

Environmental Burden of Disease Series, No. 10

Poverty

**Assessing the distribution of health risks by socioeconomic position
at national and local levels**

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Series Editors

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Preface

The Environmental Burden of Disease (EBD) series of guides aims to provide information on the amount of disease caused by specific environmental risk factors, and on how this burden is distributed across different subpopulations (e.g. infants, women). The data will allow policy-makers to prioritize and target actions to reduce environmental risks. The methods in the series use the general framework for global assessments described in the World Health Report (WHO, 2002), in which disease burdens and associations of risk factors with socioeconomic status were measured at the level of WHO epidemiological subregion (Annex 1 and 2). The introductory volume in the series outlines the general method (Prüss-Üstün et al., 2003), while subsequent volumes address specific environmental risk factors.

The present guide addresses the influence of socioeconomic status on the health burden of environmental and other risk factors. It is clear that socioeconomically disadvantaged communities and individuals are often exposed to higher levels of such risk factors than their less-disadvantaged counterparts, and they bear a disproportionate share of the health burden. This guide therefore describes how to calculate the exposure associated with low socioeconomic status. This will give policy-makers an indication of the potential gains that could be achieved by reducing poverty and by targeting health services, including preventive measures, to the most disadvantaged sections of society. Unlike for the other guides of this series, an advanced knowledge in epidemiology and data analysis is required, as the proposed methods involve analysis of epidemiological literature and/or survey data.

In the guide, conceptual issues that link socioeconomic status, exposure to risk factors and health are first explained. A practical, step-by-step approach is then used to assess the impact of socioeconomic status on risk factors and health, using numerical examples. The methods can be adapted both to local and national levels, and can be tailored to suit data availability.

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Abbreviations

CRA	Comparative risk assessment
DHS	Demographic and health survey
EBD	Environmental burden of disease
GDP	Gross domestic product
IF	Impact fraction
LSMS	Living standards measurement study
UK	United Kingdom
USA	United States of America
WHO	World Health Organization

Summary

Socioeconomic status is an important determinant of the likelihood that individuals and populations are exposed to environmental and other risk factors for health. In this guide, we describe a method for measuring the distribution of health risk factors as a function of socioeconomic position. An overview of the method and its requirements are first described, followed by a step-by-step numerical example that uses data for Pakistan. In the numerical example, we focus on income poverty as the measure of socioeconomic position, and we use child malnutrition as the health risk factor. The example uses World Bank estimates of income poverty, individual-level survey data on the distribution of risk factors by socioeconomic position, and external estimates of the prevalence of the risk factor. From this information, we estimate the risk factor prevalence by category of income poverty, as well as the impact fractions (or attributable risks). Problems in estimating the disease burden of socioeconomic position are also discussed.

We hope the method will be used and further developed by others, so that the contribution of socioeconomic position to the distribution of health risk factors and to the burden of disease will be better understood. A description of how health risk factors are distributed by socioeconomic position will illustrate how poverty contributes to poor health and, hopefully, encourage policy-makers to undertake intersectoral policies to improve population health, as well as public-health policies to reduce or prevent health inequalities.

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