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technical report

**Malawi Health Human Resource
Information Systems:
Supporting the Development and
Monitoring of Health Human
Resource Deployment and
Training Policies and Plans**

JHP-24

Prepared by

Catherine Schenck-Yglesias, MHS

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Editor: Dana Lewison

Production Assistance: Youngae Kim

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Ministry of Health and Population

Mr. Peter Chadza
Mr. Chet Chaulagai
Mr. Samuel Chembe
Mr. David Kalomba
Mr. Mike Makuti
Mr. R.H.E. Mapemba
Mr. Chris Moyo
Dr. Michael O'Carroll

Ministry of Finance

Mr. Chance Mwabutwa

Nurses and Midwives Council of Malawi

Mrs. Linley L. Linyenga

Medical Council of Malawi

Mr. E. Gumbo

Pharmacy, Medicines and Poisons Board

Mr. P. Tembo
Mr. W. Chalira

Christian Health Association of Malawi

Mr. Maxwell Dinga Moyo

Group 5

Mr. John S. Paton

Japan International Cooperation Agency (JICA)

Ms. Tomoko Harada
Mr. Norio Mulauzi Kasahara
Dr. Dai Hozumi

John Snow, Inc.

Mr. John E. Zingeni

UNICEF

Ms. Deguene Fall

UNIPRO (Africa) Limited

Mr. Robin Ludford Brook

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ABBREVIATIONS AND ACRONYMS

AIDS	Acquired Immunodeficiency Syndrome
ARV	Antiretroviral Therapy (for HIV/AIDS)
CHAM	Christian Health Association of Malawi
DFID	Department for International Development
DHO	District Health Office
EHP	Essential Health Package
ENR	Electronic Nurse Registry
FP/RH	Family Planning/Reproductive Health
GoM	Government of Malawi
HIV	Human Immunodeficiency Virus
HMIS	Health Management Information System
HRIS	Human Resource Information System
HRH	Human Resources for Health
HRMD	Human Resources Management and Development (at Malawi MOHP)
JICA	Japan International Cooperation Agency
JSI	John Snow, Inc.
LATH	Liverpool Associates in Tropical Health
MCM	Medical Council of Malawi
MOHP	Ministry of Health and Population
MOLG	Ministry of Local Government
MPRSP	Malawi Poverty Reduction Strategy Paper
NMCM	Nurses and Midwives Council of Malawi
PLWHA	People Living With HIV/AIDS
PMPB	Pharmacy, Medicines and Poisons Board
PMTCT	Prevention of Mother-to-Child Transmission (of HIV)
PPP	Payroll, Pensions and Personnel
RHU	Reproductive Health Unit
TIMS	Training Information Monitoring System
TRH	Training in Reproductive Health
UNICEF	United Nations Children's Fund
USAID	United States Agency for International Development
WHO	World Health Organization
WISN	Workload Indicators of Staffing Needs





EXECUTIVE SUMMARY

The Malawi Fourth National Health Plan states that the achievement of an “*adequate and equitable distribution of appropriately trained and effective staff to provide planned health services in Malawi*” is a national goal. Deployment and training policies and plans grounded in and monitored and evaluated according to reliable health human resource data would provide a guide for Malawi’s health sector leaders as they attempt to realize this desired outcome.

WHO, World Bank, and other human resources for health experts globally have recognized the dearth of human resource data for the health sector in many developing countries. In the present assessment, JHPIEGO reviewed the availability of staff deployment and training data from routine information systems in Malawi to inform the Ministry of Health and Population (MOHP) of deficiencies that would need to be addressed in order to better inform the development and ongoing monitoring of deployment and training policies and plans.

This report is the result of a number of technical assistance site visits to Malawi between February 2001 and December 2002, in addition to the review of several reports and consultant documents focused on human resources and training monitoring systems in the Malawian health sector.

The report divides human resources for health (HRH) data into two categories: demand and supply. Demand data tell a health sector leader how many personnel in each cadre in each type of facility, and in which geographical areas, are needed. Supply data tell the decision-makers how many personnel there are presently or will be available. Demand sources reviewed in the present assessment include the current establishment and functional review of HRH in Malawi, and the World Health Organization (WHO) Human Resource for Health computer model, used by JHPIEGO and Keele University in 2003 in Malawi to project HRH demand. The review of supply data revealed that 10 parallel data sources on HRH are in place covering Malawi MOHP personnel, while one streamlined data source was in place at the Christian Health Association of Malawi.

Training data sources from preservice institutions and family planning/reproductive health (FP/RH) inservice programs were also reviewed as part of this assessment.

As a result of the present review, JHPIEGO recommends the following specific actions be taken with the goal of improving the routine HRIS for the MOHP:

- ◆ Human Resources Management and Development (HRMD) and the instituting department for parallel uses and outputs of the system should jointly examine each MOHP HRH data source listed in this report.
- ◆ A formal systems requirement analysis and process should be followed with HR information systems vendors to achieve the desired outcomes for routine HR data.

JHPIEGO recommends the following specific actions be taken with the goal of strengthening the MOHP HRH planning function:



- ◆ Specific Malawi MOHP personnel should be identified for capacity building using the WHO HRH Projection Model so that they can gain the needed knowledge and skills to carry forth HRH model updates in future years.
- ◆ District Health Office (DHO) staff and central hospital administrators should be identified to work with the WHO HRH modeling team, to support the decentralization of HR planning functions.

JHPIEGO recommends the following specific actions be taken with the goal of applying HRH data to preservice and inservice training:

- ◆ Each training institution should use the HRH model training projections, from the Malawi Human Resources for Health Sector Strategic Plan, to come up with their own annual training plans, which together will fill the national needs for health human resource production over the next decade. This process responds directly to recommendations from the WHO/World Bank consultative meeting on HRH in Africa, that “intake into training institutions should be guided by strategic human resources plans for the Ministry of Health.”¹
- ◆ Starting with HRH data inputs, use the computer model ProTrain™ to project needed numbers of RH service providers over the next decade. Use the Reproductive Health Unit’s TIMS® database to assess whether current levels of inservice training will meet intended targets shown from ProTrain results.

¹ World Health Organization/Regional Office for Africa (WHO/AFRO). *Building Strategic Partnerships in Education and Health in Africa: Consultative Meeting on Improving Collaboration between Health Professionals, Governments and Other Stakeholders in Human Resources for Health Development*, Addis Ababa, 29 January–1 February 2002, report on the consultative meeting. http://www.afro.who.int/hrd/consultative_meeting_report.pdf, p. 11.



Malawi Health Human Resource Information Systems: Supporting the Development and Monitoring of Health Human Resource Deployment and Training Policies and Plans

BACKGROUND

For 30 years, JHPIEGO has been developing and providing training and training materials to clinical trainers, faculty, and clinical preceptors, primarily in the field of reproductive health. JHPIEGO's competency-based training has directly reached more than 32,000 healthcare professionals and educators in developing countries, ultimately having an impact on more than 100,000 service providers globally. In recent years, JHPIEGO has also strengthened the organization of health services in developing countries, structuring sustainable supervision systems and initiating clinical performance improvement initiatives. JHPIEGO's results-driven efforts have been aimed at building and strengthening sustainable training systems for health professional in developing countries, with the goal of improving service delivery. As the World Health Organization (WHO) *World Health Report 2000* states:

Human resources, the different kinds of clinical and non-clinical staff who make each individual and public health intervention happen, are the most important of the health system's inputs. The performance of health care systems depends ultimately on the knowledge, skills and motivation of the people responsible for delivering services.²

JHPIEGO's work has logically extended into the broader field of health human resource development in the past 2 years, specifically under the United States Agency for International Development (USAID) Training in Reproductive Health (TRH) Project in Malawi.

Trained providers need to be working where their expertise is best put to use to meet their country's health needs. In Sub-Saharan African countries, including Malawi, dispensaries, health posts, and health centers located in rural, outlying areas are often inadequately staffed, because government and private sector providers are not successful in filling hardship posts in remote areas. In addition, burgeoning HIV/AIDS rates have led to high caseloads of tuberculosis and other infectious diseases in central and district hospitals, often exceeding the ability of available staff to care for them adequately. These staff may not all have current knowledge and skills related to the care of people living with HIV/AIDS (PLWHA).

The WHO categorizes such human resource challenges that impact service delivery as follows:

- ◆ Numerical imbalances
- ◆ Training and skill mix imbalances
- ◆ Distribution imbalances
- ◆ Failure of past public policy approaches³

² World Health Organization (WHO). 2001. *World Health Report 2000—Health Systems: Improving Performance*. WHO: Geneva, p. 77.

³ *Ibid.*, p. 79.



Consistent with this typology, JHPIEGO's first steps in addressing human resource needs in Malawi have been the creation and use of tools for planning and policy development, monitoring, and evaluation. The strengthening of information systems to track human resources for health (HRH), to inform long-term planning to meet changing needs, and to relate HRH to the quality of ongoing health services is an intervention that could show where to target health sector investments wisely under dynamic yet consistently underserved situations. As Alwan and Hornby (2002) have stated:

A plan for health must be formulated with well-defined targets, together with a linked plan for human resources, with clear objectives for the development, deployment, and utilization of health service staff. This will need to be supported by a relevant and reliable Human Resources for Health information system, which will enable planners and managers to monitor progress in terms of individual and corporate performance. Basic and post-basic training should be linked to these objectives, with some form of institutional licensing to ensure that the necessary staff quality is achieved and maintained.⁴

The *Malawi National Health Plan 1999-2004: Volume 3—Health Sector Human Resources Plan* states that as yet no national health human resource policy document exists.⁵ It further states that a health sector working group has been established to oversee the development of a new human resource plan, which will be approved by the Ministry of Health and Population (MOHP). JHPIEGO has been funded by USAID to provide technical assistance to the Government of Malawi (GoM) in developing the health human resources policies and plans, specifically for deployment and training.

The purpose behind constructing Malawi's Fourth National Health Plan is "*adequate and equitable distribution of appropriately trained and effective staff to provide planned health services in Malawi.*"⁶ The deployment and training policies and plans will aim to achieve these staffing requirement goals, providing a guide for Malawi's health sector leaders to effect the desired outcomes of competent performance and quality of service to meet population health needs.

Given the dynamic situation within the Malawi healthcare workforce, a yearly review has been recommended to revise and extend the National Health Plan, making it necessary to annually revise the numbers reflecting demand and supply of healthcare workers. A recent WHO and World Bank consultative meeting in Africa proposed "[undertaking] country-specific analysis of the health workforce situation so that action is based on evidence rather than only perception."⁷ Likewise, Alwan and Hornby (2002) have noted that one of the obstacles to human resource

⁴ Alwan A and P Hornby. 2002. The implications of health sector reform for human resources development. *Bulletin of the World Health Organization* 80(1): 56–60, p. 58.

⁵ Government of Malawi, Ministry of Health and Population. 1999. *Malawi National Health Plan 1999-2004: Volume 3 – Health Sector Human Resources Plan*. (November).

⁶ Ibid.

⁷ World Health Organization/Regional Office for Africa (WHO/AFRO). *Building Strategic Partnerships in Education and Health in Africa: Consultative Meeting on Improving Collaboration between Health Professionals, Governments and Other Stakeholders in Human Resources for Health Development*, Addis Ababa, 29 January–1 February 2002, report on the consultative meeting: http://www.afro.who.int/hrd/consultative_meeting_report.pdf, p. 17.



development is that “data on human resources are either limited or unreliable, or assembled for administrative purposes alone.”⁸ JHPIEGO is thus assessing the availability of staff deployment and training data from routine information systems in Malawi, in order to inform the development and ongoing monitoring of deployment and training policies and plans.

METHODOLOGY

This report is the result of a number of technical assistance site visits to Malawi between February 2001 and December 2002, in addition to the review of several reports and consultant documents (see bibliography) focused on human resources and training monitoring systems in the Malawian health sector.

On site visits, interviews with the MOHP, the Christian Health Association of Malawi (CHAM), Nurses and Midwives Council of Malawi (NMCM), Medical Council of Malawi (MCM), the Ministry of Finance, and most recently, the participants in the Malawi Human Resources for Health workshop, were extremely beneficial in contributing to JHPIEGO’s understanding of data flows and readily accessible information from various sources. Meetings with USAID mission staff and consultants in Malawi were also invaluable for understanding the country context. Of particular importance were written reports completed by the Department for International Development (DFID)/Liverpool Associates in Tropical Health (LATH) and Keele University consultants, whose Human Resource Development scopes of work are complementary to those of JHPIEGO in the Malawi health sector.

Notes were taken during meetings and written reports were reviewed. Where possible, examples of reports used in the various information systems or databases explored were requested and received from the implementing agencies and partners. To the extent possible, scanned images or graphic recreations of human resource information system (HRIS) components are included in this report to enhance reader understanding of the status of current Malawi information systems and their content. New graphic schematics of the parallel data systems in place currently are offered by the author to reflect an outside observer’s privileged view of the systems created within Malawi.⁹

Although optimal HRH data are not readily available to Malawi health sector stakeholders as of January 2003, this report shows where opportunities exist to streamline some information systems and enhance others to make the necessary reports available to HRH decision-makers in Malawi on a regular basis. This will set the stage, technically speaking, for the development and allocation of human resources to be undertaken in an informed and logical manner, working within financial resource constraints.

⁸ Alwan A and P Hornby. 2002. The implications of health sector reform for human resources development,” *Bulletin of the World Health Organization* 80(1): 56–60, p. 57.

⁹ It may be easier for an outsider to see from such an assessment where systems overlap or duplicate one another than can be seen internally while in the midst of creating such systems—usually, new systems are created to fill perceived gaps. Informatics specialists as well as knowledgeable health planners are necessary when creating or modifying human resource information systems (HRIS) to assure that user requirements research is completed, communication among stakeholders is clear, and that efforts result in the HRH deployment reports needed for both strategic planning and routine decision-making.



HRH DATA: MET AND UNMET NEEDS, BY CATEGORY

For purposes of health human resource planning, current and target data on the following aspects of health manpower are required:

1. Planned Health Services
2. HRH Demand
3. HRH Supply

Regarding HRH demand and supply numbers, it is instructive to note that:

There are no absolute norms regarding the right ratio of physicians or nurses to population; rules of thumb are often used. Generally, shortages or oversupply are assessed on the basis of need and priorities combined with comparisons with neighboring countries or those at a similar level of development. Such assessment requires sound data about available human resources and their geographical and professional distribution: such information is often lacking.¹⁰

The human resources needed to perform planned health services span beyond the clinical/professional realm. Core data elements for a health HRIS thus necessarily relate to the size, composition, deployment, and productivity of all health sector personnel. The HRH planning literature divides these elements into three areas, shown in **Table 1**.¹¹

Table 1. Core Data Included in a Human Resource Information System (HRIS)

Personal Data	Education/Training Data	Work-Related Data
Gender/age/marital status	Training type, location, name of school	Job location
Place of birth/nationality	Year of graduation or year of certification	Job title and grade/classification
Race/ethnicity/religion	Year of general education completion	Job description
Home address/residence	Licensing status	Functional specialization
Language	Specialization/certification	Hours/days of employment
	Other training	Absences/attendance/travel
		Inservice and refresher training
		Past work history

Adapted from: Schenck-Yglesias C and S Green. 2003. *Human Resources Information Systems: A Literature Review*. JHPIEGO Working Paper, Unpublished Draft. (January).

¹⁰ World Health Organization (WHO). 2001. *World Health Report 2000—Health Systems: Improving Performance*, WHO: Geneva, p. 80.

¹¹ Schenck-Yglesias C and S Green. 2003. *Human Resources Information Systems: A Literature Review*. JHPIEGO Working Paper, Unpublished Draft. (January).

Collecting information on all health personnel, rather than focusing on particular cadres, is key in the new environment of cross training and skill mixing. Planners "...should collect information on all health personnel involved in the delivery of health services...because many health problems rely on a variety of providers and resources and do not fall within the boundaries of any single profession."^{12,13} This broad perspective is being taken in JHPIEGO's work with Malawi health sector stakeholders using the WHO Human Resources for Health conceptual framework and modeling tools.

Planned Health Services: the Primary Healthcare Approach

Planned health services optimally respond directly to the current health situation along with unmet population health needs, taking into account the current organization of health services between public and private sector providers, for a sector-wide approach. In Malawi, the MOHP employs 68% of the healthcare personnel in the country and CHAM employs 26%. Malawi's population of 11.6 million¹⁴ is divided into three geographic regions, and further into 27 districts. Despite a trend toward urbanization in the past three decades, about 85% of Malawians currently live in rural areas.¹⁵ More than 65% of Malawians are considered living below poverty level and about 80% of the labor force works in the informal sector, which includes self-employment in small-scale agriculture, labor estates, and larger farmers—the major sources of income for the rural poor.¹⁶

AIDS is the leading cause of death among 15–49 year-olds,¹⁷ with about 780,000 adults of reproductive age (15% prevalence) and 65,000 children estimated to be living with the HIV infection.¹⁸ With regard to treatment needs in Malawi, the five major causes of public sector healthcare facility outpatient visits in 1999–2000 were malaria (48%), diarrheal diseases (9%), abdominal diseases and skin diseases (7% each), and acute respiratory infection (6%).¹⁹ As a response to these conditions, and as set forth in the Malawi Poverty Reduction Strategy Paper (MPRSP), the GoM is implementing an Essential Health Package (EHP) through the MOHP.

¹² Bamberg R, D Malvey, C Wainright, MS Fottler, and CL Joiner. 1994. The development of a state-level health manpower database using an employer-based survey: A pilot project. *Journal of Rural Health* 10(3): 199–207, p. 200.

¹³ Schenck-Yglesias C and S Green. 2003. *Human Resources Information Systems: A Literature Review*. JHPIEGO Working Paper, Unpublished Draft. (January).

¹⁴ U.S. Census Bureau, International Data Base, October 2002 version.

¹⁵ MEASURE/DHS+. *Malawi Demographic and Health Survey 2001*.

¹⁶ Government of Malawi, Ministry of Health and Population. 2001. *Malawi National Health Accounts (NHA): A Broader Perspective of the Malawian Health Sector*. (June).

¹⁷ Department for International Development (DFID). 2002. *Towards a Mainstreamed Response to HIV/AIDS in DFID-Malawi*. Unpublished.

¹⁸ UNAIDS/WHO, 2002. *Epidemiological Fact Sheet on HIV/AIDS and Sexually Transmitted Infections*. Update.

¹⁹ Government of Malawi, Ministry of Health and Population. 2001. *Malawi National Health Accounts (NHA): A Broader Perspective of the Malawian Health Sector*. (June).



The planned health services for Malawi are thus currently composed of the Essential Health Package (EHP), a primary care centered approach that will require certain skills among healthcare staff to ensure successful service delivery.²⁰ The EHP “focus[es] on the major causes of morbidity and mortality, both amongst the general population and particularly on medical conditions and service gaps that disproportionately affect the rural poor.” The EHP’s key components include vaccine-preventable diseases:

1. Malaria
2. Adverse maternal and neonatal outcomes (including family planning)
3. Tuberculosis (TB)
4. Acute respiratory infection
5. Acute diarrheal diseases
6. Sexually transmitted infections (STIs), including HIV and AIDS
7. Schistosomiasis
8. Nutritional deficiencies
9. Eye, ear and skin infections
10. Common injuries²¹

HRH Demand

The deployment and training plans for the Malawi health sector will optimally consist of numbers and types of health professionals needed in each health facility in the country to provide EHP services to the Malawian population. Furthermore, the plans will stipulate preservice and inservice training needed to guarantee the availability of personnel of sufficient caliber to provide the required services. These are all ways to describe the demand for human resources for health.

Proven scientific methodology, taking into account population health needs in each facility’s catchment area, EHP services to be offered at each level of facility, and staff cadres authorized to provide services by current policy and service delivery guidelines, should be taken into account when estimating these demand figures for Malawi. Demand measurement is challenging, especially as there are a variety of methods with their own data requirements, such as ratios like nurses per population or staff per bed, productivity estimates, or epidemiological needs of communities and groups.²² The latter needs-based approach, in which resource

²⁰ Government of Malawi MOHP/UNICEF EHP Working Group. 2001. *Malawi Essential Health Package: Contents and Preliminary Costing*, Draft. (December).

²¹ Government of Malawi, Ministry of Health and Population/UNICEF EHP Working Group. 2002. *Malawi Essential Health Package: Revised Contents and Costing*. Final. (May). <http://www.malawi.gov.mw/health/health2adoc.htm>.

²² Bamberg R, D Malvey, C Wainright, MS Fottler, and CL Joiner. 1994. The development of a state-level health manpower database using an employer-based survey: A pilot project. *Journal of Rural Health* 10(3): 199–207.



requirements are based on the estimated health needs of populations, creates greater data demands than the approaches required for planning based on ratios.²³

Until late 2002, the **demand for healthcare workers** in Malawi had been assessed primarily by review of the number and type of posts established or recommended at each agency or ministry that employs health sector workers. There are currently two sets of establishment figures in use at the MOHP: (1) the Authorized establishment as given in the current Establishment Register, and (2) the Recommended establishment, the result of the Functional Review conducted by the Change Management Agency in 1998. However, “neither establishment is based on scientific formulae, and as a result, issues of staff mix and standards may not be adequately addressed.”²⁴ The functional review numbers have now replaced the previous establishment and thus are now the current establishment.²⁵ CHAM also has a set of established posts, but was not part of the Functional Review completed for the MOHP. We do not have figures of established or recommended posts for institutions other than MOHP and CHAM.

An example of this type of demand data for Malawi is shown in **Table 2**. As the author of the report who presented these data cites in the footnote: “Established posts may not reflect actual staff needs and may be over or under estimated.” With that said, reviews of these rates can be misleading as they only tell the reader that a certain portion of existing posts are not filled, but this does not necessarily equate to a percentage of unmet HRH need, if the establishment (total number of posts that could be filled) is unrepresentative of HRH needs.

Table 2. Vacancy Rates (%) for Malawi Healthcare Workers, 1998*

Vacancy Rate	Malawi
Doctors' vacancy rate	36.3
Nurses' vacancy rate	2.9
Auxiliary nurses' vacancy rate	18.4
Other health workers' vacancy rate	62.8
* Established posts may not reflect actual staff needs and may be over or under estimated	

Adapted from: WHO/AFRO. 2002. Planning Health Workers at the Heart of Health Services Delivery in Africa: A Synopsis (pamphlet): http://www.afro.who.int/hrd/hrd_pamphlet.pdf, citing: Dovlo DY. 1999. Report on Issues Affecting the Mobility and Retention of Health Workers/Professionals in the Commonwealth African States, a consultancy report prepared for the Commonwealth Secretariat (unpublished).

The current EHP cost model includes the following HRH demand data: (a) cadre, typical grade of cadre, number of cadre in post, number of cadre required by the EHP per facility type, number of facilities of each type nationwide, number of cadre required by EHP nationwide, current gap in cadre numbers; (b) staff remuneration, including professional/medical allowances, and remuneration increase factors; and (c) annual inservice training costs and

²³ O'Brien-Pallas L, S Birch, A Baumann, and G Tomblin Murphy. 2000. *Integrating workforce planning, human resources, and service planning*. World Health Organization (WHO): Geneva. Paper presented at the Workshop on Global Health Workforce Strategy, Annecy, France, 9–12 December 2000.

²⁴ Government of Malawi, Ministry of Health and Population. 1999. *Malawi National Health Plan 1999–2004: Volume 3—Health Sector Human Resources Plan*, p. 15. (November).

²⁵ Lungu S. 2002. Personal communication (JHPIEGO consultant). (August).



preservice training cost per cadre.²⁶ The above make possible the calculation of (d) total annual cost per cadre.²⁷ However, MOHP staff have indicated that these EHP numbers are also based on the current establishment rather than needs-based projections rooted in scientific methodology.

The MOHP Planning Unit was responsible for coming up with a new establishment for 2002 and beyond to replace the numbers generated in 1998. JHPIEGO provided technical assistance in hiring Dr. Peter Hornby and Ms. Serpil Ozcan of Keele University, UK, as consultants to work with the Planning Unit using the WHO Human Resources for Health Toolkit for projecting economically feasible staffing numbers for the next 10 years. (Dr. Hornby and Ms. Ozcan have successfully run workshops on Human Resources Projections for Health,²⁸ and written strategic human resource plans²⁹ in other developing countries, e.g., Nepal.) This is only a first step in arriving at the detailed establishment that is needed.

Using the WHO Human Resources for Health Model for Malawi HRH Demand Estimation

The WHO HRH methodology has been deemed appropriate for Malawi's HRH demand calculations. Although there are a variety of methodologies in the literature, the HRH model is useful for developing countries because it can adapt to various levels of data input:

In 1992, the WHO first developed a micro-computer-based projection model to assist health authorities with long-term policymaking regarding the supply of and requirements for human resources for health (HRH). The resulting computer program, HRHLong, now in version 3.0 and available in several languages, has been introduced to more than 60 countries. Based on this experience and in response to requests for additional models appropriate for intermediate and short term projections, WHO recently developed an intermediate-term scenario projection model, called HRHShort, [that began field-testing] in 1998.³⁰

Malawi's workshop was based on use of the HRHShort model. Depending on the level of detail available on the health sector, one of three methods can be used:

Ratio method: Provides a simple method of projecting requirements based on the desired ratio of each occupational category to the number of doctors. This method is based on two core assumptions: (1) doctors are a key and costly component of the health workforce; (2) informed health personnel can make useful judgments about the adequacy of the ratios of doctors to population, and other health occupations to doctors. Even though precise normative ratios cannot

²⁶ Government of Malawi, Ministry of Health and Population/UNICEF EHP Working Group. 2002. *Malawi Essential Health Package: Revised Contents and Costing*. Final. (May), <http://www.malawi.gov.mw/health/health2adoc.htm>

²⁷ Government of Malawi. MOHP/UNICEF EHP Working Group. 2002. *Malawi Essential Health Package: Contents and Preliminary Costing*. Final. (May).

²⁸ Ghimere R. 2002. Personal communication (GTZ Human Resource Information Systems Expert). Kathmandu, Nepal. (10 April).

²⁹ Hornby P and S Ozcan. 2000. *Nepal Human Resources: Strategic Human Resource Plan 2000 to 2017*, Ministry of Health (MOH): Kathmandu. (November).

³⁰ Excerpted from *HRH Projection Models software help screens*. 1998. World Health Organization.

be made, it is usually possible for experienced health authorities to know whether the doctor-nurse ratio, or doctor-technician ratio, or other such ratios are consistent with good, efficient health services, and if not, which ratios should be changed and in which direction. This method provides a very simple method of developing a requirements scenario and includes a test of its economic feasibility. The ratio method starts with a "reasonable" growth assumption for doctors, and then requirements for all other occupational categories are based on target ratios of these categories to doctors. By this means planners can seek an improved mix of personnel.

Locations method: Provides a somewhat more complex method of developing a requirements scenario and includes a test of its economic feasibility. The method starts with the number of hospital and clinic "locations" where most health personnel work. A target year scenario is developed for these locations, their projected numbers are multiplied by target year staffing norms for each type of location, and the scenario is completed with projections by other methods of academic, public health, and private sector personnel. Estimates can also be made of the potential production of hospital discharges and of ambulatory patient contacts with doctors and other health workers.

Services method: Provides a still more complex method of developing a requirements scenario and includes a test of its economic feasibility. With the Service Targets method the user is asked to specify per capita utilization targets for the production of hospital and ambulatory services, and these are then converted into the personnel and hospitals required to produce them. As with the Locations method, other methods are used to project requirements for academic and public health personnel.³¹

Key in these models is that the projected staffing needs are tied to available funding, and are thus economically feasible. The **locations method** was used in the Malawi HRH Workshop modeling exercise in December 2002 because all of the data inputs required for the more robust services method were not available.

The Human Resources for Health (HRH) Workshop held in December 2002 in Blantyre and Lilongwe produced national baseline (2003) and projected (2013) staff numbers in 20 umbrella categories (demarcating all basic clinical cadres but grouping other staff post titles), based on stakeholder input and available official HRH data, employing the *locations method* described above. In line with the planned health services in Malawi, these projections focus on a **managed primary care development approach**, and incorporate the following assumptions: slow growth in economy, shortage of skilled staff, high loss rates of skilled staff, limited production capacity of skilled staff, and the MOHP's current focus on the EHP. Based on data provided by the Ministry of Finance³² and National Economic Council,³³ economic feasibility

³¹ Descriptions of each model excerpted from *HRH Projection Models software help screens*. 1998. World Health Organization.

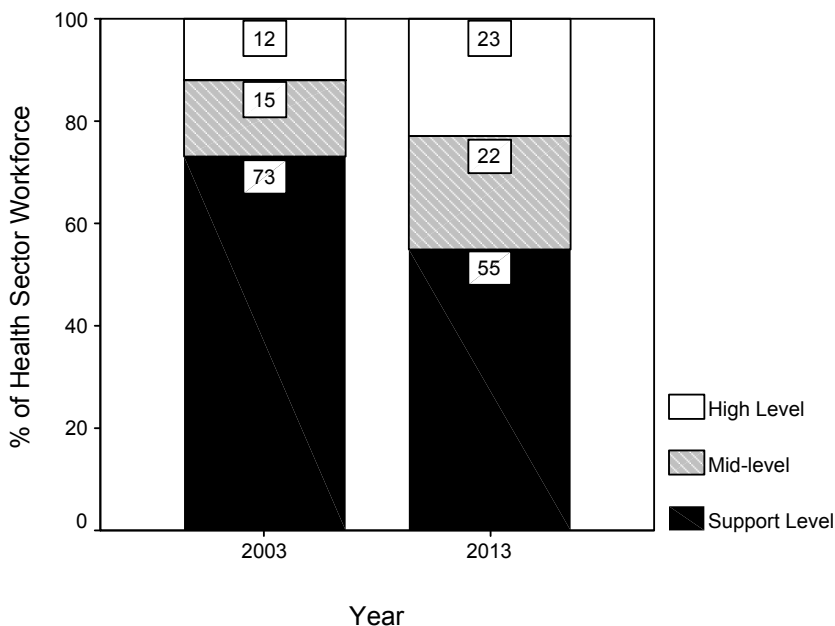
³² Government of Malawi Ministry of Finance. 2002. *Approved Estimates of Expenditure on Recurrent and Capital Accounts for the Financial Year 2002/03*: Ministry of Health and Population, Budget Document No. 5.

³³ Government of Malawi National Economic Council. 2002. *Economic Report 2002*, Budget Document No. 2.



tests were enforced before final projections were accepted. The outcome was an emphasis on growth in number and staffing of health centers, rural/community hospitals and district hospitals—precisely those needed for the EHP. A shift in skills distribution, from the current predominantly low skilled staff making up 73% of the health sector workforce, to a more balanced structure made up of a higher proportion of medium and highly skilled staff by 2013, evolved from the projections.³⁴ The final projections and recommendations were incorporated into a draft national strategic human resources for health plan that was presented to the Malawi MOHP for review in early 2003³⁵ by the Keele University consultants who authored the report. See **Figure 1** for an illustration of the change in staff mix suggested by the HRH projection model used at the workshop.

Figure 1. Staff Level Mix within Malawi Health Sector Workforce, 2003 and 2013



Source: Data generated by Malawi HRH Workshop, December 2002

One of the advantages of the HRH model is that it can be used annually to update staffing projections to take into account changing conditions. For example, donor funding is rising for HIV/AIDS programs in Malawi. Depending on the focus of these programs, such as prevention of mother-to-child transmission (PMTCT), providing nutrition and lifestyle counseling and/or antiretroviral therapy (ARVs) to people living with HIV/AIDS, or providing widespread voluntary counseling and testing services, the human resource requirements will differ. Service delivery guidelines for these programs would need to be developed and referred to over time to extract the relevant human resource or staffing guidance. In addition, a Workload Indicators of Staffing Need (WISN) exercise could be performed to assess the types of patient care activities each staff cadre provides, and the time needed per patient for these tasks. Using WISN and caseload

³⁴ Hornby P, S Ozcan, and C Schenck-Yglesias. 2002. *Human Resources in Health Modeling Exercise: Scenarios and Strategies*. Presentation at the MOHP Stakeholder Briefing, Lilongwe, Malawi, 20 December.

³⁵ Hornby P and S Ozcan. 2003. *Malawi Human Resources for Health Sector Strategic Plan 2003–2013*. Unpublished Draft. (January).



information for different facility levels and geographic regions, staffing norms could be updated to more accurately reflect actual workloads by cadre. These additional data sources would also help to refine the HRH demand data, and could be used when running future annual workshops to revise HRH projections. In the December 2002 workshop, the emphasis was on an expert group of stakeholders serving as knowledge resources in shaping the target numbers and rates in each staffing category, as WISN data for Malawi healthcare workers were not available. If WISN figures, in addition to reliable utilization data from the MOHP Health Management Information System (HMIS) were available, there could be enough data in the future to use the above-defined Services method in projecting HRH demand with the WHO model.

Ultimately, the outputs of health workforce demand estimate calculations from the HRH workshop will give Malawi government officials an idea about how many of which type of staff, incorporating preservice and inservice training requirements, need to be deployed, and where. The government will then need to replace outdated staffing norms and detailed establishment figures. Reaching this goal will require an additional, more detailed planning activity, as the HRH projections are in 20 umbrella categories, and the MOHP currently has more than 500 post title categories subsumed within these. See **Appendix A** for a master list of HRH categories and post titles used in the workshop.

HRH Supply

Once the demand for healthcare providers is established, the Malawi MOHP needs to be able to consistently answer the following question: *Is the supply of Malawian healthcare providers fulfilling the estimated demand?* In other words, health sector stakeholders will need accessible data to monitor progress toward the goal: *adequate and equitable distribution of appropriately trained and effective staff to provide planned health services in Malawi.* Supply of human resources refers to the actual and projected numbers and type of staff providing planned health services. The fundamental data in this area reflect current deployment (by post title, cadre and facility) of all health sector workers. Supply data also show numbers of staff joining and leaving healthcare provider roles in the country, (e.g., graduates from preservice institutions, immigration, emigration, and attrition due to various factors, including HIV/AIDS deaths). As such, the universe of supply data most often derives from a *stock and flow analysis*. Current stock is most often available from a Human Resource Information System or HRIS, but in Malawi, various sources have had to be tapped for these data in the absence of a reliable HRIS at the Ministry of Health and Population.

During the field visits the research in this report covers, many stakeholders interviewed stated that they foresaw the need for numeric monitoring reports on deployment and training to show whether HRH demand goals were being met and adequate staffing maintained over time, reflecting an adequate supply of healthcare manpower. Today, depending on who is asked for such staffing reports, one could be referred to: (a) various government departments (GoM Civil Service Commission or within the MOHP—Human Resource Management and Development; Planning Unit; Division of Clinical and Population Services; Division of Nursing; etc.); (b) medical and/or nursing councils; (c) non-GoM major healthcare employers such as CHAM or private agencies. Within their organizations, the above may rely on card files, logbooks, computerized registration databases, payroll databases, staff returns, or special enumeration studies to provide an answer on current staffing—encompassing deployment and training. However, none of these will provide a complete and current set of national health human



resource data; and where reports are available from multiple sources covering the same staff pool, they are unlikely to match.³⁶

Table 3. Comparison of Posts Filled, MOHP Planning Unit and HRMD Data Sources, 2002

HRH Staff Category	Data Source	
	Planning Unit	HRMD
Medical Specialist	18	16
Medical Officer	67	69
Clinical Officer	345	323
Medical Assistant	308	350
Dentist	4	2
Pharmacist	3	1
Registered Nurse	404	374
Psychiatric and Community Health Nurses	307	310
Health Surveillance Assistant	4,550	5,070
Senior Allied Professional	22	5
Nurse Midwife Technician/Enrolled Nurse-Midwife	1,165	1,268
Radiographer/Radiology Assistant	37	35
Lab/Biomedical Technician	66	83
Environmental Health/Health Education Staff	266	315
Dentistry-Related Staff	156	88
Pharmacy-Related Staff	86	73
Managers	84	78
Allied Professional Staff	33	20
Skilled Support Staff	975	454
Other Support Staff	4,932	4,682
Total	13,828	13,616

Source: JHPIEGO analysis of MOHP data.

At this time, no data source has become recommended (complete, reliable, consistent, and timely) over another, at least with regard to public sector health manpower. Much of the remainder of this report will focus on defining and suggesting ways to improve this gap. **Table 3** presents an example of parallel data sources producing different results on current staffing.

³⁶ Interviews and examination of various data sources on site visits. Also see Martineau et al. 2001. *Institutional and Human Resources appraisal (Phase II) of Sexual and Reproductive Health Programme: Mission Report*, Ministry of Health and Population, Government of Malawi. (August).



Complete, high-quality, and timely HRH data will help the MOHP to monitor implementation of health sector deployment and training policies and plans. Yet there is not currently one comprehensive and reliable human resource data source for the Malawi health sector. As noted in the literature, this is often a challenge, and searching for HRH data requires a strategic approach:

A decision tree is helpful in identifying where information related to employment will be found....If it is mandatory for the person to be registered or certified to be employed, then information will be found in the databases of those organizations. If registration or certification is not required, then information will be found in payroll/personnel databases... voluntary professional association registries, through surveys and union records.³⁷

Employers are important sources of qualitative information on the health care workforce because their decision-making reflects assessments of environmental turbulence and constraints. Employers are considered a key resource in the collection of information on health manpower.³⁸

See **Figure 2** (page 14) for a schematic of the HRH data flows within the MOHP and CHAM. CHAM has a streamlined system for tracking which of their personnel are working where, using a computerized payroll data system that tracks staff at the facility level. **Figure 2** illustrates that the Malawi MOHP has six routine and four *ad hoc* or special survey sources for HRH data. Depending on who is asked for HRH data, today a requestor could potentially be referred to any of these 10 data sources within one ministry. As already noted above, it is unlikely that there is complete concurrence among these data sources. There are six **routine** HRH data systems: three in the HRMD office, one in the Planning Unit's Health Management Information System (HMIS) Unit, one in the Nursing Division, and an additional system at the health professional councils, covering MOHP employees. In addition, there are **ad hoc** data from: a 1998 Planning Unit situation analysis and 2002 stock and flow analysis; a 2002 Clinical and Population Services Division survey; and HRH data from the 2002 Health Facilities Survey.³⁹ These are each described in more detail in the following sections.

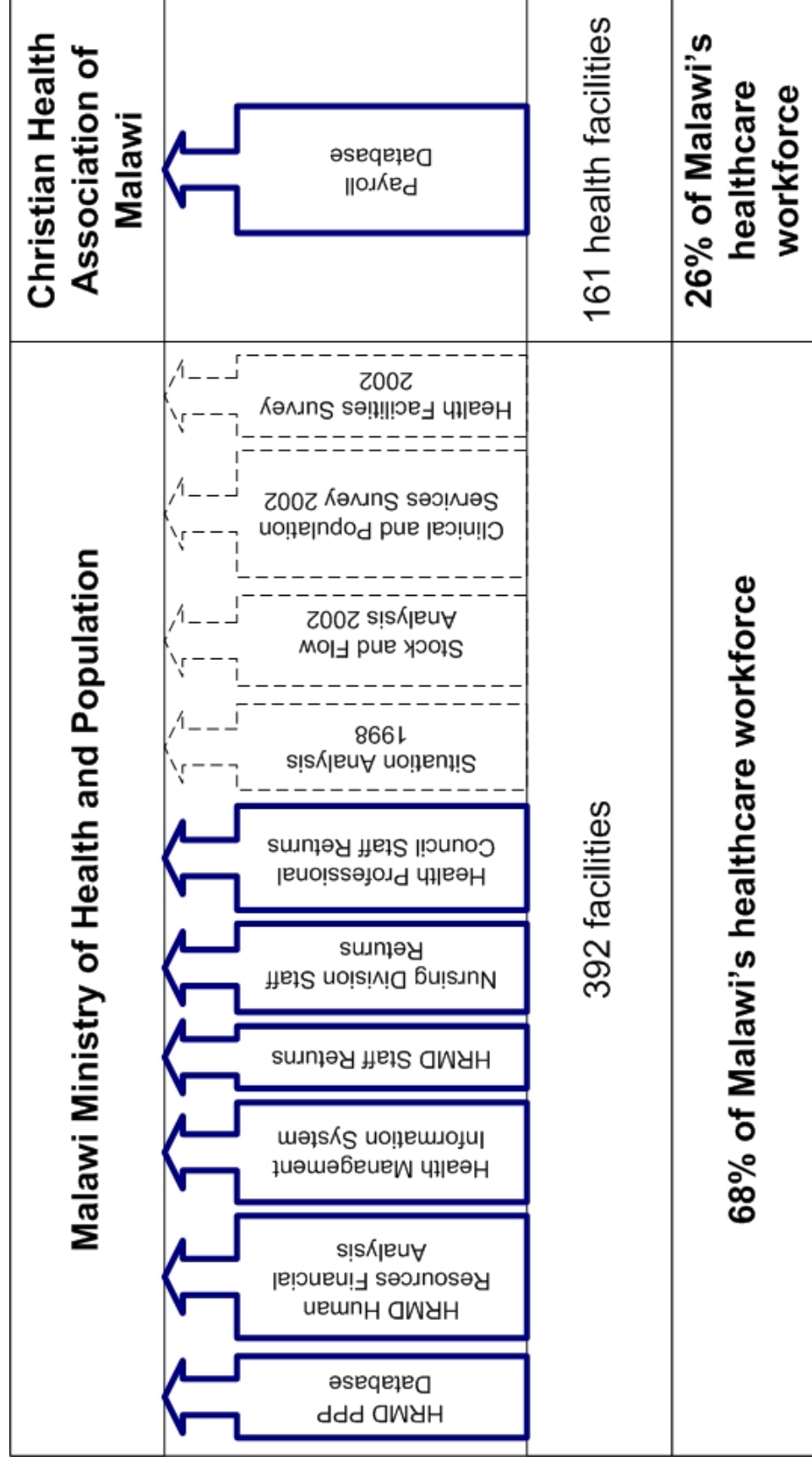
³⁷ Kazanjian A, M Herbert, L Wood, and S Rahim-Jamal. 1999. Regional health human resources planning & management: Policies, issues and information requirements. *Health and Human Resources Unit* 99: 1, p. 18.

³⁸ Bamberg R, D Malvey, C Wainright, MS Fottler, and CL Joiner. 1994. The development of a state-level health manpower database using an employer-based survey: A pilot project. *Journal of Rural Health* 10(3): 199–207, p. 201.

³⁹ Mpazanje R. 2002. Personal communication. (August).



Figure 2. Current Malawi Human Resource Data Flow



MOHP Payroll, Pensions, and Personnel (PPP) Database

The company UNIPRO (Africa) Limited is on contract with the Government of Malawi to implement the Peodesy Human Resource Management System (currently, they are using Peodesy version 2.2 at the MOHP in Lilongwe), as the Payroll, Pensions, and Personnel or PPP database for civil servants employed throughout the GoM's ministries.

The HRMD would like to get reports from the PPP showing, for each health facility in every district in the country: **post title, cadre, staff currently in post, established posts, and vacancies**. As discussed in the demand section above, once the established posts are revised to be more akin to actual staffing need, such a detailed quarterly report would assist both MOHP human resource planning and management departments greatly in deployment decisions. Over time, these deployment data could be used to support advocacy efforts when presented to policymakers to show shortfalls in specific cadres, rural/urban areas, or to show consistently underserved districts or primary healthcare service delivery points. Reports listing individual names rather than aggregate numbers could assist in routine HRH decision-making that influences promotions, approvals for short- and long-term training, staffing hardship posts, other transfers, and recruitment for new positions. Following are the key variables in the Malawi MOHP Payroll, Pensions, and Personnel (PPP) database:

- ◆ Name
- ◆ Address
- ◆ Date of Birth
- ◆ Employment ID Number
- ◆ Grade
- ◆ Section Number (map-able to district)
- ◆ Department Number
- ◆ Cadre
- ◆ Job Number
- ◆ Job Title
- ◆ Paypoint

Source: Peodesy Human Resources Management System, installed at Malawi MOHP.

The PPP system does have the *potential* to produce such reports; however this potential is not yet actualized.⁴⁰ The data dictionary of the PPP shows a complete list of data fields available in the system currently, illustrating that the PPP offers great potential for housing and querying essential HRH data on a regular basis within the MOHP. The list above shows the key PPP variables, based on meetings with HRMD staff that work with the PPP at the MOHP. Note that as of now, facility is not one of them. Instead, the paypoint is the most detailed level of information on where someone is posted. That is to say that the system adequately shows where to send someone's salary, but cannot tell the MOHP administrators where staff are providing services. As HRMD and other MOHP administrators have openly said, the PPP is at present only a payroll system, and the personnel data are inadequate for use in deployment

⁴⁰ Ludford R. 2002. Personal communication. (August). See also: Schenck-Yglesias C. 2002. *JHPIEGO Malawi Trip Report: 9–24 August 2002*. Unpublished.



tracking and decision-making.⁴¹ Unfortunately, the data in the PPP implemented at the MOHP do not at this time show which individuals are working in which posts in which facilities, as individuals in the payroll table of the PPP database have not been electronically linked to their currently held established posts, nor to their place in the organizational structure (e.g., district and facility). This is pending action on the part of the MOHP PPP management and staff for data entry⁴² and pending work between the MOHP and UNIPRO in establishing standard categories for posts, cadres, and other fields, which are currently in free text mode rather than linking to lookup tables with standard values.⁴³

If UNIPRO could generate a report showing the completeness of data in each field in the PPP (% missing data), the MOHP could then monitor staff progress with this aspect of data management in moving toward the above-stated goals in linking records to various other tables to broaden query and reporting possibilities. This and other needs and concerns should be explored by direct communication between the MOHP HRMD and PPP staff and UNIPRO in a structured systems implementation engagement.

Criticism of the PPP has reached the stage that other consultants⁴⁴ have observed that the MOHP administration has requested that a new HRIS be implemented, because the PPP is not doing what was originally promised. Again, in international context, this is not unusual: health service planners and authorities have a "...wide-spread ingrained mistrust of workforce data held by public service (civil service) authorities and centralized payroll operators."⁴⁵

However, JHPIEGO and DFID/LATH recommendations concur that the needs of potential data users must be assessed and the Peodesy Human Resource Management System commercial software package (the present PPP) be used to its potential, as an investment in a completely new HRIS is not warranted. Detailed technical documentation from UNIPRO⁴⁶ has indeed shown that the technical capacity of the Peodesy Human Resource Management System package, in conjunction with organizational efforts at maintaining much greater data integrity and in much greater use of reports for decision-making, would meet the needs of the major categories of MOHP health human resource data in Malawi. Any system other than the Peodesy software now in place as the PPP would indeed require the same types of organizational inputs. These technical skill and supervision aspects of HRIS implementation must be resolved at the MOHP; a new software system will not provide the solution.

⁴¹ Martineau et al. 2001. *Institutional and Human Resources appraisal (Phase II) of Sexual and Reproductive Health Programme: Mission Report*, Ministry of Health and Population, Government of Malawi, p. 36. (August).

⁴² Ludford R. 2002. Personal communication. (August). See also: Schenck-Yglesias C. 2002. *JHPIEGO Malawi Trip Report: 9–24 August 2002*. Unpublished.

⁴³ Chadza P. 2002. Personal communication. (December).

⁴⁴ Martineau et al. 2001. *Institutional and Human Resources appraisal (Phase II) of Sexual and Reproductive Health Programme: Mission Report*, Ministry of Health and Population, Government of Malawi. (August).

⁴⁵ Dewdney J and L Kerse. 2000. Health workforce planning: Developing expertise in eastern Asia and the Pacific Islands. *Human Resources for Health Development Journal* 4(3): 146–157, p. 154.

⁴⁶ UNIPRO (Africa) Limited. 2002. *UNIPRO HR Enterprise Software: Peodesy Human Resource Management System: System Overview*.



In Malawi, as in other African countries (JHPIEGO has also noted this practice in Kenya), the MOHP does not always assume that its central database showing payroll dispensed to healthcare providers throughout the country is an accurate reflection of: (1) the actual total number of providers, nor (2) the specific individuals named on the payroll record as providing services, in a given district or at a specific health facility. One might question why the payroll system is not the gold standard for information on who is deployed where—the most obvious question being: why would individuals be getting paid if they were not working in their assigned posts? Discrepancies are due in part to inadequate data consistency, updating and quality checking procedures, as well as to the *ghost worker* phenomenon. As an example, “In Guinea-Bissau, 700 *ghost workers* were removed from the payroll of the Ministry of Finance, following an inventory of the health care workforce.”⁴⁷ No study data are available to ascertain the extent to which this contributes to the problem in Malawi. However, MOHP staff have reported that there is a government audit activity currently underway to assess this situation in Malawi across various ministries.⁴⁸

To further aggravate the lack of *dependable* data from the payroll system, the MOHP HRH administrators do not currently have access to *any* routine deployment or staffing reports from the electronic personnel (PPP) database. Even if the reports were based on questionable data, they would provide a start at determining the staffing levels (or certainly, the staff paid to provide care) at the various facilities and districts throughout the country. Although staff at the MOHP were trained by UNIPRO on the PPP database, they had difficulty in meeting JHPIEGO’s requests for several HRH reports. It is clear that some onsite followup at the MOHP by UNIPRO is needed to assure a true transfer of learning has taken place with regard to use of the PPP for essential functions such as report generation.

MOHP Health Management Information System (HMIS)

The Malawi Health Management Information System (HMIS) was established in 2001, and is housed in the MOHP Planning Department, HMIS Unit. The system has 110 routine indicators, six of which are human resource indicators. The 110 indicators are reported monthly from health centers and hospitals to districts, and from districts to the central level quarterly, where national quarterly HMIS reports are generated. The six HMIS human resource indicators represent the percentage of established posts filled for the following cadres:

1. Doctors
2. Nurses
3. Clinical officers
4. Medical assistants
5. Health assistants
6. Health surveillance assistants (HSAs)

The rationale for inclusion of these indicators in the HMIS is the following, excerpted from the HMIS Training & Reference Manual:

⁴⁷ World Health Organization (WHO). 2001. *World Health Report 2000—Health Systems: Improving Performance*. WHO: Geneva, p. 80.

⁴⁸ Chadza P. 2002. Personal communication. (December).



All establishments should be filled in order to have a well functioning health facility. If the percentage of filled positions of any staff category is low, the quality of services rendered from that institution is low, and workload to the available staff is more. All positions are important. It is extremely difficult to routinely monitor each. Therefore, the [above] positions are identified for routine monitoring to indicate the broad scenario of available human resources at work. However, positions of each category will be monitored annually as availability of staff is directly related to availability of services.⁴⁹

At the end of 2002, the HMIS Unit released a report that included a table showing the number of health personnel working in each district in each of the above cadres.⁵⁰ This was all based on data submitted through the HMIS and was used to calculate provider-to-population ratios. There was a very wide range of these ratios among districts, with the highest being over 3.5 times the lowest ratio. This may reveal actual differentials, but may also be partly an artifact of data quality.

MOHP and Sector-Wide Staff Returns at Professional Councils

Due to the lack of reports available from the PPP system, the MOHP Human Resource Management and Development office (HRMD) as well as the Division of Nursing (DON), has separately instituted staff returns. *Staff returns* provide a mechanism for the central MOHP office to survey its outlying offices (districts, facilities) about who is currently working where and in what capacity (given that this information is currently not noted in nor available from the payroll database). Returns should contain an up-to-date list of staff names and the posts they hold, by facility. They are supposed to be sent from each facility through the district to the MOHP in Lilongwe on either a monthly (HRMD) or quarterly (DON) basis, so that the central office, which often makes deployment (transfers, postings) decisions, will have the most recent data at hand. Although this practice may seem unwieldy and illogical to outside observers, in fact several members of the management and support staff team each are expected to regularly carry out responsibilities with regard to staff return completion. Unfortunately, the staff returns systems at both the HRMD⁵¹ and Controller of Nursing⁵² suffer from incomplete data due to a lack of compliance with data submission guidelines.

Each MOHP unit felt they had to create a parallel system to get the HRH data that they needed. However, none of these new parallel systems is producing complete and reliable HRH data.

As the chief managers of District Health Offices, District Health Officers are the highest contact person to whom central and parastatal agencies can turn when they are not receiving staff returns. Generally, if notified that their district or any facilities within it are not complying with

⁴⁹ Government of Malawi, Malawi Ministry of Health and Population. 2001. *Health Management Information System Training & Reference Manual*, p. 21. (June).

⁵⁰ Government of Malawi, Malawi Ministry of Health and Population. 2003 *Health Management Information Bulletin: Special Issue 2002*, p. 26. (June).

⁵¹ Makuti M. 2002. Personal communication. (August).

⁵² Reported by Mr. James Gondwe, JHPIEGO/Malawi, based on interview with Mrs. Lillian Ng'oma, Controller of Nursing, August 2002.



staff return submission rules, District Health Officers will turn to the person delegated this job to ascertain why, and to encourage compliance.

Clerks working at each District Health Office are responsible for filling out monthly staff returns listing all staff working at every facility in their district. This includes clinicians, support staff, administrators, and all others employed by the MOHP. The data source for this is the previous month's completed return, and all posting, transfer letters, notifications of promotions, dismissals, deaths, abscondments, and retirements. These latter sources are used to update the data previously submitted so that a revised spreadsheet is arrived at listing all of the district's current personnel by post, grade, and facility. See **Appendix B** for a copy of the return submitted monthly on all district health personnel to the MOHP HRMD Records Department.

District Nursing Officers are responsible for compiling complete lists of all nursing and midwifery staff working at all health facilities (including CHAM and other private sector employers) in their district to send to the Nurses and Midwives Council of Malawi (NMCM), and of all nursing and midwifery staff working at MOHP facilities to send to the MOHP Division of Nursing. When compiling this list, District Nursing Officers are responsible for finding out if the nurse or midwife is currently registered with the NMCM, and if so, providing a registration number and receipt number on the staff return, so that the NMCM can verify that each nurse is up to date with her annual registration fees. See **Appendix C** for a copy of the return submitted monthly on nurses to the MOHP Division of Nursing and NMCM.

Nurses and Midwives Council of Malawi (NMCM)

Electronic Nurse Register

The parastatal councils, the Nurses and Midwives Council (NMCM), and the Medical Council of Malawi (MCM) are required to license and annually register healthcare providers in specific cadres, according to the Acts under which they were established. While they have adopted tools to manage their data over time, ranging from card catalogs to logbooks to computerized word processing and spreadsheet files, previous attempts at establishing relational databases had ended in disappointment by each agency when their data were not easily managed and reports were not easily accessible.

To assist the councils to readily manage and retrieve data on the health human resources that they license and register in Malawi, JHPIEGO developed an Electronic Nurse Register (ENR) for the NMCM in 2001—2002. Data on over 6,000 individual nurses and midwives licensed by the Council are currently indexed and easily retrievable in this database system at the NMCM. To the extent that data are made available to the NMCM on current facility for each clinician, this information is updated. Data on registration expiration are updated each year as nurses pay their annual dues.

Reports available from the ENR at the NMCM include:

1. **Annual gazette.** This contains a list of currently licensed nurses and midwives in Malawi.
2. **Lists of facilities in each district, by facility type, and number of current nursing staff.** This covers a range of employers including: MOHP, Army, Banja La Mtsogolo (BLM), CHAM, Government, Forestry, Local Government, Police, Prison, and Private.
3. **List of facility owners, total number of nurses employed, total number licensed, and percentage licensed.** This assists the NMCM in targeting employers with campaigns to get their nursing staff up to date on their registrations with the Council.



4. **Year and number of nurses licensed through that year.** This tells the Council how many registrations are current and paid in advance through future years.
5. **Number of nurses in practicing and unknown status.** This statistic shows the NMCM the number of nurses for which current employment information is and is not known. Only practicing nurses are required to have current registrations with the Council, so large numbers of unknown status may show that these individuals cannot be canvassed for registration fees. It also shows the extent to which the facility data are likely to be an undercount of nurses in station. If an inordinate number of licensed nurses are listed with an unknown status, there is a data quality problem. This is currently the case with the NMCM database.
6. **Number of nurses overseas.** Shows Malawi licensed nurses that have left the country to practice or study outside. The number of nurses overseas is an indication of Malawi's loss of human capital due to emigration (commonly referred to as "brain drain"), specifically losses of essential health personnel.

Medical Council of Malawi (MCM)

Annual Gazette

See **Appendix E** for an example of the information included in the annual gazette listing registered clinicians in Malawi. The MCM is required to publish this list on a yearly basis.

Electronic Clinician Register

In 2003, JHPIEGO installed an electronic register database at the MCM using the same software developed for the NMCM. The Act that established the MCM mandates that individual practitioners update the Council when they change address, including residential and practice addresses.⁵³ While this mechanism will remain in place for updating the new MCM database, the MCM is also instituting a system of staff returns to update providers' current facility, registration, and other data quarterly. The annual gazette is one of the standard reports that can be run from this application, showing a master list of all licensed clinicians in Malawi, by cadre.

Pharmacy, Medicines and Poisons Board

The Pharmacy, Medicines and Poisons Board (PMPB) already has a web-based system for registration and a related database of registered service providers. **Appendix F** shows the data fields collected on their website. At the time this report is being finalized, however, the PMPB Website has been inaccessible for several months, and there is a concern that it is permanently offline.

⁵³ Government of Malawi. 1987. Act No. 17 of 1987 (Medical Council Act), *The Malawi Gazette Supplement*. (4 September).



MOHP Situation Analysis, 1998 (Planning Unit)

To assess **supply of healthcare workers**, a MOHP-led situation analysis was undertaken in December 1998 to reflect current staffing at health institutions (government, CHAM, and private) across the country. This was in order to establish the baseline information for the Human Resources Development Plan that was published in November 1999. However, the MOHP recognized that these staffing numbers would not remain the same over the 5 years of the plan (1999–2004). Note that an extensive study had to be undertaken, involving site visits to facilities around the country, and intensive work by international consultants, mainly because there was no human resource information system or set of systems that could be queried reliably for these supply data.

The baseline data in the situational analysis conducted by the MOHP in 1998 contained a variety of information. Even though enumerators visited each health facility to gather information, they were still limited by the routine information systems already in place at facility, district, and central levels, from which to extract the relevant personnel numbers. This revealed data gaps that the GoM would need to fill in order to measure all aspects of the staffing situation on a regular basis.

The topics covered in the situational analysis, which included a special enumeration of all healthcare personnel in the country, included:

1. Number of personnel in the health sector
2. Jobs in the health sector
3. Population distribution of health personnel per district
4. Rural/urban distribution of health personnel
5. Age and sex distribution of health personnel
6. Wastage/attrition of health personnel by age and cause

MOHP Stock and Flow Analysis, 2002 (Planning Unit)

The 1998–1999 reports showing situation analysis data are available from the MOHP, but in 2002, those HRH deployment data were deemed outdated and of limited use for decisions on resource allocation. The MOHP Planning Unit therefore undertook a stock and flow analysis in August 2002. This required field visits to each district health office (DHO), where staff returns were collected and Excel spreadsheets containing the following information were compiled for each district:

1. District
2. Post Title
3. Grade
4. Authorized Posts
5. Filled Posts
6. Name of Incumbent (or “Vacant”)
7. Age of Incumbent



8. Date of First Appointment
9. Station (specific hospital, health center, etc. where working)

Using MS Excel, MOHP Planning Unit staff analyzed the data (see **Figure 3**) and ultimately produced spreadsheets with aggregate staffing data by cadre and grade for the following:

1. Headquarters
2. Central hospitals
3. Mental hospital
4. District hospitals
5. Health centers
6. Central Medical Supply

Other breakdowns in aggregate spreadsheets included total staff by cadre and:

1. Urban/rural location
2. Primary/Secondary/Tertiary institution
3. Clinical/Nursing/Preventive/Technical program

Figure 3. MOHP Planning Unit Staff Analyze Stock and Flow Analysis Data, August 2002



Photos: Catherine Schenck-Yglesias

MOHP Human Resources Financial Analysis, 2002 (HRMD)

Also in 2002, the Controller in the MOHP Human Resources Management and Development (HRMD) unit gathered HRH data on spreadsheets from each district health office (DHO) and central hospital, for his annual HRH financial analysis. These data were organized in files for each cost center and included:

1. Cost Center
2. District
3. Facility Name



4. Program
5. Subprogram
6. Post Title
7. Grade
8. Authorized Posts
9. Filled Posts
10. Post Vacancies
11. Excess Filled Posts
12. Name of Incumbent (or "Vacant")
13. Salary, 2001/02, 2002/03, 2003/04
14. Housing Allowance, 2001/02, 2002/03, 2003/04
15. Professional Allowance, 2001/02, 2002/03, 2003/04
16. Medical/Duty Allowance, 2001/02, 2002/03, 2003/04

There was similar coverage in the two 2002 data sources from the MOHP, with some variation in data elements and in the ways each unit had aggregated or made available individual data in their reports. Both the Planning Unit and HRMD data sources were used as inputs in the December 2002 Human Resources for Health (HRH) Workshop for baseline staffing numbers and salaries. JHPIEGO provided technical assistance for data analysis. As explained above, post titles were coded into 20 umbrella categories. The two MOHP data sets were then compared side by side. See **Table 3** for a summary of the "posts filled" variable for both Planning Unit and HRMD data sets for the 20 staff categories used in the HRH workshop. This comparison shows that within the MOHP, different sources reveal slightly different current staffing numbers. This is a strong case for streamlining an HRIS within the MOHP from which such numbers could be run on demand in *ad hoc* reports.

MOHP Clinical and Population Services Survey, 2002

As mentioned above, the MOHP carried out a situation analysis in 1998 and stock and flow analysis in 2002 to assess health sector staffing nationwide. Because of the inability to get current staffing information from the PPP system, the Director of Clinical and Population Services at the MOHP has similarly initiated a special enumeration, although this time in the form of a survey. See **Appendix D** for the data collection form used in March 2002 to collect these data from all clinicians in the country.

MOHP Health Facilities Survey, 2002

The MOHP, with the support of the Japan International Cooperation Agency (JICA), commissioned a health facility survey in 2002. "Policy changes including government-wide decentralization, establishment of an Essential Health Package (EHP) and institutionalization of the Sector Wide Approach (SWAp)... that increased demands for more accurate and extensive



information on health delivery systems”⁵⁴ were the rationale for this survey. Furthermore, “planning of the EHP requires information on numbers of beds, available **human resources**, and types of services currently provided at facilities. The Malawi Health Facility Survey 2002 was designed to provide updated and comprehensive information on health service delivery systems, such as physical infrastructure, medical equipment, **number of health workers**, number of health posts, and types of services being provided.”⁵⁵ Field staff working on this survey collected the number of healthcare workers physically working onsite the day of data collection. They completed the questions shown in **Table 4** below.

Although not specifically conducted for human resource for health data, this survey does provide an additional data set to be considered in light of the others on currently deployed human resources.

Table 4. Human Resource Questions on Malawi Health Facilities Survey 2002

3.1 Position	Number Currently Working in This Facility		
	Male	Female	Total
Doctors			
Clinical Officers			
Matrons			
Medical Assistants			
Laboratory Technicians			
Radiologists			
Nurses			
Midwives			
Nurse/Midwives			
Environ. Health Officers			
Health Surveillance Assistants (HSAs)			
3.2 Are any members of staff trained on HIV/AIDS Counseling? <input type="checkbox"/> Yes <input type="checkbox"/> No Number _____			

Source: Ministry of Health and Population, Planning Unit.

⁵⁴ Hozumi D. 2003. *Status of Health Services Facilities in Malawi: Findings from Preliminary Analysis of the Malawi Health Facility Survey 2002*. Ministry of Health and Population, Malawi, p. 6. (April).

⁵⁵ Ibid., p. 6.

CHAM Payroll Database

When staffing data from CHAM were requested by JHPIEGO, headquarters staff in Lilongwe were able to query the centralized CHAM payroll database and provide reports in print or electronic format within a 2-day turnaround period. This stands in contrast to JHPIEGO requests for PPP data reports from the MOHP, which often result in responses that the data cannot be accessed in that manner due to internal coding inefficiencies. CHAM does not have staff returns to be filled out and sent into their central office from facilities. Rather, the central office maintains other internal control processes to assure that their personnel and payroll data are up-to-date. The CHAM payroll database is an exemplary success story within the Malawi HRIS data sources reviewed for this report.

When staffing data from CHAM were requested, headquarters staff in Lilongwe were able to query the centralized CHAM payroll database and provide reports in print or electronic format within a 2-day turnaround period. This stands in contrast to requests for PPP data reports from the MOHP, which often result in responses that the data cannot be accessed in that manner due to internal coding inefficiencies.

A site visit from HRMD staff from the MOHP to the Payroll and HR offices at CHAM may prove beneficial, given the wide disparity in HR information systems between the public sector and CHAM currently. Seeing a functional HRIS in place within Malawi's health sector may assist HRMD personnel in identifying actions to be taken at the MOHP for successful PPP implementation.

SYSTEMS DEVELOPMENT GUIDANCE FOR HRIS IMPROVEMENTS

Data consumers often do not know whom to go to with requests for information needed in the format in which it will provide value to decision-makers and policymakers. They often get frustrated with the process rather than addressing it systematically. DFID/LATH found when interviewing HRMD staff that "because of the insufficient data in an automated HRIS, the HRMD would need to implement the post upgrading for the Functional Review by having to go through all personnel files manually."⁵⁶ It is unlikely that the data in the PPP are so unstructured that reports could not have been produced from this system in order to assist those in charge of this effort. However, instead of contracting the IT firm in charge of the PPP with producing the needed reports, that work was taken on manually at most likely a greater expense to the government when the cost of high-level person-hours is calculated.

On the same note, "plans are being discussed for the development of a new stand-alone Human Resource Information System..." which is the result of administrators' misunderstanding the currently underutilized capacity of the PPP, and that the problems to be addressed are organizational rather than technical. The MOHP Nursing and Clinical and Population Services division directors indicated that they had instituted their staff returns and survey respectively, because they could not depend on getting good data from the HRMD's Payroll, Pensions and Personnel (PPP) database, while they are held accountable by the Principal Secretary to answer questions on staffing for the cadres they oversee. This is the

⁵⁶ Martineau et al. 2001. *Institutional and Human Resources appraisal (Phase II) of Sexual and Reproductive Health Programme: Mission Report*, Ministry of Health and Population, Government of Malawi, p. 36. (August).



same reason given for the Planning Units stock and flow analysis project in the summer of 2002. Each MOHP unit felt they had to create a parallel system to get the HRH data that they needed. However, none of these new parallel systems is producing complete and reliable HRH data. The rate of completion of staff returns and surveys is about 50% on average. While the electronic PPP database may not be functioning at 100% to get reliable data, neither are the manual systems that are in place to complement it. Thus, staff time and energy are being directed at sustaining six sources for HRH data at the MOHP (shown in **Figure 2**), all with overlapping objectives (generation of reports on #s of current staff serving at facilities, by cadre and post title, and vacancies to be filled). Yet none of the systems is considered completely reliable.

As of August 2002, several districts still had not responded to the MOHP Clinical and Population Services Division's survey. The Planning Unit's *ad hoc* data collection activity required central-level staff to visit all districts to gather updated staff return data, which they reported some districts completed with more attention to quality and completeness than others did.⁵⁷ By law (see Acts establishing nursing and medical councils), the parastatal councils are supposed to get information reported to them on transfers from practitioners themselves. If individuals complied with this responsibility, the councils would be able to report on number of practitioners per district and facility, stratified by cadre, without having to get staff returns submitted from each district as is the case currently.

In an international context, these findings are not that unusual. To date, most health information systems are not integrated, especially as most HRIS systems focus on payroll and salary information, which is often located in a different department and not accessible to health planners.⁵⁸ The Indian HMIS experience has shown that "various departments, programmes, and institutions within the health sector tend to develop their own data collection systems without consulting each other... Effective coordination of health information is often lacking, which results in duplication and gaps in data collection, reporting, use, and management of data."⁵⁹

Since UNIPRO is still on government contract, and it would be feasible to access the functionality needed within the existing PPP system instead of starting anew, JHPIEGO recommends investment in developing user requirements and system requirements for the PPP to meet HRMD and clinical division needs rather than assuming the PPP could never meet the needs stated, concurring with earlier recommendations from DFID, and the health informatics knowledge base:

Involvement plays a role in better defining user requirements, providing better understanding on how to use the system in the organization, avoiding inappropriate features, and enhancing the user's knowledge of the system. Participation leads to increased user acceptance and use by encouraging

⁵⁷ Chembe S. 2002. Personal communication. (December).

⁵⁸ Schenck-Yglesias C and S Green. 2003. *Human Resources Information Systems: A Literature Review*. JHPIEGO Working Paper, Unpublished Draft. (January).

⁵⁹ Bodavala R. No date. *Evaluation of Health Management Information System in India Need for Computerized Databases in HMIS*. Harvard School of Public Health: Boston. MA. <http://www.hsph.harvard.edu/takemi/rp176.PDF>. April 2002, p.16, quoting WHO report.



realistic expectations, facilitating the user's system ownership, decreasing resistance to change, and committing users to the system.⁶⁰

TRAINING INFORMATION SYSTEMS

Preservice

In addition to staffing, production from training programs must be explored in order to have informed discussions on future available service providers to fill vacant posts. In December 2002, HRH Workshop participants generated preservice training targets for selected cadres of healthcare service providers, with the projection model then calculating outputs by year and teaching resources needed. These were based on numbers provided for current (2003) training from preservice reports and the MOHP Emergency Training Plan.⁶¹ However, even at the end of the workshop, there was still debate about which baseline training numbers to use, as one source was based on the actual numbers being trained and the other source on the potential capacity of the preservice training institutions to educate a specific number of students per year.⁶²

Although such quantitative discussions are invaluable, qualitative aspects of preservice education also enter into HRH discussions. A WHO/World Bank HRH meeting in 2002 discussed "the contradiction between the adoption of the primary health care approach and the continuation of training and practice according to a hospital-focused medical model."⁶³ Numbers and types of staff needed and being produced from appropriately focused training programs must be considered hand in hand. Information systems at each preservice institution should be able to produce summary reports on intakes and outputs. In Malawi, reports reviewed for individual schools showed this was the case. In addition, the licensure councils could provide national statistics on total licensed per year following graduation from preservice institutions. An in-depth inquiry into the availability of these data would be advisable for Malawi using the NMCM and MCM databases.

⁶⁰ Lorenzi NM, RT Riley, AJC Blyth, G Southon, and BJ Dixon. 1997. Antecedents of the people and organizational aspects of medical informatics review of the literature. *Journal of the American Medical Informatics Association* 4: 79–93, p. 86.

⁶¹ Government of Malawi Ministry of Health and Population. 2001 and 2002. *A 6-Year Emergency Pre-service Training Plan, MOHP Planning Unit*. November 2001 and July 2002.

⁶² Schenck-Yglesias C. 2002. *JHPIEGO Malawi Trip Report: 4–22 December 2002*. Unpublished.

⁶³ World Health Organization/Regional Office for Africa (WHO/AFRO). *Building Strategic Partnerships in Education and Health in Africa: Consultative Meeting on Improving Collaboration between Health Professionals, Governments and Other Stakeholders in Human Resources for Health Development*, Addis Ababa, 29 January–1 February 2002. Report on the consultative meeting. http://www.afro.who.int/hrd/consultative_meeting_report.pdf, p. 7.



Inservice

The WHO *World Health Report 2000* offers the following discussion related to inservice training:

Human capital can be treated conceptually in the same way as physical capital, with education and training as the key investment tools to adjust the human capital stock and determine the available knowledge and skills. Unlike material capital, knowledge does not deteriorate with use. But, like equipment, old skills become obsolete with the advent of new technologies, and human capital needs to be maintained too. Continuing education and on-the-job training are required to keep existing skills in line with technological progress and new knowledge.⁶⁴

Stakeholders in Malawi do agree that tracking whether staff training attended matches services provided is a goal to work toward for maximizing a return on training investment (e.g., nurses proficient in PAC services being assigned these duties, and clinical officers competent in HIV/AIDS PMTCT therapy providing those services to pregnant women on a regular basis). As more donors start working in Malawi supporting new training programs, particularly in HIV/AIDS, it will be important to know where the new skills taught will translate into service provision – at which facilities by which levels of staff – to assure human resource numbers are adequate. While there is currently a Training Committee at the MOHP, it is not serving as a conduit for approvals for staff to attend training nor of information on whether staff have attended inservice training. More work at a strategic planning and policy level is needed to consider the best approach for these functions within the Malawi health sector. Standards, such as credentialed healthcare providers attending at least one continuing education course per year, could be set and monitored based on these policies and plans.

MOHP Reproductive Health Unit Training Information Monitoring System

One department of the MOHP, the Reproductive Health Unit (RHU), has moved forward in centralizing an information resource to track professional development of MOHP staff in its area of interest. Several donors support reproductive health training to clinicians, working through the MOHP. To assure this family planning/reproductive health (FP/RH) training is tracked, JHPIEGO worked with the RHU/MOHP to institute the Training Information Monitoring System, TIMS[®], software. Data are currently entered for FP/RH courses held between 1998 and 2003 and new courses, participants, and trainers will be added over time as events occur. There are some data collection coordination issues at present, as not all organizations supporting or directly providing FP/RH training are submitting their course and participant data to the RHU for entry into the TIMS database, resulting in a less complete and accurate list of inservice training on individual transcripts and less comprehensive repository of current skills of deployed personnel at each facility.

Only when specific policies governing attendance at inservice training are in place, and supervision systems enforce these, will TIMS or any other database support the decision-making process optimally. While collecting the data meanwhile is a useful exercise for the Reproductive Health Unit, policies and guidelines outlining criteria for who will be allowed to attend what training is important going forward, in order to use the data housed in TIMS for individual and policy decisions.

⁶⁴ World Health Organization (WHO). 2001. *World Health Report 2000—Health Systems: Improving Performance*. WHO: Geneva, p. 76.



DEVOLUTION OF HRH DECISIONS: ADDITIONAL NOTES ON MOHP DECENTRALIZATION IN MALAWI

Stakeholders working on HRH demand calculations must take into account the decentralization in progress within the Malawi health sector. For example, the MOHP has stated that, “the Ministry of Local Government (MOLG) will carry out a functional review of the requirements of staff in all sectors employed by the District Assemblies. There will also be a need to manage the transition of the employment of health personnel by the District Assemblies and to develop appropriate human resource management systems both at the district and national level.”⁶⁵ If WHO’s methodology is to be useful for the MOHP over time, then the MOLG and districts must be involved in order to facilitate their use of the same structured methodology for estimating the demand for healthcare providers in their jurisdictions. Otherwise, it is unlikely that national and district estimates will reflect the same realities and be complementary in establishing a cost-effective distribution of available manpower in the country.

JHPIEGO’s interviews of UNIPRO and MOHP staff indicate that the PPP database will remain housed at the MOHP’s central office in Lilongwe, but that decisions regarding deployment will be devolved to districts. Transfer records will need to be sent to Lilongwe for the requisite staffing changes to be reflected in the PPP for each facility. Admittedly, this will present a logistical challenge given the frequent transfer of mainly clinical staff between facilities within any given district.

CONCLUSION

This report has outlined the current status of the Malawi HRH routine and *ad hoc* data sources in light of international recommendations and conventions for use of such data for planning, policy and monitoring work within the health sector. Several shortcomings of the existing systems have been identified, while highlighting advances achieved in recent months by working with partners to move toward assembling HRH information in new ways to project ways to meet population health needs over the coming decade. Although many challenges lie ahead, given the dynamic state of health conditions in Malawi, JHPIEGO has observed that the MOHP is committed to improving the current status of human resource information systems and will work to maintain improved systems over time to support the development and monitoring of health human resource deployment and training policies and plans.

RECOMMENDATIONS

JHPIEGO recommends the following specific actions be taken with the goal of improving the routine HRIS for the MOHP:

- ◆ Each MOHP HRH data source listed in this report should be jointly examined by the HRMD and the instituting department for parallel uses and outputs of the system. If specific reports are needed, these should be detailed in a template given in writing to the HRMD, for use in user requirements meetings with UNIPRO (Africa).

⁶⁵ Government of Malawi, Ministry of Health and Population. 1999. *Malawi National Health Plan 1999–2004: Volume 3—Health Sector Human Resources Plan*, p. 34. (November).



- ◆ UNIPRO has already made clear to JHPIEGO that the PPP system can meet the HRH data needs of the MOHP. Thus, the MOHP should engage in a user requirements process with the UNIPRO (Africa) staff in Lilongwe to completely communicate the needs for the PPP and the current shortcomings it is experiencing in obtaining needed HRH reports. This includes discussions of additional reports as requested by other MOHP departments.

JHPIEGO recommends the following specific actions be taken with the goal of strengthening the MOHP HRH planning function:

- ◆ Specific MOHP Planning Unit and/or HRMD personnel should be identified for capacity building using the WHO HRH Projection Model. Such staff should be engaged in all future work done with this model so that these personnel can gain the needed knowledge and skills to carry forth HRH model updates in future years without the need for so many external partners. Over time, the goal is to completely internalize this process within the MOHP.
- ◆ District Health Office (DHO) staff and central hospital administrators should be identified to work with the WHO HRH modeling team, composed of external consultants and the above-identified central MOHP staff. As the process of devolution to districts of HRH functions proceeds, key administrators in each district will need an understanding of the HRH planning concepts related to these new responsibilities.

JHPIEGO recommends the following specific actions be taken with the goal of applying HRH data to preservice and inservice training:

- ◆ Each training institution should use the HRH model training projections from the Malawi Human Resources for Health Sector Strategic Plan to come up with their own annual training plans, which together will fill the national needs for health human resource production over the next decade. This process responds directly to recommendations from the WHO/World Bank consultative meeting on HRH in Africa, that “intake into training institutions should be guided by strategic human resources plans for the Ministry of Health.”⁶⁶
- ◆ Starting with HRH data inputs, use the computer model ProTrain™ to project needed numbers of reproductive health service providers over the next decade. Use the RHU’s TIMS® database to assess whether current levels of inservice training will meet intended targets shown from ProTrain results.

LOOKING FORWARD

As reported recently by the WHO African Regional Office, the Organization of African Unity Heads of State and Government discussed “human resources development issues at their 38th Summit in Durban in July 2002. They decided to declare the year 2004 ‘Year for Development of Human Resources with special focus on health workers’ and to hold a special Summit on

⁶⁶ World Health Organization/Regional Office for Africa (WHO/AFRO). *Building Strategic Partnerships in Education and Health in Africa: Consultative Meeting on Improving Collaboration between Health Professionals, Governments and Other Stakeholders in Human Resources for Health Development*, Addis Ababa, 29 January–1 February 2002. Report on the consultative meeting. http://www.afro.who.int/hrd/consultative_meeting_report.pdf, p. 11.



human resources the same year.”⁶⁷ With this report, JHPIEGO and the stakeholders who assisted so greatly in documenting the progress to date and challenges still to be resolved for Malawi health human resource information systems also demonstrate our commitment in working toward these central goals.

⁶⁷ Ibid, p. iii.



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APPENDIX A
Master List of Staff Categories and Post Titles
Considered in the Malawi Human Resources for Health Workshop

HRH Staff Category	Standard Post
Medical Specialist	Anaesthesiology Clinical Superintendent
	Anaesthetist
	Chief Ophthalmic Clinical Superintendent
	Chief Ophthalmologist
	Chief Psychiatrist
	Chief Radiologist
	Chief Specialist
	Dermatologist
	Dermatology Clinical Officer
	Dermatology Clinical Superintendent
	Entomologist Surgeon
	Medical Specialist
	Nephrologist
	OB/GYN
	OB/GYN Registrar
	Ophthalmic Clinical Superintendent
	Ophthalmologist
	Orthopedic Clinical Superintendent
	Orthopedic Surgeon
	Pathologist
	Pediatrician
	Principal Anaesthetic Clinical Superintendent
	Principal Dermatology Clinical Superintendent
	Principal Ophthalmic Clinical Superintendent
	Principal Ophthalmologist
	Principal Orthopedic Clinical Superintendent
	Principal Parasitologist
	Principal Psychiatrist
	Principal Radiologist
	Principal Specialist
	Psychiatrist
	Radiologist
	Rheumatologist
	Senior Anaesthesiology Officer
	Senior Cardiologist
	Senior Dermatologist
	Senior Dermatology Officer
	Senior Nephrologist
	Senior OB/GYN
	Senior Ophthalmologist



HRH Staff Category	Standard Post
	Senior Orthopedic Surgeon
	Senior Pathologist
	Senior Pediatrician
	Senior Psychiatrist
	Senior Radiologist
	Senior Rheumatologist
	Senior Surgeon
	Surgeon
	Urologist
Medical Officer	Assistant District Medical Officer
	Chief Clinical Superintendent
	Chief Medical Officer
	Chief Primary Health Care Officer
	Clinical Superintendent
	Doctor
	Medical Doctor
	Medical Officer
	Physician
	Principal Clinical Superintendent
	Principal Medical Officer
	Principal Medical Superintendent
	Principal Primary Health Care Officer
	Principal Superintendent Officer
	Senior Medical Officer
	Senior Physician
	TB Specialist
Clinical Officer	Anaesthesiology Clinical Officer
	Assistant Dermatology Clinical Officer
	Assistant Psychiatrist
	Chief Anaesthetic Clinical Officer
	Chief Clinical Officer
	Chief Ophthalmic Clinical Officer
	Chief Orthopedic Clinical Officer
	Clinical Officer
	Dermatology Clinical Officer
	Ophthalmic Clinical Officer
	Orthopedic Clinical Officer
	Principal Clinical Officer
	Senior Anaesthesiology Clinical Officer
	Senior Assistant Dermatology Officer
	Senior Assistant Health Officer
	Senior Assistant Psychiatrist
	Senior Assistant Reproductive Health Officer
	Senior Clinical Officer
	Senior Ophthalmic Clinical Officer

HRH Staff Category	Standard Post
	Senior Orthopedic Clinical Officer
	Senior Reproductive Health Officer
	Senior TB Clinical Officer
Medical Assistant	Anaesthesiology Medical Assistant
	Dermatology Assistant
	Electromedical Assistant
	Medical Assistant
	Senior Anaesthesiology Officer
	Senior Medical Assistant
	Senior Ophthalmic Medical Assistant
Dentist	Chief Dental Surgeon
	Dentist
	Principal Dental Technologist
	Principal Dentist
	Senior Dental Specialist
	Senior Dental Technologist
	Senior Dentist
Pharmacist	Chief Pharmacist
	Pharmacist
	Principal Pharmacist
	Senior Pharmacist
Registered Nurse/Health Education Officer	Assistant Health Education Officer
	Chief Health Education Officer
	Chief Nursing Officer
	Chief Nursing Sister
	District Health Education Officer
	Health Education Officer
	Hospital Matron
	Matron
	Night Superintendent Nursing Officer
	Nursing Officer
	Nursing Sister
	Nursing Superintendent
	Principal Nursing Officer
	Principal Nursing Superintendent
	Senior Assistant Health Education Officer
	Senior Family Health Officer
	Senior Health Education Officer
	Senior Night Superintendent Sister
	Senior Nursing Officer
	Senior Nursing Sister
	Senior Ophthalmic Nurse
	Senior Orthopedic Nurse
	Senior Registered Nurse



HRH Staff Category	Standard Post
	State Registered Nurse
	Superintendent Nursing Officer
Psychiatric Nurse	Chief Nursing Officer
	Enrolled Psychiatric Nurse
	Psychiatric Nurse
	Senior Enrolled Nurse/Midwife
	Senior Enrolled Psychiatric Nurse
	Senior Enrolled Psychiatric Nurse/Midwife
	Senior Psychiatric Nurse
Community Health Nurse	Chief Nursing Officer
	Community Health Nurse
	Public Health Nurse
	Senior Community Health Midwife
	Senior Community Health Nurse
	Senior Public Health Nurse
Senior Allied Health Professional	Chief Accountant
	Chief Disease Control Officer
	Chief Environmental Health Officer
	Chief Health Planning Officer
	Chief Medical Engineering Officer
	Chief Nutritionist
	Chief Physiotherapist
	Chief Reproductive Health Officer
	Chief Statistician
	Chief Systems Analyst/Programmer
	Chief Technical Advisor
	Chief Therapist
	OB/GYN Registrar
	Principal Accountant
	Principal Administrative Officer
	Principal Biochemist
	Principal Disease Control Officer
	Principal Electromedical Engineer
	Principal Epidemiologist
	Principal Health Planning Officer
	Principal Human Resource Development Officer
	Principal Human Resource Management Officer
	Principal Human Resource Planning Officer
	Principal Management Analyst
	Principal Medical Engineer
	Principal Mental Therapist
	Principal Microbiologist
	Principal Nutritionist
	Principal Occupational Therapist

HRH Staff Category	Standard Post
	Principal Personal Secretary
	Principal Physiotherapist
	Principal Population Officer
	Principal Preventive Health Officer
	Principal Rehabilitation Officer
	Principal Reproductive Health Officer
	Principal Speech Therapist
	Principal Statistician
	Principal Stores Officer
	Principal Systems Analyst/Programmer
	Principal Tutor
	Registrar
	Senior Audiotherapist
	Senior Biochemist
	Senior Disease Control Officer
	Senior Environmental Health Officer
	Senior Epidemiologist
	Senior Health Planning Officer
	Senior Human Resource Development Officer
	Senior Human Resource Management Officer
	Senior Human Resource Planning Officer
	Senior Medical Engineer
	Senior Mental Therapist
	Senior Microbiologist
	Senior Nutritionist
	Senior Occupational Therapist
	Senior Parasitologist
	Senior Personal Secretary
	Senior Physiotherapist
	Senior Rehabilitation Officer
	Senior Reproductive Health Officer
	Senior Speech Therapist
	Senior Technical Advisor
	Serv.
Nurse Midwife Technician/ Enrolled Nurse-Midwife	Chief Enrolled Nurse
	Community Health Worker
	Enrolled Community Health Nurse
	Enrolled Nurse
	Enrolled Nurse/Midwife
	Nurse Midwifery Technician
	Principal Enrolled Nurse
	Senior Community Health Worker
	Senior Enrolled Community Health Nurse
	Senior Enrolled Midwife



HRH Staff Category	Standard Post
	Senior Enrolled Nurse
	Senior Enrolled Nurse/Midwife
	Senior Enrolled Psychiatric Nurse
Radiographer/Radiology Assistant	Assistant Radio Technician
	Chief Radiographer
	Principal Superintendent Radiographer
	Radiographer
	Radiography Assistant
	Radiography Technician
	Senior Radiographer
	Senior Radiography Assistant
	Superintendent Radiographer
Lab/Biomedical Technician	Chief Laboratory Technician
	Chief Medical Laboratory Technologist
	Laboratory Assistant
	Laboratory Technician
	Medical Engineering Technician
	Medical Laboratory Technician
	Medical Laboratory Technologist
	Principal Medical Laboratory Technologist
	Senior Assistant Laboratory Technician
	Senior Laboratory Assistant
	Senior Laboratory Technician
Environmental Health Staff/Health Assistant	Assistant Environmental Health Officer
	Community Health Assistant
	District Environmental Health Officer
	Environmental Health Officer
	Environmental Sanitation Officer
	Health Assistant
	Leprosy Assistant
	Orthopedic Assistant
	Physiotherapy Assistant
	Principal Environmental Health Officer
	Rehabilitation Assistant
	Senior Assistant Environmental Health Officer
	Senior Environmental Health Officer
	Senior Health Assistant
	Senior Leprosy Assistant
Dentistry-Related Staff	Chief Dental Technician
	Chief Dental Therapist
	Dental Assistant
	Dental Technician
	Dental Therapist

HRH Staff Category	Standard Post
	Principal Superintendent Dental Therapist
	Senior Dental Technician
	Superintendent Dental Therapist
Pharmacy-Related Staff	Pharmacy Assistant
	Pharmacy Technician
	Senior Pharmacy Assistant
	Senior Pharmacy Technician
Managers	Administrative Officer
	Assistant Controller of Clinical Services
	Chief Hospital Administrator
	Chief Human Resource Management Officer
	Chief Human Resource Planning and Development Officer
	Chief Management Analyst
	Controller of Accounting Services
	Controller of Human Resources Management and Development
	Controller of Medical Stores
	Deputy Director of Clinical and Population Services
	Deputy Director of Health Information Systems
	Deputy Director of Health Planning Services
	Deputy Director of Health Technical Support Services
	Deputy Director of Nursing Services
	Deputy Director of Physical Assets Management
	Deputy Director of Preventive Health Services
	Deputy Secretary
	Director
	District Health Officer
	Executive Officer
	Health Services Administrator
	Hospital Administrator
	Hospital Coordinator
	Hospital Director
	Medical Doctor
	Principal Health Services Administrator
	Principal Hospital Services Administrator
	Principal Secretary
	Senior Deputy Secretary
	Senior Executive Officer
	Senior Hospital Administrator
	Senior Stores Officer
	Special Assistant to the Minister
	Undersecretary
Allied Professional Staff	Accountant
	Audio Therapist
	Biochemist



HRH Staff Category	Standard Post
	Chief Orthopedic Technician
	Disease Control Officer
	Documentation Officer
	Electromedical Engineer
	Environmental Health Officer
	Epidemiologist
	Epidemiologist Data Analyst
	Health Planning Officer
	Hospital Accountant
	Human Resource Development Officer
	Human Resource Management Officer
	Human Resource Planning Officer
	Maintenance Engineer
	Management Analyst
	Medical Engineer
	Medical Engineering Technician
	Mental Therapist
	Nutritionist
	Occupational Therapist
	Office Superintendent
	Ophthalmic Technician
	Ophthalmologist
	Orthopedic Cobbler
	Orthopedic Technician
	Physiotherapist
	Physiotherapy Technician
	Population Officer
	Radio Programmes Officer
	Rehabilitative Officer
	Reproductive Health Officer
	Research Coordinator
	Research Officer
	Senior Assistant Accountant
	Senior Assistant Disease Control Officer
	Senior Assistant Hospital Secretary
	Senior Assistant Human Resource Management Officer
	Senior Medical Engineer
	Senior Medical Engineer Technician
	Senior Orthopedic Technician
	Senior Physiotherapy Technician
	Senior Publications Officer
	Senior Radio Programmes Officer
	Senior Stores Supervisor
	Speech Therapist
	Statistician



HRH Staff Category	Standard Post
	Stores Officer
	Systems Analyst/Programmer
	Systems/Computer Operator
Skilled Support Staff	Accounts Assistant
	Accounts Clerk
	Assistant Accountant
	Assistant Health Education Officer
	Assistant Health Services Administrator
	Assistant Hospital Administrator
	Assistant Hospital Secretary
	Assistant Human Resource Management Officer
	Assistant Librarian
	Assistant Operations Officer
	Assistant Publications Officer
	Assistant Reproductive Health Officer
	Assistant Statistician
	Chief Health Education Officer
	Data Entry Clerk
	Department Clerk
	Electrician
	Health Education Officer
	Health Inspector
	Internal Auditor
	Internal Auditor Assistant
	Library Assistant
	Personal Secretary
	Principal Health Education Officer
	Senior Accounts Assistant
	Senior Assistant Health Education Officer
	Senior Catering Supervisor
	Senior Clerical Officer
	Senior Graphics Assistant
	Senior Stores Officer
	Senior Stores Supervisor
	Senior Ward Clerk
	Stores Supervisor
	Transportation Officer
Other Support Staff	Assistant Bricklayer
	Assistant Cook
	Assistant Head Cook
	Assistant Head Hospital Attendant
	Assistant Head Laundry Attendant
	Assistant Head Messenger
	Assistant Head Security Guard
	Assistant Hospital Attendant



HRH Staff Category	Standard Post
	Assistant Maintenance Supervisor
	Assistant Patient Attendant
	Boat Operator
	Boiler Attendant
	Boiler Operator
	Bricklayer
	Builder
	Carpenter
	Carpentry Assistant
	Catering Assistant
	Catering Supervisor
	Chief Catering Supervisor
	Clerical Officer
	Clerk/Typist
	Community Health Worker
	Cook
	Copy Typist
	Darkroom Attendant
	Dental Attendant
	Dhobbie
	Drainsman
	Driver
	Duplicating Machine Operator
	General Fitter
	Ground Labourer
	Head Cook
	Head Driver
	Head Hospital Attendant
	Head Laundry Assistant
	Head Laundry Attendant
	Head Mechanic
	Head Messenger
	Head Patient Attendant
	Head PBX Operator
	Head Security Guard
	Health Surveillance Assistant
	Home Craft Worker
	Hospital Attendant
	Hospital Servant
	Kitchen Attendant
	Laboratory Attendant
	Laundry Assistant
	Laundry Attendant
	Laundry Supervisor
	Maintenance Supervisor



HRH Staff Category	Standard Post
	Mechanic
	Mental Attendant
	Messenger
	Mortuary Assistant
	Mortuary Attendant
	Orthopedic Assistant
	Orthopedic Welder Assistant
	Oxid Pond Attendant
	Packer
	Painter
	Patient Attendant
	PBX Operator
	Pharmacy Attendant
	Physiotherapy Attendant
	Plumber
	Principal Catering Supervisor
	Radiography Attendant
	Receptionist
	Refrigeration Mechanic
	Security Guard
	Senior Catering Assistant
	Senior Copy Typist
	Senior Data Preparation Clerk
	Senior Dental Attendant
	Senior Duplicating Machine Officer
	Senior Head Laundry Attendant
	Senior Head Messenger
	Senior Head Patient Attendant
	Senior Health Surveillance Assistant
	Senior Home Craft Assistant
	Senior Hospital Attendant
	Senior Hospital Laundry Assistant
	Senior Laundry Assistant
	Senior Laundry Attendant
	Senior Laundry Supervisor
	Senior Maintenance Supervisor
	Senior PBX Operator
	Senior Pharmacy Attendant
	Senior Radiography Attendant
	Senior Receptionist
	Senior Statistical Clerk
	Senior Stores Clerk
	Senior Ward Clerk
	Sentinel Site Clerk
	Shorthand Typist/Stenographer



HRH Staff Category	Standard Post
	Statistical Clerk
	Stenographer
	Stores Clerk
	Stores Supervisor
	Tailor
	Unclassified Worker
	Waiter
	Ward Clerk
	Watchman

Source: JHPIEGO analysis of MOHP Planning Unit and HRMD data.

APPENDIX B MOHP HRMD Staff Return

STAFF RETURN FOR
'KARONGA DISTRICT HOSPITAL
AS AT 31st JANUARY, 2002.

TITLE OF POST	ESTABLISHMENT	GRADE	NAME OF INCUMBENT	STATION	DATE OF BIRTH	DATE OF FIRST APPOINT.	DATE OF PROMOT. TO PRESENT GRADE	MAN NUMBER	EDUCAT. QUALIFIC.	VILLAGE	HOME ADDRESS <small>Trad. Authority</small>	DISTRICT	RETIRED DATE	SALARY	REMARKS
Programme 08: Primary Health Care Services															
Sub-Programme 31: Facility Based Services															
CLINICAL OFFICER	1	TO	MWENIFUMBO C.O.K.	CHILUMBA HC	25/10/84	01/08/97	01/08/97	103239	J.C.E.	Katolola	Kyungu	Karonga			Month to Month
CLINICAL OFFICER			VACANT												
NURSING SISTER	1	TO	KAMWENDO N. (Mrs)	CHILUMBA HC	10/12/67	05/06/95	05/06/95	349984	M.S.C.E.	Kumponda	Chikumbu	Mulanje	10/12/2022		Interdiction
STATE REGISTERED NURSE	1	TO	MWALUNGULU J.T. (Mrs)	CHILUMBA HC	02/03/73	23/10/2000	23/10/2000	395334	M.S.C.E.	Mwandovi	Wasambo	Karonga	02/03/2028		
SENIOR MEDICAL ASSISTANT			VACANT												
SENR (PS) ENR/NURSE/MDW	1	STA	VACANT	CHILUMBA HC											
MEDICAL ASSISTANT	1	STA	KAMANGA E.G.	KAPORO RH.	05/04/68	01/02/95	August, 99	353221	M.S.C.E.	Mwachande	Mwasisiya	Nkhata Bay	05/04/2023		
MEDICAL ASSISTANT	1	TA	SIMEZA H.F.	KAPORO RH.	04/02/64	24/02/95	24/02/95	251638	M.S.C.E.	Sahani	Mhwalo	Rumphi	04/02/2019		Went to school
MEDICAL ASSISTANT	1	TA	NJOKA A.E.C.	IPONGA HC	30/09/70	14/08/97	14/08/97	382476	M.S.C.E.	Kambuku	Kwatane	Nicheu	30/09/2025		
MEDICAL ASSISTANT	1	TA	MANDA S.E.C.	FULIRWA HC	26/09/67	01/08/94	01/08/94	249350	M.S.C.E.	Vula	Kaomba	Kasungu	26/09/2022		Went to school
MEDICAL ASSISTANT	1	TA	MALOZA I.B.	CHILUMBA RH	17/06/67	17/01/95	17/01/95	352215	M.S.C.E.	Chipatika	Munyatuwanga	Nkhata Bay	17/06/2022		Month to Month
MEDICAL ASSISTANT	1	TA	MWANGULILI I.O.B.	NYUNGWE HC	04/10/35	02/05/92	02/05/92	103232	J.C.E.	Mwanjwala	Kyungu	Karonga			
ENROLLED NURSE MIDWIFE	1	TA	BOTHA B. (Miss)	FULIRWA	26/03/48	12/10/99	12/10/99	387855	P.S.I.C.	Mjuma	Chikulamayembe	Rumphi	26/03/2003		
ENROLLED NURSE MIDWIFE	1	STA	KAMANGA E. (Miss)	NYUNGWE HC	06/10/67	09/12/98	09/12/98		J.C.E.	Msindo	Mzikubola	Mzimba	44722		
ENROLLED NURSE MIDWIFE	1	TA	MWIRA TIMONGE V.	WILIRO HC	12/10/64	01/06/98	01/06/98	384772	J.C.E.	Ngesi	Kyungu	Karonga	01/06/2019		
ENROLLED NURSE MIDWIFE	2	TA	NYASULU A.H. (Mrs)	KAPORO HC	22/09/62	04/06/94	02/06/94	151886	J.C.E.	Venge	Mhwalo	Mzimba	22/09/2007		STA (Ph)
ENROLLED NURSE MIDWIFE	2	TA	MWANJASI S. (Mrs)	KAPORO RH	08/02/59	06/09/94	02/06/94	250223	J.C.E.	Matele	Mwasambo	Karonga	06/02/2014		
ENROLLED NURSE MIDWIFE	2	TA	PHIRI L. (Mrs)	CHILUMBA HC	28/10/49	06/04/78	06/04/78	116173	J.C.E.	Ngesi	Kyungu	Karonga	28/10/2004		STA (Ph)
ENROLLED NURSE MIDWIFE	1	TA	MVULA P.L. (Miss)	CHILUMBA HC	18/10/59	28/03/90	28/03/90	193532	M.S.C.E.		Chikulamayembe	Rumphi	18/10/2014		Due for STA (Ph)
ENROLLED NURSE MIDWIFE	1	TA	KATANGA C. (Miss)	IPONGA HC	05/11/72	30/11/98	30/11/98	385656	M.S.C.E.	Ibanda	Mwaulamba	Chitipa	05/11/2025		
ENROLLED NURSE MIDWIFE	1	TA	CHIHANVA V.R. (Mrs)	IMPATA HC	22/03/67	02/05/90	02/05/90	194373	J.C.E.	Diyele	Mphereembe	Mzimba	22/03/2012		Due for STA (Ph)





APPENDIX C
MOHP Controller of Nursing/NMCM Staff Return

CHIKWAWA DISTRICT HOSPITAL

NAME	MAIDEN NAME	GRADE	CONFIR. OR NOT	DATE OF CONFIRM.	LENGTH OF STAT.	LENGTH OF GRADE	REGISTER WITH COUNCIL	ATTENDED TRAINING
Catherine Chavula	Mchambali nja	SRN-STO	not	-	1yrs 9 month	3yrs 9 months	yes	yes
Hilda Gausi	Chibaka	SRNGO	not	-	5yrs 9months	5yrs 9m	yes	no
Alice Konyani	-	SRN-TO	not	-	4yrs 10m	4yrs 10m	yes	no posted to Nsanje
Masozzi Mpahuwa	-	SRN-TO	not	-	6yrs 10m	6yrs 10m	yes	no
Mercy Kamphinda	Mambo	SECHN-TO	not	-	5yrs	5yrs	yes	yes - CHN
Dorothy Masautso	-	EN/M-TA	not	-			yes	no
Elizabeth Chikopa	Magoya	SENM-STA	yes	1.09.94	5yrs	5yrs	yes	yes - Psych
Ruth Machecha	Kalavina	SENM-STA	yes	12.12.79	14yrs 10	14years 6m	yes	no
Margret Moyo	Ngongond ^a	SEP/TO	no	-	8yrs	9yrs 7m	yes	yes - Psych
Patricia Tembo	Million	ENM-TA	no	-	7yrs	7yrs	yes	no
virginia Facti	Davide	ENM-TA	no	-	7yrs	11yrs	yes	no
Faines Gangu	Kautale	ENM-TA	no	-	11yrs	11yrs	yes	no





APPENDIX D

MOHP Controller of Clinical Services Staff Survey

MOHP QUESTIONNAIRE TO BE FILLED BY CLINICAL/DENTAL HEALTH WORKERS AT ALL GOVT. HEALTH FACILITIES:

District: _____ Health Facility: _____
 Type of Facility: _____ Facility Owner: _____
 Department: _____ Unit: _____

1. PERSONAL DETAILS:

Last Name: _____ First Name: _____
 Initials: _____ Male / Female Married / Single / Divorced / Widowed
 Place of Employment for Spouse: _____

2. EDUCATION AND COURSES (Degree/Diploma/Certificate Courses ONLY – Excluding Basic Education):

DATES FROM	TO	FUNDING AGENCY	COURSE NAME	NAME OF TRAINING INSTITUTION
____/____/____	____/____/____	_____	_____	_____
____/____/____	____/____/____	_____	_____	_____
____/____/____	____/____/____	_____	_____	_____
____/____/____	____/____/____	_____	_____	_____

3. POSTINGS (Including 1st Posting)

DATES FROM	TO	HEALTH FACILITY	DEPARTMENT NAME	DISTRICT
____/____/____	____/____/____	_____	_____	_____
____/____/____	____/____/____	_____	_____	_____
____/____/____	____/____/____	_____	_____	_____
____/____/____	____/____/____	_____	_____	_____

4. APPOINTMENTS / PROMOTIONS (Including 1st Appointment)

DATE	JOB TITLE	POST	TYPE
____/____/____	_____	_____	<input checked="" type="radio"/> Substantive / <input type="radio"/> Personal to Holder
____/____/____	_____	_____	<input type="radio"/> Substantive / <input type="radio"/> Personal to Holder
____/____/____	_____	_____	<input type="radio"/> Substantive / <input type="radio"/> Personal to Holder
____/____/____	_____	_____	<input type="radio"/> Substantive / <input type="radio"/> Personal to Holder

If you run out of space, please use the back of this page. The questionnaire should be submitted to your DHO/Hosp Director





APPENDIX E

Medical Council of Malawi Gazette

MEDICAL COUNCIL OF MALAWI

LIST OF REGISTERED MEDICAL PRACTITIONERS - 2001/2002

REG. NO	DATE REG.	NAME	ADDRESS	QUALIFICATIONS
MCM/MP/0699	31/7/01	ABELE, MICHAEL	P O BOX 2736, BLANTYRE	MD (NEW JERSEY) 1991
MCM/MP/0640	3/7/2000	ABDELWAHAB, ABDEEN M.	P O BOX 285, BLANTYRE	MB BS (KHARTOUM) 1979
MCM/MP/0645	3/7/2000	ADEMA, SASCHA	P O BOX 45, MULANJE	MD (AMSTERDAM) 1997
MCM/MP/0605	1/9/1999	BAAUW, ALBERTINE	P O BOX 41, MTAKATAKA	MD (ROTTERDAM) 1991
MCM/MP/0307	21/4/92	BANDA, ALFRED CHITSA	P O BOX 43 LILONGWE	M.B., Ch. B. (NAIROBI) 1989
MCM/MP/0685	25/7/01	BANDA, RICHARD M.	P O BOX 149, LILONGWE	MB. BS. (MALAWI) 1999
MCM/MP/0438	1/4/1994	BANDAWE, LYCESTER R	P/BAG 67, BLANTYRE	MB. BS. (MALAWI) 1992
MCM/MP/0687	25/7/01	BEERENS, MADELAINE	P O BOX 54, MACHINGA	MB. BCh. (WITS) 1980
MCM/MP/0002	22/8/88	BHOJANI, M. H.	P O BOX 440, BLANTYRE	M.B., B.S. (BOMBAY) 1975
MCM/MP/0243	30/1/91	BHUPTANI, G. C.	P O BOX 207, BLANTYRE	M.B., B.S. (SAURASHTRA) 1977
MCM/MP/0688	25/7/01	BISHOP, JOHN L.	P O BOX 52, NKHOTAKOTA	MD. (ALBERTA) 1967; FRCSE (UROLOGY) 1972
MCM/MP/0619	8/12/1999	BONONGWE, M.L. M.	P O BOX 50, NKHOTAKOTA	MB. BS. (INST.) 1997
MCM/MP/0336	7/12/1992	BORGSTEIN, ERIC B.	P O BOX 95, BLANTYRE	MD(GRONNINGEN) 1979; FRCS(EDIN) 1985; PEC. DIP. SURGEY(NETH.) 1989
MCM/MP/0143	20/3/89	BORGSTEIN, ANNIE C.	P O BOX 95, BLANTYRE	MD(UTRECHT) 1952; FCP (SA) 1975; DCH (LON.) 1969
MCM/MP/0707	16/10/01	BOURDILLON, CECILY C. M.	P O BOX 4, CHINGALE	MB. BCh. (NUI) 1967
MCM/MP/0309	22/5/92	BROADHEAD, ROBERT L.	P/BAG 360, BLANTYRE 3	MB BS(LON) 1970; DCH(LON) 1972; DTM&H (LIV); MRCP(UK) 1974; CHMT(PAED.) 1978
MCM/MP/0596	12/2/1999	BROOKS, CHRISTOPHER	P O BOX 2359, LILONGWE	MD. BCH. (ENG.) 1964
MCM/MP/0702	16/10/00	BROWNLIE, DONALD	P O BOX 5, LIVINGSTONIA	MB. ChB. (BELFAST) 1966
MCM/MP/0710	28/11/01	BUENSUCESO, JAY I.	P O BOX 21, ZOMBA	MD. (WEST VISAYAS) 1994
MCM/MP/0704	16/10/01	CABARAQUINTO, AUDRIA	MALAMULO HOSPITAL	MD. (SAINT THOMAS) 1979
MCM/MP/0661	5/12/2000	CALKHOVEN, ARJAN P.	P O BOX 21, CHILEMA	MD(ROTTERDAM) 1992
MCM/MP/0004	22/8/88	CARATELLA, ABDUL Q.	P O BOX 19, LILONGWE	M.B., B.S. (PUNJAB) 1981
MCM/MP/0523	4/12/1996	CHALIRA, CHIPO	P O BOX 95, BLANTYRE	MB. BS. (MALAWI) 1994
MCM/MP/0681	11/5/2001	CHAPONDA, ANGELLA C.	P O BOX 95, BLANTYRE	MB. BS. (MALAWI) 1999
MCM/MP/0561	28/5/98	CHAPONDA, MASAUTSO	P O BOX 3067, BLANTYRE	MB. BS. (MALAWI) 1996
MCM/MP/0082	22/8/88	CHAZIYA, WISEMAN C.	P O BOX 30377, LILONGWE 3	MB. ChB. (NAIROBI) 1978, MPH (JERUSALEM) 1987
MCM/MP/0434	7/12/1994	CHILAMBO, WAJILOVA	P O BOX 392 MANKAYANI,	M.B., Ch.B. (UNZA) 1989
MCM/MP/0005	22/8/88	CHILEMBA, DICK	P O BOX 80107, MASELEMA	MB., B.S. (CALCUTTA) 1964
MCM/MP/0638	3/7/2000	CHIMBWANDIRA, FRANK	P O BOX 95, BLANTYRE	MB BS (MALAWI) 1998
MCM/MP/0694	25/7/01	CHIPETA, DANIEL C	P O BOX 2636 BLANTYRE	MB BS (MALAWI) 1998
MCM/MP/0142	20/3/89	CHIRAMBO, MOSES W.	P O BOX 30858, LILONGWE 3	MD (ALBERTA) 1967; DO (JERUSALEM) 1974
MCM/MP/0639	3/7/2000	CHIRWA, ISAAC N. K.	P O BOX 45, LUNZU	MB BS (MALAWI) 1998
MCM/MP/0453	28/2/95	CHIRWA, W. PATRICK	P O BOX 149 LILONGWE	M.B., B.S. (MALAWI) 1993
MCM/MP/0445	13/4/95	CHISI, P. M. EUGENES J.	P/BAG 360, BLANTYRE 3	M.B., B.S. (MALAWI) 1993
MCM/MP/0633	3/7/2000	CHITHOPE-MWALE, G. G.	P O BOX 42, MANGOCHI	MB BS (MALAWI) 1998
MCM/MP/0711	14/12/01	CHIUNDIRA, JEREMONI P. K.	P/BAG 1, NAMITETE	MB BS (MALAWI) 1997
MCM/MP/0172	27/9/89	CHITIMBA, NICHOLAS M.	P O BOX 30385 BLANTYRE	MB., Ch.B. (BIRM.) 1967
MCM/MP/0689	25/7/01	CHIWAULA, LAWRENCE M.	P O BOX 44, NTCHISI	MB BS (MALAWI) 1996
MCM/MP/0007	22/8/88	CHOKANI, BRUIN	P O BOX 30190, LILONGWE 3	MB BS (BOMBAY) 1971
MCM/MP/0595	12/2/1999	CRAMPIN CATHERINE A.	P O BOX 46 CHILUMBA	MB. ChB. (MAN.) 1989
MCM/MP/0684	11/5/2001	DAZA, PAUL F. F.	P/BAG 209, LUWINGA	MB. BS. (MALAWI) 1998
MCM/MP/0190	11/9/1989	DE HAAN WILLEM J.	P O BOX 51 BLANTYRE	M.B. Ch.B. (CAPE TOWN) 1974
MCM/MP/0034	9/11/1989	DE JOHNSON, MARIA I. M.	P O BOX 631, BLANTYRE	M.D. (BUENOS AIRES) 1963
MCM/MP/0010	22/8/88	DESAI, VARSHA M.	P O BOX 440, BLANTYRE	M.B., B.S. (JABALPUR) 1986
MCM/MP/0701	16/10/01	DE VRIES, BASTIAAN	P/BAG 360, BLANTYRE 3	MD. (GRONINGEN) 1999
MCM/MP/0602	1/9/1999	DHAWAN, SANJAY	P O BOX 30858, LILONGWE 3	MB.BS. (MADRAS) 1985, MS. OPHTH. (PONDICHERRY) 1989
MCM/MP/0483	4/11/1997	DZAMALALA, PATRICK C.	P O BOX 95 BLANTYRE	M.B. B.S. (MALAWI) 1993
MCM/MP/0695	25/7/01	DZINGOMVERA, STYX T.	P/BAG 18, ZOMBA	M.B. B.S. (MALAWI) 1997





APPENDIX F

Pharmacy, Medicines and Poisons Board Web-Based Registry

New Page 1

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PHARMACY, MEDICINES AND POISONS ACT (No. 15 OF 1988)
PHARMACY, MEDICINES AND POISONS (FEES AND FORMS)
REGULATIONS 1991

APPLICATION FOR THE REGISTRATION AS A PHARMACIST/ PHARMACY TECHNOLOGIST/
PHARMACY ASSISTANT*

[Section 21 (1)]

[FrontPage Save Results Component]

1. Name and Address of applicant

Surname	<input type="text"/>	First Name	<input type="text"/>
Telephone Number	<input type="text"/>	Postal Address	<input type="text"/>

2. Date of Birth	<input type="text"/>	3. Sex	<input type="text"/>
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4. Nationality

5. Application for registration in the register of

6. Academic qualifications (certificates, diplomas, degrees), dates obtained, and institutions attended (school, university, college)

Qualification	Month/Year	Institution
<input type="text"/>	<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>	<input type="text"/>

7. Professional qualification (with dates obtained and Institutions)

8. Present employment and address

9. I, the above mentioned applicant, hereby apply for registration on the aforementioned register and submit herewith

*(a) the prescribed application fee of MK

*(b) the prescribed registration fee of MK and



(c) the following documents in support of my application

10. I, the above mentioned applicant, hereby solemnly and sincerely declare that the information I have given above is true in every respect to the best of my knowledge and belief and that I have read the ACT and the Registration made under the Act and understand that, if registered, I shall be bound thereby and by any amendments thereto, fro as long as my name shall remain on the aforesaid register.

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[\[APPLICATION\]](#)

