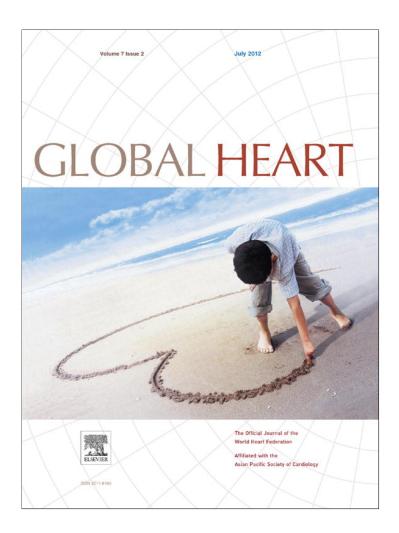
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A Checklist for CVD Control in South Asia

The South Asian region is home to a quarter of the world's population and has the largest absolute burden of cardiovascular diseases, especially coronary heart disease [1]. Policy, administrative, and clinical responses to this escalating epidemic of cardiovascular diseases (CVDs) are lacking in the region [2]. Studies from economically advanced countries report that policy initiatives coupled with administrative and clinical interventions are the fastest and the best ways to reduce cardiovascular mortality [3]. Mortality from CVD peaked in the mid-1960s in most countries of Western Europe and North America and has declined since by 50-90% in all these regions [4]. This is due to multiple measures including better literacy and living conditions due to improved socioeconomic status; universal public or private health insurance; increasing awareness of prevention; promotion of physical activity; curbing of smoking and tobacco use; legislative control of saturated and trans fats; better control of risk factors of hypertension, hypercholesterolemia, and diabetes; and better acute and chronic medical care.

Policy initiatives for cardiovascular disease control have previously been suggested for low-income countries including countries of the South Asian region [1]. However, evidence of efficacy of these interventions in these countries has only recently emerged [3]. Of the multiple prevention strategies, primordial strategies involve improvement in socioeconomic status and literacy; adequate healthcare financing and public health insurance; effective national CVD control program; smoking control policies; legislative control of saturated fats, trans fats, salt, and alcohol; and development of facilities for increasing physical activity through better urban planning and school-based and worksite interventions. Primary prevention entails changes in medical educational curricula for better healthcare delivery for control of risk factors-smoking, hypertension, dyslipidemia, and diabetes. Secondary prevention involves creation of facilities and human resources for optimum acute CVD care and longterm disease management. It is necessary to integrate various policymakers, develop effective

Table 1. CVD control checklist	
Stakeholders	Actionable items
Policymakers, planners, and politicians	 Tackle social determinants by integration of health with other stakeholders such as finance, commerce, insurance, industry, labor, women and child development, urban and rural development, transportation, information and broadcasting, agriculture and civil supplies Develop planning ministry as focal point for health systems development Implement strategies for education and better literacy Develop publicly funded universal health insurance for all Strict quality control for generic pharmaceuticals production, marketing, and pricing
Health administrators	 Horizontal integration of various communicable and noncommunicable disease programs Integrate government and nongovernment sectors. Implement quality control to all Change educational curriculum for medical students and postgraduates with focus on chronic diseases Develop national CVD control program at primary care level. Use noncommunicable disease community health workers and registered medical practitioners from alternative systems of medicine Strengthen the secondary care hospitals at district levels with ICUs and acute and chronic care
Healthcare professionals	 Better medical and continuing education with focus on chronic diseases and CVD Develop and implement use of established risk assessment algorithms and initiate high-risk population- or individual-based interventions Primary care physicians to perform opportunistic screening of all adults for risk factor assessment Better CVD secondary prevention care by secondary and tertiary care physicians Periodically audit acute cardiovascular care, interventions, and chronic care
CVD, cardiovascular disease; ICU, intensive care unit.	

Pandey et al. CVD Checklist

policies, and modify healthcare systems for effective delivery of preventive, promotive, and curative care [2,3].

Checklists have revolutionized medical care [5]. Use of such lists have saved thousands of lives and have the potential to save millions more. Such lists are routinely used by emergency medical services, intensive care units, and neonatal units; for maternal care, childbirths, and cardiac interventions; and in general and specialized operating theaters, recovery rooms, and other places. Use of such a checklist manifesto has not been tried in public health. We propose a 15-point checklist with 5-point actionable items at various levels of health care (Table 1). This list would be useful to policymakers, health

administrators, and clinicians for CVD prevention and control in low- and middle-income countries, especially in South Asia. If used judiciously with an equitable unbiased approach, this list has the potential to hasten the preventive and promotive chronic disease care in this region and supplement the recently proposed call to action by the group for universal health care in India [2].

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REFERENCES

- Patel V, Chatterjee S, Chisholm D. Chronic diseases and injuries in India. Lancet 2011;377:413–28.
- 2. Reddy KS, Patel V, Jha P, et al. Towards achievement of universal healthcare in India by 2020: a call to action. Lancet 2011;377:760–8.
- 3. Gupta R, Guptha S, Joshi R, Xavier D. Translating evidence into policy for cardiovascular disease control in India. Health Res Policy Syst 2011;9:8.
- Kestelloot H, Sans S, Kromhout D. Dynamics of cardiovascular and allcause mortality in western and eastern
- Europe between 1970 and 2000. Eur Heart J 2006;27:107–13.
- Gawande A. The checklist manifesto: how to get things right. New York, NY: Metropolitan Books, Henry Holt and Company LLC; 2009.