Across developed and developing countries, the COVID-19 pandemic has revealed the lack of health system preparedness for and resilience to infectious diseases emergency [1-3]. Similarly, in Bangladesh, there is a scope of improvement in the six health systems building blocks, that World Health Organization (WHO) mentioned, for ensuring better response to the COVID19 like pandemic [4]. One of the most important health systems weakness lies in the health workforce, or the human resources for health (HRH). The current number, distribution, quality and motivation of service providers are inadequate to respond adequately to any public health emergency of the country. More importantly, there are concerns with the quality of the leadership of the public health managers at different tiers of the health systems [5-7]. Experts from around the globe advocate for building effective collaboration at the global and regional levels for setting appropriate strategies for prioritizing the public health workforce (PHW) at the country level [8]. There is an inextricable link between achieving global health security and having a dedicated public health workforce [9].
The PHW include workforce that are responsible for planning and providing public health services for whole or specific population groups (which is distinct from curative medical care organized for individual patients). Many countries have PHW designated for working in different organizational pattern according to country context [10]. Global evidence suggests that the health professionals with higher studies or training on ‘Public Health’ can play an important role in bringing about changes required for an effective health system [11]. Public Health graduates show an improved leadership capacity having better self-esteem, increased confidence, better communication skills and implementation capacity [12,13]. A fully trained cadre of PHW, equipped with the necessary knowledge and skills, is crucial for protecting the country from pandemic like threats and ensuring global health security and achieving Universal Health Coverage (UHC) [14].

In Bangladesh, there is need for more evidence on what are the ‘public health functions’ and ‘public health positions’ in the different tiers of health system. Civil Surgeons (CS) and Upazila Health and Family Planning Officers (UH&FPOs) are primarily responsible for implementing public health functions at the district level and below. However, study suggests, these leadership positions mostly lack appropriate training in public health, administration and management [6].

Further complicating the situation, the primary health care services in the urban areas are the responsibility of local government bodies (under Ministry of Local Government and Rural Development), not the responsibility of the Ministry of Health and Family Welfare (MOHFW). There is a particularly acute shortage of HRH, including public health workforce, in the urban areas. Medical doctors in general are unwilling to work under local government institutions because of lack of career pathway.

Importantly, in the latest Bangladesh Health Workforce Strategy 2015, the indication to develop a dedicated cadre of PHW is not adequately provided. In this context, we conducted an exploratory study to identify the key public health functions in Bangladesh and document challenges in carrying out those functions at different tiers of health system to inform policy for future strategies.
METHODS

This exploratory study employed the following methods to achieve the objectives:

Rapid review
The rapid review was conducted following the WHO guideline of ‘Rapid review to strengthen health policy and systems’ [15]. Key stakeholders were engaged from the very initial phase of the study to formulate the review questions. We reviewed published and gray literature related to public health workforce in global context. From an initial pool of 3,805 literatures, after thorough screening we included 18 studies that reported the development of PHW in the LMICs.

Desk review
Government policy and programme documents related to PHW in Bangladesh. For example, extensive review was carried out for key policy documents, such as, Bangladesh Health Workforce strategy 2015; Human Resource Management Operational Plan; Health Population and Nutrition Sector Development Program (HPNSDP) 2017-2022.

Key Informant Interview (KII)
15 KIIIs were carried out in order to explore challenges faced and way forward regarding public health functions in Bangladesh with participants from DGHS, MOHFW, non-government organizations (NGOs) / development partners, and academic and research institutions.

Stakeholder consultations
One stakeholder consultation was held in order to validate the study findings and sketch out possible policy recommendations to improve the status of public health workforce in Bangladesh.
FINDINGS

PUBLIC HEALTH FUNCTIONS

The rapid review exercise revealed that there are several definitions on ‘essential public health functions’ by the WHO, the Centre for Disease Control and prevention (CDC), the World Bank and the European Union. Although some targeted public health activities are outlined as part of essential service delivery by various authorities, no context specific definition of essential public health functions was found in the policy documents in Bangladesh. Based on the KIIs and document reviews, we have identified the essential public health functions in Bangladesh context, especially at the upazila and district level, which are summarized in Table 1:

Table 1: Existing essential public health functions in Bangladesh

<table>
<thead>
<tr>
<th>POPULATION-WIDE PREVENTIVE SERVICES</th>
<th>CLINICAL PREVENTIVE SERVICES</th>
<th>ADMINISTRATIVE MANAGEMENT ACTIVITIES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monitoring health conditions</td>
<td>Vaccination &amp; EPI Activities</td>
<td>Supervision of health facilities,</td>
</tr>
<tr>
<td>Controlling outbreaks</td>
<td>MNCH services</td>
<td>Field activities supervision</td>
</tr>
<tr>
<td>Social Behavior Change Communication (SBCC) for Maternal Neonatal and Child Health (MNCH), Water Sanitation Hygiene, Nutrition, Family Planning, Non Communicable Diseases (NCDs) etc.</td>
<td>De-worming, Vitamin A Plus campaign, etc.</td>
<td>Financial management</td>
</tr>
<tr>
<td>Nutrition Services</td>
<td>TB screening, NCD screening, family planning</td>
<td>Vertical programs, observing weeks /days</td>
</tr>
<tr>
<td>Health Education</td>
<td></td>
<td>Central store management; Logistics management; Transport management</td>
</tr>
<tr>
<td>Other Primary Health Care (PHC) services</td>
<td></td>
<td>Making Policy level decisions; Managing operational Plan/ Sector Program to achieve SDGs</td>
</tr>
<tr>
<td>Community engagement/School-health</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

CHALLENGES OF PERFORMING PUBLIC HEALTH FUNCTIONS IN BANGLADESH

Study findings suggest that at the peripheral level, the Civil Surgeons and UH&FPOs are responsible for provision of preventive (e.g., immunization, reproductive and other health care services, health information and education etc.) and curative health care services. Therefore, public health is one of their core responsibilities. The identified challenges in production, deployment and retention of public health workforce are presented in Table 2.

Table 2: Challenges in production, deployment and retention of public health workforce in Bangladesh

<table>
<thead>
<tr>
<th>Challenges of Public Health Workforce</th>
<th>Specific challenges</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Deployment:</strong> challenges to perform public health functions’</td>
<td>• Inappropriate number of sanctioned posts for doctors as public health workforce</td>
</tr>
<tr>
<td></td>
<td>• Absence of appropriate skills among staff</td>
</tr>
<tr>
<td><strong>Retention:</strong> challenges in career path</td>
<td>• Absence of demarcation of public health cadre</td>
</tr>
<tr>
<td></td>
<td>• Lack of formal career ladder for public health professional</td>
</tr>
<tr>
<td></td>
<td>• Lack of incentives</td>
</tr>
<tr>
<td></td>
<td>• Slow promotion opportunity</td>
</tr>
<tr>
<td></td>
<td>• Insufficient on-job training</td>
</tr>
<tr>
<td></td>
<td>• Lack of motivation among existing workforce to perform public health functions</td>
</tr>
<tr>
<td><strong>Production:</strong> challenges in “public health education”</td>
<td>• Lack of focus in PH education</td>
</tr>
<tr>
<td></td>
<td>• Inappropriate teaching method</td>
</tr>
<tr>
<td></td>
<td>• Country context is not well accounted</td>
</tr>
<tr>
<td></td>
<td>• Urbanized education system</td>
</tr>
</tbody>
</table>
The following quotes from KIIs elucidate the above mentioned challenges faced by the PHW:

"At Upazila level, overseeing public health activities and managing the hospital is a double burden for the UHFPOs! These are completely different type of activities. Even at the district level, the Civil Surgeon does not have enough human resources to conduct the public health activities. The position of Deputy Civil Surgeon is not available in every district and the statisticians are not oriented with epidemiology to understand context-specific disease patterns. Therefore, public health functions are not managed appropriately."

Policy Maker, MoHFW

"There is no clear demarcation for a public health career. I think the lack of motivation to pursue a career in public health is the extremely slow promotional opportunities compared to a clinical cadre."

Development Partner

POLICY RECOMMENDATIONS:

To overcome these challenges and to improve the overall PHW in Bangladesh, possible policy recommendations were explored through the KIIs and from stakeholder consultation workshops. Some actionable recommendations have been categorized into short-, medium- and long-term as follows:

**Short-term:**

- **Identify public health positions** at sub-district, district and national level and revisit their job descriptions
- **Build capacity** for those currently responsible for key public health functions, for example, through providing short training courses and mentorship program
- **Modify and expand the existing public health training** (e.g. Field Epidemiology Training Programme of DGHS, MOHFW) in line with current priorities of the country, e.g. global health security and Universal Health Coverage (UHC)
- **Develop a strong cadre of the public health workforce** in order to address the HRH issues to support the health system
- **Introduce non-financial incentives** for public health professionals (e.g. training on public health; educational opportunity etc.)
- **Make the public health service delivery strategy** unified and standardized across urban and rural areas
- **Make Master of Public Health (MPH) training** available for the interested employees within one year of recruitment
- **Identify, document and address current challenges** for PHW in urban settings and hard to reach areas
Mid-term:

- **Revisit HR policies and strategies** to create new public health positions
- **Develop a cadre** of public health epidemiologist and deploy them in each district, City Corporation and District level municipality
- **Demarcate public health positions** at all tiers through formulating a national committee
- **Reflect key public health functions** in the job description for all health professionals
- **Ensure that physicians working** in public health positions have a MPH degree
- **Revisit medical curriculum** with stronger focus on public health in the first two years of academic calendar
- **Standardize MPH education** across the universities in the country

Long-term:

- **Provide special emphasis** to develop PHW in the national health policies and strategies
- **Develop roadmap** (with a national plan of action) of the next ten years for sector reform for the production, deployment and retention of PHW
- **Establish a separate ‘Directorate of Public Health’** with clear organogram from involving PHWs
- **Align the recruitment and promotion rule** for three distinct cadres: a) Health service & clinical track b) Medical education track c) Public health track
- **Increase financial allocation** in the health budget for strengthening PHW.
- **Establish a continuous quality improvement and feedback mechanism** to identify, document and address challenges for PHW
- **Introduce provision of non-practicing allowance** for certain public health physicians positions (in special circumstances)

The limitation of the study is we emphasized on the public health leadership positions, specifically the physician cadres, at the Directorate General of Health Services (DGHS). We acknowledge that further studies need to be undertaken to take into account the comprehensive workforce situation under Family Planning and other directorates of MOHFW. However, the study findings suggest there is an urgent need to reform the PHW in the government sector for ensuring UHC in future. Specific attention is required with regard to production, deployment, distribution and retention of doctors and other health professionals at different tiers of health system to provide efficient public health services and improve performance to improve population health outcomes. The sound public health oriented workforce planning will also facilitate to better respond to the COVID-19 like future pandemic for Bangladesh health system.
REFERENCES:


Strengthening Public Health Workforce to Address Global Health Security and Achieve Universal Health Coverage in Bangladesh: Challenges and Way Forward in the Government Health Sector

This policy brief is prepared by Health Services Research Group, Health System and Population Studies Division (HSPSD), icddr,b; with support from the Centres for Disease Control and Prevention (CDC) and European Union.

Email: iqbal@icddrb.org, sohana.shafique@icddrb.org

We are grateful to our core donors for their long-term commitment to our work: