

Human Resources for Non-Communicable Diseases in Bangladesh

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Background

In recent years, the prevalence of non-communicable diseases (NCDs) such as cardiovascular diseases, diabetes, chronic respiratory diseases, and cancers have increased dramatically in Bangladesh and many other developing countries (Islam et al., 2014). A recent nationwide survey of NCD risk factors in Bangladesh showed that almost all adults over 25 years had one risk factor and 28.3% had three or more NCD risk factors (World Health Organization, 2011). The epidemiological transition from infectious diseases to NCDs has introduced unprecedented and interlocking health challenges that burden the fragmented and pluralistic healthcare system in Bangladesh, yet NCDs have largely been neglected in government services and plans. The government of Bangladesh has developed a strategic plan for surveillance and prevention of NCDs and an HRH Master Plan in line with its sixth five-year national plan (2011-16) (El-

Saharty & Ahsan, 2011; WHO, 2011). However, despite these developments Bangladesh continues to face serious shortage of human resources (HR) for NCDs, which is one element impeding on the response to NCD crisis. This commentary examines the possible reasons why the relevant Government plans failed to address the HRH shortage for addressing the NCD crisis in Bangladesh.

Discussion

Bangladesh has three tiers of primary health care (PHC) systems: upazila health complexes at the sub-district level; union health and family welfare centres at the union (number of villages) level; and community clinics at the community level, supported by the district hospitals that provide secondary and tertiary care. There is a critical shortage of skilled healthcare professionals in Bangladesh, especially at the PHC level (Bangladesh Health Watch 2012). In 2007, almost 94% of the health workforce was composed of informal

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Received February 3 ,2017 **Accepted** February 22, 2017 **Published** March 14,2017

Citation: Islam, S. M. S, Tabassum, R., Colet, P., and Cruz, J.P. (2017). Human resources for noncommunicable diseases in Bangladesh. *International Journal of Perceptions in Public Health*, 1(2):pp.98-101.

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healthcare providers such as traditional medicine practitioners (43%), traditional birth attendants (22%), village doctors (9%), drug sellers (8%), and community health workers or CHWs (7%), while only 4% were physicians and less than 2% were nurses (Bangladesh Health Watch 2012). Health workers are not trained in NCD care at the PHC and district hospitals and private sectors remain as first-line clinical care for NCDs. As a result, a large number of Bangladeshis, particularly in rural areas, continue to have very limited access to healthcare services for NCDs.

Table 1 presents the overall number of sanctioned, filled and vacant health worker posts under the Directorate General of Health Services, Bangladesh in 2014 (Ministry of Health and Family Welfare, 2014). Further, there are an estimated 138,000 CHWs, with 23,500 family welfare assistants, 91,000 *sashtho sebikas* (voluntary CHWs in a non-governmental organization), 4,500 health assistants, 6,115 community-based skilled birth attendants and 12,991 community healthcare providers in Bangladesh. The large number of CHWs experienced in different healthcare service delivery has the potential to promote prevention, early detection, and management of many NCDs (Perry, Zulliger, & Rogers, 2014). However, the CHWs lack knowledge, training, equipment and guideline for providing NCD services and are not authorized to prescribe medications. A few national level institutes have started short courses to train nurses and paramedics in diabetes, cardiovascular diseases and respiratory diseases, but the numbers remain largely inadequate. A study in Bangladesh

showed that mid-level, non-physician health workers in both the public and private sectors showed greater willingness to serve in rural areas, and when adequately trained could improve the health service delivery and support NCD services at rural areas (L. Rawal et al., 2016).

Recruiting, training and retention of skilled healthcare workers at the PHC level for providing NCD services remains a challenge for Bangladesh. The problem is pervasive, and includes inequitable and inefficient distribution of healthcare providers, inappropriate skills-mix, and lack of motivation (Ahmed, Hossain, RajaChowdhury, & Bhuiya, 2011). Health workers at the PHC level are not adequately trained for the prevention, diagnosis, screening, and management of NCDs (Ahmed et al., 2011; Bangladesh Health Watch 2012). Health centres are also not equipped with the infrastructure needed to screen for and diagnose NCDs, nor do they have an adequate supply of medicines, and this lack of resources contributes to the paucity of NCD services in many healthcare centres across the country.

The Government of Bangladesh developed a comprehensive national NCD plan, the strategic plan for surveillance and prevention of NCDs and incorporated the HRH Master Plan in line with its sixth five-year national plan. However, implementation of these plans has been stalled due to absence of dedicated financial resource allocation, lack of leadership, accountability,

Table 1: Number of sanctioned, filled and vacant health worker posts under the Directorate General of Health Services, Bangladesh as of August 2014

		Filled Up				Vacant	
Health Worker Class		Sanctioned n (%)	Male n (%)	Female n (%)	Total n (%)	Filled-up as % of sanctioned post	n %
Class I	Physicians (Medical Officers)	23,066 (18.6)	15,192 (23.9)	6,361 (15.8)	21,553 (20.7)	93	1,513 7.5
	Non-physicians (Family Planning Officers)	514 (0.4)	185 (0.3)	46 (0.1)	231 (0.2)	45	283 1.4
Class II	Medical Technologists #	20,432 (16.5)	1,337 (2.1)	175,989 (43.6)	18,935 (18.2)	93	1,497 7.4
Class III	Medical Assistants	52,477 (42.3)	30,711 (48.4)	10,749 (26.6)	41,460 (39.9)	79	11,017 54.9
Class IV	Support Staff	27,427 (22.1)	16,058 (25.3)	5,603 (13.9)	21,661 (20.9)	79	5,766 28.7
Total		123,916 (100.0)	63,483 (100.0)	40,357 (100.0)	103,840 (100.0)	79	20,076 100

motivation and other competing priorities. Insufficient planning, coordination, and communication also subverted optimal implementation of the HR policies. A recent study reported that Bangladesh needs more effective policies and provisions designed specifically for attraction, deployment, and retention of HRH in rural areas with proper monitoring and evaluation mechanisms (L. B. Rawal, Joarder, Islam, Uddin, & Ahmed, 2015). It often takes several years to establish a position and fill-up a sanctioned post due to several bureaucratic procedures. Bangladesh has ample capacity for production and training health care providers including 105 institutes for physicians, 63 institutes for medical technologists, 32 institutes for medical assistants and 70 institutes for nurses, which could build HR for NCDs [8]. There are 2.5 times more physicians than nurses, with approximately five physicians and two nurses per 10,000 population, indicating a need to active nurse recruitment (Ahmed et al., 2011), train them in NCD, develop algorithm-based guidelines and empower them to lead NCD care at PHC in absence of physicians through task-shifting.

NCDs are costly conditions as they require life-long treatment and along with development of complications impose huge financial burdens on the families, societies and health systems. Strengthening the PHC services for NCD prevention and management can prevent delays in seeking treatment, provide early diagnosis of complications and reduce travel costs. A recent systematic review reported that task-shifting from physicians to non-physician health workers with health system reform is potentially effective and affordable strategy for improving NCD care (Joshi et al., 2014).

Many low-income countries are working to address their own shortage of HRH, and their efforts offer glimpses at solutions that Bangladesh can adopt. For example, the Ghanaian government implemented a retention-focused training program into its HRH policy and committed to sustainability of the program through administrative and funding assistance. The program is credited with higher quality of care for patients at the centres that implemented the program (Klufio, Kwawukume, Danso, Sciarra, & Johnson, 2003). South Africa implemented a program to recruit nurses from rural background with financial incentive scheme for the retention of nurses in the rural health facilities (Ditlopo, Blaauw, Rispel, Thomas, & Bidwell, 2013). The Zambian government reoriented its health system to integrate NCD services with the HIV/AIDS and tuberculosis programmes and used task sharing and task-shifting strategies (Aantjes, Quinlan, & Bunders, 2014). Nurse-led clinics with algorithm driven service delivery for diabetes, asthma, epilepsy and hypertension worked as alternatives to overcome the shortage of physicians at the PHC level in Cameroon

(Kengne et al., 2009). In Tanzania, a HIV/AIDS treatment centre provided dual training to its staff on treating NCDs, renovated its existing structures, and strengthened its laboratory services for diagnosis and monitoring for NCDs with support from Management Science for Health. Bangladesh can learn from these conversion strategies to promote development and retention of adequate HRH for NCDs.

Conclusions

The Bangladesh government health and HRH plans have largely failed to meet the needs for NCDs in Bangladesh. There is a need to allocate additional resources to develop, train, support, empower and integrate the CHWs, nurses and other healthcare providers for NCDs at the PHC levels. A detailed HR strategy that includes taking into consideration the re-engineering of PHC and health systems re-orientation for NCDs demands priority.

Declarations

Ethics approval and consent to participate: Not applicable.

Consent for publication: Not applicable

Availability of data and material: Not applicable.

Competing interests: The authors declare that they have no competing interests.

Funding: There was no funding for this paper.

Authors' contributions: SMSI conceived the idea and provided overall supervision and guidance for the manuscript. RT and NL searched the literature, drafted the initial version. All authors read and approved the final manuscript.

Acknowledgement: The authors would like to thank icddr,b for supporting this study.

References

- Aantjes, C. J., Quinlan, T. K., & Bunders, J. F. 2014. Practicalities and challenges in re-orienting the health system in Zambia for treating chronic conditions. *BMC health services research*, 14(1), 295.
- Ahmed, S. M., Hossain, M. A., RajaChowdhury, A. M., & Bhuiya, A. U. 2011. The health workforce crisis in Bangladesh: shortage, inappropriate skill-mix and inequitable distribution. *Hum Resour Health*, 9(3).

- Bangladesh Health Watch.2012. *Moving towards Universal Health Coverage*. Retrieved from Dhaka, Bangladesh:
- Ditlopo, P., Blaauw, D., Rispel, L. C., Thomas, S., & Bidwell, P. 2013. Policy implementation and financial incentives for nurses in South Africa: a case study on the occupation-specific dispensation. *Global health action*, 6.
- El-Saharty, S., & Ahsan, K. 2011. Bangladesh Human Resources for Health: Bridging the Gap. *Health Systems Reform in Asia, Hong Kong*.
- Islam, S. M. S., Purnat, T. D., Phuong, N. T. A., Mwingira, U., Schacht, K., & Fröschl, G. 2014. Non-Communicable Diseases (NCDs) in developing countries: a symposium report. *Globalization and health*, 10(1), 81.
- Joshi, R., Alim, M., Kengne, A. P., Jan, S., Maulik, P. K., Peiris, D., & Patel, A. A. 2014. Task shifting for non-communicable disease management in low and middle income countries—a systematic review. *PloS one*, 9(8), e103754.
- Kengne, A. P., Sobngwi, E., Fezeu, L., Awah, P., Dongmo, S., & Mbanya, J.-C. 2009. Setting-up nurse-led pilot clinics for the management of non-communicable diseases at primary health care level in resource-limited settings of Africa. *Pan African Medical Journal*, 3(1).
- Klufio, C. A., Kwawukume, E., Danso, K., Sciarra, J. J., & Johnson, T. 2003. Ghana postgraduate obstetrics/gynecology collaborative residency training program: success story and model for Africa. *American journal of obstetrics and gynecology*, 189(3), 692-696.
- Ministry of Health and Family Welfare. 2014. *Health Bulletin 2014*.
- Perry, H. B., Zulliger, R., & Rogers, M. M. 2014. Community health workers in low-, middle-, and high-income countries: an overview of their history, recent evolution, and current effectiveness. *Annual review of public health*, 35, 399-421.
- Rawal, L., Mahmud, K., Islam, S., Mahumud, R., Nuruzaman, M., & Ahmed, S. 2016. Training mid-level health cadres to improve health service delivery in rural Bangladesh. *Primary health care research & development*, 1.
- Rawal, L. B., Joarder, T., Islam, S. M. S., Uddin, A., & Ahmed, S. M. 2015. Developing effective policy strategies to retain health workers in rural Bangladesh: a policy analysis. *Human Resources for Health*, 13(1), 1-10. doi:10.1186/s12960-015-0030-6
- WHO. 2011. *Strategic Plan for Surveillance and Prevention of Non Communicable Diseases in Bangladesh 2011-2015* Retrieved from Dhaka, Bangladesh:
http://www.searo.who.int/bangladesh/publications/strategic_plan_ncd/en/
- World Health Organization. 2011. Non-Communicable Disease Risk Factor Survey Bangladesh 2010. Dhaka: WHO.