

The critical need for data: DHIS2 and other tools for country-level reporting of SBE

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World Health
Organization



Accurate, reliable and granular data is essential to health care

Snakebite data has historically been poor, with sporadic global coverage and extremely variable reliability

Good decisions require good background information and meaningful data

- Global estimates of snakebite incidence, morbidity, mortality and disability have always been poor due to the lack of prioritization of snakebite envenoming as a public health issue.
- There remain enormous gaps in our understanding of the geospatial burden of disease and the factors that influence outcomes for patients.
- Our current estimates, require urgent revision and this can only be accomplished through robust and regular reporting by health agencies in countries where snakebites are an endemic neglected disease.

Good data improves our understanding of the problem, and facilitates investment in health interventions

- It is extremely difficult to justify investment in health problems when there is little or no data to inform policy makers and politicians who make critical decisions in the face of many different competing health challenges.
- As data quality improves it becomes much easier to make strong arguments for why snakebite envenoming needs resource allocation.
- The more granular the data, the more precisely available resources can be directed towards areas or regions where a specific type of intervention can have the most impact and achieve the best results for everyone.

Prioritizing data collection is essential if we are going to achieve the 2030 goals for burden reduction

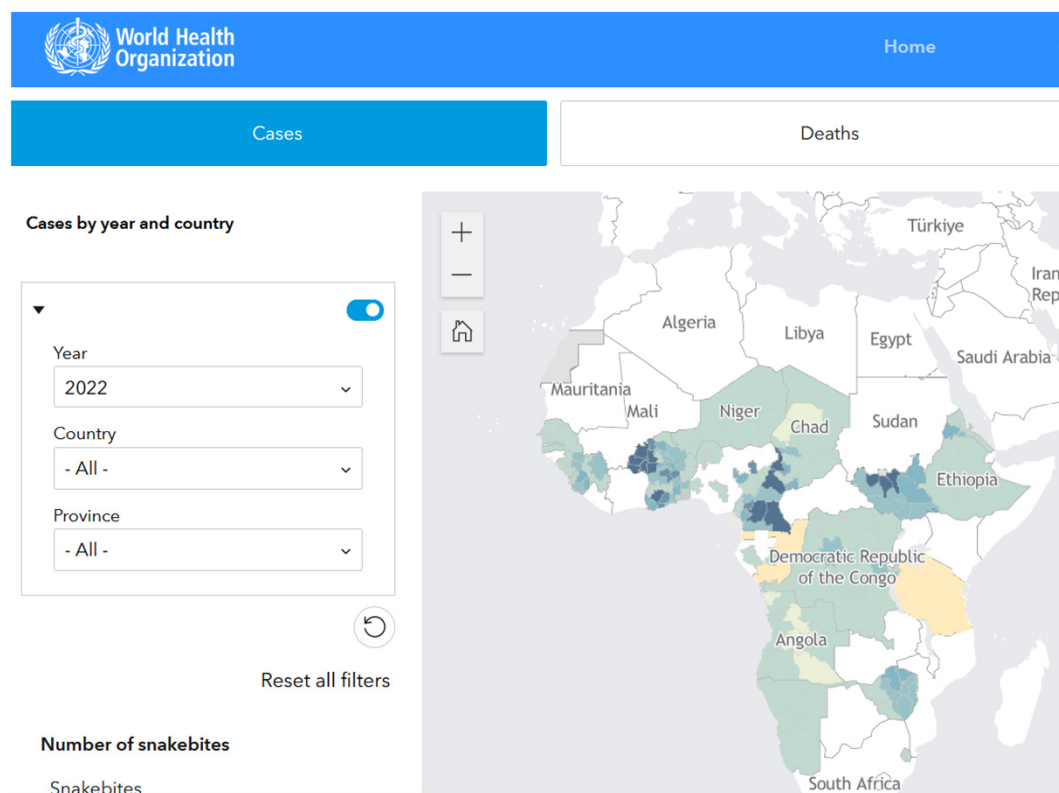
- For most countries there is no baseline data currently available, aside from previous extrapolated estimates based on poor quality data.
- Obtaining baseline data, building a longitudinal timeline against current and future interventions, and developing new advanced data tools to streamline raw data collection, validation and analysis must be prioritized.

Balancing adequate, accurate data, against the resource cost to health systems

- While the research community favours a detailed model for data collection, our need for data must be balanced against the time, money and impact that data collection activities have on health systems, especially in low resource setting where there are many competing demands.
- WHO tools aim to achieve an effective equilibrium – delivering data that advances our current knowledge and allows us to answer important questions that can drive programmatic decisions and policy, while not overburdening health workers and taking them away from patients.

WHO DHIS2 reporting module for snakebite envenoming

Goal: standardize reporting of epidemiological data within countries and to WHO and facilitate more accurate and timelier national and regional analysis and interpretation of findings.



What is WIDP/DHIS2?

- WIDP is the WHO Integrated Data Platform, and it has been built on the widely used District Health Information Software 2 (DHIS2) platform developed by the University of Oslo (WHO CC).
- Currently used in >60 countries to collect diverse health data.
- Supported by a strong community of users, developers and SHIS2 academics.

DHIS2 snakebite data module

- Developed in 2021 and piloted by an increasing number of AFRO countries – now expanding into EMRO and SEARO.
- To balance data needs with resource cost, the module focuses on foundational data at national and subnational level.
- Although an online module is available most program managers have shown preference for manual data entry using an Excel workbook that is submitted to WHO annually.

Core indicators

- Only health facility acquired data at present to establish a baseline of presentations and outcomes:
 - Total snakebite cases
 - Total deaths
 - Total disabilities
- Separate section asks for data related to type and quantities of antivenoms available at health facilities annually.
- Data aggregated by administrative level (ADM1 or ADM2).
- Future data to include age and gender.

WHO Snakebite Information and Data Platform

Goal: share data that can functionally inform policy and practice with stakeholders to improve decision-making and inform resource allocation.

 World Health Organization

HomeContributeSnakebite Burden Data >



Scientific name - All - Common name - All - Country name - All - Reset

Number of snake species listed below are 373

				
Acanthophis antarcticus	Acanthophis cryptamydros	Acanthophis hawkei	Acanthophis laevis	Acanthophis praelongus

< 1 2 ... 29 >

Understanding the human-animal interface

- ArcGIS-driven core geospatial database that integrates data on human and animal ecology, environments and climate, health systems, infrastructure and public health records.

Integrating a toolkit of solutions to support interventions

- Key resource is a geospatial database of venomous snake distributions validated by a large team of international experts that enables users to better understand which species occur in their countries.
- DHIS2 data is available via interactive maps in a separate tab.
- New tools will include modules on human-snake contact areas, species habitat suitability models, climate change species distribution models, and country specific health care accessibility maps based on AccessMod5 and a wide range of data.
- In future the platform will support tools to improve evidence-based antivenom distribution planning and forward needs assessments by procurement agencies.
- Expanding database of snakebite treatment protocols for various species of snakes, available antivenom products and literature resources.

Centralizing collection of critical data

- National and regional hospital- and community-acquired data will be centralized and made accessible to users through the platform.
- Open access data sharing based on CC BY-NC-SA 3.0 IGO.

Baseline national data collection via WIDP/DHIS2

- DHIS2 rolled out in 2021-22 on a pilot basis to countries across sub-Saharan Africa.
- Approximately 40% of countries in AFRO have provided baseline data.
- Some preliminary analysis was reported in WHO Weekly Epidemiological Record 98(18): 185-194. and 99(51-52): 770-775.
- We are now engaging with countries in EMRO and SEARO to expand use of this tool to build a better picture of the situation in each region.
- Users can either enter data directly via the WIDP web interface or via an Excel workbook. WHO curates and analyses the data and provides detailed information via its snakebite information and data platform.
- As more countries report data, further indicators will be introduced, however we accept that even data on total deaths and disabilities is currently not routinely reported, and policy interventions are needed.

The screenshot displays the WHO Integrated data platform (WIDP) web interface. The browser address bar shows the URL: <https://extranet.who.int/dhis2-web-dataentry/index.action>. The page title is "WHO Integrated data platform".

On the left, a sidebar lists various geographical locations, including "go Kaltungo Local Government Area". The main content area is titled "Data Entry" and shows the selected location: "go Kaltungo Local Government Area - 2022 - No Data Element Selected".

The "Data Entry" section includes the following fields and controls:

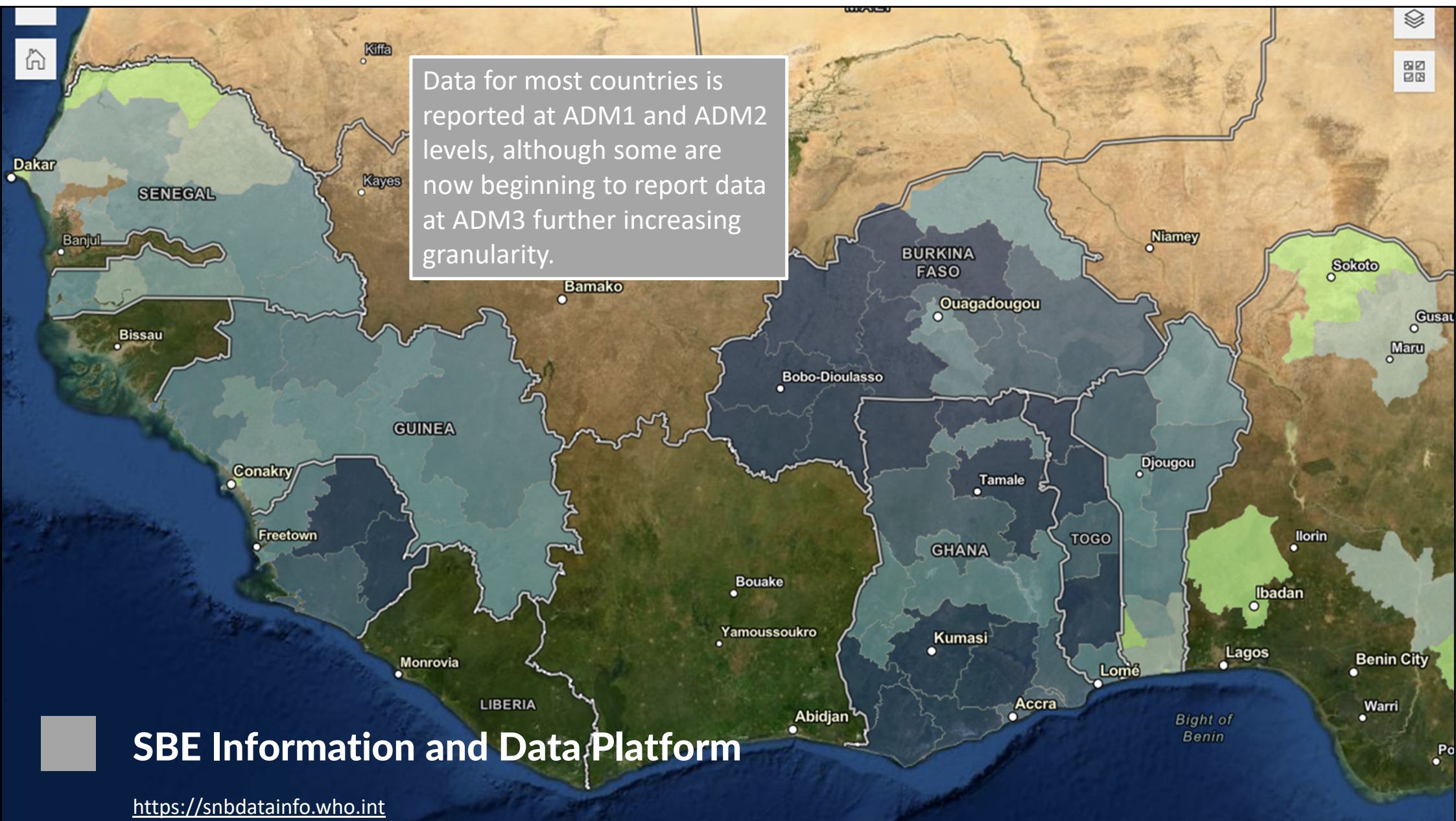
- Organisation Unit:** go Kaltungo Local Government Area
- Data Set:** Snakebite envenoming annual report (Epidemiological Data)
- Period:** 2022 (with "Prev year" and "Next year" buttons)
- Filter on section:** Show all sections

Buttons for "Run validation", "Print form", and "Print blank form" are located to the right of the "Data Set" field.

Below the "Data Entry" section, there are three data entry forms:

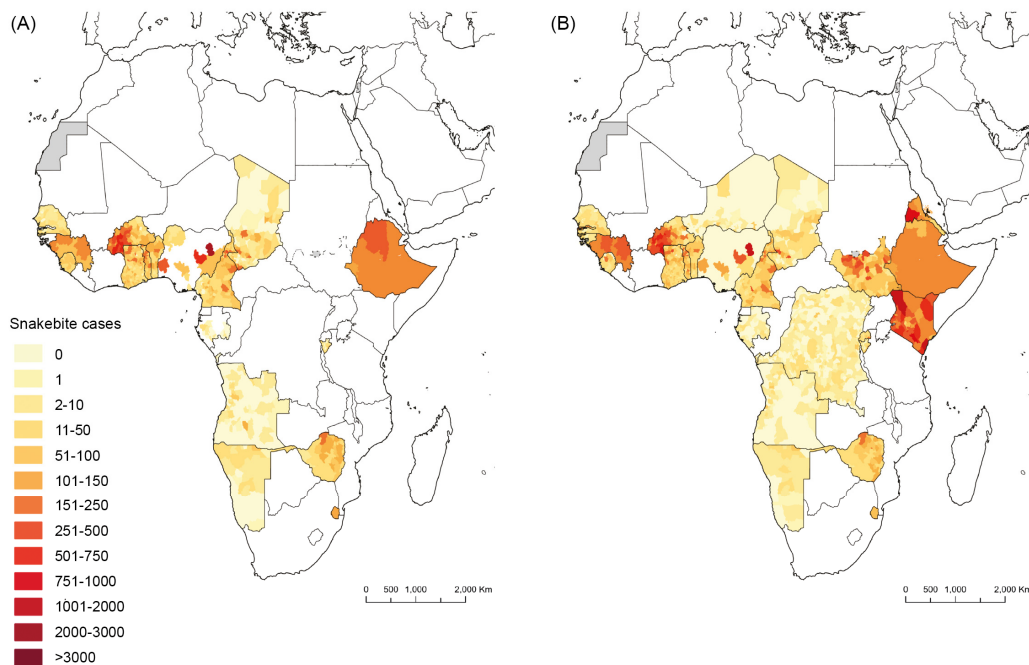
- SNAKEBITE ENVENOMING CASES:** Includes a "Filter in section" field and a "Value" input field. The "Total reported cases" is displayed below the input field.
- SNAKEBITE ENVENOMING DEATHS:** Includes a "Filter in section" field and a "Value" input field. The "Total reported deaths" is displayed below the input field.
- SNAKEBITE ENVENOMING DISABILITIES:** This section is currently empty.

The Windows taskbar at the bottom shows the search bar and several application icons, including Microsoft Word, Excel, and PowerPoint.



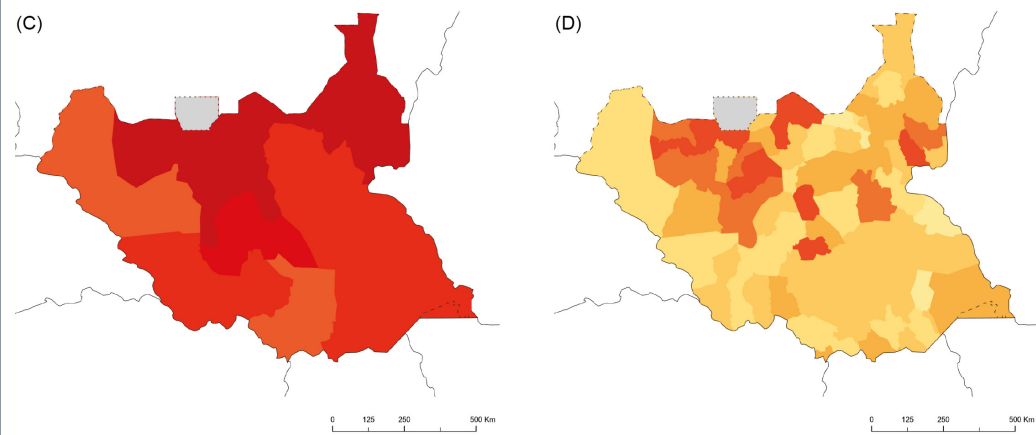
Examples of improving data from the AFRO pilot

Snakebite cases reported by African countries at highest available resolution up to 2020 (A) and since 2020 (B)
Note the increase in coverage and in granularity as many countries now submit Admin 2 level data



- **LEFT:** Improving coverage and resolution in AFRO pre- and post-2020.
- **BELOW:** Improved granularity of data revealed when results are disaggregated from ADM1 to ADM2 for South Sudan in 2023. Areas with higher burdens come into much better resolution enabling improved targeting of scarce resources such as antivenoms.

Snakebite cases reported by South Sudan for 2023 at Admin 1 (C) and Admin 2 (D) level
Note the increase in granularity as many countries start reporting Admin 2 data



- **Source:** WHO Weekly Epidemiological Record 2024. 99(51-52): 770-775.
- As the regional coverage continues to improve through active engagement and collaboration with Ministries of Health, the quality of the data is expected to further improve. As reporting becomes routine, additional indicators will be introduced.

New WHO data tools: rHIS and GNARF

- A new toolkit for expanded data collection and analysis – Routine Health Information System (rHIS) is currently in development and includes a snakebite module.
- WHO NTD department has also established a Global NTD Annual Reporting Form (GNARF) for specific data collection of NTD program indicators.
- Unlike DHIS2 and RHIS, GNARF is aggregated to country level providing data on a range of disease-specific indicators.
- RHIS is a comprehensive integrated approach to health services analysis aimed at meeting each country's data needs for facility-level data reporting supported by standards for measurement and analysis as well as quality assurance.
- It supports integrated health service analysis at national, district and individual facility level.
- The RHIS snakebite module will roll out in 2025/26.



rHIS toolkit provides a universal platform for countries to plan and implement their health information system



Countries have the option to use their own health information system software or adopt DHIS2 software and relevant disease specific 'modules'.



Countries have full ownership of their platform, and their data.



Data sharing with WHO as per programmatic needs is encouraged but not mandatory. Countries decide what they share on a case-by-case basis.