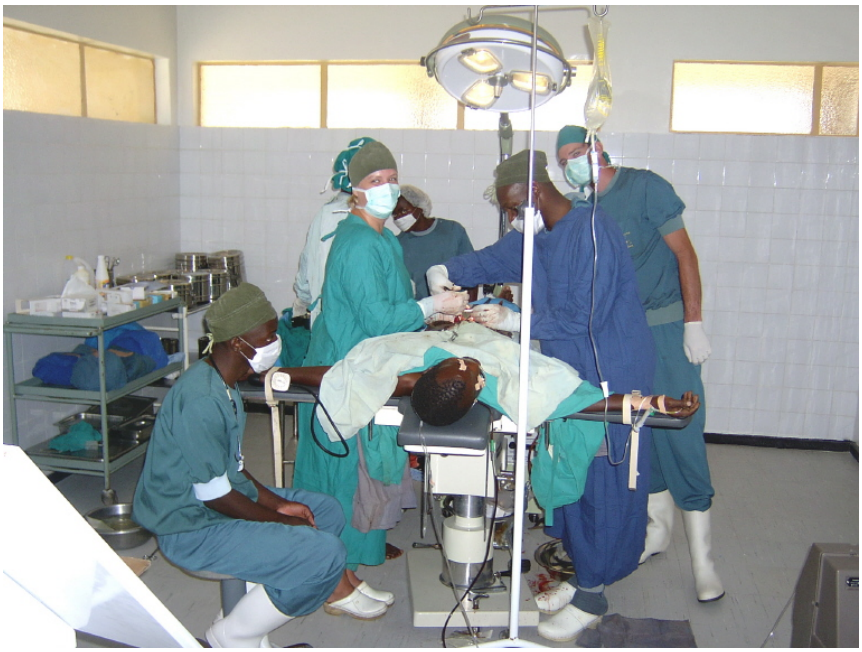
Supplementation Programme
Dutch Medical Doctors 1978–2003
Lessons learned



Retention Scheme
Zambian Medical Doctors 2003–2006
Suggestions

Final Report
December 2003

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Picture front page:
Dr. Simutowe, surgeon and evaluation team member,
Instructing Dutch doctor a laparotomy

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Acknowledgement

The evaluation team expresses its gratitude to all persons who collaborated with this exercise, in particular the doctors and other health workers in the districts, who gave their time to the interviews.
A special word of thanks goes to Dr. Albert Sitali, who participated in the evaluation in Kaoma, Lukulu and Mongu Districts.

Acronyms

CO	:	Clinical Officer
CBoH	:	Central Board of Health
CHAZ	:	Churches Health Association of Zambia
CMAZ	:	Churches Medical Association of Zambia
DDCC	:	District Development and Coordination Committee
DHMT	:	District Health Management Team
DDH	:	District Director of Health
DMO	:	District Medical Officer
DRC	:	Democratic Republic of Congo
EHT	:	Environmental Health Technician
FAMS	:	Financial and Administrative Management Systems
GRZ	:	Government of the Republic of Zambia
HMIS	:	Health Management Information System
HR	:	Human Resources
HSR	:	Health Sector Reforms
MOH	:	Ministry of Health
NGO	:	Non Governmental Organisation
NL	:	The Netherlands
ORET	:	Ontwikkelings Relevante Export Transacties (Dutch Export Programme Relevant for Development)
PAIDESA	:	Pan African Institute for Development in East and Southern Africa
PHC	:	Primary Health Care
QA	:	Quality Assurance
RHC	:	Rural Health Centre
RNE	:	Royal Netherlands Embassy
SANO	:	Stichting Artsen naar Ontwikkelingslanden
TA	:	Technical Assistance
TAH	:	Technical Advisor Health
UTH	:	University Teaching Hospital
Zamsif	:	Zambian Social Investment Fund

Executive Summary

Introduction

For more than 25 years the Netherlands has supported Zambia by sending General Medical Officers to work in district hospitals or District Health Management Teams. This support was part of a general worldwide programme of the Dutch Ministry of Foreign Affairs, the so-called Supplementation Programme. Due to policy changes in the Netherlands, this Supplementation Programme was phased out in 2001, and responsibilities for technical assistance (TA) were shifted to the embassies. Recently, the Royal Netherlands Embassy (RNE) in Lusaka agreed with the Central Board of Health (CBoH) and the Ministry of Health to phase out the TA at district level (but continue with other types of technical assistance) and to initiate a Retention Scheme for Zambia doctors, working in rural and remote districts.
The RNE and the CBoH fielded a joint mission to study the effects of the Dutch TA at district level and to assess the first steps made in the Retention Scheme programme. In November 2003, two teams visited districts in Central, Western and Northern Province and interviewed relevant stakeholders in the districts and at national level.

Human Resources

At this moment there are 632 medical doctors working in public health services in Zambia (including church health services), of whom 382 are Zambian (54%). The doctors working in education, administration and private practices are not included in this calculation. Only 26% of these Zambian doctors is working at district level. There is still a shortage of doctors, with a considerable influx of doctors from Congo, Asia and the former Soviet Union. Extrapolating the present figures means that by 2010 Zambia will still need about 400 expatriate doctors.
The shortage of doctors is not the only human resources problem in Zambia. Many rural hospitals and rural health centres operate in 35 – 50% of their establishment level. This serious shortage of nursing and other support staff is undermining the quality of the health services in rural areas.

Contribution of Dutch Medical Officers to Health Care in Zambia

The mission found that Dutch doctors have been performing well in clinical work in district hospitals; most of them were well-prepared (also in surgery and obs&gyn), committed and motivated. In general, they spent most of their time on clinical duties. They were important in health services in remote areas, when local (or other expatriate) doctors did not want to go there.
With regard to management, there is a marked difference between first-term doctors (no experience in Africa) and second-term doctors (at least 3 years of experience in Africa), whereby the management capacities of first-term doctors were often weak.
Capacity building in hospitals concentrated in general on on-the job training nurses, COs, student doctors. Clinical meeting, symposiums, etc. were organised, but not institutionalised. In the DHMTs the second-term doctors contributed more systematically to capacity building.
The doctors were very much appreciated for the other support they mobilised, like equipment, drugs, supplies through the Netherlands Embassy or mobilisation of funds through various foundations and donor agencies: infrastructure, transport, etc.

Lessons learned

The long-lasting Dutch Supplementation Doctors Programme has on the one hand created confidence between partners, both at local level and at national level, but on the other hand created a kind of automatism in which critical questions were not (sufficiently) asked. There

was continuity of medical care of Dutch doctors, but little continuity of innovative work. Handing-over in these areas was often limited, resulting in "premature death" of innovations.
Capacity building did not get sufficient attention, especially not from first-term doctors. However, capacity building efforts functioned better, when embedded into bigger programmes like the PHC programme or the health sector reforms programme.
Though the Dutch doctors assisted much with resource mobilisation, it was sometimes not sufficiently transparent, not involving the Zambian counterparts. It has not always contributed to establishing long-lasting relations between the Zambian and Dutch communities. At the same time, not all opportunities for resource mobilisation have been used, which were offered in a Zambian context.
There is sufficient evidence that at national level the MOH or CHOB have been learning from experiences of Dutch doctors. There are still opportunities for learning and for exchange which are underutilised.

Retention of Zambian doctors
The Retention Scheme, which was recently started, seems to be quite successful. About forty doctors have been posted and quite well received in their duty stations. The doctors seem to fit in well into the system, though some have problems with the necessary skills required in the rural areas (especially surgical and obstetrical skills). Potentially, there can be conflicts if these doctors are not guided well in accepting the prevailing management system in the districts.
The Zambian doctors sometimes frustrated in hospital because the lack the staff, equipment or infrastructure to perform up to standard. They miss access to continuing medical education: e-mail access, journals, etc.

Recommendations
Expatriate doctors working in health services in Zambia need better job descriptions and an annual performance assessment, like their Zambian colleagues. The TAs could transfer knowledge and skills more systematic, if they operate within a well-defined framework for capacity building. In clinical care the quality assurance programme and accreditation system could offer such a framework.
The retention scheme for Zambian doctors should be implemented quickly (and results should be shared with other stakeholders). Zambian doctors who lack surgical/obstetrical skills could be offered a custom-made on-the-job training to make them more capable for work in the rural areas. Next to incentives for the individuals, the Zambian doctors need equipment and supplies in the hospitals where they work, in order to perform optimally and not get frustrated.
It would be wise to consider support to the School of Medicine, in order to get more and better prepared doctors for work in the rural areas: e.g. a mentor programme for interns, support to the improvement of the infrastructure in order to augment the intake of students.
It will be necessary to broaden the support by collaborating partners to the present Retention Scheme for Zambian doctors.
If the Retention Scheme really wants to contribute to better health care in rural areas in Zambia it is necessary to tackle the human resources crisis (hopefully the work of the task force instituted after the mid-term review). An incentive scheme for rural health centre personnel, similar to the Retention Scheme for doctors, could stop the efflux of staff.
Finally, there are many lessons to be learned from projects in rural areas, which have proven to be effective (e.g. the effect of radio call installations). The CHoB and partners could create more forums for exchange of experiences and horizontal learning between rural districts.

1 Introduction

1.1 Terms of Reference

The Netherlands has supported the Zambian health sector for many years. The longest running programme is the bilateral Supplementation Doctors Programme, which started after initial negotiations between the Zambian Ministry of Health (MOH) and the Dutch Ministry of Foreign Affairs in 1978. Even before that time, Dutch doctors were working in Zambia through the Churches Medical Association of Zambia (CMAZ) under the lay missionaries programme. Under this bilateral programme, Dutch doctors have been posted to government district health services in rural areas in Zambia, in Western Province and Northern Province. After 25 years the Supplementation Doctors Programme is being phased out. No new doctors will be recruited for gap-filling positions at district level in Zambia. However, the Netherlands is supporting a Retention Scheme for Zambian doctors, who are filling positions in rural and remote districts, including the positions, which were taken by Dutch doctors. The official agreement between the Government of Zambia and the Royal Dutch Government for this retention scheme has been signed recently.
The Central Board of Health (CBoH) and the Royal Netherlands Embassy (RNE) in Lusaka have fielded a joint mission to document the history and activities under this programme, to draw lessons learned and to make suggestions for support to Zambian doctors, who are replacing the Dutch doctors in the rural areas. The mission studied only the technical assistance (TA) given by Dutch doctors to Government District Health Services, but not the Dutch TA given to CHAZ (former CMAZ) institutions, neither the TA given to Provincial Health Offices and training institutions in Zambia.

In the Terms of Reference for the mission the following objectives were formulated:

1. To describe the historical perspective of the Dutch Supplementation Doctors Programme. What have been the developments in policies in Zambia and in the Netherlands with regard to technical assistance and human resources? What have been the major changes in the Zambian health sector and in the Dutch development cooperation, leading to a change in the Netherlands support to the Zambian health sector?
2. To assess what has been the added value of Dutch medical officers for the Zambian health care in terms of clinical care, development of clinical management, general management and operational systems.
3. To describe what are the lessons learned from this programme and to recommend on terms for future Technical Assistance (e.g. through pool funding) in order to provide a sustainable contribution to the development of the Zambian health care sector.
4. To assess which professional benefits the Netherlands has received from 25 years Dutch medical officers in Zambia.
5. To recommend on how work conditions can be created for Zambian medical officers to perform their functions as good as or better than the Dutch medical officers.

The full text of the Terms of Reference is attached in annex 1.

1.2 Methodology

The Royal Netherlands Embassy selected two consultants (Dr. Jaap Koot, team leader, and Dr. Jaap Oosterhoff), both with knowledge of the Zambian health care system. The Central Board of Health delegated Dr. Victor Mukonka, Director Technical Support Services and Dr. Chris Simutowe, Director Health Services Planning, to participate in this mission.
The team studied relevant documents (listed in annex 3), interviewed involved officials and conducted field research in Central, Northern and Western Province (see for itinerary annex 2). Several institutions with Dutch doctors but also 4 institutions, where never Dutch doctors have been working, were visited (for comparison). Finally, the team conducted an internet-based questionnaire and e-mail forum discussion with Dutch doctors who have been working in Zambia (to be published in a separate report).

1.3 Structure of the report

In section 2 the developments in the Netherlands policy regarding technical assistance are described, as well as the TA given by the Netherlands to the Zambian health sector. Section 3 gives an overview of human resources situation, policy and planning in Zambia, especially with regard to clinicians. In section 4 an overview is presented of contributions of Dutch medical doctors to health services in rural areas, while in section 5 lessons learned from this programme are discussed. Section 6 reflects on the retention scheme and findings of the mission. Some support needs are identified.
On the basis of the findings, the team has formulated in section 7 conclusions and recommendations which could support further development of the health services in Zambia.
Information on what the Dutch doctors have gained from working in Zambia and how they developed their career will be presented in a separate report, which will be published early 2004.
In the annexes further details are given on the itinerary, people met, documents studied and relevant statistics.
This report reflects the findings of the mission and is presented to the Central Board of Health, the Royal Netherlands Embassy and the collaborative partners in health in Zambia for further action.

2 Historical Developments Technical Assistance

2.1 Policy Ministry of Foreign Affairs in the Netherlands

The Dutch Supplementation Doctors Programme started in the 1960s. Initially, the Ministry of Foreign Affairs gave a subsidy to a private Dutch organisation (SANO), which funded topping up of salaries for Dutch doctors working for governmental health organisations in several countries in Africa. A similar topping up was given to Dutch doctors in African mission hospitals. These doctors were employed by African governments or missions and were fully accountable to the local organisations. The expectation was that their contribution would be temporary. Later in the 1970s, the Ministry of Foreign Affairs paid directly the topping up of salaries of Dutch doctors working for African governments, under similar conditions, i.e. doctors would work temporary for local health organisations. This programme was aiming at a number of developing countries, paid from a specific budget line in the Dutch Ministry of Foreign Affairs. Therefore, the support did not affect the country budgets (for Dutch development aid) of those developing countries, where the doctors were stationed.

In 1983 the programme was evaluated. According to the report, it was expected that local doctors could soon take over the clinical tasks from Dutch doctors. The Ministry of Foreign Affairs decided to put emphasis on TA support to primary health care (because of the Alma Ata declaration of 1978).

In 1986 the Dutch Ministry of Foreign Affairs decided to introduce a career development programme and a professional structure for Dutch doctors working in tropical health, which (in ideal circumstance) could look as follows:

- Two years' practice in surgery, obs&gyn in the Netherlands and three months course in tropical medicine and health;
- Two years work in an hospital in developing countries during a first contract developing clinical and managerial skills;
- Short public health course of 3 months (district health course) in the Netherlands;
- Second term of two years in public health at the district level concentrating on primary health care;
- Specialisation in public health (MPH);
- Continuing career in work in developing countries, in special programmes or at the national level, multilaterals, etc.

This programme was implemented by and large, but the ministry did never guarantee jobs, neither paid for the specialisation in public health. However, in practice, most doctors pursued a career in the Netherlands after their first contract and did not continue working in health care in developing countries.

After a critical review in 1995, the Ministry of Foreign Affairs decided that Dutch doctors were still needed in health care in Africa. The policy for the Supplementation Doctors Programme was reformulated: it emphasised the need of involving doctors in capacity building and positioning doctors at higher levels, e.g. provincial or national level. Also support to training institutions and special programmes was incorporated in the programme. Linkage of the programme to financial support in the health sector, e.g. local human resources development, was proposed. After 1995, contracts with doctors were extended from two to three years to increase their effectiveness. The career development objective for Dutch doctors was no longer pursued.

In 2000 the Ministry of Foreign Affairs of the Netherlands defined a general policy framework for technical assistance, which stated that long term technical assistance to developing countries was becoming an anachronism. Technical assistance could only be a viable option if offered within the context of integrated development programmes, which aim at institutional development and capacity building. Technical assistance should aim at taking away the structural causes of capacity problems of institutions and organisations.

The Ministry of Foreign Affairs formulated three objectives for technical assistance:

a. Reinforcement of social society in developing countries, with an emphasis on mobilising the countervailing power of community organisations.
b. Transfer of state of the art knowledge, skills and technology, which could enable organisations to keep up with global developments and innovations in the world.
c. Temporary gap-filling where local capacity is insufficient and where an absolute shortage of the local work force can be proven (e.g. in health care as result of the HIV/AIDS epidemic).

Technical assistance should be coherent with the general Dutch policy for development cooperation, i.e. contributing to poverty reduction, stimulating good governance, gender, and environment.

The policy stated that long-term technical assistance should be reduced as much as possible and should be restricted to advisory (catalytic) positions. This policy document was approved in the Dutch parliament.

Consequently, the Department for Technical Assistance in the Ministry (HPI) was dissolved in 2001and international programmes for technical assistance were phased in a period of 2 years. If Dutch embassies wanted to continue TA after that period, they had to incorporate costs in their country budgets.

2.2 Dutch technical assistance to district health services Zambia

Already in the 1960s Dutch doctors started working in mission hospitals in Zambia. Through CMAZ some doctors worked in government hospitals, but still under the lay missionary scheme. In 1978 the Zambian government approached the Dutch government for recruitment of Dutch medical specialists for general hospitals. After a visit by representatives from the Zambian MOH to the Netherlands and further discussions through the Royal Netherlands Embassy, it was agreed that the Netherlands would recruit Dutch General Medical Officers for district health services in Western Province under the Supplementation Doctors Programme. This was in line with the PHC philosophy and fitting in the Netherlands support to integrated rural development of Western Province, being one of the poorest provinces in Zambia. Later, remote districts in Northern Province were added to the programme. Soon Zambia became one of the countries with the biggest number of Dutch supplementation doctors. At this moment, it is the only country where still doctors contracted to the Supplementation Doctors Programme are working at district level. After 2002, the Royal Netherlands Embassy in Lusaka engaged a private organisation to recruit and employ technical assistance.

The table below shows the number of doctors in the country since 1986, who were working at district level. (Data from previous years could not be obtained.) The number of posts was slightly lower than the number of doctors listed, as in some cases there has been overlap in one year.

Table 1. Presence of Dutch supplementation doctors in Zambia 1986 – 2003

YR	*86*	*87*	*88*	*89*	*90*	*91*	*92*	*93*	*94*	*95*	*96*	*97*	*98*	*99*	*00*	*01*	*02*	*03*
NR	24	22	20	23	22	24	30	29	25	23	22	24	20	19	19	20	14	12

Table 2: Expected number of Dutch supplementation doctors at district level in Zambia

2004	2005	2006	2007
6	4	3	0

The policy was to have two Dutch doctors per district: one second-term doctor as District Medical Officer (DMO), who was also in-charge of the hospital, and one first-term doctor as a clinician. In 1994 the MOH changed the structure of the district health services. The DMO was replaced by the District Director of Health (DDH), with a Zambian nationality (not necessarily a medical doctor by profession). The Dutch DMOs became Technical Advisors Health (TAH) attached to the District Health Management Team (DHMT). Because of increasing problems with recruitment of experienced Dutch medical officers, doctors with other nationalities (e.g. Belgian or American) were recruited as TAH. In some instances first-term Dutch doctors were posted as TAH.
The change in policy of the Netherlands Ministry of Foreign Affairs (see above) in 2001, with the subsequent dissolving of the Department of Technical Assistance and shifting of the budget to the Royal Netherlands Embassy in Lusaka initiated the discussion on continuation of the programme and possible alternatives. It finally resulted in the decision to phase out the Supplementation Programme after more than 25 years. By 2006 the last doctors under this programme will complete their contract. What started as a temporary gap-filling in 1978, resulted in one of the longest lasting Dutch support programmes to Zambia. However, this does not mark the end of Dutch technical support to the Zambian health services. The Netherlands will continue to support the Provincial Health Offices and other institutions with technical assistants in the context of the health sector reforms programme. The support will be given on the basis of requests of the CBOH and MOH, preferably through a TA-pool of collaborating partners, which is still to be established. Some Dutch NGOs will continue to support CHAZ health facilities in Zambia, though the number is slowly reducing as well.

3 Human Resources Zambia

3.1 Human Resources Policy Central Board of Health

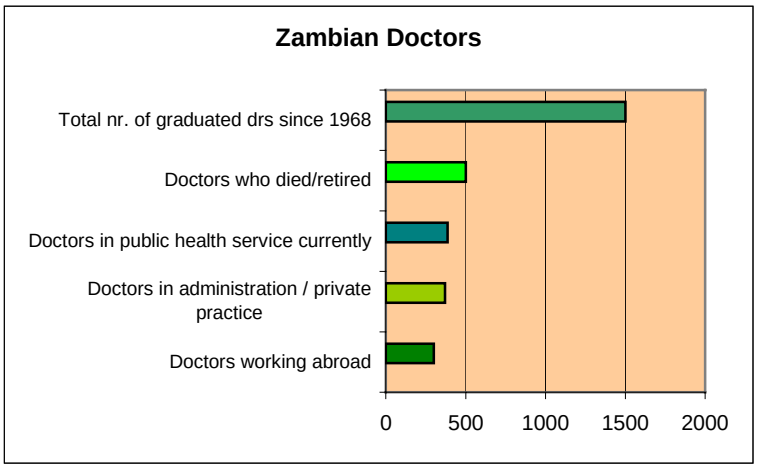
For many years after initiating the health sector reforms, the CBoH has been struggling with the human resources planning and development in the health sector. It has been an area that remained behind in the health reforms process. Only in 2000 the CBoH managed to produce a complete overview over available human resources in health. It was not possible at that moment in time to get an exact insight into the human resources needs, as the classification of health facilities and the definition of establishment norms were not yet completed. (In 2003, at the time of this evaluation, the new establishment was ready and submitted to Cabinet Office for approval.) The 10 years Human Resources Plan for the Public Health Sector 2001-2010 concentrates on optimal use of the pre-service training institutions, while in due time adjustments will be made when more information on staffing needs becomes available. In other words, presently Zambia applies a supply-based human resources planning, and not yet a needs-based planning.

3.2 Presently Available Doctors

In November 2003 there were 632 doctors in government and church health services (including research institutes) in Zambia, of whom 338 (53%) were employed in Central Hospitals. 189 doctors (30%) worked at district level or lower. In November 2003, there were 387 Zambian doctors in the government and church health services out of the total of 632 doctors. Figures from private clinics and hospitals are not available.
According to 2000 figures, the population-doctor ratio varies from 6,660 persons per doctor in Lusaka Province to 145,780 in Luapula Province, with a national average of 16,130. In Western Province the population-doctor ratio was 34,340 and in Northern Province 37,830. For other staff categories, like clinical officers and nurses, similar imbalances exist. People living away from the line of rail (which crosses Southern, Central, Lusaka and Copperbelt Provinces) are in general worse off in access to quality health care. But again, within provinces there are serious imbalances, whereby remote districts a seriously disadvantaged.
In 1999 the attrition rate for doctors was 4.2% while the average attrition rate for all staff was 10.7%. For most staff categories death was the most important reason for attrition, but for doctors it was leaving the job.

The Medical School of the University of Zambia started in 1968 with 12 students. For many years the average output was around 40 doctors per year. Around 1500 doctors have been trained in total, of whom 387 are working at this moment in public health facilities or in research institutes. Others work in administration, education or in private practice. Of the 1500 trained doctors, 500 may have retired or died. Based on interviews, rough calculations and “guestimates”, his mission assumes that maybe 300 or more Zambian doctors are working abroad.

Fig.1 Estimated distribution of Zambian doctors



Zambia has bilateral agreements with Nigeria, Cuba, China and the Netherlands for provision of medical doctors to the country. The doctors from Cuba and China are employed under local conditions of service in Zambia. The inducement allowance which Zambia used to pay to expatriate doctors has been abolished in 1995. The Nigerian government pays travel costs, salaries and allowances to their doctors and the Netherlands all costs, except basic salaries, which are paid by Zambia.
Zambia also allows individual doctors from other countries to apply for jobs. At this moment, mostly doctors from Congo, Rwanda, Nigeria, the former Soviet Union and Asia come to Zambia.

Table 3: doctors in public hospitals in Zambia (November 2003)

Totals Medical Doctors											
		Zambia	**DRC**	**Rwanda**	**Nigeria**	**Other Africa**	**East. Europe**	**Former SU**	**Asia**	**Others**	**NL**
	Clinical district hospitals	102	31	10		4	2	5	4	10	21
	Clinical provincial hospitals	42	6	2	2	2		1	4	2	
	Clinical central hospitals	202	48	6	4	5	1	39	32	1	
	Non- clinical functions	41									3
	Totals	387	85	18	6	11	3	45	40	13	24

See for details of doctors per province per level and per nationality annex 4. (The number of Dutch doctors in this table is higher than the number of district doctors under the Supplementation Programme; also doctors in other functions and in church hospitals are included.)

The table shows that for medical doctors the global market has become a reality. Doctors are able to find with their expertise a job nearly anywhere in the world. The brain drain of doctors moving from developing countries to Western countries is just one element of the global market. The table shows there is massive movement of doctors on the African continent, in which also doctors from the former Soviet Union and Asia participate.

The motives of clinicians for coming to Zambia vary widely, to name a few (given by respondents):

- socio-economic turmoil in their home countries (Congo, Rwanda)
- bilateral programmes between countries (Cuba, China, Nigeria, the Netherlands)
- financial benefits for doctors compared to home countries (African and Asian countries)
- stepping stone for non-English speaking doctors on their way to greener pastures (former Soviet Union, Asian countries)
- lay missionary programmes (Western Europe and USA)
- lay missionary programmes and personal interest in tropical medicine (the Netherlands)

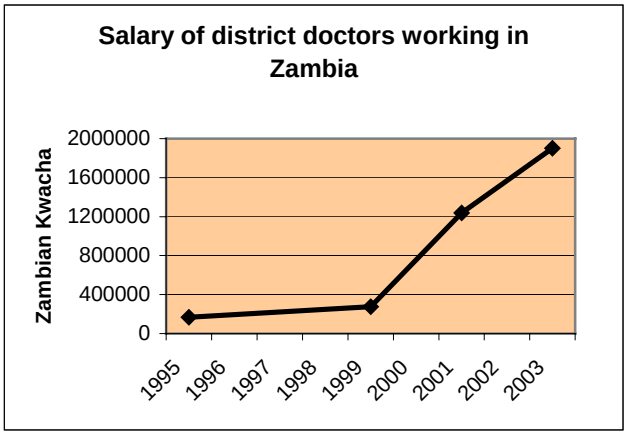
Most medical education programmes in Africa are similar to the Zambian curriculum: general practitioners are prepared for a broad range of clinical duties in medicine, paediatrics, surgery and obstetrics & gynaecology. They are trained to run autonomously a district level hospital. Doctors from African countries therefore easily fit within the Zambian health system. In general, doctors from other continents have different training backgrounds. Cuban, Chinese and Russian doctors specialise early in their training and oversee a limited area of the medical field. They fit better in specialist positions.

In conclusion, the shortage of doctors in Zambia is obvious; the number is far below the by WHO recommended number of 10 doctors per 100,000 population. However, this shortage should be seen against the background of the global market for medical doctors.
The contribution of Dutch technical assistance to total curative health services in Zambia is small (4% of the doctors in Zambia), but is located in most disadvantaged areas.

3.3 Salary trend of doctor working in Zambia

The last 8 years the financial situation of Zambian Doctors working in government services has improved. With regards to the salary of a doctor working in district health services in Zambia: in 2003 the average salary paid by the Ministry of Health was 10 times as high as the salary paid in 1995, while the amount of Kwachas for 1 US$ is 4 times as high in 2003 compared to 1995. In other words, the value of a salary of a doctor working in Zambia has grown with a factor 2.5 in eight years time.
This salary level has not only made it more attractive for Zambian doctors to remain in the country, but also has attracted medical officers from abroad, e.g. the Democratic Republic of Congo and the countries of the former Soviet union, notably Russia and Uzbekistan.

As will be discussed below, the salary trend for other health workers has developed less favourably.



3.4 Staffing of Hospitals and Rural Health Centres

The mission found that the situation with regard to human resources in health (especially clinical officers, nurses and environmental health technicians) has deteriorated further since 2000, the baseline year for the 10 years' human resources plan. High attrition due to death and active recruitment of nurses for services in the UK (and other Western countries) has further depleted the staff. In none of the hospitals visited the number of nurses was more than 50% of establishment. Most hospitals requested their nurses to work overtime in order to cover all shifts.
In each rural health centre grade 1 (RHC) there should be at least 3 qualified staff (CO, nurse, EHT). That is no longer the reality. Some figures from districts visited show how bad the situation is.

Table 4. Staffing in rural health centres in some of the districts visited by the team

District	RHC with more than one qualified staff	RHC with one qualified staff only	RHC without qualified staff
Mumbwa	1	19	3
Kaoma	2	18	2
Lukulu	0	11	1
Mongu	13	13	2
Senanga	3	11	1
Total	19	72	9
Percentage	19%	72%	9%

The majority of the RHCs is staffed by nurses only, who have limited clinical skills. The Integrated Competence Training is not really preparing nurses for all clinical duties in a RHC. During outreach, leaves, etc. of the single qualified staff, there is no clinical service at all. The quality of services for rural people in Zambia is seriously compromised at this moment in time.
One of the major reasons for the high attrition rate for nurses, which was frequently mentioned to the team, is the poor remuneration. The nurses move to greener pastures. Apparently, there are strong forces in the labour market, and the Zambian government

cannot compete. Paying salaries of health workers is the sole responsibility of the Zambian government; the collaborating partners contribute to recurrent costs only.
In the view of the evaluation team, health programmes supported by collaborating partners, including the Zambian Doctors Retention Scheme, will be irrelevant for improving health care, if the general human resources problem in health is not urgently tackled. The recent Mid Term Review of the Health Sector Strategic Plan 2001 – 2006 drew a similar conclusion. A task force has been formed by the CBoH to prepare an emergency action plan and long term action plan to overcome the shortages.

3.5 Planning the Number of Clinicians by 2010

In the 10 year HR plan, the CBoH envisages to maintain the present population-staff ratio for all cadres, which implies for doctors a growth from 632 doctors to 829 doctors by the year 2010, to keep up with the population growth. The plan also aims at a more equitable distribution of staff. This could result in the following figures for selected provinces:

Table 5: projections for doctors in Zambia (selected provinces)

Province	*2000*	*2010*	*difference*
Lusaka	256	130	- 96
Copperbelt	192	130	- 62
Central	42	78	+ 36
Western	23	59	+ 36
Northern	37	105	+ 68

Based on projection of figures from the year 2000 of annual intake of medical students, annual graduation, annual attrition of doctors, Zambia could have 100 extra Zambian doctors by 2010. Extrapolating the year 2000 figures, this would imply that Zambia can have 480 Zambian doctors by 2010, or 55% of the needed number of doctors. Still some 400 additional doctors are needed by 2010.
In 2002 the medical licentiate programme was introduced in Zambia which is a 2-years' postgraduate training for clinical officers, to obtain skills for working in district hospitals (performing e.g. emergency surgical and obstetrical interventions). Based on an annual intake of 20 and projected attrition, there could be 128 licentiates in Zambia by 2010. They could provide some alleviation for the shortage of doctors in the country. However, at the same time they draw from the pool of clinical officers in the country, who constitute the most important cadre of clinicians in the health centres in the country. At this moment in time the attrition under clinical officers is higher than the number that completes the training. The licentiate programme will further affect the number. The intake of clinical officers in courses has to rise from 50 to 150 per year to reach the projected figures in 2010. That will not be possible with the present infrastructure of Chainama School of Health Sciences.

Zambia is applying different strategies to increase the number of clinicians:
- The intake for medical students has been increased to 80 (from 60 in the past). The most serious limitations for increasing the intake are the physical capacity and the small faculty of the Medical School of UNZA.
- The infrastructure of Chainama School of Health Sciences is increased (the first extension is nearly completed) to accommodate the Medical Licentiate training.

- It is considered to open another Clinical Officers Training School.
- The pilot retention programme for Zambian medical doctors has been started, which aims at retaining more doctors in the country and redistributing them to the rural areas. (See section 6 for more details.)

As stated at the beginning of this section, the planning for clinicians is exclusively supply based, and on extrapolation of 1999 figures. Hopefully, the taskforce formed after the mid-term review will be able to provide new insights into the reality on the ground and will be able the project the needs in greater detail, based on new establishment figures.

4 Contribution of Dutch Medical Officers to the Health Care System in Zambia

In this sector the mission team describes findings with regard to the contribution of Dutch Medical Officers to health care in Zambia in the following areas: Clinical Performance, Capacity Building, General Management, General Performance of the Hospital and the District.

4.1 Clinical Performance

Under persons interviewed there was a unanimous appreciation for the clinical performance of Dutch doctors. The health workers in the hospitals, the DHMT members, and the persons who represented the community (members of the Neighbourhood Health Committees, District Health Board members, as well as District Administrators) did share this opinion without exception. In the view of the respondents, the Dutch doctors were well-prepared before coming to Zambia, especially in areas of Obstetrics/Gynaecology and Surgery. They were capable of handling most emergencies, like complicated deliveries, caesarean sections, incomplete abortions, urgent laparotomies, fractures, etc. They were able to do surgery like repair of inguinal hernia, sterilisations, and minor interventions. In their preparation there was sufficient attention for internal medicine and paediatrics. Most of the first term doctors have never been exposed to patients with tropical diseases. The knowledge of Dutch doctors in the field of tropical medicine, especially in the beginning of their first contract, is quite weak, but improves while working in Zambia.
Another positive factor, which contributed to the confidence in Dutch doctors, was their commitment and the thorough way they do their work. The quick response when calamities occur was appreciated.
The remote areas where the Dutch doctors were posted (Western and Northern Province) were relatively well served, because of their presence. The doctors could handle most medical cases, and reduced the number of referrals to the minimum.
In the districts visited, the respondents showed similar confidence in the clinical skills of the Zambian and Congolese Medical Officers. In a few cases the surgical skills were less well developed. In general, Cuban and Chinese doctors were more specialised, missing the broad range of skills needed in District Hospital in the rural areas.

4.2 Management

In general, the second term Dutch doctors were more involved in management than the first term doctors. As District Medical Officer he or she was Medical Officer in Charge of the hospital as well as chairman of the DHMT. With the implementation of the Health Reforms the position of the District Director of Health was created in 1994, reserved for Zambian nationals. At district level the Dutch doctor now became the Technical Advisor Health (TAH), advising the DHMT on clinical as well as managerial aspects. However, in some instances the local staff had more training in management and more experience than the TAH (especially if first term doctors were allowed to act as TAH).

In many districts, after introduction of the Health Reforms, the first-term doctor was made medical superintendent, while the TAH concentrated on the district health services.
On average the Dutch doctors in hospitals, interviewed by the team, spent 23% of their time on managing the institution, together with the hospital administrator, the nursing officer and the heads of department. The training and experience of the first term Dutch doctors in the field of management has been marginal, without exception.
The local staff experienced very different ways of management by Dutch doctors, which at times resulted in misunderstanding. In general, the Dutch hospital doctors hardly communicated with other entities in the district like the District Development Coordinating Committee.
The Dutch doctors interviewed found it difficult to delegate, at hospital level as well as at district level. Often, Dutch doctors had their areas of preference. Some doctors were more interested in financial management; others more in HMIS or more in health care at community level or management of rural health centres. Without doubt all these doctors contributed to health care management in their districts, but at times there was a discontinuity in management in the respective areas.
According to the members of the district health offices the Dutch doctors did not always understand and sometimes showed little respect for the Zambian conditions of service with low salaries and high allowances.

4.3 Capacity Building

Apart from performing clinical and managerial activities the (Dutch) doctors have a task in capacity building, in clinical areas or management areas. During the interviews, the doctors (Dutch, Zambian and Congolese) indicated to perform on-the-job training, mostly in an informal way (bedside teaching, instructions, etc.). They also organised clinical lessons and mortality meetings, but sometimes irregularly. In some cases they developed clinical management systems, like protocols and treatment guidelines. In an exceptional case booklets with protocols were published. There was no sharing of these documents with other districts.
At health centre level, doctors (especially the TAHs) performed capacity building during the supervision and performance assessment visits. They taught during District Integrated Meetings, where all rural health centres are represented and clinical subjects and planning are discussed.

In the area of district health management capacity building takes place in day-to-day management, but also organised workshops and training sessions. Dutch doctors have been very instrumental in capacity building in planning mechanisms, the FAMS and the HMIS system, initiatives originating from the PHC programme in Western Province. Capacity building was hardly seen in the areas of institutional development.
At national level the Netherlands Health Workers and Counterparts Meeting was a tool for learning from each other. It was a stimulus for field research or clinical research.

However, discontinuity was seen in the area of capacity building. Reinventing the wheel was a widely spread phenomenon. There was insufficient follow-up on previously gained experiences. The interviewed doctors often said that they would like to spend more time on capacity building, but that time constraints stopped them from doing that.

4.4 Equipment and Infrastructure

For each Dutch doctor, the Royal Netherlands Embassy made about € 12.000,= available for small projects, which would improve their working conditions. Most doctors used the funds for equipment and supplies or for small maintenance. Dutch doctors have also used other opportunities to obtain equipment and supplies for their institutions. Through several foundations in the Netherlands (sometimes started by former district doctors, family or friends) equipment like ultrasounds, theatre equipment, motorcycles, vehicles etcetera, have found their way to the hospital where Dutch doctors work. There is hardly a shortage of equipment in these hospitals, contrary to hospitals, where there are doctors with other nationalities, like Mpika or Isoka.
In addition, Dutch doctors have given a substantial contribution to mobilising funds for rehabilitation or construction of infrastructure. Several big infrastructural projects (the maternity wards in Luwingu and Mporokoso, the staff houses and theatre in Lukulu, the sanitation system and the new district health office in Kaoma) have been sponsored by the Royal Netherlands Embassy, Irish Aid or NGO foundations.

However, there are also big infrastructural projects in institutions without Dutch doctors. In Isoka and Mpika new hospitals are being built and new district health offices have already been completed. Because of limited budgets these structures may not yet be complete or smaller than those built with funds mobilised through Dutch doctors.

Figure 2: New maternity / theatre in Luwingu and the new hospital in Mpika

For these projects Zamsif or Micro Project (World Bank) funds are used, as well as the 10% of the monthly grant for running costs which is supposed to be spent on capital projects. These sources of money are never used for projects linked to Dutch doctors.
For Dutch doctors, it seems easier and faster to ask funds from donors abroad than from Zamsif or Micro Projects.

In districts where Dutch doctors work, nearly all health centres have radio systems. The referral system within the districts (from rural health centres to hospital) has become much more efficient with the introduction of the radios. Often the purchase of radios was sponsored by the Royal Netherlands Embassy in Lusaka. In other districts, there are hardly radios, despite the proven positive effect. Unfortunately the radios still have not become the standard equipment in health centres, even not in the ones that are newly built.

It can be concluded that infrastructural projects take place in the hospitals or DHMTs where Dutch doctors are working, as well as in settings where there are no Dutch

doctors. The sources of funding may be different. The flow of equipment into the hospitals where Dutch doctors are working is usually bigger than in hospitals without a Dutch doctor. In Zambia several programmes of replacing the equipment of hospitals have been initiated and are carried currently (e.g. radiographic equipment through the ORET programme, laboratory services by Irish Aid)

4.5 Other contributions

Dutch doctors received a basic salary from the MoH, but did not claim allowances from the district (settling-in allowance, on-call allowance, travel allowance, etc.). For the District Health Services it was therefore relatively economical to have Dutch doctors.

In three districts in Western Province the Dutch doctors established relations between Dutch universities and the District Health Services: student-doctors from the Netherlands could come to Zambia for a three-months' attachment to the hospital. These students provided assistance in clinical work, and the universities gave some funds for educational projects in the districts. The respondents considered this as a positive contribution to the health services.

5 Lessons learned

This section provides analysis of some of the important themes of the Dutch Supplementation Doctors Programme and refers back to the previous section where activities were described.

5.1 Long-lasting relationship

For more than 25 years Dutch doctors have been working in the country. The Dutch Supplementation Doctors Programme is probably the longest running support programme in health in Zambia and is one of the longest support programmes of the Dutch Ministry of Foreign Affairs. Through this long-lasting support confidence has been built at the local and at the national level in Zambia. For the population in the remote districts, which were served by Dutch doctors, there was always the certainty that medical services would be guaranteed even when individual doctors left. The people in these districts knew what kind of treatment to expect from Dutch doctors. Equally for health workers there was a kind of familiarity with the Dutch doctors, their approach in health services, and their knowledge and skills. Quite a number of Zambian health workers in Western Province have worked with Dutch doctors only during their entire career. Therefore, in general, there was a smooth acceptance of these doctors (unlike some other expatriate doctors). Also at the national level, there was a smooth acceptance: no problems with registration at the Medical Council or obtaining work permits from the Ministry of Interior, etc. The long-lasting relationship has certainly contributed to the appreciation expressed by representatives of the population, officials of the Health Boards, and Government authorities.

The automatism of providing medical doctors for Western Province and for some districts in Northern Province has not been questioned until recently. One could say that a vicious circle of demand and supply was created. The MOH did not consider sending Zambian doctors or other expatriate doctors to hospitals served by the Netherlands. Maybe, the steps of replacing Dutch by Zambian doctors, which are taken now, could have been taken earlier, if the question of necessity of prolongation was tabled earlier. The Supplementation Doctors Programme was paid from a general account in the Dutch Ministry of Foreign Affairs, which was not affecting the budget for support to Zambia. Even now, it is impossible to trace back the actual costs of the programme. Both for the Royal Netherlands Embassy in Lusaka and for the Zambian MOH the support was “free of charge”, and therefore gratefully accepted. The question of cost-effectiveness was raised, after the budget for the supplementation doctors programme was shifted from the Ministry of Foreign Affairs in The Hague to the Royal Netherlands Embassy in Lusaka.

Now this long-lasting programme is being phased out, there is remarkably little resistance to change, probably because a viable alternative is being presented in the Retention Programme for Zambian Doctors.

In conclusion, long-lasting programmes have the advantage of creating trust and confidence, but require a critical review from time to time, even if costs do not constitute an issue.

5.2 Socio-cultural factors

Having concluded above that the Dutch doctors were smoothly accepted in their duty stations, does not imply that the Dutch doctors easily accepted the corporate culture in

the Zambian health services. Especially doctors on first contract could experience problems, applying their Dutch standards in the Zambian context. As one Zambian health worker said: "We know they come with their tempers". The Zambian health workers felt that sometimes new doctors already came with prejudices based on communication with their predecessors.
Remarkably, the Dutch doctors were never subject to some formal performance assessment, unlike their Zambian colleagues. Neither was there some type of coaching, which could correct the Dutch doctors, if necessary. Being in top positions in District Health Services, the supervision could not come from within the district. There was not a hierarchical relation between the senior and junior doctor in the district. The Provincial Health Office (and for some time the Regional Health Office) got only involved in case of conflict situations in the district or in the hospital. More formal supervision and coaching for Dutch doctors within the Zambian health system could probably have avoided conflicts and poor working relations of individuals.

5.3 Continuity

The long-lasting programme has created a continuity of medical services provided by doctors. However, continuity in other areas, like district health services, management or capacity building was not obvious, as discussed in the previous section.
In the past 25 years, Dutch doctors have initiated many innovative interventions, both within the hospital and within the district health services. Unfortunately, many of the innovations "died a natural death" and did not get follow-up after the doctor, who had initiated them, left. The frequent change of doctors and the short overlap time between Dutch doctors did not contribute to building the institutional memory of the district health services and hospitals. Possibly, the lack of guidance and coaching contributed to a situation, which allowed Dutch doctors to concentrate on their areas of interest. But even the Zambian staff was not always able to provide the continuity of innovative activities, and did fall back to routine as-before. Sometimes the turn-over of the Zambian leadership of district health services and hospitals was as high as that of Dutch doctors. Moreover, the doctors were often taking the lion-share in production of action plans, reports, training, etc. They were the driving force behind activities they initiated, which may have reduced the feeling of ownership by Zambian staff.
On the other hand, where doctors operated in a clear framework, they have been an important factor for establishing continuity. The PHC programme in Western Province would not have been successful without the support from the Dutch supplementation doctors in the districts (DMOs, later TAHs), who tirelessly worked on the programme management and capacity building of district health management teams. Equally, the decentralisation process under the health sector reforms provided guidance to these doctors for their management and capacity building work.
For hospitals the national framework for quality improvement has not made a major impact so far. It is therefore important that the national QA programme and hospital accreditation programme will be continued, to provide a framework for on-the-job training and more formal capacity building.
It may be concluded, that technical assistance functions better when provided within a framework, which guarantees the continuity.

5.4 Capacity building

In 1995, capacity building has been added as an objective of the Supplementation Doctors Programme. The capacity building provided by Dutch doctors can be distinguished in three levels:

a. Doctors in hospitals provided individual on-the-job training. Working hand in hand with other health workers, is frequently done in medicine, being a hands-on profession. District doctors worked together with the DHMTs on annual plans, reports, epidemiological analysis and conveyed knowledge and skills in the process.
b. Collective transfer of knowledge and skills is done in clinical meetings, mortality meetings, symposiums, bedside teaching, classes, seminars, etc. This requires preparation, and interruption of the daily work. The clinical doctors spent only little time on this work; the district doctors were more consistently involved.
c. Systems development provides a basis for continuity, whereby procedures and processes are developed and documented in order to guide the staff in carrying out their work, even in the absence of the instructor. Clinical protocols, guidelines, etc. are used in clinical medicine. Supervision checklists, management manuals, etc. are used in district health care. In general, first term doctors hardly contributed to this type of capacity building. More experienced doctors did more in this regard. However, continuity in the use of systems developed is a problem, as discussed above. In the context of the PHC programme in Western Province and later the health sector reforms a lot of systems development has taken place, like FAMS, HMIS, Performance Assessment, Integrated Treatment Guidelines, malaria protocols, etc. More experienced doctors contributed to incorporating such systems into the district health services; first term doctors only to a limited extent.

Capacity building is not a one-off project; it has to be continuous process. The turn-over of staff results in loss of capacity in the districts and hospitals. But also for health workers who are many years in the system, it is necessary to update and refresh the knowledge and skills. The Dutch doctors were in an excellent position to contribute to capacity building, being in daily contact with their counterparts. Many doctors have indeed made a contribution; some – especially inexperienced – doctors were concentrating on their clinical duties and the inherent on-the-job training. However, the opportunities for capacity building have not been fully exploited. Gap-filling was much more important than capacity building in this programme.
The same conclusion as in the previous paragraph can be made: when operating within a clear framework like PHC or HSR, the experienced doctors could give an effective contribution to capacity building.

5.5 Learning at national level

It was never the intention of the Dutch Supplementation Doctors Programme to contribute to the development of national systems. But – directly or indirectly – the Dutch doctors have contributed to the health reforms. Elements from PHC-WP were incorporated into the health reforms programme (like decentralised planning and management, FAMS, HMIS), which were duly tested in the districts. Senanga District was a pilot district in decentralised funding; Kaoma district was a pilot district in HMIS. Dutch doctors were teaching in the PAIDESA district health management course. Some doctors have participated in national task forces for developing and testing elements of the health reforms programme.

The "Dutch Doctors and Counterparts Meeting" offered opportunities for exchange at national level. Representatives from the Central Board of Health participated and contributed to the exchange. These meetings certainly have contributed to spreading innovative ideas among the districts where Dutch doctors worked.
Nevertheless, not all opportunities for learning from experiences built up in districts, where Dutch doctors worked, were exploited. For example, the effects of a district radio system on quality of services, the effects of clinical attachments of COs from RHCs to the district hospitals, the benefits of the student doctors' programme, were never studied and disseminated within the country.
Given the lack of a system of bottom-up learning in the Zambian health services, the national learning from experience of Dutch doctors can be considered as a positive side effect, which deserves some continuation.

5.6 Enabling environment

One of the points which came out very clearly in the evaluation was that Dutch doctors did not passively accept poor conditions they encountered in the district or hospital. They were very active in creating conditions, which would give them more satisfaction in their work. They brought in equipment and supplies. They initiated construction or started renovation. Even after many years, Zambian staff can remember the doctors and their specific projects. But, as mentioned before, it was based on personal interest, not in the context of a strategic planning. There was no guarantee for continuity. Nevertheless, the Zambian health workers and community representatives evaluated this contribution positively.
In institutions without Dutch doctors also capital projects were undertaken. However, the flow of equipment into these institutions was less, resulting in for example a limited number of diagnostic procedures. The 10% of the monthly grant for running costs which is supposed to be spent on capital projects can not include the costs for this equipment.
The most serious limitation of the effects of the work of Dutch (and Zambian) doctors is posed by the acute human resources crisis in the Zambian health sector. Doctors indicated that their output was less than could have been possible, due to staff shortages. The performance of district health services is going down, due to the pathetic staff situation in rural health centres. Without simultaneous interventions in the human resources in health, the support programme for Zambian doctors will be not result in better health care for the population.

5.7 Resource mobilisation

During the field visits, referents always answered the open question "what have Dutch doctors contributed" by mentioning in the first place the "hardware" obtained through Dutch doctors. Buildings, cars, radios, hospital equipment were mentioned as achievements of the Dutch Supplementation Doctors Programme. Many doctors were effective in resource mobilisation. Though (GRZ and donor) funding for districts and hospitals has improved dramatically over the last years, the additional funding allowed projects that otherwise would not have been possible. It goes without saying that many local people are very grateful for the donations.
However, there are some observations to be made. Sometimes the resource mobilisation was little transparent, with little involvement of Zambian staff. The doctors would set the priorities and place orders. Often they would develop the project proposals. In some

districts a kind of dependency syndrome was created. The DHMTs showed little initiative to grasp opportunities for resource mobilisation (e.g. the ZAMSIF programme, Global Fund, Transport Aid). The Zambian staff would wait until the Dutch doctors moved. In districts without Dutch support, more active resource mobilisation from other sources was observed.

In some districts the communication between the Dutch support foundation and the hospital (or district) goes exclusively through the Dutch doctor. There was little effort made to establish relations between the Zambian people and Dutch benefactors. Some support foundations may wind up after the Dutch doctors leave.

The resource mobilisation has made a positive contribution to health service delivery in districts where Dutch doctors worked, but provided hardly sustainability or capacity building of Zambian staff to continue mobilisation of resources after the Dutch doctors leave.

6 Retention of Zambian doctors

6.1 Retention Scheme

The Netherlands Supplementation Programme of Dutch Doctors in rural districts of Zambia is being phased out, while a retention scheme for Zambian doctors has been put in place to attract them to work in the rural areas.

Objectives and scope of the scheme
The retention scheme aims at improvement of service delivery, increasing the potential to achieving the Millennium Development Goals (MDGs).The scheme will initially be targeted at the critical staff (doctors) to serve the rural and underserved parts of Zambia contributing to:

- Reducing child morbidity and mortality
- Improving maternal health
- Combating HIV/AIDS, malaria and other diseases

Target areas for the programme
The districts in Zambia have been categorized from A to D with districts under D being the most disadvantaged or extremely rural. Most districts in Western Province, North-Western Province, Luapula Province and half of the districts in Northern Province are classified as extremely rural. The retention scheme will only apply for rural and extremely rural districts.

Key elements of the retention scheme

- The employee will serve a fixed period of 3 years in the rural area.
- The employee will receive a salary equivalent to his/her substantive grade as provided by the Ministry of Health/Central Board of Health.
- The employee will be paid and additional rural hardship allowance equivalent to Euro 200 per month for category C and Euro 250 per month for category D districts.
- Central Board of Health will pay an education allowance of Euro 1350 per year per child (aged 5-21 years) maximum of 4 children per contract upon submission of receipts.
- The Central Board of Health will provide funds equivalent to Euro 2500 per contract to the benefiting District Health Board to renovate/upgrade the accommodation of the employee, upon submission of an acceptable housing plan.
- The employee will be eligible for post graduate training in the relevant postgraduate course at the expiry of the contract.
- The employee shall accumulate an equivalent of 3 monthly rural hardship allowance per contract year worked, after a minimum of 3 years deployed in a category C or D district. This support will go towards postgraduate training.
- The employee shall be subjected to annual appraisal of performance and identification of training needs for capacity building.
- The employee will be entitled to a loan, maximum of 90% of the 3 years rural hardship allowance and eligibility will be after 6 months of service under the contract.
- The employee shall at all times competently, faithfully and diligently perform such duties as the Central Board of Health may from time to time require, assign or order the employee to perform and shall do the utmost of his/her ability to promote the

interest of Central Board of Health in its implementation programme of the Health Reforms.

6.2 Preparation and Implementation

The Retention Scheme for medical doctors is a pilot in preparation for a retention scheme for a wider group of health workers. During the preparation of the Retention Scheme there was wide consultation with all stakeholders. The Ministry of Health and Collaborating Partners were consulted, as well as professional bodies, and the Association of Junior Doctors. Finally the retention scheme presented to Cabinet and approved as a pilot in the Public Sector Reforms.
During this pilot period funding will come from the Netherlands Government. There is a budget for contracting 83 local Zambian doctors during a period of 3 years. By the end of 2004 the programme will be evaluated. If successful, it can hopefully be expanded to other professionals and financing can be brought under the basket funding.

6.3 Experiences so far

The Zambian doctors have accepted the scheme and so far are responding well especially for the districts in Western Province. Until now, 39 doctors have been recruited. Their contracts can be signed within the month of November. There is still need to send more doctors to Northern Province.
The Zambian doctors who have reported to the districts have settled well and are working well with there counterparts. They are appreciating the respect and recognition they are receiving in the districts. In general, the experience of living and working in the rural areas has been much more positive than the doctors had expected. They have been fearing the unknown.
The junior Medical Officers were found to be well trained, except for the part in surgery and obstetrics / gynaecology. According to the Zambian doctors who were interviewed, especially the doctors who did their internships in the University Teaching Hospital (UTH) in Lusaka, the reason for this is that they did not perform enough surgical operations during their internships to become surgically skilled. In addition, their exposure to obstetrical and gynaecological problems in UTH was not sufficient to become skilled enough to cope with the surgical and obstetrical presentations in the district hospitals in the rural areas. The obstetrical, gynaecological and surgical preparation of Medical Officers who did their internships in one of the hospitals in the Copperbelt (Kitwe, Ndola) was more advanced.
This was recognised by the Dean of the School of Medicine. Therefore the internships of junior Medical Officers in Zambia have been extended from 12 to 18 months (6 months Surgery, 6 months Obstetrics and Gynaecology, 3 months Internal Medicine and 3 months Paediatrics). According to the Dean, there is need for a deliberate programme to impart surgical, gynaecological and obstetric knowledge and skills in the doctors before they are sent to the districts. This training can best be done by experienced doctors (GMOs) who have worked in the districts. These GMOs could be stationed in UTH, Kitwe and Ndola Central Hospital and serve as mentors, specifically to guide and train the interns. (At this moment, there is a GMO attached to Lewanika General Hospital in Mongu for this purpose.)
One point of concern may be the adaptation problems of some doctors to the hierarchical relations with the District Health Management Teams, especially when other health professionals are managing the DHO. There may sometimes be lack of

clarity on roles and responsibilities of the different health workers, including the clinical doctors in the hospitals.

6.4 Additional Support

In the interviews with Zambian doctors and local health workers, the need for an "enabling" environment was brought up time and again. For the doctors to effectively provide good quality services, there is need to improve the equipment in the hospitals, the availability of drugs and the provision of medical supplies. The staffing situation of other health workers should also be improved. For example, the shortage of theatre and anaesthetic staff was mentioned as a handicap for full utilisation of the capacities of the medical officers. If the doctors cannot exploit their knowledge and skills up to an acceptable level, the frustration may become too big for them to continue working in remote areas.

There is need for continuing medical education for the doctors in the rural areas through supplying them with internet services, a small library and medical journals. New treatment protocols (for e.g. malaria or HIV) should be communicated first hand to the doctors (and not via the DHMT).

7 Conclusions and Recommendations

7.1 Human Resources in Zambia

At this moment there is Human Resources crisis in the health sector in Zambia, especially for peripheral health services. There is still a shortage of doctors, with a considerable influx of doctors from Congo, Asia and the former Soviet Union. Unless major efforts are undertaken to reverse the brain drain, by 2010 Zambia will still need about 500 expatriate doctors.
There is an urgent need to tackle the serious shortages of nursing and other support staff in rural hospitals and health centres in order to safeguard health services in rural areas.

7.2 Contribution of Dutch Medical Officers to Health Care in Zambia

The Dutch doctors were performing well in clinical work; they were in general well-prepared (also in surgery and obs&gyn), committed and motivated. They spent most of their time on clinical duties. They were important in health services in remote areas, when it was impossible to recruit local (or other expatriate) doctors.
With regard to management, there is a marked difference between first-term and second-term doctors, whereby the management capacities of first-term doctors were sometimes weak.
Capacity building in hospitals concentrated in general on on-the job training nurses, COs, student doctors. Clinical meeting, symposiums, mortality meetings, etc. were organised, but not institutionalised, with little continuity. Sometimes the Dutch doctors developed protocols or guidelines, but these were not maintained in the system.
The Dutch doctors were instrumental in building capacity for tools developed under PHC programme or under the Health Reforms programme, e.g. planning mechanism, decentralised financial management, HMIS, training and supervision health centre staff. Often doctors were watchdog for planning, monitoring, observing priorities of action plans.
The doctors were very much appreciated for the other support they mobilised, like equipment, drugs, supplies through Netherlands Embassy or mobilisation of funds through various foundations and donor agencies: infrastructure, transport, etc.

7.3 Lessons learned

The long-lasting Dutch Supplementation Doctors Programme has on the one hand created trust and confidence between partners, both at local level and at national level, but on the other hand created a kind of automatism in which critical questions were not (sufficiently) asked.
The continuity of the innovative work of Dutch doctors was not automatically guaranteed. The hand-over was limited and the doctors were concentrating on their own areas of interests. Neither Zambian staff was able to guarantee the continuity.
The area of capacity building was often a weak point especially for first-term doctors. However, capacity building efforts functioned better, when embedded into bigger programmes like the PHC programme or the health sector reforms programme.
The presence of Dutch doctors was much appreciated because of the resource mobilisation. This was sometimes not sufficiently transparent, not involving the

Zambian counterparts. It has not always contributed to establishing long-lasting relations between the Zambian and Dutch communities. At the same time, not all opportunities for resource mobilisation have been used, which were offered in a Zambian context.
There is sufficient evidence that at national level the MOH or CHOB have been learning from experiences of Dutch doctors. They have been able to give an input into systems development in the health sector reforms. There are still opportunities for learning and for exchange which are underutilised.

7.4 Retention of Zambian doctors

The Retention Scheme, which was recently started, seems to be quite successful. About forty doctors have been posted and quite well received in their duty stations. The doctors seem to fit in well into the system, though some have problems with the necessary skills required in the rural areas (especially surgical and obstetrical skills).
Potentially, there can be conflicts if these doctors are not guided well in accepting the prevailing management system in the districts.
In addition to the Retention Scheme package, the doctors need support in what can be called an enabling environment in hospital (staff, drugs, supplies, infrastructure) and in getting access to continuing medical education: e-mail access, journals, etc.

7.5 Recommendations

- Dutch expatriate doctors presently working in district health services in Zambia:
    a. Create job descriptions and institute performance assessment, like their Zambian colleagues
    b. Establish Zambia-based structures to receive NGO support from Holland in order to continue the support given through Dutch doctors

- Future technical support (e.g. through pool funding):
    a. Formulate clearer terms of reference for doctors and institute annual performance assessment
    b. Make the TA operate within a well-defined framework for capacity building, which will make knowledge and skills transfer more systematic.
    c. Allow Dutch doctors on an individual basis to apply for positions in district health services, as long as a shortage of doctors exists (like Congolese doctors come on their own initiative).

- Recommendations for support to Zambian doctors:
    a. Quick implementation of the retention scheme (making it visible for outsiders)
    b. Improvement of surgical/obstetrical skills through custom-made on-the-job training for doctors who lack these skills.
    c. Provision of equipment and supplies for hospitals where Zambian doctors work to create an enabling environment, where they can perform optimally.
    d. Organisation of sponsored exposure visits to rural areas for interns and students, to show them the reality in the rural areas.
    e. Consider support to the School of Medicine: e.g. a mentor programme for interns, support to the improvement of the infrastructure in order to augment the intake of students.

f. Broaden the support by collaborating partners to the present Retention Scheme for Zambian doctors

- Additional recommendations regarding human resources for health
  a. Tackling human resources crisis, as necessary precondition for impact work of medical doctors (work of the task force instituted after the mid-term review).
  b. Developing long-term HRD plans based on needs (i.e. the revised establishment, which is presently under)
  c. Increase the intake of COs (maybe start a second training school) to turn the present downward trend.
  d. Initiate an incentive scheme for rural health centre personnel similar to the Retention Scheme for doctors, to stop the efflux of staff.

- Additional recommendations
  a. Reinforce the framework for capacity building in hospitals (through Quality Assurance, accreditation, etc.).
  b. Stimulate district health management teams to utilise better the opportunities for micro-projects, etc. e.g. through training in the formulation of project proposals.
  c. Disseminate the lessons learned from projects, which have proven to be effective (e.g. the effect of radio call installations).
  d. Develop hand-over protocols for staff to guarantee continuity of services.
  e. Continuation of "Dutch Doctors and Counterparts Meeting" as health workers meeting for rural districts to exchange experiences and improve horizontal learning.

Annex 1 Terms of Reference

Evaluation Netherlands Programme Technical Assistance Medical Doctors in Zambia

Background

Since about 25 years the Netherlands government has supported Zambia– inter alia – by sending Dutch medical doctors to work in the health sector as clinicians and as District medical Officers, later technical advisors for District Health Management Teams, through the so-called supplementation programme. The support is concentrated mainly in the rural districts of Western and Northern Province.
This support programme will be phased out in 2004. This evaluation can serve as an end-evaluation for this programme.

Objectives

1. To describe the historical perspective of this programme. The programme started with supplementation to Dutch doctors sent out by SANO and OPIT. Probably no real programme has been designed initially. Questions to be discussed are: What have been the developments in policies in Zambia and in the Netherlands with regard to technical assistance and human resources management? What have been the major changes in the Zambian health sector and in the Dutch development cooperation policy, leading to a change in the Netherlands support to the Zambian health sector?
   Objectives of the present programme, according to First Secretary Health are:
   - Gap filling: line functions for which the Zambian MOH could not find personnel
   - Capacity building: transfer of knowledge and skills
   - Building knowledge base in tropical health for Dutch health care system

2. To assess what has been the added value of Dutch medical officers for the Zambian health care in terms of clinical care, development of clinical management, general management and operational systems.

3. To describe what are the lessons learned from this programme and to recommend on terms for future Technical Assistance (e.g. through pool funding) in order to provide a sustainable contribution to the development of the Zambian health care sector.

4. To assess which professional benefits the Netherlands has received from 25 years Dutch medical officers in Zambia.

5. To recommend on how work conditions can be created for Zambian medical officers to perform their functions as good as or better than the Dutch medical officers.

Methodology

1. Document study
   - Policy documents Dutch support to Zambian health sector
   - Policy documents Zambian health sector, especially regarding human resources management and human resources development for health
   - Documents from the districts under study (annual plans, reports, etc.)

2. Interviews in the Netherlands
   - Interviews of some policy makers in development cooperation in health
   - Interviews of some previous medical officers

3. Field study
   - Visit to three districts in Western Province, three districts in Northern Province and two districts in Central Province (as reference for "non-Dutch supported districts"
   - Pre-structured standardised interviews with key stakeholders in the districts
   - Study of some documents available
   - Interviews Ministry of Health, CBoH and Netherlands Embassy

4. Debriefing
   - End of mission debriefing for RNE, CBoH and MoH
   - E-mail conference to discuss conclusions and recommendations in a broader forum

Annex 2 Itinerary

Joint Team Work				
DATE		**From**	**To**	**Fieldwork**
3-Nov-03	Monday	Amsterdam	Lusaka	
4-Nov-03	Tuesday			Lusaka

WESTERN PROVINCE			TEAM: Mukonka & Koot	
DATE		**From**	**To**	**Fieldwork**
5-Nov-03	Wednesday	Lusaka	Mumbwa	Mumbwa
6-Nov-03	Thursday	Lusaka	Kaoma	Kaoma
7-Nov-03	Friday			Kaoma
8-Nov-03	Saturday	Kaoma	Lukulu	Lukulu
9-Nov-03	Sunday	Lukulu	Mongu	Lukulu
10-Nov-03	Monday			Mongu
11-Nov-03	Tuesday	Mongu	Senanga	Senanga
12-Nov-03	Wednesday	Senanga	Mongu	Senanga
13-Nov-03	Thursday	Mongu	Lusaka	
NORTHERN PROVINCE			**TEAM: Simutowe & Oosterhof**	
DATE		**From**	**To**	**Fieldwork**
5-Nov-03	Wednesday	Lusaka	Kapiri Mposhi	Kapiri Mposhi
6-Nov-03	Thursday	Lusaka	Kasama	
7-Nov-03	Friday	Kasama	Mporokoso	Kasama
8-Nov-03	Saturday	Mporokoso	Luwingu	Mporokoso
9-Nov-03	Sunday			Luwingu
10-Nov-03	Monday	Luwingu	Kasama	Luwingu
11-Nov-03	Tuesday	Kasama	Mpika (via Isoka)	Isoka
12-Nov-03	Wednesday			Mpika
13-Nov-03	Thursday	Mpika	Lusaka	
Joint Team Work				
DATE		**From**	**To**	**Fieldwork**
14-Nov-03	Friday			Lusaka
15-Nov-03	Saturday			Lusaka
16-Nov-03	Sunday			Lusaka
17-Nov-03	Monday			Lusaka
18-Nov-03	Tuesday	Lusaka	Amsterdam	

Annex 3 Literature

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CBOH	Ten Years Human Resources Development Plan, Lusaka, 2000
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CBOH	Retention Scheme Zambian Doctors, Project proposal, Lusaka, September 2003
CBOH	Annual Health Statistical Bulletin, March 2003
CBOH	HIV / Aids in Zambia, September 1999
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Gerritsen M.	The Zambian Doctors Retention Scheme, Presentation for CBoH, Lusaka, October 2003
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Taakgroep Technische Assistentie	Policy Framework Technical Assistance, Final report, DGIS, the Hague, October 2000

Annex 4 Statistics Doctors in Zambia

		Zambia	DRC	Rwanda	Nigeria	Other Africa	East. Europe	Former SU	Asia	Others	NL
Central Province											
	Clinical district hospitals	6	3	1							
	Clinical provincial hospital	8			1			1			
	Non- clinical functions	5									1
Copperbelt											
	Clinical district	37	4	1		2		2	3		2
	Clinical provincial hospital				1						
	Clinical central hospitals	64	31			2		14	21	1	
	Non- clinical functions	29	2								
Eastern Province											
	Clinical district hospitals	9	6	1	1					4	5
	Clinical provincial hospitals	6	2	1		1				1	
	Non- clinical functions	3									
Luapula Province											
	Clinical district hospitals	2		5				1			
	Clinical provincial hospitals	7									
	Non- clinical functions	1									
Lusaka Province											
	Clinical district hospitals	6	3	1		1	2	2	1	1	
	Clinical central hospitals	138	17	6		3	1	25	11		
	Non- clinical functions	17									
Northern Province											
	Clinical district hospitals	6	7		1						4
	Clinical provincial hospitals	3	1							1	
	Non- clinical functions	1									
Southern Province											

		Zambia	DRC	Rwanda	Nigeria	Other Africa	East. Europe	Former SU	Asia	Others	NL
	Clinical district hospitals	26	3	1		1				5	
	Clinical provincial hospitals	6	1		1				4		
	Non- clinical functions	4									1
North-Western Province											
	Clinical district hospitals	1	5							1	1
	Clinical provincial hospitals	7	7			1					
	Non- clinical functions	2									
Western Province											
	Clinical district hospitals	9	2								9
	Clinical provincial hospitals	5	2	1	1						
	Non- clinical functions	1									1
Totals											
	Clinical district hospitals	102	31	10		4	2	5	4	10	21
	Clinical provincial hospitals	42	6	2	2	2		1	4	2	
	Clinical central hospitals	202	48	6	4	5	1	39	32	1	
	Non- clinical functions	41									3
Grand Total											
		387	85	18	6	11	3	45	40	13	24

Annex 5 General Statistics Zambia

From problems in main area's like morbidity / mortality, human resources, preventive health care, finances and availability of drugs, only statistics on the first three (the most important ones) will be discussed.

Morbidity / Mortality

Morbidity top 10 (Zambia, 2002)

Disease	Incidence (per 1000 population)		
	Under 5	Over 5	Total
Malaria	1,113.4	191.1	377.1
Respiratory Infection - Non Pneumonia	409.8	78.5	143.9
Diarrhoea - non bloody	265.8	31.6	77.8
Respiratory Infection - Pneumonia	137.9	20.7	43.8
Eye infection	147.7	15.4	41.5
Traumata	55.8	37.5	41.1
Skin Infections	88.3	23.4	36.2
Ear/Nose/Throat infections	59.4	15.2	23.9
Intestinal Worms	64.1	10.3	20.9
Diseases Digestive System (non Infectious)	22.1	15.9	17.1

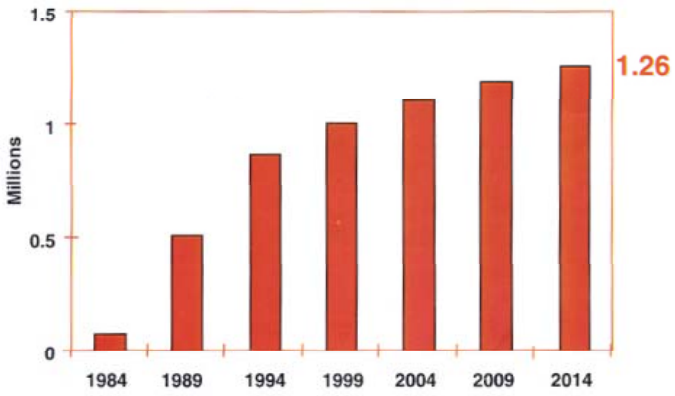
Although mortality is not discussed extensively, it should be noticed that in Zambia the CFR for malaria is 4.8%

On average about 18% of the Zambian Population is HIV positive, HIV / Aids is not reflected in this table. Reasons might be that:

1. under 5's are heavily represented in the top 3 diseases
2. HIV status is diagnosed in a later (hospital) stage.

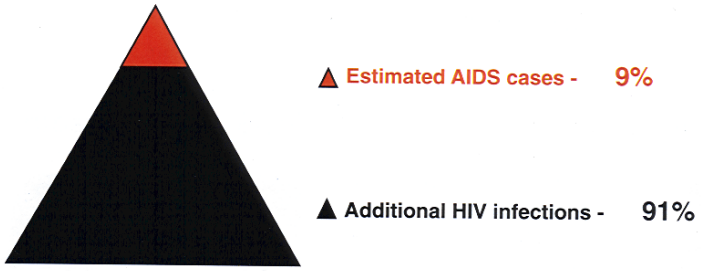
As shown in the figure below the HIV incidence rate will continue to rise although to a lesser extend compared to previous two decades.

Projected number of people infected with HIV



HIV has probably a tremendous effect on the health care system in terms of morbidity and mortality, but also on the human resources. Especially where there are no tests, which still happens very often, Aids is not diagnosed as such and only opportunistic infections will appear in the statistics.

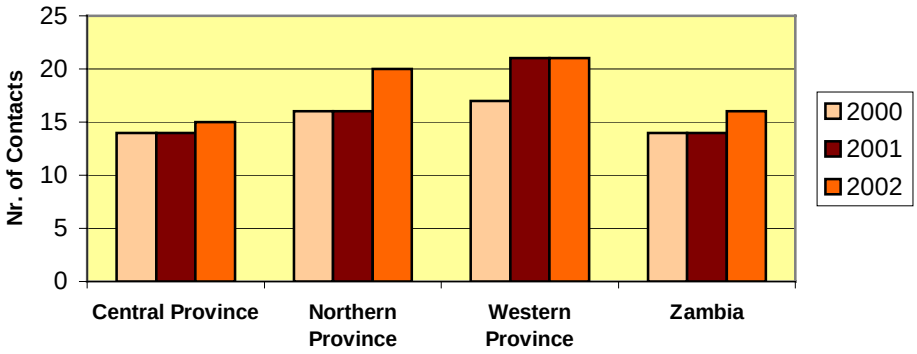
Ratio Aids cases / additional HIV infections



Human Resources

On average a Zambian attends to an Institution of the Health Care System 1.2 times per year. As can be seen in the figure below the number of contacts per member of staff (Rural Health Centres and Hospitals) is increasing due to higher morbidity or reducing number of members of staff.

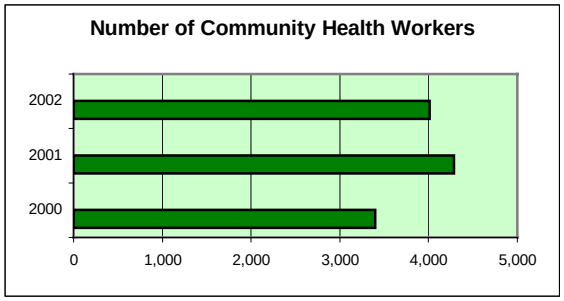
Daily Staff Contacts in the Health Sector

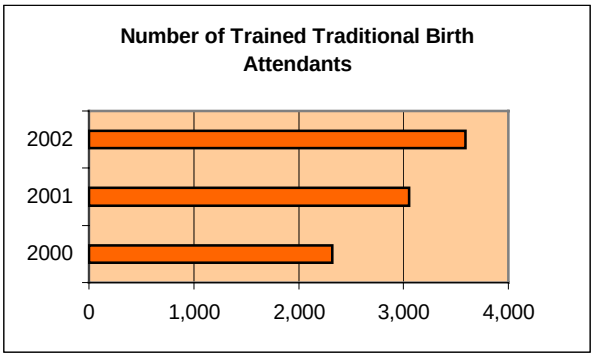


Indeed, the number of several members of staff (Nurses, Clinical Officers, Environmental Health technicians) who are leaving the Zambian Health Care system (going abroad or by death) is much higher than the number which is graduating from training.

Apart from this high attrition rate, there is an additional problem of distribution of staff over the country. A lot of health workers prefer to work an live in urban areas. This results in a higher number of patients attending to one member of staff in rural areas, even in area's which are less densely populated.

This affects the workload of the community volunteers like community health workers and Trained Tradiotional Birth Attendants. Although the first group is not increasing, the number of TTBA's is rising, not in urban but especially in rural areas.


Number of Community Health Workers
2002
2001
2000
0
1,000
2,000
3,000
4,000
5,000


Number of Trained Traditional Birth Attendants
2002
2001
2000
0
1,000
2,000
3,000
4,000