

MINISTRY OF HEALTH



STAFFING NORMS FOR THE HEALTH SECTOR

VOLUME I: CLINICAL AND SUPPORT STAFF [SELECTED]

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EXECUTIVE SUMMARY

The health sector of Ghana has over the years been confronted with inadequate numbers and unbalanced skill mix of the required health workers. Part of this problem has been inequitable distribution the health workers which has led to gross understaffing in many facilities and overstaffing in some facilities.

The Ministry of Health attempted to address this inequity using the WHO Population Ratio Staffing Norms and later developed the Facility Staffing Norms in 1992. However, in addition to some implementation challenges, the changing dynamics of the health sector over the years has rendered the 1992 Facility Staffing Norm largely outdated and therefore leaving the issue of inequity largely unresolved. The question of how many health workers are needed to deliver effective and efficient health care across the country continues to linger.

To address this challenge, the Ministry of Health in 2011 decided to develop an evidenced-based Staffing Norm (staffing standard) using the WHO's Workload Indicator for Staffing Needs (WISN). WISN is a human resource planning tool which uses actual workload to determine the number of health workers of a particular cadre required to cope with the workload of a given health facility; and to assess the workload pressure of the health workers in the given facility.

Health Facilities were selected across the three ecological zone of Ghana covering six regions for data collection and analysis, which was done in three phases. Phase one was made up of a pilot WISN study in eighteen (18) Government facilities and one CHAG facility (Donkorkrom Presbyterian Hospital) to collect baseline data. The data collected in this phase was used to develop service standards (workload components and activity standards) for a WISN analysis. In phase two, the activity standards developed based on phase one pilot was validated in nearly all 173 facilities of CHAG which used the WISN tool to develop their human resource plans. The results from this phase were consistent with that of phase one. Following this was a scale-up of data collection and concurrent re-validation of the service standards in another twenty-three (23) Government-owned facilities. Phase three comprised of data quality evaluation and validation of facility based WISN results (staffing requirements), workload based facility categorization and meta-analysis of facilities' WISN results to develop Staffing Norms.

This document is the first volume (volume I) of the Staffing Norms/Staffing Standard resulting from the efforts described above. This volume of the staffing norms covers about 74% of clinical and some non-clinical health workers in Health Centres, District Hospitals, Regional Hospitals and Teaching Hospitals based on workload.

Health facilities have also been categorised according to their workload levels and each category of health facilities have a stipulated minimum staffing requirement and a maximum or ceiling beyond which additional staff without commensurate increase in workload is undesirable. Even though the Staffing Norms is intended as a planning tool, the associated activity standards (service standards) could be used or further developed into a performance benchmark to aid performance management, monitoring and evaluation.

The Norm has been extensively validated with stakeholders and pilot testing have been undertaken by GHS and CHAG and the results extensively discussed with stakeholders whose input has been incorporated.

It is hoped that all agencies, partners and health facilities would make good use of the norms as basis for human resources planning and distribution to strive towards our goal of achieving Universal Health Coverage (UHC) and the post 2015 Sustainable Development Goals (SDGs).

MEMBERS OF THE STEERING COMMITTEE

The Steering Committee provided policy direction and leadership for the implementation of the WISN process and the subsequent development of Staffing Norms from the WISN results. Members of the Steering Committee are;

1. Dr. Alfred Sugri Tia - Former Hon. Deputy Minister of Health
2. Dr. Afisah Zakariah - Ag. Chief Director, MOH
3. Madam Salamatu Abdul Salam - Former Chief Director, MOH
4. Dr. Sylvester Anemana - Former Chief Director, MOH
5. Dr. Ebenezer Appiah Denkyira - Director General, Ghana Health Services
6. Mr. Alexander Arphul - Former Director, HRH, MOH
7. Dr. Erasmus Agongo - Former Director, PPME, GHS
8. Mr. Herman Dusu - Financial Controller, MOH
9. Dr. Margaret Chebere - Director, HRD, GHS
10. Dr. Gilbert Buckle - Chief Executive Officer, Korle-Bu Teaching Hospital
11. Mrs. Ramatu Ude Umanta - Director, Finance, GHS
12. Mr. Selassi Amah d'Almeida - Health Economics Advisor, WHO, Ghana
13. Mr. Emmanuel Owusu Ansah - Ag. Director, PPME, MOH

WISN STUDY AND DATA COLLECTION TEAM

The team collected data from the selected health facilities and performed the facility-based WISN analysis. The team included:

1. Dr. Margarret Chebere
2. Mr. Victor Francis Ekey
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19. Mr. Molayo Decker
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21. Mr. Karikari
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24. Mr. Zanu Daasah
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27. [Regional HR Managers, Ghana Health Service](#)

TECHNICAL WORKING GROUP

The Technical Working Group (TWG) undertook further analysis of the facility-based WISN results to develop the Staffing Norms.

1. Dr. Kwasi Asabir
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1.0 INTRODUCTION

1.1 BACKGROUND AND RATIONALE

The health sector of Ghana has been confronted with inadequate numbers and lack of right skill mix of the required health professionals. Ghana has been identified as one of 49 countries categorized as low-income economies by the World Bank but still fell short of the recommended minimum threshold of 23 doctors, nurses and midwives per 10,000 population that was established by WHO as necessary to deliver essential maternal and child health services¹. Though Ghana has made strides to increase the absolute numbers of health professionals, the continuing growth of the national population has not made it possible for the country to meet the recommended minimum threshold for doctors, nurses and midwives per 10,000 population. Added to this is the inequitable distribution of the existing health workers across the country. Whilst the workers in the health sector appear to be evenly distributed across the ten regions of the country proportionate to the regional populations, the highly skilled clinical staffs are mostly located in urban areas and big towns, which are found mostly in the southern part of the country. This makes the southern urbanised areas to have a higher clinical staff per capita than the rural and deprived areas, which are mostly located in the northern part of the country. The Ministry of Health attempted to address the inequity in staff distribution across its facilities using WHO Population Ratio Staffing Norms and later developed Facility Staffing Norms in 1992. These norms have not been reviewed since their developments though their implementations have faced challenges, therefore leaving the issue of inequity largely unresolved.

As a result, the Ministry in 2011 decided to use WHO's Workload Indicator for Staffing Needs (WISN) which considers actual workload to determine the number of health workers of a particular cadre required in a given health facility; and assess the workload pressure of the health workers in the given facility. WHO supported the training of a core team drawn from various institutions in Ghana health sector and from other countries such as Kenya, Liberia, and Sierra Leone in 2011 in the WISN application. Additional personnel were identified and trained to lead the development of the staffing norms. This document is therefore a product this concerted effort of the Ministry of Health and its service delivery agencies in addressing HRH inadequacies and maldistribution in Ghana.

¹ Source: WHO Global Atlas of the Health Workforce, August 2010

1.2 OBJECTIVE OF THIS DOCUMENT

The objective of this document is to provide staffing requirements for each level of health facilities in Ghana from health centres, through polyclinics, to district hospitals (primary), regional hospitals (secondary), tertiary hospitals and psychiatry hospitals. This is a Human Resource (HR) planning tool intended to be used by agencies and health facilities to help address the challenge of maldistribution of staff and provide a blueprint to tackle shortages of critical staff in the sector.

1.3 GUIDELINES TO USE OF THE DOCUMENT/STAFFING NORMS

Staffing Norm is a human resource planning tool that gives indication of the number and calibre of staff required in a given health facility. Staffing norms tend to ensure efficient HR utilisation, a more equitable distribution and accountability.

This staffing norm is a workload-related evidenced-based one that is quite simple to use. It is designed to accommodate changes in workload levels from time to time. To use this staffing norms appropriately, one needs *workload of health facilities taken from only reported statistics* in reliable sources and databases such as DHIMS and annual reports. As much as possible, the use of unofficial data or anecdotal ‘evidence’ should be avoided. *It is also better to use the average annual data of the last two or three years.*

To use this norm as a planning tool, the following simple steps and notes are useful guides.

1. Workload category of health facility:
 - a. **For District Hospitals:** Obtain the annual OPD attendance and inpatients data from DHIMS or other reliably reported source(s) and then use table 4 (section 3.2 on page 11) to find out the workload category of the hospital. NOTE that if the hospital data is discordant on the classification table (i.e. the OPD and inpatient data are not on the same category), it is the LOWER category that must be used until there is any change in the future. For instance, a hospital whose OPD is in category C but the inpatient is in category B would be classified in category B and vice versa.
 - b. **For Health Centres:** Use only OPD attendance. Note that Health Centres with workload in category C are deemed to be functioning at the level of

Polyclinics and thus requires similar levels of staffing. They are however, NOT by virtue of this designated as such. Such designation could require other considerations beyond workload and staffing needs.

- c. **For Teaching Hospitals:** Teaching Hospitals are nominally classified into Emerging (recently established or developing) and Established (well developed) Teaching Hospitals.
 - d. **For Polyclinics, Psychiatric and Regional hospitals:** No classification is made.
2. **Minimum and maximum staffing levels:** Each health facility type is assigned a range of staffing requirement for each staff category. Health facilities should use the minimum staffing requirement as the basis for gap analysis and initial HR planning which should then be adjusted on annual basis using the adjustment/projection guide on section 3.6 (page 20). Where the workload change is far more than 15%, it is advisable to check if the workload category has changed or not.

NOTE: The staffing requirements given in this norm are in aggregates for staff categories and thus, Managers need to ensure an appropriate skill mix within the numbers based on staff availability and context. As a guide, HRD, GHS has designed a skill mix framework which is being piloted.

Remember that the norm is only a guide and does not replace managerial responsibility and critical analysis of the context. However, reasons to exceed the norms should always be based on compelling ‘evidence’.

2.0 METHODOLOGY

2.1 DESIGN- WISN AND ITS PROCESSES

The Workload Indicators of Staffing Needs (WISN) was the primary method used for facility-based analysis of staffing requirement which was followed by the use of inferential statistics (t-test for independent samples, paired t-test and one-way ANOVA) for secondary analysis of the WISN results to determine the staffing norms for the various levels of facilities.

Workload Indicators of Staffing Needs (WISN) is a human resource management tool introduced by WHO to support the determination of the number of health workers of a particular cadre which are required to cope with the workload of a given health facility; and to assess the workload pressure of the health workers in the concerned health facility. The Ministry of Health decided to use WISN to determine its staffing needs in 2011 and followed it with training of selected Human Resource Managers, Health Planning and Information Officers and other Health Managers in the application of WISN in collaboration with the World Health Organization.

2.2 IMPLEMENTATION STRATEGY

The implementation of the WISN process was undertaken by two committees. Thus, a Steering Committee and Technical Working Group with membership from MOH (PPME and HRH) Divisions, GHS (HRD, RHAs) KATH, CHAG and WHO were formed to provide policy direction as well as initiate actions and other activities related to the implementation of activities under WISN.

2.3 THE WISN PROCESS

The WISN process comprises of the following sequential steps which was piloted and later scaled up to generate ‘sufficient’ health facility WISN outputs for development of the staffing norms.

1. Determining priorities for WISN application
2. Estimating Available Working Time
3. Defining workload components
4. Setting Activity Standards
5. Establishing Standard Workloads
6. Calculating Allowance Factors
7. Determining WISN-based staff requirements
8. Analysing and interpreting results
9. Use and share results

For details on how each of these WISN steps were undertaken in health facilities in Ghana, please see the technical report.

2.4 FROM WISN TO STAFFING NORMS: THE GHANA MODEL

Following facility level WISN-based determination of staffing requirements for selected health facilities, further inferential statistical analysis was used to establish acceptable levels of staffing norms for the various categories of health facilities. This process included sorting, validation, categorization of facilities and the use of Inferential Statistical Tests for setting staffing norms boundaries.

- a) **DATA SORTING:** data sorting included compilation and arrangement of all WISN results (individual facility staffing requirement) into a single table for inspection, validation and comparison by facility and cadre.
- b) **VALIDATION (INTERNAL AND EXTERNAL):** Each facility WISN output (staffing requirement) was assessed for internal and external validity. For internal validation, the facility WISN output was checked to see if the results generally made

sense in the light of the workload volume of the facility and also against expert knowledge about the general staffing situation in Ghana. Facility-based WISN output was also checked for relativities among cadres in the same facility. For external validation, facility-based WISN outputs was assessed to find out if there was any significant difference between that facility and others of similar status and service utilisation. Whenever unexplained discrepancies were detected, a verification of the inputted data vis-à-vis expert consultation and a re-run of the WISN study were made to correct errors.

c) CATEGORISATION OF HEALTH FACILITIES WORKLOAD LEVEL:

Health facilities, sometimes within the same designation (classification) like health centres and district hospitals are not homogenous since they vary in terms of their inputs and outputs levels. For the sake of developing a simple but an analytical staffing norm, the facilities within each classification were categorised based on their annual out-patient and inpatient utilisation. The Out-patient (OPD) and In-patient utilization data from the facilities were plotted on a scatter diagram to identify classical associations. Each association was made a category which aided in establishing the norms for each category of health care facility. Out-patient (OPD) and In-patient utilization data were used as basis for facility categorisation because it was noted that clients utilizing a facility were usually captured at the OPD (irrespective of the type of services they receive) and therefore all other service utilization data was deemed as a fraction of the OPD data. Also, total admission in health facilities is an important benchmark for all In-Patient services (which is arguably most labour intensive). There were statistically significant differences between the different workload categories (between groups) but no significant within group differences. Polyclinics, Psychiatric hospitals and regional hospitals were not

classified because they were too few with no much difference in terms of workload data except Ridge Regional Hospital which as a positive outlier.

However, Teaching Hospitals (TH) were nominally categorised into two; that is Established (EsTH) and Emerging Teaching Hospitals (EmTH). The EsTH were the two oldest THs whilst the EmTH are the newly established or those being established. This classification was statistically justified by comparing EsTH and EmTH by comparing their OPD attendance and admissions. The results showed that the OPD attendance at EmTH was 36 percentage point lower than that of the EsTH ($P = 0.01$). Furthermore, the EmTH total inpatient was 54 percentage points lower than of the EsTH ($P=0.02$).

d) SETTING STAFFING NORM BOUNDARIES (STATISTICAL ANALYSIS):

The sampled facility-based WISN results were independently drawn with the population mean not known and WISN outputs are at least on the interval scale. The data was fairly symmetric and therefore the t-test for independent samples was used to test the equality of means at a 95% confidence level within the workload categories. The lower and upper confidence limits respectively represented the minimum and maximum staffing requirements within workload categories within the staffing norms. Although t-test was the main statistical tool used, other techniques were used in situations where t-test was not useful.

For more details on statistical analysis, see the technical report.

3.0 THE STAFFING NORMS

3.1 HEALTH CENTERS AND POLYCLINICS

In determining on staffing requirements for health centres, they are categorized into two broad groups based on their annual outpatient coverage as depicted in Table 4 below. The health centre with the least staff requirements classified as “A” needs to cater for at least 12,655 outpatients per year as against category “B” which attend to between 13,678 and 28,119 outpatients per year. Any health centre that attends to a minimum of 29,525 outpatients per annum qualifies for staffing requirements similar to that of polyclinic. For health centre classified in category “A” to move to a higher category of “B”, it needs to increase its outpatient coverage per annum by at least 5 percent as shown in Table 6 below.

TABLE 1: HEALTH CENTRE CATEGORIZATION

OPD Attendance	Type	Facility
$\leq 12,655$	A	Health Centre
13,678 - 28,119	B	Health Centre
$\geq 29,525$	C	Polyclinic

TABLE 2: STAFFING NORMS FOR HEALTH CENTRES

STAFF CATEGORY	WORKLOAD CATEGORY A		WORKLOAD CATEGORY B	
	HC A min	HC A Max	HC B Min	HC B Max
Finance Officer	0	0	1	2
Accounts Officer (cash & NHIS)	1	1	1	2
Biostatistics Assistant	1	2	2	3
Physician Assistant (Medical)	1	2	3	4
General Nurses	3	6	7	13
Enrolled Nurses	3	5	5	8
Midwives	2	4	4	6
Community Health Nurse	4	8	8	12
Mental Health nurse	1	2	2	3
Field Technician	1	1	1	2
Laboratory Technician	0	0	1	2
Laboratory Assistant	1	2	2	3
Dispensing Technicians and/or Dispensing Assistant	1	3	3	4
Storekeeper	1	1	1	2

Table 3 depicts staff requirements for polyclinics, which are, designated so as far as they cater for a minimum of 29,525 outpatients per annum.

TABLE 3: STAFFING NORMS FOR POLYCLINICS

STAFF CATEGORY	Minimum	Maximum
Accountant	1	2
Accounts Officer	3	6
Finance Officer	1	2
Internal auditor	1	2
Biomedical Scientist	2	4
Laboratory Assistant	3	4
Laboratory Technician	8	13
Biostatistics Assistant	5	11
Technical Officer (HI)	2	4
Medical Officer	1	7
Field Technician	1	2
Midwife	5	11
Community Health Nurse	8	13
Enrolled Nurse	4	10
General Nurse	12	26
ENT Nurse	1	2
Ophthalmic Nurse	1	2
Public Health Nurse	1	3
Nutrition	1	2
Dispensing Assistant	2	4
Pharmacist	1	2
Pharmacy Technician	3	6
Physician Assistant (COHO)	1	2
Physician Assistant (Medical)	3	8
Mental Health Nurse	1	2
Radiographer	1	2
Health Service Administrator	1	2
Procurement Officer	1	2
Storekeeper	1	2
Supply Officer	1	2

3.2 DISTRICT (PRIMARY) HOSPITALS

District (primary) hospitals in Ghana vary in terms of their output levels. Using outpatients² and admissions³ per annum as proxies, the district hospitals are categorized into four broad bands to facilitate determining their staffing requirements. As depicted in diagram 5 below, district hospital with the least staffing requirements classified as A are those that attend to a maximum of 46,574 outpatient and 4,157 admissions per annum. Category B should attend to between 48,903 – 76,308 outpatient cases and between 4,685 – 6,563 inpatient clients per annum whilst Category C outpatient cases should be between 80,123 – 100,000 and admissions of 6,834 – 9,000 per annum. The category D which has the highest staff requirements should attend to at least 105,000 outpatients and 9,450 admissions per year. For a facility to move from one category to a higher one there is the need for it to increase its outpatient and admission outputs by at least 5 per cent beyond its upper limit. For facility in category A to be reclassified as B, there it must increase its maximum outpatient output from 44,574 to 48,903 and its admissions from 4,157 to 4,685.

TABLE 4: CATEGORIZATION OF DISTRICT HOSPITALS BY WORKLOAD LEVELS

Total Annual OPD	Total Annual Admissions			
	≤4157	4685 - 6563	6834 – 9000	9450 +
≤46574	A			
48903 – 76308		B		
80123 – 100000			C	
105000 +				D

2. *The use of OPD and admissions as co-indicators reduces the chance of unnecessary shifting due to unusual happenings eg. One-off outbreak of disease*

3. *Admission as a percentage of OPD is around 5%-11% (9.5% on the average)*