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*

Health Workforce Department, WHO, Geneva
NHWA data platform for countries
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

Dashboard
Access to populated data infographics based on existing data

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 contact system and give feedback

User Profile
Enable the user to set his profile and account credentials

Approval
Enables the users to approve the data submitted in the system.
NHWA landing page

NATIONAL HEALTH WORKFORCE ACCOUNTS ONLINE DATA PLATFORM

Welcome

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 apply or create dynamic data analysis and visualizations through charts and data tables.

GIS

Enables users to visualize data in Geographical location system.

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)
Pivot table, interface

Data selection

Terminology:

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

**Period selection**

### DHIS 2 Pivot Tables

#### Data

<table>
<thead>
<tr>
<th>Period</th>
<th>Selected</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yearly</td>
<td></td>
</tr>
<tr>
<td><strong>Available</strong></td>
<td></td>
</tr>
<tr>
<td>2018</td>
<td>2017</td>
</tr>
<tr>
<td>2009</td>
<td>2016</td>
</tr>
<tr>
<td>2008</td>
<td>2015</td>
</tr>
</tbody>
</table>

#### Days
- Today
- Yesterday
- Last 3 days
- Last 7 days
- Last 14 days

#### Weeks
- This week
- Last week
- Last 4 weeks
- Last 12 weeks
- Last 52 weeks
- Weeks this year

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

#### Months
- This month
- Last month
- Last 3 months
- Last 6 months
- Last 12 months
- Months this year

#### Financial years
- This financial year
- Last financial year
- Last 5 financial years

#### Quarters
- This quarter
- Last quarter
- Last 4 quarters
- Quarters this year

#### Years
- This year
- Last year
- Last 5 years

#### Organisation units
Manipulate a table/graph/…

Layout: manage table
Save/open a table/ graph/...

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
### Download options

<table>
<thead>
<tr>
<th>Data / Period</th>
<th>2000</th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medical doctors not further defined Stock Total</td>
<td>1,236,328</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>General Medical Practitioners Stock Total</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Specialist Medical Practitioners Stock Total</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gen Paediatricians Practitioners Stock Total</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Obstetricians and Gynaecologists Stock Total</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Psychiatrists Practitioners Stock Total</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Medical Specialists Practitioners Stock Total</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Surgical Specialists Practitioners Stock Total</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other Specialists Practitioners Stock Total</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nurses not further defined Stock Total</td>
<td>3,472,675</td>
<td>9,206,342</td>
<td>8,368,925</td>
<td>10,520,631</td>
<td>4,002,883</td>
<td>1,092,871</td>
</tr>
<tr>
<td>Nursing Professionals Stock Total</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nursing Associate Professionals Stock Total</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Midwives not further defined Stock Total</td>
<td>1,254</td>
<td>5,509</td>
<td>3,351</td>
<td>2,504</td>
<td>6,297</td>
<td>1,523</td>
</tr>
<tr>
<td>Midwifery Professionals Stock Total</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Midwifery Associate Professionals Stock Total</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dentists Stock Total</td>
<td>399,549</td>
<td>266,503</td>
<td>238,264</td>
<td>219,438</td>
<td>279,275</td>
<td>440,777</td>
</tr>
</tbody>
</table>
Data visualization

• Saved Pivot table can be viewed as a chart
• A new chart can be created
• Selection of country, year, indicator to create graphs
• 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

Welcome

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 data in geographical location system.
- Dashboard
  Access pre populated data infographics based on existing data
  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

- 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
Welcome Aurora Saares

**NIWA maturity assessment**

NIWA maturity assessment enables countries to assess their national information system and its capacity to address the NIWA indicators.

**Validate existing baseline data**

The validation exercise enables countries to view existing data and undertake necessary action of data correction/update as required.

**NIWA 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 data system
- **Dashboard** Access to an interactive dashboard
- **NHWA reports** Access to the NHWA reports

**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 communicate with the system and give feedback to the system administrators.

**User Profile** Enables the user to set his profile and account credentials.
Resources

https://www.who.int/hrh/statistics/nhwa/en/
Contact us at hrhstatistics@who.int
Exercises – part II

Connection [https://extranet.who.int/dhis2-demo/](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
Connection [https://extranet.who.int/dhis2-demo/dhis-web-commons/security/login.action](https://extranet.who.int/dhis2-demo/dhis-web-commons/security/login.action)

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

WHO
20, Avenue Appia
1211 Geneva
Switzerland

Contact us:
hrhstatistics@who.int

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