Background

Developing countries like Nepal are experiencing an unprecedented burden of non-communicable diseases (NCD) (1), with NCD attributing 60% of disease burden in Nepal (2). The major metabolic/biological risk factors driving the NCD epidemic include clinical hypertension, elevated blood glucose, and abnormal blood lipids (3-5). These metabolic risk factors are amplified by interaction with broader social determinants (behavioural, environmental and socio-political factors) disproportionately affecting poor and vulnerable in developing countries (5-7). In this commentary, we highlight systemic challenges for addressing NCD through primary prevention in Nepal especially in the light of Nepal's recent related policy and programmatic efforts. We further recommend that Nepal could accelerate preventative action against NCD and their social determinants through two key actions: structural reform at policy level for coordinated actions and strengthening community-based health care delivery at implementation level.

Systemic challenges for NCD prevention in Nepal

Within the health system, curative services have gained more priority than prevention with increasing budgetary provisions in hospitals, patient care and development of clinical human resources (8). Though the provision of limited partial funding to the poor and destitute from public accounts for treatment of limited NCD, namely cancer, kidney disease, heart disease, Parkinson's and Alzheimer's disease and head and spinal injuries (9) is commendable, it is not helping the urgent need for shifting toward primary prevention approaches. Importantly, one of the key NCD policies, the *Multisectoral Action Plan for Prevention and Control of NCD (MAPPCN) 2014-2020,* failed to set up a functional and compelling policy structure for accelerated action against NCD and their social determinants ***(Figure 1)*** (10). The Curative Services Division, a division within Ministry of Health with a primary role for improving

curative services in public hospitals, is proposed as the main coordinating body for NCD prevention**.** This raises questions about whether the system is still in the grip of a medical model paradigm where the system considers NCD as something to be addressed by a curative services agenda (tertiary prevention) and diverts funding needed for primary prevention of NCD in Nepal.

Without an appropriate system structure for primary prevention of NCD, significant policy level momentum including tobacco control initiatives are losing ground under the current structure which is already suffering some early setbacks (11-13). Any efforts on NCD prevention are further constrained by budget limitations and scarcity of human resources. The existing community health workers are of limited scope in NCD prevention and control unless adequately trained. In 2016, the government initiated the Prevention of Essential Non-communicable Disease (PEN) programs in two districts of Nepal but again the question will remain how effectively the program will coordinate with other sectors to address the broader social determinants. In addition, lack of accountability, corruption and poor management are major causes of inefficiency in health and social programs (14). This also poses threats to future NCD programs. In a country which spends less than one percent of its budget on NCD (15), inefficiency, as much as 40% estimated by WHO (16), can deter significant investment from prevention and control efforts.

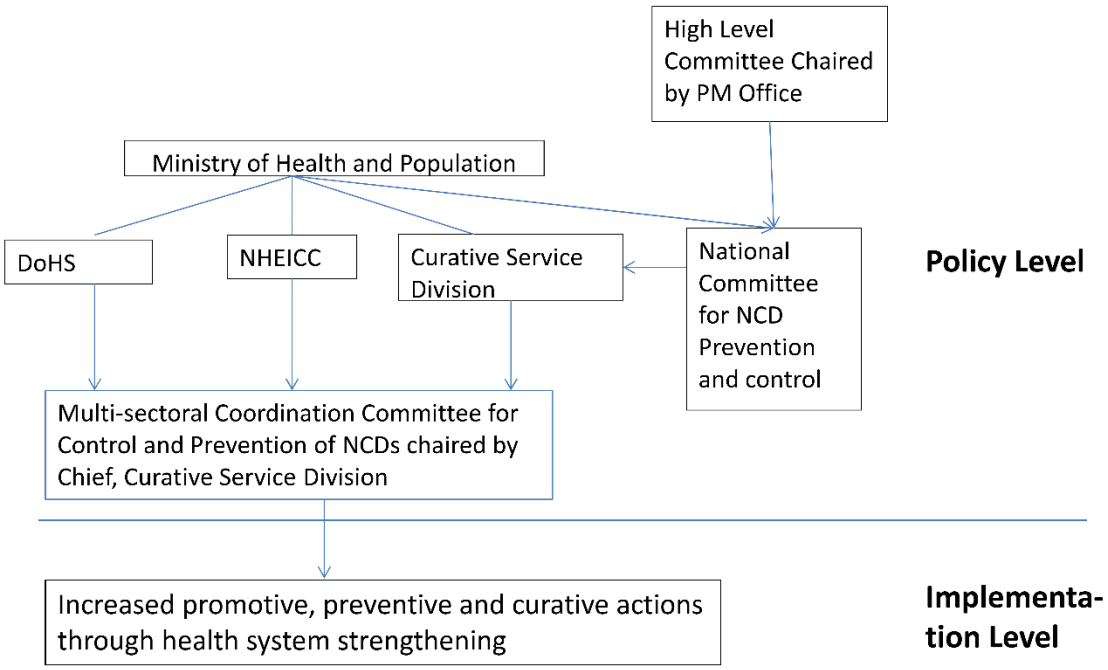

Figure 1: Policy structure envisaged by the MAPPCN 2014-2020

Future direction of NCD prevention and health promotion

The NCD epidemic in Nepal demands a paradigm shift from a medical model to a primary prevention model focusing on social determinants of NCD. Countries in the South are already leading the way (17-22). South-North collaboration and technology transfer can help low and middle income countries like Nepal to build up capacity to prevent, control and monitor NCD. We recommend that Nepal should establish an autonomous "Centre" as the key structural reform for effective multi-sectoral and coordinated actions for NCD prevention and control ***(Figure 2)***. A powerful centre is essential to capitalize on the growing recognition of the NCD agenda at the policy level (23, 24). The key social determinants of NCD in addition to the traditional targets proposed in global monitoring frameworks (25*25 targets) can be incorporated into the existing Health Management Information System (HMIS) which is being revisited.

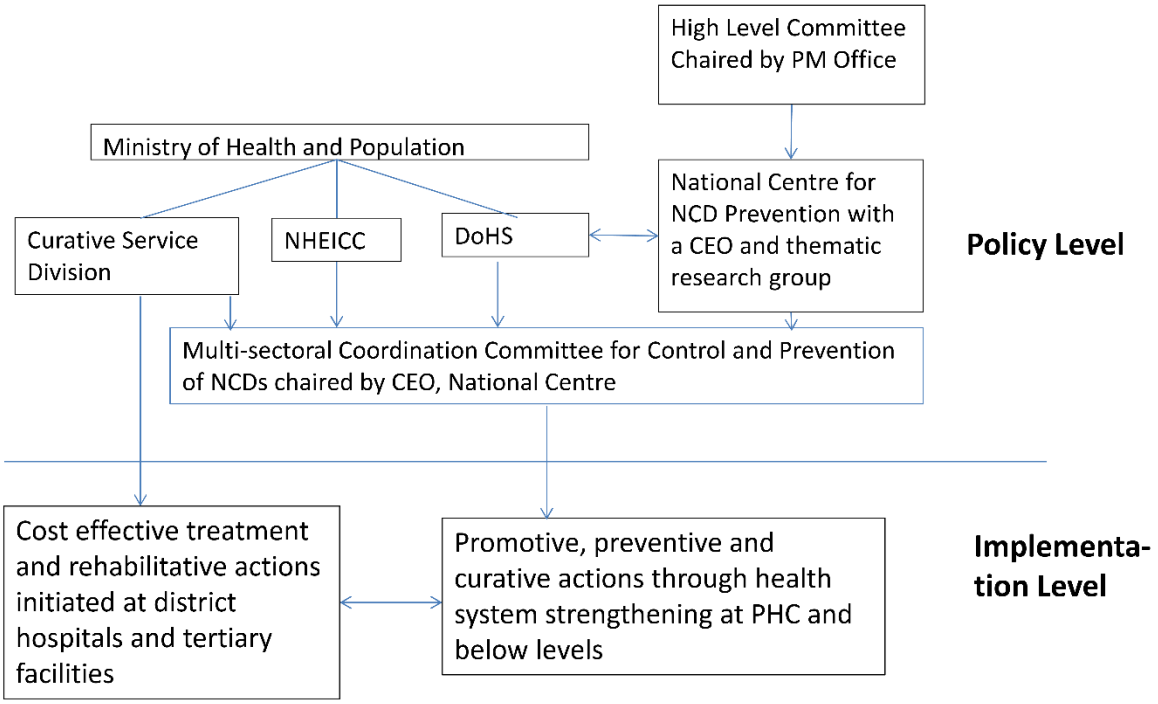

Figure 2: Recommended policy structure for NCD prevention in Nepal

Our second recommendation is simultaneous strengthening of the community based healthcare delivery system for accelerating a community based NCD response. District health system reforms in the areas of quality of care, logistics supply, human resource training and overall management are the basic pre-requisites for the effective implementation of community based actions. Nepal has experience in implementing community based maternal and child health promotion programs where strong leadership, a community-based approach and external development partners' support have significantly contributed to the reduction in maternal and child mortality (25, 26). Nepal should also tap the growing interest in NCD among students and professionals. A national centre on NCD is thus needed for balancing preventive and curative focuses, strengthening local health system and harnessing collaboration among stakeholders for action on the social determinants of NCD.

References

1. World Health Organization. Global Status Report of NCD 2010. Geneva: World Health Organization. 2011.
2. World Bank. Non-communicable diseases (NCDs)- Nepal's next major health challenge2011.
3. Prospective Studies Collaboration. Age-specific relevance of usual blood pressure to vascular mortality: a meta-analysis of individual data for one million adults in 61 prospective studies. Lancet. 2002;360(9349):1903-13.
4. Emberson JR, Whincup PH, Morris RW, Walker M. Re-assessing the contribution of serum total cholesterol, blood pressure and cigarette smoking to the aetiology of coronary heart disease: impact of regression dilution bias. European heart journal. 2003;24(19):1719-26.
5. World Health Organization. The world health report 2002: reducing risks, promoting healthy life: World Health Organization; 2002.
6. Ibrahim MM, Damasceno A. Hypertension in developing countries. Lancet. 2012;380(9841):611.
7. Bell R, Lutz B. Disscussion Paper: addressing the social determinants of non-communicable diseases. USA: UNDP; 2013.
8. Ministry of Finance. Budget Speech 2071/72 Nepal Kathmandu: Government of Nepal; 2015 [Available from: http://mof.gov.np/uploads/cmsfiles/file/budget%20speech%202071-72_20140713125927.pdf.
9. Department of Health Services. Annual Report 2013/14. Kathmandu, Nepal; 2014.
10. Government of Nepal. Multisectoral Action Plan for the Prevention and Control of Non-communicable diseases (2014-2020). In: Government of Nepal and World Health Organization, editor. Kathmandu, Nepal2010.
11. Banstola A, Banstola A. BMJ Nlogs [Internet]. Freeman B, editor: BMJ Publishing Groups Ltd. 2015. [cited 2015]. Available from: http://blogs.bmj.com/tc/2015/08/05/point-of-sale-display-a-call-to-action-on-prohibition-of-tobacco-products-in-nepal/?q=w_tc_blog_sidetab.
12. Himalayan News Service. Call for banning sale of tobacco products. The Himalayan Times. 2015.
13. Republica. Stakeholders demand high tobacco tax. Republica. 2014.
14. The Asia Foundation. Political economy analysis of local governance in Nepal with special reference to education and health sectors. Kathmandu: The Asia Foundation; 2012.
15. Canavan CR, Jay J. The Lancet Global Health Blog [Internet]: The Lancet Global Health Journal. 2014. Available from: http://globalhealth.thelancet.com/2014/09/15/why-ncd-response-needs-universal-health-coverage.
16. World Health Organization. The World Health Report 2010: health systems financing: the path to universal coverage. Geneva: WHO; 2010. Report No.: 1020-3311.
17. The Lancet. Non-communicable diseases series: Elsevier; 2013 [cited 2015 10 October]. Available from: http://www.thelancet.com/series/non-communicable-diseases.
18. Leppo K, Ollila E, Peña S, Wismar M, Cook S. Health in all policies: seizing opportunities, implementing policies. European Observatory of Health Systems and Policies. 2014.
19. Solar O, Irwin A. A conceptual framework for action on the social determinants of health. Geneva: World Health Organization; 2010.
20. Ministry of Health. The New Zealand Health Strategy. New Zealand: Ministry of Health; 2000.
21. Lawless A, Williams C, Hurley C, Wildgoose D, Sawford A, Kickbusch I. Health in All Policies: evaluating the South Australian approach to intersectoral action for health. Canadian Journal of Public Health/Revue Canadienne de Sante'e Publique. 2012:S15-S9.
22. Hospedales CJ, Barcelo A, Luciani S, Legetic B, Ordunez P, Blanco A. NCD prevention and control in Latin America and the Caribbean: A regional approach to policy and program development. Global heart. 2012;7(1):73-81.
23. Ministry of Health and Population. Nepal Health Sector Programme 2015-2020 (Unofficial translation). Kathmandu: Government of Nepal; 2015.

24. Government of Nepal. National Health Policy 2014 (Nepal). In: Nepal Go, editor. Kathmandu, Nepal: Ministry of Health and Population; 2014.
25. Dawson P, Pradhan Y, Houston R, Karki S, Poudel D, Hodgins S. From research to national expansion: 20 years' experience of community-based management of childhood pneumonia in Nepal. Bulletin of the World Health Organization. 2008;86(5):339-43.
26. McPherson RA, Tamang J, Hodgins S, Pathak LR, Silwal RC, Baqui AH, et al. Process evaluation of a community-based intervention promoting multiple maternal and neonatal care practices in rural Nepal. BMC pregnancy and childbirth. 2010;10(1):31.