



Workload Indicators of Staffing Need (WISN) Application at Public Sector Health Facilities in Bangladesh

Technical Brief

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Key Findings

Key findings that emerged from the two WISN studies conducted in four selected districts of Bangladesh

- Public sector health services in Bangladesh are operating with substantial shortages of human resources (HR). This shortage is exacerbated by a significant number of vacant positions at all levels of facilities and the community level. Workload (expressed in terms of the WISN ratio) of health service providers is found to be high (WISN ratio less than 1) at most facilities and at the community level in the study areas. If vacant positions were filled in, staff gaps in terms of demand and supply relative to workload would improve in a few facilities, but high workload prevails in the majority.

- Average gap between currently available number of nurses and required number of nurses at the study district hospitals is estimated at 75 for each hospital. For the physician, the gap is 35 for each hospital.

- Nurses at both district and sub-district (upazila) level hospitals were found to be predominantly occupied with support and additional activities (53%-78%), instead of actual nursing care.

- Different workload has been observed amongst the same category of staff working at the different level of health facilities. For example, the WISN ratio for physicians ranged between 0.31-0.58 at the district level and 0.28-1.21 at sub-district hospitals. For nurses, the WISN ratio ranged from 0.43- 0.5 at the District level and 0.3-0.87 at sub-district hospitals.

- Support services staff, such as cleaning, laundry, attending, kitchen, security staff, etc., are also crucial for the optimum functioning of health facilities. However, there is a substantial shortage of nearly all categories of support staff.

Background

Bangladesh has made commendable progress in the health sector; however, it is among the countries with a severe shortage of formally trained health workforce. Though the country has relied upon different categories of community health workers such as Community Health Care Provider (CHCP) for delivery of primary health care, there is a significant shortfall of the formally trained physician, nurse and midwife. The current threshold density of physician, nurse and midwife is about 7.4 per 10,000 population in the country, which falls far below the World Health Organization (WHO) recommended threshold of 44.5 physicians, nurses and midwife density per 10,000 population. The Government of Bangladesh (GOB) adopted the Essential Services Package (ESP) as a strategy in 2017 towards achieving Universal Health Coverage. However, without adequate numbers of qualified health professionals deployed at the right place to provide the needed health care services, it will not be possible to ensure the coverage for all. Therefore, formulation of an evidenced-based plan to ensure the availability of adequate and competent Human Resources for Health (HRH) in the public sector is a priority.

Box 1
The Bangladesh Health Workforce Strategy 2015 recommends determining service level-wise (primary, secondary, tertiary) health workforce needs with a focus on adopting a workload analysis approach so that the correct number of health workers with the proper skills can be determined.

The Bangladesh Health Workforce Strategy 2015 urges for formulation of a comprehensive health workforce plan through determination of health workforce needs and demands at all service delivery levels and workload is one of those determinants. Thus, the Human Resources (HR) Branch, Health Services Division of the Ministry of Health and Family Welfare (MOHFW) has taken the initiative in applying the Workload Indicators for Staffing Need (WISN) method, developed by the WHO, at public sector health service delivery systems in four selected districts through two individual studies. HR Branch, MOHFW in collaboration with the WHO Bangladesh organized a three-day hands-on training on the application of the WISN method for a selected number of health managers and policymakers in November 2016. The HR Branch, MOHFW further collaborated with the USAID's MaMoni Health Systems Strengthening Project and conducted the first study during October 2016 to March 2017 at Kushtia and Brahmanbaria districts. The second study, supported by WHO Bangladesh, was conducted at Jhenaidah and Moulvibazar districts during July to November 2017 by BRAC James P Grant School of Public Health, BRAC University. Results of the two studies revealed a comprehensive picture of workload of the key health workforce in Bangladesh and created an evidence base to support better policy making including health workforce planning, distribution and service efficiency.

Study Objectives

- i. To assess the existing workload of different categories of health workforce engaged in providing preventive, promotional and curative services both at health facilities and in communities at district levels and below;
- ii. To ascertain the gaps and inequalities in distribution between existing and required number of different categories of workforce to deliver Essential Service Package (ESP) defined for the four tiers of service delivery;
- iii. To provide recommendations best for better management of the health workforce in the public-sector health facilities at district level and below for efficient delivery of healthcare.

Methodology

Both studies applied the WISN method with few adaptations relevant to the workforce context in Bangladesh. The methodology includes-

- ✓ Defining workload components and setting activity (time) standards through in-depth discussions with experts and experienced staff at the facilities and in the field;
- ✓ Matching activity (time) standards with findings from direct observations and time-motion studies;

¹World Health Report, 2006. WHO

²2017 Health SDG Profile: Bangladesh, SERAO WHO (June 2017)

³2016 Global Human Resources for Health Strategy: Workforce 2030, World Health Organization, Geneva

- ✓ Collecting annual service statistics and human resources data from facilities and cross-checking data with the national level Health Management Information System (HMIS) and Human Resource Information System (HRIS);
- ✓ Assessing staffing need based on the workload determined.

The first study included all staff categories including support service staff. The second study included selected priority staff categories i.e. physicians including consultants, nurses, medical assistants, family welfare assistants (FWAs), family welfare visitors (FWVs), and CHCPs.

Study Sites

Study sites were selected purposively utilizing a model-based approach recommended by the Technical Advisory Group. A “model” site was defined as a district Hospital or Upazila Health Complex (UHC) which had better performance as evidenced by certain indicators (e.g. average daily out-patient visits, annual patient admissions, bed occupancy rate etc.) available in the HMIS.

Table 1: Health facilities selected for the study

Type of facility	Study-1	Study-2
District Hospitals (DH)	Kushtia and Brahmanbaria (2)	Jhenaidah and Moulvibazar (2)
Mother and Child Welfare Centre (MCWC)	Kushtia and Brahmanbaria (2)	Jhenaidah and Moulvibazar (2)
Upazila Health Complex (UHC)	Daulatpur, Kumarkhali, Nabinagar, and Sarail (4)	Shaikupa, Kotchandpur, Kulaura, and Sreemangal (4)
Union Health and Family Welfare Centre (UH&FWC) and Union Sub-centre (USC)	Prayagpur, Kaya, Bitghar, Uttar Panisar, Hogalbaria, Jagannathpur, Jinodpur, and Shahbajpur (8)	Moharajpur, Dudhshar, Chandnighat, Ashidron, Kacherkhol, Sabdalpur, Prithempasha, and Bhunabir (8)
Community Clinic (CC)	Kamalpur, Jaynabad, Chouria, and Aminpara (4)	Khandakbariya, Kagmari, Kulbaria, Korotipara, Sripur, Igragaon, Dakkhin Chamatkar, and Akbarpur (8)

Findings

Workload Components

Analysis of the three types of workload components (health service, support and additional activities) of direct health service providers, particularly physicians and nurses, revealed that a substantial portion of their available working time (AWT) was spent on support and additional activities. Many

Box 2

What is the WISN methodology?

The WISN methodology is a human resource management tool that assesses the workload pressure of health workers in a facility and determines how many health workers of a particular type are required to cope with the workload of a given health facility. The methodology allows health managers to systematically make staffing decisions.

WISN results are analyzed in two ways:

Difference: By comparing the difference between current and required number of staff, so the health facilities that are relatively understaffed or overstaffed can be identified.

Ratio: By using the WISN ratio as a proxy measure, the workload pressure that health workers experience in their daily work in a health facility can be assessed.

Source: Workload Indicators of Staffing Need (WISN), User's Manual. WHO 2010

Box 3

Defining workload component

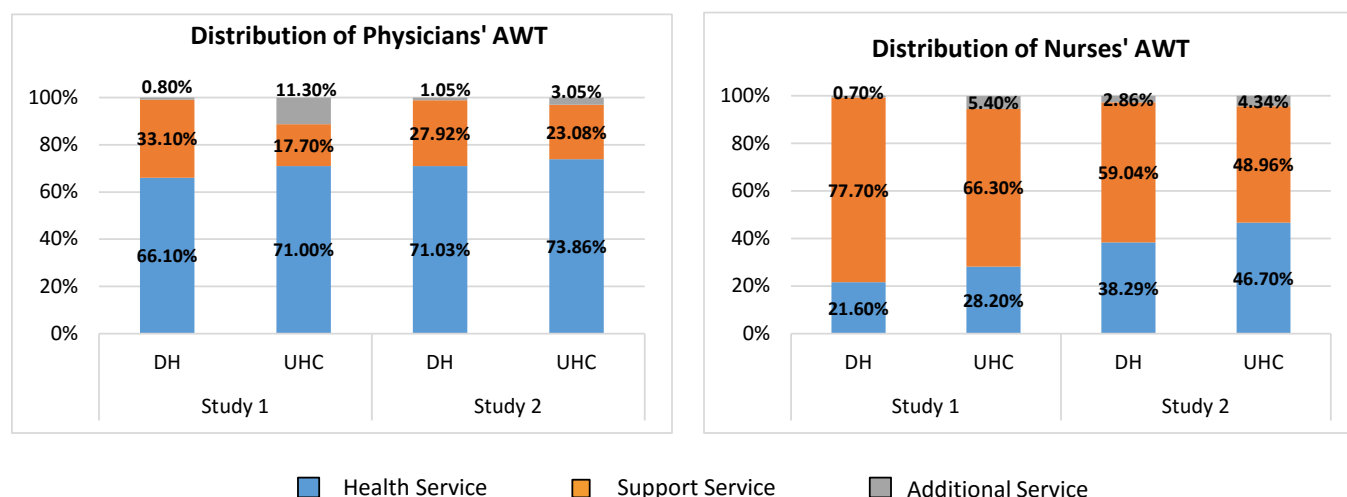
Health service activity: Health service-related activities performed by all members of the staff category and for which annual statistics are regularly collected.

Support activity: Important activities that support health service activities, performed by all members of the staff category but for which annual statistics are not regularly collected.

Additional activity: Activities performed only by certain (not all) members of the staff category and for which annual statistics are not regularly collected.

of these activities are beyond their specific job assignments. Physicians at district hospitals and UHCs spend 27%-34% of AWT on support and additional activities like meetings, medico-legal procedures, testifying at court, day observation events, etc. A major proportion (53%-78%) of nurses' available working time is spent on support services and additional services, such as making patient beds, linen and laundry management, maintaining supply stocks, cleaning supervision, etc. They spend only 22%-48% time on providing health service activities.

Figure 1: Proportion of available working time of physicians & nurses spent on health service, support or additional activities



Workload and human resources requirement

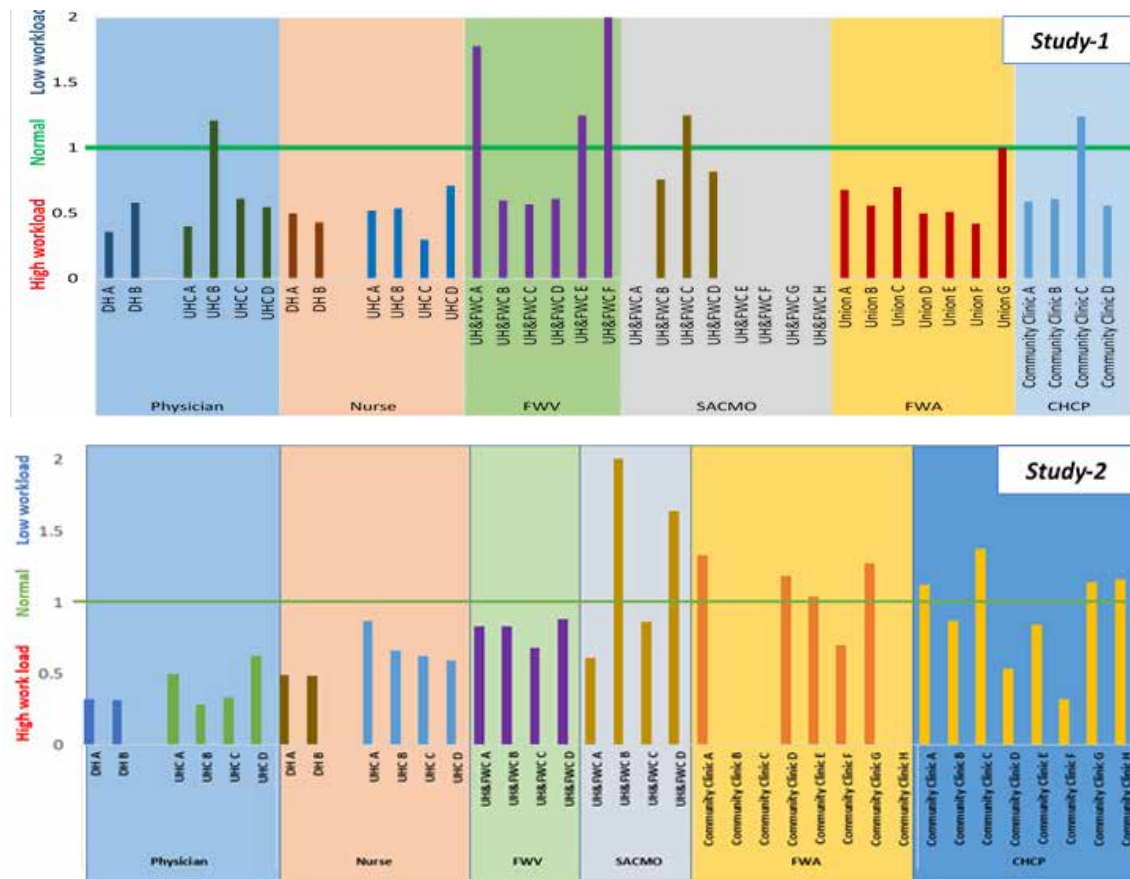
The workload pressure of key health service providers such as physicians, nurses, FWVs, and FWAs at the different levels of health care services were found to be very high (WISN ratio is less than 1). This indicates that public sector health services in Bangladesh are operating with substantial shortages of human resources. Although the number of staff would increase, if all vacancies are filled, workload will still remain high for some cadres. Inequalities in workload were observed among the same category of staff working at different-level facilities as well as among same-level facilities.

Box 4

Analysis of the central HRIS data showed vacancies against sanctioned post of consultants, physicians and nurses at district hospitals are 37%, 29% and 24% and at UHCs vacancies are 57%, 39% and 23.4%, respectively.

- The WISN ratio for nurses at district hospitals ranged from 0.43-0.5, which means that only 43%-50% of the required number of nurses is available. At UHCs, the ratio ranged from 0.3-0.87 (30%-87%).
- The WISN ratio for physicians ranged between 0.31-0.58 (31%-58%) at district hospitals and 0.28-1.21 (28%- 121%) at UHCs.
- In the majority of UH&FWC, FWV's workload was found to be very high. FWVs at only three UH&FWCs had low workloads.
- In most cases, the workload of Sub-Assistant Community Medical Officers (SACMOs) at union-level facilities could not be determined due to the high number of vacant positions. Among the seven union-level facilities studied with appointed SACMO positions, we found four SACMOs with high workload and three SACMOs with low workload.
- In all but in one Union, FWAs' workload was found to be very high (WISN ratio < 0.5). This indicates that less than half of the required numbers of FWAs are there to meet the demand.
- Among the 12 Community Clinics (CCs) included in the two studies, workload pressure of CHCPs was found high in the majority (7) of the CCs although low workload was observed among the rest (see figure 2).

Figure 2: Workload of selected health service providers at different levels of facilities in the study area



Requirements of support staff based on workload

Direct service providers usually receive greater attention through health related policies and programmes as these are developed, designed and implemented; in contrast, human resources for support services are often not given the same level of priority. However, support services are crucial for optimum functioning of health facilities. The first study devised and applied a method for estimating the need of support service human resources at different levels of facilities. Results show that there is a substantial shortage of almost all categories of support staff (cleaning, laundry, attending, kitchen, security staff, etc.) and the existing support staff has high workload to compensate the shortage.

Box 5

Central HRIS data also shows a very large number of vacancies against sanctioned posts for various categories of support staff.

Table-2 : Staff category and vacancy rate

Staff Category	Vacancy rate (%)	
	DH	UHC
Cleaning staff	45.0	34.0
Attending staff	42.7	32.4
Kitchen Staff	38.9	43.2
Security Staff	72.2	44.5

Table 3: WISN ratios and required number selected types support staff at study facilities

Type of facility	Staff Category	Sanctioned post number	Current post number	Required post number	WISN ratio
District Hospital (B)	Cleaning staff	22	20	53	0.38
	Attending staff	34	32	100	0.32
	Kitchen staff	6	6	10	0.58
	Security staff	4	4	21	0.20
Upazila Health Complex (D)	Cleaning staff	5	5	11	0.47
	Attending staff	19	11	34	0.33
	Kitchen staff	2	0	4	-
	Security staff	2	2	5	0.44

Recommendations

Short-term

1. Prioritize the filling up of the vacancies against all sanctioned posts while strengthening supervision and monitoring. Filling-up vacant positions and ensuring adequate numbers with regular presence of all staff would reduce workload pressure in already understaffed facilities. This will allow the health professionals to provide sufficient time for quality patient care.
2. Create better equity in HRH distribution both on an intra- and inter-facility basis. This can be calculated based on the analysis of their workload.
3. Assess and re-assign tasks and responsibilities to support staff in order to free up nurses' time from support activities. Being the most needed, scarcest, and one of the most overloaded categories, nurses are burdened with support activities which are outside the scope of their responsibilities. If some of their support and additional activities are shifted to other staff, nurses will have more time to provide quality clinical nursing care.
4. Rationalize on an urgent basis support service staff in the public sector health facilities. This is needed for proper utilization of high level skills of health professionals as a significant portion of the available working time of physicians and nurses is spent on support services.
5. Set national level activity standards (for health services) based on the results of the two studies which can be applied at health facilities throughout the country using respective facility data. This will help to assess workload and recommend staffing norms in terms of designing the respective 'table of organogram and equipment (TO&E)' at various facilities.

Medium to long-term

1. Review and rationalize the extensive number of existing staff designations in public facilities while revising the TO&E of health facilities under MOHFW.
2. Update the job descriptions of health professionals to take into account the actual health service activities to be performed by each staff category in alignment with their skills and responsibilities.
3. During HRH planning and implementation, give priority to staffing for support services in the public sector in addition to the priority placed on direct health service providers.
4. Shift gradually towards a flexible recruitment and HRH planning keeping up with local patient load and disease burden. There should be a regular review of these decisions, and the HRH management decisions should be regularly amended, based on workload.
5. Develop a separate staff category for administrative / support activities and medico-legal issues. Since a large chunk of time is spent on medico-legal issues, conflict resolution, signature and attestation, and online data entry, there is a need of an additional workforce to carry out these clerical works on behalf of the clinical service providers. This would free up the valuable yet scarce clinical time of clinical service providers.

Study Limitations

The accuracy of the WISN methodology is dependent on proper recordkeeping in health services, and results of the study may be affected if services were not recorded or documented properly. Additionally, shortages of equipment, medicines or supplies, and absenteeism of staff may increase or decrease the workload of a health facility; these changes were not explored by this assessment.

Conclusion

With a vision of becoming a middle-income country by 2021, Bangladesh needs to strive for optimizing its existing resources, including human resources. WISN is a useful human resource management tool for facilitating a more efficient distribution of the existing health workforce. This methodology will also help project workforce demand, set standards for the skill mix ratio in health facilities, and inform evidence-based long- and short-term HRH planning in Bangladesh.

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