Maternal, neonatal & reproductive health

HUMAN RESOURCES FOR HEALTH

in maternal, neonatal and reproductive health at community level

A profile of Papua New Guinea

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ACRONYMS

AIDS	acquired immune deficiency syndrome
AusAID	Australian Agency for International Development
GDP	gross domestic product
HEO	health extension officer
HIV	human immunodeficiency virus
HRH	human resources for health
MDG	Millennium Development Goal
MNRH	maternal, neonatal and reproductive health
MoH	Ministry of Health
NCD	National Capital District
NDoH	National Department of Health
PHC	primary health care
PNG	Papua New Guinea
TFR	total fertility rate
UNAIDS	Joint United Nations Programme on HIV/AIDS
UNDESA	United Nations Department of Economic and Social Affairs
UPNG	University of Papua New Guinea
USP	University of the South Pacific
VBA	village birth attendant
VHV	village health volunteer
WHO	World Health Organization
WPRO	Western Pacific Regional Office of the World Health Organization

A note about the use of acronyms in this publication

Acronyms are used in both the singular and the plural, e.g. MDG (singular) and MDGs (plural).
Acronyms are also used throughout the references and citations to shorten some organisations with long names.

EXECUTIVE SUMMARY

This profile provides baseline information that can **inform policy and program planning** by donors, multilateral agencies, non-government organisations and international health practitioners.

Accurate and accessible information about the providers of maternal, neonatal and reproductive health (MNRH) services at the community level (how they are performing, managed, trained and supported) is central to workforce planning, personnel administration, performance management and policy making.

Data on human resources for health (HRH) is also essential to ensure and monitor quality service delivery. Yet, despite the importance of such information, there is a scarcity of available knowledge for decision making.

This highlights a particular challenge to determining the workforce required to deliver evidence-based interventions at community level to achieve Millennium Development Goal (MDG) 5 targets.

This profile summarises the available information on the cadres working at community level in Papua New Guinea (PNG): their diversity, distribution, supervisory structures, education and training, as well as the policy and regulations that govern their practice.

The profile provides baseline information that can inform policy and program planning by donors, multilateral agencies, non-government organisations and international health practitioners. Ministry of Health staff may also find the information from other countries useful in planning their own HRH initiatives.

The information was collected through a desk review and strengthened by input from key experts and practitioners in the country. Selected findings are summarised in the diagram on page 4. There are gaps in the collated information which may point to the need for consensus regarding what HRH indicators should be routinely collected and how such collection should take place at community level.

PAPUA NEW GUINEA: SELECTED HRH AND MNRH INDICATORS

Maternal mortality ratio in 2008#

312 deaths per 100,000 live births

0.5 doctor
per 10,000 people

Policy reference to community level HRH in MNRH

YES

Skilled birth attendance:

39%
of births attended by a skilled birth attendant
(2005–2009)

81.3%
Government spending on health as a percentage of total expenditure on health
(2007)

5 nurses and/or midwives
per 10,000 people

Neonatal mortality ratio in 2009

26 deaths per 1,000 live births

Key to acronyms

HRH human resources for health
MNRH maternal, neonatal and reproductive health

Notes

Confidence interval 184-507, Hogan et al. 2010. Maternal mortality ratio varies widely from 250 deaths per 100,000 live births in 2008 (UNICEF 2010) to 733 deaths per 100,000 live births in 2006 (Demographic Health Survey of Papua New Guinea 2006, National Statistical Office of PNG 2009).

(Adapted from NDoH PNG 2000b, 2009c; UNICEF 2010; WHO 2010)

KEY BACKGROUND INFORMATION

TABLE 1. KEY STATISTICS

(Adapted from Hogan et al. 2010, UNDESA 2005, WHO 2010)

POPULATION	
Total thousands *(2008)*	6,577
Annual growth rate *(1998–2008)*	2.5%
HEALTH EXPENDITURE (2007)	
Total expenditure on health as a percentage of GDP	3.2%
General government expenditure on health as a percentage of total expenditure on health	81.3%
Private expenditure on health as a percentage of total expenditure on health	18.6%
MDG 5 STATUS	Off track
MATERNAL MORTALITY	
Number of maternal deaths for every 100,000 live births:	
UNICEF 2010	250
Hogan et al.	312 (184–507)
Number of neonatal deaths for every 1,000 live births (in the first 28 days of life; 2009)	26
SKILLED BIRTH ATTENDANCE (2005–2009)	
Percentage of births covered by a skilled birth attendant	39%

A note on health expenditure

Total expenditure on health as a percentage of gross domestic product (GDP) has decreased since 2001 from 4.4% to 3.2% (as seen in Table 1), although government expenditure has remained relatively stable (World Bank 2007).

Key to acronyms

GDP gross domestic product
MDG Millennium Development Goal

OVERVIEW OF MATERNAL, NEONATAL AND REPRODUCTIVE HEALTH

Improving maternal and child health in PNG remains challenging as almost 87% of the population is located in rural areas and many of the areas are geographically isolated and have poor health infrastructure.

Over recent years, decentralisation and fragmentation of the health system have led to a decrease in the coverage and quality of health services, with the closure of many aid posts, drug shortages, poor staff allocation and inadequate supervision, particularly in rural and remote areas (NDoH PNG 2009a).

There is an estimated shortfall of 600 nurses, 100 midwives and 600 community health workers by some estimates (WHO WPRO 2008).

In the last decade, PNG has experienced a decline in annual population growth from 2.6% (1987–1997) to 2.4% in 2007 and a reduction in total fertility rate (TFR) from 4.8 in 1990 to 4 per woman in 2009 (UNICEF 2010).

Despite improvements in child and infant mortality since 1990, PNG is unlikely to meet its MDG targets as maternal mortality still remains very high. Maternal mortality ratio estimates for PNG vary widely from 733 (DHS, PNG) to 250 (interagency estimate) per 100,000 live births, and there is ongoing debate about where the true estimate lies. The percentage of deliveries attended by health professionals has decreased (from 47% in 1990 to an estimated 38% (Mola and Kirby 2011, in press) and the contraceptive prevalence rate remains low (WHO 2009; World Bank 2007).

In 2002, PNG became the fourth country in the region to declare a generalised HIV epidemic, with the current adult prevalence estimated at 1.5%, the highest in the region (UNAIDS 2008).

CADRES AND ROLES

The largest provider of health services in PNG is the national government. It has responsibility for all hospitals, the majority of urban health centres and around half of regional and rural centres.

Church groups manage half of the rural health services (predominantly financed by public funds) with mining and other private companies operating a small number of facilities.

The health system in PNG comprises:

- one national teaching hospital
- 19 provincial hospitals
- 45 urban clinics
- approximately 500 health centres
- more than 2,000 aid posts (of which an estimated 30% are not operating).

Provincial hospitals provide obstetric and paediatric services, as well as general, surgical, infectious diseases, emergency and outpatient care. They are also responsible for supporting health clinics and centres.

Urban clinics, health centres and aid posts provide primary health care and are managed and operated by provincial health authorities. They are predominantly staffed by nurses and community health workers.

Almost one-third of aid posts are closed due to staff shortages and lack of drugs, supplies and financial support (Duffield 2008; NDoH PNG 2009a).

The number of aid posts has significantly reduced over the last ten years and outreach activities are limited, leaving many villages with no health services. Birthing services are available at most health facilities but not at aid posts.

The cadres working in MNRH at the community level and the tasks they perform are outlined in Table 2.

TABLE 2. CADRES INVOLVED IN MNRH AT COMMUNITY LEVEL IN PAPUA NEW GUINEA

(Adapted from Cox and Hendrickson 2003)

BASE OR PLACE	STAFF INVOLVED (NAME OF CADRE OR DESCRIPTION OF ROLE)*	POSSIBLE SERVICE IN THE COMMUNITY
Home-based	*Marasin Meri* (medicine women)	Basic first aid (including antibiotics and antimalarials), sexual health information
	Village birth attendant (VBA)/midwife	Encourages women to go for antenatal care; attends normal deliveries, recognises and refers obstetric complications*
	Village health volunteer (VHV)	Provision of pre-packaged micronutrient supplements, antimalarials, antibiotics, oral rehydration therapy, contraceptives, basic first aid
	Village health aides	Basic first aid (including antibiotics and antimalarials), health promotion
Outreach centre*	Peer educator	Works through some public hospitals and health centres. Minimum four visits per year per clinic recommended (most visits not conducted due to lack of funds). Provides sexual and reproductive health information, especially targeting young people. Currently there is one program run by Anglicare StopAids in NCD and Hagen as well as an AusAID sponsored one at UPNG
	School teacher	Population and family health education through school curriculum (although most teachers find it difficult, if not impossible, to discuss issues of adolescent sexual and reproductive health). Not implemented widely beyond a few pilot programs
	Men as partners in sexual and reproductive health	Small numbers and limited capacity.
Community health post Aid post	Aid post orderly	Primary medical care. Numbers too small to make any impact and has poor skill set. Previously the backbone of PHC in PNG
	Community health worker	Participates in all routine maternal child health services as there are no midwives in rural areas (bar few in church agency health facilities)
	Registered nurse	Basic antenatal and postnatal care, care of newborns and infants, health promotion
Rural Health Centres Urban Clinic (inpatient facilities)	Community health worker	Participates in all routine maternal child health services, monitors during pregnancy and refers to midwives for delivery, conducts deliveries, but needs orientation on life-saving skills related to maternal and newborn health
	Registered nurse	Basic antenatal and postnatal care, care of newborns and infants, health promotion and deliveries without training, will be trained on the job to augment the role of midwife
	Health extension officer (HEO)	Stationed at rural health centres to manage patient care, daily administration of centre and coordination of community health services (also conducts deliveries and other midwifery duties and therefore requires training)

Notes to Table 2

*Reviewers' comments

These cadres and level of health facility are not national, they are community based and there is a wide range of variation in levels of staffing and existence of cadres. Outreach Centres: very few on the ground, these are mainly in some areas with well-equipped, faith-based health services.

COVERAGE AND DISTRIBUTION

Figures 1 to 5 below outline the distribution of health care workers across cadres and the geographic distribution of health care workers across different provinces.

Nurses are the fastest ageing cadre, with more than one-third of specialist nurses (which includes midwives) expected to retire in the short term. The majority (70%) of specialist nurses are over 40 years of age. An additional 3,826 community health workers are required to reach a ratio of one community health worker per 1,000 people, based on 2006 population estimates. However, with current health training inputs, this ratio is unattainable.

This section provides an overview of the number of health workers who may be engaged in MNRH at community level. Table 3 describes the distribution of this workforce according to age, gender and employment in the public and private sectors where available.

FIGURE 1. DISTRIBUTION OF HEALTH WORKFORCE ACROSS CADRES IN PAPUA NEW GUINEA

(Adapted from National Human Resource Forum 2008c; National Human Resources Forum 2008d)

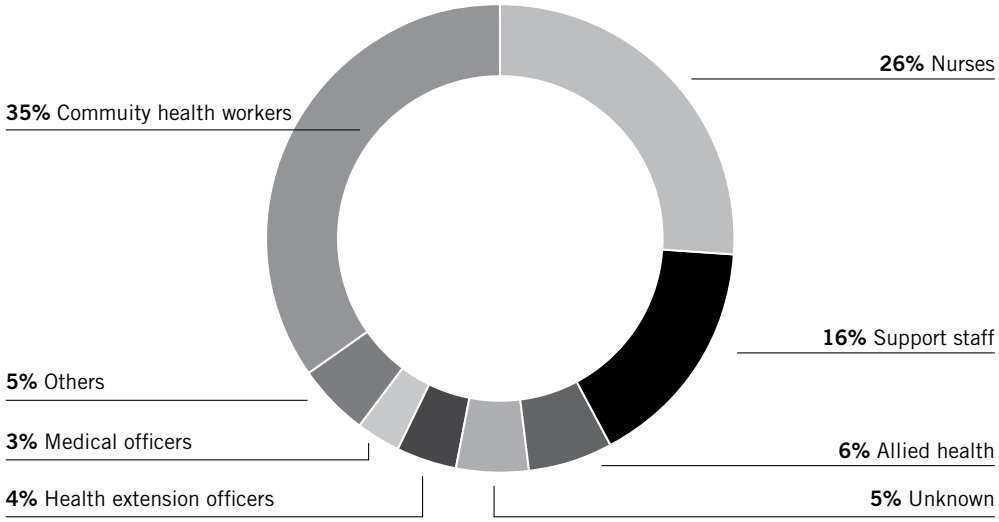


FIGURE 2. RATIO OF COMMUNITY HEALTH WORKERS PER 1,000 PEOPLE IN PROVINCIAL SERVICES IN PAPUA NEW GUINEA

(Adapted from National Human Resource Forum 2008c; National Human Resources Forum 2008d)

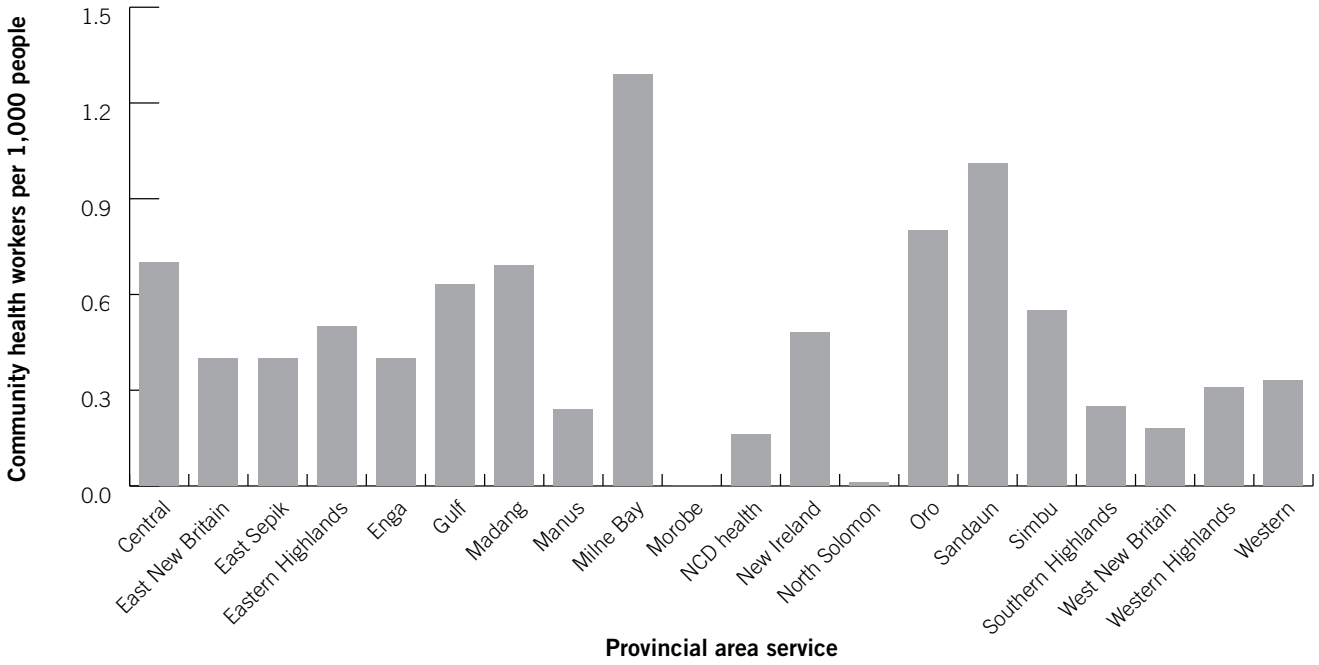
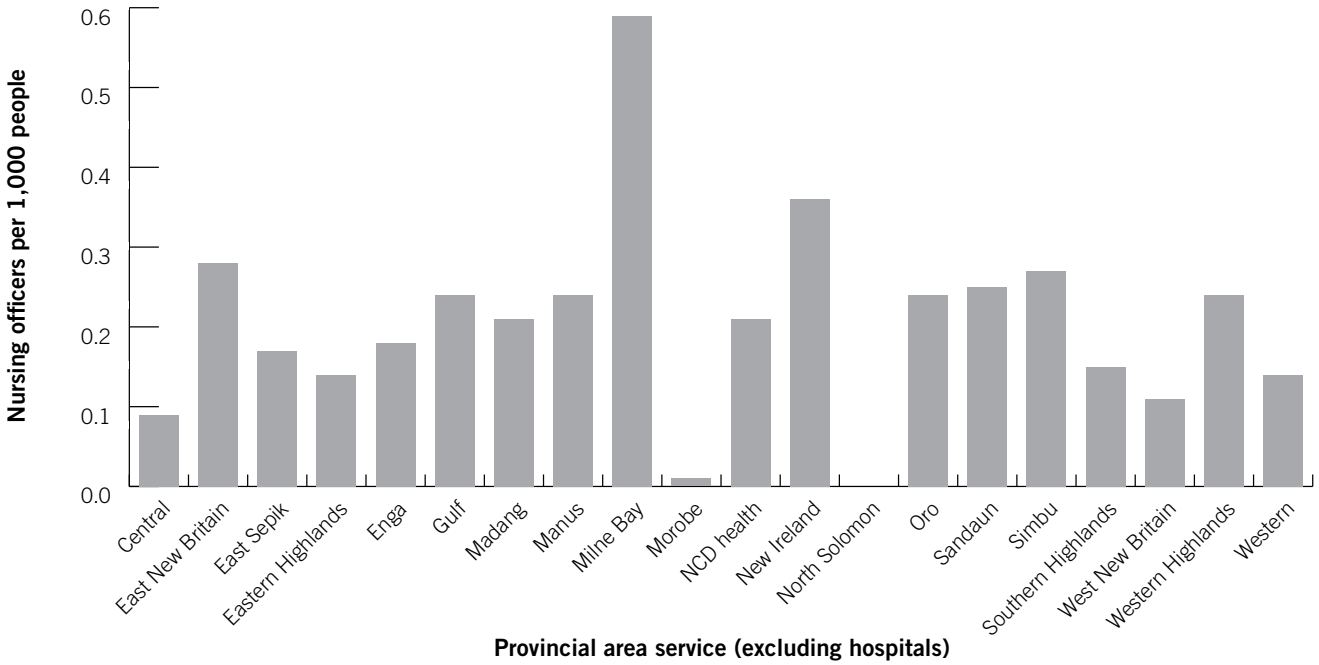


FIGURE 3. NURSING OFFICERS PER 1,000 PEOPLE IN PROVINCIAL SERVICES EXCLUDING HOSPITALS IN PAPUA NEW GUINEA

(Adapted from National Human Resource Forum 2008c; National Human Resources Forum 2008d)



Key to acronyms

NCD National Capital District

FIGURE 4. MEDICAL OFFICERS PER 1,000 PEOPLE IN HOSPITAL SERVICES IN PAPUA NEW GUINEA

(Adapted from National Human Resource Forum 2008c; National Human Resources Forum 2008d)

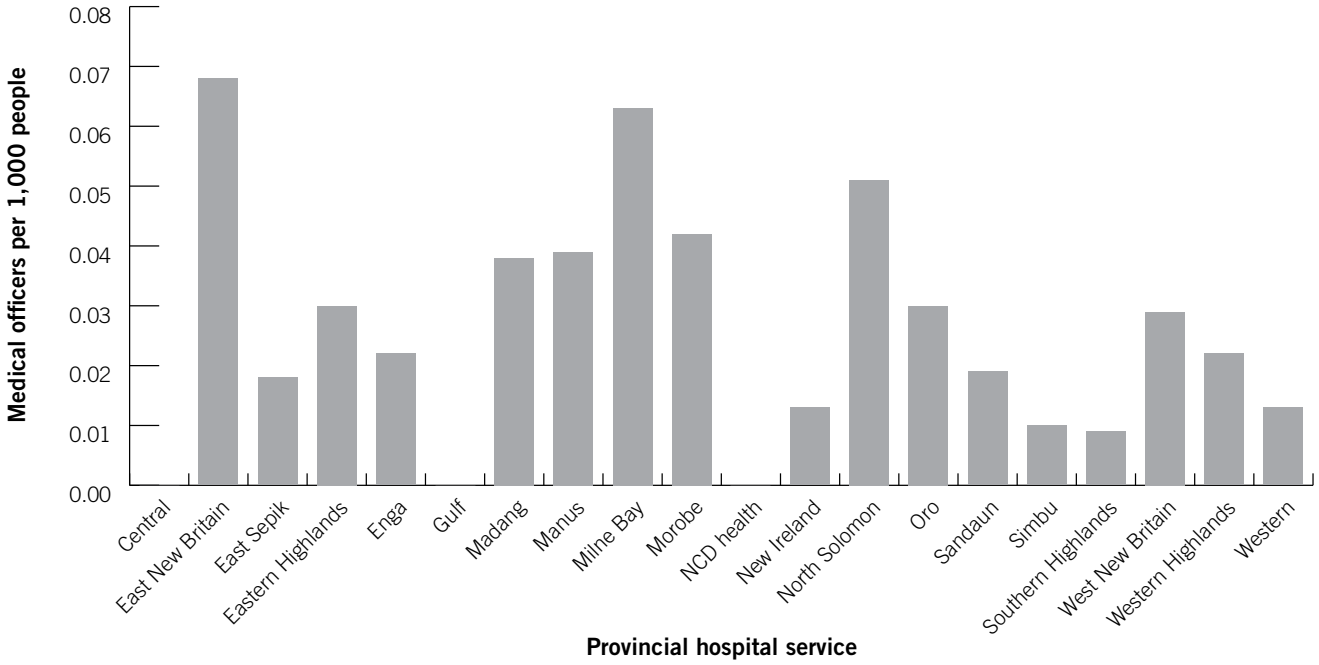
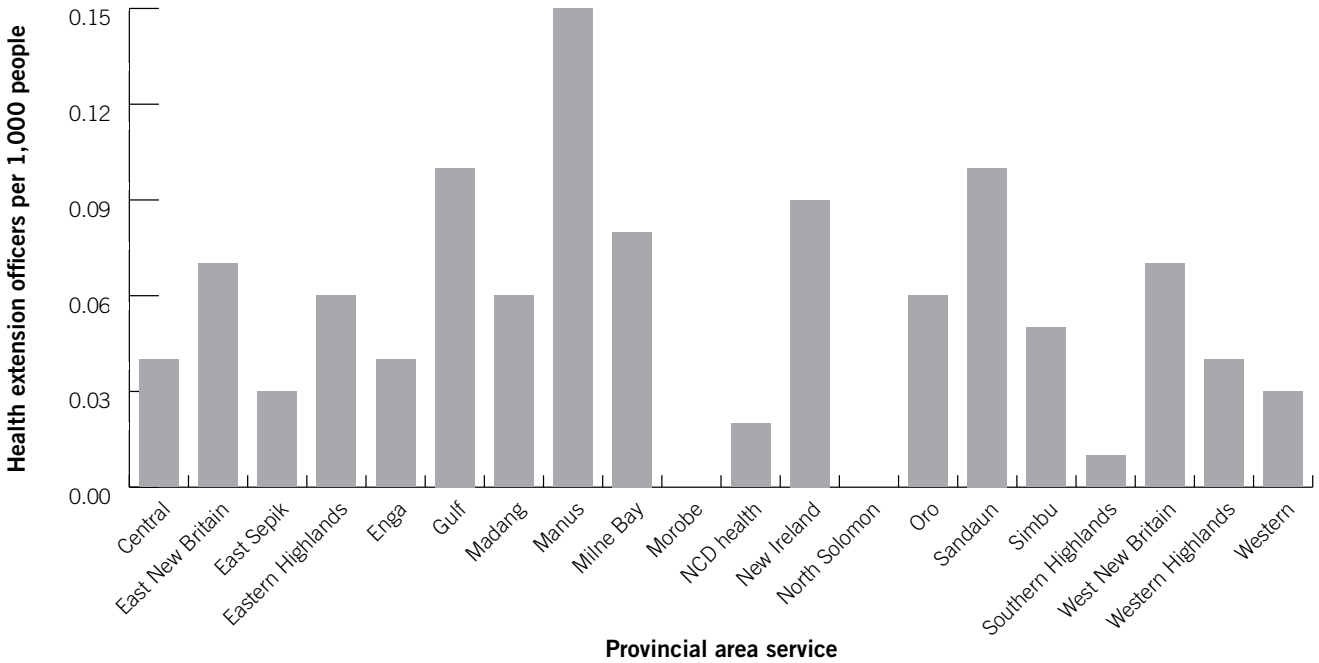


FIGURE 5. HEALTH EXTENSION OFFICERS PER 1,000 PEOPLE IN PROVINCIAL SERVICES IN PAPUA NEW GUINEA

(Adapted from National Human Resource Forum 2008c; National Human Resources Forum 2008d)



Key to acronyms

NCD National Capital District

TABLE 3. HEALTH WORKER DISTRIBUTION IN PAPUA NEW GUINEA

(Adapted from Duke et al. 2004, NDoH PNG 2009a, WHO WPRO 2008, World Bank 2007, Yambilafuan 2009 and Medical Society of PNG 2011)

CADRE	NUMBER	MEAN AGE (YEARS)	GENDER		NUMBER PER LOCATION	RATIO TO 1,000 PEOPLE
			Male	Female		
Registered nurse	2,844[#] 3,980* 8,914[^]	56% are between 30–49 years 61% of nurses are <50 years	20%	80%		0.45
Registered midwife[1]	567[#1]	70% are >40 years 37% are >50 years				
Community health worker	3,883[#]	54% are between 30–49 years 57% are <50 years	45%	55%	48% (rural aid posts)	0.61
Health extension officer	409[#]	59% are between 30–49 years 64% are <50 years	75%	25%[†]		0.06
Aid post orderly	864[‡]					
Medical officer	333[‡]					
Medical practitioners	727**					
O&G specialists	30					
Paediatricians	34					

Notes to Table 3

\# NDoH PNG 2009a
* World Bank 2007
** Medical Society of PNG 2011
^ WHO WPRO 2008
† The proportion of health extension officers who are women is increasing (Duke et al. 2004)
‡ Yambilafuan 2009

1 Of whom only 152 are currently practising as midwives.

SUPERVISION AND SCOPE OF PRACTICE

Health extension officers were introduced in the 1960s to address human resource gaps in rural areas, particularly where there was poor access to doctors.

The scope of practice of community health workers includes health promotion, antenatal and postnatal care, with the expectation that women would be referred to a midwife for delivery (Natera and Mola 2009). While this is meant to happen, in practice there are few midwives to refer to in rural areas.

However, most care is being provided by community health workers, particularly in rural areas where community health workers provide the bulk of maternal care (beyond the scope of practice) and summon a nurse or midwife only for complications (Natera and Mola 2009).

Community health workers and village health volunteers receive some supervision from health clinic staff (nurses and/or midwives) and some follow-up from trainers for monitoring and in-service training. The extent to which this occurs is unclear, and many community health workers receive no supervision, monitoring or mentoring.

The scope of practice of midwives is not well documented, but is widely accepted to be consistent with the international definition of a midwife: to provide support, care and advice during pregnancy, labour and the postpartum period, to conduct births and provide care for the newborn and infant. Their role also includes the detection of obstetric complications and accessing care or other appropriate assistance, health counselling and education, and sexual and reproductive health (Kruske 2006).

The role of health extension officers (HEOs) is not well defined. The cadre was introduced in the 1960s to address human resource gaps in rural areas, particularly where there was poor access to doctors (Duke et al. 2004). While HEOs were trained as health centre managers with some clinical capacity, the majority have moved into health administration.

Health extension officers are responsible for patient care in rural areas, the daily administration of rural health centres and the coordination of community health services (Divine Word University 2009). There is a need for clarification of the roles and job description (National Human Resource Forum 2008a).

There is an expectation, set out in the National Health Plan (NDoH PNG 2000a), that all health clinics and aid posts will receive a supervisory visit annually, although this does not appear to occur in practice and few peripheral cadres receive adequate supervision.

Clinical specialists have the responsibility for leading and monitoring clinical standards, although it is not specified in the Health Plan how this is to be carried out. Provincial paediatricians appear to provide a greater level of supervision and support to health centres than other specialities.[1]

According to the 2009 Health Sector Review (NDoH PNG 2009a), around 50% of health centres received at least one supervisory visit from the Provincial Health Office in 2008. While provincial health officer visits have remained static, the frequency of supervisory medical officer visits has declined since 2002 and in most provinces less than one-third of facilities receive at least one visit per year (Foster et al. 2009).

[1] Reviewer comment.

TEAMWORK

Village health volunteers and village midwives may in some settings, **develop contracts with the communities they serve to outline their roles and to encourage community support.**

There are some examples of community health workers, nurses and/or midwives working as teams in rural health centres.

In addition to home-based care, community health workers provide assistance to nurses and midwives to conduct routine maternal, child and health services through clinics.

Nurses are to provide supervision to community health workers and to accept referrals for deliveries or complications.

Village health volunteers and village midwives work in conjunction with clinical staff who provide supervision, but this is often only during the initial training attachment. In some settings, they develop contracts with the communities they serve to outline their roles and to encourage community support. In many provinces, including Highlands, West and East New Britain, church-run health services work in partnership with the government system. Some non-government organisations also collaborate with the government to provide health services.

EDUCATION AND TRAINING

Village health volunteer training consists of a four-week (up to eight-week) program that covers principles of volunteering, first aid, safe motherhood, healthy children, nutrition and hygiene (Natera and Mola 2009). There has been some work, through the AusAID National Women's and Children's Health project, to standardise village health volunteer training materials and job descriptions.[2]

There are 14 community health worker training schools in PNG, all of which are run by church groups, providing a standard, competency-based training course (National Human Resource Forum 2008a). In 2003, there was revision and standardisation of the community health worker curriculum, which was agreed on by all community health worker schools and included standardisation of the job description.[3]

The two-year community health worker training program includes health promotion and disease prevention. In 2008, there were 384 community health worker enrolments and 256 graduates (Yambilafuan 2009). The number of health workers being trained is still insufficient for the country's needs. There has been a focus on in-service training to support the implementation of largely vertical national programs such as immunisation (Foster et al. 2009).

There are currently seven nursing schools, five of which are run by church groups. In 2008, there were 176 nursing enrolments and 128 graduates (Yambilafuan 2009). There has been an average of 78 nursing graduates a year since 2003 (National Human Resource Forum 2008a). General nursing training includes the care of women in pregnancy and during childbirth. This number is insufficient to keep up with attrition, let alone population increase.

The postgraduate midwifery program was transferred to the tertiary sector in the 1990s and became a bachelor degree in 2002. Currently four postgraduate institutions offer a 40- to 52-week course combining maternal and child health. In 2008, there were 22 enrolments and 22 graduates (Yambilafuan 2009).

Not all curricula have been submitted for approval, and there are significant challenges related to inadequate teaching resources, inadequate clinical experience of teachers and awareness of evidence-based best practice, insufficient clinical experience for students (particularly on labour wards),

[2] Reviewer comment.

[3] Reviewer comment: this forms part of the AusAID Health System Strengthening Program.

and inadequate attention to the management of obstetric complications (Kruske 2006; Natera and Mola 2009).

Only 28% of undergraduate and 14% of postgraduate training time is competency-based (National Human Resource Forum 2008a). The National Framework for Accreditation, Monitoring and Evaluation of Nursing and Midwifery Programs exists but is difficult to apply due to a lack of documented criteria on which to evaluate programs.

For example, it does not specify what skills need to be attained or the minimum number of procedures required. Because of the significantly reduced clinical practice provided through the midwifery training program and subsequent reduction in clinical competency, the last nine graduating classes have not met the criteria required to be registered as midwives.

The curriculum is currently being revised and agreed upon by stakeholders, with the expectation of a new and unified training program to commence in all midwifery schools from 2010 (Natera and Mola 2009). The previous curriculum combined midwifery and paediatrics, but these have now been separated.

The Bachelor of Health Sciences in Rural Health program focuses upon the preparation of health extension officers for district health centres in the rural areas. The Health Extension Bachelor Program requires four years of full-time study, leading to the award of a Bachelor of Health Sciences in Rural Health.

During the program there are extended periods of placements in hospitals and health centres for practical application of learning (Divine Word University 2009). The number of enrolments has declined, with an average number of graduates of 46 per year since 2004 and a 3.3% drop-out rate (National Human Resource Forum 2008a).

For more information on education and training, please refer to Appendix 1.

COUNTRY REGISTRATION

No new midwives have been registered in the last nine years as they have **not fulfilled the legal requirements for registration in terms of clinical competency.**

The PNG Nursing Council is responsible for registration of nurses and midwives under the Medical Registration Act 1980 and the Nursing Registration By-Laws 1984 (USP 1998). Minimum requirements for nursing registration include the successful completion of a training course at a council-approved training school and satisfactory completion of probationary registration.

Registered nurses include the categories of general, maternal and child health and community health and require completion of a three-year general nursing program. Post-basic midwife registration is provided after completion of a further 48-week training course. Enrolled nurses are also approved under the above Act and By-Law following completion of a Maternal and Child Health Program, Territorial Program, Community Health Program or Hospital Nurse Program. Nurse aides are also recognised after completion of a two-year training course.

No new midwives have been registered in the last nine years as they have not fulfilled the legal requirements for registration in terms of clinical competency (number and diversity of procedures performed under supervision and an adequate level of clinical experience during training; Natera and Mola 2009). Midwives will be required to undergo practical training under the supervision of experienced, registered midwives in order to qualify for registration.

The Health Practitioners Bill is to replace the Medical Registration Act and Nursing By-Laws, to strengthen regulatory boards and enable more flexible workforce development by allowing the Minister to determine which practices are permitted. It is awaiting a letter of necessity to be tabled in parliament for discussion (National Human Resource Forum 2008b).

HRH POLICY AND PLANS

The National Health Plan 2001–2010 identifies **human resources as one of the priorities requiring the most attention.**

HRH issues are addressed in the National Health Plan 2001–2010 (NDoH PNG 2000a). The plan identifies human resources as one of the priorities requiring the most attention. The goal of the human resources plan is to improve the health of PNG through quality health care provided by competent and dedicated health workers.

There are a number of objectives: to implement a human resource planning system, improve staff management and training and increase the proportion of qualified women in management positions.

The plan prioritises in-service training (particularly for rural staff) and development and promotion of the Village Health Volunteer Program. It also specifies that aid posts and health centres should receive at least one supervisory visit annually, clinical specialists are to lead and monitor clinic standards and outreach will be carried out from public hospitals and health centres. The National Department of Health hopes to establish community health posts in the next 10 years according to the National Health Plan.[4]

The Human Resources Development Strategy (NDoH PNG 2002), through the National Department of Health, initiated a capacity-mapping exercise to guide capacity-building interventions and resource allocations.

The National Policy on Human Resources is yet to be endorsed but outlines the goal of improving health through competent and dedicated health workers (National Human Resource Forum 2008a).

MNRH POLICY AND PLANS

The National Health Plan 2001–2010 (NDoH PNG 2000a) addresses Safe Motherhood (a midwife is to be available at every health centre), reproductive health (community health workers and village health volunteers to be included in efforts to address sexually transmitted infections) and maternal and child health (aid post-based community health workers are to participate in all routine maternal and child health services). At the end of 2010, there was no government health centre with a midwife.

The National Sexual and Reproductive Health Policy (NDoH PNG 2009c) and Family Planning Policy (NDoH PNG 2009b) are being finalised (drafts in 2009). The National Sexual and Reproductive Health Policy includes a commitment from the government to provide an enabling environment for all service providers. These could occur through support for continuing education, supervision, provision of incentives and removal of barriers to delivery of quality sexual and reproductive health care. It also states that the National Department of Health will have responsibility for developing guidelines for planning, organising, conducting and supervising training of health workers at all levels and providing technical support for curriculum development, training and continuing education.

The Provincial Division of Health is to ensure that appropriately trained staff members are available and that they continue to update their knowledge and skills, while the local government has responsibility for training village health volunteers. The policy also includes a role for non-government organisations in developing human resource and training of health volunteers.

Objective 4 of the Family Planning Policy deals with service providers for family planning and states that well-trained, well-supervised and motivated service providers should be available for family planning. Strategies to achieve this objective recognise the need to ensure that workforce planning takes family planning needs into account, that all health workers are competent in providing family planning services and that they receive regular supportive supervision by appropriately trained practitioners (NDoH PNG 2009b).

[4] Reviewer comment.

REMUNERATION AND INCENTIVES

The lack of clear policy on remuneration and incentives has led to staff frustration and poor motivation. It would appear that church-run services provide more effective management of human resources than government facilities, contributing to greater job satisfaction and morale. Some are able to offer non-financial incentives to staff such as housing, gardens, water and in some cases access to radio, email and solar-powered electricity (Foster et al. 2009).

Health volunteers and village midwives do not receive a regular stipend or salary, but may receive some remuneration via increased status and the provision of food, firewood, soap and other goods provided by the community and/or the supervising health centre (Alto et al. 1991).

KEY ISSUES OR BARRIERS

Challenges include the diffused responsibility for human resources within the health sector (including the Department of Health, Department of Personnel Management, training institutes and local managers), a lack of overall coordinated strategy (initiatives are based on individual organisational needs), expansion of health facilities not linked with availability of staff, and poor use of information which limits planning, training and mobilisation (Bolger et al. 2005).

Other key challenges include:

- Pre-service training
  - Lack of priority given to community health workers (relative to doctors).
  - Insufficient resources for training programs.
  - Inadequate clinical experience in the midwifery training program that has led to no midwife registration for the last nine years (Natera and Mola 2009).
  - High costs of tertiary training (National Human Resource Forum 2008a)
  - Inadequate coordination and collaboration between training institutions and the health system.
- Ongoing training, including refresher courses, and supervision is lacking.
- Insufficient staff numbers across all cadres (insufficient production, utilisation and key skills).
- Lack of staff supervision and support.
- Lack of financial support and incentives, particularly for rural staff.
- Lack of housing for midwives and other cadres in health facilities.
- Poor staff allocation (including only male staff at some aid posts which presents barriers for female patients) (Alto et al.1991)
- Ageing nursing workforce.
- Shift into administration rather than clinical practice.
- Insecurity and lack of community support for health workers, outreach workers and volunteers in rural areas.
- Logistical challenges (drugs, equipment, vehicles and job aid supplies).
- Insufficient funding for training, outreach, supervision, remuneration and incentives – particularly in rural areas.

(Alto et al. 1991, Independent Monitoring Review Group (Health) 2008, Natera and Mola 2009, National Human Resource Forum 2008a)

COMMUNITY-BASED INITIATIVES IN MNRH

Recommendations from the Independent Monitoring Review Group (Health) Report (2008) included a workforce review to establish the current numbers and coverage of the health workforce, and the numbers required to strengthen pre-service training including upgrading facilities, addressing logistics, improving clinical training and developing model health centres near training schools; addressing remuneration and incentives issues, particularly in rural areas, and considering bonding agreements or contracts; and a trial of a three- to six-month training program for community health workers as auxiliary midwives. The examples provided below were promising community-based initiatives, but have had limited coverage.

Village midwives in Southern Highlands Province, Nipa District (Alto 1991)

This pilot project, funded by the Asian Development Bank and which began in 1981 and continued through to 1989, provided training to village women in a remote highlands region. Women (older with several children) were chosen by the men of the village to take part in the four-week training program, which included anatomy, normal progression of pregnancy, how to determine foetal lie, normal delivery care and criteria for referral, as well as some practical training through the health centre.

Village midwives were then provided with a basic safe delivery kit and a delivery hut that was constructed by the men of the village. Monthly supervision was carried out by clinic nurses at neighbouring maternal and child health centres and included a verbal history of recent deliveries and participation in antenatal care. In addition, each midwife was visited by the tutor at months one, two, six and twelve and then every six to twelve months and attended a yearly one-week in-service training course. This initiative ceased in 1995.

Women village health workers East Sepik Province (Cox and Hendrickson 2003)

The East Sepik Women's and Children's Health Project (sponsored by Save the Children NZ) conducted training for around 320 women in 1998. Villages each selected two women for training, one as a midwife and the other as a medicine woman.

Contracts between the community and the project were developed to clarify the roles of the village health workers and the required inputs and resources, with villages responsible for (non-monetary) payment of health workers. Forty health workers were trained as trainers and helped develop the curriculum. The three-week course included sexual health, sexually transmitted infections and basic first aid. This program also provided ongoing training and supervision for village health workers through supervised placements at the provincial hospital labour ward in order to refresh skills in normal delivery.[5]

The East Sepik Women's and Children's Health Project conducted training for around 320 women in 1998. **Villages each selected two women for training, one as a midwife and the other as a medicine woman.**

Begesin-Bugati Primary Health and Rural Development Project

This project (AusAID-funded) operated from 2001 to 2006 and covered three local-level government areas, targeting around 200 villages (approximately 40,000 people). It included training of village health volunteers who provide services to women and training of village health aides and village birth aides (National Human Resource Forum 2008b).

[5] Reviewer comment.

CRITIQUE

Documentation

Information for this profile was gathered from government documents, presentations and a small number of peer-reviewed articles. Government reports and policies were difficult to locate and many were not accessible electronically. Country contacts and other key informants provided access to the background papers for the Human Resources Forum and draft copies of the National Sexual and Reproductive Health Policy (NDoH PNG 2009c), National Family Planning Policy (NDoh PNG 2009b) and the Health Sector Review 2001–2009 (NDoH PNG 2009a).

The National Policy on Human Resources and Human Resources Development Strategy were not able to be accessed. There is a scarcity of peer-reviewed literature addressing human resources in PNG, other than evaluations of small-scale or pilot programs predominantly addressing village health workers and volunteers.

Government background papers for the 2008 and 2009 Human Resource Forums and the Health Sector Review 2001–2009 were the main sources of information regarding human resource numbers, coverage, distribution and characteristics. This data was provided by the National Department of Health and Human Resources Information System, although many of these papers and presentations are not referenced, and it is not clear if the data relates to currently active health workers or all registered health workers. There are some inconsistencies with WHO and WPRO data, although government figures are more recent. Much of the data relates to government-employed health workers and there is little information about private, church-managed or other informal cadres. Information about village health volunteers and other informal cadres are predominantly captured by reports of pilot programs or non-governmental organisation reports, and these are often not rigorously evaluated and therefore not amenable to generalisation. There is very little information relating to in-service training, remuneration and incentives.

Reviewers

This profile was reviewed by five individuals. Two work for UNFPA and gave feedback on the roles of cadres, scope of practice and training and provided access to some government policy documents. Two reviewers are from the Burnet Institute with experience in PNG and provided comments about coverage and distribution, education and key initiatives, community health workers and volunteers and provided access to the Health Sector Review. Further reviews have been provided by the Head of Obstetrics & Gynecology, UPNG.

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APPENDIX 1

PRE-SERVICE EDUCATION AND TRAINING IN PAPUA NEW GUINEA

CADRE	INSTITUTION/ORGANISATION	QUALIFICATION	LENGTH OF STUDY	ENROLMENT/GRADUATION
Nurse	7 nursing schools (5 church-run)	Diploma or Degree of Nursing	3 years	2008: 176 enrolled, 128 graduated
		Certificate	3.5 years	
Postgraduate	University of Papua New Guinea Pacific Adventist University University of Goroka Lutheran School of University Divine Word University		40–52 weeks (combines maternal and child health)	2008: 22 enrolled, 22 graduated
Community health worker	14 training schools (church-run)		2 years	2008: 284 enrolled, 256 graduated
Village health volunteer				
Village midwife			Variable: approximately 4–8 weeks	Varies
Health extension officer		Bachelor of Health Sciences in Rural Health	4 years	Approximately 46 graduates per year

APPENDIX 2

COUNTRY REGISTRATION IN PAPUA NEW GUINEA

CADRE	LEGISLATION	RESPONSIBILITY FOR REGISTRATION	LICENSING AND RENEWAL	ELIGIBILITY REQUIREMENTS FOR REGISTRATION
Registered nurse: ▪ general ▪ maternal and child health ▪ community health ▪ post-basic Midwife	Medical Registration Act 1980 Nursing Registration By-Laws 1984	Papua New Guinea Nursing Council	A licence required and given for life. Annual Practice Licence provided with declaration of being engaged in practice in the previous year	Completion of 3-year General Nurse Program Post-basic midwife requires a further 48-week course
Enrolled nurse: ▪ general ▪ hospital ▪ community health ▪ maternal and child health	Nursing Registration By-Laws 1984	Papua New Guinea Nursing Council		Completion of Maternal and Child Health Program or Territorial Program, or Enrolled Community Health Program or Enrolled Hospital Nurse Program
Nurse aide	Nursing Registration By-Laws 1984	Papua New Guinea Nursing Council		Completion of 2-year training course

APPENDIX 3

COUNTRY HRH AND MNRH POLICIES IN PAPUA NEW GUINEA

NAME OF POLICY	RELEVANT INFORMATION FOR MNRH AT COMMUNITY LEVEL
10-Year National Health Plan 2001–2010	The area of HRH comes under part 4 of the national health plan and is more specifically addressed under volume 2, chapter 14. The goal of the human resources plan is to improve the health of Papua New Guinea through quality health care provided by competent and dedicated health workers. Some of the objectives are to implement a human resources planning system, improve staff management and training and increase the proportion of qualified women in management positions. Priorities include in-service training (particularly for rural staff) and development and promotion of the Village Health Volunteer Program. Also specifies that aid posts and health centres should receive at least one supervisory visit annually, clinical specialists are to lead and monitor clinic standards, and outreach will be carried out from public hospitals and health centres. (NDoH PNG 2000a)
Human Resources Development Strategy 2002	National Department of Health initiated a capacity-mapping exercise to guide capacity-building interventions and resource allocations. Document not available.
National Population Policy 2000–2010	The primary goal of the policy is to improve quality of life through more effective planning of our development efforts. The general objectives of this policy are: 1. to improve the quality of life of the people 2. rise level of general education 3. accelerate demographic transition 4. absorption of labour force 5. protection of the environment 6. increase opportunity for women 7. strengthening of families 8. improve reproductive health services 9. prevention of STIs including HIV/AIDS 10. reduction of infant and child mortality 11. provide population education 12. balanced urban and rural development 13. improve data collection capacities, integrated population and development planning (NDoH PNG 2000b)

The National Sexual and Reproductive Health Policy and Family Planning Policy 2009	The National Sexual and Reproductive Health Policy and Family Planning Policy are being finalised (drafts 2009). The National Sexual and Reproductive Health Policy includes a commitment from the government to provide an enabling environment for all service providers. These could occur through support for continuing education, supervision, provision of incentives and removal of barriers to delivery of quality sexual and reproductive health care. It also states that the National Department of Health will have responsibility for developing guidelines for planning, organising, conducting and supervising training of health workers at all levels, and provide technical support for curriculum development, training and continuing education. The Provincial Division of Health is to ensure that appropriately trained staff members are available and continue to update their knowledge and skills, while the local government has responsibility for training village health volunteers or workers. The policy also includes a role for non-government organisations in developing human resources and training of health volunteers. Objective 4 of the Family Planning Policy deals with service providers for family planning and states that well-trained, supervised and motivated service providers be available for this. Strategies to achieve this objective recognise the need to ensure that human resource workforce planning takes family planning needs into account, all providers are competent in providing family planning services, and they receive regular supportive supervision by appropriately trained supervisors. (NDoH PNG 2009c)

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University of Queensland

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www.uq.edu.au/hishub

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The Nossal Institute for Global Health (University of Melbourne)

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www.ni.unimelb.edu.au

Compass: Women's and Children's Health Knowledge Hub,
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