

Implementation of World Health Organization Package of Essential Noncommunicable Disease Interventions (WHO PEN) for Primary Health Care in Low-Resource Settings: A Policy Statement From the World Hypertension League

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Noncommunicable diseases (NCDs) accounted for more than two thirds of total deaths globally and 40% of NCD deaths in patients younger than 70 years. The majority (82%) of the premature deaths were from low- and middle-income countries.¹ Cost-effective interventions for the prevention and management of NCDs are available. However, these interventions are often not accessible to the poor, especially in resource-constrained settings. Because of the lack of appropriate prevention and care, many people are suffering unnecessarily from preventable NCDs and associated complications.²

The World Health Organization developed the Package of Essential Noncommunicable Disease Interventions (PEN) for Primary Health Care in Low-Resource Settings, referred to herein as WHO PEN. It is a prioritized set of cost-effective interventions, tools, and aids that make it possible to deliver an acceptable quality of care by primary care physicians and non-physician health workers.³ Within the packages, evidence-based interventions are structured as simple flow charts with clear referral criteria in the clinical protocols. The cardiovascular disease risk prediction tool enables health workers to target those who are at the highest risk for heart attacks, strokes, amputation, and kidney failure. The integrated multifactorial risk approach is more cost-effective and improves outcomes.

WHO PEN sets a minimum standard for the management of NCDs. Its implementation will increase the national capacity to integrate and improve primary care interventions for heart disease, stroke, cardiovascular risk, diabetes, cancer, asthma, and chronic obstructive pulmonary disease in low-resource settings. Hypertension and diabetes are the most common conditions that substantially contribute to the burden of NCDs. Therefore, the implementation of WHO PEN should start with the protocol for preventing heart attack, stroke,

and kidney disease through integrated management of hypertension and diabetes. Once primary healthcare workers develop the skills to effectively implement the protocol, the portfolio can be expanded to other NCDs.

The feasibility of the protocol for management of hypertension and diabetes has been tested in a community-based prevention and control project that ran from April 2013 to August 2014 in China.⁴ More than 2000 primary care physicians from 200 community health-care centers in eight regions attended training sessions based on the WHO PEN protocol. Preliminary analysis of data from the screening of 300,000 residents indicated that the awareness, treatment, and control rate of hypertension improved continuously over the course of the project and the overall risk of cardiovascular disease decreased. Concurrently, physicians enhanced their skills and confidence to implement the WHO PEN protocol in practice. The project demonstrated that the WHO PEN would be particularly suitable for primary care physicians in China.

Based on this experience, the quality, equity, performance, and impact of implementation of WHO PEN can be achieved with: (1) physician training and resident health education, (2) opportunistic screening at primary care settings for early identification of individuals with or at high risk for major NCDs, (3) registration of basic demographic and clinical data when individuals present with NCDs in primary care, (4) evidence-based interventions, (5) monitoring of complications, (6) clear referral criteria and cooperative healthcare services, and (7) increasing capacity for health system research and training.

The World Hypertension League recommends the implementation of WHO PEN in low-resource settings as a cost-effective and equitable means to control hypertension in the context of other NCDs and health risks. People with NCDs require long-term care that is proactive, patient-centered, community-based, and sustainable. Such care can be delivered equitably only through health systems based on primary healthcare. The implementation of the WHO PEN interventions will not only help to reduce the burden of NCDs and hypertension, but strengthen the efficiency and equity of the health system.

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