

Asanitary cooperation project in Gorontalo province, Indonesia. Methodology to identifying critical areas, possible strengthening and improving of the health system

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Abstract

Following an agreement between UNDP (United Nations Development Program) and ANAAO Assomed (Italian Hospital Doctors Association), a team of ANAAO conducted a survey of the health system of the Province of Gorontalo (Sulawesi – Indonesia). The survey was carried out following WHO methodology. This approach provided a comprehensive assessment which cut across WHO's six technical building blocks of the health system: 1) Service delivery, 2) Health workforce, 3) Health information system, 4) Medical products (drugs etc.) vaccines and technologies, 5) Health financing, 6) Leadership and governance.

The team visited the hospitals and a significant number of peripheral health structures within the Province. Several meetings were conducted with the staff from both local political and institutions, with the aim of identifying critical areas, that would inform the development of a cooperation project to strengthen and improve the local health system.

At the end of the survey, a workshop was conducted with the Governor of Gorontalo and representatives of the local institutions to identify possible areas of cooperation between ANAAO Assomed and the Gorontalo Province.

The initial proposals that were developed concerned short, medium and long term projects, identifying areas where immediate actions were required: i) Basic organization of a health system (collection of data and their use, budget, economical sector) and primary health care: ii) Public hygiene and preventive medicine, iii) Gynaecology, to help identify at risk pregnancies and reduce the known risk of maternal mortality, iv) Surgery, with regards to the re-organization of the surgical sector, training for specialized nurses and basic surgical training at the territorial health posts, v) Intensive care units and emergency medicine.

Key words: *Indonesia health system, Gorontalo health system, Italian sanitary cooperation, health system survey methodology, UNDP ART-GOLD Indonesia*

Introduction

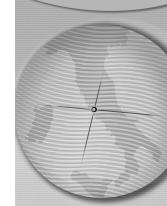
In November 2004, UNDP, ILO, UNESCO, UNIFEM, WHO and UNOPS, in collaboration with other UN Agencies, signed an agreement for the establishment of the International Cooperation Initiative ART - GOLD (French acronym for: *Appui aux Réseaux Territoriaux pour la Gouvernance Locale et le Développement* - Articulation of Territorial and Thematic Networks of Cooperation for Human Development) with the aim of promoting a territorial approach of human development for the achievement of the Millennium Development Goals (MDGs) in all countries (Table 1) [1].

The UN World Summit, held in New York

in 2005, sustained the need for reforming the UN System, examining how the System *could* respond in a more effective and coherent manner to development, environmental and humanitarian challenges.

The UN Reform is based on the idea of a System where all Agencies and Programs work as a unit and with coherence through actual collaboration on the implementation of a common strategy, in order to overcome the System's fragmentation [2].

The United Nations Development Programme (UNDP) in August 2005 organized the Hub for Innovative partnership to enhance its support to "National Decentralization policies and promoting the active role of regional and local communities

**Table 1. Millennium development goals to be achieved by 2015.**

1	Eradicate extreme poverty and hunger
2	Achieve universal primary education
3	Promote gender equality and empower women
4	Reduce child mortality
5	Improve maternal health
6	Fight HIV/AIDS, malaria and other diseases
7	Ensure environmental sustainability
8	Promote a global partnership for development

as determinant Actors of Governance and local Development" [3].

The Hub has the goal of harmonizing the actions of international-cooperation Partners (National Governments, Regional and Local Authorities and their Associations and Societies, the Private Sector, NGOs, Academic Institutions and Foundations) with the National Development Strategies supported by the United Nations. The Hub established two instruments to achieve this objective: the ART International Initiative (Articulation of Territorial and Thematic Networks of Cooperation for Human Development) and the World Alliance of Cities against Poverty (WACAP).

The ART GOLD International Initiative supports the establishment of Decentralized Cooperation Partnerships between Communities from the North and South and South-South Cooperation Partnerships for the development of specific initiatives.

Within the ART GOLD programs, a cooperation program was established with the Indonesian province of Gorontalo (North Sulawesi).

ANAAO Assomed, the main Italian Association representative of Hospital Doctors, started a cooperation activity with UNDP in 2006. On the 30th of march 2010, a statement of intents was signed between the United Nations Development Programme and Anaaq Assomed, to cooperate in mutual interest areas.

This paper concerns the activity performed by ANAAO Assomed in Gorontalo Province.

By agreement with UNDP, within the ART GOLD Indonesia Programme, the ANAAO delegation had the target of assessing the health system in the Province of Gorontalo, with the aim of identifying critical areas, where to identify possible strengthening and improving of the health system within a project of cooperation.

To fulfil our mission we participated in meetings and discussions with health officials from the provincial government agencies and performed

a series of visits to health structures, including discussions with stakeholders, community interviews and site visits.

Gorontalo Province: health infrastructures, health indexes and strategic objectives

The Gorontalo Province was inaugurated on the 16th of February 2001, it has a land area of 12,215.44 Km² (about the surface of the European regions of Italian Trentino Alto Adige, or the Austrian Tyrol or the French Haut-Normandie) and a population of 1,006,806 people (2008); the province is divided into 6 Districts (Kabupaten) including Gorontalo City, and 65 sub districts (Kecamatan) with 611 villages. Gorontalo City has a population of 161,530 people (Figure 1).

With regard to the health sector, there are 5 general hospitals and one specialist hospital for Leprosy patients (in Gorontalo City), 73 Subdistrict Health Centers and 252 integrated health posts located at village level. Gorontalo hosts 4 Universities with courses for nurses, midwives and nutrition specialists; none of the Universities has a Faculty of Medicine.

The organizational structure begins from the national Ministry of Health with peripheral levels: province, district/city, subdistricts and villages.

In Indonesia there is no intermediate level between Government and Provinces.

The strategic objectives of Gorontalo, for the years 2007-11, according to official documents, are as follows (Figure 2):

- Establishment of independent Gorontalo
- Establishment of community productive economy
- Establishment of religious Gorontalo (Before February 2001, Gorontalo was part of the bigger province of Manado. Manado has a majority of Christian devotees while Gorontalo has a majority of Muslim, therefore the former situation created some problems. After division the relation between the two provinces are excellent.

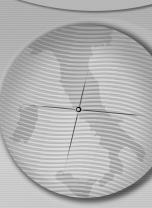
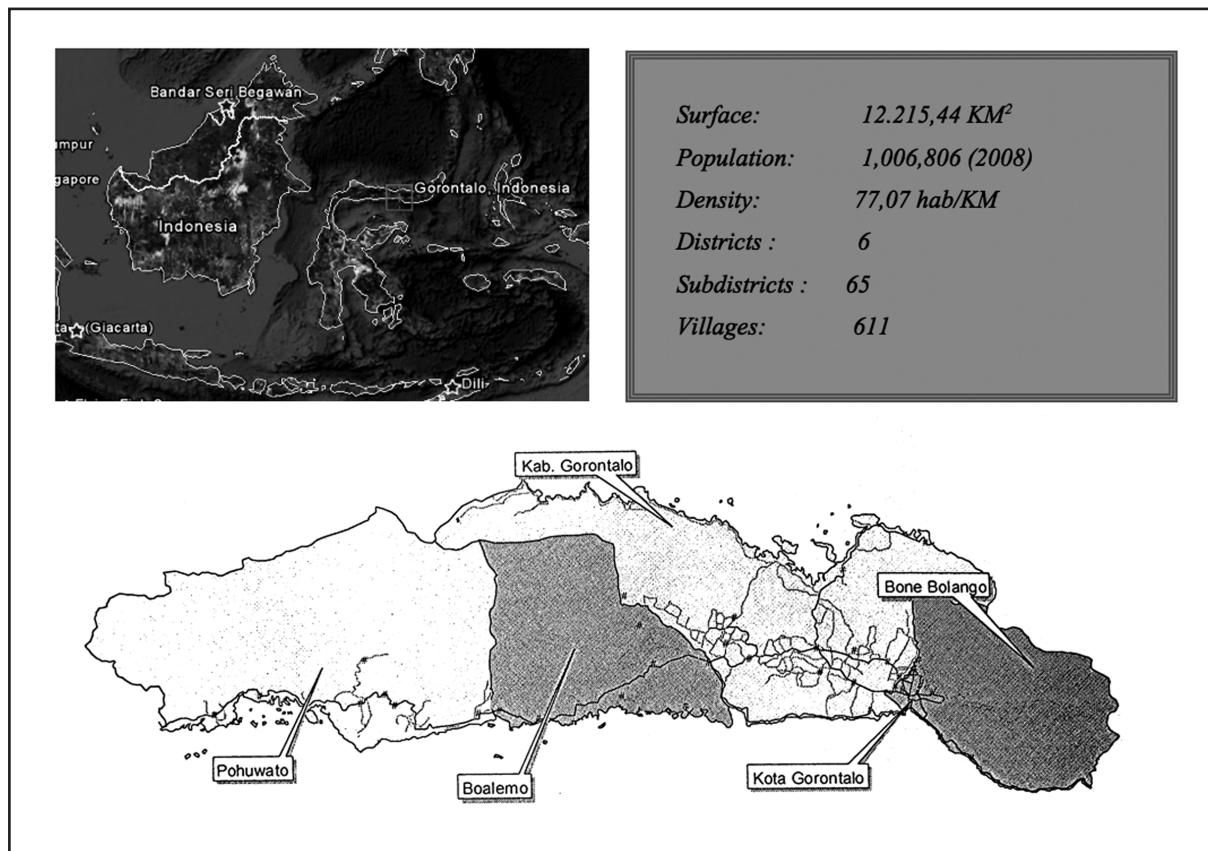


Figure 1. The Province of Gorontalo.



The main agenda of development of Gorontalo Province includes:

- Innovation of entrepreneurship government with real performance to build the people's trust
- Innovation of human resources with entrepreneurs, independent and religious
- Innovation in increasing the public, village based, economy status
- Innovation of appropriate technology to increase the prosperity of the people

Within the former general objectives, Gorontalo province has the purpose of "community healthy living", and the mission of improvement and development of the quality of human resources, to realize qualified, equitable and affordable health services. The targets of the health sector include:

- improving health financing
- improving surveillance, monitoring and health information
- improving access to good health services
- motivate the community for healthy living

Indices of human development as set by the Province of Gorontalo:

- Maternal mortality ratio (MMR)
- Infant mortality ratio (IMR)

- Nutrition

- Life expectancy

These area, reportedly, show an improvement between 2006 and 2008.

Among the priorities, a decrease of communicable diseases (mainly TB, malaria, HIV/AIDS, Filariasis, Leprosy, Diarrhoea) and access to clean water have been included.

The main causes for maternal mortality (278.8/100,000) are haemorrhage, eclampsia, infection, and abortion. The main causes for infant death (13.5/1,000) are low birth weight, asphyxia, infection and tetanus.

Officials report that "available data on the health situation have not been full and accurate. Regional health survey has not been done extensively, so the result cannot be used as reference to measure the success of health development".

Furthermore, "implementation of health development has not been coordinated and integrated, so the result has not been maximal"

Additionally, for maternal and infant death, officials say that data are underreported.

Areas of particular interest are primarily connected to mother and child perinatal health problems, such as: hospitals not performing certain activities at child birth, lack of tools for

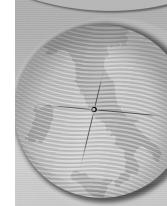
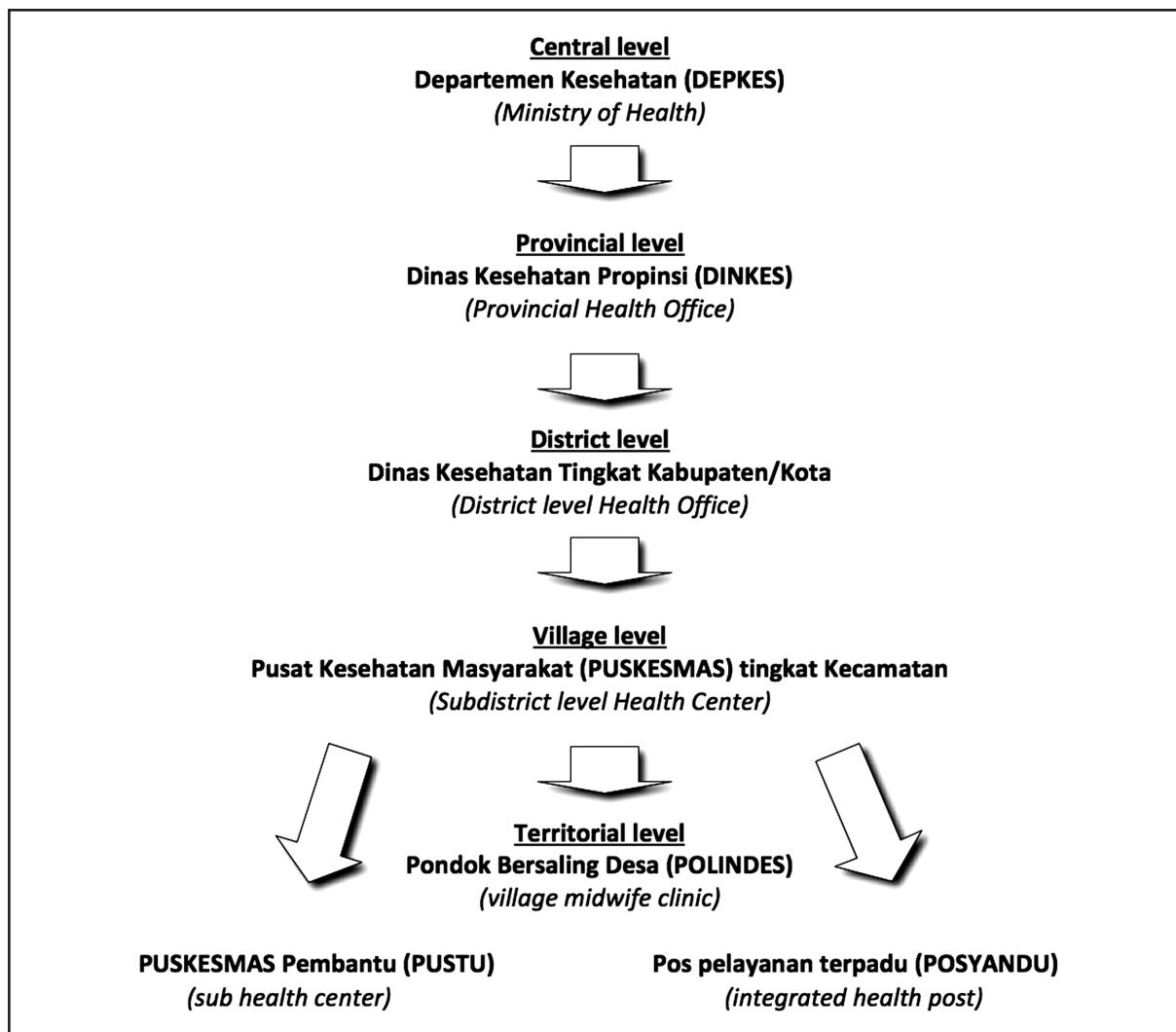


Figure 2. Organizational structure of the Indonesian health system. (Levels from Central to peripheral level).



obstetrical and neonatal services, vaccination programs and malnutrition; some attention has been given to the issues of limited access to health services in peripheral areas, clean water and use of latrines.

The improvement of the hospital net is limited to insuring maternal and neonatal services are available in all of the district hospitals. Additionally, plans for interventions relating to nutrition management for pulmonary TB patients and information and education through mass media are underway.

Methodology: health system survey

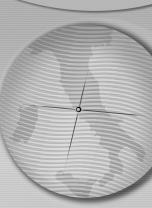
The survey was conducted following a WHO methodology (World Health Report 2000), based on the assessment of the six basic building blocks of the health system:

- Service delivery
- Health workforce
- Health information system

- Medical products (drugs etc.) vaccines and technologies
- Health financing
- Leadership and governance

In each of these areas the process included information and data collection, an analysis of the findings, discussions and suggestions which fed into the improvement plans. According to WHO recommendations there are standards that every health system should try to achieve for each of the building blocks. During our survey we compared the findings from the province of Gorontalo to the standards indicated by WHO [4]. The standard for each of the building blocks are as follows:

- Good *health* services are those which deliver effective, safe, quality personal and non-personal health interventions to those that need them, when and where needed, with minimum waste of resources.
- A well-performing *health workforce* is one



that works in ways that are responsive, fair and efficient to achieve the best health outcomes possible, given available resources and circumstances (i.e. there are sufficient staff, fairly distributed; they are competent, responsive and productive).

- A well-functioning *health information* system is one that ensures the production, analysis, dissemination and use of reliable and timely information on health determinants, health system performance and health status.
- A well-functioning health system ensures equitable access to essential *medical products, vaccines and technologies* of assured quality, safety, efficacy and cost-effectiveness, and their scientifically sound and cost-effective use.
- A good *health financing* system raises adequate funds for health, in ways that ensure people can use needed services, and are protected from financial catastrophe or impoverishment associated with having to pay for them. It provides incentives for providers and users to be efficient.
- *Leadership and governance* involves ensuring strategic policy frameworks exist and are combined with effective oversight, coalition building, regulation, attention to system-design and accountability.

Service delivery

At the provincial level the architecture of the system is uniform. Every district has a hospital and a series of peripheral health centres and integrated health posts. This is in line with the national organization and in our opinion it is appropriate considering the local context.

Both the hospitals and the health centres we visited are located in relatively new buildings, in satisfactory conditions of maintenance, with only a few exceptions.

Hospitals

Quite often the plans of the hospitals had functional and structural defects. Plants for electrical power and medical gas delivery were below of a sufficient standard. Distribution of space was not always optimal. The technical structures (X-ray, automatic ventilators, monitors etc.,) were often old and in scarce supply. The operatory rooms, in many cases, need to be much better organized and equipped. The organization of the services also needs to be improved. The hospitals we visited were equipped with an ultrasound scanner and the main hospital in Gorontalo is equipped with a CT scanner. In most cases, in the peripheral hospitals, surgical emergencies

(general surgery, obstetric-gynaecological, orthopaedic) cannot be treated. In some cases a surgeon comes once a week, and only for elective cases. For example, when needed, patients from Pohuwato are sent to Gorontalo Hospital, four hours away by road. Ambulances only have an oxygen cylinder on board with no other equipment for resuscitation, putting the life of the patient at risk. The hospital of Pohuwato, though scarcely populated by patients, is better equipped than the other hospitals, the X-Ray department is new and X-rays raching are of a good quality. A blood bank was recently opened, resolving many of the issues relating to cases of haemorrhage. In general the demand for services seems to be very low and most of hospitals we visited were almost empty. The phenomenon, reportedly, (doctors who have been working in Manado and Makassar) is more serious in Gorontalo. The reason for this needs to be better understood but seems to be due to several different factors including: cultural (people prefer to be cured by local traditional healers); economical (hospital admission has a cost, only certified poor people receive treatment free of charge, for the others, the fees can be beyond their possibilities) and social (people are not informed enough about the real capacity of the hospital to solve their health problems).

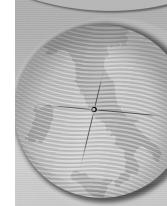
Health centers

The health centres have an important role in covering territorial needs and they also play a role in health education and promotion at the village level. The patient usually go to the health centres for medical consultation, pregnant women are followed by midwives, and in some case there is also a nutritionist and a dentist.

In some, there are beds available for the temporary treatment of patients. In cases where there is no improvement in the patients clinical condition, the patient is referred to the nearest hospital. We have been told, in the hospitals we visited, that the admission for serious cases should be done directly through the hospital, as patients are often only sent to the hospital once his/her situation has worsened and this lessens the possibility of a successful outcome.

One health centre, among those visited, was equipped with an ultrasound scanner.

Some simple surgical interventions can be done in these structures, however in many cases the surgical equipment is scarce in quantity and quality, the sterility is, sometimes, not assured, as often the electrical sterilizer cannot be used due to insufficient electrical power and other methods of sterilization are not available.



The personnel working in the Health Centres reported that, on average, they assist two deliveries per day. During our visits we did not meet a mother who was in labour or post-partum, probably due to many of deliveries being conducted at home.

In some cases the hygienic conditions of the equipment was questionable, for example, sometimes the washing basins in the delivery rooms did not appear to be cleaned regularly and the hand washing program, supported by WHO, did not seem to be followed in these cases.

In most cases laboratory facilities are not functional, except for sputum microscopy examination for Tuberculosis. Other simple tests (glycaemia, urine examination, blood cell count, etc) could not be done because of the lack of reagents and consumables.

The health centres did not appear to be frequently accessed by the public, as previously described for the hospitals and probably for the same reasons. There also appeared to be competition from the private sector with the same doctors from the public sector working privately with much better equipment and a higher level of comfort for the patient; this probably also plays an important role.

Peripheral integrated health posts

We only saw a few health posts, but they are distributed all over the territory of the province. Ideally, they should be managed by a nurse and a midwife, but often only a midwife is present, as a midwife is also a nurse. This probably implies that most of the activity is dedicated to mother and child health problems and the treatment of other acute and chronic diseases

is probably not optimal. Reportedly, in some cases peripheral integrated health posts are not covered by personnel and one midwife has to cover two or more health posts. The midwife has an important role in health education, antenatal clinics, postnatal care and deliveries in the health post and at home. Being alone, she is also in charge of treating any disease or trauma that affects that community. They also prescribe drugs according to the national guidelines, however, ongoing training courses would be beneficial.

As the peripheral integrated health posts represent the "first line of defence" for health care assistance, the lack of personnel and the possible insufficient experience or skill of staff deprive the local population of basic healthcare. This problem must be taken into consideration without delay.

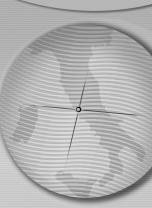
Health workforce

Hospitals

There is a definite lack of specialists in some clinical areas. The overall number of specialists is in general insufficient. As we have previously stated in the former chapter, the care of surgical and obstetrical emergencies is not undertaken in peripheral hospitals. In total there are six gynaecologists, all operating in Gorontalo City Hospital and in the District Hospital (1 out of 6). The transfer of a patient who needs emergency care (postpartum haemorrhage, caesarean section, trauma, intestinal haemorrhage etc.) to the Gorontalo Hospital can take many hours, posing a real risk of death.. Also other specialists are concentrated in Gorontalo City (orthopaedics, cardiologists, ophthalmologists, ear and nose specialists....). In Pohuwato Hospital an Internal

Table 2. Health workforce.

<i>Health personnel</i>	<i>Health Infrastructures</i>
Specialist doctors 37	Hospitals: 6
Generalist doctors 205	Beds: 761
Dentists 37	Dimension of the hospitals : from 33 to 395 beds
Midwives 342	Health centres (Puskesmas): 73
Nutritionists 123	Peripheral health post (Pustu): 252
Nurses 790	
Dentist nurses 86	
Pharmacists 20	
Community health graduates 205	
Fisiotherapists 10	
Technicians 35	



Medicine specialist, a surgeon and a gynaecologist are on duty once a week, and then on Saturday's for elective surgery. The paediatrician is present once a month to consult serious paediatric cases selected by the general practitioner. Radiologists and anaesthetists are scarce or absent. This situation is critical and probably common all over the country from other sources, we learnt that more than 70% of all the Indonesian specialists work in Jakarta).

The number of trained nurses is low according to the national standard, but in comparison with the limited number of patients being admitted to hospitals at the time of our visit, the number did not seem to be inadequate. The number of nurses working in the public sector is probably small however there are many nurses in training and other nurses who work under contract,

After meeting with the nurses' association it would appear that specialty nurse training in areas such as intensive care, anaesthesia, and the operating theatre, reportedly, would be very welcome.

In the intensive care units we visited, the number of patients was low, with patients being assisted by a member/s of their family, giving the impression that the staff are not too busy. The organization of care, in some cases, needed overall improvement.,

Education and training have been highlighted, by stakeholders, as very important and necessary to improve the quality of healthcare.

The cost for medical education and post-graduate specialization, in Indonesia, is very high, and the salaries of doctors are very low, in relation with those costs. This contributes to the phenomenon that doctors dedicate a significant part of their time to his/her private practice.

This also explains the reason why medical specialists are concentrated in Jakarta.

In visiting a private clinic in Gorontalo, with a nearby private laboratory we found that they were both well equipped and full of patients waiting for consultation, even up to late in the evening.

Health centres

In the centres we visited, there was a doctor present, sometimes more than one, even though from official data, there are health centres where doctors are not present. Nurses and midwives seem to be in sufficient number, in relation with the activity of the health centre, however they also need to be able to cover the absence of nurses and midwives in some villages. One of the reasons why pregnant women, often refer to the traditional village birth attendants is that many of

the midwives are very young and are perceived as having limited experience.

The personnel of health centres have an important role in the public hygiene, checking water quality in villages, latrines and sanitation, nutrition, health education and promotion etc.

In health centres there is often an ambulance and a dentist for basic dental care.

Peripheral integrated health posts

Given the importance of some activities in the health education, the absence of a nurse and/or midwife in some peripheral posts is a problem.

Health Information System

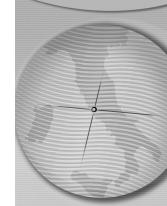
The objective of a well functioning Health Information System (HIS) is to produce useful information and indicators to provide planning and management support to the service delivery level.

In the province of Gorontalo an HIS is in place and the collection of data is performed at every level of the Health System. The collection of activity data (for example: number of outpatient consultations, reason for consultation, number of hospital admissions, reason for admission, number of surgical interventions, etc) is done at the hospital level, in the health centres and, for a minimal set of data, also at the level of the integrated health posts. Data collection is done using paper forms and registers and periodically data are addressed to the health authorities at the provincial level. The health centres that we visited were also equipped with hardware technologies (personal computers, printers, overhead projector) as well as software programs.

In our opinion there are some important constraints regarding the development of the HIS. The principal critical points that we noted are as follows:

1. In the Health Centres and Hospitals there is minimal use of the data collected, with passive sending of the reports to the provincial level. This critical point includes the lack of capacity to identify adequate indicators and standards to understand the weak and strong points of the clinical activity being undertaken. In general we can say that at level of the health centre and hospital there is a minimal use of data and information for monitoring and evaluating the quality, the quantity and the results of the health activities.

1. Epidemiological information is scarce. For example it seems that information concerning causes of death or chronic diseases in the overall population is not available. Through collection of data, only from the users of the



health services (which may be only a small part of the total population), it can be difficult to estimate the epidemiological situation and the real health needs of the population.

2. The Province has an adequate level of capacity for collecting and analysing data, but there was no evidence of providing periodical feedback of data and information. It would be optimal if the provincial health office, after analysing the data, could prepare a report with tables and graphics, underlining the strong and weak points of the provincial health system as well as providing advice for improvement, to be sent periodically to all of the hospitals, health centres, and health posts within the provincial health system.

Medical products, vaccines and technologies

The hospitals we visited were equipped with low level of technologies. In some hospitals the maintenance of the equipment is not optimal and some instruments are not in perfect working order. Some hospitals are in need of supplementary equipment or new machines. The surgical theatre equipment was not optimal and, if possible, supplementary technologies should be acquired. The radiological departments of the hospitals have for the technology to conduct X-ray examinations and ultrasound scans, but the standard of the equipment varies greatly among the different hospitals; in some areas peripheral hospitals are better equipped than central hospitals and sometimes health centres are equipped with instruments that are not present in the hospital.

Concerning the quantity and quality of equipment, the level of equipment is not uniform across the Province; in our opinion it might be useful to setup national or provincial standards for the basic equipment of the hospitals, health centres and health posts.

In the health centres, but a few cases, the level of technologies in some areas is critical. For example the small clinical laboratories often don't have the ability to perform basic clinical examinations. Frequently, the only available test that can be performed is sputum examination for the detection of mycobacterium tuberculosis. Other simple examinations, like glycaemia, urine examination and blood cells count, cannot be performed for lack of reagents or basic chemicals. In the health centres equipment for basic surgical interventions (for example: stitching of wounds, removal of lipomas, circumcision, etc.) is often incomplete and the state of maintenance is sometimes poor. In peripheral health posts, there are few or no technologies, but this is probably appropriate for that level.

The national immunization programme and the maintenance of the cold chain are in satisfactory condition. In all cases, the vaccines were stocked in adequate quantities and the monitoring of the temperature was done in the appropriate manner. All the health centres were equipped with vaccine carriers for immunization at the village level.

Concerning the use of drugs, in the health posts there is a basic number of drugs available (15/20 different drugs). Consultations and medical treatment are provided by the midwife in charge of the health post; the treatment follows national guidelines on essential drugs. In the health centres we always found a sufficient stock of drugs, although the organization of the pharmacy in some cases could be improved.

We remark that, mainly for outpatient services, the private sector offers a level of technologies that, for quantity and quality, is better than what is offered in the public healthcare system.

Health financing

There was limited information available to us regarding health financing.

We know that the total budget of the Province, from 2002 to 2009 went from 149,717,996,568 Indonesian Rupiahs to 558,580,000,000 IR, therefore there has been a large increase in funding.

In the same period the budget for the health system went from 1,693,978,400 IR in 2002 to 13,580,500,900 IR in 2009. The absolute budget grew more than 1200%, the ratio of the health budget went from 1.13% in 2002 to 2.43% in 2009.

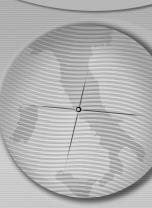
We were not able to ascertain how much of the funding comes from the national budget for the health system.

The per capita expenditure destined to Gorontalo people by the provincial budget amount to 1.3 US\$. The average Government expenditure per capita in Indonesia is set at 11USD, therefore the budget of Gorontalo Province itself represents a small part of the national expenditure, which is already rather low.

We were also not able to ascertain the cost of the different institutions (hospitals, health centres) as it seems that there are different financial organizations. The health centres are not considered, in fact, as cost centres, and no financial information is available inside the health centres, not even concerning the amount of money coming from the out-of-pocket payments.

Furthermore we did not obtain documentation that related to the cost break down for the various healthcare costs (capital, personnel, drugs, maintenance etc.).

We cannot say what percentage the out-



of-pocket expenses, paid by the patients, is represented in the general budget of the public health system, but it is reported that the payment for procedures, beyond the free consultations in the health centres, are considered as one of the reasons for their low request by patients.

Certified poor people are exempted from the payment, but for many people the cost could be a deterrent for treatment.

The salary of the personnel is low, both for nurses and for doctors.

The cost of a private consultation is 3-4 times the cost of a consultation received in the hospital, but private consultation is preferred by people due to the better service provided.

Leadership and governance

The governance of the system is done at the provincial level.

The government system in Indonesia has been changed from a Centralized to a Decentralized type of government, which provides regional autonomy. There are three levels of regional autonomy: Province, District, and City.

There are no hierarchical links between these three regional autonomy regimes. However, the Governor (as Head of Province Regional Autonomy and Head of Administrative area) provides the links in terms of guidance, monitoring and supervision between the District and City areas. This is of course in relation to the delegation of responsibility to the Province, which has limited autonomy. In line with Provincial government responsibility, broader decentralization has been given to District and City levels. Regional government has also been given the authority to provide support. The Central government has to perform the role of policy formulation, standards and providing guidance to the Provincial and District/City government levels.

In terms of strategy, in terms of policy formulation, the province of Gorontalo has a Master Plan, based on the results of research conducted by the Ministry of Health of Indonesia, entitled "Riskedas 2007".

According to Riskedas 2007, the prevalence of acute respiratory infections, diarrhoea, hypertension, stroke and diabetes are quite high in Gorontalo and smoking is widely practised, mainly in males, and inside their homes.

The five identified areas for priority intervention are:

- 1.nutritional status of infants and children,
- 2.infant and maternal mortality,
- 3.health service for remote areas,
- 3.infectious diseases,
- 4.degenerative diseases (stroke, hypertension,

diabetes and cancer).

The Provincial Government on one side has ambitious goals (improving health financing - improving surveillance, monitoring and health information - improving access to good health services - motivate the community for healthy living), however, there are still the issues raised in the Master Plan to consider such as an improvement in the target indicators for Gorontalo Province: maternal mortality ratio, infant mortality ratio, nutrition and life expectancy.

The standards for referral, or benchmarking, are the same as the national ones. However how the Province of Gorontalo intends to intervene to improve such indicators remains unclear, neither is there a feed-back system to monitor the outcomes of the adopted strategies.

In their plans little or no attention is given to prevention of diseases of the priority N°5, degenerative diseases and no attention has been given to rehabilitation.

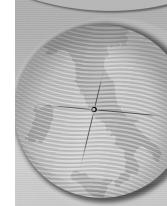
There does not appear to be any governance activities outside the central level of governance (Dinas Kesehatan). The Directors of the hospitals and health services didn't show particular competence or knowledge of the mechanisms of financing, management or system design.

The autonomy of the provinces is limited to that of monitoring and supervision of health care activity. Healthcare policy however, is decided by the central government, including the organisation of the system, and allocation of resources. This makes governance of the provincial system difficult. In our meeting, the Governor of the Province informed us that the central government has provided their assurance regarding the delivery of economical resources, with wider autonomy for expenditure. This is a good place to start from.

Discussion

The actual health system in Gorontalo cannot assure an appropriate level of health care to its citizens, both at territorial and, to a lesser degree, at the specialist and hospital level.

In Indonesia the health system is controlled by market rules, it cannot yet be considered as a strategic public activity, inside a welfare system, free, diffuse and balanced. The resources actually spent in the system are very low (about 11 US\$ per person per year) and only one third of the resources comes from public finances. The Government of Indonesia, therefore, spends not more than \$4USD per person per year. About 74% of private expenses, mostly spent in private



institutions, clinics and hospitals, come from out-of-pocket payments; but, in a free market, it is difficult to control the cost of consultations and treatments (see Box 1).

Certified poor people are exempted from payment, but many people beyond that limit of poverty may still find the payment still unbearable. Still worse is that, in order not to spend money at the onset of the disease, they seek medical care only when their disease has worsened, often leaving them unable to work anymore, with higher costs to sustain and still less money to spend: the whole family then falls into the category of the certified poor. The subsequent social costs to the community as a whole become huge.

In general, to obtain, in our case, a health system in line with the cited recommendations of the World Health Organization, a deep reform is necessary, which will entail a long political process, involving many stakeholders, and at all levels. A national law has been discussed for a number of years and these processes are considered to be a long-term project, completely external to our task.

But if, with local resources, the Gorontalo Province can reach the goal of abolishing the out-of-pocket payment in the public health system, the social gain would be much higher.

It was not possible to know precisely the incidence of the out-of-pocket payments within the general public budget, but we got the idea, from informal conversations, that it is not a determining factor for the maintenance of the health structures, where most of the costs are related to personnel salaries, which come directly from the central Government.

Within the Provincial autonomy, we suggested that the Provincial Government of Gorontalo implements some medium-term projects to improve the number of specialists.

Medical education, within the university system, is very expensive; for a normal family it represents a large investment, therefore it is normal to expect that, after the initial investment, a young doctor and his family need to see some profit. The postgraduate education is also expensive, and in order to gain a return the best option is to practice where the market is stronger, in the cities.

The Province of Gorontalo should find resources

to finance, with appropriate grants (lost funds, honour loans that could be repaid over longer time periods etc.,) medical and post-graduate education; doctors would then be indentured to that Province for a period of time.

There are other mid- and short-term projects that the Province of Gorontalo could undertake, examples of which are given below.

Reducing the high levels of maternal and child mortality are a priority of the health authorities.

It is obvious that a reduction in the mortality level would increase the average life expectancy of all of the population of Gorontalo, although perhaps not very significantly in terms of percentages. There is no discussion, of course, that the mortality of mothers and infants, regardless of any mathematical count, must be dramatically reduced, but the increase in life expectancy is strictly dependant on the quality of life, access to clean water, clean air, proper food, and only in part, to the efficacy of the health system. The province's public health is the result of the overall activity, including a wide number of other participants, not just healthcare provision (Figure 3).

Concerning the inner most circle (Medical Care), in our case, it means, among other things, delivering a quick and efficient system of care for the treatment of emergencies and traumas, curing tumors, and transforming the acute diseases, which people die of, into chronic diseases.

A common cause of maternal death is haemorrhage: until hospital are equipped to perform emergency operations it will be not easy to reduce this number. The second most frequent cause is eclampsia, for which stricter monitoring, and treatment of the pregnant women need to be undertaken.

Data, coming from the Ministry of Health, gives us reasons to be worried. The combination of hypertension and smoking represents a possible explosive mixture for the health of the people in the coming years in terms of vascular disease, respiratory disease and cancer. Diabetes and vascular disease are inextricably connected.

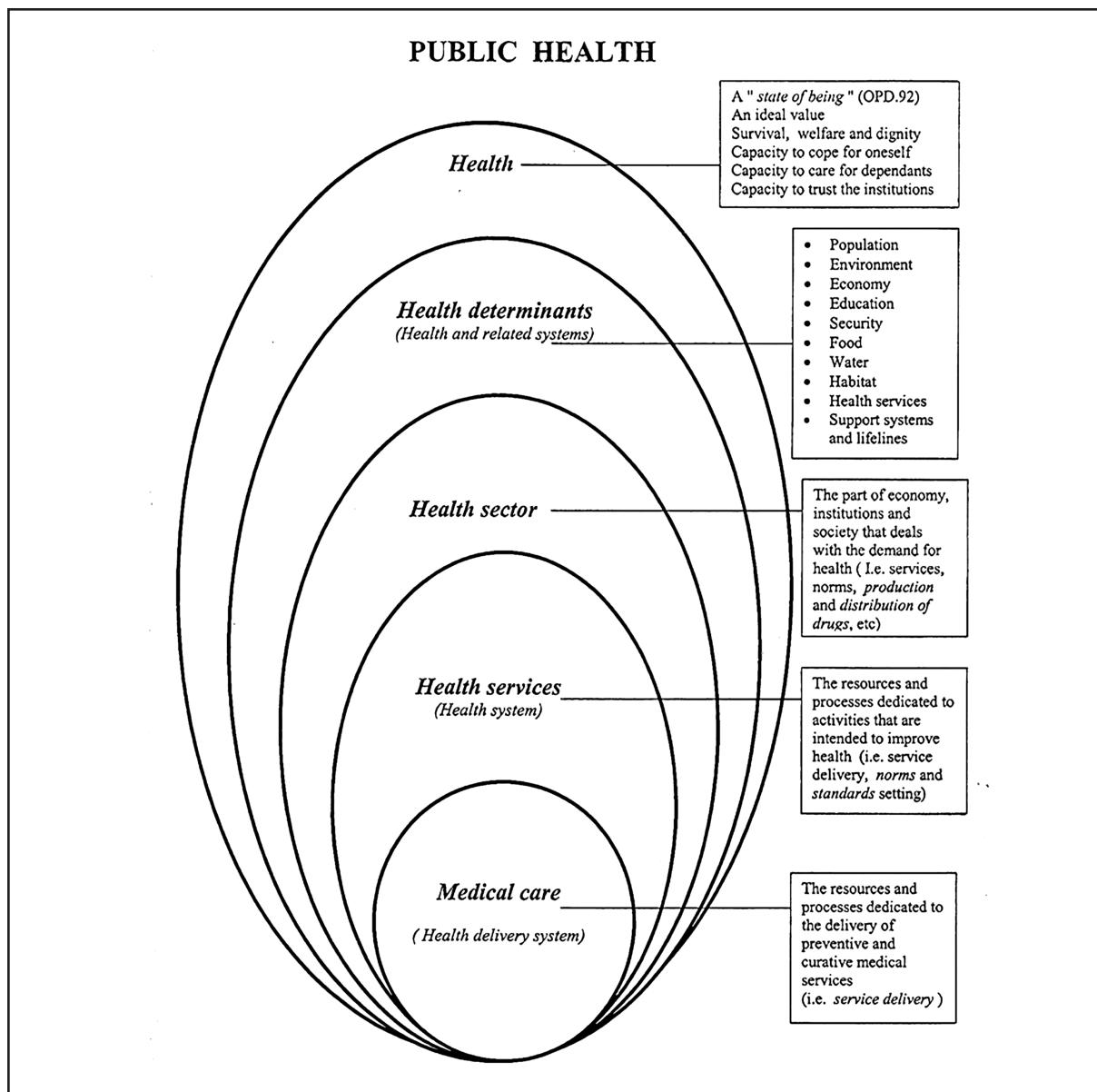
In this field, therefore, preventive measures are urgently required to reduce the risk for the population. Smoking is allowed in every public place, resulting in non smokers passively smoking; exposing women and children who

Box 1

The cost of healthcare should not force impoverished households even deeper.

WHO 2007

Figure 3. Public Health activities.



rarely active smoke. There is also intense media publicity in terms of cigarette campaigns.

The analysis of sputum for Tuberculosis allows for the diagnoses of cases who have an open, contagious form of the disease; a screening for tubercular forms, not yet diffusive, at least in the family of the sputum positive cases, should be done to help limit the spread of the disease.

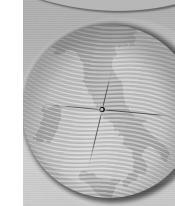
Hypertension should be carefully monitored by general practitioners and by staff at Health Centers. The measure of blood pressure is easy and unexpensive; prevention is much more advantageous than curing its consequences.

In terms of care of the population, the healthcare structures should prepare for the possible arrival of a growing number of people affected by degenerative diseases, first of all

vascular problems, this will require resources in terms of equipment and specialists. Gorontalo Province is aware of the fact that to improve of the status of the population's health implies an increase in economic resources. They must also be aware that prevention of disease has much lower economical and social costs.

Preventive medicine should be free of charge for all the people, not only in hospitals and health centers, but also in adjunctive services (quality of lodgement services).

Some features cannot be delayed. The collection of data and data analysis seems to be still a feeble point within the system. The Health Information System (HIS) needs to be restructured in order to produce few but useful pieces of information as well as indicators for



monitoring and evaluating the performance of the provincial health system. This will need to be supported by training at the different levels of the health system: there is a static vision of the HIS, however not many administrators at the peripheral level seem to be interested in data, results etc. The Provincial Health Authorities could distribute a periodical bulletin or report etc., to the different components of the health system.

Some features will be more difficult to deal with, for example, when people die no information relating to the cause of death is collected by the registry office. This implies a fundamental reform of the registry office and delivery of the data to the central statistic office needs to be undertaken. In the absence of these data it is not easy a plan for the future health of the population.

The financial activity of the different levels of the healthcare system needs to be redesigned. Directors need to have the knowledge of what money enters the structures and the cost of the services it provides. The amount of money committed to the health system is very low; even in the hope of an increase in financing, it must be clear that awareness of the financial fluxes will be highly beneficial in developing and adopting new strategies. The separate financial systems of the territorial and hospital structures should be transformed into a "double rail" single financing system, with accurate analytical accounts, that allows planners to understand the costs of the different activities. It would mean that, starting from a single yearly allocation of resources to the health system, an estimate would be done for the expected needs of the Territorial and Primary Health Care area, and an estimate made for the Hospitals sustenance, with eventual possibility of a shift of resources among the different budget chapters.

A budget method should be introduced as it creates a direct connection among needs, resources and results.

The organization of some activities (hygiene in peripheral and central structures, intensive care units, etc.,) needs to be reviewed through formative interventions.

Health education is usually performed in the villages by the personnel of Health Centres. As we saw, this activity varies greatly in terms of number and quality. Often, only a midwife is present: though her task should be limited to the pre- and perinatal field including the identification of pregnancies at risk, she also needs to perform other general nursing duties.

In areas where there is a preference to seek the advice of village traditional healers, efforts to convince people to seek from the public health system needs to be incentivized. This would be possible if they could demonstrate an improved quality in the health system and the hospital services provided.

Of course this will be translate into an increase in the cost of healthcare services, but the gain in terms of social advantage will be much higher.

Financial support is required to improve the number and quality of technical resources, the general basic equipment and laboratory facilities (consumables), as well as technologies for sterilization. Health centres should perform simple blood and urine tests and establish a province wide basic standard for equipment in hospitals and peripheral posts.

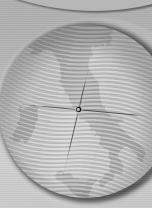
Architectural and technical status of some parts of the hospitals we visited need to be reviewed: electrical plants should be improved in terms of number and safety and the delivery of medical gases (oxygen and vacuum in the intensive care units, first aid, operatory rooms, at the first place) should be centralized.

As previously described there is a lack of specialists in the hospitals; we don't know if, according to the Indonesian law, it would be possible to involve general doctors who have undergone specialist training in some specialist activities.

Within the autonomy of the Provinces, it is necessary to improve the system of clinical supervision, and in order to sustain primary health care activities in the villages (health education and promotion). As there are an adequate number of midwives, they should start a program to identify risk pregnancies and send these mothers to hospital to deliver their babies in good time to avoid complications.

Routine use of ultrasound scans in the health centres and hospitals should be promoted to follow and monitor the pregnant women and the developing foetus (not more than three times for every pregnancy); the exams should be free of charge for every mother and could significantly reduce maternal mortality.

Guidelines on the use of essential drugs and standard treatments may highlight the need for further training of staff, especially in the peripheral health posts; sometimes the personnel is limited to midwives (some health posts are not even covered by personnel) therefore the staff's prevalent activity is maternal health, however they should also have the knowledge for treating basic general diseases.



Conclusions

We concluded our workshop with the Governor of Gorontalo, with the following questions:

- How can we cooperate in the future?
- What are the possible areas of technical cooperation between ANAAO Assomed and Gorontalo Province?

ANAAO is a wide medical association of hospital specialists, many of them have a great interest in international cooperation and have been appropriately educated to this purpose. ANAAO, therefore, can give technical support, through training courses and other direct activities for specialists.

The first areas that we identified as requiring immediate assistance were:

1. Basic organization of a health system (collection of data and their use, budget, economical sector) and primary health care,
2. Public hygiene and preventive medicine
3. Gynecology, to help identify at-risk pregnancies and reduce the known risk of maternal mortality
4. Surgery, re-organization of the surgical sector, training for specialized nurses and basic surgical training for the territorial health posts
5. Intensive care units and emergency medicine.

The number of specialists to be sent to Gorontalo and the form for their intervention must be coordinated by UNDP personnel, within their role of facilitators, and in agreement with the Gorontalo authorities.

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