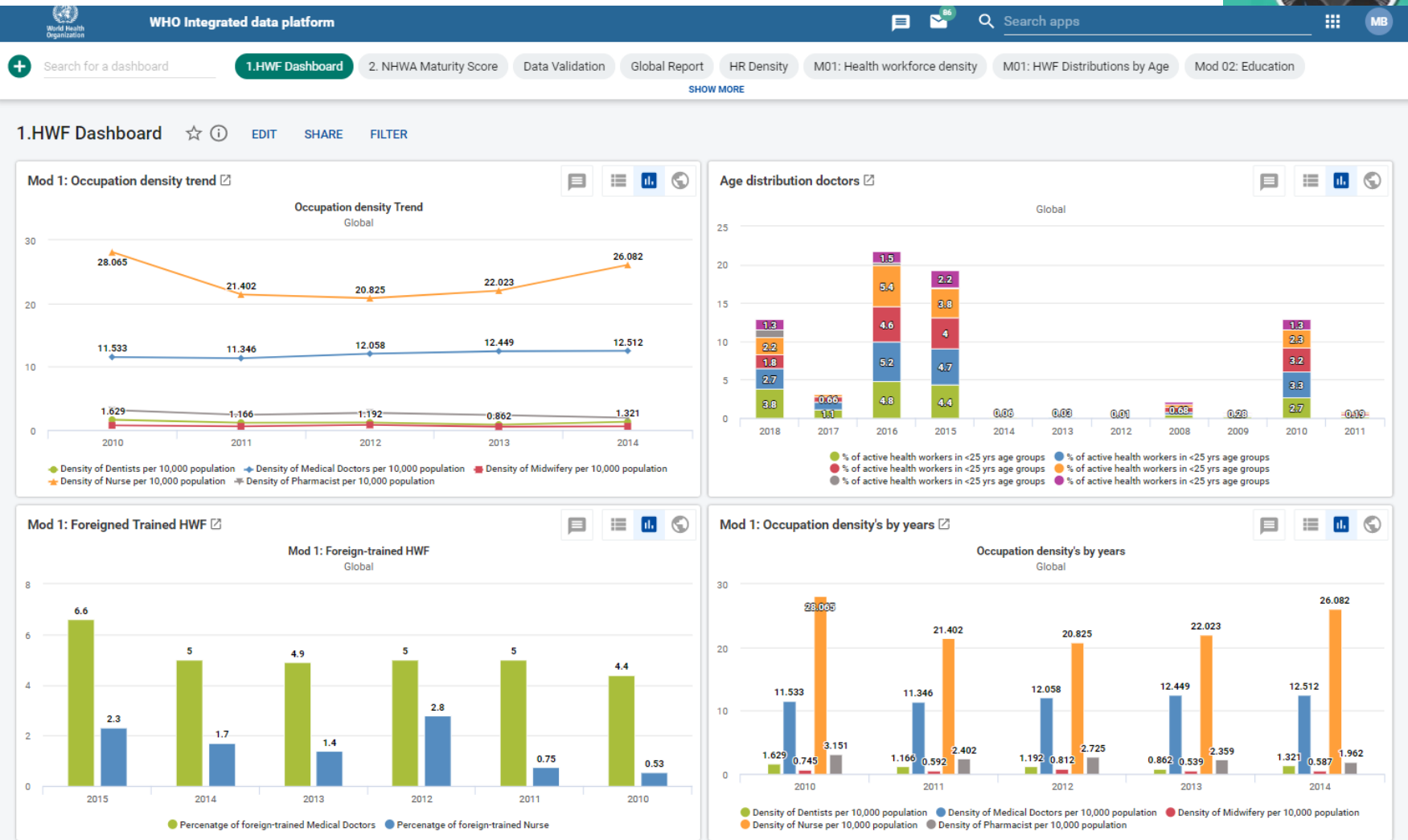
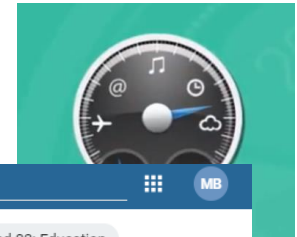


[NHWA reports](#)

Access to the NHWA reports

Dashboard

- Display tables and graphs already created, prepopulated dashboards by NHWA module
- Possibility to create your own dashboards



Dashboards

- Add tables, charts to existing dashboards or create a new dashboards, mark favorite dashboards

Currently editing

Nurses stock

SAVE CHANGES

EXIT WITHOUT SAVING

Search: sown

Pivot tables

- SoWN - Gender all 2013-2018 + ADD
- SoWN Nursing density average 2013-2018 + ADD
- SoWN Nursing Stock 2017 + ADD
- SoWN_TAB1 + ADD

Charts

- SoWN Age 2017 + ADD
- SoWN Age nursing personnel 2013-2018 + ADD
- SoWN Age Nursing Professional 2013-2017 + ADD

SEE MORE PIVOT TABLES

SEE MORE CHARTS

Sharing settings

test

Created by: Aurora Saares

Who has access

Public access	No access	⊗	×
External access	No access	⊗	×
NHWA Country Team		✎	×

Add users and user groups

Enter names

METADATA

- ✓ Can edit and view
- Can view only

- Set shared settings to NHWA country team /NHWA regional team
 - Not to be public

Maturity assessment dashboard

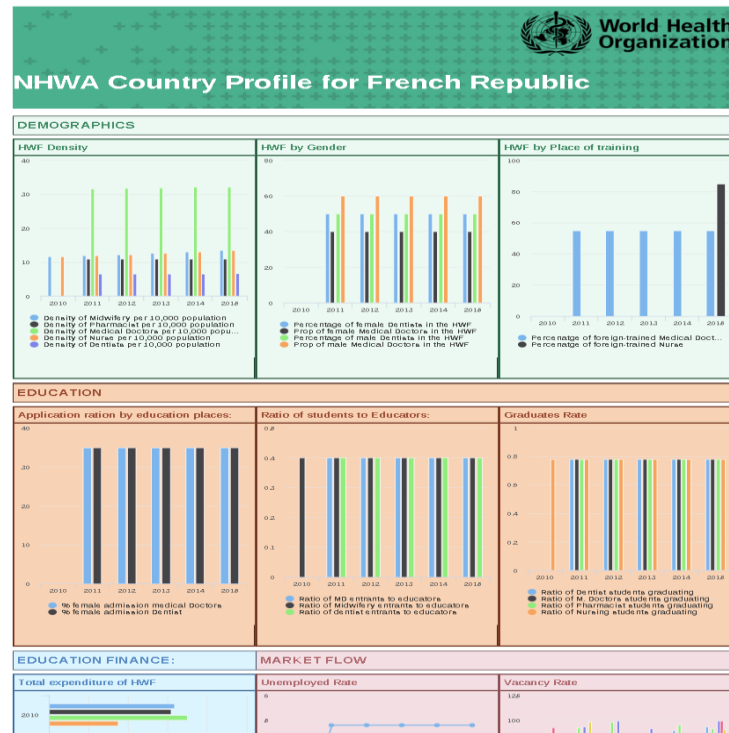
- NHWA dashboard presents the assessment results for easy interpretation and becomes a valuable resource for stakeholders dialogue at the national level.

- 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



Other tools

Country profiles (in “report”)



Messaging

Messages

Write message Write feedback

Inbox Follow up Unread

	Sender	Subject	Date	
<input type="checkbox"/>	★ Demo Country	Form registered as complete	2018-03-12	
<input type="checkbox"/>	★ Demo Country	Form registered as complete	2018-03-12	
<input type="checkbox"/>	★ Demo Country	Form registered as complete	2018-03-12	
<input type="checkbox"/>	★ Demo Country	Form registered as complete	2018-03-12	
<input type="checkbox"/>	★ Demo Country	Form registered as complete	2018-03-12	
<input type="checkbox"/>	★ Demo Country	Form registered as complete	2018-03-12	
<input type="checkbox"/>	★ Demo Country	Form registered as complete	2018-03-12	
<input type="checkbox"/>	★ Demo Country	Form registered as complete	2018-03-12	
<input type="checkbox"/>	★ Demo Country	Form registered as complete	2018-03-12	
<input type="checkbox"/>	★ Demo Country	Form registered as complete	2018-03-12	

NATIONAL HEALTH WORKFORCE ACCOUNTS ONLINE DATA PLATFORM



WHO Integrated data ...

Welcome Aurora Saares

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User Profile

Enable the user to set his profile and account credentials

DHIS 2 browser cache cleaner

Session storage

ouUseShortName	<input type="checkbox"/>
ouSelected	<input type="checkbox"/>
dhis2.de.cst.metaData	<input type="checkbox"/>
dhis2.de.cst.dataSetAssociations	<input type="checkbox"/>

Local storage

dhis2.menu.ui.headerBar.title	<input type="checkbox"/>
formversions	<input type="checkbox"/>
ouUsername	<input type="checkbox"/>
ouVersion	<input type="checkbox"/>
usersettings	<input type="checkbox"/>
dhis2.menu.ui.headerBar.userStyle	<input type="checkbox"/>
datavalues	<input type="checkbox"/>
dhis2.dashboard.current.a.saares	<input type="checkbox"/>
ouRoots	<input type="checkbox"/>
loglevel	<input type="checkbox"/>

indexedDB

dhis2ou	<input type="checkbox"/>
dhis2de	<input type="checkbox"/>

Clear

Select all

Resources



Understanding National Health Workforce Accounts

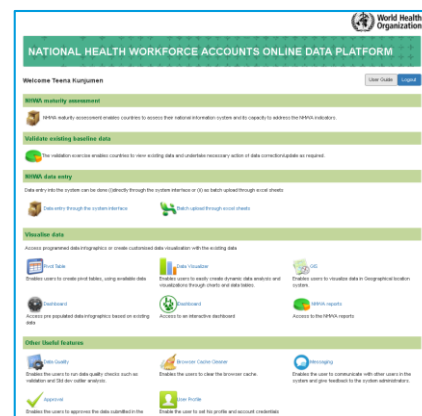


National Health Workforce Accounts: A Handbook



National Health Workforce Accounts Implementation Guide

Draft 0.10
January 31, 2018



NHWA DATA PLATFORM User Guide

Version 1

<https://www.who.int/hrh/statistics/nhwa/en/>
Contact us at hrhstatistics@who.int

Exercises – part II

Connection <https://extranet.who.int/dhis2-demo/>

- 2.1 – **Approve data entered yesterday**
- 2.2 – Create a **Pivot table** and save it with sharing settings
- 2.3 – Data **visualizer**: create a graph based on data
- 2.4 – **Dashboard**: create a dashboard using table and graphs created earlier

Exercise 1 – Data approval

- On landing page, go to Approval
- Select module and year you entered data yesterday
- Review the data and approve

Exercise 2 – Pivot table

- Go to pivot table
- Select data element, all data elements → nursing personnel stock (use search function)
- Select period (year you entered data)
- Save the table and define sharing settings for certain groups : NHWA Country team, NHWA Regional team and NHWA Global team, eventually share as visualization only for participants of the same country.

Exercise 3 – Visualization

- Click Chart in top right corner → open this table as a chart
- Visualize in
 - Line plot with data from Table 1
 - Bar chart with data from Table 1
 - Pie chart with data from Table 2
- Save charts and define sharing settings (as per exercise 2)

Exercise 4 – Dashboard

- 4.1. Create a Dashboard with pivot tables and charts created in exercises 2 and 3.
- 4.2. Define sharing settings of your Dashboard.
- 4.3. Add comments and save as favorite

Thank you



World Health
Organization



WHO

20, Avenue Appia
1211 Geneva

Switzerland

Contact us:
hrhstatistics@who.int

<https://www.who.int/hrh/statistics/nhwa/en/>