

Chapter 4.2 Measuring the problem: Basic statistics

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Further reading

1. Gerstman B. Basic Biostatistics: Statistics for Public Health Practice (2nd edition). Burlington, MA: Jones & Bartlett Learning. 2014.

Summary of this document: This reading is considered an easy-to-access material on basic statistics as well as analytical descriptive epidemiology.

This textbook provides a concise introduction to biostatistical principles and focuses on the common types of data encountered in public health and biomedical fields. The text puts equal emphasis on exploratory and confirmatory statistical methods. Sampling, exploratory data analysis, estimation, hypothesis testing, and power and precision are covered through detailed, illustrative examples. The book is organized into three parts: Part I addresses basic concepts and techniques; Part II covers analytic techniques for quantitative response variables; and Part III covers techniques for categorical responses.

2. Horney JA . Disaster Epidemiology: Methods and Applications. London, UK: Elsevier. 2017.

Summary of this document: This reading is an easy-to-access material on both basic epidemiology and field guidance for humanitarian emergencies. It exemplifies and give practical examples of humanitarian emergencies that have been described in the WHO Health EDM guidance book chapter 4.2.

This textbook provides a holistic perspective to epidemiology with an integration of academic and practical approaches. It applies the core methods of epidemiological research and practice to the assessment of the short- and long-term health effects of real-world disasters. *This book* explains how public health surveillance, rapid assessments, and other epidemiologic studies can be conducted in the post-disaster setting to prevent injury, illness, or death; provide accurate and timely information for decisions makers; and improve prevention and mitigation strategies for future disasters. Overall, it provides a guide to disaster epidemiology methods, supported with applications from practice.

3. Ricci EM, Pretto EA. Disaster Evaluation Research: A field guide. Oxford, UK: Oxford University Press. 2019.

Summary of this document: This easy to use field guide presents a mixed-methods research approach to the study of disasters. The guide is designed for medical and public health professionals involved in disaster preparedness and response, humanitarian relief workers, policy analysts, evaluation scientists and epidemiologists.

This practical manual provides a range of methods, approaches and techniques for the gathering and analyzing of data. The authors present their 'EIGHT Step Model' for disaster evaluation studies.

This framework applies evaluation science to disaster response, helping scientists to select key stakeholders effectively, write evaluation questions, use logic models and mixed-methods research design, prepare sampling plans, collect and analyse data, and prepare a final report. This guide also features useful tools for carrying out evaluations including evaluation questions, indicators and data sources, resources, and questionnaires used in past evaluation studies.