



WHO Human Resources for Health Minimum Data Set





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This Minimum Data Set (MDS) package represents the collaborative work of the University of Technology, Sydney's (UTS) Faculty of Nursing, Midwifery and Health, a WHO Collaborating Centre for Nursing, Midwifery and Health Development; the Western Pacific and South-East Asia WHO Regions, WHO Headquarters, partners and countries. Deep appreciation is due to Jim Buchan for his expert technical guidance, as well as to Jill White and Michele Rumsey, of the UTS, for overall project management, taskforce formation and minimum data set development.

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Executive Summary

World Health Organization Human Resources for Health Minimum Data Set Package

The countries of the Western Pacific and South-East Asia Regions face major challenges in producing and sustaining well-performing health workforces that are responsive, fair and efficient in the delivery of effective, safe, quality health interventions to those who need them.¹ Well-functioning health information systems are required to ensure the production, analysis, dissemination and use of reliable and timely essential Human Resources for Health (HRH) information needed for workforce planning, management and evaluation.

The World Health Organization (WHO) Western Pacific and South-East Asia Regional project on a HRH Nursing/Midwifery Minimum Data Set (MDS) aims to support Member States and areas in designing effective and efficient HRH management information systems focused on nurses and midwives, to generate, process, report on and apply essential, core data in a timely manner. The data are for planning and management, as well as to promote coordination and collaboration between various health professionals, ministries, educational institutions and professional associations.

The accompanying Fact-Sheets 1 – 3, represent outputs of Phase 1 of the project, undertaken in direct collaboration with the University of Technology, Sydney's (UTS) Faculty of Nursing, Midwifery and Health, a WHO Collaborating Centre for Nursing, Midwifery and Health Development; WHO Headquarters, the Western Pacific and South-East Asia WHO Regions, partners and countries. It builds on the earlier Western Pacific Regional work carried out in collaboration with Ms Chieko Sakamoto, on the development and design of nursing/midwifery information systems and other data gathering tools, such as the WHO Western Pacific Nursing Country Databanks, as well as existing WHO modules focused on the development and application of nursing/midwifery information systems.

¹ World Health Organization. *Everybody's Business: Strengthening Systems to Improve Health Outcomes (WHO's Framework for Action)*. Geneva, World Health Organization, 2007.

This first phase of the project was carried out in consultation with individuals from 30 countries within the Western Pacific and South East Asia Regions. The accompanying Fact-Sheets are summarized in Box 1. and have been produced for Stage 1 of this project.

Fact-Sheets in the Minimum Data Set Package

❑ Fact-Sheet 1—Why Human Resources for Health is Important

Provides a background to HRH; why it is top of the agenda; describes the use of effective policies and an evidence-based approach.

❑ Fact-Sheet 2—Using the WHO Human Resources for Health Minimum Data Set

Used in conjunction with the other fact-sheets, it describes the main elements of the data set.

❑ Fact-Sheet 3—WHO Human Resources for Health Minimum Data Set

Outlines the indicators and domains to enable cross-country comparisons, as well as sub-regional, regional an global trend analysis and planning, based on essential nursing and midwifery HRH indicators.

PHASE 2 OF THE PROJECT

The second project phase, begun in 2008, aims to further develop and expand the HRH minimum data set template developed in Phase 1, to cover other health professional groups. Additionally, Phase 2 will support the piloting and evaluation of a HRH template at the country level, as a framework for planning and assessing HRH organization and system contexts, linked to HRH country profiles. A primary objective is to assess the extent to which the template is relevant to and has utility in health systems of different sizes, with different approaches to HRH planning, and with different levels of HRH policy and planning capacity. This will enable the identification of current strengths and limitations in capacity, as well as gaps in information and data availability.

Project Highlights

Understanding the people who work in the health system and provide the care has been recognised as a priority by WHO World Health Assembly and the Global Nursing and Midwifery Strategic Directions.

Understanding how HRH differs from country to country in our diverse and complex regions is extremely important.

The provision of quality health care is dependant on adequate numbers of equitably distributed and supported, competent, human resources for health personnel. Workforce expenditures and structures will vary considerably with our regions.

This project aims to produce a set of indicators and domains with definitions and associated fact-sheets to establish a minimum data set to record, share, analyse and apply HRH data.

To understand HRH, we need to develop an information system. These systems, where possible, need to align with other healthcare disciplines, global workforce definitions and other databases. Using the same language, where feasible, so as not to duplicate the work and continue to create "silos".

Given the diverse countries that the minimum data set will cover, in terms of size and configuration of health services, it will not be possible to capture all data in one template that will meet all the policy related requirements of each country.

The key word through out this project has been "minimum." The idea was to produce indicators and domains for a minimum data set. However, individual countries and organisations can adopt the minimum data set and the fact sheets. The use of standard definitions will ensure consistency by permitting jurisdictions to develop their own, more detailed and country-specific data sets, building on the core minimum data, which will also enable regional comparison and standardization.

Why Human Resources for Health are important

FACT-SHEET 1



This Fact-Sheet is designed to be used with the WHO Human Resources for Health (HRH) Minimum Data Set (MDS) package, which consists of: Fact-Sheet 1, Fact-Sheet 2 and Fact-Sheet 3.

No Health Workers, No Care

The message in the World Health Report 2006 (WHR) is simple—without health workers, vital global health challenges cannot be met.

The report reveals that there is an estimated worldwide shortage of almost 4.3 million doctors, midwives, nurses and support workers. The shortage is most severe in the poorest countries, where health workers are most needed.

Without an adequate health workforce, the three key global health challenges outlined in the WHR will be difficult to address. These challenges are:

- (1) To scale up interventions in order to attain the health-related Millennium Development Goals (MDGs);
- (2) To shift successfully to community-based and patient-centred models of care for the treatment of chronic diseases;
- (3) To tackle the problems posed by disasters and outbreaks; and
- (4) To preserve health services in conflict and post-conflict states.

The WHR highlights propose several strategies to tackle this HRH crisis over the next ten years.

HRH is top of the agenda

The WHR recommends that, in order to achieve the goal of getting “the right workers, with the right skills, in the right place, doing the right things,” countries should develop HRH plans that are able to:

- (1) Act now for workforce productivity, with a focus on better working conditions for health workers, improved safety, and better access to treatment and care;
- (2) Anticipate what lies ahead, including developing a well-crafted plan to train the future health workforce;
- (3) Acquire critical capacity, which requires workforce planning and the creation of leadership and management competencies, as well as focusing on standard setting, accreditation and licensing as drivers for patient safety and quality improvement.

To meet these challenges in the Western Pacific Region of WHO, the Regional Strategy on Human Resources for Health 2006-2015 outlines three main key results areas (KRAs). These are:

- KRA 1: a health workforce that is responsive to population health (demand);
- KRA 2: effective and efficient workforce development, deployment and retention (supply); and,
- KRA 3: sound stewardship, good governance and effective health workforce management (utilization).

This Regional Strategy presents a range of policy options which emphasise that country-specific strategies are essential to sustain a sufficient, balanced, competent, productive, responsive and supported health workforce..

Nursing and midwifery are the core of HRH

Nursing and midwifery staffs are vital for the delivery of safe and effective health care. In recognition of this, the WHO Western Pacific Region Strategic Action Plan for Nursing and Midwifery Development focuses on the nursing/midwifery workforce crisis. This crisis is due to workforce shortages, inequitable distribution and skill-mix imbalances.

This Action Plan sets out four strategic objectives (see Box 1) for effective HRH planning and management, which match the KRAs above. Central to these objectives is the alignment of policies on information management, human resources management, education, governance and professional regulation.

Box 1: Strategic Objectives of the WHO Western Pacific Region's Strategic Action Plan for Nursing/ Midwifery Development

- (1) Ensure that health workforce planning and development is an integral part of national policy and is responsive to population and service needs (aligned with KRA 1 above);
- (2) Address workforce needs, including workplace environment, to ensure optimal employee retention and participation (aligns with KRA 2 above);
- (3) Improve the quality of education to meet the skill and development needs of the staff in changing service environments; and
- (4) Strengthen health workforce governance and management to ensure the delivery of cost effective, evidence-based and safe programmes and services (aligns with KRA 3 above).

Effective HRH policies require HRH data

As outlined in the WHO Western Pacific Region's Action Plan for Nursing/Midwifery Development, standardized and accurate HRH data is crucial for HRH decision-making, planning and health service delivery. The collection and analysis of HRH data will help to ensure that health workforce planning and development is:

- An integral part of national policy—health workforce issues are central to health service reforms and to building effective, cost-efficient health systems (WHO, 2006);
- Responsive to population and service needs; and
- Able to assess and predict HRH shortages, oversupply and future HRH needs (WHO, 2006).

HRH data needs to reflect "uniform indicators, tools and management information systems for monitoring nursing/midwifery resource levels" in order to generate a comprehensive picture of workforce movements and to identify major gaps and weaknesses (WHO, 2007).

As well as HRH data, the other important prerequisites for developing effective HRH policies and practice are an understanding of the context in which HRH policies are to be applied and an appreciation of the strengths and weaknesses of different options for addressing HRH issues.

This means that the resourcing of skilled HR managers and planners with the capacity to develop and implement policies based on well-maintained HRH data sets is a high priority and needs equal attention (WHO, 2006).

You can find out more by reading Fact-Sheet 2, in which the major elements of the HRH minimum data set (MDS) are explained. The MDS has been developed as a starting point to enable countries to plan for current and future health workforce needs and to facilitate comparison between countries on basic nursing and midwifery HRH workforce indicators.

HRH makes a difference—the evidence base

In recent years, it has been recognised that developing sufficient capacity in trained HRH managers and planners, and establishing appropriate HRH policy should be at the core of any sustainable solution to improve health system performance. A well-motivated and appropriately skilled and deployed workforce is crucial to the success of health system delivery. Good practice in HRH can make a positive difference to the performance of the organisation.

A broad range of HRH indicators can be used to measure and assess nursing and midwifery effectiveness and performance (see Fact-Sheet 2).

Indicators can be:

- "Proxy" measures, such as staff turnover or absence (the assumption being that lower turnover, for example, will lead to improved performance);
- Measures of organisational activity or financial performance;
- Direct measures of clinical activity or workload (e.g. staff per occupied bed, or patient acuity measures);
- Measures of output (e.g. number of patients treated);
- Or (less frequently) measures of outcome (e.g. mortality rates; rate of post-surgery complications).

(see Buchan 2004 for more discussion).

There is a growing evidence-base from a range of countries that demonstrates the importance of HRH data in decision-making about nurse and midwifery staffing levels, mix, and deployment (Rafferty et al 2005). In addition, many of these studies demonstrate that planning, based on HRH data and efficient use of nursing and midwifery HRH resources, can make a positive difference to health outcomes. Adequate HRH improves the health of populations (WHO, 2006). Recent reviews of available online research include those by NHS Employers (2006) and by the Robert Wood Johnson Foundation (2006).

These studies may provide ideas for ways of assessing the effectiveness of nursing and midwifery HRH resources in your own country or organisation.

Finally, there are two other important findings from the evidence base that require consideration when planning for HRH (see Buchan 2004). The first one is that there must be a "fit" between the HRH approach and the characteristics, context and priorities of the organisation in which it is being applied. The second one is that linked and coordinated HRH interventions will be much more likely to achieve sustained improvements than will single or uncoordinated interventions. The MDS provides a tool that can facilitate both of these activities.

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Using the WHO Human Resources for Health Minimum Data Set

FACT-SHEET 2



This Fact-Sheet is designed to be used with the World Health Organization (WHO) Human Resources for Health (HRH) Minimum Data Set (MDS) package, which consists of: Fact-Sheet 1, Fact-Sheet 2 and Fact-Sheet 3.

This Fact-Sheet is designed to inform and support you in using the WHO Western Pacific Region Nursing and Midwifery Minimum Data Set of HRH Indicators (Fact-Sheet 3). It describes the main elements of this data set.

The primary purpose of the minimum data set is to support cross-country comparisons of nursing and midwifery workforce supply and demand by measuring and predicting workforce imbalances. However, the MDS can also be adapted for use in country-level planning.

The MDS, a project between WHO and selected regions, partners and countries, has built on and extended earlier Western Pacific Region work. It was also informed by reviews of relevant tools and existing modules of nursing and midwifery information systems. The MDS reflects key priorities agreed on by the HRH Project Stakeholder Group, core partners, and the feedback from vital informants at a range of consultation meetings held throughout the WHO Western Pacific and South East Asia Regions in 2006, which involved potential users from more than 30 countries.

Many other HRH data sets are lengthy and complex. The MDS is designed as a basic tool to enable a rapid assessment of the nursing and midwifery workforce.

What is a minimum data set?

An HRH MDS consists of a core set of standard indicators which are used, generally, at a national level, for the collection and reporting on key aspects of health system delivery, including current workforce/staffing resources and future HRH needs. This can enable the comprehensive analysis of supply, requirements and adequacy in profession-based workforce planning (AHWOC 2003; CIHI 2005; WHO, 2007).

By using standard definitions and agreed upon indicators, an MDS can support comparison or benchmarking across organisations, systems or countries. An MDS represents the minimum number of data elements that stakeholders agree are required to be collected in order to meet workforce planning objectives. The intention is for existing data and information to be used wherever possible in order to minimise the data-gathering burden. This may include utilising population-based (census, surveys, registers) or health services-based (surveillance, health service records and administrative records, see WHO, 2007) data sources.

Although the development and use of an MDS is dependent upon stakeholders agreeing at a national level to a uniform core set of indicators, this does not prevent agencies and stakeholders from collecting additional data to meet a specific country's information needs.

What does the MDS "look" like? Explaining domains and indicators.

The MDS consists of:

- domains;
- associated indicators (which are the data that needs to be collected);
- definitions for each indicator to provide standardization;
- possible sources of data for each indicator (such as a population-based or health-services based data source);
- a rationale for why each indicator is important; and,
- additional supporting information for those who wish to expand or adapt the core MDS for in-country HRH planning.

A "domain" is a description of each broad area of required information. Defining each domain answers the question "what are the priority elements of information that we require to know?" The WHO Western Pacific Region Nursing and Midwifery MDS comprises of four domains selected on the basis of their importance for the continuous monitoring of the nursing/midwifery workforce and for keeping track of HRH retention and turnover (WHO, 2006). These four domains are listed and explained in the box below:

Domain	Definition
1. Country population (Demographics)	<p><i>These domains (and associated indicators) were selected to allow for assessment of HRH needs, based on what actually exists (the labour pool) and what is possible in organising and managing the workforce. (WHO, 2006)</i></p> <p><i>Total size of the population, by gender and age distribution. This domain enables the measurement/calculation of imbalance, in terms of available workforce-to-population ratios. The current pool of health workers and the degree to which they are engaged in delivering health services, the settings in which they deliver care and whether full-time, part-time, unemployed or underemployed are factors which affect supply.</i></p>
2. Current workforce (Stock)	<p><i>Total current "stock" of nurses/midwives and associated healthcare workers. This represents the current potential workforce within the country and can be used to estimate if there is a problem of shortage or oversupply (inputs, losses and utilization).</i></p>
3. Workforce additions (Supply)	<p><i>Sources of new supply of nurses and midwives. The availability of suitable candidates to the work pool is a factor that can affect supply and can provide an indication of how available stock may be increased.</i></p>
4. Workforce losses: (those "leaving" employment in the country)	<p><i>Total numbers "leaving" the stock of nurses and midwives in the country. There are different types of "leaving." Some may only be temporary, but losses from the pool are a factor that affects supply. This domain can be used to estimate if there is a problem of shortage or oversupply.</i></p>

The twelve MDS indicators provide a means of "measuring" the information required (for example country population, total current number of nurses/midwives; retirements) for each domain. Relying on a single indicator is insufficient. A range of indicators is needed to obtain a more accurate measure of workforce supply and demand and possible imbalances (WHO, 2004). The emphasis is on gathering information on basic characteristics such as age, sex and geographical distribution of nurses and midwives (rural or remote) as this type of data provides essential information for HRH planning and management (WHO, 2006).

Using the MDS

To use the MDS, you need to study the domains, indicators, and data sources listed (see Fact-Sheet 3), and decide how best to complete the data requirements for each indicator. Suggested sources of data are given, however, it may be that there are other alternative data sources within your own country that are more suitable (data from government departments, professional associations or statistical agencies, for example.)

Since the necessary data sources will likely come from a range of government departments and other organizations, it is important to ensure that all relevant government and organizational stakeholders support the development and use of the MDS. Without their agreement and support, you will be much less likely to obtain complete and fully accurate data.

To achieve stakeholder support and participation in setting up and maintaining the data set, you should consider the establishment of a national working committee or implementation taskforce, which will represent a broad range of necessary expertise and relevant stakeholders. This early "buy-in" will help to involve and commit all interested parties for the duration of the project.

Possible stakeholders may include representatives from your country or region's ministry of health, public service commission, or ministry of finance. They may also include local NGOs, representatives of hospital and health facility management, nursing and medical associations, community health management committees, and external agencies, such as WHO or other international NGOs.

Who will "own" the data and the data set?

It is important, as part of the process of setting up and using the data set, that there is early agreement among the relevant stakeholders about:

- Who is responsible for co-ordinating the project;
- Who is the main WHO/Project team member contact;
- Who stores, manages and controls access to the data;
- Who is responsible for updating the MDS;
- How the data will be secured; and,
- How any issues of data protection and privacy will be dealt with.

Again, these issues are best discussed and agreed upon at the beginning of the project by a national working committee or taskforce. A written protocol or manual should be drafted and ratified by the committee or taskforce, so that the necessary processes and procedures are standardised and understood by all stakeholders from the outset.

Using the IMS-HRH data set for local planning

Given the diverse countries and health systems in which the MDS will be implemented, it will not be possible to capture the required data in one standard template that meets all the policy and planning requirements of any one country. However, individual countries and organisations can adapt and build on the MDS to suit their HRH planning needs.

Please note, though, that if changes are made, the core minimum data should still be retained so that regional comparisons can be made.

Suggestions for adapting the MDS within countries are made in Fact-Sheet 3

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WHO Human Resources for Health Minimum Data Set

FACT-SHEET 3



This Fact-Sheet is designed to be used with the World Health Organization (WHO) Human Resources for Health (HRH) Minimum Data Set (MDS) package, which consists of: Fact-Sheet 1, Fact-Sheet 2 and Fact-Sheet 3.

Domain	<i>These domains (and associated indicators) were selected to allow for assessment of HRH needs, based on what actually exists (the labour pool) and what is possible in terms of organising and managing the workforce. (WHO, 2006)</i>
1. The population of the country (Demographics)	<i>Total size of the population, by gender and age distribution. This enables the measurement/calculation of imbalance in terms of available workforce to population ratios. The current pool of health workers and the degree to which they are engaged in delivering health services, as well as the settings where they deliver care and whether they work full or part-time, or are unemployed or underemployed, are factors which affect supply.</i>
2. The current workforce (Stock)	<i>Total current "stock" of nurses/midwives and associated healthcare workers. This represents the current potential workforce within the country and can be used to estimate if there is a problem of shortage or oversupply (inputs, losses and utilization).</i>
3. Workforce additions (Supply)	<i>Sources of new supply of nurses and midwives. The availability of suitable candidates to the work pool is a factor that can affect supply and can provide an indication of how available stock may be increased.</i>
4. Workforce losses: those "leaving" employment in the country	<i>Total numbers "leaving" the stock of nurses and midwives in the country. There are different types of "leaving"—some may only be temporary, but losses from the pool is a factor that affects supply. This can be used to estimate if there is a problem of shortage or oversupply.</i>

The MDS comprises of four domains:

Each domain is associated with one or more indicator. There are also definitions for each indicator, suggestions for possible sources of data to be used in developing the indicator, and a rationale for each indicator as well as prompts for other information.

The MDS is "minimum," that is, it sets out the minimum data required to enable cross-country comparison on key nursing and midwifery HRH indicators.

The MDS is not intended, in its current form, to provide (or replace) a country-level workforce planning system. Suggestions for supplementary information are also given so that the MDS can be adapted or developed, if required, to support in-country workforce planning.

The following definitions have been used to help define nurses and midwives:

The International Council of Nurses (ICN) Definition of Nursing: Nursing encompasses autonomous and collaborative care of individuals of all ages, families, groups and communities, sick or well, and in all settings. Nursing includes the promotion of health, prevention of illness, and the care of ill, disabled and dying people. Advocacy, promotion of a safe environment, research, participation in shaping health policy and in patient and health systems management, and education are also key nursing roles.

Definition of the Midwife: (ICM/WHO/FIGO, 1999) a midwife provides "care and advice to women during pregnancy, labour and the postnatal period ... [and] ...she has an important task in health counselling and education, not only for the women, but also within the family and the community". Where midwifery is strong, the health of women tends to be better and this has a positive impact on families and the well-being of children as they grow from newborns to adults.

DOMAIN 1:	Indicators	Definitions	Possible data sources	Why is this indicator important? (Rationale)	If you were to use the MDS as part of in-country planning, what else do you need to think about?
<p>The population of the country (Demographics)</p> <p>1.1</p>	<p>The total size of the population by gender and age</p> <p>Country population total</p> <p>Stratified by:</p> <ul style="list-style-type: none"> • sex • age • rural/remote/urban 	<p>Total number in population</p> <p>Population stratified by age and gender</p> <p>Ages grouped as follows:</p> <p>0-4 5-9 10-14 15-19 20-24 25-29 30-34 35-39 40-44 45-49 50-54 55-59 60-64 65 +</p>	<p>Census</p> <p>Bureau of Statistics</p>	<p>The size and profile (age and gender) of the population are important factors in determining overall health needs, and health need priorities. These factors are important for determining how many nurses and midwives should be employed in the country (demand).</p>	<p>For in-country planning, a more detailed assessment of major health indicators, and health needs will be required in order to estimate what "demand" is for nurses, midwives and other health workers. Some of these indicators will be age and/or gender-sensitive.</p> <p>For detailed in-country planning, it will also be necessary to have estimates of population distribution (categorised by rural, remote, urban) as geographical imbalances (especially shortages in rural or poor areas) have implications for matching staffing with need. Urban-rural distribution problems can cause inefficiencies, if there are surpluses in urban areas and shortages in rural ones.</p> <p>"Remote" can be an optional category, but "rural/remote" should be included as core indicators</p> <p>Definitions of "remote" vary according to countries, but may be defined according to one or more of the following: degree of remoteness from a rural/urban area; settlement patterns; population density; demographic profiles; and economic profiles (Ireland et al., 2007).</p> <p>Outer islands may be considered remote.</p>
<p>WPR demographic data via http://www.wpro.who.int/information_sources/databases/demographic_tables/</p>					

DOMAIN 2:	Indicators	Definitions	Possible data sources	Why is this indicator important? (Rationale)	If you were to use the MDS as part of in-country planning, what else do you need to think about?
<p>The current workforce (Stock)</p>	The total “stock” of nurses/midwives and associated workers which represents the current potential workforce within the country				
<p>2.1</p>	<p>Current number of registered professionals (stock), whether presently working in nursing/ midwifery or not.</p> <p>Stratified by :</p> <ul style="list-style-type: none"> • age • gender 	<p>Numbers of all nurses and midwives, stratified by age and gender as well as by type of profession (if available).</p>	<p>Professional registers</p> <p>Public service rosters/registerers</p> <p>Health service records</p> <p>Administrative records</p>	<p>Gives an indication of potential total number of registered professionals that are available for practice. [Note: Some registers are “live” and updated; others may include retired or dead individuals. Only the former is relevant for this purpose].</p> <p>Age is important to assess the implications of an aging workforce that is not being replenished.</p> <p>Gender is important as the number of women (traditionally the nursing profession attracts larger number of women than men) choosing a career in nursing is declining in some countries.</p>	<p>Numbers trained within the country/numbers trained in other countries (if an estimate can be made of the % of total stock which was trained outside the country, and this % is monitored over time, this gives an indication of the level of reliance on in-migration).</p> <p>It is important to differentiate between those who are working (and for how much time), and those who are economically inactive or working in other types of employment, in order to have an accurate estimate of availability.</p> <p>Please note limitations of registry data sources. These include the possibility of not being regularly updated. For example, non-working or deceased professionals have not been removed.</p>
<p>2.2</p>	<p>Current numbers of registered nurses/ midwives employed in each of the following areas:</p> <ul style="list-style-type: none"> Public/government sector Private/NGO sector and whether full-time equivalent (FTE) (headcount data) 	<p>Numbers of nurses and midwives by place of employment and whether they are working full or part-time.</p> <p>In some countries, there has been a large migration of health workers from public to private sector.</p>	<p>Ministry of health</p> <p>Ministry of labour</p> <p>Private sector/NGO statistics</p> <p>Census</p> <p>Labour force survey</p> <p>Registers</p> <p>Public service rosters/registerers</p>	<p>This gives an overall estimate of all nurses/midwives in employment, and the distribution across the main place of employment by full or part-time working status. Comparing the total number in employment with the total on the register (if it is a live register) will give an estimate of the participation rate in employment.</p> <p>Some countries may only have data from the public sector. Where possible, it is desirable to report numbers working in both private and public sectors.</p>	<p>For in-country planning, it is important to have a clear understanding of the relative size of the different employment categories (public versus private) and the size of flows between them.</p> <p>Please note that public sector nurses and midwives in most countries usually include military employees. However, members of the military can also be a separate category. It is important to be aware of the scope of employees covered within each data-source to prevent overlap and double-counting.</p> <p>Check that the HRH data is nationally representative and covers the private sector.</p>

DOMAIN 2:	Indicators	Definitions	Possible data sources	Why is this indicator important? (Rationale)	If you were to use the MDS as part of in-country planning, what else do you need to think about?
2.3	<p>Current number of registered nurses/ midwives employed: public sector by FTE distribution stratified by:</p> <ul style="list-style-type: none"> • age • gender • working in hospital (acute) or • community (primary) care 	<p>Numbers of nurses and midwives employed in the public sector by age, gender and by whether working in acute or primary care settings</p>	<p>Ministry of health/ Health service executive payroll Labour force survey</p>	<p>Public sector employment will often be the main source of employment for nurses and midwives. Being publicly funded, there will often be more policy interest in this sector.</p> <p>Estimating full time equivalent is critical for determining an accurate measure of available nursing/midwifery hours.</p> <p>The age profile is important for estimating likely patterns of retirement and mortality. Gender distribution is necessary to assess equity in HR opportunities and for planning purposes.</p> <p>Characteristics of the nursing/midwifery workforce (size, composition by age and gender) are also vital in balancing the geographical distribution of health professionals and building adequate teams.</p> <p>It is important to report this data separately for nurses and midwives to enable analysis in relation to fertility rates, reproductive age group of population etc.</p> <p>It is necessary to know the distribution of available nursing/ midwifery resources across the major types of care setting to assess imbalances.</p>	<p>For any detailed in-country planning, it will be necessary to have estimates of numbers of nurses and midwives at different grades and levels within the career structure. This allows assessment of succession-planning requirements and an identification of relative areas of over-supply and undersupply of available stock.</p> <p>For detailed in-country planning, it will be necessary to have information on the costs of employment of different cadres and categories of staff, so that relative costs of different mixes can be estimated.</p> <p>In-country workforce planning may also focus on a more detailed assessment of different roles or competences of staff. These are not classified internationally in any standard way, so are not relevant for use for an international minimum data set.</p> <p>It will be necessary to have information on geographic distribution of available resources in order to match availability against population distribution and assess any gaps in service</p> <p>Other indicators that may be used to assess shortages will be vacancy rates and time taken to fill posts.</p>

DOMAIN 2:	Indicators	Definitions	Possible data sources	Why is this indicator important? (Rationale)	If you were to use the MDS as part of in-country planning, what else do you need to think about?
2.4	<p>Current number of unregistered nursing/midwifery assistants/auxiliaries employed in public /private sectors by:age, gender, -full-time or part-time, and work setting (acute or primary).</p> <p>Please define and differentiate "unregistered" as this term is not synonymous with assistants/auxiliaries.</p> <p>In some countries, all the categories, including assistants/auxiliaries, are known as "registered".</p>	<p>Numbers of unregistered nursing/midwifery assistants/auxiliaries employed, stratified by age and gender, FTE or part-time, and workplace setting (acute or primary).</p>	<p>Ministry of health/ Health service executive Payroll Labour force survey</p>	<p>Estimating numbers and full-time equivalents of unregistered staff working with nurses/midwives allows overall assessment of available skill mix in the public sector.</p>	<p>When recording this information, please clarify categories, groups and definitions, as these vary from country to country. (In Solomon Islands, for example, all categories of health workers are registered, while in the Philippines, in contrast, nurses/midwives who may not have passed the boards may work as NAs/caregivers but not be registered)</p> <p>The available mix of staff can vary significantly within and between organisations inside health systems, and between health systems. Whilst there is no single "correct" mix, it is important that any variations in the mix are monitored, on grounds of patient safety, quality of care and cost.</p>

DOMAIN 3:	Indicators	Definitions	Possible data sources	Why is this indicator important? (Rationale)	If you were to use the MDS as part of in-country planning, what else do you need to think about?
<p>Workforce Additions (Supply)</p>	<p>Sources of new supply of nurses and midwives, which can add to the available stock.</p>				
<p>3.1</p>	<p>Number of “new” supply of nurses and midwives the workforce stratified by:</p> <ul style="list-style-type: none"> • pre-service in-country graduates; • pre-registration in-country workforce entrants into practice; and, • age and gender. 	<p>Annual numbers of nurse/ midwifery students who complete pre-registration education AND who enter employment in nursing/ midwifery within the country, by age and gender impossible.</p> <p>Basic nursing education is “a formally recognized program of study, of at least 2 years duration, which provides a foundation of nursing practice and for post-basic education.</p>	<p>Ministry of health Ministry of education Universities/colleges Registration boards Military forces and training schools</p>	<p>This is necessary to estimate the future new supply of registered professionals entering the workforce stock and to measure trends across time.</p> <p>It is also necessary to be certain about the number who complete training and who actually enter nursing/midwifery employment within the country.</p>	<p>For in-country planning, information is also necessary on:</p> <ul style="list-style-type: none"> • annual numbers of nurse/ midwifery students entering pre-registration education (by age and gender, if possible); • annual numbers of nurse/ midwifery students completing pre-registration education (by age and gender, if possible); • the number of education “providers” (universities, colleges, etc.) and estimates of numbers of applications to pre-registration nursing/ midwifery education; and, • which organization (if any) controls the numbers entering pre-registration education.
<p>3.2</p>	<p>In-migration - number of individual nurses/ midwives joining workforce from other countries.</p>	<p>Annual number of active nurses/ midwives entering the country, expressed as a total number (stratified by nursing/midwifery) and FTE and PT.</p> <p>Avoid counting in-migrants more than once—i.e., clarify if counting new in-migrant workforce joiners, versus counting over and over, cumulatively.</p>	<p>Ministry of health/ Health service executive Payroll Labour force survey Register</p>	<p>In-migration may represent a significant inflow of nurses/ midwives and will have implications for estimates of numbers required. Patterns of migration may vary across time.</p>	<p>Identifying the major “source” countries (if any) will enable an assessment of level of reliance on any one country or small group of countries.</p> <p>For longer term planning, it will be necessary to assess if most in-migration is temporary or permanent.</p>

DOMAIN 3:	Indicators	Definitions	Possible data sources	Why is this indicator important? (Rationale)	If you were to use the MDS as part of in-country planning, what else do you need to think about?
3.3	Workforce re-entry (number of nurses/ midwives (separate and together as per country) re-entering workforce after period of absence. Stratify by: <ul style="list-style-type: none"> • age • gender • sector • FTE or PT 	Annual numbers of nurses/ midwives who re-enter the workforce after a period of absence, such as career-break, family responsibilities, temporary migration, etc.	Ministry of health/ Health service executive Payroll Labour force survey Register	It is important to estimate trends in the number of "returners" (nurses/midwives who re-enter the workforce after periods of economic inactivity or working in other fields of employment). This may be a significant source of entrants into the workforce and as such, requires estimation and monitoring.	"Returners" may be a potential source of ready-made recruits. It will be necessary to assess what policies might be required to encourage their return.

DOMAIN 4:	Indicators	Definitions	Possible data sources	Why is this indicator important? (Rationale)	If you were to use the MDS as part of in-country planning, what else do you need to think about?
<p>Workforce Losses: those "leaving" employment in the country.</p>	<p>The total numbers "leaving" the stock of nurses and midwives in the country.</p>				
<p>4.1</p>	<p>Retirements (public sector)</p>	<p>Annual number of nurses/ midwives retiring from public sector, express as number and FTE.</p>	<p>Ministry of health/ Health service executive Payroll Labour force survey</p>	<p>The number retiring will have implications for estimates of replacement numbers required. Trends should be monitored. Patterns may vary across time and between organisations.</p>	<p>The official retirement age (if any) is required in order to undertake projections on patterns of retirement. There may be pools of retired nurses/midwives who can be attracted back to some form of employment where there are shortages. Changing the retirement age may also be a policy option.</p>
<p>4.2</p>	<p>Deaths</p>	<p>Annual mortality rate of nurses/ midwives in public sector employment.</p>	<p>Ministry of health/ Health service executive Payroll Labour force survey</p>	<p>Mortality rates will have implications for estimates of replacement numbers required. Trends should be monitored. Patterns of mortality may vary across time and between organisations.</p>	<p>Mortality rates can vary markedly across time, by age cohort and by gender. For example, is your country experiencing growing mortality as a result of HIV Aids or similar illnesses? If so, this should be factored into workforce planning and projections.</p>

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DOMAIN 4:	Indicators	Definitions	Possible data sources	Why is this indicator important? (Rationale)	If you were to use the MDS as part of in-country planning, what else do you need to think about?
4.3	Out-migration	Annual number of active nurses/ midwives leaving the country expressed as a number and FTE.	Ministry of health/ Health service executive Payroll Labour force survey	Out-migration may represent a significant outflow of nurses/ midwives. This will have implications for estimates of replacement numbers required. Patterns of migration may vary across time.	What are the main "destination" countries (if any)? This information will help you identify if outflow is mainly to one country or a small group of countries. Do you know if most out-migration is temporary or permanent? Can some migrants be encouraged to return?
4.4	Other resignations/ outflow ("wastage")	Annual number of active nurses/ midwives "leaving", but staying within the country, expressed as a number and FTE.	Ministry of health/ Health service executive Payroll Labour force survey	Turnover is affected not only by movement between public/private and rural/urban sectors, but also by migration. This final category of "outflow" is required to provide an estimate of other moves out of employment, for example to career breaks, or to other, non-nursing/midwifery work.	Are there significant flows between public and private sector employment in nursing/ midwifery? Can approaches be implemented that improve workforce recruitment and retention?

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