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#### **Suggested Citation**

Health Equity Assessment Toolkit (HEAT): Software for exploring and comparing health inequalities in countries. Built-in database edition. Version 4.0. Geneva, World Health Organization, 2021.

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#### 1 Introduction

Equity is at the heart of the United Nations 2030 Agenda for Sustainable Development, which aims to "leave no one behind". This commitment is reflected throughout the 17 Sustainable Development Goals (SDGs) that Member States have pledged to achieve by 2030. Monitoring inequalities is essential for achieving equity: it allows identifying vulnerable population subgroups that are being left behind and helps inform equity-oriented policies, programmes and practices that can close existing gaps. With a strong commitment to achieving equity in health, the World Health Organization (WHO) has developed a number of tools and resources to build and strengthen capacity for health inequality monitoring, including the Health Equity Assessment Toolkit.

The **Health Equity Assessment Toolkit** is a free and open-source software application that facilitates the assessment of within-country health inequalities, i.e. differences in health that exist between different population subgroups within a country. Through innovative and interactive data visualizations, the toolkit makes it easy to analyse and communicate data about health inequalities. Disaggregated data and summary measures are visualized in a variety of graphs, maps and tables that can be customized according to your needs. Results can be exported to communicate findings to different audiences and inform evidence-based decision making in countries.

The toolkit is available in **two editions**:



**HEAT** (built-in database edition), which contains the WHO Health Equity Monitor database



**HEAT Plus** (upload database edition), which allows users to upload their own datasets

This **HEAT user manual** accompanies the built-in database edition of the toolkit and provides detailed information about the features and functionalities of HEAT. Information on how to access HEAT are provided in Section 2, followed by an overview on how to use HEAT in Section 3 (including a quick guide to getting started, instructions on how to navigate the tool and a list of resources to learn more about the software). Section 4 (Explore inequality) and Section 5 (Compare inequality) provide more details about the different views and visualizations available in HEAT. Throughout the user manual, blue boxes highlight links to further resources and practical tips for using HEAT.

You may want to read this user manual sequentially and in its entirety, or consult different sections as required. You are also encouraged to consult the other documents that accompany HEAT, including the technical notes and indicator compendium, which provide detailed information about the data displayed in HEAT. Moreover, you may want to supplement these resources with materials that provide further information on the theoretical and/or practical steps of health inequality monitoring, such as the WHO's Handbook on health inequality monitoring and National health inequality monitoring: a step-by-step manual.

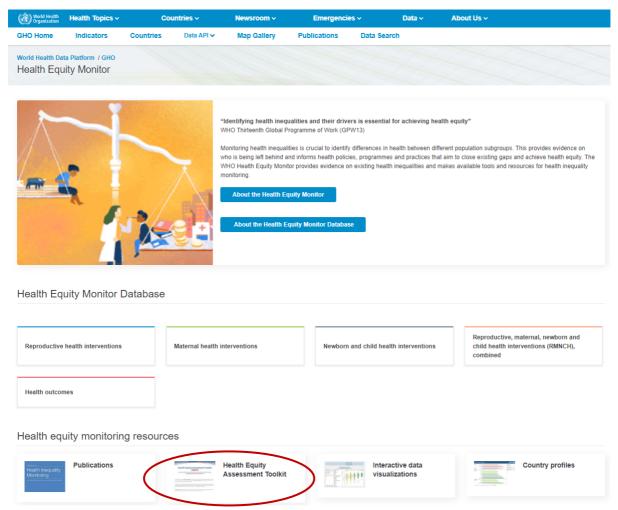


#### **LINKS**

- WHO Health Equity Monitor
- WHO Health Equity Monitor database
- Health Equity Assessment Toolkit (HEAT and HEAT Plus)

#### 2 How to access HEAT

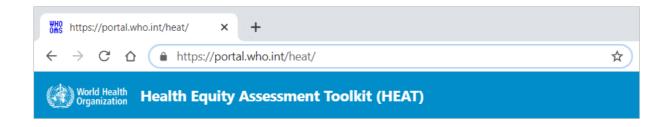
HEAT version 4.0 is available as an online version (HEAT Online) and downloadable desktop version (HEAT Desktop). While HEAT Online can be used on the web and requires no installation, HEAT Desktop can be installed locally on your machine and also runs without internet connection. The features and functionalities of the online and desktop versions are the same. The latest version of HEAT can be accessed via the WHO Health Equity Monitor at <a href="https://www.who.int/data/gho/health-equity">https://www.who.int/data/gho/health-equity</a>.



Alternatively, you can directly access HEAT at: https://www.who.int/data/gho/health-equity/assessment toolkit

#### 2.1 HFAT Online

The online version of HEAT is available at <a href="https://www.portal.who.int/heat">https://www.portal.who.int/heat</a>. HEAT Online can be accessed in any web browser and on all desktop or laptop computers and mobile devices (minimum screen size of 7.9 inches recommended). This version does not require any installation and can be used online (internet connection required).



## 2.2 HEAT Desktop

The desktop version of HEAT is available as a compressed (zipped) folder for download from the WHO website (<a href="https://www.who.int/data/gho/health-equity/assessment toolkit">https://www.who.int/data/gho/health-equity/assessment toolkit</a>). The folder contains both HEAT (the built-in database edition) and HEAT Plus (the upload database edition). The software can be installed locally on your machine and can be used offline (no internet connection required).

Note that you require the "R" statistical software and a web browser to run the software. In the desktop version, WHO has provided a portable version of "R" and the portable edition of the web browsers Google Chrome (Windows version) or Chromium (Mac version). This does not imply in any manner that the use of these products is endorsed or recommended by the World Health Organization in preference to others of a similar nature. R Portable, Chrome Portable and Chromium Portable do not require any installation.

#### 2.2.1 Windows

To run HEAT Desktop on your Windows machine, download the compressed "HEAT and HEAT Plus for Windows" (zip) file, unzip the file and save the content to your computer's hard drive. Select the "HEAT and HEAT Plus for Windows" folder and double-click the "Start\_HEAT.bat" file. The toolkit will automatically open in a Chrome Portable browser window.

To refresh HEAT, click the circular arrow on the right of the address bar in the open browser window. To restart HEAT (or run HEAT Plus), make sure to close both the browser window and the command window, before double-clicking the "Start\_HEAT.bat" (or "Start\_HEATPlus.bat") file.

#### 2.2.2 Macintosh

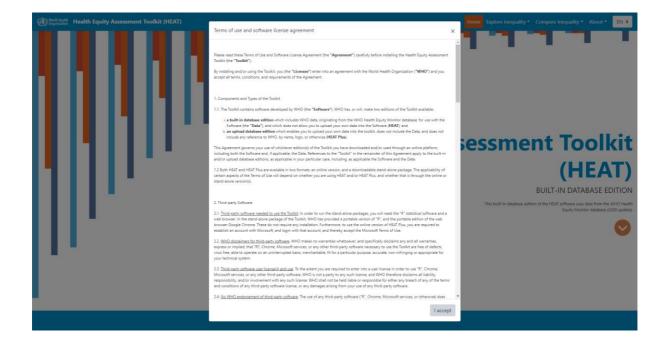
HEAT Desktop version 4.0 for Mac is currently under development. To access previous versions, please see: <a href="https://www.who.int/data/gho/health-equity/assessment">https://www.who.int/data/gho/health-equity/assessment</a> toolkit/previous-versions.

## 3 How to use HEAT

# 3.1 Getting started

## 3.1.1 Terms of use and software license agreement

In order to use HEAT, you first need to read and accept the **terms of use and software license agreement** that appear in a pop-up window when you start the software. Click the 'I accept' button to proceed.



## 3.1.2 HEAT home page

Once you have accepted the terms of the agreement, you will be able to access the **Home** page. To view the tool in another language, click on the language menu in the top right corner (English (EN) by default) and select your language of choice (French (FR), Portuguese (PT) or Spanish (ES)). Note that the tool will be translated into Arabic, Chinese and Russian in the future.

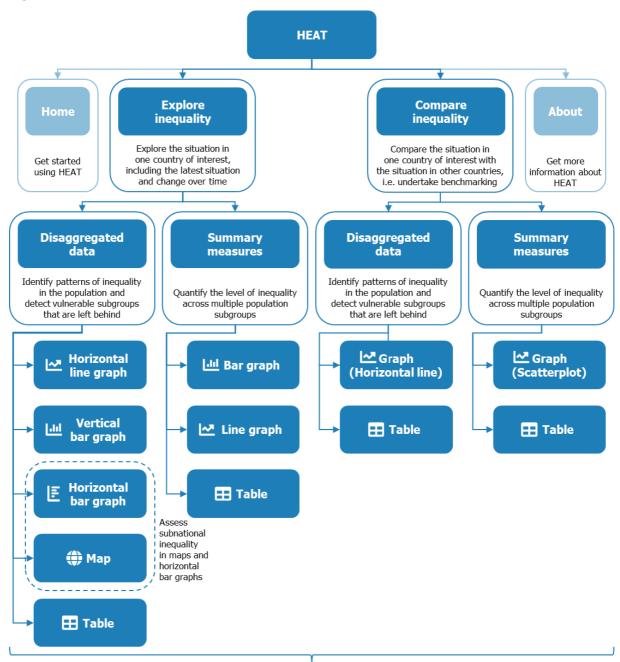
Scroll down the home page to get more information about the software.



### 3.1.3 HEAT structure

Figure 1 provides an overview of the structure of HEAT. Please refer to Section 3.2 for instructions on how to navigate HEAT and Section 3.3 for a list of resources to learn more about HEAT. Section 4 and Section 5 provide detailed descriptions of the views and visualizations available in HEAT.

Figure 1 HEAT structure



Use different visualization types to easily **analyze and communicate data** about inequalities. Export and **use results** for evidence-based decision-making to **drive impact** in countries.



#### TIPS for getting started

To get started, go to **Explore inequality** and assess the situation in your country of interest, first using 'Disaggregated data' and then 'Summary measures'.

Once you have explored the situation in one country, go to **Compare Inequality** to compare the situation in that country with the situation in other countries, using both 'Disaggregated data' and 'Summary measures'.

# 3.2 Navigating HEAT

#### 3.2.1 Navigation menu

Use the navigation menu, located in the top-right corner of the software, to navigate to the different sections of the software. The active section will always be highlighted in orange, such as 'Home' while you are on the home page.

HEAT is organized around two main components:

- **Explore inequality** allows you to explore the situation in one country of interest, including the latest situation of inequality and the change in inequality over time.
- **Compare inequality** enables you to compare the situation in one country of interest with the situation in other countries, i.e. undertake benchmarking.

Additionally, when hovering over 'Explore inequality' or 'Compare inequality', you can choose between two different subcomponents:

- Disaggregated data show the situation by population subgroups. They are important to identify patterns of inequality in the population and identify vulnerable subgroups that are being left behind.
- Summary measures quantify the level of inequality across multiple population subgroups. They are useful to compare the situation between different indicators and inequality dimensions and assess changes in inequality over time.

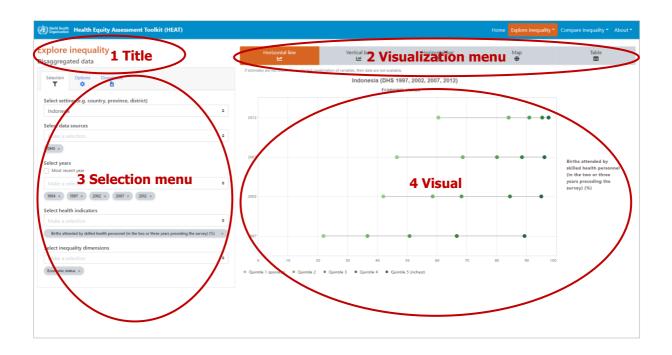




#### **3.2.2 Views**

Click 'Disaggregated data' or 'Summary measures' under 'Explore inequality' or 'Compare inequality' to access different views. Each view has the same layout:

- **1** The **title** in the top-left corner indicates the component and subcomponent you are looking at, such as 'Explore inequality' and 'Disaggregated data'.
- **2** The **visualization menu** across the top allows you to navigate between different visualization types, including bar graphs, line graphs, maps and tables.
- **3** The **selection menu** on the left enables further customization of your view, for example you can select your data, use different options to modify your view and download results.
- **4** The **visual** at the centre shows your results.



#### 3.2.3 Visualization menu

The visualization menu across the top of each view allows you to navigate between different visualizations types. Table 1 lists the visualization types available in HEAT.

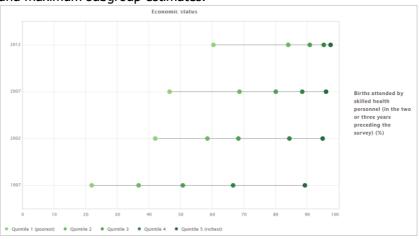
Table 1 HEAT visualization types

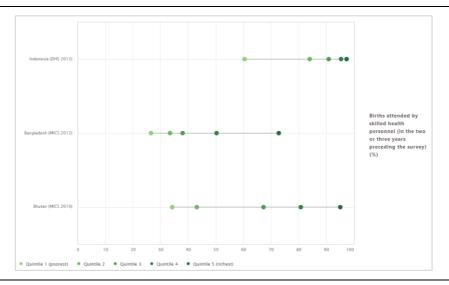
## Visualization type

#### **Description**

Horizontal line graph

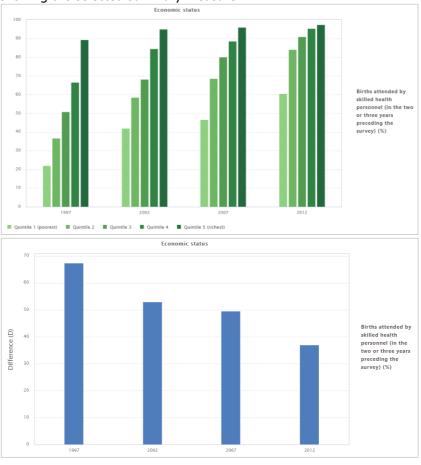
Disaggregated data are presented in horizontal line graphs (also called equiplots). Data are shown by year (under 'Explore inequality') or country (under 'Compare inequality'). For each year/country (displayed on the y-axis), there are multiple coloured data points – one for each population subgroup. Black horizontal lines indicate the difference between minimum and maximum subgroup estimates.





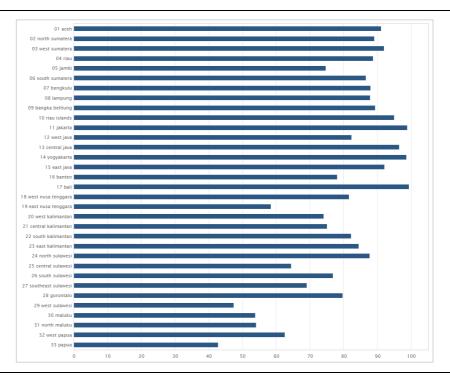
Vertical bar graph

Disaggregated data and summary measures are presented in vertical bar graphs. For each year (displayed on the x-axis), there are one or more coloured bars: for disaggregated data, there are multiple bars — one for each population subgroup; for summary measures there is one bar showing the selected summary measure.



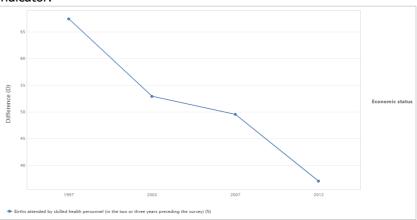
E Horizontal bar graph

Data disaggregated by subnational region are shown in horizontal bar graphs. Each subnational region (displayed on the y-axis) is represented by one bar.



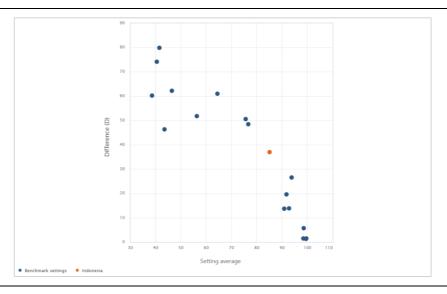
Line graph

Summary measures are shown in line graphs. For each year (displayed on the x-axis), there is one data point showing the selected summary measure. Data points are connected by lines. Lines are coloured by indicator.



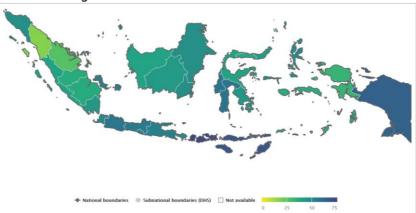
Scatterplot

Scatterplots show national average (on the x-axis) and within-country inequality as measured by a selected summary measure (on the y-axis). Each country is represented by one coloured circle: benchmark countries are displayed in blue, and the country of interest is highlighted in orange.



**(** Map

Data disaggregated by subnational region are displayed in maps. Maps show the value of the health indicator for each region, ranging from low (displayed in yellow) to high (displayed in dark blue). Note that this visualization type is only available for data disaggregated by subnational region and only for data from DHS with available boundaries of subnational regions that match those in the data.



**Table** 

Disaggregated data and Summary measures are displayed in tables and provide detailed information about the data points.

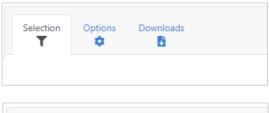
Setting	Year 9	Indicator name	Dimension	Subgrou	р 0	Estimate	Population share
Indonesia	2012	Births attended by skilled health personnel (in the two or three years preceding the survey) (%)	Economic status	Quintile (poorest)		60.4	21.5
Indonesia	2012	Births attended by skilled health personnel (in the two or three years preceding the survey) (%)	Economic status	Quintile 2	2	84.0	19.8
Indonesia	2012	Births attended by skilled health personnel (in the two or three years preceding the survey) (%) $$	Economic status	Quintile :	3	90.9	19.7
Indonesia	2012	Births attended by skilled health personnel (in the two or three years preceding the survey) (%)	Economic status	Quintile 4	,	95.3	20.6
Indonesia	2012	Births attended by skilled health personnel (in the two or three years preceding the survey) (%)	Economic status	Quintile ! (richest)	5	97,4	18.3
Setting	Yea	r 🎙 Indicator name	Dime	ension 🛊	Summa name	ry measure	Estimate
Indonesia	201	2 Births attended by skilled health personnel (in the two or three years preceding the survey) (%)	Econ	iomic	Differen	ice (D)	37.0

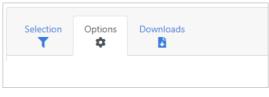
Setting +	Year 🖣	Indicator name	Dimension	name	Estimate
Indonesia	2012	Births attended by skilled health personnel (in the two or three years preceding the survey) (%)	Economic status	Difference (D)	37.0
Indonesia	2007	Births attended by skilled health personnel (in the two or three years preceding the survey) (%)	Economic status	Difference (D)	49.5
Indonesia	2002	Births attended by skilled health personnel (in the two or three years preceding the survey) (%)	Economic status	Difference (D)	52.9
Indonesia	1997	Births attended by skilled health personnel (in the two or three years preceding the survey) (%)	Economic status	Difference (D)	67.4

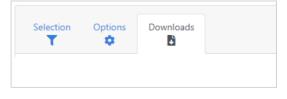
#### 3.2.4 Selection menu

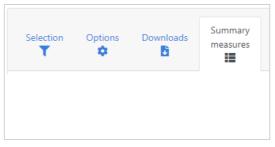
The selection menu on the left of each view allows you to customize the results displayed in the visual. The selection menu comprises three or four tabs, depending on the view you are looking at.

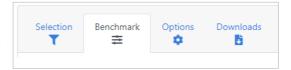
- Selection Select the data displayed in the visual, including your setting (country) of interest, data source(s), year(s), indicator(s), inequality dimension(s) and summary measure(s), if applicable.
- Options Use different options to modify your visual, such as selecting axis ranges and adding titles. The options that are available vary from view to view, depending on what data and visualization type you are looking at.
- **Downloads** Download the results displayed in the visual, including the graph (as png or jpg images or pdf) and/or the data (as comma or tab separated text files). Note that in table views, you are only able to download the data (i.e. no graph).
- Summary measures See specific summary measure calculations. Note that this tab is only available under the 'Explore inequality' component for 'Disaggregated data' displayed in 'Horizontal bar graphs'. Specific difference and ratio measures are calculated for inequality dimensions with more than 30 population subgroups (such as subnational regions in some countries).
- Benchmark Choose the comparison countries for benchmarking. This tab is only available in views under the 'Compare inequality' component of the tool.







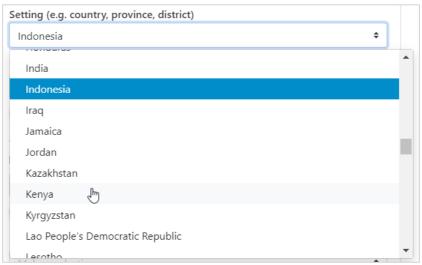




Each tab of the selection menu comprises multiple selectors that allow you to modify the data displayed in the visual. To facilitate navigation, the different selector types are described in Table 2.

Table 2 HEAT selector types

Selector type	Navigation
Dropdown menu	Select a single item, such as your country of interest.
(single select)	Setting (e.g. country, province, district)
	Indonesia \$\displaystyle{\psi}_{\text{th}}\$
	Click the box to see all the available countries and make your selection

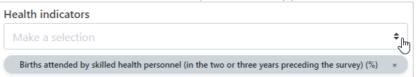


Alternatively, replace an already chosen country by clicking the box and typing (part of) the name of the country you are looking for.

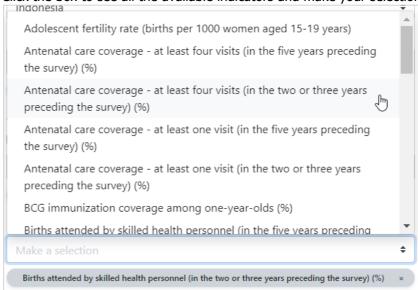


# Dropdown menu (multi-select)

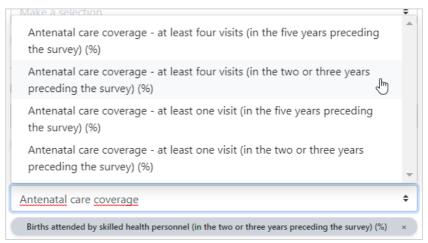
Select one or more items, such as your indicator(s) of interest.



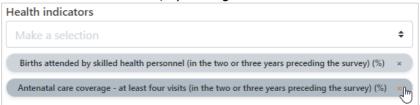
Click the box to see all the available indicators and make your selection.



Alternatively, search for a specific indicator by typing (part of) the name of the indicator you are looking for and make your selection.



Remove selected indicators, by clicking on the indicator name.



Note that often there is a limit to the number of items that you can display in the visual. For example, in most graphs, you can only show up to five indicators simultaneously. Once you have selected the maximum number of items, the selector will become grey and irresponsive. To make further changes, first remove selected items and then continue add new ones.



#### **Numeric input**

Enter numeric values, e.g. the axis minimum and maximum.

Axis range		
Axis minimum	Axis maximum	
Click inside the box and e	nter a number.	
Axis range		
Axis minimum	Axis maximum	

Alternatively, use the arrows to select a number.



# Text input (empty)

Enter information, such as horizontal and vertical axis titles.



Click inside the box and enter your text.

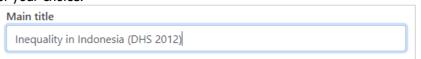


# Text input (pre-filled)

Modify existing information, such as the main title (by default, the main title includes information about the country, data source(s) and year(s) displayed in the visual).



Click inside the box and delete, alter or replace the main title with the text of your choice.



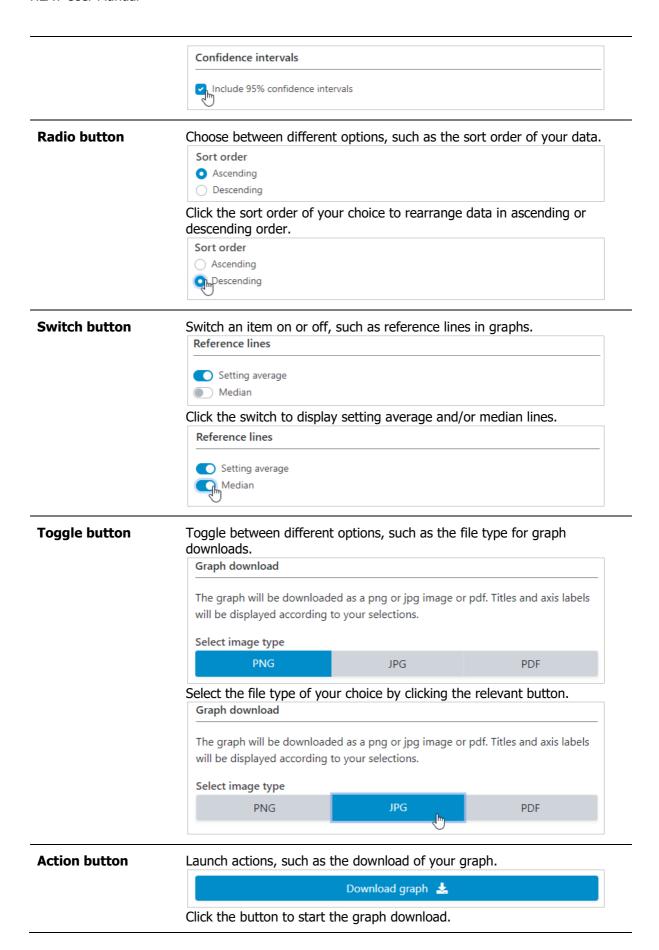
#### Checkbox

Limit the view, e.g. to the most recent year, or include information, such as 95% confidence intervals.



Check the box to limit the view to the most recent year or include 95% confidence intervals.





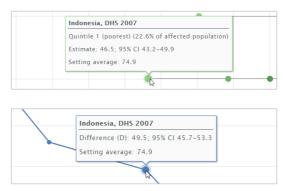


#### 3.2.5 Tooltips

Hover over data points in graphs to see a tooltip with additional information about the data point.

For **disaggregated data**, the tooltip will show information about the country, source, year, subgroup name and population share, subgroup estimate and 95% confidence interval, as well as the national average.

For **summary measures**, the tooltip includes information about the country, source and year as well as the summary measure estimate and 95% confidence interval, as well as the national average.



# 3.3 Learning more

Further information about HEAT are provided in the **About pages** of the software. These can be accessed by hovering over 'About' in the navigation menu in the top-right corner of the software.



- This user manual details all features and functionalities of HEAT.
- The **technical notes** provides detailed information about the data displayed in HEAT, including the disaggregated data and summary measures.
- The indicator compendium contains detailed definitions for each indicator shown in HEAT, including information about the calculation of numerator and denominator values.
- **Software** provides information about the software used to develop HEAT.

- **Versions** shows the history of the different versions of HEAT.
- **License** contains the terms of use and software license agreement.
- **Feedback** gives instructions on how to provide feedback about the software.
- **Acknowledgements** lists the contributions of our colleagues, collaborators, contractors and partners to developing this software.

# 4 Explore inequality

Under 'Explore inequality', you can **explore the situation in one country of interest**. Inequalities can be assessed using disaggregated data and summary measures that are visualized in a variety of different graphs, maps and tables. To access the visualizations, hover over 'Explore inequality' in the navigation menu at the top and click 'Disaggregated data' or 'Summary measures'.



# TIPS for exploring inequality

- ✓ Do start by selecting one health indicator and one inequality dimension at a time, before looking at multiple indicators and dimensions simultaneously.
- It is not recommended to show favourable health intervention and adverse health outcome indicators together in one graph. The interpretation of these is different: for favourable health intervention indicators, such as skilled birth attendance, a high value is desirable (meaning high coverage), while for adverse health outcome indicators, such as under-five mortality rate, a low value is preferable (meaning low mortality).
- It is not recommended to compare changes in subnational regional inequality over time if the number of subnational regions differs from one time to another. The number of regions may differ between different time points for different reasons, for example because multiple regions are combined into one larger geographic area in one year but not in another (for sample size or other reasons). In this case, comparing inequality may lead to false conclusions: Inherently, inequality tends to be lower in years with fewer subnational regions. However, this may mask inequalities that exist between smaller geographic areas.

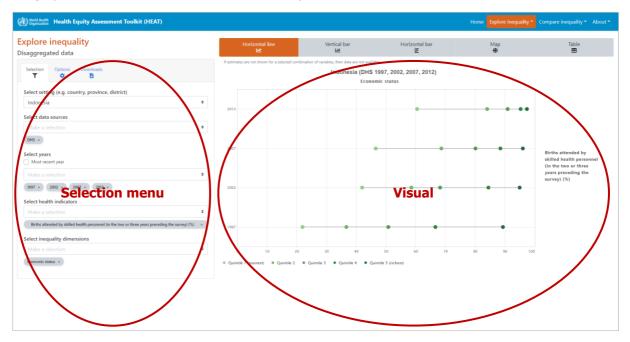
# 4.1 Disaggregated data

HEAT allows you to explore disaggregated data in different views; data are visualized in horizontal line graphs, vertical bar graphs, horizontal bar graphs, maps and tables. To access the different visualization types, click the tabs in the visualization menu across the top of the view. The selected visualization type will be highlighted in orange.



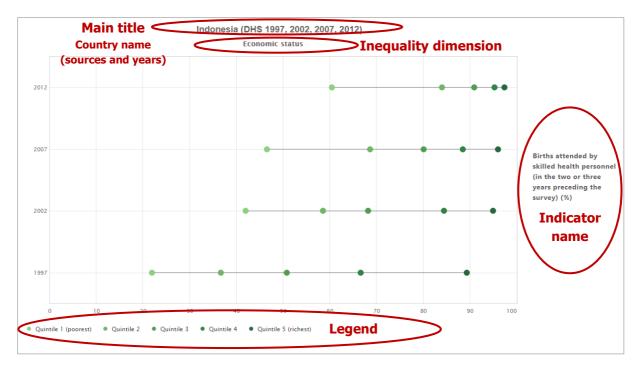
#### 4.1.1 ► Horizontal line graph

In this view, disaggregated data are displayed in a horizontal line graph. The visual at the centre shows the graph; the selection menu on the left allows you to customize the visual.

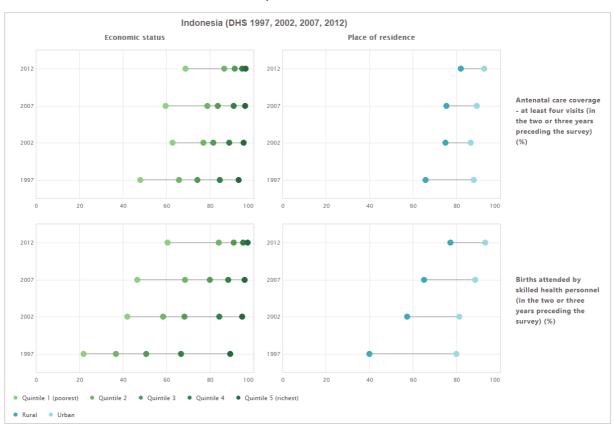


#### What you see

The visual shows a horizontal line graph (also called <u>equiplot</u>) presenting disaggregated data (displayed on the x-axis) for a selected country of interest. For each year (displayed on the y-axis), multiple coloured circles are shown – one for each population subgroup. Black horizontal lines indicate the difference between minimum and maximum subgroup estimates. Note that the title of the visual is default and can be changed using the Options tap of the selection menu (see Table 3).



If more than one health indicator and/or inequality dimension are selected at the same time, multiple graphs are shown – one for each indicator and/or dimension. You can choose to show up to five indicators and five dimensions simultaneously.



## How to explore

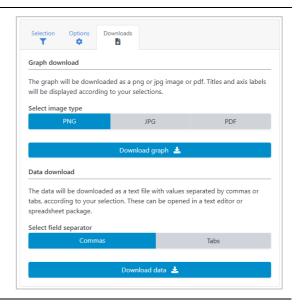
The selection menu on the left allows you to customize the results displayed in the visual. Table 3 provides a description of the three tabs that comprise the selection menu: selection, options and downloads.

**Table 3** Selection menu for the 'Horizontal line graph' showing 'Disaggregated data' under 'Explore inequality'

#### Tab **Description** Selection Select the data displayed in the visual, including your setting of **p**tions interest, data source(s), year(s), Setting (e.g. country, province, district) indicator(s) and inequality dimension(s). Data sources \$ DHS × Years **‡** 1997 × 2002 × 2007 × 2012 × Health indicators \$ Births attended by skilled he Inequality dimensions \$ Economic status × Options Use different options to modify your view. You can choose \$ custom axis ranges and graph Axis range titles. Axis maximum Axis minimum Indonesia (DHS 1997, 2002, 2007, 2012) Horizontal axis title Vertical axis title

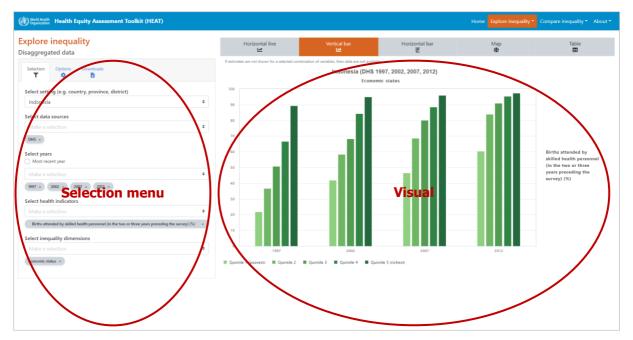
Downloads

Download the results displayed in the visual, including the graph (as png or jpg images or pdf) and/or the data (as comma or tab separated text files).



#### 4.1.2 Wertical bar graph

In this view, disaggregated data are displayed in a vertical bar graph. The visual at the centre shows the graph; the selection menu on the left allows you to customize the visual.

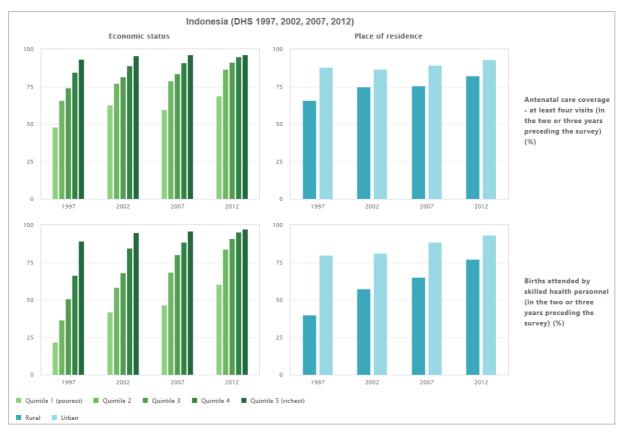


#### What you see

The visual shows a vertical bar graph presenting disaggregated data (displayed on the y-axis) in a selected country of interest. For each year (displayed on the x-axis), multiple coloured bars are shown – one for each subgroup. Note that the title of the visual is default and can be changed using the Options tap of the selection menu (see Table 4).



If more than one health indicator and/or inequality dimension are selected at the same time, multiple graphs are shown – one for each indicator and/or dimension. You can select to show up to five indicators and five dimensions simultaneously.



#### How to explore

The selection menu on the left allows you to customize the results displayed in the visual. Table 4 provides a description of the three tabs that comprise the selection menu: selection, options and downloads.

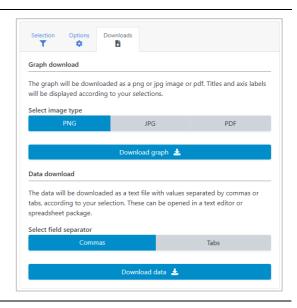
**Table 4** Selection menu for the 'Vertical bar graph' showing 'Disaggregated data' under 'Explore inequality'

#### Tab **Description** Selection Select the data displayed in the visual, including your setting of interest, data source(s), year(s), Setting (e.g. country, province, district) indicator(s) and inequality dimension(s). Data sources **‡** DHS × Years **‡** 1997 × 2002 × 2007 × 2012 × Health indicators **\$** Births attended by skilled he Inequality dimensions \$ Economic status × Options Use different options to modify your view. You can choose to show data labels and confidence Data labels intervals, and select custom axis ranges and graph titles. 0 1 Confidence intervals ☐ Include 95% confidence intervals Axis range Axis maximum Axis minimum Graph titles Indonesia (DHS 1997, 2002, 2007, 2012)

Vertical axis title

Downloads

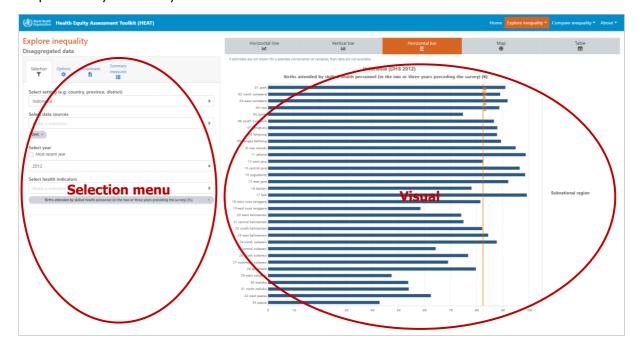
Download the results displayed in the visual, including the graph (as png or jpg images or pdf) and/or the data (as comma or tab separated text files).



#### 4.1.3 **■** Horizontal bar graph

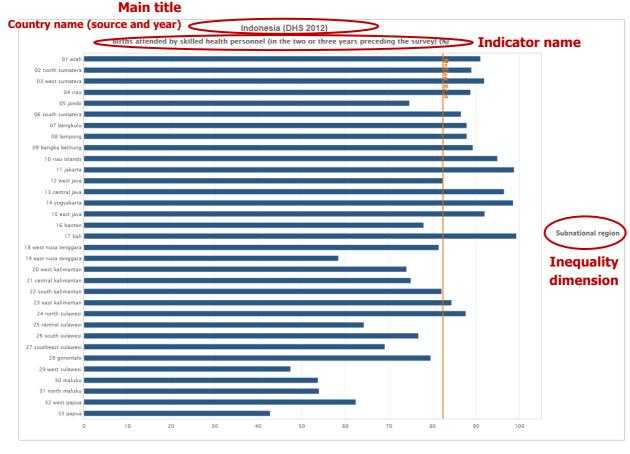
In this view, data disaggregated by subnational region are displayed in a horizontal bar graph. The visual at the centre shows the graph; the selection menu on the left allows you to customize the visual.

Note that this visualization type is **only available for data disaggregated by subnational region**. Data are shown for one year at a time, allowing for a more in-depth assessment of geographic inequalities in your country of interest.

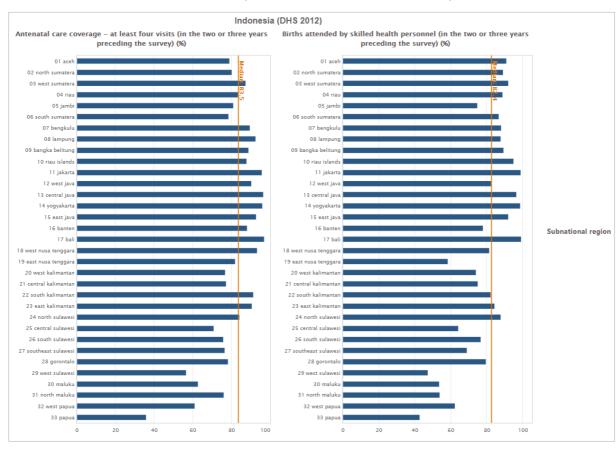


#### What you see

The visual shows a horizontal bar graph presenting data disaggregated by subnational region (displayed on the x-axis) in a selected country of interest. The vertical orange line indicates the median value (the middle point of your data) across all subnational regions. Note that the title of the visual is default and can be changed using the Options tap of the selection menu (see Table 5).



If more than one health indicator is selected at the same time, multiple graphs are shown – one for each indicator. You can select to show up to three indicators simultaneously.



#### How to explore

The selection menu on the left allows you to customize the results displayed in the visual. Table 5 provides a description of the four tabs that comprise the selection menu: selection, options, downloads and summary measures.

The additional 'Summary measures' tab was designed specifically to facilitate the assessment of geographic inequalities. Specific difference and ratio measures are calculated for countries with more than 30 subnational regions, including:

- Difference between percentile 80 and percentile 20
- Ratio of percentile 80 to percentile 20
- Difference between the mean estimates in quintile 5 and quintile 1
- Ratio of the mean estimates in quintile 5 to quintile 1

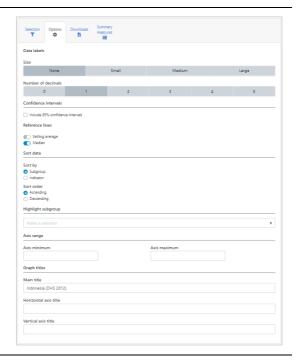
These measures may be a more accurate reflection of the level of geographic inequality in a country than measuring the range between the maximum and minimum values using regular (range) difference and ratio measures, as they avoid using possible outlier values.

**Table 5** Selection menu for the 'Horizontal bar graph' showing 'Disaggregated data' under 'Explore inequality'

# Selection Select the data displayed in the visual, including your setting of interest, data source(s), year and indicator(s). Selection Selection Options Downloads Summary measures Setting (e.g. country, province, district) Indonesia Data sources Make a selection Plos Year Most recent year 2012 Health indicators Make a selection Ples Births attended by skilled health personnel (in the two or three years preceding the survey) (%) ×

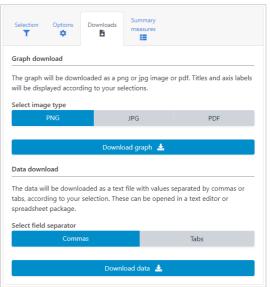
#### Options

Use different options to modify your view. You can choose to show data labels, confidence intervals and reference lines; change the sort order of your data; highlight selected regions; and select custom axis ranges and graph titles.



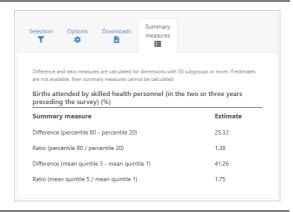
#### Downloads

Download the results displayed in the visual, including the graph (as png or jpg images or pdf) and/or the data (as comma or tab separated text files).



# Summary measures

View specific summary measures calculations. Specific difference and ratio measures are calculated for countries with more than 30 subnational regions.

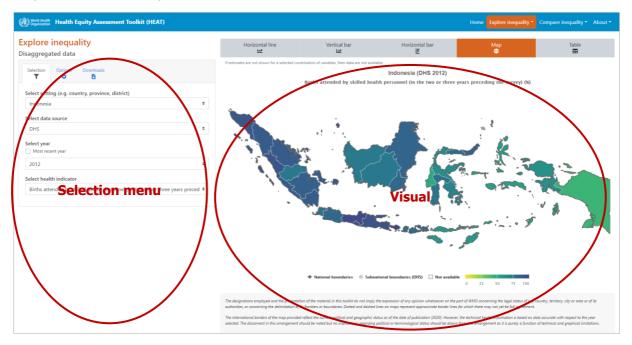


#### 4.1.4 **(h)** Map

In this view, data disaggregated by subnational region are displayed in a map. The visual at the centre shows the map; the selection menu on the left allows you to customize the visual.

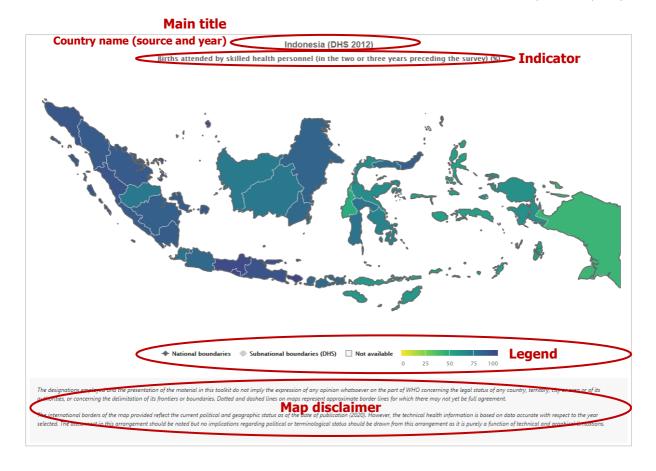
Note that this visualization type is **only available for data disaggregated by subnational region** and **only for data from DHS with available boundaries of subnational regions that match the data**. Note that there may be cases where data cannot be displayed on a map due to the unavailability of map shapefiles, or discrepancies between available shapefiles and the data. Notes about map availability are in Annex 1 of the Technical Notes.

Data are shown for one year at a time, allowing for a more in-depth assessment of geographic inequalities in the country of interest.



#### What you see

The visual shows a map presenting data disaggregated by subnational regions in a selected country of interest. Coloured areas indicate subnational regions. Dark grey lines indicate national boundaries, reflecting the current political and geographic status as of the date of publication (2020). Light grey lines indicate subnational boundaries as provided by the DHS Program. Note that the title of the visual is default and can be changed using the Options tap of the selection menu (see Table 6).



#### How to explore

The selection menu on the left allows you to customize the results displayed in the visual. Table 6 provides a description of the three tabs that comprise the selection menu: selection, options and downloads.

**Table 6** Selection menu for the 'Map' showing 'Disaggregated data' under 'Explore inequality'

Tab	Description		
** Selection	Select the data displayed in the visual, including your setting of interest, data source(s), year(s), indicator(s) and inequality dimension(s).	Selection  Options Downloads  Setting (e.g. country, province, district)  Indonesia  Data source  DHS  Year  Most recent year  2012  Health indicator  Births attended by skilled health personnel (in the two or three year)	\$ \$ rs preced \$

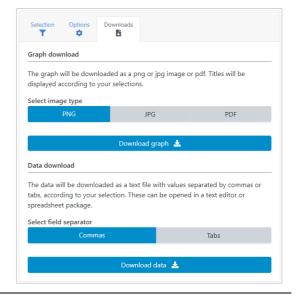
Options

Use different options to modify your view. You can choose custom axis ranges and graph titles.



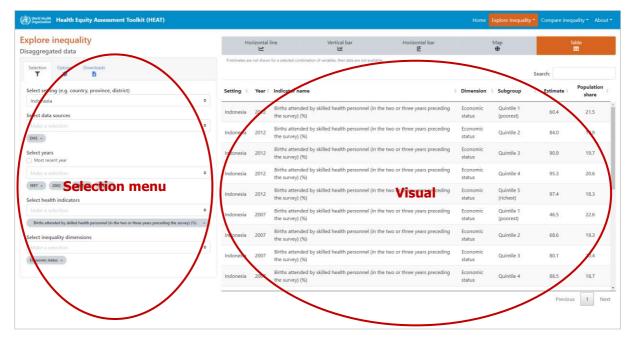
**Downloads** 

Download the results displayed in the visual, including the graph (as png or jpg images or pdf) and/or the data (as comma or tab separated text files).



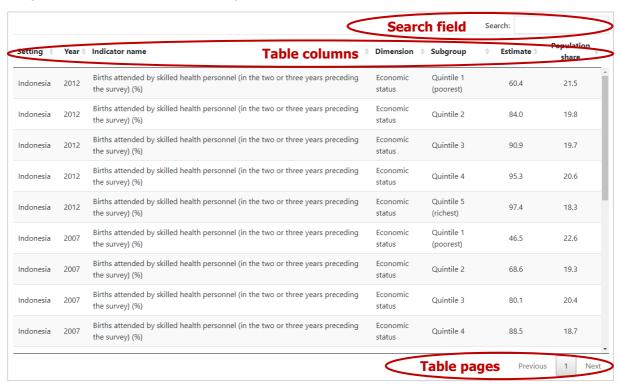
#### 4.1.5 **Table**

In this view, disaggregated data are displayed in a table. The visual at the centre shows the table; the selection menu on the left allows you to customize the visual.



#### What you see

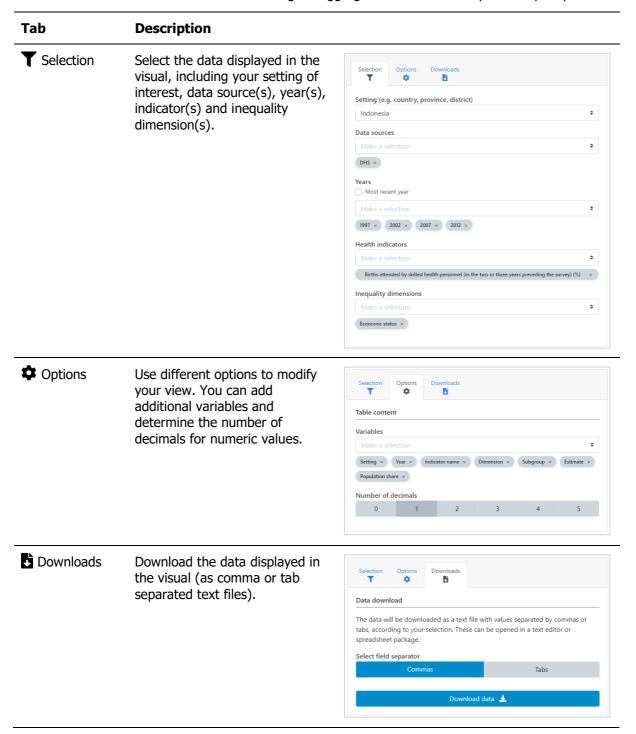
The visual shows a table presenting disaggregated data for a selected country of interest. By default, the table displays information about the country, survey year, health indicator, inequality dimension, population subgroup, subgroup estimate and subgroup population share (though these can be changed using the selection menu - see Table 7).



#### How to explore

The selection menu on the left allows you to customize the results displayed in the visual. Table 7 provides a description of the three tabs that comprise the selection menu: selection, options and downloads.

Table 7 Selection menu for the 'Table' showing 'Disaggregated data' under 'Explore inequality'



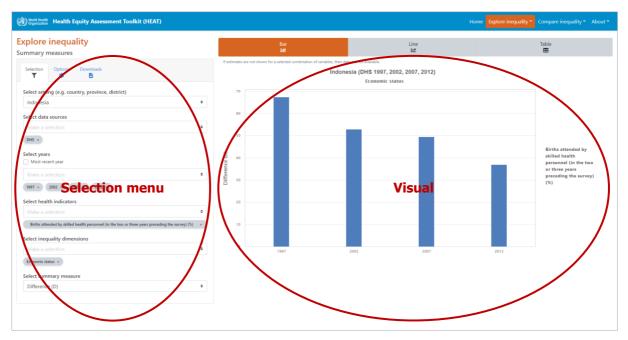
# 4.2 Summary measures

HEAT allows you to explore summary measures in different views; data are visualized in bar graphs, line graphs and tables. To access the different visualizations, click the tabs in the visualization menu across the top of the view. The selected view will be highlighted in orange.



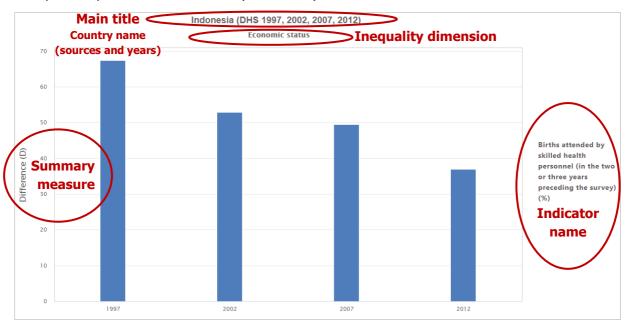
# 4.2.1 <u>M</u> Bar graph

In this view, summary measures are displayed in a bar graph. The visual at the centre shows the graph; the selection menu on the left allows you to customize the visual.

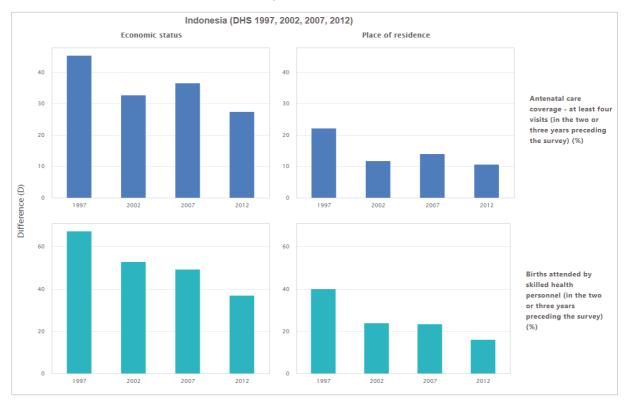


#### What you see

The visual shows a bar graph presenting summary measure data (displayed on the y-axis) for a selected country of interest. For each year (displayed on the x-axis), there is one coloured bar showing the value of the selected summary measure. Note that the title of the visual is default and can be changed using the Options tap of the selection menu (see Table 8).



If more than one health indicator and/or inequality dimension are selected at the same time, multiple graphs are shown – one for each indicator and/or dimension. You can choose to show up to five indicators and five dimensions simultaneously.



## How to explore

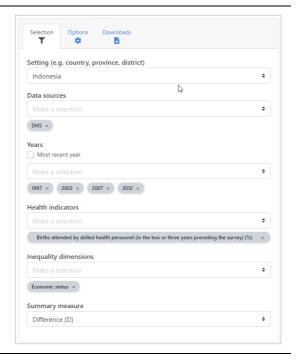
The selection menu on the left allows you to customize the results displayed in the visual. Table 8 provides a description of the three tabs that comprise the selection menu: selection, options and downloads.

Table 8 Selection menu for the 'Bar graph' showing 'Summary measures' under 'Explore inequality'

#### Tab Description

**Y** Selection

Select the data displayed in the visual, including your setting of interest, data source(s), year(s), indicator(s), inequality dimension(s) and summary measure.



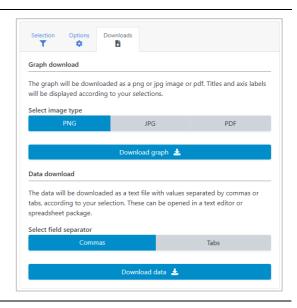
Options

Use different options to modify your view. You can choose to show data labels and confidence intervals, and select custom axis ranges and graph titles.



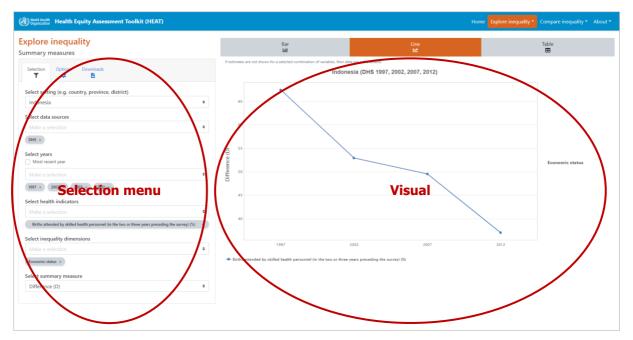
Downloads

Download the results displayed in the visual, including the graph (as png or jpg images or pdf) and/or the data (as comma or tab separated text files).



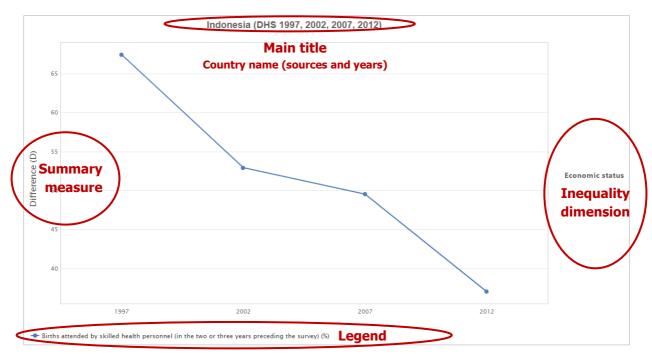
## 4.2.2 Line graph

In this view, summary measures are displayed in a line graph. The visual at the centre shows the graph; the selection menu on the left allows you to customize the visual.

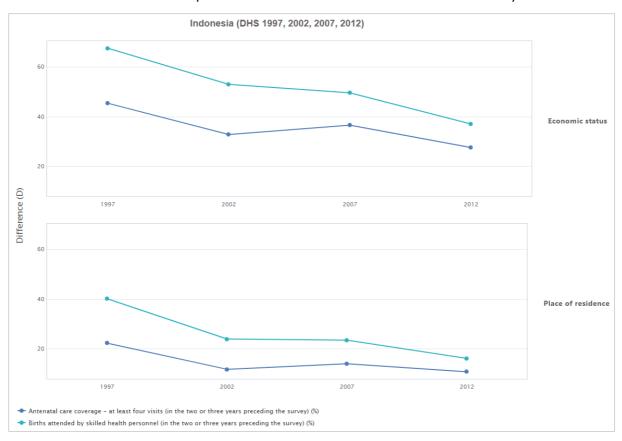


#### What you see

The visual shows a line graph presenting summary measure data (displayed on the y-axis) for a selected country of interest. For each year (displayed on the x-axis), there is one data point showing the value of the selected summary measure. Data points are connected by coloured lines. Note that the title of the visual is default and can be changed using the Options tap of the selection menu (see Table 9).



If more than one health indicator and/or inequality dimension are selected at the same time, multiple graphs are shown – one for each dimension, with different indicators displayed in different coloured lines. You can choose to show up to five indicators and five dimensions simultaneously.



#### How to explore

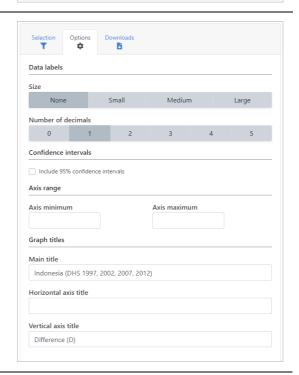
The selection menu on the left allows you to customize the results displayed in the visual. Table 9 provides a description of the three tabs that comprise the selection menu: selection, options and downloads.

Table 9 Selection menu for the 'Line graph' showing 'Summary measures' under 'Explore inequality'

#### Tab **Description** Y Selection Select the data displayed in the Selection Options visual, including your setting of interest, data source(s), year(s), Setting (e.g. country, province, district) indicator(s), inequality Indonesia dimension(s) and summary B Data sources measure. DHS × Years 1997 × 2002 × 2007 × 2012 × Health indicators

Options

Use different options to modify your view. You can choose to show data labels and confidence intervals, and select custom axis ranges and graph titles.



Births attended by skilled health personnel (in the two or three years preceding the survey) (%) ×

Inequality dimensions

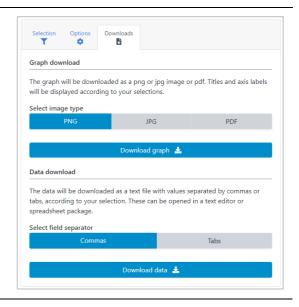
Summary measure

Difference (D)

**‡** 

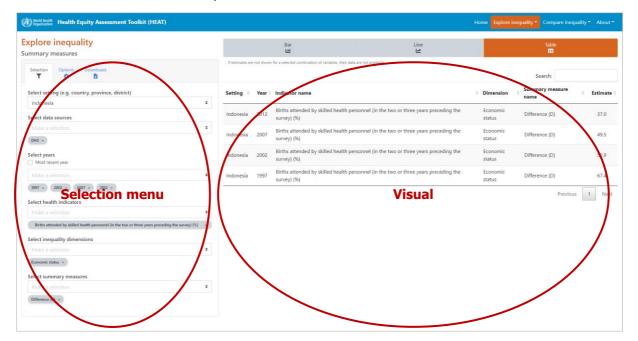
Downloads

Download the results displayed in the visual, including the graph (as png or jpg images or pdf) and/or the data (as comma or tab separated text files).



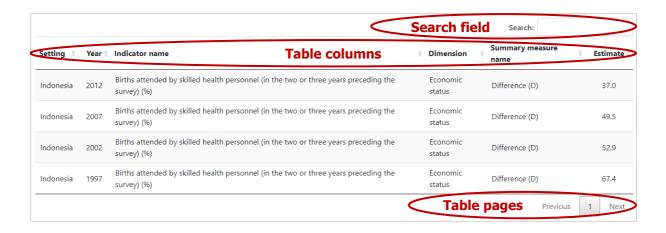
### 4.2.3 **Table**

In this view, summary measures are displayed in a table. The visual at the centre shows the table; the selection menu on the left allows you to customize the visual.



#### What you see

The visual shows a table presenting summary measures for a selected country of interest. By default, the table displays information about the country, survey year, health indicator, inequality dimension, summary measure and summary measure estimate (though these can be changed using the selection menu - see Table 10).



#### How to explore

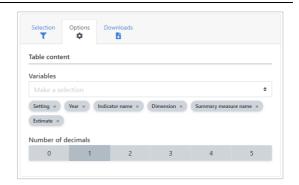
The selection menu on the left allows you to customize the results displayed in the visual. Table 10 provides a description of the three tabs that comprise the selection menu: selection, options and downloads.

Table 10 Selection menu for the 'Table' showing 'Summary measures' under 'Explore inequality'

#### **Tab Description** Y Selection Select the data displayed in the Selection Options visual, including your setting of interest, data source(s), year(s), Setting (e.g. country, province, district) indicator(s) and inequality Indonesia dimension(s). Data sources DHS × Most recent year 1997 × 2002 × 2007 × 2012 × Health indicators **‡** Births attended by skilled health personnel (in the two or three years preceding the survey) (%) $\qquad$ Inequality dimensions \$ Economic status × Summary measures Difference (D) ×

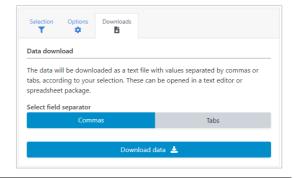
Options

Use different options to modify your view. You can add additional variables and determine the number of decimals for numeric values.



Downloads

Download the data displayed in the visual (as comma or tab separated text files).



# 5 Compare inequality

Under 'Compare inequality', you can **compare the situation in one country of interest with the situation in other countries**. Benchmarking can be done using disaggregated data and summary measures that are visualized in different graphs and tables. To access the visualizations, hover over 'Compare inequality' in the navigation menu at the top and click 'Disaggregated data' or 'Summary measures'.



# TIPS for comparing inequality

It is not recommended to compare subnational regional inequality across countries if the number of subnational regions differs between countries. In this case, comparing inequality may lead to false conclusions: Inherently, inequality tends to be lower in countries with fewer subnational regions. However, this may mask inequalities that exist between smaller geographic areas within those countries.

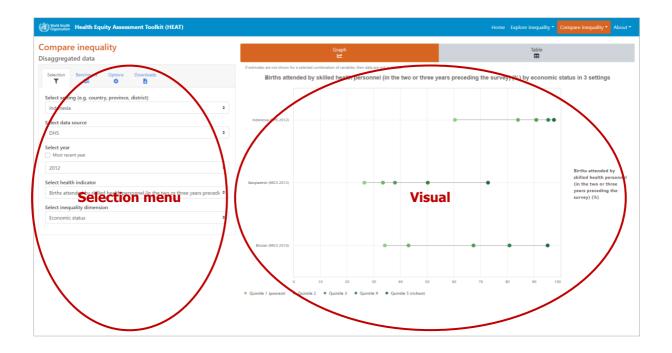
# 5.1 Disaggregated data

HEAT allows you to compare disaggregated data in different views; data are visualized in graphs and tables. To access the different visualizations, click the tabs in the visualization menu across the top of the view. The selected view will be highlighted in orange.



# 5.1.1 **Ш** Graph

In this view, disaggregated data are displayed in a horizontal line graph. The visual at the centre shows the graph; the selection menu on the left allows you to customize the visual.



#### What you see

The visual shows a horizontal line graph (also called <u>equiplot</u>) presenting disaggregated data (displayed on the x-axis) for a selected country of interest and selected benchmark countries. For each country (displayed on the y-axis), multiple coloured circles are shown – one for each population subgroup. Black horizontal lines indicate the difference between minimum and maximum subgroup estimates. The country of interest is displayed at the top of the graph; benchmark countries are displayed in alphabetical order below the country of interest. Note that the title of the visual is default and can be changed using the Options tap of the selection menu (see Table 11).



#### How to explore

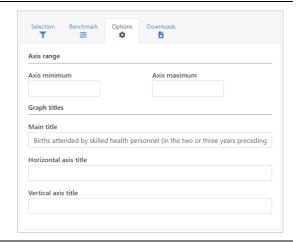
The selection menu on the left allows you to customize the results displayed in the visual. Table 11 provides a description of the four tabs that comprise the selection menu: selection, benchmark, options and downloads.

Table 11 Selection menu for the 'Graph' showing 'Disaggregated data' under 'Compare inequality'

#### Tab **Description** Y Selection Select the data displayed in the Option visual, including your setting of F interest, data source, year, Setting (e.g. country, province, district) indicator and inequality Indonesia dimension. Data source DHS Most recent yea 2012 Births attended by skilled health personnel (in the two or three years preced $\mbox{$\hat{\tau}$}$ Inequality dimension Economic status **=** Benchmark Choose the comparison countries for benchmarking. You = • can filter countries by country-Filter by country-income group income group and/or WHO region, and select the number of Lower middle income × years by which comparison Filter by WHO region countries' data may vary from **‡** the data for your country of South-East Asia × interest. Select comparison settings Bangladesh × Bhutan × India × Indonesia × Myanmar × Timor-Leste × 0

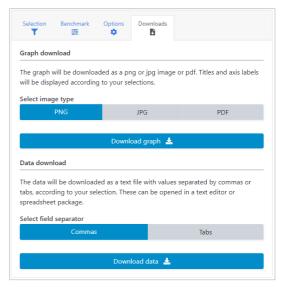
Options

Use different options to modify your view. You can choose custom axis ranges and graph titles.



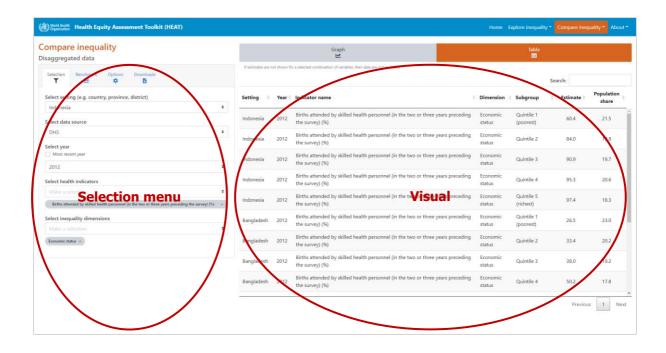
Downloads

Download the results displayed in the visual, including the graph (as png or jpg images or pdf) and/or the data (as comma or tab separated text files).



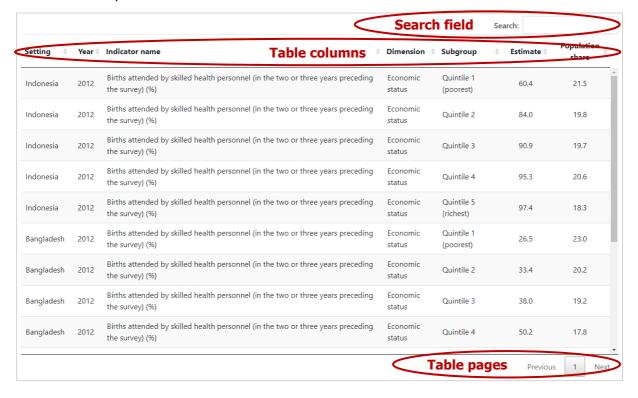
## 5.1.2 **Table**

In this view, disaggregated data are displayed in a table. The visual at the centre shows the table; the selection menu on the left allows you to customize the visual.



#### What you see

The visual shows a table presenting disaggregated data for a selected country of interest and selected benchmark countries. By default, the table displays information about the country, survey year, health indicator, inequality dimension, population subgroup, subgroup estimate and subgroup population share (though these can be changed by using the selection menu – see Table 12). The country of interest is displayed at the top of the table; benchmark countries are displayed in alphabetical order below the country of interest.



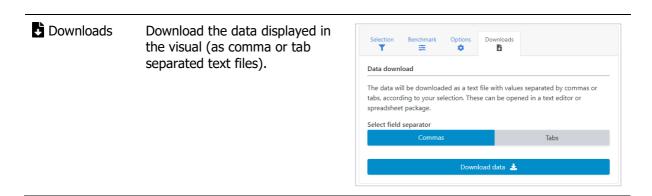
#### How to explore

The selection menu on the left allows you to customize the results displayed in the visual. Table 12 provides a description of the four tabs that comprise the selection menu: selection, benchmark, options and downloads.

Table 12 Selection menu for the 'Table' showing 'Disaggregated data' under 'Compare inequality'

#### Tab **Description** Y Selection Select the data displayed in the visual, including your setting of # • T ÷ interest, data source, year, Setting (e.g. country, province, district) indicator(s) and inequality dimension(s). DHS Most recent year Health indicators Births attended by skilled health pe Inequality dimensions Economic status × **=** Benchmark Choose the comparison countries for benchmarking. You = • can filter countries by country-Filter by country-income group income group and/or WHO region, and select the number of Lower middle income × years by which comparison Filter by WHO region countries' data may vary from **‡** the data for your country of South-East Asia × interest. Select comparison settings Bangladesh × Bhutan × India × Indonesia × Myanmar × Timor-Leste × 0 Options Use different options to modify your view. You can add additional variables and Table content determine the number of decimals for numeric values. Setting × Year × Indicator name × Dimension × Subgroup × Estimate × Population share ×

Number of decimals



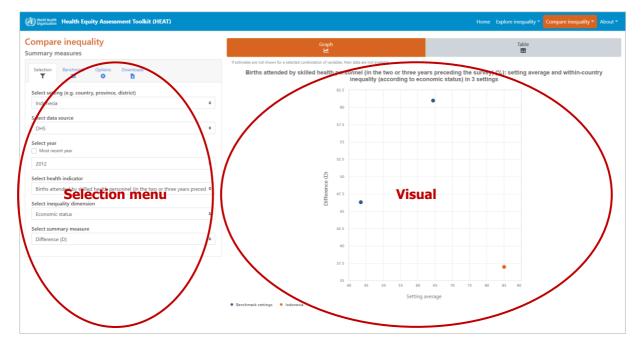
# 5.2 Summary measures

HEAT allows you to compare summary measures in different views; data are visualized in graphs and tables. To access the different visualizations, click the tabs in the visualization menu across the top of the view. The selected view will be highlighted in orange.



# 5.2.1 **Lill** Graph

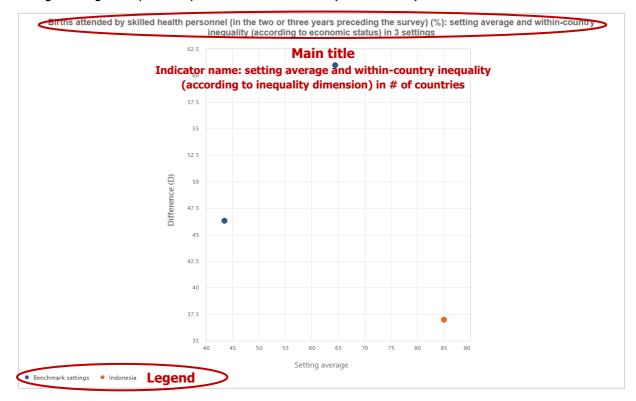
In this view, summary measures are displayed in a scatterplot. The visual at the centre shows the graph; the selection menu on the left allows you to customize the visual.



#### What you see

The visual shows a scatterplot presenting the national average (displayed on the x-axis) and the level of within-country inequality as measured by the selected summary measure (displayed on the y-axis).

Each country is represented by one coloured shape: benchmark countries are displayed in blue, and the country of interest is highlighted in orange. Note that the title of the visual is default and can be changed using the Options tap of the selection menu (see Table 13).



#### How to explore

The selection menu on the left allows you to customize the results displayed in the visual. Table 13 provides a description of the four tabs that comprise the selection menu: selection, benchmark, options and downloads.

Table 13 Selection menu for the 'Graph' showing 'Summary measures' under 'Compare inequality'

#### Tab Description

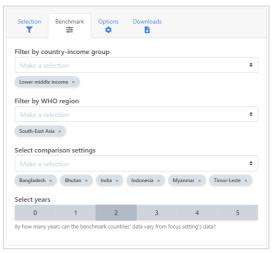
**Y** Selection

Select the data displayed in the visual, including your setting of interest, data source, year, indicator, inequality dimension and summary measure.



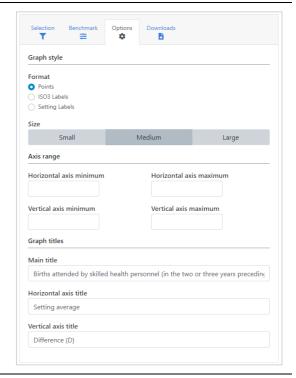
**Benchmark** 

Choose the comparison countries for benchmarking. You can filter countries by country-income group and/or WHO region, and select the number of years by which comparison countries' data may vary from the data for your country of interest.



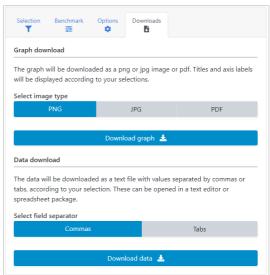
Options

Use different options to modify your view. You can select different formats and sizes for your data points, and choose custom axis ranges and graph titles.



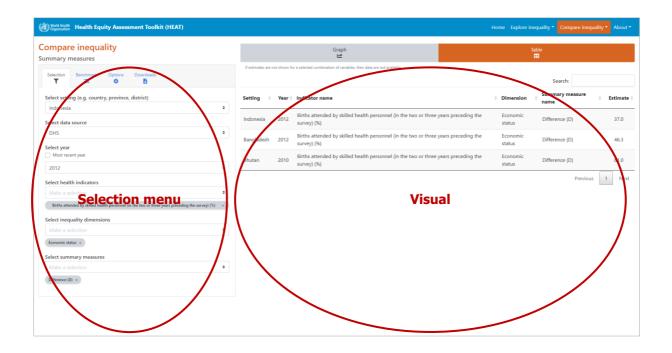
Downloads

Download the results displayed in the visual, including the graph (as png or jpg images or pdf) and/or the data (as comma or tab separated text files).



# 5.2.2 **Table**

In this view, summary measures are displayed in a table. The visual at the centre shows the table; the selection menu on the left allows you to customize the visual.



#### What you see

The visual shows a table presenting summary measure data for a selected country of interest and selected benchmark countries. By default, the table displays information about the country, survey year, health indicator, inequality dimension, summary measure and summary measure estimate (though these can be changed using the selection menu - see Table 14). The country of interest is displayed at the top of the table; benchmark countries are displayed in alphabetical order below the country of interest.



#### How to explore

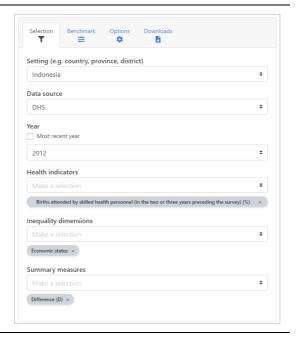
The selection menu on the left allows you to customize the results displayed in the visual. Table 14 provides a description of the four tabs that comprise the selection menu: selection, benchmark, options and downloads.

Table 14 Selection menu for the 'Table' showing 'Summary measures' under 'Compare inequality'

#### Tab Description

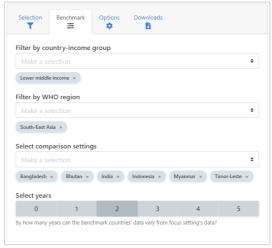
**Y** Selection

Select the data displayed in the visual, including your setting of interest, data source, year, indicator(s), inequality dimension(s) and summary measure(s).



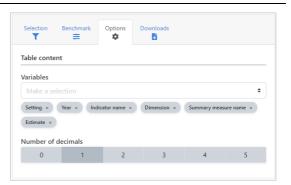
**Benchmark** 

Choose the comparison countries for benchmarking. You can filter countries by country-income group and/or WHO region, and select the number of years by which comparison countries' data may vary from the data for your country of interest.



Options

Use different options to modify your view. You can add additional variables and determine the number of decimals for numeric values.





Download the data displayed in the visual (as comma or tab separated text files).

