

Atlas

COUNTRY RESOURCES
FOR NEUROLOGICAL
DISORDERS
2004



World Health Organization
Geneva



World Federation of Neurology
London

Atlas

COUNTRY RESOURCES FOR NEUROLOGICAL DISORDERS 2004

Results of a collaborative study of the World Health Organization
and the World Federation of Neurology



Programme for Neurological Diseases and Neuroscience
Department of Mental Health and Substance Abuse
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Neurological disorders constitute a large and increasing share of the global burden of disease. Stroke, dementia, epilepsy and Parkinson's disease are important factors determining mortality and morbidity in all societies. However, the resources and services for dealing with these disorders are disproportionately scarce, particularly in developing countries. While neurological service in Western countries varies from 1 to 10 neurologists per 100 000 inhabitants, neurology either does not exist or is only marginally present in major parts of the world.

Over the years, programmes, projects and other activities of the World Health Organization (WHO) in the areas of mental health and neurological disorders have been closely linked. During the past decade WHO has launched a number of global public health projects, including the Global Initiative on Neurology and Public Health, in order to increase professional and public awareness of the global burden of neurological disorders and to emphasize the need for provision of neurological care in first-level and referral health facilities. The outcomes of these endeavours have revealed a paucity of information regarding national and subnational policies, programmes and resources for the treatment and management of neurological disorders.

WHO is responsible for providing technical information and advice to its Member States to help them to improve the health of their citizens. This task is facilitated by collaboration with various scientific and professional groups that have similar goals. The study of country resources for

neurological disorders represents a unique collaborative effort between WHO and the World Federation of Neurology (WFN), which is committed to improving human health worldwide by promoting prevention and care of persons with nervous system disorders. WHO and WFN have been working closely for many years on activities related to prevention and control of noncommunicable and communicable neurological diseases. This publication is another product of their close collaboration.

The results obtained from the study of country resources for neurological disorders confirm that the available resources for neurological services in most countries of the world are insufficient compared with the global need for neurological care. The Neurology Atlas presents the facts and figures and highlights the large inequalities across regions and countries, with low-income countries having extremely meagre resources.


The availability of information will lead to greater awareness among policy-makers of the gaps in resources for neurological care. It will assist health planners and policy-makers to identify areas that need urgent attention and to plan the upgrading of resources in those areas. The data also serve as a baseline for monitoring the improvement in availability of resources for neurological care. We hope that personnel involved in caring for people with neurological disorders, including health professionals and nongovernmental organizations, will use the Neurology Atlas data in their advocacy efforts for more and better resources for neurological care.


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The Atlas of Country Resources for Neurological Disorders is a project of WHO headquarters, Geneva, supervised and coordinated by Dr Leonid Prilipko and Dr Shekhar Saxena. Dr Benedetto Saraceno provided vision and guidance to the project. The project was carried out in close collaboration with the World Federation of Neurology (WFN) coordinated by its First Vice-President Dr Johan A. Aarli. Dr Aleksandar Janca provided technical guidance and supervision and was involved in the development of the survey design and questionnaire, data collection and project management. Dr Tarun Dua was responsible for completion of the data collection, data analyses and overall project management beginning 2004. Dr Dua also took the primary responsibility of writing this report. Kathy Fontanilla helped in data management and provided administrative support. Technical and methodological support was kindly provided by Dr Pratap Sharan and Dr Pallab Maulik.

Key collaborators from WHO regional offices include: Dr Custodia Mandlhate and Dr Therèse Agossou, African Regional Office; Dr Claudio Miranda and Dr Jose Miguel Caldas de Almeida, Regional Office of the Americas; Dr Ahmed Mohit and Dr R. Srinivasa Murthy, Eastern Mediterranean Regional Office; Dr Wolfgang Rutz and Dr Matthijs Muijen, European Regional Office; Dr Vijay Chandra, South-East Asia Regional Office; and Dr Helen Hermann and Dr Xiangdong Wang, Western Pacific Regional Office, all of whom made significant contributions during the development of the project, the identification of focal experts in the area of neurology in Member States, and the review of the results.

The information from various countries, areas and territories was provided by key persons working in the field of neurology identified by WFN, WHO regional offices and the offices of WHO Representatives. The respondents also

handled the many requests for clarification arising from the data. The list of the respondents is included at the end of the Atlas.

A number of leading experts in the field of neurology reviewed the project report and provided comments. They include Dr Leontino Battistin, Dr Donna C. Bergen, Mrs Hanneke de Boer, Dr Pedro Chana, Dr Amadou Gallo Diop, Dr M. Gourie-Devi, Dr Jin-Soo Kim, Dr Ashraf Kurdi, Dr Najoua Miladi, Dr Elisabeth Müller, Dr Michael Piradov, Dr Donald Silberberg and Dr Wenzhi Wang. Various specialists contributed short reviews of selected areas in relation to neurology, as follows. Epilepsy: Dr Jerome Engel Jr; Cerebrovascular diseases: Dr B. Piechowski-Jozwiak and Dr J. Bogousslavsky; Headache: Dr Timothy J. Steiner; Parkinson's disease: Dr Bhim S. Singhal; Dementia: Dr Martin Prince; Multiple sclerosis: Dr Jürg Kesselring; Training in neurology: Dr Donna C. Bergen.

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