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Curbing World's Most Fatal Diseases: Consensus Created by Health Experts Offers Global Prescription

Several of the world's most eminent health scientists and organizations publish a landmark global consensus on the 20 foremost measures needed to curb humanity's most fatal diseases, their study featured in Nature magazine (see also Heart Disease).

Known as chronic, non-communicable diseases, they are reaching world epidemic proportions and include cardiovascular diseases (mainly heart disease and stroke), several cancers, chronic respiratory conditions, and type 2 diabetes.

In their paper for Nature, the 19 authors (list appended) say chronic non-communicable diseases: Cause the greatest share of death and disability worldwide; Account for over 60% of deaths worldwide, four-fifths of those fatalities being citizens of low and middle income countries; Cause twice as many deaths as the combined total of HIV/AIDS, tuberculosis, malaria, maternal and peri-natal conditions, and nutritional deficiencies.

Researchers used the structured consensus-building "Delphi" technique to create the "Grand Challenges in Chronic Non-Communicable Diseases (CNCDs)" a distillation of informed opinions drawn from 155 panel members across 50 nations, carefully selected from recommendations.

Study authors say the result is an authoritative list of the 20 most important challenges today to restraining and reversing the toll of these slow killer illnesses. The list of Grand Challenges is accompanied by research priorities for meeting them, drawn from the study data and finalized by 27 leading world health figures guiding the project (list appended).

CNCDs, defined by the WHO as cardio-vascular disease, type 2 diabetes, chronic respiratory diseases and certain cancers, are largely preventable. It is estimated that eliminating key risk factors (poor diet, physical inactivity, smoking) would prevent 80% of heart disease, strokes and type 2 diabetes, and over 40% of cancer cases.

The initiative's leaders say their goals are "to galvanize the health, science and public policy communities into action on this epidemic," and to foster global debate, support and funding.

Leading partners behind the project are the McLaughlin-Rotman Center (MRC) for Global Health (University Health Network and University of Toronto), Toronto; the Oxford Health Alliance (OxHA), London; the UK Medical Research Council (UK MRC), London; the Canadian Institutes of Health Research (CIHR), Ottawa; and the US National Institutes of Health (NIH), Bethesda.

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The 20 Grand Challenges (appended) are of equal precedence there is no priority assigned within the list, says lead author Dr. Abdallah S. Daar of the McLaughlin- Rotman Center.

The Grand Challenges are grouped under six broad goals: Reorient health systems (e.g. Grand Challenge: "Allocate resources within health systems based on burden of disease"); Mitigate health impacts of poverty and urbanization (e.g.: "Study and assess how poverty increases risk factors"); Engage businesses and community (e.g.: "Make business a key partner in promoting health and preventing disease; Develop and monitor codes of responsible conduct with the food, beverage and restaurant industries"); Modify risk factors (e.g.: "Deploy universally measures proven to reduce tobacco use and boost resources to implement the WHO framework Convention on Tobacco Control"); Enhance economic, legal and environmental policies (e.g. "Study and address the impacts of poor health on economic output and productivity"); and Raise public and political awareness (e.g.: "Promote healthy lifestyle and consumption choices through effective education and public engagement").

The Grand Challenges in CNCDs complement the "Grand Challenges in Human Health," published in 2003 by the Bill and Melinda Gates Foundation and partners, an initiative focused mainly on infectious disease, especially in developing countries.

"Without concerted action, some 388 million people will die of one or more CNCDs in the next 10 years," according to co-author Nizal Sarrafzadegan, Professor, Isfahan University of Medical Sciences, Iran. "With concerted action, the number of premature deaths prevented by 2015 would total at least 36 million a number of people roughly equal to the population of Canada, Algeria or Kenya."

Noting the economic impact of CNCDs, co-author Robert Beaglehole, former WHO Director (Department of Chronic Diseases and Health Promotion), says that unless serious action is taken now, over the next decade China, India and the U.K. will lose an estimated \$558 billion, \$237 billion and \$33 billion respectively in foregone national income due to heart disease, stroke and diabetes.

"While these challenges are applicable to all countries, different nations should identify local priorities from among those identified here for immediate attention, depending on resources and disease patterns," says John Bell, Regius Professor of Medicine, University of Oxford and Chair, Oxford Health Alliance.

Process

Identifying the Grand Challenges involved the Delphi method the structured, sequential, written questioning of a panel. The first round elicited 1,854 ideas, distilled into 109 from which the panel members selected and commented on their top 30. In the final round, panelists either accepted the list or reordered choices, and offered further comment.

The seven-member Executive Committee and 19-member Scientific Board milled the wording of the panel's final 20 Grand Challenges, grouped them according to six goals, and suggested the key research requirements for reaching each goal.

Next steps

The Grand Challenges Global Partnership is being established with

a secretariat at the Oxford Health Alliance (www.oxha.org), funded for the first five years by OxHA members.

The founding partners: Oxford Health Alliance, UK; Medical Research Council, UK; Canadian Institutes of Health Research, Canada; Indian Council of Medical Research, India; The National Institutes of Health, USA; Ovations Chronic Disease Initiative, UK.

The Partnership is intended as a platform for collaboration of global research funding organizations. An advocacy program to be developed will encourage adoption of the Challenges and Goals.

"Without a roadmap, we are all driving in different directions. These problems require long-term commitment and a coordinated effort between multiple funding agencies around a set of clear priorities," says co-author Peter A. Singer, Interim Director, McLaughlin-Rotman Centre for Global Health, Toronto, Canada.

Says Nirmal Ganguly, Director General, Indian Council of Medical Research: "Providing priorities will be the major contribution from this Grand Challenges exercise. The growing interest in this area of research now being registered by governments and funding agencies alike suggests that substantial resources may be available in the future to pursue these priorities."

"Chronic non-communicable diseases constitute the major burdens of illness and disability in all countries of the world apart from sub-Saharan Africa," says Stig Pramming, Executive Director, Oxford Health Alliance. "They must urgently receive more resources, research and attention, in proportion to the burden of disease as mapped out in these Grand Challenges. Inaction is costing millions of premature deaths throughout the world and will offset the gains from a decreasing burden of infectious diseases."

"This study has the potential to galvanise more effective action against chronic diseases," concludes Dr. Daar. "In developing countries, many beset by infectious diseases, authorities have not resourced or thought through the policy implications of addressing these silent killers. But that's like putting out one fire in a house burning from both ends."

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