Data Snack: Crunching Digital Resources to Strengthen Global Health Research and Action

Our Mission

The era of digital transformation has opened up remarkable opportunities for advancing global health action by embracing **digital data practices** and **computer-assisted approaches**. The fusion of **diverse data resources**, typically scattered across silos, empowers us to **delve deeper into understanding health challenges**, from unraveling the intricacies of pathogenic mechanisms to deciphering the complexities of disease transmission and control within the purview of **One Health**.

Our mission is to foster **collaboration across disciplines and sectors** by creating an open-source **Data Hub** framework, providing stakeholders with a powerful tool for data-driven discourse and knowledge exchange. The **Data Hub**'s core feature is a **user-centric information system**, designed to streamline the **integration, standardization, and analytical processing of health and socio-ecological context data** geared towards enhancing data collaboration in Global Health research and action:

Project Focus
Research for Global Health

Target Audience
Stakeholders from research and public health (and beyond)

Project Website
https://datasnack.org

Hosting Research Institution
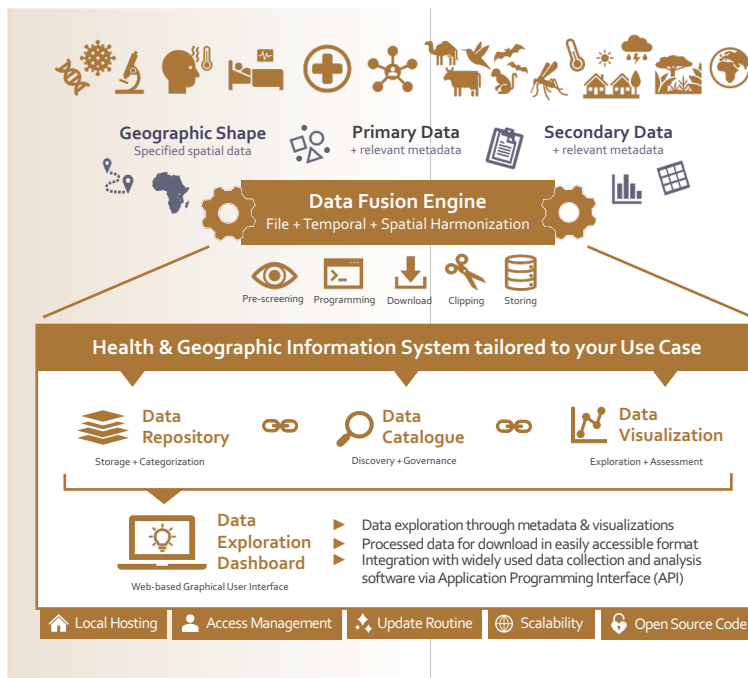Bernhard Nocht Institute for Tropical Medicine (Department of Infectious Disease Epidemiology)

Project Duration
10/2023 – 09/2025

Project Funding
Joachim Herz Foundation

Data Hub Framework

Geographic Shape — Specified spatial data

Primary Data + relevant metadata

Secondary Data + relevant metadata

Data Fusion Engine
File + Temporal + Spatial Harmonization

Pre-screening · Programming · Download · Clipping · Storing

Health & Geographic Information System tailored to your Use Case

Data Repository — Storage + Categorization

Data Catalogue — Discovery + Governance

Data Visualization — Exploration + Assessment

Data Exploration Dashboard
- Data exploration through metadata & visualizations
- Processed data for download in easily accessible format
- Integration with widely used data collection and analysis software via Application Programming Interface (API)

Web-based Graphical User Interface

Local Hosting · Access Management · Update Routine · Scalability · Open Source Code

Potential Use Cases

► **Research & Scientific Exchange**

► **Public Health & Risk Assessment**

► **Training & Capacity Strenghtening**

1 Design & Planning of Research Studies
- Access to comprehensive datasets across silos to support interdisciplinary discourse and studies
- Exploration of data to understand patterns, trends, and relationships, e.g., to inform study site selection

2 Informing Analytical Frameworks
- Rule-based/knowledge-driven frameworks, e.g., indicator-based outbreak risk assessment
- Data-driven frameworks, e.g., epidemiological modeling and computer simulations

3 Enabling Collaborative Ecosystems
- Empowering collaborative data practices and harnessing innovative technologies
- Strategies for sharing (research) outputs, usage and contribution to open-source tools and software

Our Vision

Alongside stakeholders from **research and public health**, we aim to **enhance our Data Hub** framework, jointly explore **new features** and **interoperability** with commonly used software, and thereby provide a **trustworthy tool** tailored to the needs of our target audience. Additionally, we want to foster interest in modern **digital approaches and technologies** and **explore them together** (e.g., artificial intelligence, computer simulations, gamification). In doing so, we prioritize **interdisciplinary exchange** and **open solutions**.

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