Sida Evaluation 98/14

Expanded Programme on Immunization in Zimbabwe

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LIST OF ABBREVIATIONS

AIDS	Acquired Immunodeficiency Syndrome
AFP	Acute Flaccid Paralysis
BCG	Bacilli Calmette-Guerrin vaccine
CO	Clinical Officer
DMO	District medical Officer
DNO	District Nursing Officer
DPT	Diphtheria, Pertussis, Tetanus toxoid vaccine
DT	Diphtheria and tetanus vaccine
EPI	Expanded Programme on Immunization
HBV	Hepatitis B vaccine
HIV	Human Immunodeficiency Virus
IEC	Information, Education and Communication
MCH	Maternal and Child Health
MLM	Mid-level Manager
MOH	Medical Officer of Health
MOHCW	Ministry of Health and Child Welfare
NHIS	National Health Information System
NNT	Neonatal Tetanus
OPV	Oral Polio vaccine
PMD	Provincial Medical Director
PNO	Provincial Nursing Officer
PS	Permanent Secretary
RHC	Rural Health Centre
SCN	State Certified Nurse
SRN	State Registered Nurse
STI	Sexually Transmitted Infection
TT	Tetanus Toxoid
UNICEF	United Nations Children's Fund
ZEPI	Zimbabwe Expanded Programme of Immunization

HEALTH PROFILE ZIMBABWE

Selected Demographic Indicators for Zimbabwe, 1992-95

INDICATOR	LEVEL
Total population	11,06 million
Urban population	31%
Rural population	69%
Population growth rate/year	3,14%
Population density	27 persons/kvm
Crude birth rate	34,6 per 1000 population
Infant mortality rate	60/1000
Under -5 mortality rate	83/1000
Literacy rate	80,4% (males 86%, females 75%)
Life expectancy at birth	61 years (males 58, females 62)
Total fertility rate	4,4

Sources CSO, 1994 and 1995

I

EXECUTIVE SUMMARY

The Zimbabwe Expanded Programme of Immunization (ZEPI) was launched in 1982 as an integral part of the country's Primary Health Care Programme with the overall objective of reducing morbidity and mortality due to six target diseases namely measles, poliomyelitis, whooping cough, tetanus, tuberculosis and diphteria. This would be achieved through attaining and sustaining a high immunization rate. In addition, pregnant women are immunized against teanus in order to prevent children against neonatal tetanus.

ZEPI has been implemented by the Ministry of Health and Child Welfare (MCHCW) as one of the key strategies for improving child health. Several donors have supported the programme but Sida has been the major donor since its inception. Here follows a summary of the findings and conclusion from an end-term evaluation made on behalf of the Swedish International Development Cooperation Agency (Sida).

A high immunization coverage was reached three years after the launch of the programme. Recent surveys indicate that around 80% of all children aged 12-23 receive all the recommended vaccinations.

Reduction of the disease burden of most EPI target diseases has been documented in NHIS reports since 1985. Diseases like neonatal tetanus, polio and diphtheria are rarely seen today. Whooping cough is also occurring less frequently. The incidence of measles was reduced during the beginning of 1990-ies. Minor outbreaks of measles have been reported during recent years. They have mainly affected older children and adults.

Sida's support between 1982 to 1996 amounts to 83 million SEK. Sida funds have been used for purchase of all vaccines except polio (since 1988), vehicles and cold chain equipment. Sida has supported ZEPI from 1982 and is now closing down its support. The early support was essential for launching the programme. Later the programme has been sustained for a number of years not least due to the availability of functioning cold chain equipment and vehicles.

The achievements of the EPI Programme are based on the solid and well developed health care system in the country. The EPI has been fully integrated in this structure from highest to lowest level. This has also benefitted other programmes than the EPI, by for instance common use of cold chain equipment and vehicles.

Field observations by the team indicate a high quality of service rendered. The cold chain is well established with new freezers, iceliners, refrigerators, cold boxes and carriers at all levels. Vaccines are kept safely and the cold chain is generally well maintained throughout the system. Immunizations are given when an eligible child gets in contact with health services. Outreach activities are planned and conducted, though not as frequently as they could be. Awareness of the EPI programme in the community is reportedly high.

Immunization services for children has been identified as one of the most cost-effective interventions in health care. The EPI in Zimbabwe may be one of the more cost-effective national immunisation programmes due to its integrated approach.

Having said this the evaluation has noted though that there still are problems in the implementation of the programme. In some facilities visited certain vaccines were out of stock. Some health workers gave wrong contraindications for immunization leading to

missed opportunities for immunisation. In some places deficiencies in the management of the cold chain was noted.

In the field it was observed that staff motivation is going down and that there are problems in the provision of fuel and shortage of vehicles. This affects in particular outreach activities which threatens to reduce immunization coverage rates.

KEY CONCLUSIONS

The EPI programme has over the years proven to be very successful in terms of high coverage rates for immunizations against EPI target diseases. As a result morbidity and mortality from these diseases have been reduced.

The outcome of Sida's support is impressive. With a support amounting to on average only SEK 5.5 million per year during 15 consequetive years the agency has contributed significantly to high immunisation rates and subsequent reductions in morbidity and mortality among children in Zimbabwe. The support has been given to a programme which has lead not only to a direct reduction of the disease burden but also to general improvements of the health services and the management capacities of the staff.

The strong infrastructure of the health sector in the country has contributed to the achievements of EPI. Due to the integration of EPI in health service delivery in Zimbabwe the programme has also been valuable in the implementation of other Primary Health Care programmes.

There are still deficiencies in the EPI programme which needs to be addressed. The programme is most vulnerable and a reduction in the commitment and motivation of the staff or a deterioration of the supporting infrastructure may well have a significant negative impact on the future performance of the programme.

KEY RECOMMENDATIONS

In-service training, support and follow up of the EPI programme should be continued and strengthened at all levels. Deficiencies in cold chain management should be corrected.

Administrative obstacles such as problems of provision of fuel must be addressed urgently in order to sustain and further increase the high coverage already achieved.

Staff motivation must be reinforced by appropriate support and adequate remuneration.

Budgetary allocations must be made for provision, maintenance and replacement of the vehicle fleet.

EPI must be given continued priority at political and highest ministerial level.

CHAPTER 1. INTRODUCTION

The Zimbabwe Expanded Programme of Immunization (ZEPI) was launched in 1982 as an integral part of the country's Primary Health Care Programme with the objective of reaching universal child immunization. The ZEPI provides immunization to children against six target diseases namely measles, poliomyelitis, whooping cough, tetanus, tuberculosis and diphtheria. In addition, pregnant women are immunized against tetanus in order to protect children from neonatal tetanus.

The programme has been implemented by the Ministry of Health and Child Welfare as one of the key strategies for improving child health. Several donors have participated in support of this programme but Sida has been the major donor since its inception. The Swedish financial support has in particular covered procurement of vaccines, cold chain equipment and vehicles. The total support from Sida from 1982 to 1996 corresponds to SEK 83 million.

It has now been decided that the Sida support shall be phased out and come to an end with the expiration of funds allocated for ZEPI for 1996. GoZ and Sida have agreed to undertake an end term evaluation to assess the possible impact. Sustainability and cost-effectiveness of the programme. Ths report presents the results of the evaluation conducted in August 1997.

CHAPTER 2. BACKGROUND

2.1 PROGRAMME CONTEXT

Health services in Zimbabwe are provided through the government sector, the non-governmental sector (primarily missions), the private sector (private hospitals and practitioners) and the informal sector (traditional healers and traditional midwives). The government sector is divided into primary (rural health centres, rural hospitals, town clinics), secondary (district hospitals), tertiary (provincial and general hospitals) and quartenary (central hospitals) levels.

There are 1343 rural health centres (RHC) and Clinics in the country and out of this 1051 are Clinics excluding those in Chitungwiza, Bulawayo and Harare. It is estimated that about 85% of the people live within a radius of 8 km from a health. Reaching the scattered population is one of the challenges of the public health programmes in Zimbabwe.

The rural health centres offer basic curative services, antenatal services, delivery services and post-natal care, family planning, immunization and nutrition programmes. Many of them have facilities for in-patient care, though these services are not frequently used.

From this basic level more and more advanced interventions are added to the list of services as one moves up the system. Rural hospitals, often the next level above the RHC, are well equipped for in-patient care of many conditions.

Outreach services form an important part of primary health care in Zimbabwe. A team of 2 to 5 persons in principle go out from a rural or a district hospital every day. The team is composed of regular staff which is assigned for this activity. The outreach team provides a package of services which includes immunization, growth monitoring, health education, environmental health and family planning services.

Mission services play an important role in Zimbabwe. Around 70% of hospital beds in the rural areas are offered by hospitals belonging to the missions (Lindahl: Health under Stress, 1995). Their services vary in quality and they rely heavily on government support. This has over the years been a problem since the government has gradually reduced its grants to these institutions. As a result the quality of services has been difficult to maintain.

With regards to manpower there is a general shortage of doctors in Zimbabwe while the country is comparatively well supplied with nurses. The number of doctors in the country was only around 1400 in 1994 while there were around 15 000 registered nurses. About 55% of them were State Certified Nurses (SCN) with two years of training and the rest State Registered Nurses (SRN) with three years training.

Doctors are usually posted in District hospitals and above, while RHCs are staffed and run by nurses. Though sufficient in number when calculated on a per capita basis, nurses in remote areas may be in shortage and those in place overworked. This problem has become worse after the nurses strike for higher salary in 1996 as it led to resignation of many nurses in active duty.

Since independence in 1980, the Government of Zimbabwe has systematically formulated policies and designed programmes aimed to address the imbalance and inequalities that

exist between the urban and the rural areas and between the various socio-economic groups. Zimbabwe early adopted a policy of growth with equity, which led to the formulation in 1981 of a national health policy "Equity in Health" for delivery of health services. This policy draws attention to the formulation and implementation of Primary Health care programmes, of which EPI, the Expanded Programme on Immunization, is a major component.

The development of health services was positive during the first 10 years of independence. Government spending on health increased in real terms from Z$ 8 per capita in 1979 to Z$ 14 in 1990. Adequate budgetary allocations were given to cover salaries and the cost of drugs, equipment, medical consumables etc. New facilities were built in many places with asistance of Ngos and loans from the World Bank through two projects named Family Health Programme I and II. In combination with a stable situation with regards to nutrition and improved water and sanitation facilities for the public this had in general a good impact on the health status of the people.

The infant and under-five mortality rates (IMR and U5MR) peaked near the end of the war of liberation in the late 1970s but began a steady decline though the 1980s. They both reached a historic low level in 1988 with an estimated IMR at 49 and U5MR at 75.

From 1990 onwards things started to change however. Over the years Zimbabwe had accumulated a considerable debt resulting in increasing budget deficits. Through a harsh structural adjustment programme serious efforts were made in the beginning of this decade to rectify this. Government expenditures were reduced, exchange rates adjusted and export-promoting activities undertaken. As a result investments in real terms in the social sectors went down considerably. It has been estimated that this lead to a decline in real terms government expenditure of 34% from 1990-1994 (Unicef, A Situation Analysis, 1994).

The cuts in spending on health resulted in eroding real salary levels, curtailment in spending on drugs and other consumables and reduction in grants to government and mission facilities (Lindahl: Health under Stress, 1995). Staff morale subsequently went down. Logistics and outreach activities were affected negatively and reports of breaks in cold chain and periodic shortages of vaccines started to appear (Lindahl: Sida Support to Health, 1995).

While all this was going on, the country was also hit by a severe drought in 1992-93, the worst to hit Zimbabwe in many years. This had a serious impact on household behaviour as a larger proportion of incomes had to be spent on food. It may also have affected the nutritional status of children.

A third circumstance which had implications for the EPI performance, at least indirectly, was that collection of fees was enforced in 1991. This may well have contributed to the decline in outpatient attendance for children under five which was observed from 1988-91 to 1992 (Unicef: A Situation Analysis, 1994). Subsequently the fee structure has been revised and services are free at primary level since March 1995. Immunization services have never been charged for.

As a result of the decreasing expenditures on health services their quality deteriorated. Staff morale started to slide because salaries decreased in terms of purchasing power. Outreach activities and logistics were hampered due to lower allocations for fuel and spare parts.

Parallel to the changes described above IMR and U5MR started to go up. The reasons for this are further discussed in section 4.3.2.

The situation today in Zimbabwe is slightly better than what it was around 1990-92. Many of the problems that started to occur then are however still present. The real value of staff salaries is low as compared to what they used to be. Some mismanagement is also affecting the performance as staff allowances for instance are paid very late, if at all. Transport remains a problem in many places.

The implications for the EPI programme and the related morbidity and mortality from the changes in the Zimbabwean health care system is further elaborated on later in this report.

2.2 PROGRAMME DEVELOPMENT

The Zimbabwe Expanded Programme on Immunization, ZEPI was launched in 1982 as an integral part of the country's PHC programme. The overall objective of the EPI programme was to reduce morbidity and mortality due to six target diseases namely measles, poliomyelitis, whooping cough, tetanus, tuberculosis and diphtheria. This is still the overriding objective of the programme. .

SIDA, UNICEF, WHO and SCF (UK) were from the start the main donors and supporters of ZEPI. Immunization was seen as an important simple and low cost technology for rapid acceleration of Child Survival and Development.

A baseline review undertaken in 1982 showed that the cold chain was unsatisfactory, manpower resources were insufficient, transport for delivery and outreach was inadequate and involvement of the community was low. The ZEPI programme for the period 1983-85 was designed to address these shortcomings. To achieve a high immunisation coverage most health staff received initial training in management and delivery of immunisations. The cold chain received extensive development, adequate quantities of vaccines were made available and the logistics for transport and support was improved.

In 1986 a central vaccine store was constructed and vaccine stores at provincial and district levels were also set up. New rural health centres were constructed, equipped and staffed to provide static as well as outreach EPI services.

ZEPI received considerable attention during the first years after independence and rapid progress in the immunization coverage was achieved. By 1989, the EPI had attained the Universal Childhood immunization (UCI), defined as, at least, 80% coverage for each of the EPI antigens, except measles.

During the 1980s, significant declines in incidence from vaccine-preventable disease were observed. This contributed to the declines in IMR and U5MR described above.

During the following years coverage went slightly down. This decrease was due to the general decline in the quality of health services described in section 2.1.

After the years of acute crisis immunization services have been upgraded and coverage has stabilised at an acceptable but not fully satisfactory level. This is further elaborated on in the ensuing text.

CHAPTER 3. METHODOLOGY OF THE EVALUATION

An independent consultancy company in health, InDevelop Uppsala AB, was selected to carry out the evaluation. Members of the evaluation team were Dr. Anders Björkman, team leader, Dr. Davies Gordon Dhlakama and Dr. Birger Carl Forsberg. The team visited Zimbabwe during 2 weeks in August 1997. Terms of reference for the evaluation is presented in Appendix I.

A combination of methods was used to gather information for the evaluation. The team has studied relevant documents. Data was collected through key informant interviews with policy makers and senior managers. Interviews were made with health workers at all levels visited. Discussions were held with donor organisations active in the health care sector.

Field visits were made to the central vaccine store, to provincial and district vaccine stores. The team also visited 6 PMD offices, 6 District Health Offices and 13 Rural Health Centres. Health Centres visited represent both centrally and far off locations.

A semistructured questionnaire with open ended questions was used for interviews. A check list was used for observations.

Enclosed as Appendix II is a list of the documents reviewed and as Appendix III, a list of persons met. This list also provides information on which institutions and facilities that were visited.

CHAPTER 4 FINDINGS

The outline of the following chapter covering findings is based on a conceptual framework which identifies structure, process and outcome as basic elements in a quality assessment of this kind. A programme needs a structure within which a process can take place. From the resulting intervention emanates an outcome which can be compared with desired results. A complete review must include an estimate of the costs of the intervention in relation to its outcome. Finally an analysis of the sustainability of the intervention must be made in order to determine the long-term impact of an intervention like EPI which requires permanent attention and support.

Some of the findings from field visits are summarized in table 1 below. The following text elaborates on these and other important findings.

Table 1. Selected findings from field visits.

Activity	Number/Total N=13	Comments
Planning - charts, graphs exposed	10	Assisted by DNO
Regular supply of vaccine	10	
Adequate stock of vaccine	10	
Recorded temp. fridges	12	
Breakdowns of cold chain reported	0	
Supermarket approach used	13	
Adequate supply of cold boxes	13	
Adequate supply of gas cylind.	13	
Outreach activity (done)	8	Not done in 5 places due to lack of fuel and vehicles
Staff trained in EPI last year	11	
Regular supervisory visits recorded	12	

4.1 ZEPI STRUCTURE

4.1.1 Organisation and manpower

The Expanded Programme on Immunization in Zimbabwe is fully integrated in ordinary health services at all levels of the delivery system. All functions related to immunization are carried out by the regular staff of the health facilities who are in charge of other functions as well. All staff with responsibilities for some part of the ZEPI have job descriptions which include the tasks to be performed within the programme. Hence, immunization activities in the field have been characterised by a high level of integration with other health activities.

The ZEPI programme has since the start of its implementation been managed by a separate ZEPI unit at the Ministry of Health. The unit belongs to the MCH department. The ZEPI unit is responsible for vaccine procurement and supply, for provision, repair and maintenance of adequate cold chain equipment, for monitoring programme performance and coordination of in service training.

At all other levels below the central, management of the programme is integrated with other managerial responsibilities. At provincial level the MCH coordinator is in charge, while at district level the DNO assisted by the MCH coordinator has the responsibility for all aspects of the programme.

Cold chain technicians exist at central and provincial level. At lower levels the cold chain equipment is maintained by the general staff. Simple repairs can be made by the staff or the district technician, while refrigerators with major breakdowns are sent to the provincial workshop for repair.

Vaccine procurement is the responsibility of each of the programme managers at the different levels. Vaccines are ordered from lower level to higher and stocks replenished on the basis of consumption.

Findings from the field work suggests that the current management structure of ZEPI is appropriate and in general well functioning. In fact, the policy taken from the start to work with EPI as an integrated activity has worked very well. As a result staff at all levels feel responsibility for the programme and its activities. On the other hand, those activities do not get specific attention and the quality of the services reflects the quality of health services in general. It is therefore difficult to intervene in order to make special arrangements to keep up the performance of ZEPI as a result of general deterioration of the services. However, this apparent disadvantage is well balanced by the fact that the programme can be run well without special allocations to EPI and costs for salaries or supervision.

The health staff in Zimbabwe is generally well oriented on EPI and its content (KAP evaluation of EPI, MOHCW, 1996). Generally they have also been know for their high quality and good motivation. In the last years there has however been a decrease in staff morale and commitment as discussed earlier. There are field observations of reduced staff motivation because of difficulties in getting travel and subsistence allowances for outreach work. There are also problems in provision of fuel and shortage of vehicles for EPI implementation. Since at least 15% of immunizations (in some remote areas even 30%) are done by outreach teams these problems may reduce vaccine coverage rates.

4.1.2 Cold chain equipment

The baseline study performed in 1982 before the start of the EPI revealed that the cold chain was unsatisfactory and that the quality of vaccines given to children in the health facilities could not be guaranteed. For that purpose measles was from time to time seen in children just recently beeing immunized against measles. Thus the credibility towards the immunization programme from the community was low in the early days of implementation of EPI.

During the first years of implementation of the programme in the 80s there was a heavy supply of refrigerators to health facilities, gas cylinders, cold carriers and cold boxes for

outreach activities. Provincial and District stores were equipped with freezers and refrigerators and for distribution of vaccines from the central vaccine store small special constructed Renault cars were used.

The mission is not aware of any replacement plan for cold chain equipment. In 1995-96 a new order was placed to replace all the existing refrigerators and freezers. This order was recently effected and all facilities now have new equipment. An updated inventory of cold chain equipment is presented in Table 2. All equipment, new and old, has been financed by Sida.

Table 2 EPI Cold Chain Equipment. Inventory 1995/96 and new orders in 1996.

Province	Upright Refrigerators	Compression Refrigerators	RCW 42	Ice-liners and freezers
As per 1995/96 inventory	633		472	25
1996/New Orders	1000	500	-	
Big Freezers				40
Small Freezers				130
Iceline Refrigerators				200
GRAND TOTAL	**1633**	**500**	**472**	**395**

At all levels visited by the team the cold chain structure was in good condition with new freezers, iceliners, refrigerators, cold boxes and carriers at all levels visited. Vaccines were almost invariably kept safely and the cold chain was generally well maintained throughout the system.

All places visited measured and recorded refrigerator temperature twice daily. In a previous more systematic study it was found that record keeping of temperature varied in 20-75% of all facilities studied. (KAP of EPI in Zimbabwe, MOHCW, 1996).

In all places visited there was a sufficient number of cold boxes, vaccine carriers and ice packs to cover regular outreach activities.

Gas refrigerators are used in places without electricity supply and in all places several gas cylinders were available as spare and for exchange. There is a dependency on gas in rural areas which could endanger the cold chain in case of shortage of gas in the future. So far, there are few reports of thefts or misuse of the ZEPI gas cylinders.

There are very few facilities using solar power driven refrigerators. The reason given to the mission is that solar cell systems so far have not shown to be reliable. In a few places the mission found evidence of theft of batteries and solar cell panels from the facilities.

4.1.3 Vaccines

The vaccines used for EPI are BCG against tuberculosis given intradermally, oral poliovaccine, a combined vaccine given intramuscularly against diphteria, tetanus and whooping cough (DPT) and a live attenuated measles vaccine given subcutaneously.

No vaccine production is taking place in Zimbabwe and all vaccines are therefore imported. Judging from programme reports and other sources there are no indications of low quality of the vaccines used in ZEPI. Vaccines are usually tested by the producer and there is little need for a national vaccine testing laboratory. This issue was discussed with Sida already in 1991, but it was then concluded that support for such a laboratory was not justified.

4.1.4 Transport

The ZEPI programme is dependent on a well functioning transport system. There is a strong need for regular delivery of vaccines and cold chain equipment from central to provincial and district level and of vaccine, gas cylinders and staff from district to facility levels. Regular visits must also be made by immunisations team for outreach activities from health centre levels to villages. Hence, the programme requires functioning vehicles, regular supply of fuel and maintenance and repair of damaged or old vehicles.

The ZEPI program received support for transport from different donors for programme implementation already from the onset of the programme.The rapid increase in immunization coverage during the 1980s was largely due to the provision of durable vehicles to the districts. The blue ZEPI vehicles were often the only vehicles for any transport in the districts at that time. Therefore many other health programmes came to use the ZEPI transport. This resulted in a real integration of health programmes like CDD, ARI and EPI as they were delivered simultaneously by the same team which shared a vehicle for outreach activities.

The provision of vehicles to ZEPI from donors has been reduced during the 1990s and to a larger extent ZEPI activities have been undertaken using vehicles designated for other activities, even ambulances from time to time in some areas of the country.

The mission found Toyota landcruisers with some 400000 km mileage still working, vehicles that had been provided in 1982 and 1987. It was not possible to get detailed information on the present condition of all donated vehicles listed in Table 3. Of the 16 vehicles placed in Matabeleland South information was available that 4 of these were still in working condition and used in the field. The total number of motor vehicles donated by Sida 1982-96 comes to 165.

Generally the vehicle fleet for ZEPI use is now very old and in need of replacement. Maintenance is a big problem in many districts. Even for minor repairs it may take long before a vehicle is returned from the central workshop. Vehicles allocated to the district are sometimes kept by the province or not even released from central level. There is no replacement plan for vehicles from the Ministry of Health even though a transport study made by an international consultant already in 1990 pointed out the lack of replacement plan and improper functioning of CMED service.

A motor boat donated for outreach activities on Lake Kariba in 1987 showed to be to small for use in the storms that now and then suddenly pass over the lake.

No information was available on the present use of bicycles for outreach activities but health staff visited at health centre levels usually claimed that it was not possible to use bikes for outreach activities due to the vast distances and the heavy terrain.

Table 3. Vehicles donated to ZEPI 1982-1997

Donor	Provided year	Make/type	Number
UNICEF	1982	Renault	8
Sida	1982	Peugeot	10
Sida	1982	Toyota Landcr.	55
Sida	1986	Mazda	20
Sida	1987	Toyota Landcr.	36
SCF/UK	1985	Toyota Hilux	1
UNICEF	1988	Toyota Landcr	8
CIDA	1988	Toyota Landcr	1
Sida	1990	Toyota Landcr	10
CPHA	1988	Toyota Landcr	16
UNICEF	1988	Nissan	2
CIDA	1988	Toyota Landcr.	20
UNICEF	1995		2
Sida	1994	Toyota Landcr	10
Sida	1996	Toyota Landcr	10
UNICEF	1997		10 not yet delivered
Sida	1987	Motorbikes	103
Sida	1987	Motorboat	1
Sida	1986-88	Bikes	3600

4.1.5 Health Information Systems, Disease Surveillance and Epidemic Control

The health information system in Zimbabwe is well established. Unlike many other countries there is not a lot of separate forms to be filled in at peripheral level for different programmes. One form, named T5, is used for reporting major illnesses and activities. This form is submitted monthly by the health facilities to higher levels. ZEPI is reported on this form.

The T5 forms were checked both for content and submission in many of the facilities visited by the evaluation team. In all places the impression was that forms were properly filled in and regularly sent to the district at the end of each month.

At provincial level Zimbabwe has full time health information officers that are functioning well. The Ministry of Health is now trying to staff the district with health information officers but has not yet received an approval for this from the government. It has been reported that there are delays in compiling data at central level which sometimes leads to delays in publishing the statistics. (Lindahl: Health under Stress, 1995)

Household surveys carried out in 1988 and 1991 showed a coverage of OPV3 and DPT3 which was higher than the reported coverage. (Unicef: A Situation Analysis, 1994). It is not clear which of these data that best reflected the true coverage but the finding illustrates

that data on coverage should be taken with some caution and considered as indications rather than as literal facts.

Apart form the routine reporting system a sentinel surveillance system exists. Certain selected health facilities report each week over phone a set of communicable diseases which have the potential of starting epidemics. Among the ZEPI diseases, measles, diphtheria and tetanus are included. The sentinel surveillance system appears to be functioning relatively well, but in some facilities visited by the team there were complaints that the response to the reports was weak.

Separate and specific reporting is done for polio. Each case of Acute Flaccid Paralysis (AFP) is reported to the district level which takes action for thorough case investigation.

Whenever an outbreak of measles occurs the health facility which is responsible must report to the district level about the epidemic. Action is then taken and all children of age 1-14 years in the area are immunized irrespective of their previous immunization status.

Findings suggest that this system generally works well but that there may well be delays before correct action is actually taken. Still, the system is in place and health staff is highly aware of it and work for its proper implementation.

4.2 PROCESS

4.2.1 Planning

Regular five-years plans for the EPI programme have been prepared since the onset of the programme in 1982. National immunization targets are set annually by the central EPI unit at the Ministry of Health. Such targets are also set by the provincial and district managers. As guidelines for this the programme has developed a method for calculating targets which aims at reaching a national coverage of 100% by the year 2000. The method is included in the new training modules (see below) and is gradually being taught to all health staff.

It was observed by the mission that in all facilities target graphs are drawn for each vaccine and vaccine coverage is followed monthly and compared to the target with the help of the graph. The catchment population is usually estimated at district level and the number provided to the health facilities. In most of the rural health facilities the SRN or SCN is assisted by the DNO in making annual plans, graphs and immunization targets. In interviews it was noted that full understanding of target setting was sometimes lacking.

4.2.2 Training

Over the years staff has been trained in EPI, either in separate courses or as part of more general workshops. The principles of immunization and the EPI are taught in the basic curriculaes of the medical and nurse training schools. The need for continuous training has therefore diminished gradually. However, as the programme has changed its policy on several issues over the years new training modules on EPI have been developed in the last year. They are now gradually being introduced in the field. Two different set of modules have been developed, one for mid-level supervisors and one for health workers.

The team reviewed the training modules and found them well designed, adapted to ZEPI and simple in their training methodology.

Provincial workshops have taken place for trainers in several provinces using these new sets of modules. Districts are now ready to move on with three days training seminars for health staff using the same training material. The set consists of nine modules and the team expressed some concern in discussions with managers that the training schedule may be too tight for adequate coverage of all the modules.

Besides training through special courses there is a continued in-service training in EPI management when mid-level supervisors meet or at the regular supervisory visits made by the DNO or the Community Health Nurse to the health facilities.

4.2.3 Logistics: Procurement, Storage and Distribution

In an EPI programme there is a need for a transport system with operational vehicles, good and regular distribution of vaccine, a well maintained and working cold chain, and well trained and motivated manpower for maintenance and logistic support.

As documented in section 4.1.2 the infrastructure of the cold chain is now excellent. The team is of the impression that the *process* related to the cold chain overall is of good quality as well. Vaccine is procured and distributed regularly to provinces every third month and to districts and rural health facilities every month.

Refrigerators are used according to instructions and kept properly.

The procurement, handling and distribution of vaccines generally seems to be working without major problems.The mission found however that the central vaccine store had a supply of vaccines corresponding to around a full years consumption. The reasons given to the mission was that one of the providers had by mistake supplied the entire year's consumption in one consignment.

Vaccine stores at provincial and district levels were well supplied with vaccines. In some cases measles vaccine was close to expiry date, even at district level. Given the turnover rate of vaccines it was deemed unlikely by the team that most of these vaccines would be used before expiring.

In some health centres visited the team found reports of periods of 2-4 weeks when vaccines had been out of stock. The common explanation for this shortage was that the vaccines were not available at district lever when ordered. As documented in table 1, 3 out of 13 facilities lacked one or more of the vaccines.

According to the MOHCW KAP study on ZEPI there are wide variations in stock keeping of vaccines. Reports of facilities with correct amount of vaccine in stock for last 12 months varied from 7-100%.

Good vaccine management and storage during the immunisation sessions were observed where such sessions took place at the time of the visit.

Vaccines are almost invariably stored according to instructions at peripheral level. In one provincial store measles vaccine was kept at a temperature of 4-8 centigrade, contrary to instructions. (Measles vaccine should be frozen where it is kept for 3 months or more as is the case at central and provincial level.)

The findings documented illustrates that unless there is continuous supervision and in-house training of staff there is a risk that the cold chain and vaccine handling is incorrectly managed This is particularly true where staff turn over is high.

4.2.4 Immunization

The national immunization policy states that all children should receive all the recommended basic immunizations before their first birthday and all women of child bearing ages should be up to date with TT immunization so that any child born to them will be protected at birth against neonatal tetanus. The present immunization schedule is presented in Table 4.

Table 4. Zimbabwe Recommended Childhood Immunization Schedule

Contact	Age of Child	Vaccine
1	At birth or first contact	BCG
2	3 months	DPT 1, OPV 1
3	4 months	DPT 2, OPV 2
4	5 months	DPT 3, OPV 3
5	9 months	Measles
6	18 months	DPT 4 and OPV 4-Booster 1
7	5 years	BCG, DT and OPV-Booster 2

So far immunization with the Hepatitis B vaccine (HBV) has not been implemented mainly due to financial constraints. HBV is an expensive vaccine.

A child is considered fully immunised when he or she has completed all immunizations up to 9 months of age at correct age. Immunizations after 18 months have so far been considered as additionalities.

Immunization sessions are carried out through the supermarket approach. The supermarket approach means that all services are provided when someone gets in contact with a service, eg if a mother and child attend a clinic with a cough, the nurses would treat the child, immunize the child if necessary and provide FP or ANC services to the mother if again necessary.

Outreach activities are planned and conducted with the aim of reaching targets for the catchment population. In principle outreach teams should go out from the district headquarters each day.

There are few studies of the knowledge, attitudes and practices in the community with regards to immunizations. However, staff generally reported high awareness of the EPI programme in the community to the team.

The team noted though that there are still problems in the implementation of the programme. It was observed, for instance, that some health workers have wrong perceptions of contraindications for immunization in sick children. As a result it appeared that opportunities for immunization were sometimes missed.

4.2.5 Polio Eradication and National Immunization Days

The national goal for Polio eradication is to be declared a country free of polio by the year 2000. In order to reach that target the following strategies have been adopted:

A/ To increase and sustain a high polio vaccination coverage

B/ Establish aggressive surveillance for all suspected polio cases

C/ Conduct National Immunization Days (NIDs)

Zimbabwe has not reported a case of Polio since July 1989. However improved AFP (Acute Flaccid Paralysis) Surveillance, investigation of all cases and final classification of all investigated cases, confirmed a total of 12 cases in 1995. It is the opinion of the evaluation team that the established AFP surveillance is efficient and that reported cases are followed up in a scientific way. Reported AFP and polio incidence is presented in table 5.

Table 5. AFP incidence and final classification 1993 -96

YEAR	CASES DETECTED	CASES DISCARDED	CASES CONFIRMED	RESULTS
1993	11	10	1++	-
1994	14	13	0	1
1995	39	26	12	1
1996	20	10	3+	7

Source: Zimbabwe against Polio, MOHCW, 1997

While by 1991 the EPI programme had reached UCI (i.e. 80% coverage rate for each of the antigens) by 1993 the coverage rate was observed to be on the decline in some areas of the country. A study performed in 1995 by the EPI unit showed low EPI coverage in some districts. This study recommended specific actions for districts lagging behind in immunization coverage in order to boost the immunization coverage rate and to draw public attention to the EPI programme.

This and the need to accelerate the polio control activities together made the government establish National Immunization Days in 1995. During the two immunizations days in August and September 1996, all children under the age of 5 years received two doses of oral polio vaccine, one month apart. The NIDs were successful and were regarded as a

milestone in the ZEPI programme implementation. The days attracted attention from political leaders, managed to mobilise the communities and over 95% coverage was achieved in both rounds.

The conclusion of the EPI unit was that NIDs will have an impact on disease incidence and thus contribute towards achieving elimination and eradication of polio.

The NIDs have attracted attention at highest political level and raised communities' attention and awareness to polio.

Whether the impressive goal of total eradication of Polio by the years 2000 will be achieved is yet too early to say. There is a risk however that the ambitious efforts spent on implementation of NIDs may draw attention and funds from the regular EPI programme in the future, thus hampering EPI implementation. The information given by the EPI manager was that NIDs are planned for measles for next year but that as yet no funds are available for the activity.

4.2.6 IEC/Community Awareness

High community awareness is a precondition for a sustainable EPI programme. Few and limited studies have been undertaken concerning the awareness of the community towards the usefulness of immunising children. EPI is primarily promoted through person to person health education in the health services and by outreach teams. Posters are also used and exposed in health facilities and public places. The programme is well known since long time back and awareness appears to be well established in the community. At least it is claimed by health staff in the field that there is a high awareness among mothers concerning immunization and that many mothers demand that service. According to health staff most caretakers do report back to finalise the immunization. However drop outs still occur, as discussed below.

4.2.7 Monitoring and Supervision

Staff performance is regularly monitored through an established system of supervisory visits from higher to lower levels. There is in most places a standing check list for the supervisory visits which is recorded in a visitors book for everybody's notice. The team noticed that almost all of the health facilities had received a supervisory visit, usually by the DNO, within the last three months. The overall impression is that the supervisory system functions relatively well in spite of problems with fuel and other things. It is however beyond doubt that the system would benefit from further strengthening.

4.3 OUTCOME

4.3.1 Coverage

Prior to the launching of the EPI, immunization coverage surveys indicated that in rural areas only around 25% of children less than one year of age were fully immunized. In the urban areas the immunization coverage ranged from 35-60%. It was estimated that more than 60% of the total population of children under one years of age, roughly 4,7 million children at that time, was underserved with immunization service. (Population census, A preliminary assessment, CSO, 1984)

ZEPI received a lot of attention and financial support during the first years of independence. A rapid progress in the immunization coverage was achieved. By 1989, the EPI had attained the Universal Childhood Immunisation (UCI), defined as at least 80% coverage for each of the EPI antigens except measles.

Since then reported coverage for all antigens has registered a steady but small decline. Cluster sample surveys carried out in 1988 and 1991 showed a coverage which was significantly greater than the reported coverage from BCG, OPV 3, DPT 3 and measles. Recent surveys indicate that around 80% of all children aged 12-23 had all the recommended vaccinations in 1996.

In 1988 the DHS survey reported coverage at 86 percent of all vaccinations before 23 moths of age. When coverage data from the 1988 DHS survey were recalculated in 1990 a more plausible figure of 79% coverage was found. The DHS survey in 1994 found that overall 80 percent of all children age 12-23 months had the recommended vaccinations and that 67 percent of the children had received the immunizations before their first birthday. Coverage declined after the first dose why 92 percent of children recieved a second dose and 85 percent of children received a third dose of both DPT and Polio (Fig. 1). This yields a dropout rate of about 10 percent for both DPT and polio.

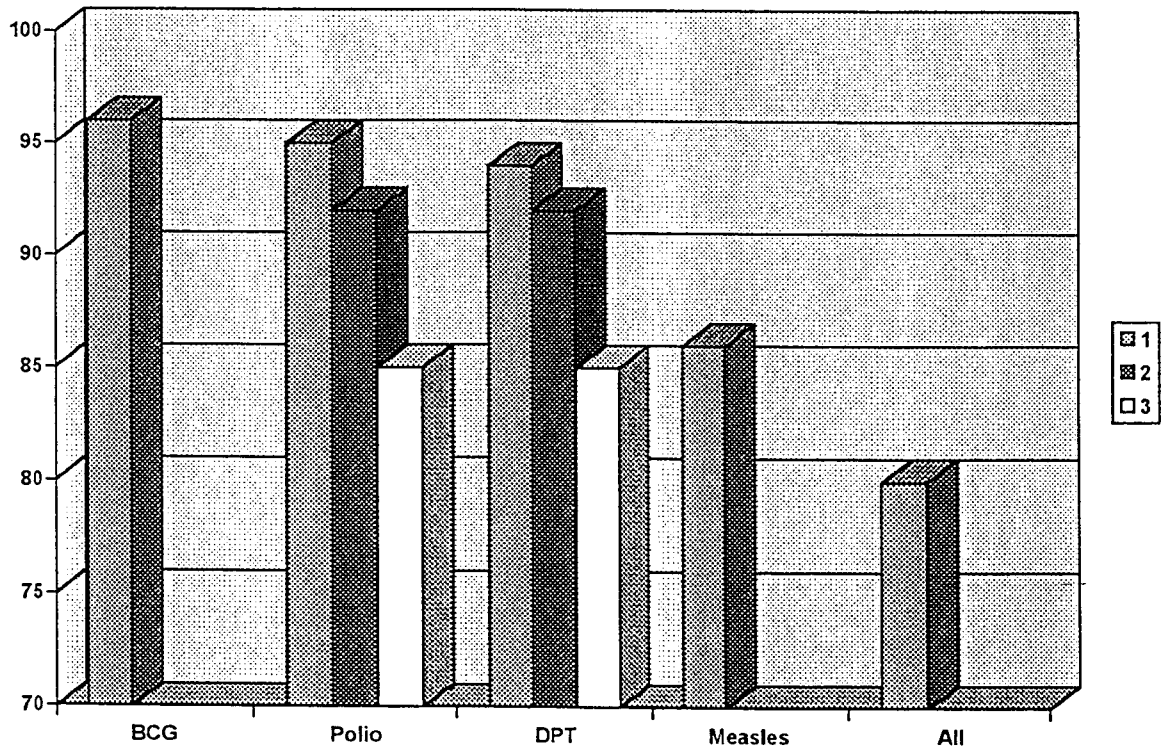


Fig. 1. Percentage of Children Age 12-23 Months with Specific Immunizations 1994

Source: DHS survey 1994 MOHCW

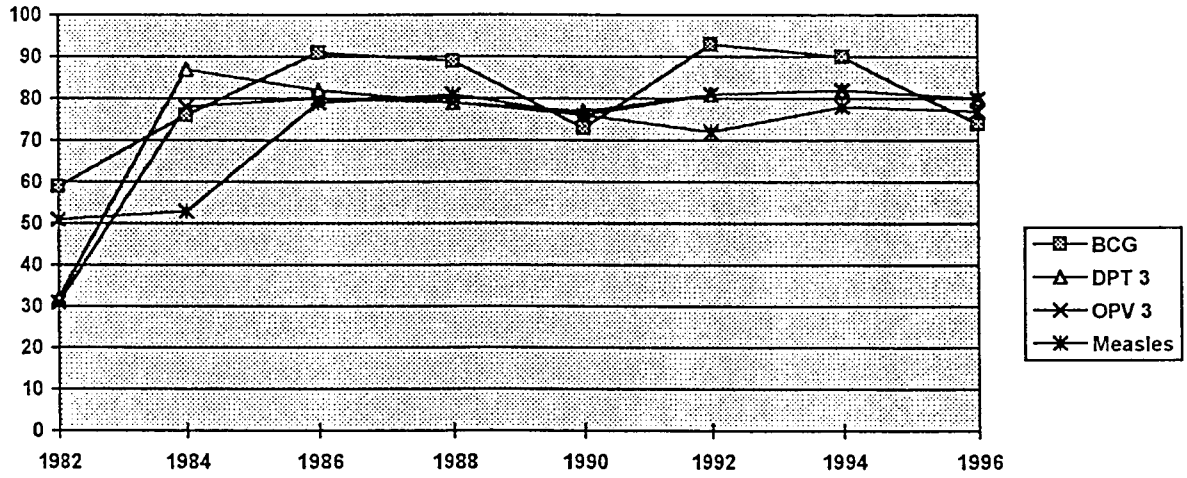
A possible interpretation of existing data from 1988 an onwards is that immunization coverage remains roughly unchanged since 1988 at about 80 percent (DHS survey, MOHCW, 1994).

It has proven difficult in recent years to reduce the extent of drop outs when administering the multidose antigens. During 1989-93, some 10 percent of infants annually dropped out before their second dose of DPT and polio and another 5-10% dropped out before their third dose. These figures remain in principal unchanged in the DHS survey from 1994. (A situation analysis, UNICEF, 1994).

Table 6. Immunization coverage (%) for different antigens for selected years 1982-96.

	1982	1984	1986	1988	1990	1992	1994	1996
BCG	59	76	91	89	73	93	90	74
DPT 3	32	87	82	79	77	81	82	80
OPV 3	31	78	80	79	76	81	82	80
Measles	51	53	79	81	76	72	78	77

Fig 2. Immunization coverage 1982 - 1996



Source: NHIS reports and EPI surveys 1982, 1984

Coverage of the first doses of polio and DPT is almost 100%. Coverage declines after the first and the second dose. This yields a drop out rate of about 10 percent for both DPT and polio. In the DHS survey 1994 it was found that 86 percent of children age 12-23 months were vaccinated against measles, 74 percent before their first birthday. Less than 5 percent of all children 12-23 months of age had received no immunization at all.

Looking in the differentials in complete coverage, there is no difference between boys and girls (Table 7). Children of high birth order (6 children or more) tend to have lower coverage than children of lower birth order. Children from urban areas have slightly higher coverage rate (84 percent) than rural children (78 percent). Children of mothers with completed secondary education have a higher coverage than children with mothers with less formal education. The difference in coverage is only 5 percent, which is lower than expected from the experience from other developing countries.

Table 7. Background characteristics and immunization coverage

Background characteristic		Immunization coverage all antigens, percent
Sex	Male	79
	Female	80
Birth order	1	84
	6+	70
Residence	Urban	84
	Rural	78
Mothers education	Primary	72
	Secondary	87

Source: DHS survey 1994 MOHCW

4.3.2 Morbidity and mortality impact

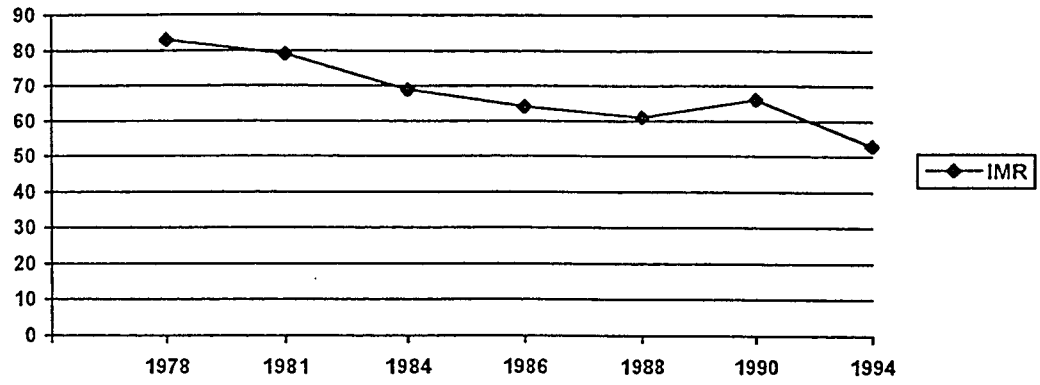
Infant and child mortality are two of the best indicators of basic health status. Although the major data sources report somewhat different rates for these, all point constantly to the same trend. Both IMR (defined as deaths per every 1000 live births) and U5MR (defined as deaths per every 1000 children 0-4 years of age) peaked at the end of the liberation war and then began a steady decline through much of the 1980s.

There are now reports from urban areas of increases in mortality rates. It is unlikely that merely changes in general socio-economic conditions could be fully responsible for increased mortality and morbidity in childhood. This could partly be explained by the general reduction in living standard, deterioration in nutritional status and reduction in the quality of health services. However, a most important factor is also the current HIV/AIDS epidemic in Zimbabwe. HIV-related diseases (including AIDS itself) is a leading cause of death among children between one and five years of age in the major hospitals in Zimbabwe today (A Situation Analysis, UNICEF, 1994). According to the Worldbank, the incidence of HIV/AIDS was growing most rapidly precisely as infant mortality began to stagnate. (Fiscal management review, World Bank, 1995)

A review of the main health indicators strongly suggest the dominant role AIDS is playing. Taking the estimate that 25-30 percent of pregnant women in Zimbabwe are HIV-positive today and that one-third of them pass on the infection to their newborns, then 10 percent of all children may be born HIV-positive today.

A second implication is that the survival prospects of children born *without* HIV have probably improved. The 1994 NHS survey however reports the same overall IMR and U5MR as six years ago. It is noticed from hospital reports that AIDS is killing more children today, which is demonstrated in a rising U5MR notably in urban areas during the last years. Mortality rates for children born HIV negative may therefore continue to decline even during the next coming years. (Fiscal management review WB, 1995)

Fig 3. Infant Mortality Rate 1978 -1994



Source: National Health Profile 1995 MOHCW

During the 1980s a rapid decline in vaccine preventable disease incidence was observed. Although disease surveillance remained sub-optimal at that time, no case of diphtheria has been reported since 1986.

Based on the WHO definition, NNT has been eliminated in Zimbabwe. The definition for neonatal tetanus elimination is less than 1 case per 1000 live births. No district in Zimbabwe has NNT incidence above 1 per 1000 live births today.

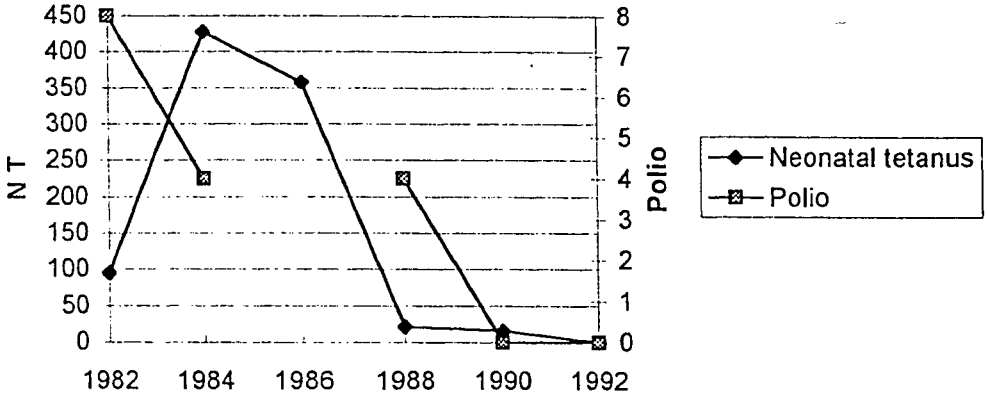
The incidence of poliomyelitis had been dramatically reduced by 1990 in Zimbabwe. This was mainly due to the high Oral Polio Vaccination (OPV) coverage levels which had been attained, but could also have been due to poor reporting of cases.

The reporting of cases of Acute Flaccid Paralysis and Poliomyelitis has now improved since the emphasis on improved EPI surveillance was started in 1993. More cases of AFP are being identified, investigated and finally classified. The accurate number of classified poliomyelitis is still extremely low.

Table 8. Polio and neonatal tetanus morbidity by years 1982-96, (No of reported cases)

	1982	1984	1986	1988	1990	1992	1994	1996
Neonatal tetanus	95	428	358	21	16	0	24	6
Polio	8	4	N A	4	0	0	0	3

Fig. 4. Morbidity Neonatal Tetanus and Polio



Source: MOH/CW Secretary Report 1982 and 1984, NHIS reports 1986-96

The incidence of measles was reduced during the beginning of 1990-ies. Frequent minor outbreaks of measles have been reported during recent years.

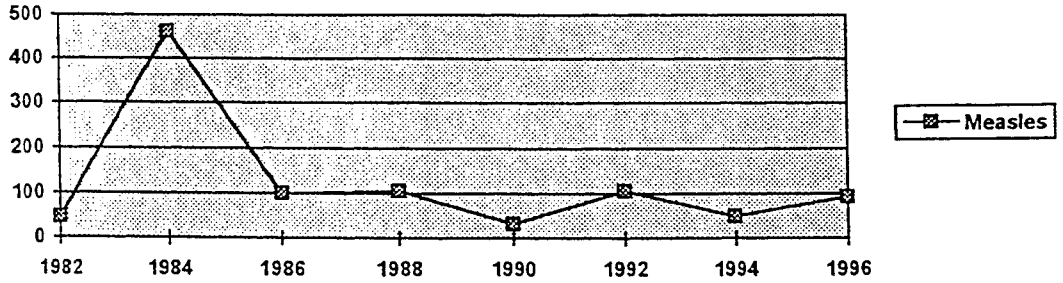
The increasing prevalence of measles immunity in the population in the past decade caused the epidemic intervals to occur every five years. An epidemic was expected in 1994/95 but was possibly prevented by the supplementary immunization that was introduced for high risk districts. Similarly there has been a shift in the age distribution of measles to older age groups. Since 1987 more than half of all measles cases have occurred in children five years of age and older.

The measles case fatality rate is now low, less than 1% since 1985, probably due to high immunization coverage and improved case management of secondary complications at health facilities as well as the increasing age of cases.

Table 9. Measles mortality by years 1982-96, (No of hospital reported deaths).

	1982	1984	1986	1988	1990	1992	1994	1996
Measles	46	463	100	105	32	106	49	93

Fig. 5. Measles mortality 1982- 1996



Source: MOH/CW Secretary Report 1982-86, NHIS reports MOHCW 1988-96

4.3.3 Cost -effectiveness

Supporting health is one of the highest-return investments a Government can make. By promoting enhanced productivity and averting costly diseases, investment in basic health services such as immunizations may generate a higher economic pay-off than most other investments.

Public subsidies of such interventions are justified on efficiency grounds because individuals may have insufficient incentives or information to seek these types of services. Providing basic services is also an important element of poverty reduction as the poor often are underserved in health care and frequently exposed to higher risks of illness than better off.

The World Development Report and the studies that were carried out as preparations for the report showed that immunizing children is one of the most cost-effective interventions in health services. The cost per DALY (disability adjusted life years) gained by immunizing children was estimated at US$ 12-17 in those studies. (World Development Report, 1993).

There is limited data on costs of EPI services in Zimbabwe. A study of costs of health services in three districts has been carried out with support from Unicef (Unicef: A comparison of three districts, 1996). The costs of static services varied in this study from Z$ 7.96 to 8.53 per immunization while outreach services were costed at Z$ 7.76 to 11.15. The study found that in general services provided by mobile teams cost the same per unit of output (child immunized, antenatal visit, patient visit etc.) as those provided at static health centres. It appears from this that mobile services are as efficient as static.

For a comparison the cost of a visit at a health centre varied from Z$ 9.46 to 15.03 while the cost of an OPD visit at a district hospital came to Z$ 22.49-58.88.

Using the figures above the cost of a full course of immunization for a child would be around Z$ 32. This corresponds to US$ 2.80. This is low in comparison with findings from low-income countries in general. The World Development Report from 1993 estimated for instance this cost to US$ 14.6.

The data indicate that the immunization programme in Zimbabwe in comparison with other programmes has high cost-effectiveness, when defined as costs per output. Some reasons for this may be high utilisation of public health services (which reduces the cost of total staff time per visit), good roads (reducing the tear on vehicles and use of fuel per kilometre) and good response from the community to outreach services (generating a good number of visits per outreach session).

4.4. SUSTAINABILITY

The continued success of the EPI programme rests on a number of factors. Vaccines must be procured and maintained at proper temperatures, immunisations must be given correctly at proper ages, the community must be made aware of the need to immunise and children must be brought to immunization sessions. In addition, monitoring, supervision, surveillance and epidemic control must all function well.

In the following some of the key findings relevant to sustainability are presented and discussed.

The EPI programme has had good coverage in the last few years and it appears to have regained what it lost in the early 90'ies when coverage showed a tendency to slide.

The GoZ is now covering the purchase of the required vaccines (except polio) with their own funds. The government will continue to provide the vaccines and is committed to fulfil this task over the coming years. For the fiscal year 1997-98 (18 months) Z$ 38 million have been set aside for this purpose.

As described earlier the cold chain is in good shape. With adequate maintenance it may well be functional for at least 10 years.

There is a shortage of vehicles in some districts. Many of the old EPI vehicles donated in the 80'ies have been written off. Others have come to prolonged standstill due to lack of spare parts or funds for purchase of such spare parts.

Staff allowances are usually paid out with long delays and for doctors not paid at all. This has been going on for some time and affects staff morale negatively. As a result outreach activities have been carried out less frequently. This has lead to decreasing coverage rates.

Staff at all levels appear in general to be competent for adequate fulfilment of their functions in the EPI activities.

An adequate system for disease surveillance and epidemic control is in place. Its full implementation is at times prevented by communication problems and inadequate reactions to early signs of outbreaks.

There is little documentation of the public's awareness and knowledge on immunization as well as their attitudes towards it. It is not known if there is a spontaneous demand for the vaccination services. Health workers generally reported though that mothers usually were well aware of the need to immunize their child and that they welcomed it, especially in the first year of life. The response to booster doses later in childhood is weaker.

The EPI is a programme which is most vulnerable. Minor changes in infrastructure, skills, management or logistics may quickly affect the performance of the programme. Inadequate supply of vaccines apparently will lead to a quick deterioration in coverage. Graduation of health workers with inadequate skills on immunization schedules or techniques will lead to distortions in the programme or lower protection rates against target diseases. Breaks in the cold chain may have a similar consequence. Poor adherence to the supervision and

For these reasons the EPI programme is a sensitive indicator on the overall quality of preventive and curative services in Zimbabwe. Deterioration in these services will rapidly lead to a decrease in coverage and protection rates against the target diseases.

Some of the basic conditions for sustainability of the programme are in place. For the overseeable future of 5-10 years it is unlikely that Zimbabwe will walk away from its commitment to procure the required vaccines for a complete EPI programme with full coverage of all children in the country. The cold chain is in good shape and it is deemed less likely that cold chain breaks will be a major problem in the coming years.

The major threat to sustainability comes from deterioration in the structure supporting delivery of health services. This structure consists of things like buildings, equipment, medical consumable including drugs, manpower and transport. Of particular relevance to the EPI is the dwindling interest in outreach work among health workers. This is inter alia a result of the non payment or delay in paying out allowances. It appears that health workers in general are less motivated than what they used to be due to a decrease in real terms remunerations.

Another factor hampering the programme is the temporary lack of fuel. This lack is primarily due to the MOH/CW not having been able to meet its obligations towards the CMED. Thirdly, there is a lack of vehicles in some places which again reduces the number of outreach sessions.

From the said it can be concluded that the sustainability of ZEPI depends less on factors which are specific to the programme and more on factors which are beyond the control of the programme. In fact, programme-related factors appears favourable within the foreseeable future in contrast to factors outside the programme. Hence, the issue of maintaining the programme at its present level or even improving it is related to questions of how the general situation of the health sector can be sustained rather than to programme-specific issues. Programme-specific interventions will not guarantee a continued success of the programme. Such guarantees can only be ensured if the overall problems of the public health services are addressed and solved.

CHAPTER 5 CONCLUSIONS AND RECOMMENDATIONS

The EPI programme has over the years proven to be very successful in terms of high coverage rates for immunizations against EPI target diseases. ZEPI is well integrated in the field.

Immunization coverage has mainly remained unchanged since 1988 at about 80 percent. It has however proven difficult to reduce the extent of immunization drop outs, which in principal remains unchanged at 5-10% for all antigens since 1994.

As a result of the high immunization coverage rates since almost 10 years back, morbidity and mortality from measles, polio, whooping cough, diphteria and neonatal tetanus have been reduced. National Immunizations Days have been introduced in 1995 to further boost up immunization coverage rate for poliomyelitits in order to completely eradicate polio from Zimbabwe by the year 2000.

New cold chain equipment has been supplied in 95/96. The cold chain is complete and durable for the next 10 years to come.

In spite of heavy donor support during the 1980s, the existing vehicle fleet is old and in need of replacement to ensure efficient outreach activities. No replacement plan exists as yet for the vehicle fleet.

The support from Sida and other donors has been valuable, especially during the early phase of the programme. There is a high political commitment in continuing the EPI programme after reduced donor support. This is demonstrated by allocations of sufficient funds from the MOH/CW for procurement of vaccines since last year.

The strong infrastructure of the health sector in the country has contributed to the achievements of EPI. Due to the integration of health service delivery in Zimbabwe the programme has also been valuable in the implementation of other Primary Health Care programmes. There are also reports of high community awareness of the EPI programme.

Field observations suggest that the EPI programme is most vulnerable. Deterioration of the supporting infrastructure may well have a significant negative impact on the future performance of the programme. There are warning signals of reduced staff motivation leading to decreases in coverage. In addition, staff is short in number at all lower levels in the health care system.

The outcome of Sida's support is most impressive. With a support amounting to on average only SEK 5.5 million per year during 15 consequetive years the agency has contributed significantly to high immunisation rates and subsequent reductions in morbidity and mortality among children in Zimbabwe. The support has been given to a programme which has lead not only to a direct reduction of the disease burden but also to general improvements of the health services and management capacities of the staff.

From the conclusions of the review the evaluation team has deducted some key recommendations.

There is a continued need for improved in-service training, support and follow up of the EPI programme. Therefore such activities should be given high priority in the programme.

Deficiencies in cold chain management should be corrected. Of foremost importance in this context is to inform staff properly on guidelines for storage of vaccines and maintenance of cold chain.

The outcome of the National Immunization Days should be further studied in relation to costs, immunization coverage, morbidity and mortality reduction.

Further studies of the knowledge, attitudes and practices in the community with regard to immunization should be conducted. Such studies should identify how the programme can ensure a continued demand from the community for the services, a demand which will support high immunization coverage.

The reported signs of reduced staff motivation and administrative obstacles of provision of fuel must be addressed urgently in order to sustain programme achievements. Staff motivation must be reinforced by appropriate support and adequate remuneration. Plans and budgetary allocations must be made for provision, maintenance and replacement of the vehicle fleet. All these issues need to be addressed at highest level in the health care system. They can only be solved temporarily, if at all, within the framework of ZEPI.

EPI should be given continued priority at political and highest ministerial level. Adequate allocations for vaccines, cold chain maintenance and training should be made over the coming years.

The Zimbabwe Expanded Immunization Programme must be considered as a highly successful programme and experience gained in ZEPI should benefit immunization programmes in other developing countries.

APPENDIX I

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APPENDIX I

TERMS OF REFERENCE FOR EVALUATION OF THE ZIMBABWE EXPANDED PROGRAMME ON IMMUNIZATIONS

1. BACKGROUND

A close collaboration between Zimbabwe and Sweden has been on going since 1980 in the area of Immunization. The collaboration has included financial as well as technical support. The Immunization Programme has developed in an encouraging way during those years.

The Swedish support has mainly been in terms of budget support for procurement of vaccines and cold chain equipement. Sweden has never provided any technical support to the programme.

It has now ben decided that the Swedish Health Sector Support Programme in Zimbabwe shall be phased out and the support to ZEPI to come to an end already during 1997. The Ministry of Health as well as Sida believe it should be a priority to document the experiences, as well as achievements and results, gained during the whole period of collaboration.

2. SCOPE AND FOCUS OF THE EVALUATION

The evaluation should focus on the development of the ZEPI since 1980 showing possible impact, sustainablity and cost-effectiveness.

3. SPECIFIC TASKS

3.1 Describe the development of the Immunization Programme during the time period as well as the Swedish input.

3.2 Describe the development of immunization status as well as child health in Zimbwawe during the same period

3.3 Assess the effectiveness and adequacy of the programme in achieving its objectives and contributing towards improved child health in Zimbabwe, identifying constraints and achievements.

3.4 Assess the effectiveness and adequacy of the Swedish support in achieving the programme's objectives

3.5 Assess the cost-effectiveness of the programme

3.6 Assess the sustainability of the programme, both from a financial perspective as well as the human resource perspective.

4. METHODOLOGY

* Desk studies

** Meetings and interviews with the following indiviudals/ organizations;*

* Meetings and interviews with the following indiviudals/ organizations;

- Health Divison at Sida (Eva Wallstam, Margareta Tullberg,)
- Swedish Embassy in Harare (Jan Olsson, Sigrid Halvarsson)
- Sida Regional Health Advisor (Anders Nordström)
- Ministry of Health (PS, Dr Zaweira, acting head for MCH, ZEPI)
- Other Ministries of relevance
- UNICEF, WHO and other relevant international agencies.

* Fieldtrip to two or three districts

The team shall work closely with the ZEPI staff during the evaluation.

5. THE TEAM

The team shall include 2-3 experts with experience from the area of immunization as well as development cooperation and evaluation work. A team leader shall be appointed. The team members should be internationally recognised and may come from Zimbabwe, Sweden or elsewhere, but at least one of the teammembers should come from Zimbabwe.

The teamleader will be appointed jointly by the MOHCW and Sida

6. TIME SCHEDULE

May	Desk study work in Sweden
June	Mission to Zimbabwe (2 weeks)

7. REPORTING

A draft final report shall be submitted to the MOHCW and to the Swedish Embassy in Harare, before the departure of the team from Zimbabwe and the final report no later than the 30 June 1997. The report shall be written in English and consist of maximum 30 pages, excluding annexes.

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International Development Consultant Services

APPENDIX II

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International Development Consultant Services

Appendix II

DOCUMENTS REVIEWED

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APPENDIX III

Appendix III

LIST OF PERSONS MET

Title and Name	Designation	Posting
Central Level		
Dr P Sikosana	PS	MOHCW
Dr Zawaira	Provincial Medical Director	MOHCW
Mr J Olsson	Counsellor (Development)	Embassy of Sweden, Harare
Mrs S Halvarsson	First secretary (Development)	Embassy of Sweden, Harare
Mrs E A Shearley	National EPI manager	MOHCW
Ms E Sibanda	Aid coordinator	MOHCW
Dr Chaita	Acting Head, MCH	MOHCW
Mr S Chihanga	Head, Strategic Development Unit	MOHCW
Dr E Mason	Medical Officer	WHO, Harare
Dr N Miller	1st Secretary, Health and Population	Dept for International Development
Mr E. M. Jassat	Programme Officer	Human Resources Development, World Bank
Dr Manyame	Programme Officer	UNICEF
Mashonaland East		
Dr Mabhiza	PMD	MOH/CW Marondera
Mrs Masangwi	PNO	MOH/CW Marondera
Mrs Ndengu	PSCN	MOH/CW Wedza Rural Hospital
Dr F Annasse	DMO	Mount St Mary's Mission Hospital
Ms Mushangwe	Matron	Mount St Mary's Mission Hospital
Ms Chitabe	Acting Community sister	Mount St Mary's Mission Hospital
Mr Kadzere	SCN	St Anne's Goto Clinic

Manicaland Province		
Mrs Munodawafa	PNO	MOH/CW (Mutare)
Mrs Mwashita	Nurse in charge	Mutare
Dr Patersson	Medical officer (Pediatrics)	Mutare Hospital
Mrs Mwanaka	Sister in charge	Mutare Hospital
Mr Tsona	EPI technician	Mutare Hospital
Ms Zvingowanisei	Community sister	Mutare District HQ
Ms Zimba	Nurse	Rowa Clinic
Mr Munyoro	Nurse	Rowa Clinic
Mrs Nyamavhuvhu	Nurse	Chakohwa Clinic
Mrs Muchuwa	PSCN	Birchenough Bridge Hospital
Mrs Katuri	SCN	Birchenough Bridge Hospital
Masvingo		
Dr P Nhindiri	PMD	Provinical Medical Directorare
Mrs Mavedzenge	MCH coordinator	Provinical Medical Directorare
Mr Jethro	Provincial statistician	Provinical Medical Directorare
Mrs Chidanga	SCN, EPI stores manager	Provincial EPI store
Mr Tsuro	SCN	Mukosi clinic
Ms Macha	SCN	Chivi Rural Hospital
Mrs Sibanda	SRN	Chivi Rural Hospital
Ms Gumboshuma	SRN	Madamombe clinic
Midlands Province		
Dr Shodu	MOH/MCH Acting PMD	Provincial Medical Directorate
Ms Tapera		EPI vaccine store Gweru
Mrs Midzi	DNO	Gweru district HQ
Mrs Takavarasha	SRN	Mangwande Clinic
Ms Mashingandze	Nurse aid	Banga Clinic

Ms Chizhande	Nurse aid	Banga Clinic
Ms Govo	SCN	Maboleni Clinic
Ms Ziso	SCN	Makepesi Clinic
Matabeleland South Province		
Dr Bango	PMD	Provincial Medical Directorate, Bulawayo
Dr Wijarajah	MOH/EDC	Provincial Medical Directorate, Bulawayo
Dr Manger Cats	MOH/MCH	Provincial Medical Directorate, Bulawayo
Mrs Chibvongoza	Acting PHSA	Provincial Medical Directorate, Bulawayo
Mrs Ncube	PNO	Provincial Medical Directorate, Bulawayo
	Cold Chain Technician	Provincial Vaccine Store
Mrs Ncube	Acting DNO	Esigodini District
Ms Ncube	Community sister	Umzimgwane District
Mr Ndlovu	SRN	Mawabeni Clinic
Mr Mukweuho	SRN	Irisvale Clinic
Mrs Mtombeni	SCN	Irisvale Clinic
Mrs Ncube	SRN	Mzimumi Clinic
Matabeleland North		
Dr Labode	PMD	Provincial Medical Directorate, Bulawayo
Dr Rutgers	MOH/MCH	Provincial Medical Directorate, Bulawayo
Mrs Moyo	PMO	Provincial Medical Directorate, Bulawayo
Mr Sibanda	EPI logistics officer	Provincial Medical Directorate, Bulawayo

Ms Sibanda	DNO	Bubi district
Mr Ndiweni	DNO	Nkayi district
Mrs Potani	SRN	Siganda Clinic
Mrs Moyo	SRN	Zenka Clinic
Mrs Ndiweni	SRN	Nkayi District Hospital
Ms Mahlangu	Nurse in charge	Inyathi District Hospital
Mr Mguni	SCN	Inyathi District Hospital

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KEY

PMD	Principal Medical Director
PS	Permanent Secretary
PMD	Provincial Medical Director
PNO	Provincial Nurse Officer
PSCN	
DMO	District Medical Officer
SCN	Senior Community Nurse
SRN	Senior Registered Nurse
EDC	Epidemic Disease Control

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Consultancy Report
15/98

Draft report

The Nurse and Nursing at Hanoi International Hospital
Report from a short term consultancy

Agne Andersson Sirkka Blom
Yngve Hofvander Eva Johansson

May 1998

InDevelop Uppsala AB

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ABBREVIATIONS

ARI	Acute respiratory infections
BN	Bachelor nurse
DD	Diarrhoea diseases
DST	Department of Science & Training
HCMC	Ho Chi Minh City
HIH	Hanoi International Hospital
HN	Head nurse
ICN	International Council of Nurses
ICU	Intensive care unit
IFC	International Finance Corporation
IHCAR	International Health Care Research
IMR	Infant mortality rate
IPCH	Institute for the Protection of Child Health
IPD	In-patient department
LR	Labour room
MOH	Ministry of Health
NPI	National Pediatric Institute
NS	Nursery
OPD	Out-patient department
OR	Operating room
SN	Staff nurse
TFR	Total fertility rate
TOR	Terms of Reference
VNA	Vietnam Nurses Association

1. EXECUTIVE SUMMARY

The Government of Vietnam has adopted a policy to encourage the development of private hospitals.

The Thonburi Group in Thailand which has a considerable experience of operating private hospitals will be partners in a joint venture with Vietnamese interests on a 70/30 per cent basis in establishing and running the Hanoi International Hospital (HIH). The administrative preparations for this enterprise have recently been cleared, while the financial side still awaits final clearance.

It was the task of the consultative group according to the Terms of Reference:

- to briefly present the role of nurses in Vietnam and their training
- to focus on what would be required for an adequate supply of nurses for the HIH
- to comment on the intended organisation and in-service training and
- to review the feasibility of post-basic training with HIH as a basis

The group commenced its work by taking contacts with and making visits to the intended partners in Bangkok (Thonburi Hospital and the Nursing Faculty of Siam University and involved persons).

Two representatives from the Faculty of Nursing accompanied the group during the initial study visits to the Ministry of Health in Hanoi and to a number of hospitals and nurse training institutions in and around Hanoi and in Ho Chi Minh City. Thus, valuable interaction was made possible.

Nurses for employment in hospitals are trained as secondary level nurses in close to 50 secondary medical schools for 2 ½ years and as bachelor nurses in 4 university and college settings for 4 years. However, the facilities including libraries, training localities, practical training rooms and accommodations are generally of low quality. By tradition the largest part of the teaching is performed by doctors due to lack of nurse teachers. Thereby there will be a focus on diseases and only to a minor extent on nursing care, interaction with the patient and the personal development of nurses into professional individuals. These should be working as interacting partners with the doctor and not as a "doctor's helper" who is subordinated the doctor. This is one serious attitudinal short-coming in the nursing profession which has to be rectified in the preparatory training for the HIH and similar enterprises.

The private hospital sector is presently slowly emerging. For the time being there are 4 private hospitals in Vietnam but several others are to come. To our knowledge no study has been made as to the real demand.

The HIH will be located at the premises of a part of the previous Vietnam-Cuba Friendship Hospital. It will - after refurbishment - start with an outpatient department and an in-patient ward of 28 beds, later increasing up to 60 beds. It is expected that the HIH will be operational by the end of 1998.The consultants estimate, however, that the hospital will not be in operation until well into 1999.

The consultant team recommends that the nurses which are to be to be trained in Bangkok should be recruited with the assistance of the Faculty of Nursing at Siam University which also would be in charge of the initial preparatory training there. Part of the training should also be attended by the HIH doctors.

It is important that this recruitment and preparatory training will tie in with the starting of the HIH - the whole process will take at least 4 months.

Plans and curricula for the preparatory training have been worked out in considerable detail and a fruitful collaboration with the Faculty of Nursing at Siam University is anticipated.

Plans have also been developed for the important continued training (which may also in part be open for the public sector) and suggestions are made for awarding scholarships for further training abroad and also for selective nurses from the public sector.

The Thonburi Group intends to train 35 nurses in Bangkok, and 30 nurses and 20 nursing assistants in Hanoi. The consultant team would rather recommend that all training of nursing staff should take place in Bangkok. Training in Hanoi could later be considered for the remaining staff when the HIH will open in full scale.

The consultants further recommend, contrary to the Thonburi Group, that all nurses should be either bachelor or secondary level nurses.

In addition, the consultants suggest that 4 expatriate nurses/supervisors be engaged at least during the first couple of years for post-basic training, trimming of routines and setting of (a high) standard.

2. BACKGROUND, TERMS OF REFERENCE AND THEIR IMPLEMENTATION

The Government of Vietnam has adopted the policy to increase the proportion of private health care and to encourage joint ventures. Some private hospitals are already operational and the International Finance Corporation (IFC) intends to invest in a joint venture, the Hanoi International Hospital (HIH), which is planned to be opened in late 1998.

The availability of highly qualified nurses at HIH, with proper skills, capabilities and attitudes, is regarded as crucial for attracting a sufficient number of patients to make the hospital commercially sustainable. The idea is that HIH would hopefully function as a test vehicle and a catalyst for upgrading the quality of nursing care in Vietnam.

The Thonburi Group, based in Bangkok, operates a chain of private hospitals in Thailand and is anxious to extend the network throughout the region. The group will be responsible for the operation and management of HIH. The People's Committee, Hanoi will have a 30 per cent share in the joint venture by supplying land and existing buildings for the hospital.

The Thonburi Group is committed to ensuring that nurses of appropriate standard will staff the hospital. The group has its own nurse-training facilities in Bangkok in co-operation with the University of Siam, a private university. It has been anticipated that the model of the Thonburi Group for nurse training will be applied for HIH, if it is found to be appropriate and feasible.

IFC contacted and informed SWECARE Foundation, Swedish Trade Council, that they were looking for Swedish consulting firms with technical experience in developing nurse education/training programs and with country-specific experience in Vietnam. SWECARE asked a number of Swedish companies and organisations about their interest and the result was that InDevelop Uppsala AB and Division of International Health Care Research (IHCAR), Department of Public Health Sciences, Karolinska Institute, Stockholm jointly tendered for the project and were contracted to carry out the assignment.

InDevelop contracted Mr Agne Andersson as the team leader, Professor Yngve Hofvander and Ms Sirkka Blom. IHCAR put their employee Ms Eva Johansson at InDevelop's disposal for the consultancy. All 4 consultants have a long working experience in different developing countries including Vietnam. The team should, according to the Terms of Reference (TOR), co-operate closely with the Thonburi Group throughout the work.

The consultancy was to focus on nursing, and one of the objectives was to address the problem regarding lack of nurses with the skills and attitudes which are needed to deliver private hospital care at an international standard and to devise ways of overcoming it. Another major task was to assess the appropriateness and feasibility of applying the Thonburi Group model for nurse training at HIH.

In summary, the consultant team should:

- Briefly present the role of nurses in Vietnam and how various kinds of nurse training are organized;
- Focus strongly on what is required for an adequate supply of nurses for HIH in particular, and the private hospital sector in Vietnam in general;

- Comment on the intended organization and in-service training for nurses at HIH and propose possible measures for improvement;
- Look at the feasibility of setting up post-basic training for Vietnamese nurses in specialised hospital nursing skills using HIH as the training base and, if feasible, draw up plans for a pilot training program in Hanoi. It might necessitate training of Vietnamese nurses in Bangkok to become nurse-trainers for the HIH operation. This option should be compared with the alternative to carry out the training in Bangkok.

The full TOR are enclosed as Appendix 1.

The field work of the consultancy has been carried out during the period March 27 April 23 1998. It started in Bangkok with an introduction to the policy and the work of the Thonburi Group and Siam University and with internal meetings and review of available documents. In Bangkok the team met among others the Chairman of the Thonburi Group Dr Boon Vanasin, the Medical Director Dr Jakapan Bongsatiern, the Project Manager for HIH, Mr Swat Petchotiwong, and the General Director for HIH Dr Olivier Meyer. After three weeks in Vietnam, a follow up meeting took place in Bangkok to discuss the findings and preliminary conclusions and recommendations with representatives of the Thonburi Group and Siam University.

The Dean of the Faculty of Nursing at the Siam University, Assistant Professor Parnun Boon-Long, and the Vice Dean and Human Resource Manager of Thonburi Hospital, Ms Orntipa Songsiri, participated in meetings and visits in Bangkok, but also in the field visits in Vietnam during the period 1-10 April and visited Hanoi as well as Ho Chi Minh City (HCMC). Their participation was very valuable as there was limited documented information available to the team on nursing organization and plans for HIH.

The consultants had meetings with the local representatives of HIH, among others the Deputy Chairman of the Board of Management, Dr Duong Quang Khanh, and the Deputy General Director, Dr Tran Lam Hien.

The consultants visited and had initial and follow-up meetings with the Departments of International Co-operation, Therapy, Science & Training, Organisation & Manpower, and Planning at the Ministry of Health (MOH). Meetings were also held with the Vietnam Nurses Association (VNA). Visits were paid to Hanoi Medical College, the National Pediatrics Institute (NPI; formerly named Institute for the Protection of Child Health; IPCH), Viet Duc Hospital, the Institute for the Protection of Mother and Newborn and Vietnam International Hospital in Hanoi. Visits were also made to the Vietnam Sweden Hospital in Uong Bi in Quang Ninh Province and Nam Dinh Secondary Medical High School in Nam Dinh Province. Children's Hospital Number 1, Cho Ray Hospital, and Secondary Medical School Number 3 were visited in HCMC. A list with institutions visited and names of people met is enclosed as Appendix 2.

3. SOME BASIC HEALTH AND HEALTH MANPOWER FACTS

Some basic demographic data are summarised in the table below.

Population (1996)	75.6 million
Births per year	1,975,000
Birth rate / 1,000	26
Death rate / 1,000	7
Total fertility rate (TFR)	3.1
Annual growth rate	2.1 %
Infant mortality rate (IMR)	33/1,000
Maternal mortality rate	160/100,000

Obviously there has been a dramatic demographic change over the last few decades. The TFR has been reduced to half in the past 35 years and the Under-5-mortality rate has gone down from 219 to 44 / 1,000 live births in the past 35 years while the IMR has decreased from 147 to 33 during the same peridod.This is indeed an impressive achievement.

The most frequently reported diseases (in hospital) are those related to acute respiratory infections (ARI), diarrhoeal diseases (DD) and accidents and injuries (Appendix 3).

Information obtained during visits to the NPI in Hanoi and Children's Hospital No. 1 in HCMC indicated that the number and severety of DD and ARI had decreased dramatically and that (probably as a result) the severe cases of malnutrition with resulting blindness had nearly disappeared. The rate of stunting as an indicator of chronic malnutrition still affected nearly half (47%) of all children.

Pregnancy and neonatal complications still constitute big problems as do tuberculosis, malaria and iodine deficiency goiter.

Health manpower

The manpower in the field of health as registered by the MOH (Official statistics, MOH, 1976 - 1996) is seen in Appendix 3. The total number of all categories of trained staff is about 212,000. Out of those about 21,000 are primary nurses (down from 67,000 in 1986, see below for MOH present policy concerning this category) and about 23,000 secondary level nurses (up from 16,000 in 1986). There is the same trend with primary level nurses and secondary level midwives , the last cadre presently totalling about 8,000 (up from 4,500 in 1986). The number of nurses with bachelor degree totals presently about 800-1,000 (see further below).

The number of medical doctors was recorded for 1986 as about 20,000 but is now given to be more than 33,000. This means that the ratio between doctors and all categories of nurses and midwives (about 56,000) would be in the order of 1: 1.7, which indicates a most unbalanced proportion.

For further details concerning other staff and development over the past 20 years see Appendix 3 and also under section 6 of the report.

It should be emphasized, however, as acknowledged by representatives of the MOH that there may be a not so small uncertainty concerning the precision and accuracy of the figures quoted as there is no compulsory registration system of health staff centrally.

Health service structure

A pictorial summary of the public health sector organisation is seen in the organogram, Figure 1, on next page. It indicates the health care levels from the village to commune, district, province and central levels.

4. NURSING IN VIETNAM

4.1 Historical background and development of nursing

The nursing profession in Vietnam has developed during a rather short period from activites carried out by individual community members trained in basic first aid to the nurse of today. The Vietnamese nurse (Y Ta or Dieu Duong) has a low status in the society and she/he is looked upon as "a tool" or an assistant to the doctor. The title "Y Ta" meaning "doctor's helper" implies a greater dependance on the doctor than does "Dieu Duong" (meaning care). In 1960 Secondary Medical Schools were established in the North of the country and training of primary nurses and midwives, during short 3-12 months courses, was initiated.

The first secondary level nurse training course (2.5 years of training) started in Hanoi in 1968.In the south training was already inititated in 1960. Other provinces soon followed. The MOH provided a curriculum for the training of secondary level nurses in 1972. New curricula were introduced in 1985 and 1992.

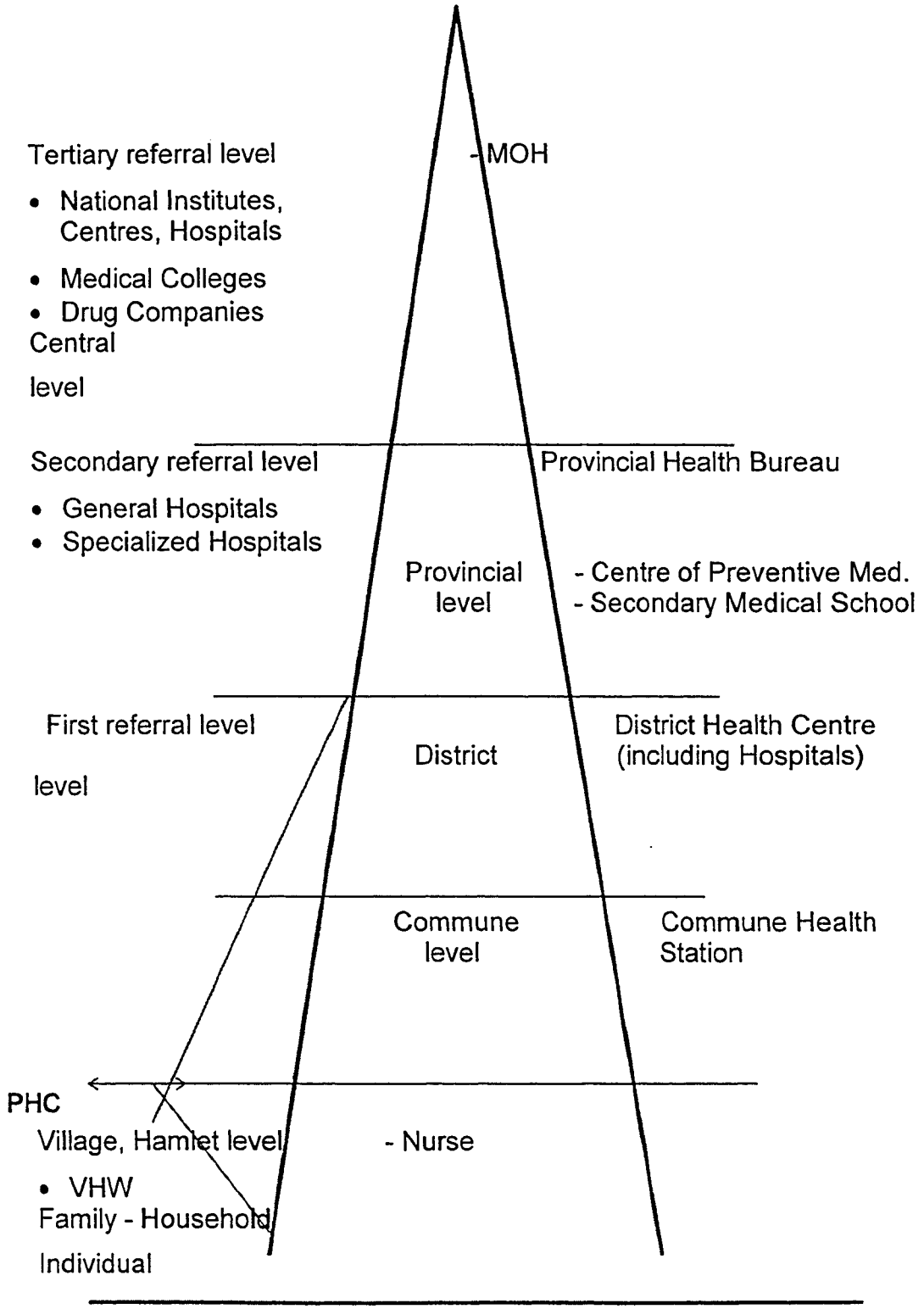
The training of midwives is done in a basic training program, not as in many other countries as a post basic curriculum. The teaching for the medical technicians is also made in a basic, vocational level training programs.

The first post-basic nurse training courses were introduced in 1984 with pediatric nursing at IPCH in Hanoi and head nurse courses on management at the Vietnam Sweden Hospital in Uong Bi. The management course was revised in 1998. Various in-service training courses are now taking place in hospitals to up-grade nursing skills and in particular skills in specialist areas. Total patient care as opposed to task oriented care and writing of nursing care plans have been introduced.

Training of nurses in Vietnam has by tradition been conducted by medical doctors. A need for nurse tutors in the training of nurses was recognized in the 1980s and an experimental course for nurses was introduced at university college level (Bachelor of Nursing) in 1985. The training, however, was stopped after the second course due to lack of sufficient nursing expertise in the country. Nursing officially re-entered the university and college level of education in 1992. The courses are meant to prepare

Figure 1

Public Health Sector Organogram



Source: Dr Nguyen Quang Cu, Health Policy Unit, MOH 1997

nurses for managerial and teaching roles in nursing. However, the teaching is still to a great extent conducted by medical doctors and thereby rather disease oriented.

The training does not prepare the students well for their future roles as nurse managers or teachers in nursing care and other related subjects. In Vietnam four categories of nurses are trained to-day:

- primary
- secondary
- college bachelor and
- university bachelor.

The primary level nurse works mainly in the community and in remote areas, the secondary level nurse in hospitals and health centres (it is expected, that more secondary level nurses will take over the jobs at commune health stations in the future as the Government now has started to pay them salary), and the college and university level nurses in hospitals.

The two bachelor nurse programs are different. The college bachelor curriculum is based on part time studies for already trained secondary level nurses. It does not include all subjects, that are included in the university bachelor curriculum, which is based on full time studies during 4 years at university level. The degree is also different as the college bachelors do need 6 more months training to become equivalent to the university bachelors.

The introduction of the bachelor programs at the college and university levels has opened new doors for nurses. An academic career within Vietnam or abroad is no longer impossible. It is, however, still not possible to pursue an academic career in nursing science above the bachelor level in Vietnam.

Deployment of graduated bachelor nurses has to a certain extent become a problem. Although experienced secondary level nurses have shown a great interest to attend the bachelor training program, many have not had the capacity to pass the entry requirements. Young nurses, with a more recent general education, have had less difficulties in passing the entry requirements. This has lead to a rather high proportion of young qualified bachelor nurses.

The dominance of younger nurses in the bachelor program is obvious, not only in the full time study program, but also in the part time study program. Many young graduated bachelor nurses do not have the experience to become managers or teachers immediately after graduation and remain therefore as staff nurses, sometimes with a more experienced secondary level nurse as supervisor.

Expectations among the bachelor nurses themselves (especially among part time students with earlier work experience) to become promoted after completion of the training have not been fulfilled. It could also be argued, that it is not reasonable, that young bachelor nurses without any working experience become head nurses directly after graduation. These problems are presently discussed in training institutions and in the MOH.

The VNA was founded as a branch under the Medical Association in South Vietnam in 1976. The national VNA was founded as a legal body, and registered as such in the Council of Ministers, in 1990. VNA is a professional representation of nurses in dialogue with the MOH, Government and hospital boards. It also states nurses' responsibilities, and therefore protects the public from misconduct. The VNA both at

local, regional and national levels has since the start grown in strength with clearly stated goals, plans and activities.

The VNA publishes twice a year a journal with up to date information on the nursing situation in the country, with nursing articles and also acts as a forum for debate. A severe problem is the financial situation. The association has presently only one full time employee, a secretary. All other work is carried out on a voluntary basis. The constitution of the VNA fits the constitution of the International Council of Nurses (ICN). However, the VNA has so far not been able to afford to join the ICN.

The nursing office at the Department of Therapy at the MOH was set up in 1992. This was the first time for nurses to be represented at the ministerial level. The nursing office has presently two full time employees. The Government further agreed to employ a chief nurse at all provincial health bureaus in 1996. The MOH decided to establish a nursing office in large hospitals in 1990 and in all hospitals in 1996. Seminars were held in Hanoi to discuss its implementation and the role of nursing in the hospitals. The first course for chief nurses was held the same year.

All large hospitals now have a chief nurse, who has attended a 3 months management course. It is hoped, that longer management courses can be set up in the future, as chief nurses still do not feel sufficiently well trained for being responsible for nursing administration and management. It has been suggested to include the chief nurse of the hospital in the hospital board, but the MOH has so far not agreed to the idea. Inclusion of the chief nurse in the hospital board would in principle give her/him a position equal to the vice directors of the hospital.

Nursing services in Vietnam are weak. The nurse is to a large extent a "tool" for the doctor. One way to strengthen nursing is to improve nurse training and to fill the gap between theory and practice and thereby knowledge and competence, which would have positive effects on attitudes and services. It is of great importance to change attitudes to nursing among other cadres, especially among medical doctors, but also among nurses themselves and community members. It should be pointed out, that the quality of nursing and the position of nurses in the hierarchy of the hospital system vary considerably between different areas and hospitals in Vietnam.

Contrasting the negative picture above, it should be mentioned that nursing research projects are carried out by nurses in a few hospitals and institutions in the country.

Thus , research in order to establish a quality assurance model is on-going in the Vietnam Sweden Hospital in Uong Bi. Two pilot wards have been selected and the research will be carried out in a long term perspective in collaboration with nurses in Sweden.

Also , task analysis has been carried out by the nursing office at the MOH in order to clarify nurses'duties.

4.2 Regulations, licensing and registration of nurses

Licensing and registration of nurses do not exist in Vietnam. The nursing office at the MOH and the VNA have tried to pursue the issue, but up to now without success. Obstacles encountered have been of structural and financial nature.

Hospital regulations exist and regulate duties and functions of the nurses and also to a certain extent who can exercise the nursing profession. They further regulate what type of nursing, that should be carried out in the country, the setting up of nursing offices in the hospitals and also the nursing office at the MOH.

To be allowed to work as a nurse in Vietnam an expatriate nurse has to prove, that she/he is registered as a nurse in her/his home country. Necessary documents, such as certificates, diplomas and work permit application should be submitted to the MOH as a basis for a work permit. The whole procedure takes approximately one month. Expatriate nurses presently working in Vietnam certify, that the process has been smooth and without problems.

Local and expatriate nurses, interviewed by the team, further reported that working relationships between Vietnamese and expatriate nurses was good. It was, however, pointed out that it is of importance for the expatriates to try to learn about the Vietnamese culture and society and thereby increase understanding of the Vietnamese people and system.

4.3 Present nurse work force and future projections

One of the major constraints for planning and managing human resources is the lack of exact information on health workers at all levels. The numbers of nurses and related staff presented below have been taken from the MOH Health Statistics Yearbook 1996 (1976-1996) and the Draft National Health Workforce Plan Vietnam 1996-2020, December 1997 (projections). The figure for bachelor nurses 1996 has been separately reported from MOH, and includes nurses, midwives and medical technicians.

	1976	1986	1996	2000	2005	2010	2015
Sec.level nurses	4 315	16 222	22 536	31 852	44 948	56 669	68 862
Sec.level midwives	647	4 480	8 101	11 145	14 247	16 997	19 681
Sec. level med. tech	1 728	5 132	6 332	10 355	12 487	13 784	14 898
Bachelor nurses			599	1 112	3 069	5 268	7 580

The ratio of nurses to doctors in the hospitals is planned to increase from 2:1 to 4:1. The staff category bachelor nurses (including also midwives and medical technicians) is planned to increase substantially during the period.

It has to be underlined that numbers in such a long term perspective as presented here are quite uncertain.

4.4 Roles and tasks of nurses in hospitals, and relations to other cadres

Nurses are commonly seen as having three roles:

- A dependent role, where the nurse carries out the doctor's orders
- An interdependent role, where both nurse and doctor participate with their knowledge and competence

- An independent role, where the nurse deals with issues, that are within her/his own competence

The role and function of the nurse in Vietnam is disease and task oriented. The dependent role of the nurse has been heavily emphasized and Vietnamese nurses have been taught and brought up to serve and carry out the doctors' orders. The interdependent and independent roles of nurses have not until lately been recognized and being part of their training and of the nursing policy (only in a few institutions). Independent and critical thinking have not been seen as desired or necessary components of nurses' area of competence as they "only carry out doctors' orders". A shift in these views have begun to show.

A change in policies can now be seen in Vietnam. In the Hospital Regulations of 1997, it is stipulated (still a recommendation) that total patient care should be implemented in all institutions in Vietnam. Many hospitals have started a pilot unit, where total patient care is tried and tested. The regulations state, that one nurse should take care of and be responsible for 4 to 6 patients. Nurses should further carry out health education and see to it that every patient has a nursing care plan.

If a total patient care perspective and a real understanding of the concept are to be achieved, the training needs to be changed and nurses must learn to think critically and act more problem oriented and independently. When nurses will be able to take on responsibilities for and carry out assessments, nursing diagnosis, planning, implementation and evaluation of care, then a holistic (total) patient care will be achieved.

Nurses in Vietnam are task oriented and used to a system, where responsibilities and accountability are divided between them, i.e. one nurse is responsible for the drugs (locked up and only available for the responsible nurse) and for the drug administration. In non-task oriented systems drugs are stored in a central place in the ward, available for all the nurses. This means a shared accountability for the drugs among the nurses. Problems might occur when a system of total patient care is introduced, in which all equipment and consumable are available and attractive. Systems will be needed to control the flow of items.

Tools, that might help to identify roles of nurses, are rare in Vietnam. Development of job descriptions, setting of standards and development of procedure books are only in its initial phase. Strengthening of the nursing office at the Department of Therapy these very important issues could be dealt with more in depth. The staff at the nursing office is aware, willing and competent, but does not have enough resources to do it. Presently the MOH nursing office has only 2 full time nurses employed.

Launching of the Hospital Regulations in 1997 was a step in the right direction. Roles, functions and limitations of working areas and competences are to a certain extent regulated and can serve as a basis for further development of e.g. job descriptions in the hospitals.

The Vietnamese doctor has by tradition been the chief of the department/ward. It is a new phenomenon in Vietnam with head nurses and shared responsibilities for medical and nursing activities in the wards. Team work with two-way communication between doctor and nurse has slowly started to develop.

Career development options for nurses in the future is an issue of interest and debate in Vietnam today. It appears that both secondary level nurses and newly graduated bachelor nurses will serve as staff nurses. Bachelor nurses will have the

opportunity to be promoted to head nurses, chief nurses and teachers after having gained working experience, while that will not be possible for secondary level nurses. Hence, in a long term perspective all secondary level hospital nurses will be staff nurses.

A current "problem" is the experienced secondary nurses in positions as head nurses and chief nurses, many of them very competent. They feel threatened by the bachelor nurses, who also are claiming the higher positions. Many institutions have asked for exceptions from entry requirements to the bachelor program for "the old experienced nurses". A debate is presently ongoing concerning this issue. So far the MOH has said no, with the motivation that academic studies require a certain entry qualification. It is discussed whether a taylor-made program could be organized for secondary level nurses in high positions, who cannot pass the entry requirements for bachelor training, in order to make them competent to keep their positions.

There is a confusion concerning the roles and functions of the bachelor nurse also among the bachelor nurses themselves. Many of them do not seem to have understood their role in nursing. It has, for example, been suggested among bachelor nurses, that they should take over advanced procedures from the doctors in order to emphasize their role as more educated than the secondary level nurses. This confusion concerning doctors roles and nurses roles need to be sorted out. The concept of nursing care must be clarified.

4.5 Skills, capabilities and attitudes of nurses

The consultant team observed nurses in inter-action with patients and also interviewed nurses (local and expatriate), managers (local and expatriate), teachers, doctors and others who were expected to be knowledgeable about existing skills, capabilities and attitudes among nurses in Vietnam. The consultants asked specifically about existing weaknesses and deficiencies of the nurses. Nurses themselves were often critical to their own group's performance. The information obtained was not always in concordance and there were variations in opinion about the quality of nurses and their work. We focus here mainly on the weaknesses of the nurses.

Nurses in Vietnam are trained to follow regulations and doctors orders. The lack of training, especially of interdependent and independent functions of the nurses, results in limited awareness and knowledge of the importance of team work and critical thinking. The lack of training of these functions have implications for the care given, which tends to become task oriented and not focusing on the whole patient, total patient care.

A training system, which is not built on reasoning and understanding of how things relate to each other, where one thing does not lead to another, but instead is reviewed in a more task oriented way has a tendency to create nurses, who are not focused on the whole patient, but instead on tasks. It leads to a lack of overview and an insufficient overall understanding. In order to adjust to a system that is based on total patient care re-training is required.. It further requires change of attitudes and a deeper understanding of the implications of nursing care. This will take a considerable period of time.

There are many capable specialist nurses in the hospitals e.g. operating theatre nurses, ICU and neonatal specialists. The skills and capabilities have been achieved

through on-the-job training. These nurses would be good training models when it comes to the planned HIH post-basic programs.

Task orientation might also be coupled to lack of understanding of such basic principles as for example, aseptic technique. The nurses learn how to behave in every single situation instead of learning a principle and thereafter try to apply and use the principle in similar situations. To learn basic principles is very useful, especially in situations, where it is necessary to improvise because of, for example, lack of resources.

Nursing care is often carried out by the relatives instead of the nurses. The nurses have learnt how to carry out the nursing procedures during training, but due to lack of practice, they forget how to do it. "Short cuts" are often used due to lack of appropriate resources. Such habits also lead to loss of skills.

A serious problem among nurses that was brought up by most of the interviewees was the lack of communication between nurses and patients. It was said that nurses do not inform patients and do not talk to them. It is difficult to explain why these attitudes have developed. They exist also among other cadres.

Salaries for nurses and other staff in the hospitals were extremely low during the war and the period after the war. Staff needed other sources of income in order to survive. A habit of "not working so hard" during working hours, but instead to try to rest (to be able to do another work after working hours) was introduced. This system still exists and it is now very difficult to change it towards a more efficient one, even if salaries have increased considerably.

In order to control very limited resources in the hospitals in Vietnam, accountability for equipment and consumable often is divided between different staff. Only one person may, for example, be responsible for and have access to consumable to carry out dressings. Another system of accountability will most likely be needed in a private hospital, where staff around the clock need access to all types of equipment and materiel. This might create problems.

4.6 Pay structure and other benefits

It is not easy to get information on what nurses in the public sector hospitals in Hanoi actually earn. Government employees follow in principle a system with start at a basic level, and where the salaries for most people increase every second year, until they after 30 years reach the final, 16th level. Bachelor nurses, however, have salaries increased only after every third year, until after 27 years they will be in their final, tenth level.

The basis for salary calculations is 144,000 Dong per month , and there is a coefficient for each level, which differs according to staff category. Some examples will be presented for nurses, initial salary and salary thereafter.

	Initially	6 years	12 years	18 years	24 years	30 years
Sec. level nurse	226,080	277,920	329,760	383,040	439,200	495,360
Bachelor nurse	256,380	325,440	394,560	465,120	537,120	573,120

A head nurse will receive a responsibility allowance, increasing the coefficient by 0.4 for every level, which will increase the salary by approximately 57,600 for each level.

The nurses generally earn more than the quoted salaries. The hospitals can nowadays increase staff salaries by utilizing income from for patient fees and health insurance, and there are also other ways to increase the income. It is not unusual that it may amount to around one million Dong monthly.

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The cost for social insurance (including pension) is 15 per cent of the salary, out of which the employer (the Government) pays 10 per cent, and the employee 5 per cent. The cost for health insurance is 3 per cent, 2 per cent is paid by the Government, and 1 per cent by the employee.

Some staff had earlier free accomodation, but not so any longer.. The job security is in principle 100 per cent, the staff has a life time employment once they join Government services.

There is not a lack of nurses in Vietnam in relation to established posts. The situation is rather the opposite and some nurses even work without payments. The attrition rate is extremely low, less than 3 per cent and is due to retirement, death or invalidity.

5. NURSE TRAINING IN VIETNAM

All education of medical personnel in Vietnam is controlled by the MOH although training at university and college levels e.g. medical training and bachelor nurse training are governed by two ministries, the MOH and the Ministry of Education and Training.

There are presently 47 secondary level medical schools in Vietnam, approximately one in each province. Recently new provinces were created through division of some existing ones , the total now amounting to 61. Consequently, some of them do not have secondary medical training facilities. Each province is responsible for setting up its secondary medical school. In these schools nurses and midwives (primary and secondary) and medical technicians (x-ray, laboratory, dentistry, anaesthesiology, physiotherapy and traditional medicine) are being trained. The training is controlled and funded by the province and can be dimensioned according to the needs of trained staff in the province.

The present policy of the MOH is, however, to try to concentrate training sites to fewer secondary medical schools in order to guarantee adequate training facilities and quality and to close schools of minor capacity. The intentions of the provinces and the MOH are here contradictory.

A bachelor nursing program was re-implemented in 1993 on university college level and is presently carried out in 2 schools, Nam Dinh Secondary Medical High School in the north and HCMC Secondary Medical School No. 3 in the south. The university of Bac Thai prepares to start a similar training in a near future.

Specialist training for nurses is not organized by the schools, but by the institutions themselves as in-service training.

5.1 The primary level nurse

Since 1960 there is a program to train lower level nurses and midwives for the village level needs in Vietnam. The entry requirement is 7-12 years of general education and the duration of training varies between 3 -12 months. The current policy is to close this training program. It is nowadays only running in remote areas.

Since 1993 there is a 1½ year primary nurses' and midwives' upgrading program to obtain the equivalence of secondary level nurses. Applicants with less than 12 years of basic schooling need to complete courses on subjects like mathematics and chemistry prior to the course (See Appendix 4).

5.2 The secondary level nurse

Secondary level nurse training was commenced in 1968 in Hanoi (in the south already in 1960). Entry requirement is 12 years of general education. However, shorter schooling might be accepted in remote areas. Applicants must pass a national entrance test in mathematics and biology. The length of the training is 2½ years, corresponding to 135 credits. For further information see Appendix 4.

Another type of secondary level nurse training is a three months' course for up-grading assistant doctors to the level of a secondary level nurse. In these courses assistant doctors, who have not been able to pass entry examinations for university training to become medical doctors, participate. The training is of a temporary character. Since 4 years there is no longer a training program for assistant doctors.

In 1972 an official curriculum for secondary level nurse training was issued by the MOH. The curriculum was revised in 1992 and a new curriculum is currently on trial in 8 pilot schools. A block system is tried, where theory is followed by practice in hospital. The block system does not seem to be a good way of training nurses in Vietnam as the number of students exceeds the number of practical training sites. The students do not have the possibility to practice what they have been taught, and many of them become so called "corridor" students, i.e. students who do not have access to a patient or simply cannot enter the already over crowded patients' rooms.

After passing the national final examination, consisting of a theoretical and a practical part, the students are given certificates as secondary level nurses. After graduation they are supposed to work as staff nurses in hospitals and health centers. They are free to apply for work in any province and any hospital in the country.

5.3 The bachelor level nurse

The bachelor of nursing program at university level was introduced on a trial basis in Hanoi in 1985, and a similar trial was carried out in HCMC. Due to lack of qualified advisers in professional nurse training programs and teachers in nursing, it was temporarily stopped after some years.

The bachelor training was re-introduced in Hanoi Medical School in 1993 and is today also offered at Nam Dinh Secondary Medical High School and in HCMC

Secondary Medical School No. 3. The first course at the Medical School in HCMC started in 1997. Further details of the university curriculum can be found in Appendix 5.

5.4 Comments

University and college level training of nurses is in its initial state in Vietnam. It is very positive, that bachelor training programs are run in four different places.

The content of the curriculum seems to be biased towards subjects in basic sciences and non nursing subjects, while professional nursing subjects are less emphasized. Hours for practical nursing are proportionally few. A better balance between the subjects needs to be achieved.

There is a general complaint about practical performance of the university bachelor nurses (Viet Duc, Hanoi and Children's Hospital No 1, HCMC). Some hospitals prefer to employ secondary level nurses.

The college curriculum for upgrading secondary level nurses is based on a periodical part time teaching system during 4 years (2x2 months per year). The repeated breaks in the studies create difficulties due to lack of continuity.

The part time bachelor training does not give the graduates a diploma that should qualify them for further studies in nursing science. To obtain a bachelor degree, they need to complete 6 months further university training. The academic nursing career ends presently at the bachelor level as there is no master of nursing program. If a bachelor nurse wants to proceed academically, she must choose another subject, usually medicine. This is indeed regrettable as there is a great need for academically trained nurses.

The teachers are mainly medical doctors. However, some nurses and midwives, both bachelor and secondary levels, work in the schools. The standard of the teachers varies considerably. No teachers are formally trained in teaching methodology. No courses of that kind exist but the bachelor training of nurses is seen as sufficient for the nurses to work as teachers. The training includes a block of teaching methodology.

Classrooms are very simple and over crowded. Libraries are small and dark and have few books. Those that were seen were old and in bad condition. The libraries are rarely used by the students.

Professional journals are scarce, often old and in foreign language and can thereby only be read by a few.

Up-grading of libraries is an important issue to focus on. A solution could be to to set up computers in the existing libraries with literature on CD-Rom and access to Internet.

The supply of teaching texts and manuals is nearly non existent. In HCMC Secondary Medical School No. 3, there were 8 books in nursing procedures in Vietnamese, which the students can borrow in turns. No new editions have been printed during the last few years due to lack of financial resources. The students take lecture notes and study them before exams.

Teaching and learning equipment, such as dolls, anatomic models, syringes, sphygmomanometers are old and old fashioned, badly maintained and broken, worn out and inadequate in numbers.

There are practical teaching rooms for different nursing techniques, the standard of these "laboratories" varies, but is not adequate in any of the schools which were visited by the consultants. They cannot give the expected quality of training, which should lead to a high level of nursing performance.

Adequate and well equipped language laboratories have been installed in some colleges and universities. In these laboratories, teachers also learn English about two hours daily.

The accreditation arrangements for the bachelor graduates in the hospitals function well. The bachelor nurses get a higher salary level than secondary level nurses and are to a certain extent given adequate professional posts. The number of bachelor nurses is still very limited e.g. 20 out of 548 nurses in the Children's Hospital No.1 in HCMC and 1/277 nurses in the NPI and 6/281 nurses in the Viet Duc Hospital, Hanoi.

In the view of the consultants, the present policy of nurse training and nursing career options need to be reviewed in order to increase the number of nurses compared to the number of doctors in Vietnam. The consultants further consider, that an implementation of a complete academic program including a master of nursing would increase the interest for nurses to remain in the nursing profession.

The Government has, however, done the opposite. It has included nursing (6 months) into the medical doctors' training curriculum.

The problem to set up a master training program for nurses is, apart from lack of funds, the lack of qualified teachers and lack of experience in nursing science.

A need to train capable bachelor nurses abroad is evident. Another option would be to set up a pilot training project at a university in Vietnam and train a group of nurses with the initial help of qualified expatriate teachers. A program for Master and Ph D training of nurses could be the key to development of nursing in Vietnam.

6. THE PRIVATE HEALTH CARE SECTOR IN VIETNAM

The "Doi Moi" policy has had profound effects on Vietnam and the Vietnamese society. This has affected also health and health services. The Government now allows private practice and has opened up for applying various forms of delivering health services. The new policy is inter alia reflected in the "Government Resolution on strategic orientation for people's health care and protection in the period of 1996-2000 and Vietnam's National Drug Policy" from 1996, and in the Ordinance on Private Medical and Pharmaceutical Practice.

The Government Resolution takes up several aspects for restructuring health services in order to better meet the needs of the people and to increase efficiency:

- The re-organization of the curative health network has resulted in diversifying the form of health care providers and mobilizing the participation of people of all strata

in (providing/receiving) health services in accordance with the ordinance on private medical and pharmaceutical practice;

- It is one of the guiding principles to diversify the forms of health care provision (state or community run or private) in which the state plays a leading role;
- It is among the main policies and measures that the forms of health care provision should vary to include public joint ventures, people-funded and private hospitals. Where conditions permit, certain wards or rooms in some hospitals can be arranged to collect enough fees and provide services satisfactory to the users;
- Another measure is that the state should invest more in health related activities, mobilize and effectively use all available resources for the same purpose. Such resources include contributions from the people, production and business enterprises, international aid and co-operation;
- International co-operation in health should be promoted. More capital should be mobilized in the form of aid, co-operation, joint ventures and investments including wholly foreign-owned ventures.

Employees and public servants in the State apparatus, and active officers in the People's Armed Forces are not allowed to take part in the setting up or management of private clinics but they are allowed to carry out private medical practice outside office hours in other forms of organization as stipulated, if they obtain permission from the heads of their offices.

The State encourages and creates favourable conditions for the registration to conduct private medical practice in the highlands, mountainous regions, off shore islands and other remote areas (Circular No. 7-BYT/TT on the 30th of April 1994 guiding the implementation of the ordinance on private medical and pharmaceutical practice and Decree No. 6-CP on the 29th of January 1994 of the Government concretizing a number of articles of this ordinance in the area of private medical practice).

As was stated earlier there are, according to the MOH's Statistics Yearbook 1996, all together 212,103 health personnel in Vietnam. The same source reports that there were 26,698 licensed health personnel in the private sector, out of which 12,474 were Government staff. The numbers for some categories are presented below.

Category	Total licensed	Of which Gov staff	Total in Vietnam
Medical doctors	9 399	7 781	33 470
Pharmacists	6 146	2 763	5 286
Sec. level nurses	214	103	22 536
Sec. level midwives	303	146	8 101
Sec. level med. techn.	186	41	6 332

The figures show (reliability is uncertain, an example of error can be seen in the reported figures for pharmacists) that quite many doctors have licences to practise privately, while the number of secondary level staff with licences is small. Around 28 per cent of all doctors have licenses and about 83 per cent of those with licences are Government staff. For secondary nurses and midwives only about 1 and 4 per cent, respectively, have licences for private practice.

Private health care has been permitted since 1993, and the dominant part of present services are offered as outpatient care. Privately owned and run hospitals is a very new phenomenon, although there have for a long time been private and semi-private

wards in public hospitals. Three private hospitals, owned and managed entirely by Vietnamese interests started their operation late in 1997, two in Da Nang and one in An Giang Province. There is one private joint venture hospital in operation, Vietnam International Hospital in Hanoi.

Vietnam International Hospital

Vietnam International Hospital, with 56 beds, was opened in October 1997 after refurbishment of old buildings close to Bach Mai Hospital. It is a joint venture between Australian partners and Bach Mai Hospital. There are 10 expatriate and 12 Vietnamese full time working doctors, 9 expatriate and 43 Vietnamese nurses employed. In addition, 10 nurses from Bach Mai Hospital come and work for periods of 6 months. There is 1 expatriate nurse in every shift. The total number of staff at the hospital is around 190.

The hospital is a white, beautifully designed two story building with a well kept drive way and other arrangements in the near vicinity. Inside the hospital the immediate impression is one of a very clean, lofty atmosphere with wall-to-wall carpets all over the place including in the patients' rooms, in the intensive care unit and in all other rooms and corridors that there was time to visit. There were conveniently placed sitting groups with sofas and easy chairs in all corridors. The patients rooms had all the necessary emergency facilities including oxygen and similar, there were TV and radio sets and in a room adjacent to the patient room there were sofas, easy chairs etc. apparently meant for visiting relatives. The nurses station looked well organised. In general the hospital gave an efficient and smart impression.

The Vietnamese nurses had been trained full time during 6 months in Hanoi (the consultants got no information about the content of this training) before the opening of the hospital. Two Vietnamese nurses were sent to Australia for additional training for 1 month.

In spite of the multinational profile of the staff there were no problems encountered as a result of this and the nurses and doctors got along well. We were made to understand, however, that in spite of the rather long and apparently intensive preparatory training the Vietnamese nurses were still not up to a standard that could be considered satisfactory by the Australian supervisory nursing staff .

The bed occupancy rate was reported to be only about 20 % or less after half a year of operation . The outpatient department was , however, reported to be considerably better utilised. The low occupancy rate was verified during our "spot visit", only very few of the patients rooms were occupied and few patients were seen. Only 18 deliveries have taken place since the hospital opened.

According to information from the MOH, there are plans to establish two more private hospitals in Hanoi in the near future, one French with 79 beds, and one American with 50 beds.

7. ESTABLISHMENT OF HANOI INTERNATIONAL HOSPITAL

7.1 Brief background about the Thonburi Group

The Thonburi Hospital Co, Ltd in Bangkok was established in 1976 and a 60 bed hospital became operational the year after. The hospital was successively expanded and has now around 400 beds. Another Thonburi Hospital, with 70 beds, was opened in 1991. The company was at the end of 1994 registered as a public company with the Stock Exchange of Thailand and renamed Thonburi Hospital Plc. In 1995 the company expanded outside Bangkok to operate 28 affiliated hospitals all over the country, and the total number of hospital beds is now around 3,000. It is the ambition of the group to expand further in Thailand.

The Thonburi Group has also started to extend its network to neighbouring countries. A hospital was established in Cambodia in 1996, but due to the unrest it is not operational. HIH is planned to be the second hospital outside Thailand There are preliminary plans for additional hospitals in Vietnam (HCMC). Myanmar, Laos and China are other countries of interest for expanding the network.

Apex Health Care Co., Ltd. was established in December 1994 with a registered capital of 50 million Baht and with Thonburi Hospital Plc. being a major shareholder. The company acts as a core company in the trading and production of medical products for the Thonburi Hospital Group of Companies.

Thonburi Hospital Plc. is the core company of the group, but there are also other companies. Among them, there is a health insurance company, clinics of different kinds, companies producing medicine, supplementary food, and medical equipment, import of commodities, wholesale, and retail sale. The Thonburi Group has many partners, among them Siam University, with co-operation especially with the Faculty of Nursing.

Dr Boon Vanasin has been and is instrumental in the development. He is the chairman of the group and fulfils also other important functions.

7.2 Background and preparations for Hanoi International Hospital

Discussions have been going on at the governmental level for several years to promote private health care services and one of the intended means have been joint ventures. It has developed in such a way that a separately located part of the Vietnam-Cuba Friendship Hospital, situated at 92, Tran Hung Dao Street in Hanoi, will be refurbished and restructured into a 60 bed hospital.

The hospital will offer its services to anyone who wish, but the main target group will be the growing middle class in Hanoi and its surroundings.

As stated earlier, the Hanoi People's Committee's share of the joint venture will be 30 per cent, through the supply of land and existing buildings, and the private share

will be 70 per cent. The Thonburi Group will have the main part, 80 per cent, and two other companies will each have 10 per cent of the private share.

There is a Board of Management with 3 members for the private enterprises, 2 for the Hanoi People's Committee, and it is intended that IFC will be represented by 1 member. The consultants were told that Dr Boon Vanasin will be elected Chairman of the Board at the next board meeting. The Hanoi People's Committee is represented by Dr Duong Quang Khanh as Deputy Chairman, and by Dr Tran Lam Hien, who in September 1996 was appointed Deputy General Director of HIH.

Considerable work has to be done to meet the requirements of the new hospital. The consultants were informed that an investment licence had been granted by the Ministry of Planning and Investment already in 1996 and that tender documents for the refurbishing have been prepared. The consultants were further told that all other necessary preparations for inviting to tenders for construction have been made. The local representatives estimated that the actual construction could start 1-1.5 month after a decision is taken for financing the project. The required time for construction was a bit unclear but was preliminary estimated at 6-7 months by the local HIH representatives.

Assuming that a decision on financing will be taken around June 15 this year, the actual construction could start August 1, and might be completed at the end of February 1999, but the equipping and installation of medical and other equipment will take another couple of months. The staff ought to participate in the later phases of equipping the hospital, and at the same time make organizational and work routine preparations for the opening of the hospital. The preparations should include the development of standards for nursing care, and the preparations of manuals, a quality assurance system and job descriptions.

A time schedule has to be prepared, but based on available information and on risks for unforeseen delays, the consultants consider it unlikely that the hospital could open before July 1999.

7.3 Organization

An organogram, prepared by the Thonburi Group, showing how a Thonburi Hospital in principle is organized, is presented in Appendix 6.

The principle organization of a Thonburi Hospital has to be adjusted to suit the needs of the HIH, and the consultancy team discussed this with the Thonburi representatives. It is outside the agenda of the team to review the overall organization, and the team lacks documentation to be able to do so. However, some general remarks will be made.

The General Director will be an expatriate, Dr Olivier Meyer, who has already worked for some time with the Thonburi Group in Thailand. He will also have the position as Medical Director as well as working as an anaesthesist. Dr Tran Lam Hien will hold the post as Deputy General Director in addition to being a part time physician at the hospital. Mr Swat Petchotiwong from the Thonburi Group will be the Administrator, Dr Nguyen Minh Dao will also work at the hospital as Administrator. The Chief Accountant will be a Thonburi Group staff.

It is outside the scope of the TOR to review and discuss the number, the specialities, the background profiles in general and the working arrangements of the doctors.

However, as these factors will relate to and be relevant for the hospital organization in general and the situation of the nurses in particular, it is suggested that the organization and utilization of doctors and how these items are related to management will be subject to a special analysis.

The consultants were told that the number of full time doctors is planned to be 8-10 with expatriate doctors for general surgery and internal medicine (and for anaesthesiology). In addition, there would be consultants in different specialities. The team agrees with the idea to limit the number of full time working doctors and would like to emphasize the importance that the doctors at the hospital are recognized by the patients and the public as doctors of very high quality and skills.

The consultants were informed that although in principle all kinds of services will be offered, paediatrics and obstetrics/gynaecology will be given special priority. This would have to be reflected in the staffing and training of doctors and nurses as well as in the ward arrangements. It is also the intention to start the operation of the hospital by emphazising outpatient care, to initially limit the number of beds to 28, and to later have the possibility to expand up to full capacity of 60 beds depending on need. The consultants agree with this idea.

Nursing organization

The Thonburi Group has calculated the number of nurses for a 20 patient module, based on certain assumptions. The patients have been classified in five groups with four patients in each:

1. Intensive care, each patient needs nursing care 12 hours/day
2. Modified intensive care, each patient needs nursing care 7.5 hours/day
3. Intermediate care, each patient needs nursing care 5.5 hours/day
4. Minimal care, each patient needs nursing care 3.5 hours/day
5. Self care, each patient needs nursing care 1.5 hours/day

This classification and assumed needs of nursing care adds up to a total need of 120 hours/day. It has been proposed by the Thonburi Group that the need of nursing will be divided into three shifts as follows:

50 per cent of nursing care need in day shift will require 60 hours
35 per cent of nursing care need in evening shift will require 42 hours
15 per cent of nursing care need in night shift will require 18 hours

It has further been assumed by the Thonburi Group that each nurse in a shift is able to work actively and efficiently only 6 out of the 8 hours. Hence, the required number of nurses will, based on this assumption, be 10 during the day shift, 7 during the evening shift, and 3 during the night shift.

The original intention of the Thonburi Group model was to meet the need for nursing care with three different kinds of staff: 30 per cent registered nurses, 40 per cent practical nurses and 30 per cent aides (those are staff categories which are available in Thailand). After discussions in Vietnam between the consultants and the Thonburi representatives practical nurses have been exchanged for secondary level nurses.

The consultants agree with the general principles which the model has been based on, but would like to suggest some alternatives, which were also discussed with the Thonburi representatives, who accompanied the consultants to Vietnam.

The consultants recommend, considering the Vietnamese situation, that all nursing staff will be secondary level or bachelor nurses.

The consultants propose that the assumption that the staff is only able to work actively and efficiently 6 out of 8 hours in a shift should be carefully considered. There are various reasons for this, including uncertainty about the bed occupancy. There is, especially during the first period, a risk that there will be too many staff in relation to patients.

The by the Thonburi Group calculated need of staff is per day, and the same staff cannot work seven days per week. With 48 hours work per week, a staff can work six days per week. Based on the assumption that the same person can work six days per week, the mathematically calculated number of staff for the shifts will be 11.67 for the day shift, 8.17 for the evening shift, and 3.50 for the night shift, totally 23.34.

The numbers will be 8.75 6.13 and 2.63 , respectively, total 17.51 if it is assumed that the staff can work actively during all 8 hours in a shift.

Decisions about number of staff should not be based on mathematical calculations but on the need for services from the patients. So the calculated figures, which are built on certain assumptions, should be regarded with caution. Modifications will later have to be made, depending on the actual numbers and conditions of the patients.

The calculation indicates that the number of required nurses, built on the given assumptions, will be between 17 to 23 for 20 patients, and between 24 to 33 for 28 patients. Initially, 28 beds (or 30, which is the actual number on each of the two wards for in-patients) are planned to be opened at HIH, but it can be questionned if all will be utilized. Considering the fact that Vietnam International Hospital has had quite few patients and that two more private hospitals will be established in Hanoi, it is not unlikely that the number of in-patients will be fairly limited, at least at the beginning.

There is thus an uncertainty about the load of in-patients, their distribution as regards severity of illness and the need for nursing care. Apparently no market investigations and projections for number of patients have been made.

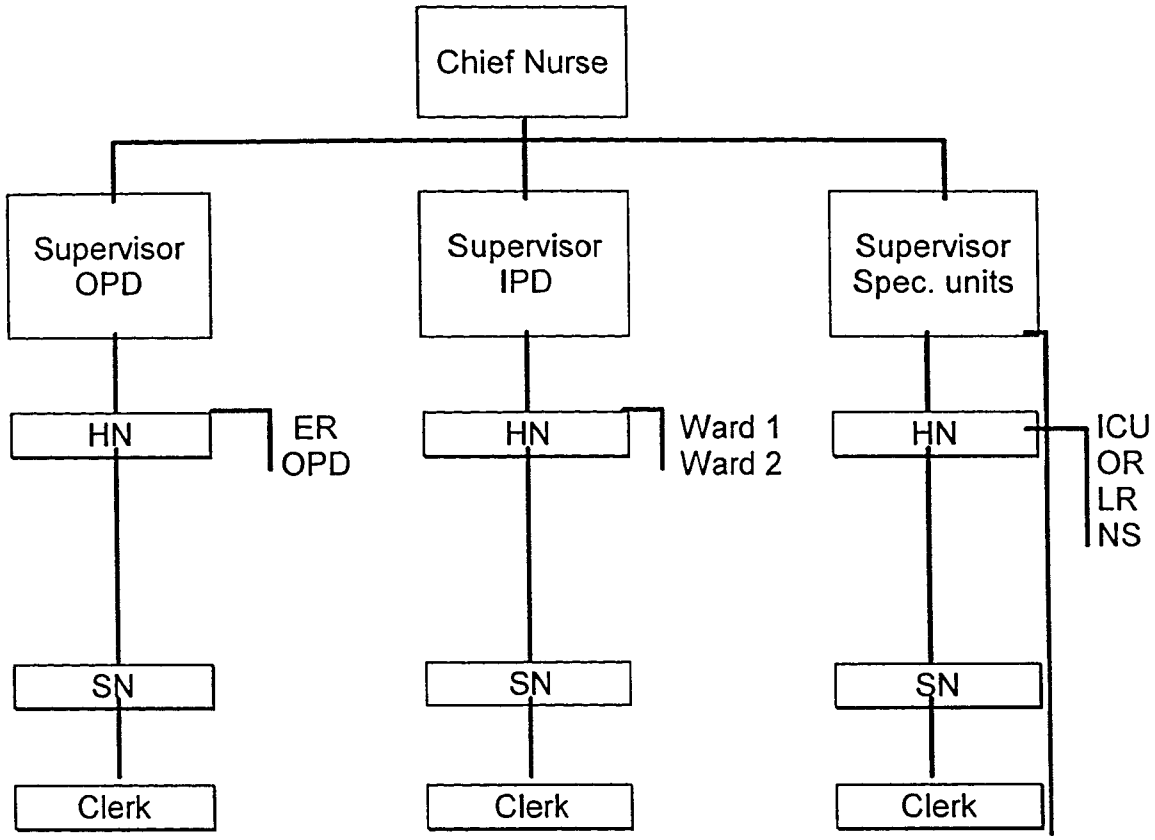
It is a difficult balance, not to have too many staff and not to have too few for offering services to a potentially increasing number of patients. This is a strategic decision, which has to be taken by management, based on short and long term considerations.

As mentioned earlier, the intention is to emphazise outpatient care. The consultants do not know what this will mean in terms of utilizing consulting rooms and also does not know the times of the day when outpatient services will be offered, for example if part time doctors will be available for consultations during evenings. The intended organization for outpatient care must be known in order to be able to make an estimate of the required number of nurses.

The organization, with emphasis on nursing, was discussed with the Thonburi representatives who accompanied the consultants to Vietnam. Based on the discussions and the analysis by the consultants, an organogram, limited to the nursing organization (Figure 2) is presented below.

Figure 2.

Nursing Organization at HIH



The nursing organization is recommended to consist of a nursing office with a chief nurse as the head. The chief nurse should be directly responsible to the General/Medical Director, and to the Administrator for administrative matters. It is recommended that she/he will be a member of the Board of Directors. It is recommended that the nursing office, at least during the first period, will include 3 supervisory nurses, who are responsible to the chief nurse. Experience from the operation of the hospital and further development of its staffing and its organization will be the basis for future decision about when the number of supervisory nurses could be reduced.

One of the supervisors is proposed to be responsible for the special units operating rooms, intensive care unit, labour room, and nursery station. The second supervisor is proposed to be responsible for in-patient wards and the third one for the out-patient department, including emergency and ambulances.

The consultants do not have information about the policy of the Thonburi Group as regards head nurse organization in general, and how this could be applied and adjusted to the conditions of HIH. Lacking this information the consultants, however, propose 7 head nurses (1 or 2 more will be required when the hospital will increase operations from 28/30 to 60 beds), with one each for the following functions and units:

- Labour room, ward for mothers (8 beds), nursery station
- Operating rooms

- Intensive care unit
- Ward for 22 patients
- Out-patient department including emergency and ambulance function
- Laboratory
- X-ray unit

The calculated number of nurses for 20-28 patients is 17-23, based on various assumptions. Head nurses are included in this figure. There is an additional need for nurses to fill vacancies during annual leaves and illnesses. The consultants have roughly estimated 3-5 nurses for that purpose.

As earlier mentioned, the consultants have no real basis for estimating the need of nurses for out-patient care, including emergencies. As there will be a focus on maternity and paediatrics and the services will include deliveries, the consultants recommend that some nurses should be exchanged for midwives.

The Thonburi Group has, based on the intended organization, to estimate the number of required nursing staff. The figures in the table below shall not be regarded as a proposal from the consultants, but merely as an example.

Units	No. of staff
20 patients	17-23
Out-patient care	6
Operating rooms	5
Laboratory	2
X-ray	2
Vacancies (illnesses, annual leave)	3-5
Total	35-43

The earlier estimated need for 28 patients was 24-33. If the staff is to be planned for 28 patients, the total figures in the example above would consequently increase to 42-56.

The consultants have considered , based on extensive experience from Vietnam and on interviews, the need for expatriate nurses and has concluded that the chief nurse and the three supervisory nurses ought to be expatriates. The consultants believe that Vietnamese nurses will fill one or more of the posts as supervisory nurse after some years, or that the posts will be phased out, while the post as chief nurse probably will be held by an expatriate nurse for quite some time.

The main problem in staffing HIH and other private hospitals (and actually also public hospitals) is at present not quantity but quality of nurses. Quality is not limited to technical skills and competence, but also and perhaps above all, to attitudes and management competence. It is therefore essential to plan for and to implement a well designed preparatory training. Supervision during the work will later identify areas for continued training.

The Thonburi Group plans to train 35 nurses for 6 weeks in Bangkok, 30 secondary level nurses for 6 weeks in Hanoi, and 20 assistant nurses for 6 weeks in Hanoi. The number seems, as the consultants see it, too high.

As stated above, the consultant team recommends that all nursing staff should be bachelor or secondary level nurses, which would mean that no training of assistant nurses should take place. The consultants further recommend that all training of nurses for starting operations at HIH should be undertaken in Bangkok. The reason for this is mainly that there is no suitable hospital in Hanoi where necessary practical training can take place. Training in Hanoi could be considered when training staff for opening the total number of beds.

7.4 Recruitment process

The availability of high quality staff, including nurses, is essential for the successful operation of HIH. Proper procedures for and during the recruitment process is therefore of utmost importance.

According to the present plans of the Thonburi Group, 35 nurses are to be recruited for manning the different position at the HIH. Out of those 10 are supposed to become head nurses and the remaining 25 staff nurses. As indicated by the consultants, the number probably has to be increased, if the recommendation to perform all training in Bangkok will be followed.

Advertisements for the recruitment and the following special training has to be tied in with the overall time plan for initiation of operations at the hospital. At the present time there is no firm decision taken as to when the refurbishment of the hospital is to start and when the hospital could be anticipated to be operational.

The time plan below is therefore only indicative as to the period of time that is required between the recruitment and the actual manning of duty stations for the nurses.

It is suggested that two representatives from the Faculty of Nursing at the Siam University and Thonburi Hospital be in charge of the selection process and the ensuing preparatory training.

This means that the recruitment and training package would take 17 weeks, i.e. about 4 months. Adjustments would have to be made to fit the academic year and other schedules at the Siam University.

Qualifications for the applicants should be a reasonable command of the English language, examination as secondary level nurse or having a bachelor of nursing degree, and at least three years of working experience in a hospital. The advertisement also ought to stipulate that the applicants should be prepared to work full time 48 hours per week in 3 shifts, including night duties according to set hospital rules, and be prepared to spend the initial 6 weeks in Bangkok for training.

Time plan for selection and preparatory training of nurses (and doctors)

	Point in time
Advertisement	week 0
Dead line for application	after 3 weeks
Review of applications	after 4 weeks
Personal interviews (n=70)	after 5 weeks
Preliminary info if accepted	after 6 weeks
Leave for Bangkok and start training course	after 10 weeks
4 weeks + 2 weeks training	after 16weeks completed
Take up positions at HIH	after 17 weeks

The consultants have discussed and analyzed various aspects regarding age criteria for the recruitment. Young, recently graduated nurses, secondary level or bachelor nurses, have the advantage that they have not been much exposed to the present system and procedures. They lack on the other hand valuable experience. It is not possible to give a clear-cut recommendation regarding criteria. It will be the responsibility of those performing the selection to assess skills, character and attitudes of individual applicants.

It could be assumed that a considerable number of nurses will apply. It is, however, suggested that only approximately twice the number that will be employed should be summoned for testing and personal interviews. This first selection should be based on the application and on the requirements set.

A test battery focusing on attitudes, personality and professional competence is being used at the Siam University, and would be possible to apply also for HIH after translation.

The personal interviews are proposed to be made independently by a group of 4 persons. As suggested, the representatives from Bangkok will lead this work. It is also proposed that the group will include 1-2 Vietnamese experienced senior nurses, who are not applicants themselves, e.g. from the Vietnam Nurses Association and/or from the nursing office at the MOH.

The interviewers should thus, based on the tests and the interviews, propose a selection of the nurses to be employed and submit this suggestion to the General Director of HIH for speedy approval. The remaining, non-selected nurses, should stay as reserves.

A contract would have to be signed with each of the nurses stating that they agree to be trained in Bangkok in accordance with the rules and regulations there and that they thereafter return to Hanoi and the HIH. It might be appropriate that the contract stipulates that there is a 9 months probation period, and that the following length of the contract should be 1 or 2 years.

The precise duty stations and level of responsibility, head nurse or staff nurse, will be decided after the tests and after 4 weeks training in Bangkok. At this stage it cannot be assumed that a bachelor nurse degree by itself would qualify for becoming a head nurse.

The salary structure must be decided before the recruitment process starts. It has earlier been mentioned that an income amounting to around 1 million is not unusual. The salary at HIH ought to be higher in order to attract well qualified nurses and for the HIH to demand a high level of performance. It is the opinion of the team that the

salary should be in the range120-150 USD for a staff nurse and 15-25 per cent higher for a head nurse.

It is proposed that the salaries of the expatriate nurses will be topped up in relation to salaries in the home countries.

It is assumed that the recruitment of support staff (cleaners, lower administrative staff, drivers and other staff) will be performed 1-2 months before the HIH becomes operational.

The consultants can foresee negative consequences for the public health personnel sector, if nurses in key positions in that sector are recruited for the HIH project. A solution could be to establish a collaboration with nurses in important positions and thereby contribute to the development of nursing in Vietnam. See further below for in-service training and scholarships.

7.5 Preparatory training

The HIH will be established as a high quality hospital with several specialized areas such as intensive care unit, neonatal intensive care unit, delivery rooms, and operating rooms, which require advanced and skilled care.

As was stated above, HIH is planned to have 28 beds as a start, increasing to some 60 beds in full operation. Starting up a hospital from scratch with new equipment, a non-familiar environment, a staff that is also un-familiar with each other ,and duties and demands that are new, may pose a considerable logistic and psychological stress and require a well designed preparation.

It is also essential that the hospital already from the beginning sets its standard high, and to a large extent the visible and less visible indicators for this standard are set by the nursing staff.

The preparatory training was assumed to take place in Bangkok. The possibility to conduct the training in Vietnam has also been considered.

Although there may be a case for the latter - language, familiar environment, less complicated travel logistics etc. - the consultant team, supported by many competent interviewees,is definitely in support of arrnging this initial training in Bangkok at the Faculty of Nursing at the Siam University.

The main reasons for this are:

- It is important to expose the students to well functioning hospitals and their organisation, teaching facilities, routines and working standards
- A package of theoretical and practical training, 4-6 weeks, has already been worked out at the Siam university, which is ready to organize the studies and accommodate the students
- It will be possible to constantly assess the students' skills, professional competence, leadership ability and personality in general during an intense 4 - 6 weeks period, using both regular testing, observations and interviews in order to select the nurses who would be best suited to become head nurses. The machinery and experience for that would be available at the Siam University .

Nurse training in Bangkok

The training arrangements would in short have the following elements:

- 4 weeks common course

All students will attend classes together for theoretical and practical training as well as study visits .The suggested program, see Appendix 7, is based on experience from the Siam University.

The training will focus on technical skills, special nursing management issues, nursing ethics and behaviour, introduction to problem orientation, critical thinking and evidence based care.

At the end of the four weeks training period an assessment will be made based on the initial recruitment tests and interviews and on the tests and other assessments made during the training, to select the nurses who are intended to become head nurses at HIH.

- 2 weeks continued training in two groups

The group is proposed to split into two groups with the following program:

The head nurse group will have another two weeks theoretical and practical training course, which to a large extent will focus on leadership, management, human relations and communication, see Appendix 7.

The remaining staff nurses will be assigned for two weeks as "shadows", to follow closely the work of the ward staff nurses in the Thonburi Hospital (and possibly in other less sophisticated hospitals) both at day and during night shifts. That would also enable them to train technical skills in specialised departments.

The consultants recommend that it is considered if also the head nurse group should participate in the same activities as the other nurses during weeks 5 and 6 , which would increase their training to 8 weeks.

It is assumed that the above training should be conducted in English. Although class room lectures may be translated it would pose considerable problems with translation for smaller groups and above all for ward visits and ward work.

Possibly a combination of formal translation of lectures and the use of those nurses who are in best command of English language as translators in groups work and in the ward work could be possible. The final decision how to solve the language problem would have to await the recruitment interviews.

The estimated budget for the training in Bangkok is presented in Appendix 8 and amounts to a total of 1,378,750 Baht. The costs for an alternative training in Vietnam is presently difficult to calculate but can be assumed to be lower. However, as was stated above the clear benefits of having the training in Bangkok has been judged to by far outweigh the assumed increased costs.

It is assumed that all nurses after completion of the Bangkok training go back directly to HIH to take up their posts and be regularly salary enumerated.

Doctors training in Bangkok

Although it is outside the TOR the consultant team recommends that the group of doctors employed or to be employed at the HIH as full time working doctors should

attend the two weeks' training course together with the now selected head nurses. The reason for this is that too little would be achieved if the training on management, leadership and related issues would be limited to nurses. The doctors have an important function as leaders and their approach and behaviour will have considerable impact on the general atmosphere at HIH. Proper attitudes are of enormous importance in relation to patients as well as to staff, so attitudes is an essential subject also for the training of the doctors.

The topics during this period would be very suitable for both categories and it would be an additional asset to have a joint training as it can be anticipated that the doctors and the head nurses will work closely together and would do better so after a period of joint training under residence conditions.

The presented program for the two weeks´ training may have to be slightly modified in case the above suggested joint training is accepted but the basic elements should be retained.

Training of the support staff

The major part of the training and trimming should consist of on-the-job training organized by the supervisors and other lead staff and include representatives from the Siam University. However, it is suggested that also one week formal theoretical and practical course be organized shortly after they have been employed and well in time before the HIH starts operating.

7.6 Trainers, education material and procedure books

Going through the curricula for the bachelor nurse training and paying visits to many schools and hospital libraries give a strong impression of shortage or non-existence of books in the Vietnamese language, meant for nurse training or to be used as reference literature. As only few nurses speak or read English there is an urgent need for Vietnamese literature.

It is suggested that a few relevant booklets, instructions, mini-handbooks and mini-manuals be selected from the Faculty of Nursing at the Siam University and translated into Vietnamese and be included in the HIH library and in relevant wards.

Not until they are provided near the working place they will be used and read. The installation of a computer with CD ROM possibilites and meant for both doctors and nurses in the library would be an appropriate asset.

Even more important is the development of a procedure book/operations manual. No authorised material has been issued by the MOH as yet, and the consultant group has not come across any in the hospitals visited. There are models worked out in the Thai language which after due modifications could be translated for use in HIH.

7.7 In-service training and other post-basic training

The consultants should, according to the TOR, look at the feasibility of setting up post-basic training for Vietnamese nurses in specialized hospital nursing skills using

HIH as the training base and, if feasible, draw up plans for a pilot training program in Hanoi.

The consultant team agrees that if HIH is to be and should continue to be a hospital of high standard, it is essential to have a well functioning in-service training program, and to try to develop it in such a way that it can be of value for interested parties also outside HIH. That would have a mutual beneficial effect.

In short the following elements are suggested

- Regular weekly staff meeting in all wards, attended by all relevant staff, with structured case discussions , and other relevant topics;
- Regular monthly in-service teaching sessions for all professional staff,including doctors and nurses;
- Open seminars, about three times per year, of ½ - 2 days' duration for HIH staff and others, in the first place public but also private hospital staff;
- Post-basic training of selected individuals working in HIH or in the public sector who may be provided with scholarships for longer specialisation or academic training, e. g. in Bangkok;
- Organizing post-basic training, for HIH staff and others, in specialized nursing skills;
- Continued training in English language.

Regular weekly "Coffee meetings"

A feature seen in most reputed hospitals is a structured weekly gathering of doctors and nurses, often as part of a coffee break, in each ward /department. The meeting should last maximum ½ hour, a special week day and time which should be less busy than others should be chosen (the same all the time) and the head nurse should make such arrangements that as many as possible of the staff could be present.

If such meetings should be accepted,appreciated and attended they have to be well structured and to deliver a valuable educational message.

It is suggested that the head nurse be in charge of the program, which often, at least in part, should take the shape of case analyses or discussions of certain routines or a mini-lecture given by one of the ward doctors or head nurses, or an invited doctor or nurse.

Regular monthly in-service training

There are several models for this type of in-service training. In Thonburi Hospital the topics are based on on-going surveying of patients' comments and wishes. In other hospitals the chief/head nurse simply decides what needs to be brought up to date.

It is suggested that this last model be applied. The nursing office makes annually or semi- annually an in-service training program schedule with relevant topics and with sessions once a month. As all nurses (and doctors) cannot leave the duty stations at the same time, it is suggested that the same topic be repeated e g later in the week or the following week.

The sessions would last some two hours and ample time for discussion should be given. The responsibility for organizing this training should rest with the chief nurse in

collaboration with the supervisors. Teachers for the sessions should be doctors and nurses from HIH but could also be recruited from outside.

Open seminars

It is suggested that once every four months a seminar be organised for selected HIH staff (doctors and nurses) and for invited staff from public and private hospitals. The seminars would last some ½ - 2 days depending on subject and available teacher(s). In order to emphasise that HIH is a hospital of high quality, it would be essential to select interesting topics, to have teachers of high reputation, who are in the front in their area and who are very good teachers.

Responsible for the arrangements of these seminars could be the General Director and the chief nurse.

Post-basic training for selected individuals

It is suggested that annually one scholarship be awarded a nurse for a longer period of studying abroad (in the first place in Thailand). The aim would be to provide special skills, which would help to further upgrade the hospital's ability to care for patients in the most qualified way. In some cases the scholarship and the studies would also be used to provide academic credits for bachelor nurses, leading in the first place to a master degree.

However, it is also suggested that further scholarship(s) be awarded nurses from the public sector to enhance their skills and knowledge and thereby contributing to the general upgrading of nursing in the country.

Post-basic training in specialized hospital nursing skills

There is a need for specialized nurse training. The need for HIH will be identified by the supervisory nurses and in-service training will have to be organized continuously. If this training develops positively, it could form the base for a more formalised specialist training, where need outside HIH also could be met, preferably in co-operation with public health services.

Detailed plans for specialist training should be made after the hospital has been in operation for some time. The plans and curricula should be drawn up by the supervisors in collaboration with the Faculty of Nursing at Siam University.

If the hospital operations develop favourably this type of specialist training could be the basis for a model, which would be utilized in other reputed hospitals in Vietnam.

Ample space for a library with 2-3 computers is necessary as is room for conferences and teaching, which could accomodate some 20-50 people. These premises are not to be found on the drawings presented to the consultants.

7.8 Some financial aspects

The consultants should, according to the TOR, analyse the financial aspects of nursing manpower projections in terms of incremental recurrent expenditures and the capacity of HIH to absorb training and salary costs.

Personnel and training costs for nurses is only one part of the total costs for establishing and operating HIH, and the consultant team has no information about other costs. Out of the total costs some are fixed, but will also vary, depending on the patient load. That is a fact also for personnel costs, including costs for nurses.

The consultants do not know precisely about planned fees for the services which will be offered by HIH. It would have been possible to make rough calculations for various scenarios, built on different assumed number of patients, if other costs and planned fees had been known by the consultants. Still there would, however, have been substantial uncertainty.

A joint venture private hospital, Vietnam International Hospital, is operational since the end of October 1997. The hospital is utilizing only a small part of its full capacity, a fact which gives reason for some concern, especially as earlier mentioned, also two other private hospitals are in the pipeline of being established in Hanoi.

The situation that there are several new private actors on the hospital scene makes it even more difficult to predict the workload of HIH. The consultants have understood, that the intention is that HIH will not build up resources for laundry and kitchen but buy these services. The consultants feel this is a good idea, as it means that there will be costs only for services which are actually used. The consultants recommend that HIH applies the same approach also for other services to the extent this is feasible.

8. SUMMARY OF FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

In accordance with the TOR, the consultants have made quite an extensive review of the development of nursing in Vietnam, the training of nurses, the development of the private health sector, the establishment of the HIH and the prerequisites for recruitment, training and employment of nurses in the hospital.

Based on this the following has been concluded and can be recommended.

- An impressive positive development in demographic and health status of the population has taken place in recent years . The disease pattern and health problems start to resemble those in more advanced countries, with more traffic injuries and less malnutrition and common infectious disorders.
- By tradition the health manpower system is built on the doctor while nurses play the role of doctors' helpers, have a weak position and are not acting from an independent and interdependent position. Only very slowly this is changing.
- Licensing and registration of nurses do not exist in Vietnam. There are three kinds of trained hospital nurses, the secondary level nurse with 2.5 years training, the bachelor nurse with 4 years training, and the bachelor nurse with 4 years part time training after at least 3 years working experience as secondary level nurse. There is no master training program for nurses in Vietnam.
- It is the intention to increase the number of nurses in relation to doctors. The ratio of nurses to doctors in hospitals, at present only 2:1, is planned to increase to 4:1 in a 20 year perspective by increasing the number of secondary level as well as bachelor nurses.

- Government health staff, including nurses, are not well paid. It is, however, not unusual that the monthly income through various other sources comes up to around 1 million Dong (77 USD) for a hospital nurse.
- The nurse training in general is suffering from the fact that most of the teaching is done by doctors. There is a great shortage of nurse teachers and thereby the nursing aspects in the training will not be properly emphasized. The majority of graduated nurses will therefore not be sufficiently well prepared for their future work and not able to attain the modern role of an independent nurse who is working together with and not under the doctor. Only slowly this can be anticipated to change as there is a formidable task to staff all schools and colleges for secondary and university level nurses (totalling more than 50) with a sufficient number of nurse teachers (and better training material and facilities).
- Any project - such as HIH - which aims at an acceptable or high nursing standard must therefore arrange for special preparatory training and above all continued in-service training.
- The development of a private health sector is presently being encouraged by the Government and a few private, including joint venture, enterprises have emerged. It is still too early to evaluate their viability and possibility to sustain a high (nursing) standard but there are signs that a fairly long period be required for running in.
- The HIH organisational structure has been analysed. The consultants agree with the idea to limit the number of full time working doctors and would like to emphasize the importance that the doctors at HIH are appreciated by the patients and the public as doctors of very high quality and skills.
- The consultants agree with the general principles for staffing of nurses for in-patients at HIH, but would recommend that all nursing staff be secondary level or bachelor nurses . The assumption that the staff is only able to work actively and efficiently during 6 out of 8 hours in a shift should be carefully reviewed and followed-up.
- The consultants do not have all required information to make it possible to give a clear recommendation on number of nurses. It is a difficult balance, not to have too many staff, and not to have too few but just enough to be prepared for offering services to a potentially increasing number of patients. This is a strategic decision, which has to be made by management, based on short and long term considerations.
- It is recommended that the nursing organization be managed by a nursing office with a chief nurse as the head, directly responsible to the General/Medical Director. It is further recommended that she/he will be a member of the Hospital Management Group. Also it is recommended that the nursing office will include 3 supervisory nurses with specialities reflecting the special areas in which they are going to be employed as supervisors.
- An essential duty for the nursing office will be the responsibility for the on-the-job training in the special areas at HIH.
- It is recommended that these 4 nurses are expatriate staff, all other nurses are proposed to be Vietnamese. There seems to be no problem for an expatriate nurse to be granted a work permit.
- The consultants were told that the hospital will focus on maternity and paediatrics, and the services will include deliveries. The consultants therefore recommend that some nurses should be exchanged for midwives.
- It is recommended that representatives of the Faculty of Nursing at the Siam University in Bangkok be active partners in the selection of the nurses for HIH and

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