Core competencies in primary care:

Supplement 1

The role of primary health-care providers in sexual and reproductive health

Results from an intercountry survey

The *Core competencies in primary care* is available online at www.who.int/reproductivehealth/publications/health_systems/9789241501002

The competencies have been developed through a technical consultation of SRH experts in research, education, policy and service, over more than two years. The consultation included two workshops and many rounds of review in a Delphi-research-style process. A survey on the role of PHC providers in SRH was also undertaken to inform the competency definitions.

Acronyms

AFRO	WHO African Region
AMRO	WHO Region of the Americas
ANC	antenatal care
CHWs	community health workers
CO	country offices
EFPC	European Forum for Primary Care
EMRO	WHO Eastern Mediterranean Region
FP	family planning
GHWA	Global Health Workforce Alliance
NGO	nongovernmental organization
PHC	primary health care
RHR	Department of Reproductive Health Research
RO	regional office
SEARO	WHO South-East Asia Region
SRH	sexual and reproductive health
VIA	visual inspection with acetic acid
WPRO	WHO Western Pacific Region

Contents

1. Introduction

A global survey was undertaken in mid-2009 by the Department of Reproductive Health Research (RHR), World Health Organization (WHO) in Geneva, to identify what sexual and reproductive health (SRH) provision is actually offered in primary health care (PHC) and which health workers are providing this, in developing and a few developed countries. The development of the questionnaire for the survey, the pilot study, the sample of the main study and some results are discussed here. The collected information provides substantial evidence on the SRH services currently provided in PHC in countries from each region. The data, therefore, are an excellent background for identifying the knowledge, skill, and attitudes health providers need to be competent in delivering sexual and reproductive health (SRH) care in primary health care (PHC).

2. Survey

2.1. Purpose of the survey

The purpose of the intercountry survey was to gather information about SRH services provided in PHC mainly in developing countries; with an emphasis on the different ways SRH in PHC is organized; what SRH services are provided in each country, where it is delivered and by which providers.

2.2. Development of the questionnaire

The European Forum for Primary Care (EFPC) developed a questionnaire on SRH in primary health care and used it as a survey tool across some European Countries. With the agreement of the EFPC, the RHR worked with some of the WHO regional (RO) and country offices (CO) to adapt the survey tool for use in developing countries across WHO regions. The coding book for the questionnaire was developed with the help of experts in RHR. A copy of the questionnaire is available from Dr Laura Guarenti, e-mail: guarentil@who.int.

The questionnaire focused on how SRH was being provided within PHC in the community. The various job positions of staff were identified and specific questions were asked in seven technical areas:[1] antenatal; childbirth; newborn; family planning and infertility; abortion, sexually transmitted and reproductive tract infections (STIs/RTIs) (including HIV and voluntary counselling and testing) as well as screening for sexual violence and cancers; and sexual health education and counselling. In each of these areas the questionnaire asked for:

- information about who provided the services;
- the setting in which they were provided e.g. in a health centre or in another community facility or at home;
- the final question concerned the degree of integration of SRH provision within PHC; the latter was emphasized in the RHR strategy.

2.3. The survey

The questionnaire was piloted with the response indicating face validity but leading to several changes, particularly in the way the questionnaire should be completed so as to facilitate electronic analysis.

In the main study, the questionnaire was distributed to SRH link staff attached to WHO country offices in 76 countries and to the SRH lead in the WHO Eastern Mediterranean Regional Office for their distribution to 22 countries. The in-country link persons were expected to respond to the questionnaire themselves and also to collect responses from managers in their ministry of health, from SRH service programme managers in PHC, and also from providers of SRH services.

3. Survey results

3.1. The response

Sixty seven countries returned completed questionnaires (see Fig. 1); the full distribution and response list are included in the Appendix. Additional tables with the results used in Activity Figures in this document are also included in the Appendix. A few countries made comments on the flexibility of the questionnaire; some of these comments are included in the text when relevant to interpreting results from some specific countries.

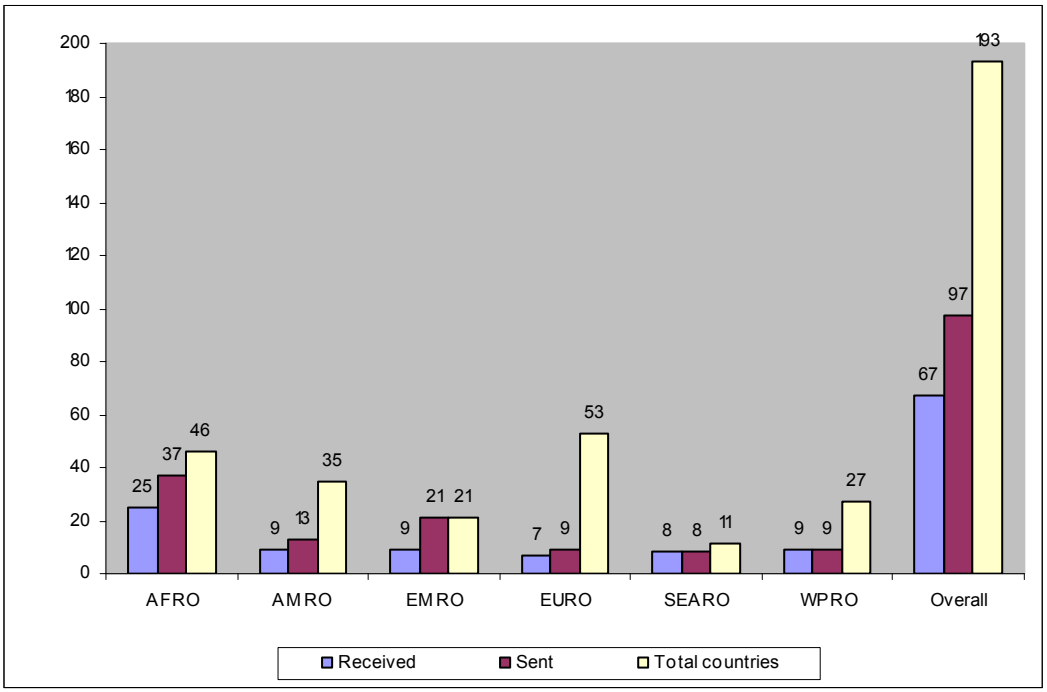


Figure 1. Reporting countries by WHO regions.

The response rate was exceptionally high for an on online questionnaire 69% (67 out of 97 countries)[a]. This percentage increases when you separate those questionnaires sent from headquarters directly to WHO SRH link-workers in-country and those sent from a regional office: there was a response rate of 76% (58 of 76) when the questionnaire was distributed directly from WHO headquarters to the link staff in-country. Some of the countries sent in more than one questionnaire. The latter have been automatically pooled into a single summary record. This is according to formal rules for pooling data from multiple questionnaires from the same country. Details of the automatic pooling rules used in this questionnaire are available on request.

3.2. Where was the service delivered and by whom?

Figure 2 shows where SRH care is provided and by which health worker. Overall in 34% (23 of 67) of the responding countries community health workers (CHWs) do door-to-door (D2D) visiting providing the SRH service, which is closest to the community. There is though a wide variation within and across regions, with nearly 70% of the countries in the Wester Pacific Region offering a D2D service by CHWs and only 10% doing so in the Region of the Americas responding countries. In just over 20% of all the responding countries D2D visits are also made by health professionals. Health posts are staffed by CHWs in 27% (18 of 67) of all countries and in 75% (50 of 67) health professionals are also working in health posts or dispensaries. In Papua New Guinea, CHWs are employed by the government and in the past they worked in health aid posts, but the majority of health posts are now closed. The gap left is often filled by village health volunteers or traditional birth attendants (TBAs)[2].

[a] This is a total response of 34% (67 of 193) of all countries in WHO

Professional health workers offering services in health centres are available in 88% (59 of 67) of the countries surveyed, which is very encouraging. Some countries do not have CHWs e.g. Kyrgyzstan and in this country all procedures related to postpartum care are carried out in maternity houses; the questionnaire, unfortunately, did not include maternity houses as an option[2].

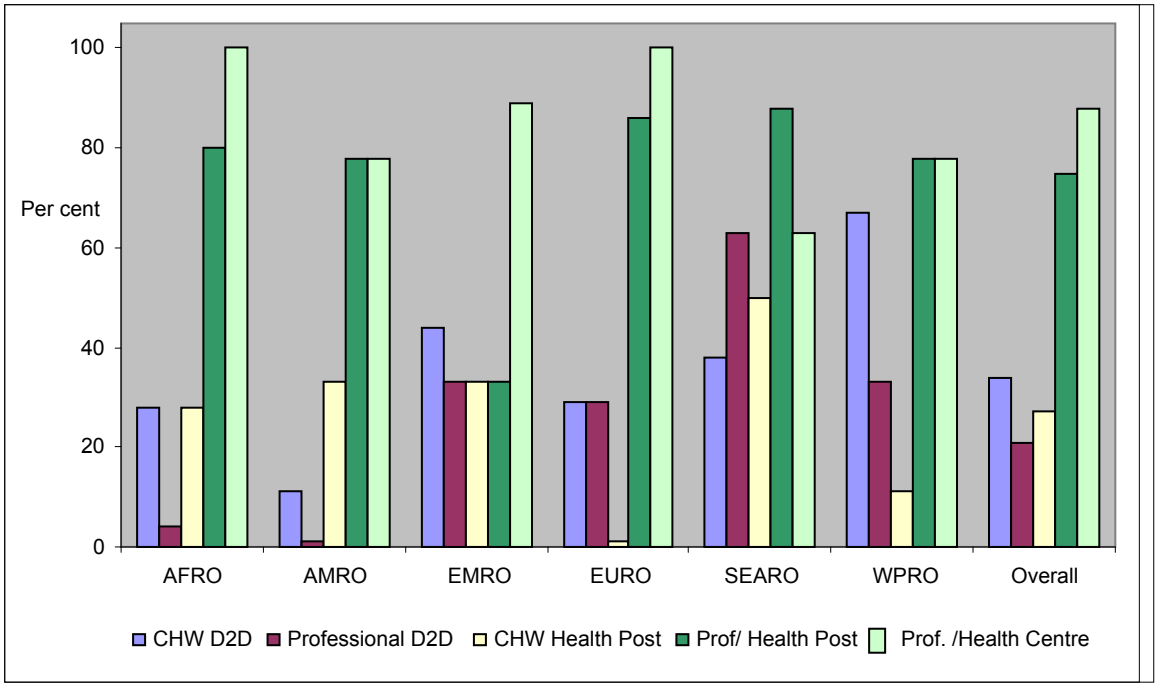


Figure 2. Delivery points of SRH in PHC by WHO region (D2D is door-to-door).

3.3 Duration of CHW training

Having identified where SRH care is provided and by whom, the next question identified the length of training of the CHWs. Figure 3 shows the length of training of CHWs by region. Unfortunately, in the European Region six out of seven reporting countries did not provide information on the duration of CHW training and therefore corresponding bars are set to missing. The training length of CHWs for all other countries ranges from one week to over four weeks. More than 70% of CHWs across regions received more than 2 weeks of training. However in 50% of coutnries of South-East Asia, 40% of Eastern Mediterranean and 28% of Western Pacific countries CHWs have only one week of training. CHWs are usually the health workers closest to the women, men, children and teenagers in the community and, as shown above in Figure 2, they are the health workers who do most one to one home visiting apart from the South-East Asia Region, where health professionals have the greater responsibility for door-to-door visiting.

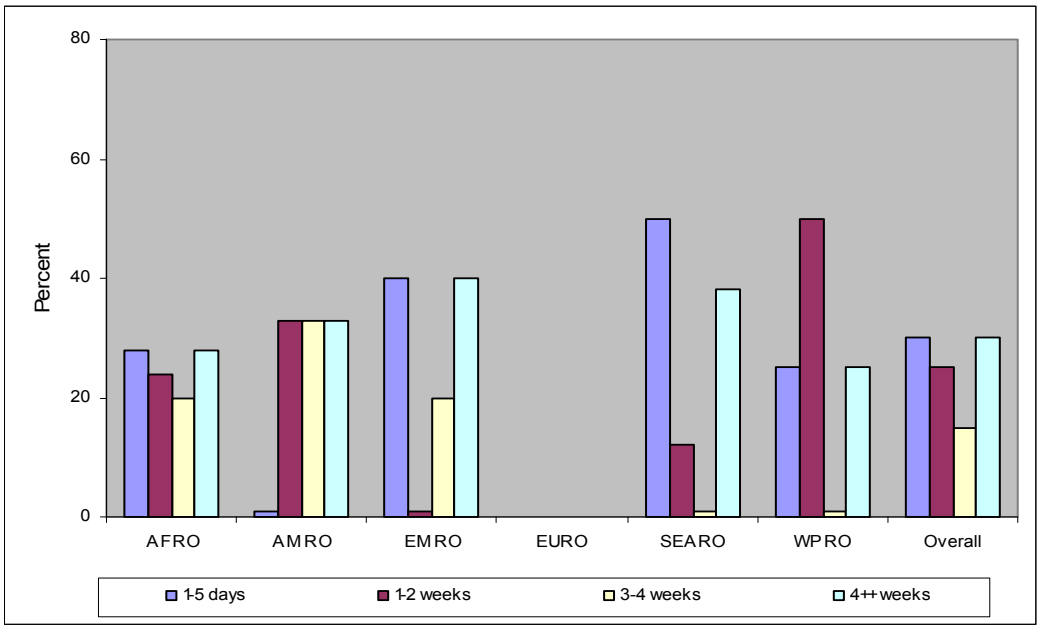


Figure 3. Duration of CHW training by WHO tegion.

In many countries in each region CHWs have a very important role in linking communities to health systems. CHWs live in the area where they work, understand the cultural practices of the people and can speak the same language. CHWs have distinguished themselves as the drivers of PHC in their communities and they have many different roles[3]. As will be shown in later tables they can and do provide a valuable input to SRH, providing health education, information and advice in many areas of SRH including antenatal care, HIV counselling, the distribution of safe sex and family planning commodities and referring SRH problems to others.

Because CHWs have such an important SRH role and as they are frequently the first point of contact for patients and members of the public, they must have competent skills. This is so that they have the right attitudes towards SRH and can use their knowledge and skills to the maximum in all the opportunities they have in face-to-face contacts with the public. Doing so should make a powerful contribution to the SRH targets and strategy.

It would be helpful if there could be some harmonization of CHW training and the content of training and manuals as well as the length of training. This could bring some order to the methods applied, the time devoted to different topics and the overall competence of CHWs.

3.4. Who employs CHWs?

A number of countries did not answer the question about who employed CHWs. In others, the question regarding the length of training was not answered. In some countries there was more than one employer; where this was so, both employing bodies are mentioned. Therefore totals do not always equal the number of responding countries in a region. Whoever the employing agency the government has the overall responsibility to ensure that the CHWs are well trained and supervised.

CHWs are recruited by nongovernmental organizations (NGOs) or governments and in some countries they are volunteers. Figure 4 shows by region who the employer is. As is shown , the overall percentages of CHWs employed by NGOs, government and of those working on a voluntary basis are about the same, though there is a great variation across the regions. The graph also shows that: CHWs in more than 60% of Region of the Americs countries are employed by the governments and in more than 60% of the Eastern Mediterranean countries CHWs are volunteers.

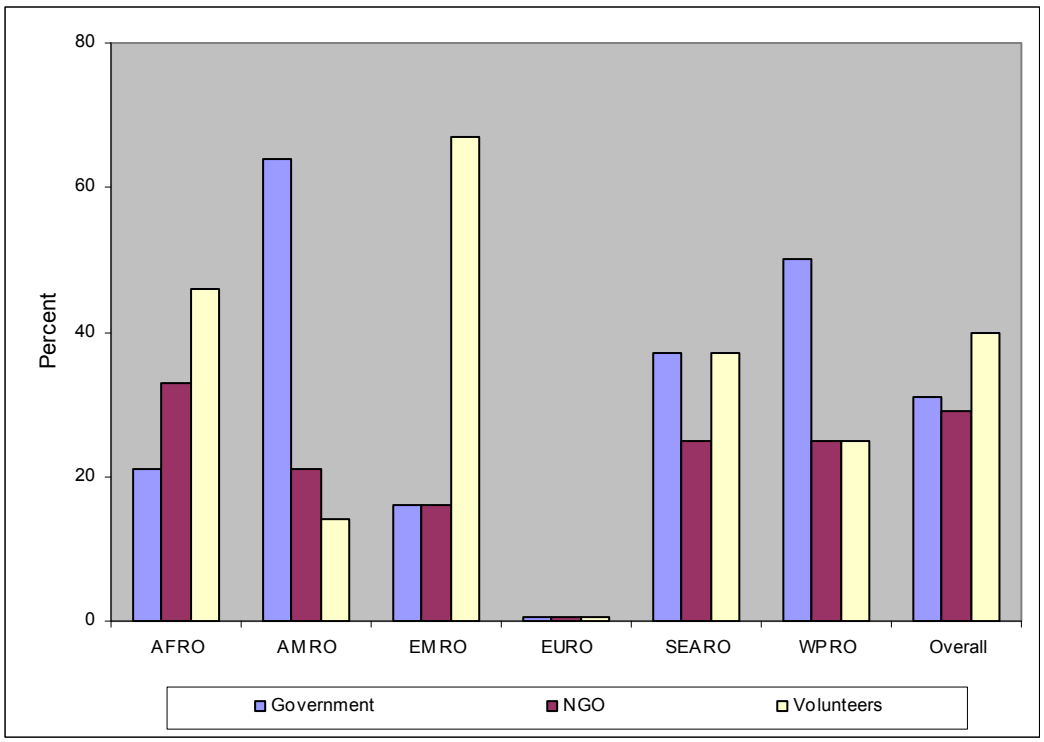


Figure 4. Employing bodies of CHWs by WHO region.

Unfortunately, the European Region countries (5 out of 7) did not report this information and therefore corresponding bars are set to missing. Many countries in Europe do not employ CHWs and the questionnaire did not provide for alternative titles for a similar level as the CHWs.

The duration of CHW training varies between employing bodies and across the regions, but overall CHWs employed by the government appear to have a longer training – about 75% of CHWs employed by the government have more than 2 weeks of training compared with about 20% and 30% for NGOs and volunteers, respectively. This is an important point to consider regarding sustainability and also updating of skills. In those regions where the training is done by the government there may be more commitment by the government for sustainability. On the other hand this may be more problematic in those countries where CHWs have been prepared by NGOs. Donors should consider carefully their investment in training or the employment of CHWs in countries where there is no government plan for employing and integrating these CHWs into the government programmes nor any government investment in sustaining their skills.

3.5. Duration of midwifery training

In Figure 5 there were 5 countries out of 67 that did not answer the question *How long is your midwifery training?*

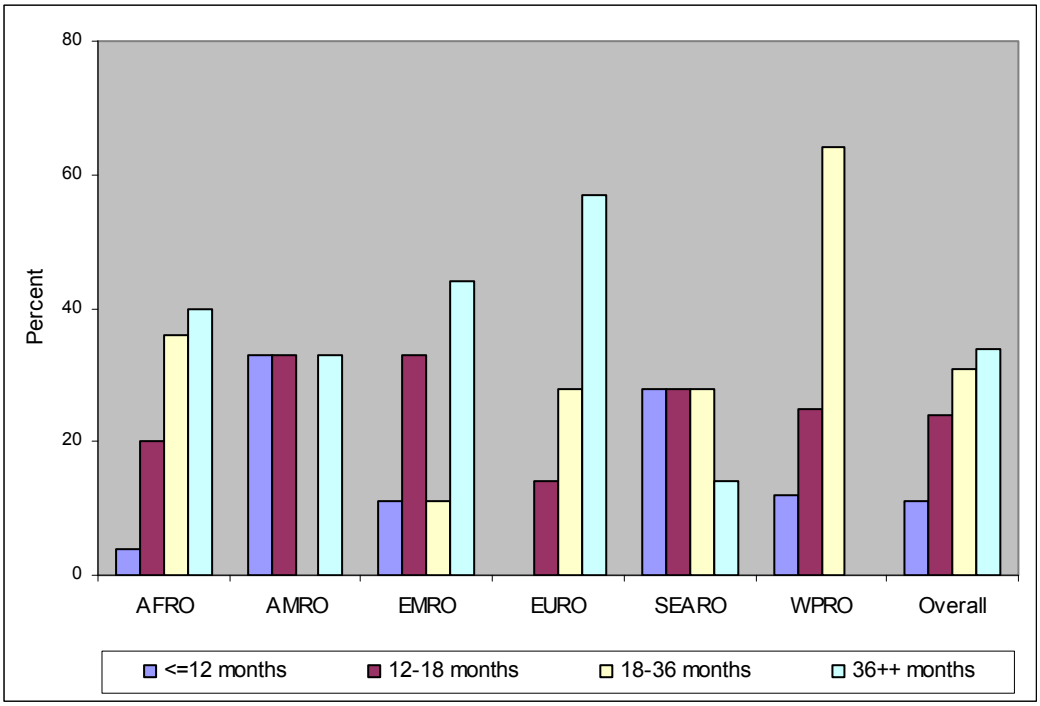


Figure 5. Duration of midwifery training by WHO region.

It was encouraging to note that midwives in about two thirds of the countries received more than 18 months of training as in this period of time the competence of midwives can be well developed with good adult learning approaches.

3.6. Overall activity of PHC providers and duration of training

One interesting aspect of the analysis of SRH in PHC services is the relation between activity of service provider and the duration of received training. To implement this we first calculated activity rate of service providers (CHW, nurse, midwife, doctor) for each of the services, i.e. antenatal care (ANC), childbirth care, newborn care, etc. on the scale of (0–1) as an average involvement into the service provision, and then calculated total activity rate as a sum of all seven service-specific activity rates, i.e. on the scale of (0–7).

For example, ANC services include 13 tasks. If the CHWs in a country provide 5 of 13 ANC services, then the country-specific CHW activity rate for ANC services is 5/13=0.38.

The activity rates are calculated in the same way for the other six services.

Finally, all these seven service-specific activity rates are summed up to obtain an estimated total CHW activity rate which ranges from 0 to 7. We assume that all seven services are of equal importance and assign the same weight (1.0) to all of them. Being calculated in a uniform manner for all the countries, the activity rates may be used for between group comparisons, both for specific services and for overall service provision.

Figure 6 shows the overall relation between total activity and duration of training (some missing information on duration of training does not allow for a regional comparison).

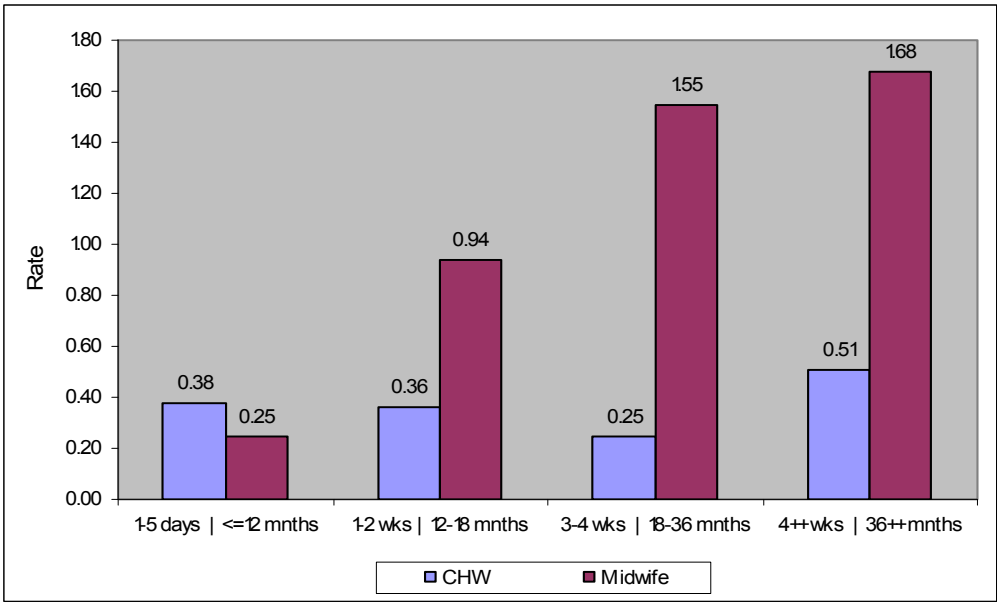


Figure 6. CHW and midwifery activity rate by duration of training.

Table 1. CHW and midwifery activity rates by duration of training

	1-5 days <12 mnths	1-2 wks 12-18 mnths	3-4 wks 18-36 mnths	4+ wks 36+mnths
CHW	0.38	0.36	0.25	0.51
Midwife	0.25	0.94	1.55	1.68

Table 1 and the bar graph in Figure 6 clearly show that the longer the training of midwives the more activities they undertake. It appears that there should be a training of 18–36 months at least for midwives to deliver the **optimum amount** of SRH activities. This is an important clarification about the link between the length of pre-service midwifery education and midwives' performance in SRH activities. Therefore future investment in midwifery education should preferably support standardized training of at least 18 months.

For CHWs the trend is not that clear. CHW training of 1–5 days is associated with 0.38 activity rate, while 3–4 weeks training shows a lower activity rate of 0.25. This might be partially explained by the fact that 3–4 weeks is not a very common length of training for CHW across all the regions, in the African, South-East Asia and Western Pacific Regions in particular (see Figure 3).

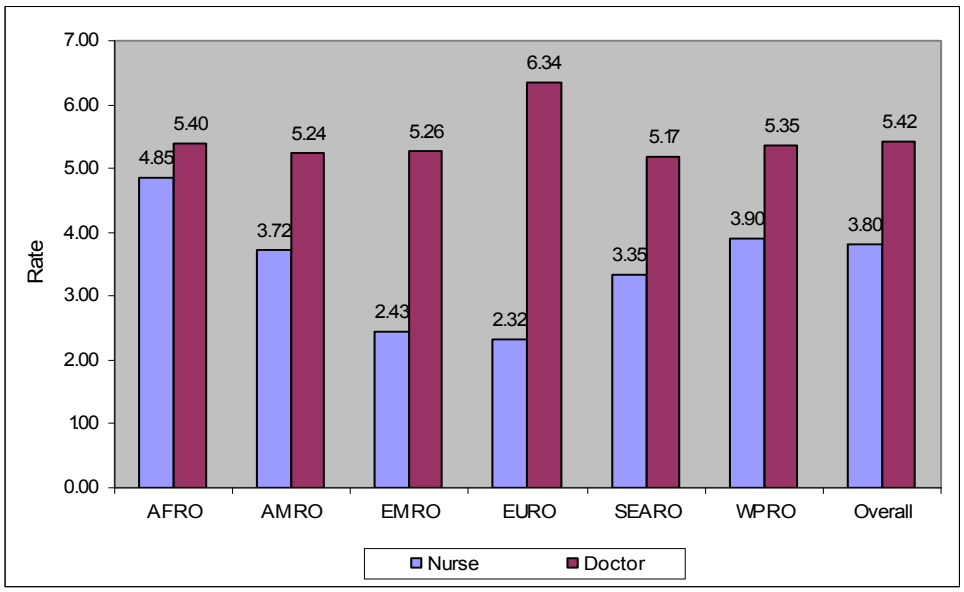


Figure 7. Nurse and doctor activity rating.

Figure 7, shows that overall doctors' SRH activity is 5.42 as compared with 3.80 of nurses. Nurses play an important role in SRH and in some countries nurses carry out all the activities of midwives. The important role of nurses is also mentioned below under antenatal activities. This should be considered carefully in the strategic planning for SRH education and training in a country.

With the exception of some prevention activities such as HIV and AIDS: prevention of mother-to-child transmission and also voluntary counselling and testing, doctors and midwives appear to have similar roles in most of the education and preventive activities tasks for antenatal care, childbirth, postpartum period and also neonatal care. Interestingly doctors appear to have a bigger role in the more technical activities. These include vacuum extraction, medical and surgical abortions, detection of rape and abuse and detection of cancers etc. This information is gleaned from the chart called 'Activity rating for all seven sections by region and overall based on 67 countries', which can be found in the Appendix.

Midwives, CHWs, nurses and doctors can be seen from the following figures to carry out SRH activities with varying involvement in health promotion, prevention measures and considerable intervention activities in all SRH domains e.g. antenatal care, childbirth, postpartum period and also neonatal care, family planning and STIs/RTIs.

Below are activity ratings of service providers by domains and overall. The ratings that determine the bar graphs in the figures that follow are available from Dr Laura Guarenti, e-mail: guarentil@who.int

Following each graph showing the provision of care in a service category e.g. ANC, family planning (FP) etc there is another set of figures which shows the role of providers for selected items only in that service category**.** The researchers chose the selected items as those tasks/activities which make the most positive contribution to improving health in that particular service category.

The calculation of rate of the selected items was done in a similar way as before: the activity rate of service providers (CHW, nurse, midwife, doctor) for each of the services, i.e. ANC, childbirth care, newborn care, etc. was calculated first on the scale of (0–1) as an average involvement into the service provision, and then total activity rate was calculated as a sum of all seven service-specific activity rates, i.e. on the scale of (0,7). For example, in Figure 9 there are three items selected for ANC, therefore the rate for these three items is averaged in each country, and then the average is calculated for the total countries in a region.

ANTENATAL CARE

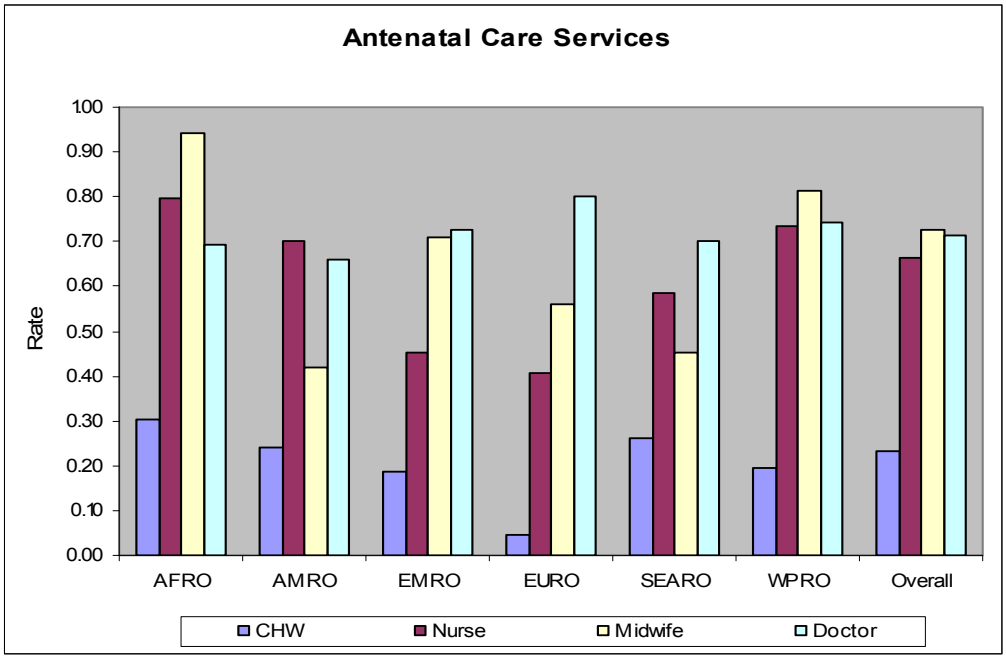


Figure 8. Overall provision of ANC services by different providers by regions.

Overall ANC services are provided by all the SRH human resources and, while it is not unexpected the results confirm the important role of the midwives. But nurses are also shown to make a large contribution to the care provision of this service. In the Region of the Americas particularly, it appears that nurses provide more ANC care than midwives or doctors, Both the African and the Western Pacific Regions show the important and lead role that midwives have in routine ANC.

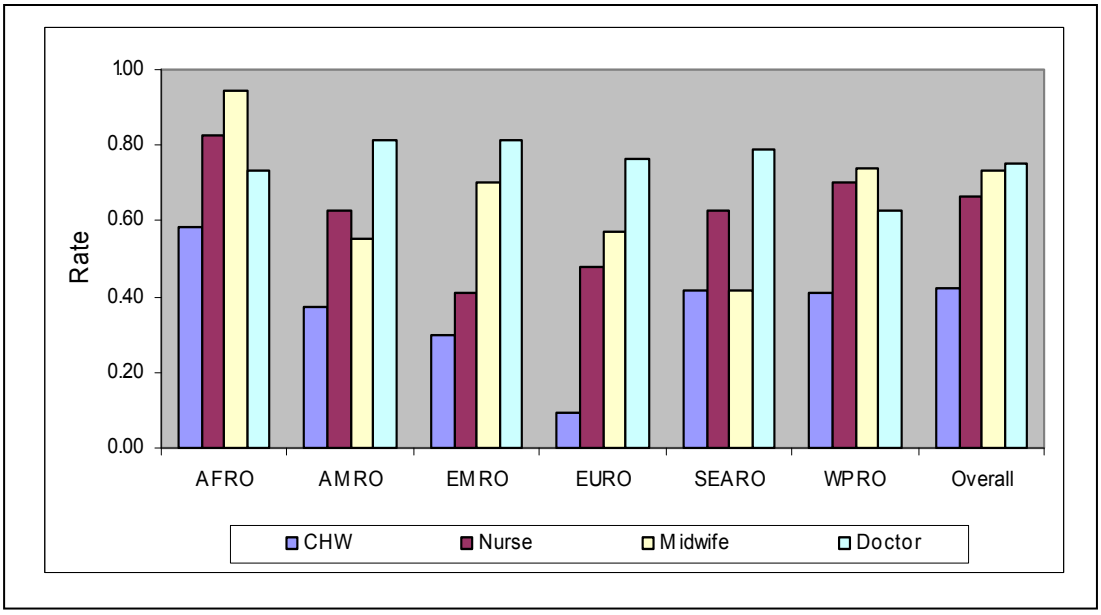


Figure 9: Selected antenatal care services.

The selected activities in antenatal care in Figure 9 are:

5.01 Information and counselling
5.12 Treatment of malaria in pregnancy

5.13 Referral for complications in pregnancy
Overall doctors are shown to provide the most care followed by midwives and then nurses.

CHILDBIRTH and IMMEDIATE POSTPARTUM CARE .

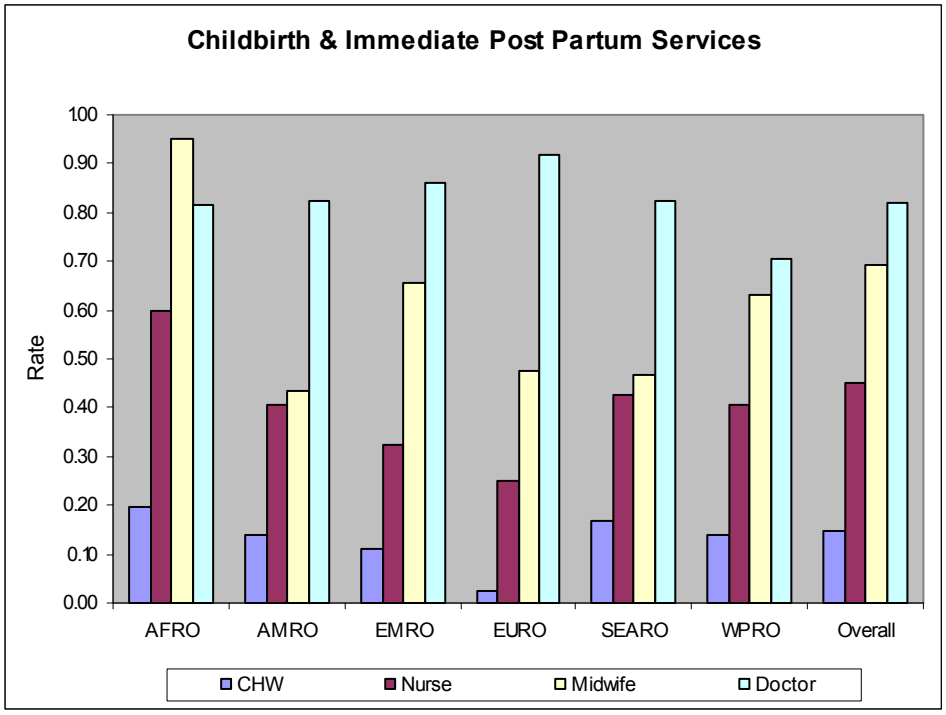


Figure 10. Overall childbirth and immediate postpartum services by different providers by regions.

In all regions apart from the African Region doctors undertake more childbirth activities than any other health professional. In the African Region midwives have the greater responsibility for providing childbirth and immediate postpartum care. Information about caesarean rates was not included in the survey, but an examination of caesarean rates against who provides services in a region might provide an interesting trend.

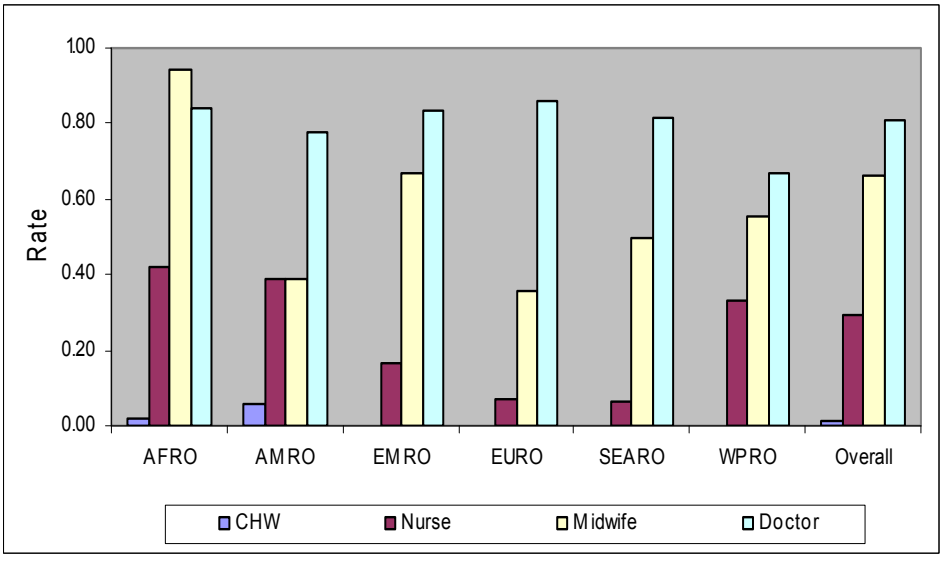


Figure 11. Selected immediate childbirth and immediate postpartum services by different providers and by regions.

The selected activities in childbirth and immediate postpartum care in Figure 11 are:

6.06 Active management of postpartum services
6.08 Manual removal of placenta.
Midwives in the African Region have a more important role (0.95) in these activities than any other provider in any other region. Doctors follow closely behind and have similar rate of activity across all regions: from 0.78 in the Region of the Americas – 0.84 in the European Region.

NEWBORN CARE

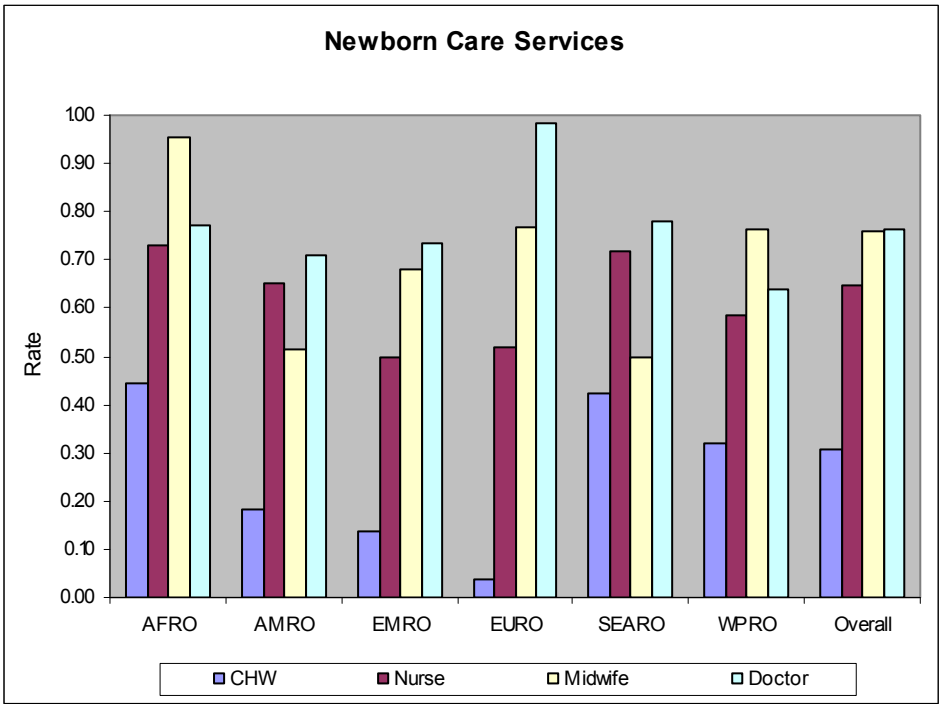


Figure 12. Overall newborn services by different providers by regions.

In all regions apart from the African Region doctors perform more activities in newborn care than any other provider. In the African Region midwives are the dominant health provider and the nurses in the South-East Asian Region have a more important role than midwives in newborn care (in this Region the SRH activities may be carried out by a nurse who also has competent midwifery skills). Doctors in the European Region have a very important role in newborn care activities, more so than any other region.

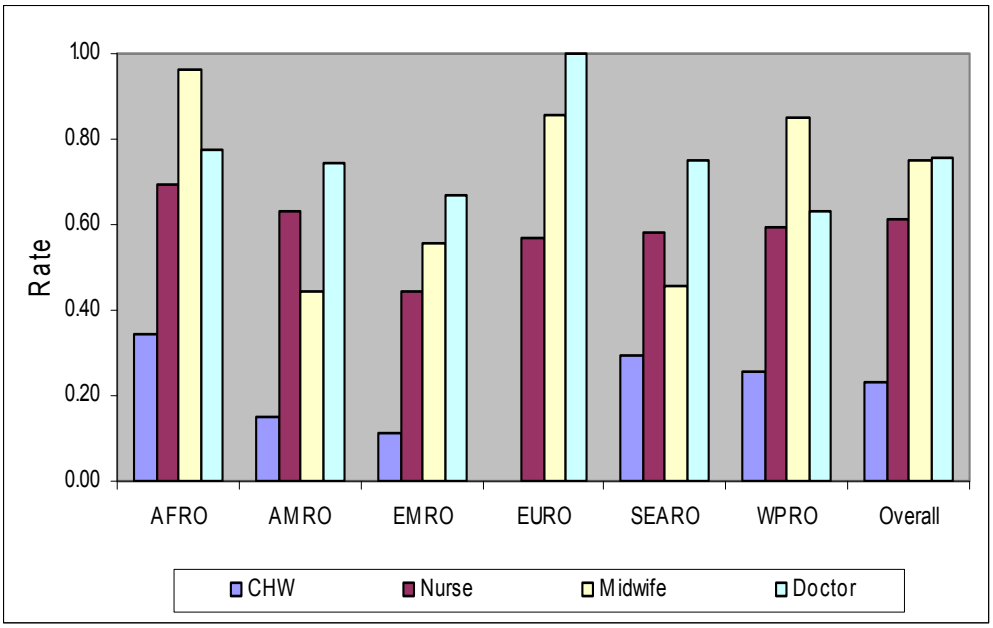


Figure 13. Selected newborn services by different providers by regions.

The selected activities in newborn care services in Figure 13 are:

7.02. Early breast feeding initiation
7.03. Use of ambu-bag for resuscitation of infant at birth
7.05. Introduction of kangaroo method for low weight babies.

Doctors in EURO have the most involvement in these activities followed closely by midwives in the African Region and then midwives in the European and Western Pacific Regions. Overall midwives and doctors have similar involvement in these activities. But nurses are not far behind in these activities overall and therefore nurses should be included in pre-service training for newborn care skills.

FAMILY PLANNING

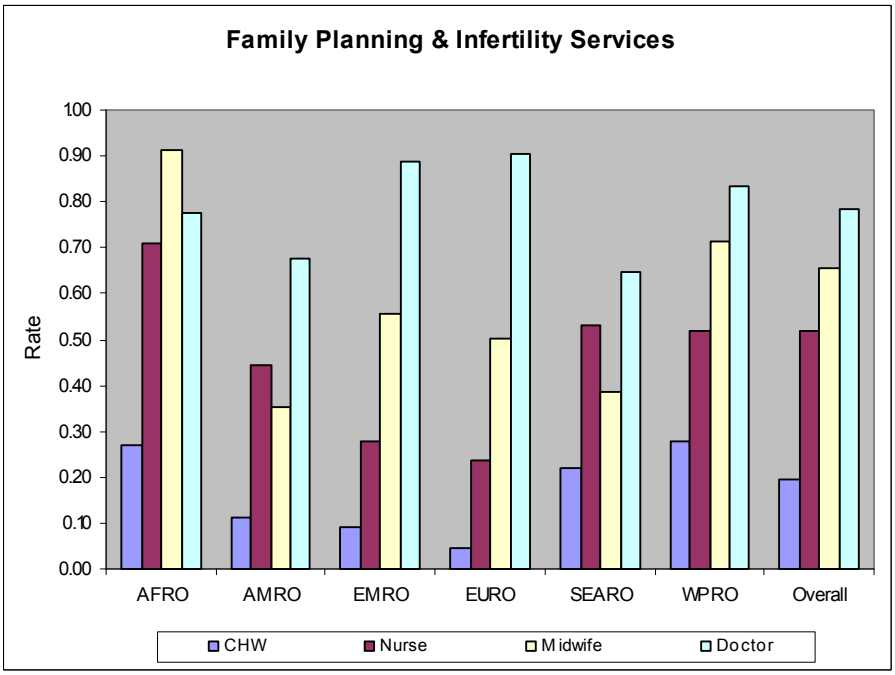


Figure 14. Overall FP and infertility services by different providers by regions.

In the African Region nurses have the most important role in family planning and fertility services. The midwives role in the African Region is equivalent to the role of doctors in the Eastern Mediterranean and European Regions. The South-East Asia Region has slightly less doctor and midwife involvement than any other region.

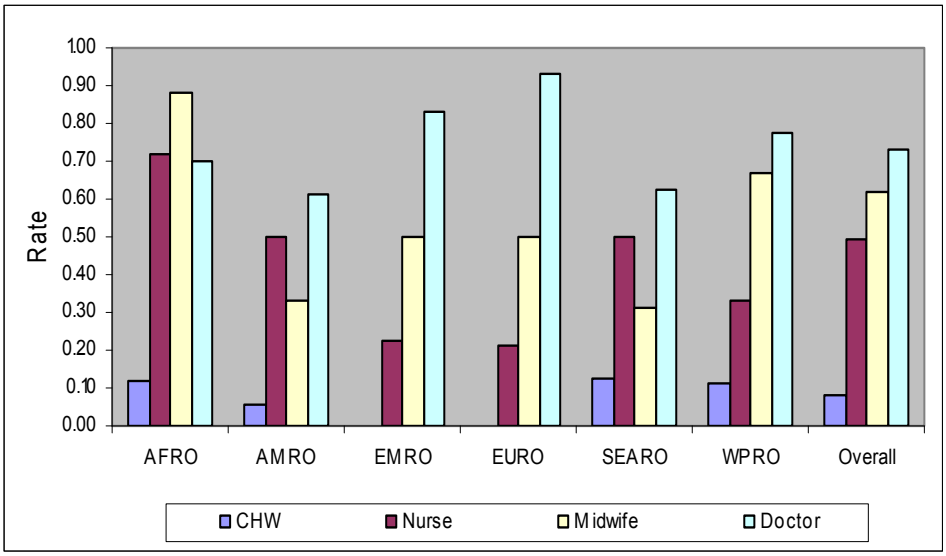


Figure 15. Specific FP services by different providers by regions.

The selected activities in family planning services in Figure 15 are:

8.05. Provide injectable contraceptives
8.10. Provide emergency contraception.

Doctors have the biggest role in these activities in the European Regoin followed closely behind by midwives in the African Region, then doctors in the Eastern Mediterranean and then nurses in the African Region and doctors in the Western Pacific Region. Many of these figures including Figure 18 appear to show that where the doctor human resource is scarce, nurse and midwives are able to carry out many technical tasks and activities that are carried out by doctors in countries where there is a healthy supply of doctors.

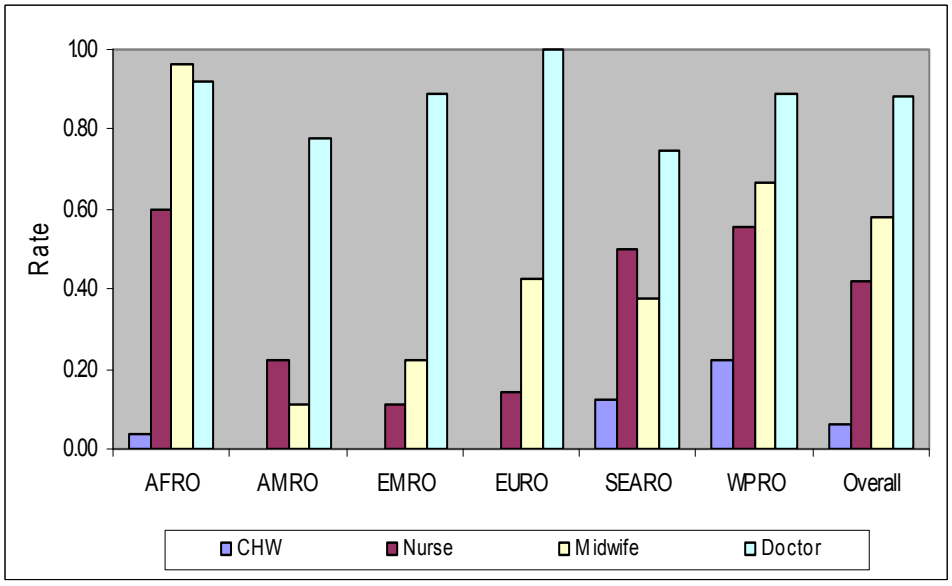


Figure 16. Specific infertility service by different providers by regions.

The selected infertility activity in Figure 16 is:

8.11. Inform and counsel individuals/ couples seeking fertility advice and treatment.

The very dominant role of doctors in this activity is demonstrated overall and in most regions apart from the African Region where midwives have the dominant role.

SAFE ABORTION SERVICES

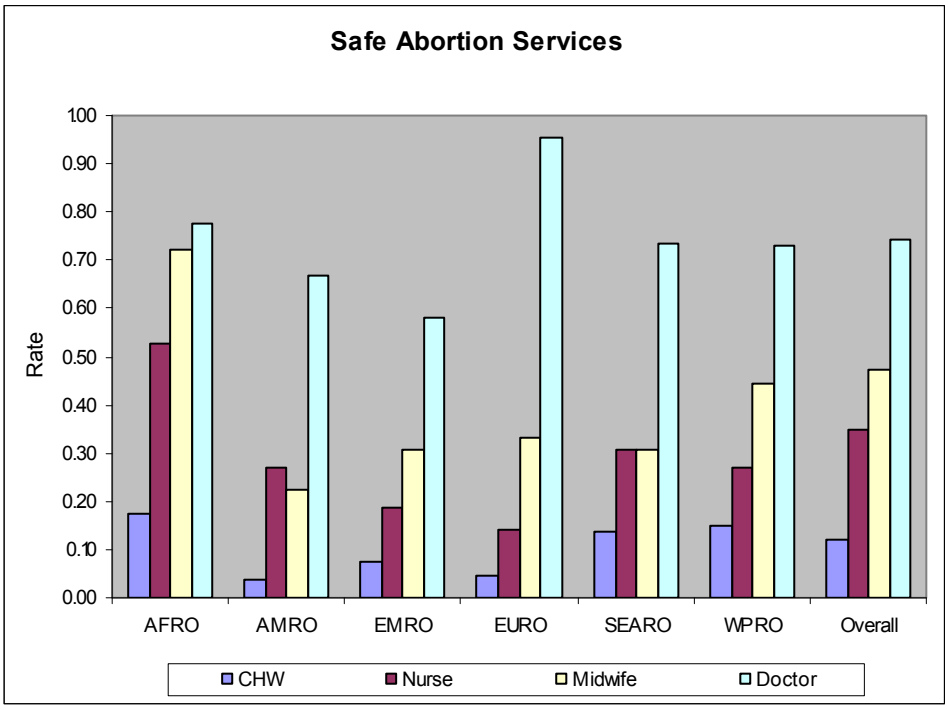


Figure 17. Overall abortion services by different providers by regions.

Midwives in the African Region are performing many of the activities in abortion care, although they do not have a bigger role than doctors. Midwives have an important role in providing abortion care in all regions. Nurses in the African Region also have an important role in abortion care.

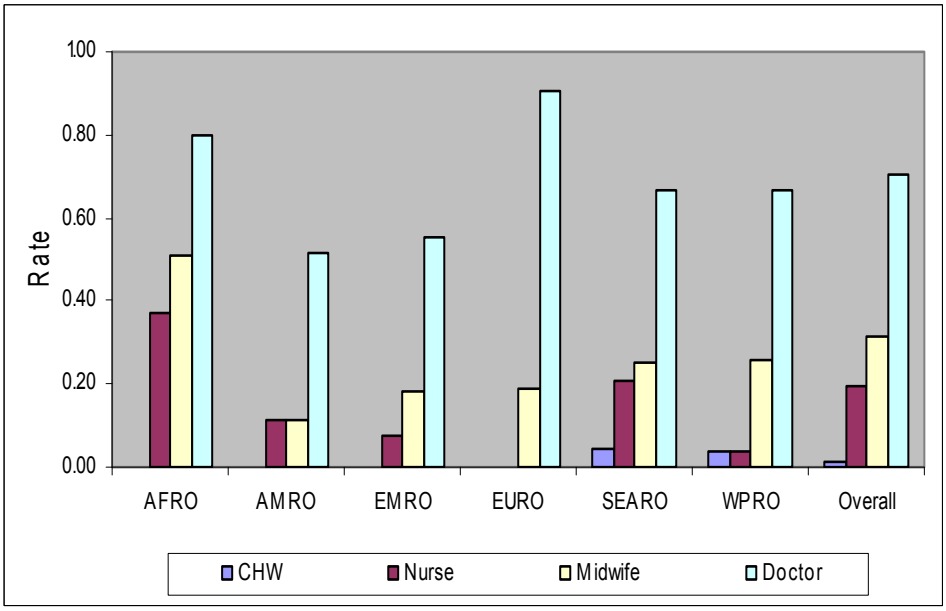


Figure 18. Specific Abortion services by different providers by regions.

The selected activities in safe abortion services in Figure 18 are:

9.02, Post abortion care
9.05, Surgical method of abortion
9.06 Medical abortion

Figure 18 shows that overall and in all regions, doctors have by far the largest responsibility for carrying out abortion activities. In many countries midwives are involved with medical abortions. Mid-level providers can provide manual vacuum aspiration for first-trimester abortions as safely as doctors, and in many countries, they are also providing abortion using medical methods[4] .

The continuing high rate of maternal deaths is of great concern to the world and as a large number are due to abortions, sepsis etc., some attention has been given to the abortion services in this survey. In some countries abortion is illegal this may be so in those countries that did not record any answers to questions 9.04 about determining medical eligibility for abortion, 9.05 surgical methods of abortion, 9.06 medical abortion and 9.07 manual vacuum aspirations. Those countries that did not record any activities in this area of care may include countries where it is illegal to carry out abortions or where the service is just not provided. Some of these countries have a high rate of maternal deaths, which may be due to untreated abortions.

SEXUAL AND REPRODUCTIVE TRACT INFECTIONS.

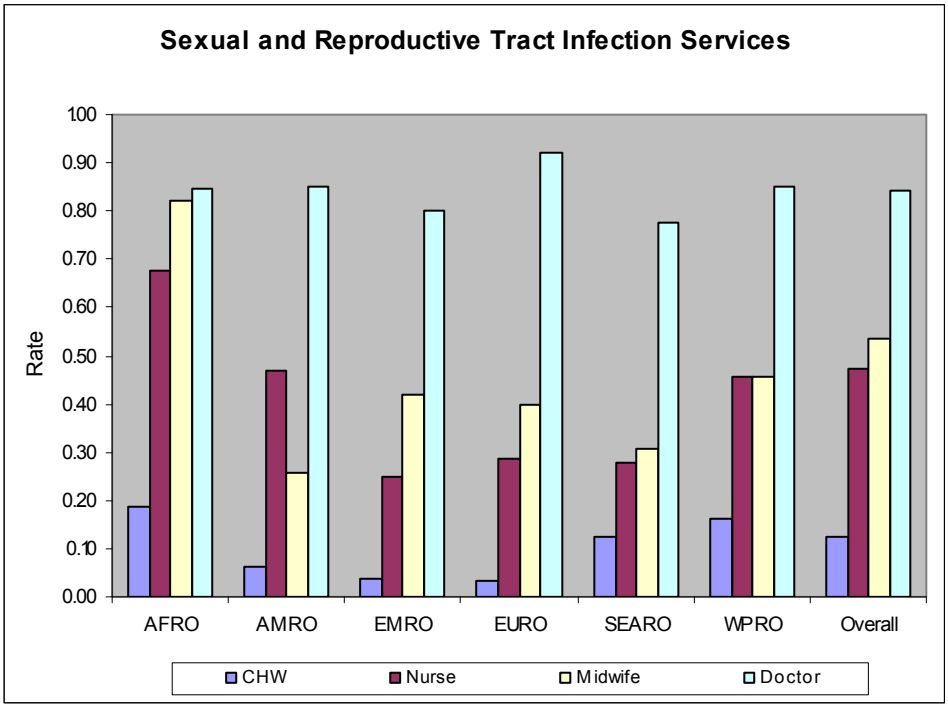


Figure 19. Overall sexual and reproductive tract infection (STI/RTI) services by different providers by regions.

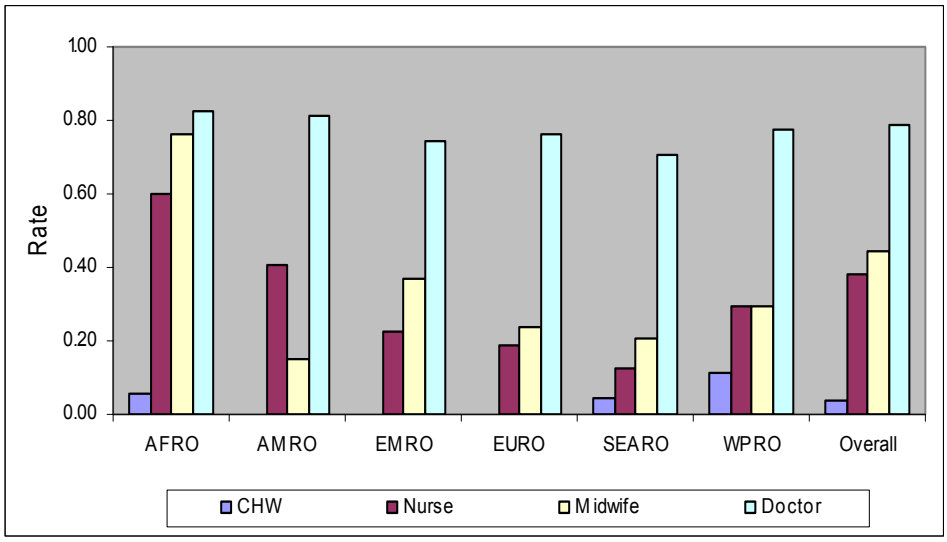


Figure 20. Selected sexual and reproductive tract infection services by different providers by regions.

The selected activities in sexual and reproductive tract infections in Figure 20 are:

10.03, Management of symptomatic STI/RTIs by syndromic approach
10.07, Screening for or detection of rape and other forms of sexual violence
10.08 Screening for cancer of cervix using VIA and Pap. Smears.

Doctors have the major responsibility for the STI/RTI selected tasks, but in AFRO midwives have nearly the same level of involvement in these tasks and nurses are not far behind and far exceed the involvement in all other regions.

SEXUAL EDUCATION AND COUNSELLING

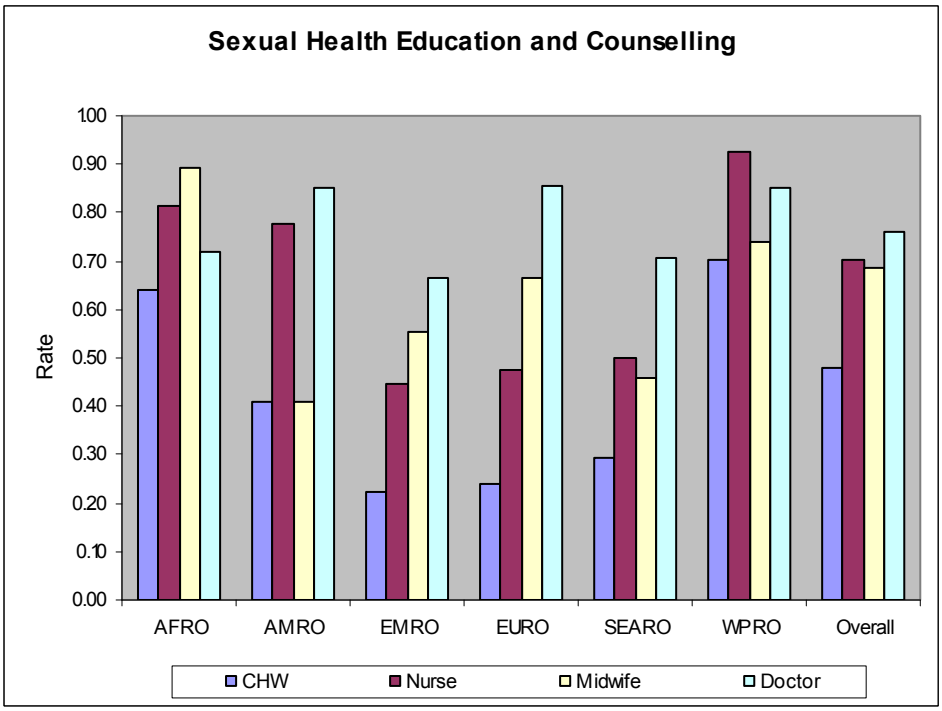
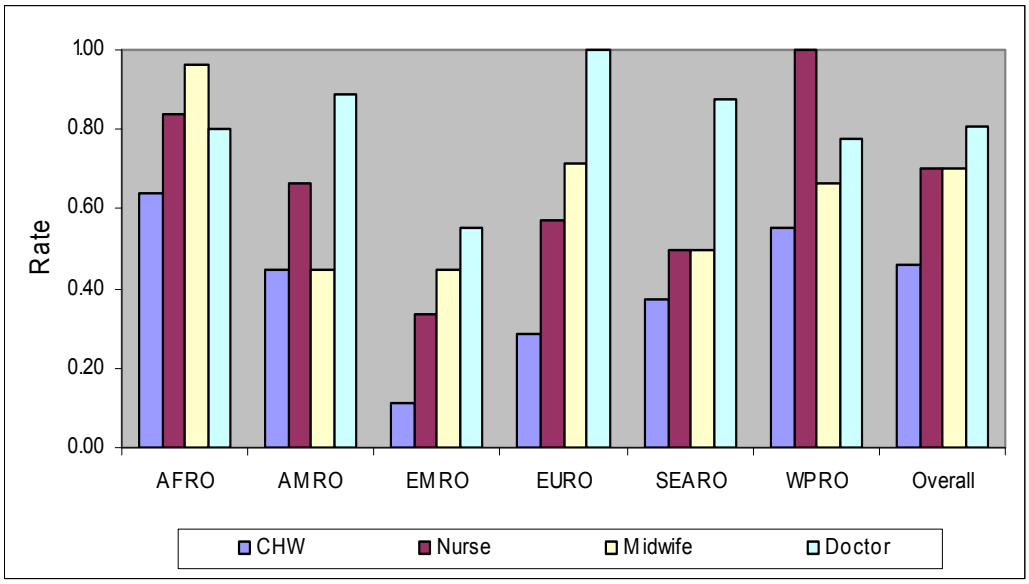


Figure 21. Overall sexual health education and counselling services by different providers by regions.

Figure 21 shows that in most regions doctors take the lead role in sexual health education. However, nurses and midwives are also very involved in this area of care, with nurses ahead of midwives in three regions: Region of the Americas, the South-East Asia Region, the Western Pacific Region and also overall. This figure also shows the high activity level of CHWs in this area in all regions.



11

Figure 22. Selected sexual health education and counselling services by different providers by regions.

The selected activity in sexual health education and counselling services in Figure 22 is:

11.02. Health education and counselling on sexuality and reproductive health for adolescents.

In the European Region doctors have the fullest involvement of all health professionals in this area of care, whereas nurses in WPRO have an equal involvement and midwives have the greatest contribution in the African Region. The overall figure shows doctors just ahead of nurses and midwives. Both the latter appear to have an equal responsibility for this competency. CHWs have a larger involvement in this area of activity across regions than many other areas of selected tasks.

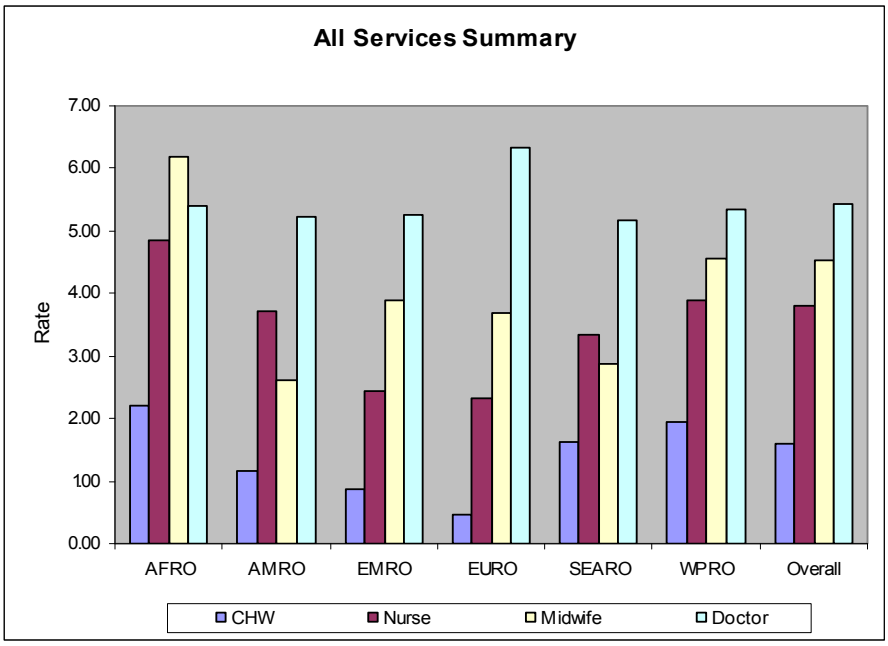


Figure 23. Overall sexual and reproductive services provided by different providers by regions.

Figure 23 shows the overall involvement of all health professionals in SRH care. Doctors have the largest role followed by midwives and nurses, with CHWs having an important role too.

3.8 Birth registration

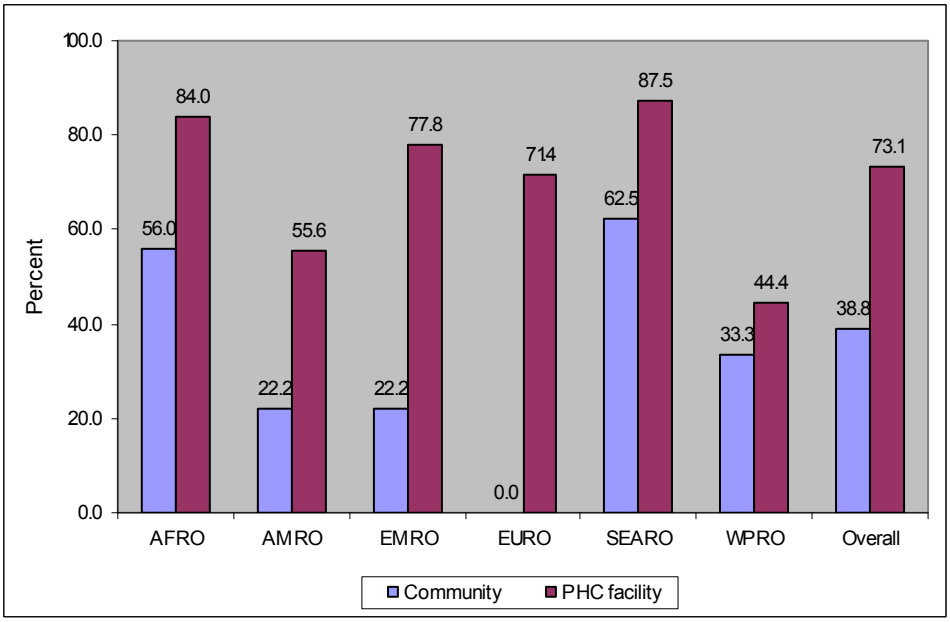


Figure 24. Place of provision of .birth registration by region.

Figure 24, shows where birth registration takes place: either somewhere in the community or the PHC facility. Figure 24 also demonstrates that in most regions there is a substantial provision for birth registration in primary health care facilities. In most regions there is also provision in the community. The responding countries in the European Region do not appear to have this facility in the community.

Table 2 shows that there are a number of countries that did not record birth registration venues, but many of these did record that one or more health providers in their countries were actually involved in birth registration. The information therefore on birth registration is not totally clear but Table 2 does suggest that there may be some countries where the health providers are not involved in birth registrations and perhaps there is also no rigorous and systematic birth recording. If the latter is so, this is probably an area requiring immediate attention as a birth registration is a means of having an official identity and is a human right.

Table 2. Countries where birth registration is not provided neither in the community nor in a PHC facility (but some of these countries report service providers for birth registration)

Region	Country	CHW	Nurse	Midwife	Doctor	Other
AFRO	Cap Vert					
AFRO	Mozambique					
AFRO	Zambia		Yes	Yes	Yes	
AMRO	Haiti					
AMRO	Peru					
AMRO	Trinidad and Tobago					Yes
EMRO	Jordan					
EMRO	Syria			Yes	Yes	
EURO	Armenia			Yes	Yes	
EURO	Kyrgyzstan			Yes		
SEARO	India					
WPRO	Cambodia					Yes
WPRO	Lao PDR					
WPRO	Malaysia					
WPRO	Singapore					

Table 2 shows 15 countries where birth registration is not provided in the community nor in a PHC facility (but seven of these countries do report service providers involved in birth registration). The response from the United Republic of Tanzania explained that in many areas in the country there were assistant medical officers or clinical officers in the health centres who had less training and skill than doctors; these were included in the category of `others'. There may have been other countries with similar situations. This is probably an area requiring urgent further exploration.

3.9. The integration of sexual and reproductive health (SRH) services in primary health care (PHC)

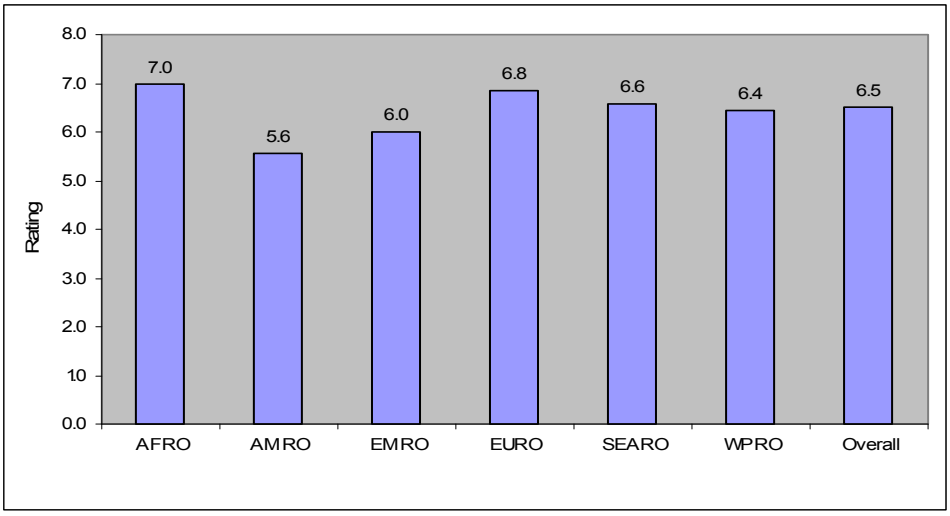


Figure 25. "Perception" of integration rating of SRH services at PHC level (mean values by Region/Overall).

The last question in the questionnaire concerned the integration of SRH services with PHC in each country. Countries were asked to rate 0–10 with zero being least integration and 10 the highest. The

range of perception of the integration of SRH in PHC across all the countries is large: 2–10. But the average rating per region ranges from 5.6–7. Figure 25 shows the average rating per region of the perceived SRH in PHC integration. Comparable ratings for each region and the large range of countries included in this survey suggests that overall each region has SRH firmly embedded within PHC, but there is scope for some improvement in all countries and considerable in others.

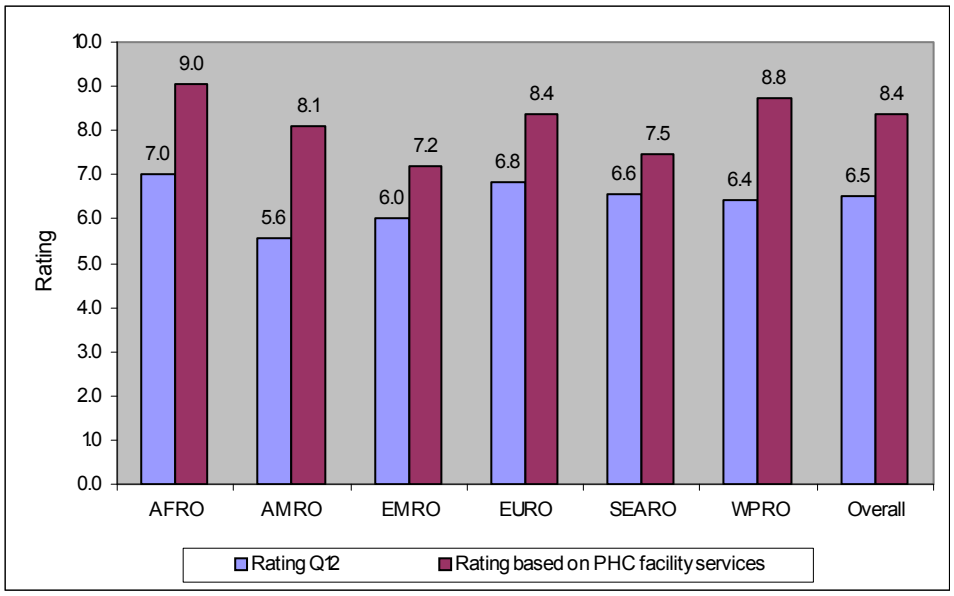


Figure 26. Integration rating of SRH services at PHC level (mean values by Region/Overall).

The blue bars are based on the question Q12 of the questionnaire. The red one calculated on the scale 0–10, from the percentage of services delivered "In PHC facility". This graph shows that the African Region has the highest integration of SRH in PHC and also the highest scale of SRH activities in a PHC facility. The European Region has the second highest integration of SRH in PHC and the third highest scale of SRH activities in PHC.

4. Conclusion

Key results of the global survey on 'The Role of Primary Care Providers in Sexual and Reproductive Health' have been shown in the figures and tables in this document. This information will be useful for countries when planning their strategies and policies to develop competent skills of SRH providers. Information in this document about: who is delivering care and where world wide will be a useful indicator for individual countries and provide background information to assist in making future decisions about which health provider can most effectively deliver SRH care and in which venue.

The information should also be valuable for donors, NGO's as well as governments to assist in-country collaborative planning and sustainable strategies for the training and education of SRH workers and further development of SRH services.

References

1. These areas were all mentioned in the ICPD documents and the WHO SRH Strategy: United Nations International Conferences on Population and Development 1994 and 2004

Reproductive Health Strategy: to accelerate progress towards the attainment of international development goals and targets, 2004, Geneva, World Health Organization.

2. Information provided in the country questionnaire responses.

3. African Medical and Research Foundation, 2007. A review of Community health Workers: Past and present Practice in Africa. Report submitted to the WHO Global Health Workforce Alliance (GHWA) Geneva.

4. Warriner IK, Meirik O, Hoffman M, Morroni C, Harries J, MyHuong NT,Vy ND, Seuc AH. Rates of complications in first-trimester manual vacuum aspiration abortion donme by doctors and mid-level providers in South Africa and Vietnam: a randomised control trial. *Lancet*, 2006 368(9551):1965-1972.

APPENDIX Response to questionnaire

Region	Country	Number of questionnaires
The African Region	Angola	1
	Botswana	1
	Burkina Faso	1
	Burundi	1
	Cameroun	1
	Cap Vert	1
	Comoros	1
	Côte d'Ivoire	1
	Democratic Republic of Congo	1
	Lesotho	1
	Liberia	1
	Madagascar	1
	Mali	1
	Mauritanie	1
	Mozambique	3
	Niger	1
	Nigeria	1
	Rwanda	2
	South Africa	1
	Sénégal	1
	Togo	1
	Uganda	1
	United Republic of Tanzania	1
	Zambia	1
	Zimbabwe	1
	Totals	25(28)
Region of the Americas	Belize	1
	Bolivia (Plurinational State of)	3
	Guatemala	1
	Guyana	1
	Haiti	1
	Honduras	1
	Paraguay	1
	Peru	1
	Trinidad and Tobago	1
	Totals	9(11)
Eastern Mediterranean Region	Iraq	1
	Jordan	1
	Morocco	1
	Oman	1
	Somalia	1
	Sudan	1
	Syria	1
	Tunisia	1
	Yemen	1
	Totals	9(9)
European Region	Armenia	1
	Kazakhstan	1
	Kyrgyzstan	1
	Moldova	1
	Russian Federation	1
	Tajikistan	1
	Uzbekistan	1
	Totals	7(7)

Region	Country	Number of questionnaires
South-East Asia Region	Bangladesh	1
	Country	
	Democratic People's Republic of Korea	1
	India	1
	Indonesia	1
	Maldives	1
	Myanmar	1
	Thailand	1
	Timor Leste	1
	Totals	8(8)
Western Pacific Region	Cambodia	1
	Fiji	1
	Lao People's Democratic Republic	1
	Malaysia	1
	Mongolia	1
	Papua New Guinea	1
	Philippines	1
	Singapore	1
	Vietnam	1
	Totals	9(9)

Activity rating for all seven sections, by region and overall based on 67 countries

Section	Region	CHW	Nurse	Midwife	Doctor
Antenatal care services	AFRO	0.30	0.80	0.94	0.69
	AMRO	0.24	0.70	0.42	0.66
	EMRO	0.19	0.45	0.71	0.73
	EURO	0.04	0.41	0.56	0.80
	SEARO	0.26	0.59	0.45	0.70
	WPRO	0.20	0.74	0.81	0.74
	Overall	0.23	0.66	0.72	0.71
Childbirth & Immediate postpartum care services	AFRO	0.20	0.60	0.95	0.82
	AMRO	0.14	0.41	0.44	0.82
	EMRO	0.11	0.32	0.66	0.86
	EURO	0.02	0.25	0.48	0.92
	SEARO	0.17	0.43	0.47	0.82
	WPRO	0.14	0.41	0.63	0.70
	Overall	0.15	0.45	0.69	0.82
Newborn care services	AFRO	0.45	0.73	0.96	0.77
	AMRO	0.18	0.65	0.51	0.71
	EMRO	0.14	0.50	0.68	0.74
	EURO	0.04	0.52	0.77	0.98
	SEARO	0.42	0.72	0.50	0.78
	WPRO	0.32	0.58	0.76	0.64
	Overall	0.31	0.65	0.76	0.76
Family planning and infertility services	AFRO	0.27	0.71	0.91	0.78
	AMRO	0.11	0.44	0.35	0.68
	EMRO	0.09	0.28	0.56	0.89
	EURO	0.05	0.24	0.50	0.90
	SEARO	0.22	0.53	0.39	0.65
	WPRO	0.28	0.52	0.71	0.83
	Overall	0.20	0.52	0.66	0.78
Safe abortion services	AFRO	0.17	0.53	0.72	0.78
	AMRO	0.04	0.27	0.22	0.67
	EMRO	0.07	0.19	0.31	0.58
	EURO	0.05	0.14	0.33	0.95
	SEARO	0.14	0.31	0.31	0.74
	WPRO	0.15	0.27	0.44	0.73
	Overall	0.12	0.35	0.47	0.74
Sexual and reproductive tract infection services	AFRO	0.19	0.68	0.82	0.84
	AMRO	0.06	0.47	0.26	0.85
	EMRO	0.04	0.25	0.42	0.80
	EURO	0.03	0.29	0.40	0.92
	SEARO	0.13	0.28	0.31	0.78
	WPRO	0.16	0.46	0.46	0.85
	Overall	0.12	0.47	0.54	0.84
Sexual health education & counselling services	AFRO	0.64	0.81	0.89	0.72
	AMRO	0.41	0.78	0.41	0.85
	EMRO	0.22	0.44	0.56	0.67
	EURO	0.24	0.48	0.67	0.86
	SEARO	0.29	0.50	0.46	0.71
	WPRO	0.70	0.93	0.74	0.85
	Overall	0.48	0.70	0.69	0.76
Overall	AFRO	2.21	4.85	6.20	5.40
	AMRO	1.18	3.72	2.61	5.24
	EMRO	0.86	2.43	3.89	5.26
	EURO	0.47	2.32	3.70	6.34
	SEARO	1.62	3.35	2.88	5.17
	WPRO	1.95	3.90	4.56	5.35
	Overall	1.60	3.80	4.53	5.42

Activity rating for selected items, by region and overall based on 67 countries

Section	Region	CHW	Nurse	Midwife	Doctor
Selected antenatal care services	AFRO	0.59	0.83	0.95	0.73
	AMRO	0.37	0.63	0.56	0.81
	EMRO	0.30	0.41	0.70	0.81
	EURO	0.10	0.48	0.57	0.76
	SEARO	0.42	0.63	0.42	0.79
	WPRO	0.41	0.70	0.74	0.63
	Overall	0.42	0.67	0.73	0.75
Selected childbirth & immediate postpartum care services	AFRO	0.02	0.42	0.94	0.84
	AMRO	0.06	0.39	0.39	0.78
	EMRO	0.00	0.17	0.67	0.83
	EURO	0.00	0.07	0.36	0.86
	SEARO	0.00	0.06	0.50	0.81
	WPRO	0.00	0.33	0.56	0.67
	Overall	0.01	0.29	0.66	0.81
Selected newborn care services	AFRO	0.35	0.69	0.96	0.77
	AMRO	0.15	0.63	0.44	0.74
	EMRO	0.11	0.44	0.56	0.67
	EURO	0.00	0.57	0.86	1.00
	SEARO	0.29	0.58	0.46	0.75
	WPRO	0.26	0.59	0.85	0.63
	Overall	0.23	0.61	0.75	0.76
Selected family planning services	AFRO	0.12	0.72	0.88	0.70
	AMRO	0.06	0.50	0.33	0.61
	EMRO	0.00	0.22	0.50	0.83
	EURO	0.00	0.21	0.50	0.93
	SEARO	0.13	0.50	0.31	0.63
	WPRO	0.11	0.33	0.67	0.78
	Overall	0.08	0.49	0.62	0.73
Selected safe abortion services	AFRO	0.00	0.37	0.51	0.80
	AMRO	0.00	0.11	0.11	0.52
	EMRO	0.00	0.07	0.19	0.56
	EURO	0.00	0.00	0.19	0.90
	SEARO	0.04	0.21	0.25	0.67
	WPRO	0.04	0.04	0.26	0.67
	Overall	0.01	0.19	0.31	0.71
Selected sexual and reproductive tract infection services	AFRO	0.05	0.60	0.76	0.83
	AMRO	0.00	0.41	0.15	0.81
	EMRO	0.00	0.22	0.37	0.74
	EURO	0.00	0.19	0.24	0.76
	SEARO	0.04	0.13	0.21	0.71
	WPRO	0.11	0.30	0.30	0.78
	Overall	0.04	0.38	0.44	0.79
Selected sexual health education & counselling services	AFRO	0.64	0.84	0.96	0.80
	AMRO	0.44	0.67	0.44	0.89
	EMRO	0.11	0.33	0.44	0.56
	EURO	0.29	0.57	0.71	1.00
	SEARO	0.38	0.50	0.50	0.88
	WPRO	0.56	1.00	0.67	0.78
	Overall	0.46	0.70	0.70	0.81
Infertility services	AFRO	0.04	0.60	0.96	0.92
	AMRO	0.00	0.22	0.11	0.78
	EMRO	0.00	0.11	0.22	0.89
	EURO	0.00	0.14	0.43	1.00
	SEARO	0.13	0.50	0.38	0.75
	WPRO	0.22	0.56	0.67	0.89
	Overall	0.06	0.42	0.58	0.88