SDG Goal 3	**Good health and well-being**
SDG Target 3.9	**By 2030, substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination**
SDG Indicator 3.9.2	**Mortality rate attributed to unsafe water, unsafe sanitation and lack of hygiene (exposure to unsafe Water, Sanitation and Hygiene for All (WASH) services)**
Time series	**Mortality attributed to contact to unsafe water, unsafe sanitation and lack of hygiene**

1. General information on the time series

- Date of national metadata: 11 November 2022
- National data: http://sdg-indicators.de/3-9-2/
- Definition: The time series measures the number of deaths from inadequate water, sanitation and hygiene, expressed per 100,000 inhabitants classified with the following ICD-10-codes:

  - Acute respiratory infections: H65-H66, J00-J22, P23, U04
  - Fractions of diarrhoea: A00, A01, A03, A04, A06-A09
  - Intestinal nematode infections: B76-B77, B79
  - Protein-energy malnutrition: E40-E46

  ICD-10 is the International Statistical Classification of Diseases and Related Health Problems 10th Revision (German Modification).
- Disaggregation: age group; sex; disease

2. Comparability with the UN metadata

- Date of UN metadata: July 2022
- UN metadata: https://unstats.un.org/sdgs/metadata/files/Metadata-03-09-02.pdf
- The time series is compliant with the UN metadata.

3. Data description

- The data on deaths is derived from the causes of death statistics conducted by the Federal Statistical Office (analysis of the official death certificates).

  The population data comes from the intercensal population updates, the basis of which is the last census conducted in 2011. The population data is rolled forward using statistical results on natural population change (births, deaths) and migrations. For 2010, the population was calculated backwards using the 2011 census and migration, birth and death statistics.

4. Access to data source

- Deaths – GBE:
  https://www.gbe-bund.de/gbe/pkg_isgbe5.prc_menu_olap?p_uid=gast&p_aid=36812520&p_sprache=E&p_help=2&p_indnr=6&p_version=1&p_ansnr=85812731
- Average population – GENESIS online 12411-0041:
  https://www-genesis.destatis.de/genesis//online?operation=table&code=12411-0041&bypass=true&levelindex=1&levelid=1639396599054
- Population data based on Census 2011 – 1991 to 2011 (only available in German):
  https://www.destatis.de/DE/Themen/Gesellschaft-Umwelt/Bevoelkerung/Bevoelkerungsstand/_inhalt.html

5. Metadata on source data

- Quality Report – Causes of Death Statistics (only available in German):
  https://www.destatis.de/DE/Methoden/Qualitaet/Qualitaetsberichte/Gesundheit/todesursachen.pdf
- Quality Report – Microcensus (only available in German):
  https://www.destatis.de/DE/Methoden/Qualitaet/Qualitaetsberichte/Bevoelkerung/einfuehrung.html

6. Timeliness and frequency

- Timeliness: t + 8.5 months
- Frequency: Annual

7. Calculation method

- Unit of measurement: Per 100,000 inhabitants
- Calculation:

$$\text{Mortality rate}_{\text{i}} = \frac{\sum_{k_i} \text{Death of persons with allocated } ICD_{\text{ki}} \text{ [number]}}{\text{Population [number]}} \cdot 100{,}000$$

$i \in \{\text{Akute respiratory infections; Diarrhora; Intestinal nematode infections; Protein- energy malnutrition}\}$

$k_{Akute\ respiratory\ infections} \in \{H65; H66; J00; ...; J22; P23; U04\}$

$k_{Diarrhora} \in \{A00; A01; A03; A04; A06; ...; A09\}$

$k_{Intestinal\ nematode\ infections} \in \{B76; B77; B79\}$

$k_{Protein-energy\ malnutrition} \in \{E40; ...; E46\}$