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Global Perspectives

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THE 2011 UN GENERAL ASSEMBLY ON NONCOMMUNICABLE DISEASES: HOW NEUROLOGIC DISORDERS GOT LEFT OUT

On September 19–20, the United Nations (UN) General Assembly held a meeting in New York to address the global burden of noncommunicable diseases (NCD). This meeting should have been relevant to neurologists, especially those interested in public health, international health, or both. Neurologic disorders, particularly in less developed regions of the world, are dominated by nonfatal, noncommunicable chronic conditions often affecting relatively young populations.

Epilepsy, neuropathies, intellectual impairment, and developmental disabilities plague low-income countries, while higher income, older populations are devastated by Alzheimer dementia, Parkinson disease, and stroke.¹ Headache disorders affect those at all income levels and engender substantial global economic loss.² Unfortunately, among all the neurologic NCDs previously recognized by the World Health Organization (WHO) (table 1), only stroke was considered in the plan by the NCD Alliance in September.³ In fact, the NCDs addressed at this landmark meeting were limited to cancer, diabetes, chronic obstructive pulmonary disease (COPD), and cardiovascular disorders (CVD).⁴

Addressing all NCDs in a single program would have been daunting. The broad range of conditions, many with unrelated risk factors, makes it difficult to develop a cohesive approach. Some are preventable and others have cost-effective treatments. Consequently, developing a marketable “sound bite” is a challenge in this era of budget deficits and debt crises and marketing will be critical to any global donor support and public health improvement. The justification for selecting the 4 conditions was twofold.³ First, when these conditions are combined, they are responsible for more than half the global NCD burden. Second, they share several common risk factors that offer intervention targets. Risk factors targeted included tobacco use, unhealthy diets (though not food insecurity), insufficient physical activity, and

the harmful use of alcohol. Although the justification for selecting these 4 conditions seems rational, there are some critical problems with the NCD Program’s approach that deserve discussion.

Although the stated goal of the NCD program is to address health problems in the poorer countries of the world, the conditions selected are more problematic in high-income—not low-income—countries. The “epidemiologic transition” in which infectious disease frequency decreases and NCDs begin to dominate is not occurring in most low-income countries. Instead, the poorest countries are simply gaining the additional NCD burden, usually among those in the upper income strata of their population. Under these circumstances, the targeted NCDs should be those that are more common in low-income countries. However, stroke, heart disease, diabetes, and COPD primarily affect middle-aged and older adults, while low-income countries are largely populated by youth, 50% being less than 25 years old. If one calculates the NCD gap for each country using the proportion of age-adjusted NCD mortality addressed by the program, then the discrepancy between NCDs addressed by the program and those unaddressed, the NCD gap, differs substantially across income levels and upper middle income countries stand to benefit the most.

Targeted risk factors are the risk factors for these conditions in higher income countries. There are likely unique risk factors for cancer, type 2 diabetes, COPD, and CVD in low-income countries. These were not addressed in this “one-size-fits-all” approach better suited for the wealthy West. Furthermore, early deprivation and environmental exposures substantially affect the risk of later life health issues.⁵ This was not explored or considered in the proposed NCD program.

The risk factors targeted are more prevalent in high and upper middle income countries. To some extent, tobacco use, alcohol consumption, and obesity are luxuries not yet affordable to the poorest in the

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Table 1 Noncommunicable diseases previously recognized by WHO⁶

Disorder	Priorities
Diabetes	Both type 1 and type 2 ^a
Mental disorders	Schizophrenia
	Bipolar disorder
	Depression
	Panic disorder
Neurologic disorders	Epilepsy
	Stroke ^a
	Parkinson disease
	Alzheimer and other dementias
Cardiovascular diseases	Ischemic heart disease ^a
	Stroke ^a
	Congestive heart failure ^a
Inherited disorders of hemoglobin	Sickle cell anemia and related disorders
	Thalassemias
Respiratory diseases	Chronic obstructive pulmonary disease ^a
	Asthma
Genitourinary disorders	Inherited kidney diseases
	Glomerulonephritis
	Nephrolithiasis and obstruction
	Benign prostatic hypertrophy
	Hypertension ^a
Skin diseases	Pigmentary disorders
Oral and craniofacial disorders	Dental caries
	Periodontal disease
	Noma
	Cleft lip/palate
Learning and developmental disabilities^b	Genetic
	Multifactorial, includes neural tube defects
	Nutritional
	Toxic exposures
	Via material disorders (e.g., cretinism)
	Via brain injury, includes cerebral palsy
Loss of vision and hearing^b	From effects of poverty
	Corneal opacity
	Cataract
	Glaucoma
	Age-related macular degeneration
	Diabetic retinopathy
	Childhood blindness

^a Those addressed in the proposed noncommunicable disease program.

^b Categorized as a consequence of disease or injury.

world. See table 2 for the prevalence of these risk factors stratified by country income level. Targeting risk factors that are less prevalent is less efficient. Table 2 raises additional interesting questions that were not addressed by the NCD program. For example, given that other risk factors

for hypertension (HTN) are relatively low in low-income countries (e.g., obesity, physical inactivity), why are HTN rates similar?

The metric used to determine NCD burden is mortality. Since the 1990 Global Burden of Disease Study,¹ the metric used to consider disease burden has been the disability-adjusted life-year (DALY). The DALY goes beyond the “body count” and includes the important aspect of years of life “lost” to disability. Based upon mortality, neuropsychiatric conditions account for less than 5% of the global burden of disease. Use the DALY and this figure rises to 28%. Why the move backward to a simple body count? Using the DALY, the World Bank ranks epilepsy among the most cost-effective conditions to treat, being both “very cost effective” and with a “quite low cost of implementation.”⁶ Most of the 80 million people with epilepsy in the world go untreated.⁷ But the NCD program did not address this issue.

The concept of “NCDs” is rapidly being reduced to these 4 conditions. This trend is especially distressing. When citing the burden of NCDs, the NCD Alliance uses the cumulative number from all NCDs, but their program addressed only a small subset of NCDs. Review the WHO’s Global Status Report³ and the other NCDs including neurologic disorders are only briefly mentioned in a footnote on page vii. Search the WHO Web site—“NCD” now seems defined by and limited to the 4 selected conditions. The NCD alliance does not include the International League against Epilepsy, the Global Campaign against Headache, or the World Federation of Neurology. When did noncommunicable neurologic conditions stop being NCDs? And what about the other noncommunicable diseases of public health import that were excluded from an important global initiative? Will other national and international bodies follow suit in narrowing the boundaries of NCDs to the 4 conditions? The implications for future health policy planning and research funding are staggering.

Richard Smith, past editor of the *British Medical Journal*, described the NCD Alliance as “a quickly formed global body of organizations concerned about NCDs” and on August 10 reported that invitations for the September meeting had not yet been extended to selected delegates from nongovernmental organizations, academia, and the private sector.⁸ The meeting had gone “wobbly” partly because countries in Africa do not want to be diverted from today’s immediate disease burden to address the problems they may have tomorrow. Neurologists should also object to the devolving new definition of NCDs and demand that conditions like epilepsy, de-

Table 2 Risk factors targeted in the proposed noncommunicable disease program^a

Country gross domestic product (n = 193)	Hypertension, mean % (n = 133)	Physical inactivity, mean % population (n = 122)	Raised blood glucose, mean % population (n = 101)	Tobacco use, mean % population (n = 152)	Obesity, mean % population (n = 163)	Liters of alcohol consumed annually, mean (n = 188)
High	41.0	43.6	6.3	20.9	24.4	9.2
Upper middle	42.3	42.6	10.2	21.9	25.8	8.4
Lower middle	38.0	34.9	23.4	19.1	20.2	5.2
Low	38.0	18.0	3.3	12.4	5.0	3.7
<i>p</i>	0.006	<0.0001	0.0007	0.0003	<0.0001	<0.0001

^a Calculated based upon figures provided in the Annex of the Global Status Report on Noncommunicable Diseases, 2010.³

mentia, neuropathies, developmental disabilities, and headache be included in any global NCD program.

DISCLOSURE

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