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Abstract

Background: Oman is a high-income country having a relatively small population scattered over large sparsely populated areas. This presents challenges to the provision of health services. It is important to ensure that all health facilities at all levels of care have the right number and skills mix of health workers to deliver quality health care.

Aims: The main aim was to develop national staffing norms to ensure adequate numbers, appropriate skills mix and equitable distribution of health professionals in primary health care (PHC) using the workload indicators of staffing needs (WISN) method.

Methods: All types of PHC services were itemized (promotive, preventive, curative, and rehabilitative and support services). We used 2014 data from the health information system and the human resources management information system to develop staffing norms using the WISN method. First we set the norms based on the national average for the activity standards, then simulated the norms in Muscat governorate, which has 32% of the population.

Results: We calculated the required numbers of GPs and specialists for PHC centres providing core as well as core and supplementary services and the expected annual outpatient attendance. The simulation showed that doctors were less workload stressed (WISN ratio 1.02) than nurses (WISN ratio 0.66) on average, although some variations between health centres were noted.

Conclusions: Additional parameters (e.g. planned new services; local disease profile; change in health policies) may be added in future to re-adjust the calculation method once the health services mapping and human resources for health profiles for each governorate is completed.

Keywords: health services, human resources, Oman, WISN, workload

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Introduction

The Sultanate of Oman is a high-income country having a relatively small population of nearly four million, of which 42.2% are expatriates or non-nationals, scattered over large areas of sparsely populated settlements which present challenges to the provision of health services (1).

The Ministry of Health recognized the importance of ensuring that all health facilities at all levels of health care have the right number and skills mix of health workers to deliver quality of health care to the population served. This was stated clearly in Oman Health Vision 2050 that called for quality care and sustained health (1). As a result, the Directorate General of Planning and Studies and the Directorate General of Primary Health Care worked jointly in adapting and adjusting the workload indicators of staffing needs (WISN) method. This was developed by the World Health Organization (WHO) to develop the national standards for primary health care institutions to assist health planners and managers to appropriately recruit and distribute health workers across geographical locations and primary health care (PHC) facilities (2) and has been used by many countries in different settings (3–6). It calculates the number of health workers per health facility based on the workload by providing gap/excess between the current and

required number of health workers, and it also provides a proxy measure, the WISN ratio, to assess workload pressure on health workers.

Our objective is to develop national staffing norms to ensure adequate numbers, appropriate skills mix and equitable distribution of professionals working in PHC in Oman using the WISN method. This paper describes the process of formulating the national norms and presents the key findings and some of the limitations.

Methods

First, a joint team from the Directorate General of Planning and Studies and the Directorate General of Primary Health Care listed all types of primary health care services provided currently. This list comprises 42 services that encompass promotive, preventive, curative, and rehabilitative and support services. Next, the team categorized the services into three packages of services based on the location and catchment population served. These are: core services (basic), supplementary services, and complementary services (Table 1). Hence, each health facility will provide a defined package of primary health care services within its catchment area.

The WISN steps were followed in calculating the health service activity (activities performed by all members of the staff category and for which annual statistics are regularly collected) and the support activity (the important activities that support health service activities, performed by all members of the staff category but for which annual statistics are not regularly collected). Thus the health service activities of doctors, nurses, dentists, pharmacists, assistant pharmacists and laboratory technicians were listed, the activity standards (defined as the time necessary to perform an activity to acceptable professional standards in the local circumstances) and standard workloads (the amount of work within a health service component that one health worker can do in a year) (2) were set and calculated manually. It is worth mentioning that most the activity standards set for the health service activities of the general practitioner (GP) were 16 minutes per case, thus the team decided to take it as an average to develop the national norms. The same applied for the specialist (21 minutes per case).

The support activities for GPs were also identified (for health centres providing the core services as well as those providing core and supplementary services); the category allowance standard, defined as the allowance standard for support activities performed by all members of a staff category (2), was determined for both types of health centre (17% for centres providing core activities and 23% for centres providing core and supplementary services); The category allowance factor (a multiplier used to calculate the total number of health workers required for health service and support activities) was then calculated (2). The category allowance factor was set as minimum and maximum (i.e. 1.2 and 1.3) to suit the context of the PHC institutions in

terms of service package based on the formula:

Category allowance factor = 1/[1 – (total category allowance standard/100)].

Some modifications to the WISN were made in order to ease the development of the national norms, e.g. setting the personal time allowance as 15% instead of calculating the individual allowance factor, taking the national average number of nurses per doctor at PHC level as 2.2 instead of applying the WISN for nurses, calculating the average visits per person per PHC facility per year 4.2. This average was determined using the data of the annual health report for 2014 (9 546 903 visits/2 260 705 population) (7) and linking it to the catchment population.

The PHC institutions that provide the core services are staffed by GPs, while the PHC institutions that provide both the core and supplementary services are staffed by GPs plus specialists.

Where activities are shared between two cadres (e.g. vaccination of children where the child should first see the doctor and then go to the nurse to receive the vaccination), the activity standard was divided between the two cadres according to the time spent by each cadre. The Directorate General of PHC validated the main workload components and activity standards.

The data used to calculate the staffing norms were from 2014 (7) and extracted from the computerized records of the health information system and the human resources management (HRM) information system. The calculations were based on the PHC services utilization pattern in 2014, which showed that the average annual number of visits per person per PHC facility was 4.2 (7).

Although the staffing norms were made for all cadres working at PHC institutions, the calculations displayed in the results are attributed to doctors and nurses. The team first set the norms based on the national average of the activity standards, then simulated the norms in Muscat governorate (the capital) based on 2014 annual statistics. The WISN ratio was also calculated by dividing the current number of staff by the required number. A WISN ratio of 1.00 shows that current staffing is in balance with the staffing demands for the workload of the health facility. A WISN ratio of > 1.00 is evidence of overstaffing in relation to the workload. Conversely, a WISN ratio of