

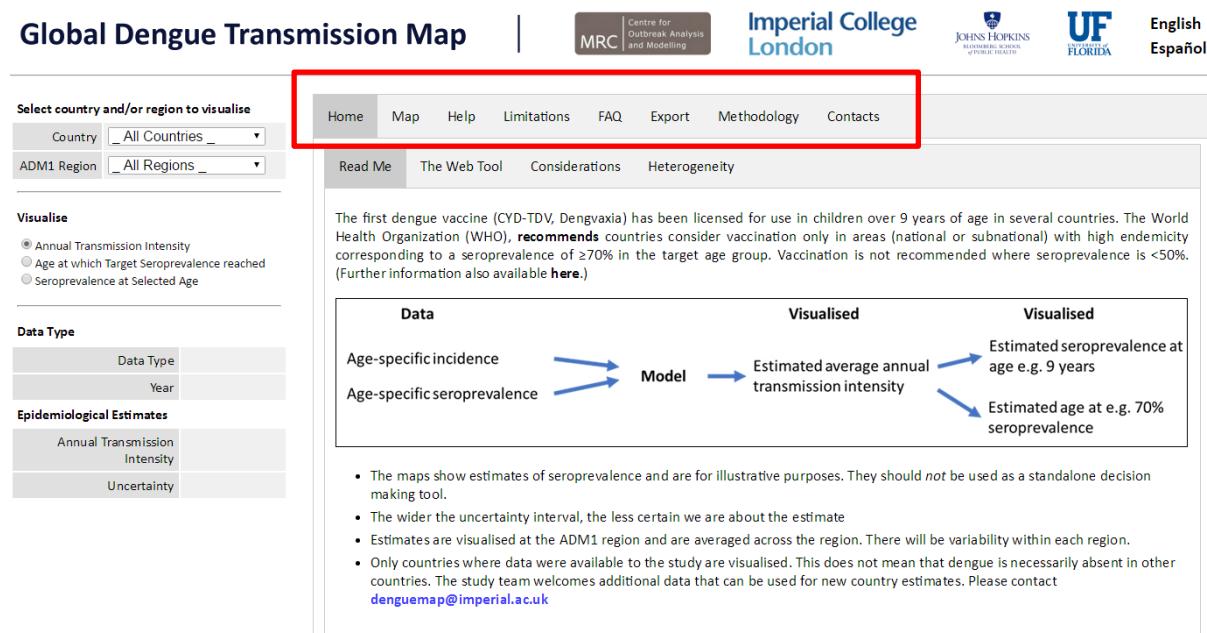
Global Dengue Transmission Map User Guide

What is the web tool for?

This tool was developed in order to provide some guidance to countries considering vaccine implementation as part of their public health programme. The tool can be used to visualise estimates of dengue transmission intensity derived from a) age-stratified data on dengue seroprevalence and b) age-stratified data on dengue incidence. These estimates are then used to calculate the expected seroprevalence at subnational levels for several countries, and how it relates to the WHO recommendations.

How do I use it?

- 1) The web tool is available here: https://mrcdata.dide.ic.ac.uk/_dengue
- 2) Clicking on each tab ('Home', 'Map', 'Methodology', 'Contacts', 'Export', 'Help', and 'FAQ') will take you to the respective page.



The first dengue vaccine (CYD-TDV, Dengvaxia) has been licensed for use in children over 9 years of age in several countries. The World Health Organization (WHO), **recommends** countries consider vaccination only in areas (national or subnational) with high endemicity corresponding to a seroprevalence of $\geq 70\%$ in the target age group. Vaccination is not recommended where seroprevalence is $< 50\%$. (Further information also available [here](#).)

Data

Age-specific incidence → **Model** → Estimated average annual transmission intensity

Age-specific seroprevalence → **Model** → Estimated average annual transmission intensity

Estimated average annual transmission intensity → Estimated seroprevalence at age e.g. 9 years

Estimated average annual transmission intensity → Estimated age at e.g. 70% seroprevalence

- Home*: a brief summary of the background and rationale of the web tool.
- Map*: here you can visualise estimates of; i) dengue annual transmission intensity; ii) Age at which Target seroprevalence reached; iii) Seroprevalence at selected age; and iv) Seroprevalence category.
See Mapping for more details.
- Help*: A quick guide on how to visualise estimates.
- Limitations*: An explanation about the limitations of the web tool and visualised estimates.
- FAQ*: frequently asked questions and step through guides.
- Export*: you can select the country and the administrative units for which you want to download estimates. **See Export for more details.**
- Methodology*: a brief summary of the methods used to obtain the estimates and links to further references.

h) *Contacts*: contact details for any further queries relating to the web tool.

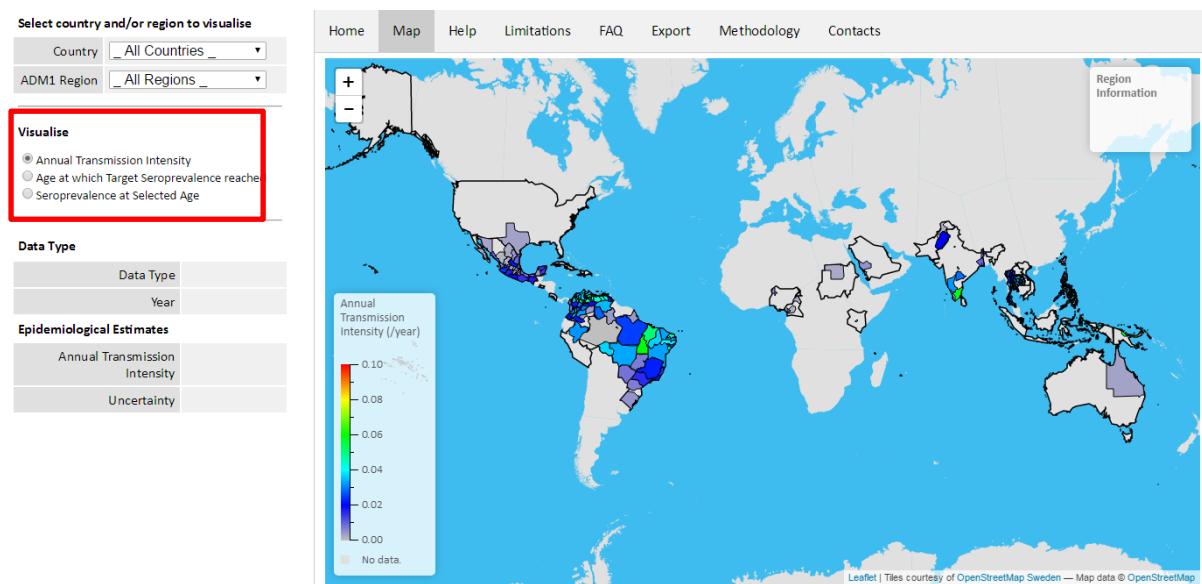
Mapping

1) Select the 'Map' tab.

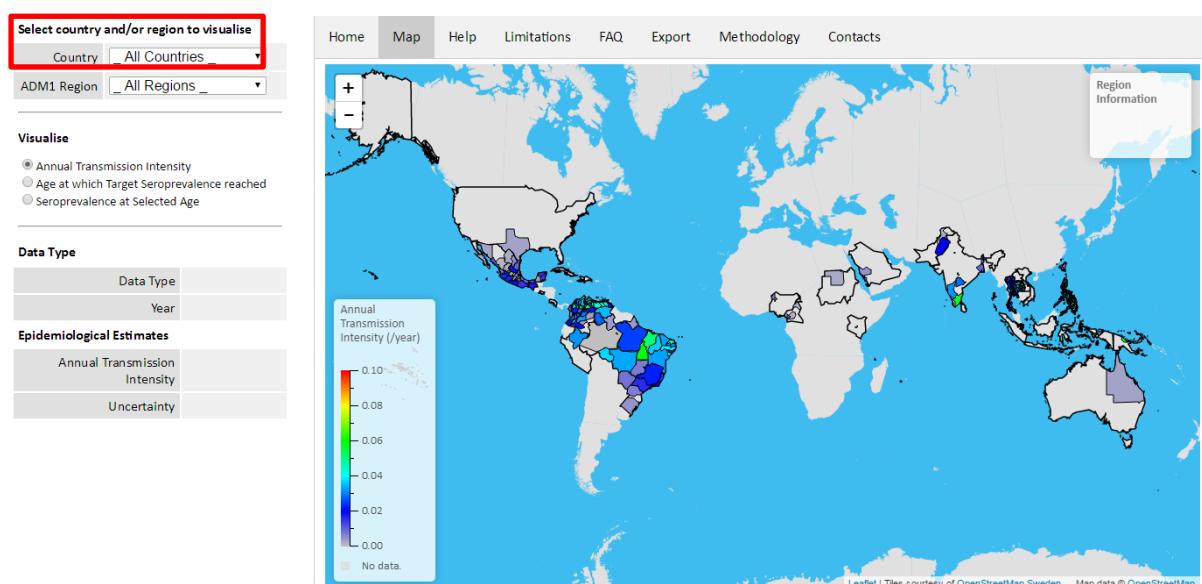
This will initially visualise the 'Annual Transmission Intensity' across the globe where estimates are available.

2) Select a visualisation option under 'Visualise':

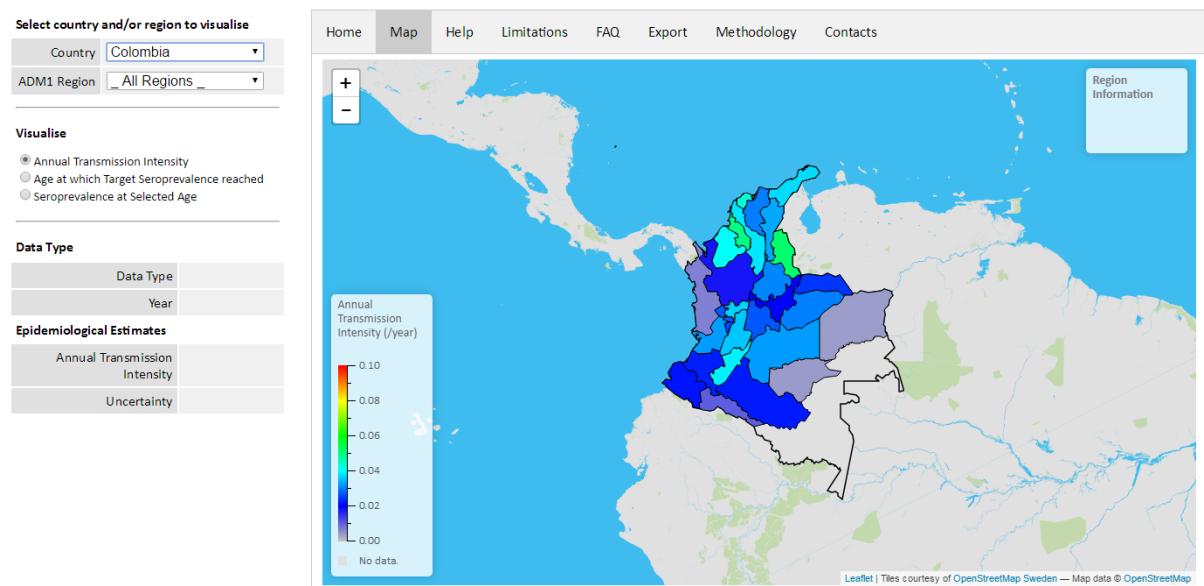
- i. Annual Transmission Intensity
- ii. Age at which Target Seroprevalence Reached
- iii. Seroprevalence at Selected Age



2) Select a 'Country' from the dropdown menu on the left hand side.

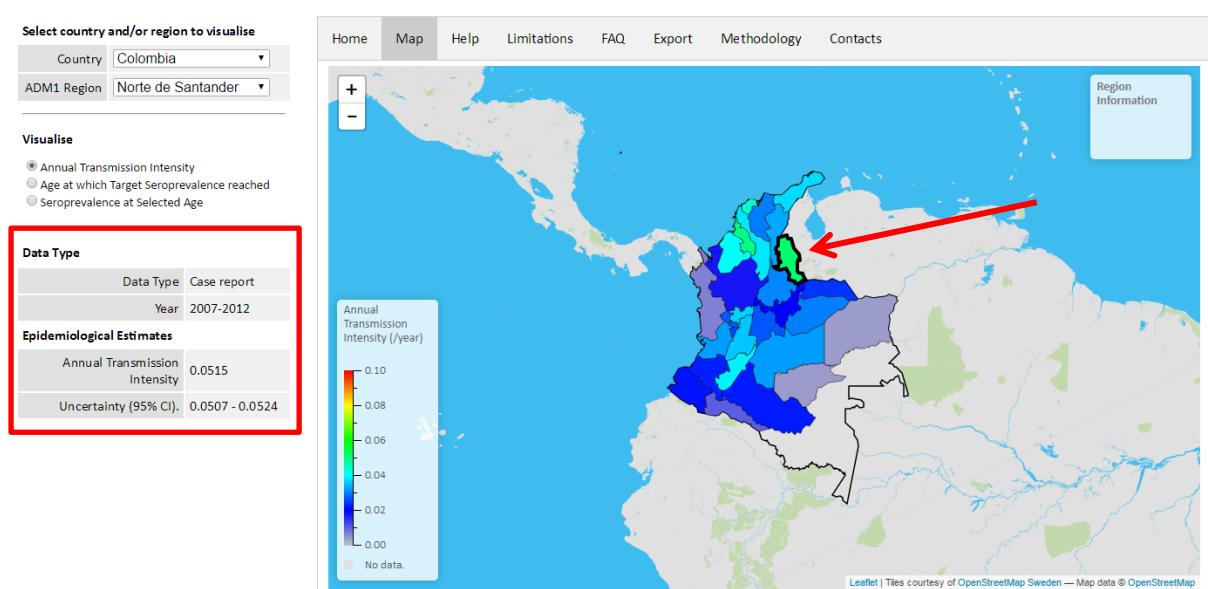


This will automatically move the map and zoom into the selected country.



3) Selecting an 'ADM1 Region' from the dropdown menu, or clicking on an admin unit on the map will outline the selected admin unit and populate the data tables on the left hand side.

E.g. selecting *Country > Colombia*, then *ADM1 Region > Norte de Santander*:



The data table provides a summary of:

Data Type

| | |
|-----------|---|
| Data Type | whether the underlying data from which estimates were derived were from 'Case Report' (incidence) data, or 'Serology' data. |
| Year | year(s) the data were collected. |

Epidemiological Estimates

| | |
|-------------------------------|--|
| Annual Transmission Intensity | the annual force of infection (per capita rates susceptibles acquire infection) averaged across the administrative unit. |
| Uncertainty* | the uncertainty around the force of infection. |

*95% confidence intervals and 95% credible intervals for estimates based on 'Case Report' and 'Serology' respectively.

4) Hovering the cursor over a different admin unit will populate the 'Region Information' box in the upper right corner with the admin unit name.

Visualisation: Age at which Target Seroprevalence reached

- 1) When this option is selected, the 'Age at which expected... seroprevalence' slider option will be activated:

Select country and/or region to visualise

| | |
|-------------|--------------------|
| Country | Colombia |
| ADM1 Region | Norte de Santander |

Visualise

Annual Transmission Intensity
 Age at which Target Seroprevalence reached
 Seroprevalence at Selected Age

Data Type

| | |
|-----------|-------------|
| Data Type | Case report |
| Year | 2007-2012 |

Epidemiological Estimates

| | |
|-------------------------------|----------------------------------|
| Annual Transmission Intensity | 0.0515 |
| Uncertainty (95% CI) | 0.0507 - 0.0524 |
| Age at which expected... | 5.84 |
| ...seroprevalence is | <input type="text" value="70%"/> |
| Uncertainty (95% CI) | 5.75 - 5.94 |

You can manually change this by clicking and dragging to visualise the estimated age at which this seroprevalence is reached.

Reset Slider

Sliders can be reset by clicking.

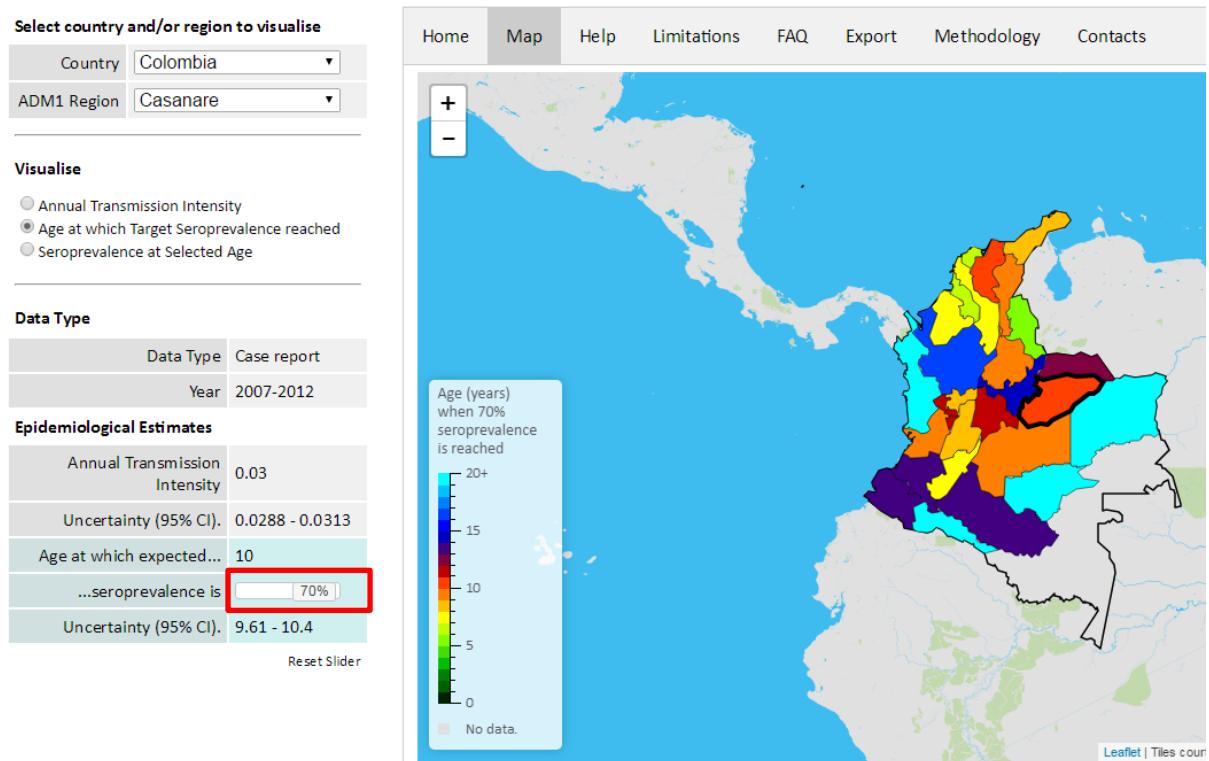
Instructions X

Use the slider to select prevalence.
The map will show the age at which that seroprevalence is expected.

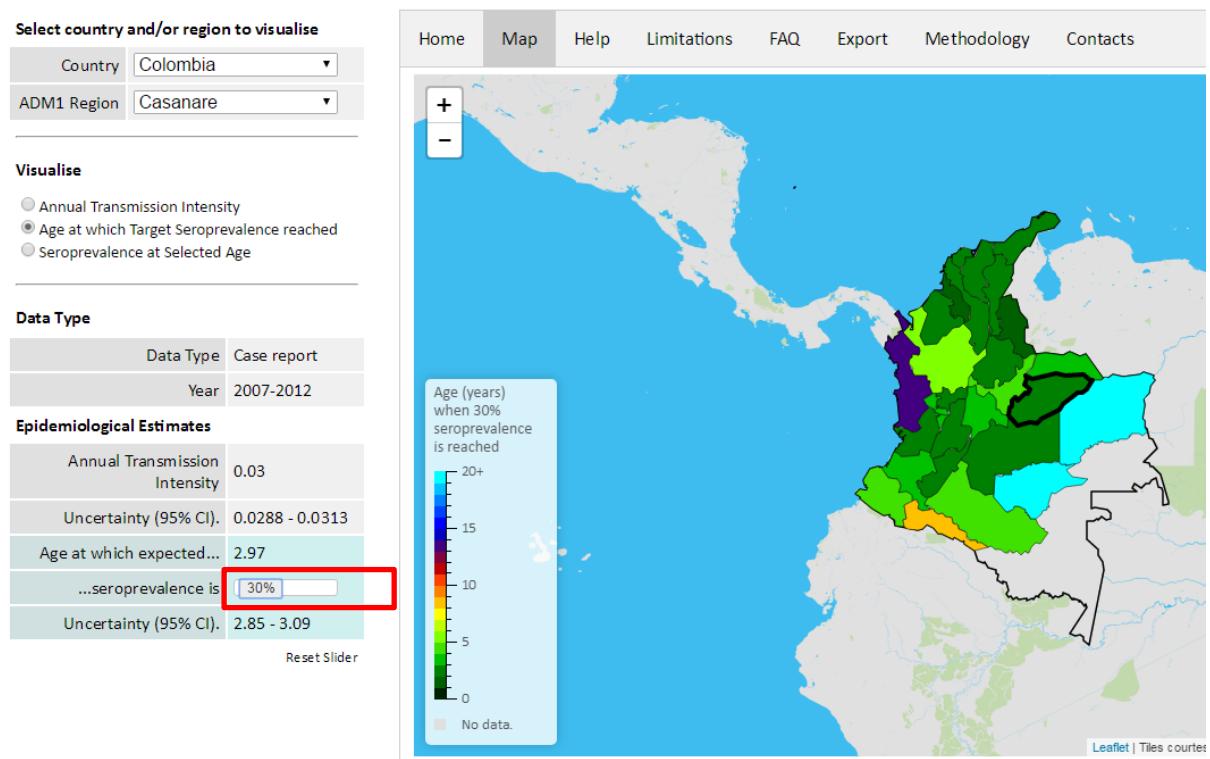
Instructions will pop up in the bottom left corner.

2) If you have an admin unit selected, the data tables will be populated and updated as you move the slider.

a) default 70% selected:



b) slider moved to e.g. 30%:



Visualisation: Seroprevalence at Selected Age

1) When this option is selected, the 'Expected seroprevalence at age X' slider option will be activated:

Select country and/or region to visualise

| | |
|-------------|--|
| Country | <input type="text" value="All Countries"/>  |
| ADM1 Region | <input type="text" value="All Regions"/>  |

Visualise

- Annual Transmission Intensity
- Age at which Target Seroprevalence reached
- Seroprevalence at Selected Age

Data Type

| | |
|-----------|--|
| Data Type | |
| Year | |

Epidemiological Estimates

| | |
|-------------------------------|---|
| Annual Transmission Intensity | |
| Uncertainty (95% CI). | |
| Expected Seroprevalence | |
| at age | 9 |
| Uncertainty (95% CI). | |
| Seroprevalence Category | |

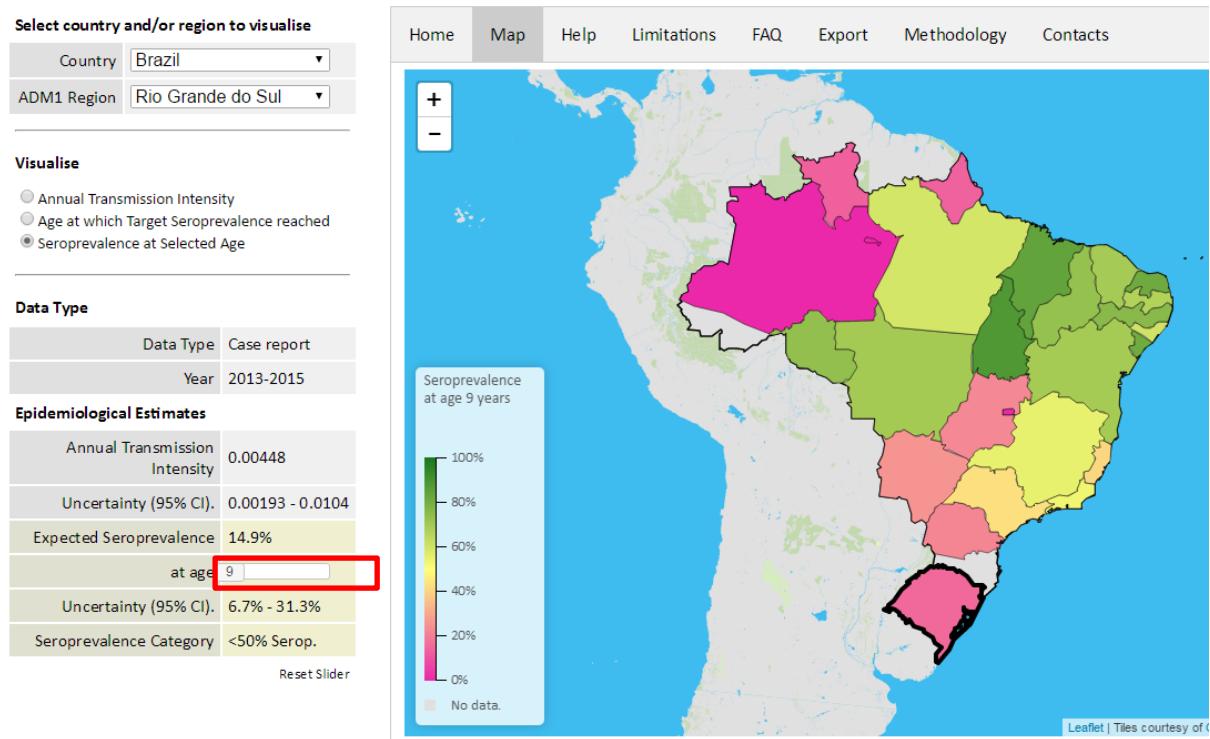
You can manually change this by clicking and dragging to visualise the estimated age at which this seroprevalence is reached.

Reset Slider

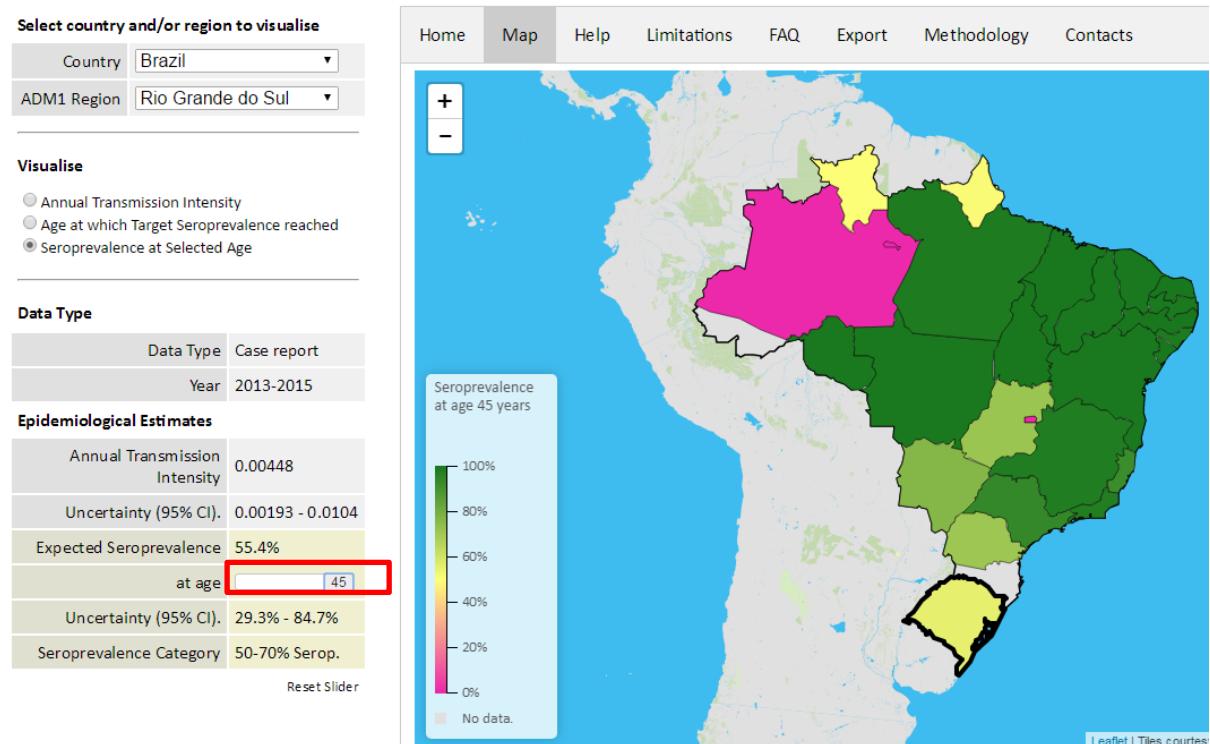
Sliders can be reset by clicking

2) If you have an admin unit selected, the data tables will be populated and updated as you move the slider.

a) default 9 years selected:



b) slider moved to age e.g. 45 years



Export

Here you can select estimates to download.

- 1) All estimates can be selected by clicking on '**Select All**'.
- 2) Alternatively you can choose to
 - a. select specific countries e.g. **Australia**.
 - b. admin units within each country e.g. **Queensland**
- 3) Once selected, click on '**Download**' to download as a .csv file.



Home Map Help Limitations FAQ Export Methodology Contacts

Download Estimates:

Please cite this website (https://mrcdata.dide.ic.ac.uk/_dengue/dengue.php) if reproducing these estimates.

N.B - The transmission intensity and corresponding expected seroprevalence levels are estimated values and are only intended for guidance purposes. They should not be used on their own for decision making purposes. Currently estimates are visualised at admin unit 1 levels, however there will be considerable heterogeneity within each region.

| Country/Region | Selected |
|--------------------|-------------------------------------|
| Brazil | |
| Australia | <input checked="" type="checkbox"/> |
| Queensland | <input checked="" type="checkbox"/> |
| Alagoas | <input type="checkbox"/> |
| Amapá | <input type="checkbox"/> |
| Amazonas | <input type="checkbox"/> |
| Bahia | <input type="checkbox"/> |
| Ceará | <input type="checkbox"/> |
| Distrito Federal | <input type="checkbox"/> |
| Espírito Santo | <input type="checkbox"/> |
| Goiás | <input type="checkbox"/> |
| Maranhão | <input type="checkbox"/> |
| Mato Grosso | <input type="checkbox"/> |
| Mato Grosso do Sul | <input type="checkbox"/> |
| Minas Gerais | <input type="checkbox"/> |
| Pernambuco | <input type="checkbox"/> |

Download