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# BRIDGE Guidelines

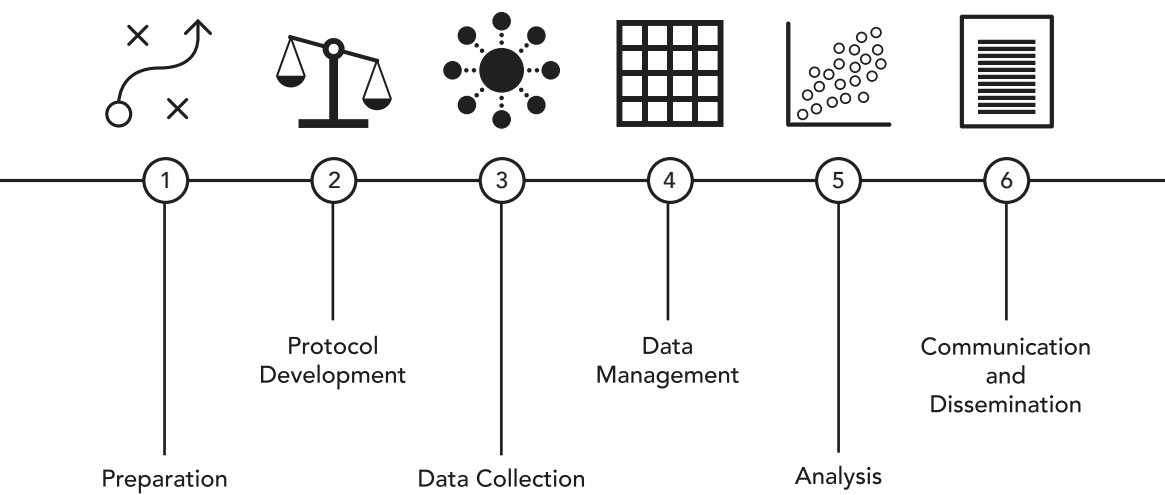
Bridging research integrity and global health  
epidemiology: Guidelines for good epidemiological  
practice

# Bora kujenga daraja kuliko ukuta

Swahili proverb: Better build bridges than walls

# BRIDGE GUIDELINES

The BRIDGE guidelines are good epidemiological practice (GEP) guidelines specifically for global health epidemiology.



## **Why are specific GEP guidelines needed for global health?**

Research integrity and research fairness have gained considerable momentum in the past decade and have direct implications for global health epidemiology. Existing good epidemiological practice guidelines developed by national epidemiological associations lack international legitimacy and are not tailored to the idiosyncrasies of global health. Existing guidelines for fair and equitable partnerships in global health are not specific to epidemiology. Comprehensive guidelines which tackle both integrity and fairness are needed to provide practical support to epidemiologists navigating the complex global health landscape.

## **How were these guidelines developed?**

We developed the BRIDGE guidelines through a Delphi consultation study involving experts with a wide range of experience and expertise in global health and epidemiology.

## **For whom are these guidelines?**

The BRIDGE guidelines are for all people involved in the commissioning, conduct and appraisal of global health research.

## **What is the aim of the guidelines?**

The BRIDGE guidelines foster high-quality epidemiological studies with impact where it is needed the most: in the local communities and local research systems where the research is conducted.

## **What do the guidelines look like?**

The BRIDGE guidelines bring together existing principles for research integrity and fairness in one checklist. The checklist focuses on practical implications for research and covers the six steps of study implementation: study preparation, study protocol and ethical review, data collection, data management, analysis, reporting and dissemination.



## Standard 1: Study preparation

Carefully prepare the study, in partnership with local researchers, by taking into account existing knowledge and resources and engaging with key stakeholders

- ☐ Plan and execute research in partnership with local researchers. When working in a setting where relevant epidemiological competences are limited or not available, consider what is in the study team's remit to strengthen local capacity
- ☐ Identify and engage key stakeholders throughout the study with approaches based on their needs, competences and expectations. Key stakeholders include representatives of affected populations and end-users of research
- ☐ Establish the knowledge gap by searching the literature (peer-reviewed publications and grey literature) as well as by consulting (local) experts, representatives of affected populations, and end-users
- ☐ Develop research questions and objectives in consultation with research partners and expected end-users
- ☐ Select study design and research methods to best fulfil the study objectives and give due consideration to multi-disciplinary approaches
- ☐ Before embarking on primary data collection, assess whether existing data could be used, fully or partly, to fulfil the research objectives
- ☐ Ensure data ownership and publication agreements have been agreed by all research partners
- ☐ Agree on work plans and governance structures with all study partners. Allocate adequate time, financial and human resources to all phases of the study

Notes:



## Standard 2: Protocol Development

Prepare a detailed research protocol and ensure it has been approved by relevant ethical review boards if it includes research concerning human participants.

- ☐ Prepare a detailed research protocol in consultation with all research partners
- ☐ Write a clear and comprehensive analysis section
- ☐ Consider studying the effect of locally relevant equity dimensions
- ☐ When conducting multi-disciplinary research, describe the purpose and strategies to integrate different analytical methods in the protocol
- ☐ Strive to make study protocols publicly available, either on a publicly accessible website or in appropriate study registers
- ☐ For all data collection and data use concerning human subjects, obtain ethical approval (or a waiver) ideally from all institutions and countries involved in the protocol. In case of multiple review and disagreement, the review of the country where the data are collected should take precedence
- ☐ When working in a setting without ethical review boards or review boards with limited epidemiological capacity, consider what is in the study team's remit to strengthen their epidemiological capacity
- ☐ Explicitly state any open data access in the protocol submitted for ethical review and in the informed consent documents

Notes:



## Standard 3: Data Collection

Use valid and reliable instruments and reproducible methods while ensuring culturally appropriate procedures

- ☐ Use valid and reliable research instruments
- ☐ Ensure that research instruments are locally adapted and culturally appropriate
- ☐ Provide concrete guidance for data collection in a document that is available to all data collection staff
- ☐ Select data collection staff according to technical as well as cultural criteria. Clarify the roles and responsibilities for each person involved and provide adequate training and support
- ☐ Pilot-test and, if possible, field-test all research instruments prior to the start of effective data collection
- ☐ Collect data a respectful and safe manner and in an environment which safeguards the confidentiality of respondents
- ☐ Put in place quality assurance and control mechanisms to ensure data accuracy, completeness and coherence

Notes:



## Standard 4: Data Management

Manage data with reproducible procedures and ensure compliance with relevant data protection rules

- ☐ Put in place data management procedures before effective start of data collection and provide concrete guidance in a document available to all data management staff
- ☐ Create and pre-test a data entry application prior to effect start of data collection
- ☐ Describe all variables in a codebook and consider preparing additional metadata documentation
- ☐ Put in place quality assurance and control mechanisms to ensure data accuracy, completeness and coherence
- ☐ Annotate all data cleaning and processing steps and strive for reproducibility by means of stored programming code
- ☐ For each data file define levels of anonymization and privacy protection as well as corresponding access rights in line with national and international frameworks
- ☐ At the beginning of the study, prepare an electronic secured study file to store all study documentation and outputs. Regularly update this file and archive it the end of the study
- ☐ Retain source data safely, in their original form, preserving data confidentiality for as long as has been described in the protocol

Notes:



## Standard 5: Analysis

Analyse data according to the protocol and integrate statistical analyses with approaches from other disciplines in the study

- ☐ Only work with personal identifiers that are necessary to answer the research questions
- ☐ Conduct statistical analyses in accordance to the protocol and distinguish pre-planned from exploratory analyses
- ☐ Fully annotate all analysis steps and strive for reproducibility by means of programming code
- ☐ In multi-disciplinary studies, integrate statistical analyses with analyses from other study disciplines in an iterative process to coherently address the research objectives
- ☐ Put in place quality assurance and quality control mechanisms to ensure that data has been correctly analysed

Notes:



## Standard 6: Dissemination and Communication

Communicate and disseminate results, preferably in the public domain, with means of communication which appropriately target key stakeholders.

- ☐ Develop user-specific dissemination and communication plans in consultation with key stakeholders (representatives of the affected populations and end-users)
- ☐ Report data in a non-stigmatizing, non-discriminatory, culturally sensitive, and non-identifying manner
- ☐ Conform to reporting guidelines for the given study design and methods in academic publications
- ☐ Put in place quality assurance and quality control mechanisms to ensure complete, accurate, accessible and interpretable data reporting
- ☐ Consider indexed open access journals for scientific publications

Notes:

## Where can I find more information?

Further details about the guidelines can be found in this publication: [Bridging research integrity and global health epidemiology \(BRIDGE\) statement: guidelines for good epidemiological practice BMJ Global Health 2020;5:e003236.](#)

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