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The proper function of teaching hospitals within health systems

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The proper function of teaching hospitals within health systems

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- because it belonged to a teaching establishment (the definition given by the representatives of Chile and the Netherlands);

- because it provides a university training (the definition proposed in the seminar source document);

- because it is officially recognized as such (as in France where a list of teaching hospitals is drawn up by the supervision authorities concerned);

- or because it provides tertiary care for a section of the population.

The participants finally opted for the last definition. They did, however, wish to add a few supplementary points. The definition finally adopted during the seminar was as follows:

A Teaching Hospital is a centre for complex health care characterized by:

- the important role it plays in providing tertiary care;

- its involvement in teaching and research related to the type of care it dispenses;

- the high concentration of resources it attracts.

Typically, these hospitals are costly and exercise important political influence.

In the remainder of this report, the use of capital letters in the term "Teaching Hospital" implies that the above definition is being used.

Working methods adopted at the seminar

The participants had received the source document for the seminar several months beforehand (Annex 5).

At the beginning of the document, each participating country described the social, economic and cultural context of its own Teaching Hospitals. Some countries also supplied examples of measures already implemented with a view to placing these hospitals back at the heart of their health system.

The participants then split up into several working groups to describe the present role of Teaching Hospitals in terms of their aims and the economic, legal and political issues they raise.

In plenary session, they concluded by working together to formulate a strategy for helping Teaching Hospitals carry out their proper function within health systems.

The first part of this report compares the present situation in Teaching Hospitals in the different participating countries using general data, statistics and, finally, a more subtle qualitative appraisal.

In the second part, the three traditional functions of the Teaching Hospital (health care, training, research) are discussed, as is the question of whether it should perform a social function in the future.

The third part takes into account the economic, legal and political implications of Teaching Hospitals' activity.

The report's conclusion summarizes the work carried out during the seminar and proposes a new strategy for ensuring that Teaching Hospitals function as they ought within the system.

COMPARISON OF PARTICIPATING COUNTRIES

1. General considerations

The data supplied by the 22 countries participating in the seminar have revealed the wide discrepancies between these countries' geographical, cultural and economic environments.

Geography

The six geographical regions of WHO were represented at the seminar (Europe, Africa, the Americas, South-East Asia, Western Pacific, Eastern Mediterranean).

Europe and the Western Pacific Region were over-represented (by six countries each), the likely reason being that the first meeting of the network was held in South Korea and the second occurred in Europe. The absence of representatives of North America ought also to be noted.

The equatorial regions were represented by 10 countries, temperate regions by 13. This near perfect balance of participating countries, climatically speaking, is interesting since it makes the agreements reached during the seminar valid both for countries with tropical disease patterns and for those with disease patterns characteristic rather of temperate climes.

Economy

The participating countries were classified with respect to their gross national product (GNP) per capita and divided into three categories according to a differential criterion adopted by the World Bank. Thus, high-income countries (GNP per capita over 8000 US dollars) and "middle-income countries" were each seven in number, and "low- income countries" (with a GNP per capita of less than 635 US dollars) numbered eight.

This type of classification is particularly apt since, as is well known, health variables are closely linked to the level of economic development.

2. Statistical comparisons

The data supplied by the participating countries have been collated in three tables in Annex 1, classified according to their GNP per capita expressed in US dollars.

Even if it is not possible to infer general rules from the tables, considering the small number of countries being compared, it is however possible to demonstrate that certain accepted ideas do not hold true by showing the exceptions to these rules.

The box below contains some vital statistics.

COUNTRY	population (millions)	GNP/capita	life expectancy	health expenditure in % of GNP	hospitals in % of health expenditure	cost of teaching hospitals in % of GNP
SWITZERLAND	7	32 550	77	7.5	43	0.6
JAPAN	124	25 840	79	6.5	60	0.4
SWEDEN	9	23 780	77	8.8	55	1.0
FRANCE	57	19 590	76	8.9	57	1.0
NETHERLANDS	15	17 570	77	7.9	55	0.6
AUSTRALIA	17	16 560	76	7.7	50	
UNITED KINGDOM	58	16 080	76	6.1	51	
SOUTH KOREA	44	5 450	70	6.6	52	1.4
CHILE	13	1 950	72	4.7		
JAMAICA	2	1 500	73			
COLOMBIA	33	1 260	69	4.0	48	0.2
MOROCCO	26	970	62	2.6		0.1
PHILIPPINES	64	730	64	2.0		

COUNTRY	population (millions)	GNP/capita	life expectancy	health expenditure in % of GNP	hospitals in % of health expenditure	cost of teaching hospitals in % of GNP
ALBANIA	3	640	72	4.0		
EGYPT	54	610	60	2.6		
INDONESIA	188	560	61	2.0		
PAKISTAN	122	400	58	3.4		
CHINA	1 171	370	70	3.5		
BENIN	5	360	47	4.3	58	0.3
NIGERIA	112	290	51	2.7		
TANZANIA	27	110	54	4.7	55	0.6
VIET NAM	68		63	2.1		

(a) Demographic data

Population and population growth rate

The population is that of 1991 and the growth rate is an average rate projected from 1991 to the year 2000.

The population growth rate is less than 1% for all high-income countries, apart from Australia whose growth rate is higher owing to its immigration policy.

The other countries all have a growth rate higher than 1%, except South Korea which will probably join the group of high-income countries over the next decade.

Sub-Saharan Africa has recorded the highest growth rates (3% or more).

Population under 15 years

In high-income countries, less than 20% of the population is under 15 years (except in Australia), whereas this age group constitutes between 31% and 47% of the population in other countries.

Population 65 years and over

This age group amounts to over 10% in high-income countries, but less than 10% in the other countries.

(b) Economic data

Human Development Index (HDI)

The United Nations Development Programme (UNDP) has created a Human Development Index which combines indices relating to real purchasing power, the level of education and the health of a given population.

The HDI classification does not, evidently, always correspond to the income-related groupings.

It should be noted that of the 10 countries at the top of the index classification, seven took part in the seminar, namely Japan, Switzerland, Sweden, Australia, France, the Netherlands and the United Kingdom.

Rural population

Teaching Hospitals are always located in large towns. This leads to a problem of hospital access in countries with a large rural population (China, Indonesia, Viet Nam) and in countries which are highly urbanized but where distances are great (Chile, Australia, Sweden).

Gross domestic product (GDP) per capita after adjustment

This is expressed in US dollars and the figures are from 1990.

This index enables disparities in purchasing power due to exchange rates to be taken into account and its use considerably narrows the discrepancies between countries. After adjustment, the discrepancy

between China and Switzerland, for example, is 1 to 10 with respect to the GDP per capita, whereas it is of the order of 1 to 100 before adjustment.

GNP per capita and the growth rate of the economy

This is 1990 GNP before adjustment

The growth rate is the average growth rate of GNP between 1980 and 1990.

Note 1

The use of GNP in some instances and GDP in others may seem surprising. The choice of one aggregate as opposed to the other was made by the information sources concerned (UNDP or World Bank). GDP and GNP tend to be relatively close.

Note 2

Economic data on Albania for 1990 were not available at the seminar. A GNP per capita of 640 US dollars had been suggested, based on Table 1a of the World Bank's World Development Report for 1993. In this report, Albania is thought to lie in the lower bracket of middle-income economies.

Data collected since have revealed that Albania, with a GNP of approximately 360 US dollars per capita, ought actually to figure amongst the low-income economies.

(c) Health indicators

Life expectancy at birth

The year of reference is 1990.

The discrepancies are small in high-income countries where life expectancy is between 76 and 79 years. In low-income countries, the discrepancies are striking (from 47 years in Benin to 70 years in China).

Infant mortality

The infant mortality rate is calculated from the number of deaths during the first year of life in 1000 new-born babies.

In high-income countries, the infant mortality rate ranges from 4.8 per thousand in Japan to 8.7 per thousand in Australia.

In low-income countries, this rate varies from 29 per thousand in China to 104 per thousand in Tanzania.

The statistics correspond to the year 1988 for high-income countries, to 1991 for the others.

(d) Means and resources in health systems

Jobs in the health sector

There are large disparities here, not only between high-income countries (with more than 16 jobs per thousand people) and low-income countries (with less than five jobs in the health sector per thousand people), but also amongst developed countries themselves: 40.7 health sector jobs per thousand in Sweden as compared with 16.7 in Japan.

It should be noted that there is some confusion between the notion of health sector jobs as opposed to the more restrictive concept of health professionals.

Physicians and nurses

Data on numbers of physicians and nurses are hard to compare since job descriptions vary from country to country. Should Japanese nursing auxiliaries with two years of specialized study be counted as nurses? Should assistant physicians in certain Asian countries be considered physicians?

It is often maintained that developing countries have trained too many doctors. This popular belief seems to be contradicted by the present statistics.

Differences between high-income countries may range up to a factor of two, as, for example, between Japan (1.7 physicians per thousand people) and Sweden (3.0 physicians per thousand). The gaps are much wider in the other countries.

Numbers of specialists

Discrepancies are wide even amongst the high-income group of countries (70% specialists in Switzerland, but only 34% in Australia).

It is interesting to note that, contrary to popular belief, there does not seem to be a link between the number of specialists and the volume of health expenditure, even though it tends to be assumed that the greater the number of specialists, the higher the health expenditure, owing to the high cost of treatment provided by specialists.

Health expenditure in terms of GDP

In high-income countries, health expenditure represents on average 7% of GDP, with small variations, whereas it amounts to only 3.5% in other countries, with large variations from country to country. It should not be forgotten, however, that definitions and calculation methods vary considerably from country to country and make comparisons tenuous.

Public sector health expenditure alone

It is not so simple to arrive at a definition for "public sector". This can refer both to expenditure by public institutions and to expenditures met by the State or by local communities, but which are actually implemented by private institutions. Whatever the case might be, in high-income countries, the public sector's quota amounts on average to 70 or 80% of overall health expenditure. In contrast, the figure is less than 50% in the majority of developing countries. This fact contradicts the generally accepted notion that the State and public authorities in these countries play a dominant role in the health sector.

Percentage of health expenditure funded by various sources

In countries where the GDP per capita is high, the percentage funded by the patient is much lower and the percentage financed by the health insurance system (or taxation) much higher than in countries where the GDP per capita is low. Regrettably, this is all the more true since in developing countries, the patient's contribution (often unrecorded) is most likely to evade statistics...

(e) Hospitals

Numbers of beds

High-income countries (with approximately 8 beds per 1000 people) are much better equipped than the others (with approximately 2 beds).

The surprising over-provision in Japan is worth noting (13.6 beds per 1000 people).

Percentage of health expenditure devoted to hospitalization

This figure is more or less constant (approximately 50%) whatever the country or economic level. This leads us to take it as an unavoidable structural law and to wonder whether it would actually be possible to significantly reduce the percentage of health expenditure devoted to hospitals.

Hospital personnel

In high-income countries, the number of hospital jobs in relation to beds varies considerably from country to country. This makes up for the differences in numbers of beds. The abundance of hospital beds in Japan, for example, is thus compensated by a low concentration of personnel in attendance at each bed.

As regards the other countries, we can only bemoan the scarcity of statistical information provided.

Beds for the critically ill

The disparities between the various participating countries in the numbers of beds for the critically ill per thousand people highlight the immense differences which exist: in Japan, for instance, there are 8.7 such beds for every thousand people, whereas in Indonesia there are only 0.5 per thousand.

The explanation traditionally given for this discrepancy is that hospitalization is costly, probably not so much in terms of personnel (even if the largest proportion of hospital expenditure everywhere is devoted to personnel) but, rather, in terms of equipment and medical products.

We might also be tempted to look for an explanation in terms of population age. In developed countries, there are three times more elderly people over 65 years than in developing countries. However, there are on average six times more beds available for the critically ill.

(f) Medical training

To obtain a ratio of two physicians per 1000 inhabitants in an imaginary country with a stable regime (assuming a professional life of 30 years), one would need to train 666 physicians for every million inhabitants each year. This is the order of magnitude actually observed in developed countries. Countries particularly well supplied with physicians continue to train large numbers (Switzerland, Sweden) or are currently limiting training (France), whereas the least well provided countries are maintaining present

policy (Japan, United Kingdom, Australia) or attempting to make up for shortages (Netherlands). Developing countries are either training fewer physicians (Pakistan, China) or many fewer (Benin, Tanzania, Indonesia) compared to developed countries.

A more detailed study, beyond the scope of the present seminar, would have to take several factors into account (the population age pyramid, demographic forecasts, morbidity, the age pyramid of practising physicians, the role of assistant physicians, the training of foreign physicians and courses abroad, etc.).

The duration of medical studies leading to a full medical degree varies from 5 to 7 years. A simple perusal of the table could be misleading, since in order to make true comparisons, the level at the beginning of study would have to be taken into account, as would the trainee's ability to practise medicine immediately after obtaining the doctorate or not. In the United Kingdom, for example, after the 5 years of study necessary for the degree, the student must work in a hospital for a year and undergo 3 years of practical training before becoming a general practitioner.

Similarly, the duration of specialized study must be examined very carefully. The figure is no more than an average, and it must be remembered that those destined to become general practitioners must also take an enhancement course after obtaining their doctorate.

(g) Teaching Hospitals

The size of teaching hospitals is shown here by the number of beds. The numbers of beds given by each participant do not necessarily correspond to the definition of the Teaching Hospital adopted at the seminar.

Comparing industrialized countries alone, the differences between countries are probably more a question of definition than real difference. A preliminary reading of the table suggests that there are three times more teaching beds in France than in the Netherlands. However in France, *Centres Hospitalo-Universitaires* (CHU) also serve as general hospitals in towns possessing a medical faculty, whereas in the Netherlands clinical training is provided in large hospitals which are not, however, classified as "teaching" hospitals.

The fact remains that in industrialized countries, the number of teaching hospital beds per million inhabitants is around 1000, whereas this figure is less in other countries, sometimes as low as approximately 100 (Colombia, Benin, Tanzania).

Staffing levels are relatively constant from country to country (0.5 physicians and 2 to 3 other staff per bed), with some exceptions (5 times more non-physicians in Sweden tnan in Japan and a very low staffing level in Benin).

In developed countries, the running cost of a bed ranges from $126 000 in France to $218 000 in the Netherlands. This is explained by the more selective definition of teaching hospitals in the Netherlands.

The cost of running a bed drops considerably with the economic level. The proportion of these costs in terms of GNP is more or less the same everywhere, with a maximum in South Korea (probably due to an overly wide definition of teaching hospitals) and a minimum in Morocco and Benin.

3. The situation in each country

There follows a brief overview, whose simplistic nature should not be overlooked.

Developed countries

Switzerland

The Swiss health system is characterized by a high specialization of physicians and a considerable proportion of private sector funding (32%).

There is a teaching hospital in each of its large towns (Basel, Bern, Geneva, Lausanne and Zurich). Health policy is determined at a cantonal level, which can lead to great differences. Thus in Geneva, the teaching hospital alone caters for all State hospitalization and private clinics are relatively underdeveloped, whereas in Bern, the teaching hospital only caters for a quarter of all hospitalization.

Japan

The Japanese health system is characterized by excellent results at a relatively modest cost (6.5% of GDP), and this despite an aging population. There are fewer physicians compared to the other developed countries. Although the hospitals boast relatively few personnel, they attract 60% of expenditure on health, a maximum amongst the countries participating at the seminar.

The classification of hospitals at tertiary level is determined by size, the specialized treatment on offer and the percentage of patients referred from primary level or from other hospitals. Teaching hospitals more or less correspond to hospitals classified as tertiary. The main dilemma for teaching hospitals, then, is how to obtain or preserve a particular percentage of patients referred by the primary and secondary levels in order to maintain their tertiary level status entitling them to charge higher rates.

Sweden

Sweden is characterized by an aged population, an abundance of health personnel and a high level of specialization amongst its physicians. Health policy decisions are made at county level (whereas other social issues tend to be regulated at municipal level). The public sector largely predominates. The proportion funded privately is very low. Access to teaching hospitals (one in each region) is by referral or through casualty.

France

France is characterized by a costly health system (surpassed only by the United States and Canada). Primary health care is, for the most part, private and hospitals tend to be State funded (70%); however, the part of the private sector approved by the Department of Health is financed by the welfare system in the same way as the public sector.

There is no formal system for referring patients to a level of higher complexity of care. Teaching hospitals also serve as general hospitals in towns which are host to medical faculties. They also therefore treat very common cases which, strictly speaking, do not come under tertiary care. This partly explains why the cost per teaching bed in France is the lowest of all participating industrialized countries, whereas the running costs of French teaching hospitals are the highest in relation to GNP.

The Netherlands

The health system in the Netherlands occupies an average position amongst the industrialized countries, whatever parameter is observed. Far-reaching reforms are in progress with a view to balancing free market principles (choice of health insurance schemes) with equal access for all.

There are six teaching hospitals (four public and two private). Each is affiliated to a faculty of medicine. These hospitals tend to concentrate on the more specialized treatments, leaving more common care and related clinical training to general hospitals. The problem over the next few years for these hospitals will be to avoid overlap with the other hospitals in order to be able to justify the high cost of their services to the insurance funds. With the introduction of free market principles they may also have a problem in maintaining a common front, within the Association of Teaching Hospitals, towards the insurance funds.

Australia

One specificity of Australia is the considerable influx of immigrant physicians (who, in some years, outnumber those trained locally).

Hospitals are managed by the State. Hospitalization is free of charge, but patients can pay to select their own physician and thus jump some queues. Extra-mural general practitioners and specialists practise freely. Funding is predominantly federal.

Medical faculties are all funded with public money, as are the teaching hospitals attached to them.

Specialization is not arranged by universities, but by colleges of specialists (in the English tradition). The clinical training of specialists occurs within hospitals, which are not necessarily all teaching hospitals.

United Kingdom

The establishment of a National Health Service after the Second World War enabled a high quality medical service to be developed while maintaining control over cost. The drawback was the formation of waiting lists. Reforms based on profit-sharing by GPs and the encouragement of competition between hospitals has recently disrupted this system (it is the GP who now chooses the hospital offering the best value for money).

Medical training is clearly divided between the universities, which cover the initial stages of training (27 medical schools, 8 of them in London), and the colleges, all located in London, which train specialists.

Teaching hospitals have their own governing bodies which are independent from regional authorities. For many years now, they have received a larger portion of the health budget than other hospitals, without any real justification. Now that competition is in place, these hospitals will find themselves up against serious funding difficulties.

Intermediate countries

South Korea

One of the "dragons" of Asia, South Korea is becoming economically similar to developing countries and now devotes nearly 7% of its GDP to health.

Since 1989, the population has been completely covered by a health insurance system initially established in 1977. Health care services profited by expanding rapidly, starting with hospitals which now attract more than 50% of health expenditure. 85% of the hospitals are private and non-profit-making. Restrictions had to be introduced to control the growth in expenditure, with a 3-level referral system imposed since 1989.

Under this system, third-level hospitals are only responsible for 10% of beds, and benefit from financial advantages.

Teaching hospitals, responsible for 24% of beds, are concerned to become classified as tertiary. Their main dilemma is therefore how to find sufficiently pertinent, but nevertheless non-inflationary, criteria.

Chile

Chile is a country of geographical contrasts (shape, influence of the capital) and social contrasts. The diseases of rich countries (vascular diseases, cancer) are already present whereas diseases characteristic of developing countries have not yet been eradicated.

Up until the end of the 1970s, the health system was directly administered by the State. During the 1980s, a well-equipped private medical system was developed, thanks to the introduction of private health insurance schemes just when the national health system was on the decline.

80% of the State-run medical schools make use of large hospitals within the national system for clinical training, as well as the J.J. Aguirre Hospital of the University of Chile and the Catholic Teaching Hospital.

Colombia

A country of extreme social inequalities with a dynamic economy, Colombia combines a State-funded public health care sector geared towards the least privileged sector of society with a private sector for wage-earners which is funded by the welfare system.

The eleven oldest medical schools (almost all public) each have their own affiliated hospital, always tertiary.

During the 1980s, medical schools almost doubled in number. The new schools, all private, have made agreements with tertiary and even general hospitals.

Morocco

Morocco's health results, albeit mediocre, are improving.

Health expenditure as a percentage of GDP is low and households and optional insurance policies finance a large proportion of these costs (63%).

The public sector is directly managed by the State. A national social security system serves as medical insurance for private sector workers and treats those who contribute to it in its own establishments. Finally, there is also a profit-making private sector (with clinics and surgeries) for the wealthier population.

Morocco's two teaching hospitals were set up at the same time as the medical faculties in Rabat and Casablanca. They are at the top of the country's health pyramid. They provide a very small number of beds per million inhabitants compared to other countries with a similar economic level and there is a huge training requirement (there are still only 0.3 physicians for 1000 inhabitants despite a rapid rise in medical school enrolment recently).

The Philippines

Health expenditure in relation to GDP remains low and 50% funded by households.

The health care system comprises a variety of public services generally devolved to local communities and private units.

There are 26 faculties of medicine (mostly private) and 40 affiliated teaching hospitals. The main one, the Philippines General Hospital, has recently expanded dramatically.

Albania

Albania is a small, largely rural country which has long been isolated politically. In terms of quantity, there is an adequate number of physicians and hospital beds, and new physicians appear to be being trained in sufficient numbers. As regards quality, the opening up of the country should bring improvements.

The health system is almost entirely public.

The main hospitals in Tirana, already united geographically, have recently been united by law to create what is now the country's sole Teaching Hospital, affiliated to the one faculty of medicine.

Low-income countries

Egypt

This country is characterized by a high demographic growth rate and small area of cultivable land.

The Ministry of Health directly manages 50% of health personnel. The State-employed physicians often practise privately as well.

Medical costs are directly covered by the State or reimbursed by a national (but non-compulsory) public health insurance system which still only covers 20% of the population.

The 110 000 hospital beds are run by the government (77%) or by semi-public organizations (13%, including the Curative Care Organizations and the Teaching Hospitals Organization) and private organizations (10%), the latter in rapid expansion.

The teaching hospitals are either directly dependent upon the Ministry of Education (15 400 beds) or on the Teaching Hospitals Organization (with 4700 beds).

Indonesia

This subtropical archipelago stretches over 5000 km. It has the fifth largest population in the world. The country's economic growth is strong and its demographic growth rate moderate.

However, resources allocated to health are still very slight (1 physician per 7000 inhabitants, 1 hospital bed for 1500 people), and very unequally distributed.

The State provides a well conceived but insufficient health system. Private medicine is developing. 30% of hospital beds are private (often entrusted to charitable organizations). The establishment of a health insurance system is somewhat slow.

Clinical training is conducted in about twenty provincial hospitals, not usually the last referral level (there are only 4 of these).

Unless the number of physicians trained by the system is increased, it will not be possible to make up for lost time.

Pakistan

A country undergoing strong economic growth, but with a poorly controlled demography, Pakistan is still lagging behind in health care despite significant efforts made with respect to medical training.

A highly original experiment was carried out by the Aga-Khan Teaching Hospital, where medical students are put into contact with underprivileged communities at a very early stage in order to receive clinical training combining primary, secondary and tertiary health care.

China

The most populated country in the world with a comparatively small cultivable area, China has succeeded in controlling its birth rate and its health is the best of its group. Its economic growth is extremely strong. In terms of quantity at least, there is an adequate number of health personnel and hospital beds.

Guaranteeing health remains the duty of the State or local communities, but a mix of public and private health activities is emerging spontaneously. The patients themselves make a considerable contribution and, in the absence of a health insurance system, the appearance of a two-tier health system is to be feared.

Medical schools usually possess their own hospitals.

Benin

This is a small country in sub-Saharan Africa emerging from an interventionist economy following political upheaval in 1990.

Life expectancy is very low and the birth rate high. Benin's Human Development Index is one of the lowest in the world.

The national health system, centred on primary health care, is being challenged by a private sector which is developing rather chaotically.

Physicians are trained in the capital (in a still insufficient number) and receive their clinical training at the Centre National Hospitalier Universitaire (CHNU) in Cotonou, an institution with 630 beds.

Nigeria

This is the most populated of the African countries. Characteristic of sub-Saharan Africa, its birth rate is high, its output per capita low, with poor health indices, a shortage of physicians and health

personnel in general. As a result of the difficulties typical of oil producing countries, economic growth is poor.

Tanzania

This country is also characteristic of sub-Saharan Africa (see above).

GDP per capita is particularly low (approximately 100 US dollars). The number of physicians is particularly inadequate.

The Medical School provides training in association with the Muhimbili Consultant Hospital (1500 beds) and with the Muhimbili Medical Centre in Dar es Salaam, the country's sole clinical training unit.

Viet Nam

A highly impoverished country but with economic transformation in full swing, Viet Nam can boast adequate health cover (health personnel and hospital beds), at least as far as quantity is concerned.

The State and local communities remain the principal providers of health care. Theoretical training is provided by medical faculties in Hanoi, Hué and Ho-Chi-Minh-City. Clinical training takes place in the municipal hospitals within these towns.

FUNCTIONS OF TEACHING HOSPITALS

1. Health care

All participants agreed that the primary function of the Teaching Hospital was to care for the sick. This priority is furthermore reflected financially, since virtually all teaching hospital expenditure is devoted to care, compared to a small fraction devoted to teaching or research.

The discussion of the health care provided by Teaching Hospitals thus centred on three issues:

What sort of care should Teaching Hospitals be providing?

- preventive or curative?
- emergency or pre-programmed?
- simple or complex?
- extra-mural or confined to hospital premises?

Should the care be of a particular quality?

Who can and should have access to this care?

(a) Type of care

Teaching Hospitals dispense essentially curative treatment. Should they also concern themselves with prevention? Participants thought they should.

In certain cases, this preventive role is surely a matter of course: if, during an examination for curative treatment, the case history suggests the presence of another illness, it is the hospital's duty to diagnose this illness at an early stage. Similarly, educating the patient and family is an integral part of the overall care provided for chronic illnesses (diabetes or cardiovascular disease, for example) which are treated in Teaching Hospitals. These diseases are becoming increasingly widespread, particularly in developed countries.

However, within the wider context of national health policy, Teaching Hospitals ought also to participate in public health programmes geared towards the local community and primary health care (home treatment, private practitioner networks, etc.), which would ensure that all involved would be performing their assigned function. They could also play a special role in distributing information on subjects as diverse as family planning, smoking, HIV infection, and infectious and parasitic diseases (in the case of developing countries in particular).

Finally, the participants thought Teaching Hospitals had a special role to play in health education.

- Should Teaching Hospitals be providing secondary and primary health care?

If we adhere to the definition adopted at the beginning of the seminar, Teaching Hospitals exist first and foremost to provide complex care (using advanced technology). In actual fact, however, they also dispense more simple care as, for example, at the Assistance Publique-Hôpitaux de Paris.

Some participants did not exclude the possibility that Teaching Hospitals might deliver various types of care, ranging from the simplest to the most complex. After all, as the representative of Pakistan pointed out, if Teaching Hospitals focus their activity exclusively on complex hospital treatment, they risk isolating themselves from the other levels of care.

After lengthy discussion, the contrary opinion prevailed. The function of Teaching Hospitals was to provide exclusively complex care since common treatments could and should be provided by the lower levels of the health pyramid, namely the secondary and primary levels. Similarly, all health institutions, whether they be health centres, district hospitals or regional hospitals, ought to provide care consistent with their function and role within the health system.

This point of view was especially supported by the representative of South Korea; as far as the South Korean government was concerned, all complex cases should be treated at tertiary level and an effort should be made to ensure that more simple care is restricted to the secondary and primary levels.

The arguments generally focused on economic considerations (treating simple cases in an environment designed for more complex conditions is a waste of money), but also on considerations of quality (simple care is of a higher standard when provided in an environment tailored exclusively to that type of care).

The participants thus shared the hope that their health systems, however diverse they might be, should be properly effective at every level (local GP, community clinic, general hospital...) allowing Teaching Hospitals to devote their resources to those needs which require more complex technology.

- Should Teaching Hospitals be providing extra-mural treatment?

Tertiary care increasingly requires less hospitalization. Teaching Hospitals must thus be in the foreground of experimentation with the different types of treatments available. More often than not, it is within Teaching Hospitals that new organizational structures and types of treatment are developed. This

applies particularly to alternatives to hospitalization, whether they be in-house (day, overnight or weekend admissions, outpatient consultations) or extra-mural (home care, home hospitalization, the hospital-town network). It also applies to palliative care units, parent boarding facilities in paediatric hospitals, voluntary hospital help, etc.).

(b) Care quality

Is care of higher quality in Teaching Hospitals?

No participants at the seminar knew of any recent study demonstrating that there was a difference in quality of identical treatments provided by Teaching Hospitals as compared to other hospitals. (Such studies have been made in the past, for example: "Case-fatality in Teaching Hospitals and non-Teaching Hospitals, 1956-1959" by Lipworth, Lee and Morris, Medical Care I: 71-76, 1963. J.B. Lippincott Co., 1963.) The participants did agree, however, that Teaching Hospitals do not necessarily provide better treatment than other health institutions. Nowadays, it is important not to assume that a dense concentration of resources and highly trained personnel necessarily means high quality. Teaching Hospitals ought indeed to provide the best quality care possible, whenever advanced technology and specialized knowledge are called for. To this end, it is evident that the best equipment currently available (compatible, however, with the country's economic level) ought to be located in Teaching Hospitals; however, the use of this equipment must be assessed on a systematic basis.

The participants were of the opinion that Teaching Hospitals have an important role to play in setting standards of quality and drawing up protocols for treatment, not only with regard to resources and procedures, but also in terms of results achieved. Regrettably, it is more convenient, and thus more usual, to talk of controlling expenditure rather than of the need to ensure quality of health care.

(c) Access to health care

Tertiary-level hospital care should be accessible to all those who require it. It should thus be available in sufficient quantity and be geographically accessible for all. Waiting lists should not be cluttered up with patients who do not require tertiary care. It is thus vital that a referral system be established. Participants were unanimous on this point.

In some countries, in France for example, there is no formal system of referral in place. In most other countries, Teaching Hospitals are seen as the last resort in the health system, which means that access is limited to certain patients: they do not have access to tertiary care unless referral is advised at a "lower" level. This system of referral has the advantage of serving a gate-keeper function by maintaining the specific function of Teaching Hospitals as the last referral level. This particularity was vouched for by the representative of South Korea: "In South Korea, we expect Teaching Hospitals to play the role of last referral centre for medical care".

It is, however, necessary to face facts: most of the time, this referral system does not function satisfactorily: Teaching Hospitals attract patients because of the diversity of specialist treatments on offer. This means that the secondary care level is often "short-circuited" and thus under-utilized, resulting in an over-utilization of costly tertiary care.

Patients tend to assume that they will receive better care at a Teaching Hospital. However, this is only the case if their condition actually necessitates tertiary care. In the majority of cases, they would actually have been better treated by a health care institution providing secondary level care (a general hospital), providing it has adequate equipment and staff.

It is vital that patients be made aware of this fact through consciousness-raising campaigns explaining how to make good use of their country's various levels of health care.

A health care system must comprise three well-organized and properly delineated care levels before Teaching Hospitals can assume their proper function; this would ensure both a balance in the activities at the various care levels and the best use of available resources.

Even where this system of referral exists and manages to prevent unwarranted patient "congestion" on the tertiary waiting list, its last level may nevertheless not be able to fully meet demand. How then is it possible to select patients for treatment? Should money affect the choice? This is obviously not desirable, but how is it to be avoided? This issue was debated at length by the participants, without however yielding a properly satisfying answer.

2. Training

(a) Should clinical training only be provided in Teaching Hospitals?

Usually, medical training is provided in Hospitals which dispense tertiary care, namely in those termed "Teaching" Hospitals during this seminar. Apart from some interesting experiments conducted in Pakistan and in Australia, for example, clinical training tends to be based on complex diseases totally divorced from daily medical practice. There is a risk in restricting physicians' training solely to tertiary care institutions, for students might acquire a partial and distorted perception of what is to be their future profession.

Medical Faculties ought to retain responsibility for organizing medical curricula, but several seminar participants called for training to be carried out in all categories of hospital, and also in first-contact units, so that training is not restricted merely to the institution with the highest concentration of financial, human and technological resources.

Pakistan's experience here is noteworthy: in order to familiarize students with daily medical practice, common diseases are taught in local health units, not strictly speaking part of the Teaching Hospital.

Similarly, according to Chile, "training should not only be carried out in hospitals with advanced technology: it is vital that it be supplemented by frequent visits to institutions at other care levels".

(b) What sort of training should Teaching Hospitals be providing?

The role of Teaching Hospitals in providing training is important for two reasons:

- It is at Teaching Hospitals that students learn the performance, operation and use of new technologies. It is here that they are initiated to new diagnostic and therapeutic concepts which will constitute the medicine of tomorrow.

- All physicians need to have a certain practical knowledge of complex treatments.

  It seems obvious that those physicians destined to work within Teaching Hospitals or to practise specialized medicine outside such Hospitals need to acquire these skills. However, this knowledge is also useful for general practitioners who will need to know at what stage they should hand their patients over to the last referral level. This points to the important responsibility of Teaching Hospitals in providing continuous training for health professionals,

particularly for physicians, so that they remain in close touch with the spread of new medical progress.

(c) How many physicians should be trained?

The number of physicians to receive a diploma each year should be calculated according to individual countries' needs, but unfortunately this very rarely happens; this incidentally also applies to the other health professions.

It is, indeed, difficult to measure the precise needs of a country in terms of physicians, since these needs depend on many factors, in particular the exact role of physicians compared to other health professions, the degree of urbanization of the country, its geographical situation and, finally, to what extent the physician is at liberty to choose where to set up practice as opposed to being sent to where he is most needed. For all countries, the debate over how many specialists to train as opposed to general practitioners is most important. At this seminar, it was decided that a one-to-one ratio would be reasonable (50% specialists, 50% general practitioners). This is the ratio France has opted for.

For Chile, as the Director of the Catholic Teaching Hospital stressed, "the most worrying aspect is the dearth of information on the need for physicians in our country".

It must be emphasized that for health care needs alone, there is often the requirement in Teaching Hospitals for a large number of clinicians, house physicians and resident physicians, greater than the requirements for teaching personnel.

(d) Training other health professionals

In some countries (in France, for example), it is Teaching Hospitals which provide theoretical training for nurses. In other countries (the majority of Anglo-Saxon ones), theoretical training for nurses is provided at teaching establishments such as universities. Everywhere, however, practical training is conducted in Teaching Hospitals, at the
patient's bedside.

Teaching Hospitals are also an important training location for hospital managers, biomedical engineers and laboratory technicians... All these professions are important for the smooth running of the hospital system.

(e) Financing

Who pays for the training provided by Teaching Hospitals? The Ministry of Health, the Ministry of Higher Education or other institutions? After discussion, the participants agreed it was vital that cooperation between responsible sectors be established, or that an agreement between faculties, health care service funding bodies and communities be reached.

In many countries, the training provided by Teaching Hospitals is financed by the same budget which covers care. This is why the participants at this seminar deemed it advisable to make an appeal for this training to be financed separately, either by the Ministry of Education, or by the university funding body when the institution is private.

3. Research

(a) What sort of research, if any, is conducted in Teaching Hospitals?

Research conducted at Teaching Hospitals is essentially clinical research - the last stage of medical research, carried out at the patient's bedside.

The representatives of developed and developing countries expressed conflicting views on the function of Teaching Hospitals with respect to research.

For most of the developing countries, research is not seen to be an indispensable function of Teaching Hospitals. It is little present and considered more as a burden.

It must be remembered that in developed countries, most research is conducted outside Teaching Hospitals. Fundamental research is carried out in universities, in the pharmaceutical industry, high-tech industry or special institutions like the French Institut National de la Santé et de la Recherche Médicale (INSERM) or the Centre National de la Recherche Scientifique (CNRS).

(b) Does the research conducted in Teaching Hospitals make a significant contribution to medical progress?

The participants emphasized the very slight link between research and medical progress, the direction of research being for the most part uncontrollable. A discovery does not always necessarily lead to the solution of the health problem being researched: a research project can result in a discovery well outside the field of the original proposition. In most countries, the structures controlling research, whether public or private, do not necessarily apply discoveries to the most acute public health problems.

Teaching Hospitals should participate as institutions (and not in a dislocated fashion under the influence of individual professors) in the implementation and development of national research policies in the field of health.

The appraisal of health service organization and management should be the focus of a particular type of research.

Teaching Hospitals should remain the essential link between extra-mural multi-centre research by including patients from non-university sectors. Teaching Hospitals could be persuaded to give guidance and suggest research methods to these non-university health care institutions.

(c) Research costs and funding

Despite the fact that it is difficult to evaluate the cost of research, it is well known that the cost is very high. This is why it will be vital in future to separate the cost of research from the cost of health care and, consequently, the funding of each of these. Several participants suggested that research should find diverse sources of funding: the State budget, private foundations, the pharmaceutical industry, sponsorship, etc.

4. Should Teaching Hospitals be performing a social function?

According to the majority of those involved with the health system, whether they be patients, physicians or funding bodies, social problems should not come within the remit of Teaching Hospitals. By no means should there be confusion between health care and the tackling of social problems. Put

differently, Teaching Hospitals should not have to play the role of an orphanage or haven for the have-nots. There is a need to avoid *medicalizing* problems which are of an essentially social nature simply because the social institutions responsible for dealing with these problems are inadequate or non-existent.

Teaching Hospitals, however, often serve as the last resort for deprived people in large towns wishing to gain access to health care. In some developed countries today, the newly deprived groups of the population turn up of their own accord at Teaching Hospital casualty services, no doubt because more appropriate places of refuge do not exist. Teaching Hospitals are forced to take them in, since other more appropriate refuge structures have not been created.

Participants commented that it is easier to obtain funding for setting up medical as opposed to social units, which explains the all too common medicalization of social problems, and why surveys of hospital patients frequently reveal people with social problems who ought not to be in a hospital, especially one dispensing tertiary care. These comments must, of course, be tempered by the fact that many truly sick patients have social problems linked to their illness, and if these are left unresolved, they only prolong the average length of hospital stay.

Finally, the urgent need in developed countries for more social sector personnel must be emphasized, particularly for social workers capable of relieving the family unit from caring for sick relatives: this role is still being fully assumed by the family in developing countries.

ECONOMIC, LEGAL AND POLITICAL IMPLICATIONS OF TEACHING HOSPITALS

1. Economic implications

(a) The burden on the economy of Teaching Hospitals

The cost of Teaching Hospitals was compared to the cost of hospitals as a whole, of the entire health system and of the entire economy, measured by GNP.

The cost of running Teaching Hospitals is approximately 20% of overall hospital running costs, the lowest figure being 9% in Colombia and the highest figures 25% in France and 40% in South Korea.

Teaching Hospitals represent 5% of overall health expenditure in Colombia and 21% in South Korea, but the figure is generally approximately 10%.

Finally, Teaching Hospital expenditure represents 0.1 to 1.4% of GNP.

Of all these statistics, if extremes are disregarded (more the result of a problem of definition in the case of South Korea, or of under-evaluation in the case of Morocco and Colombia), it should be noted that Teaching Hospitals account for a fifth of a country's total hospital expenditure. Nearly everywhere, hospitals attract one half of overall health expenditure.

Is this too much or not enough? It would be desirable to carry out studies on this subject in a country (which one?) where the referral system recommended by the participants functions effectively, or where the functioning of the system could be simulated in reports.

(b) Is the health care dispensed by Teaching Hospitals more costly?

Is the treatment of a given illness more costly in Teaching Hospitals? If so, should this high cost be attributed to the actual seriousness of the illness or simply to the fact that the Teaching Hospital environment results in unwarranted costs?

In the document submitted by the Netherlands, we read: "The last referral function is expensive. It requires additional efforts and manpower in order to maintain and expand both the knowledge and skills of specialists and support staff and the necessary equipment".

In the economic world, however, words will not suffice; statistical information is indispensable. This, unfortunately, is hard to come by:

A comprehensive study of the cost of Australian hospitals provides us with an answer. Costs studied on the basis of homogeneous groups of patients, the equivalent of the Diagnosis Related Groups (DRG) in the United States, were collated in a manner permitting comparisons between public, Teaching and non-teaching Hospitals and private hospitals. The reader will find details of this study in the annexed document entitled "Australian Hospital Costs". As can be seen, the additional teaching expenditure for 14 surgical DRG varies from -26% (yes, believe it or not, a Teaching Hospital can be less costly!) to +48%, with an average of 12%.

In the document submitted by South Korea, we read: "On average, mean case costs of DRGs in teaching hospitals were 28% higher than mean costs in their non-teaching counterpart".

Without wishing to extract a universal truth from them, these highly fragmentary statistical data do point to an additional cost in Teaching Hospitals of between 10% and 30%, tempering some of the more pessimistic assertions made.

(c) Funding

Is treatment free or not? Reimbursed or not? If so, wholly or partially? Do the same rules apply to all countries?

It would be too difficult a task to analyse minutely the rules governing the health systems of all twenty-two countries present. Nevertheless, we can distinguish two main tendencies in the overall organization of health services:

- institutional planning (care principally financed by the State budget and, for the main part, cost-free for the patient);

- market forces (theoretically, this would mean that patients would be able to compare the cost for the same treatment in Teaching Hospitals and other hospitals).

In both cases, Teaching Hospital expenditure should be balanced with expenditure in other health sectors. At any rate, management and quality control should be possible. Funding should increasingly be determined with the aid of cost-efficiency studies, and studies of the quality of health care, training and research. The mechanisms by which these objectives are attained will vary considerably depending on the possibilities in each country. However, the tightening of resources, a fact of life in all countries nowadays, makes a rationalization of the use of resources necessary. Everything cannot be done everywhere. Choices do have to be made, and priorities earmarked. This is something for politicians, funding bodies,

health professionals and, also, consumers to decide, and how much of a say each group has will vary from country to country.

2. Legal implications

(a) Public or private status? Profit or non-profit making?

Teaching Hospitals can either belong to a university or be officially affiliated to one.

In most cases, Teaching Hospitals are public and come under the supervision of the Ministry of Health or local authorities. Some examples of private Teaching Hospitals were, however, cited (Chile, Japan, the Aga-Khan Hospital in Pakistan). Their problems remain more or less the same and their status does not appear to be a major issue, except perhaps in the case of Chile where private status involves a selection both of patients and students according to economic criteria...

(b) Accreditation and standards appropriate to Teaching Hospitals

In some countries, regulations force Teaching Hospitals to comply with certain criteria (for example: minimum size, range of disciplines). Such criteria, in addition to accreditation already existing in most countries, can result in an ever greater complexity and in continually escalating costs. They must therefore be accompanied by measures designed to limit direct access to these Hospitals (as, for example, in Japan, where Teaching Hospitals must maintain a certain quota of referred patients in order to continue to be eligible for special rates).

(c) Is equal access to Teaching Hospitals guaranteed by law?

In the majority of countries it is, theoretically at least. However, certain obstacles remain (distance, cost, waiting lists, preferential treatments...).

As a result of their inherent advantages (the presence of professors of medicine) as well as their inconveniences (the presence of inexperienced students), Teaching Hospitals, interestingly enough, continue to attract many patients, whether they be affluent people desiring to avoid waiting lists, or poor people who have no other choice. This raises both a moral and financial dilemma. Are some people being excluded? How can Teaching Hospitals attract the middle section of society?

The role of Teaching Hospitals should also include ensuring that equality of access to health units is respected, and this ought to be enshrined in their mission.

3. Political implications

(a) The Teaching Hospital, pride of the nation

Any country is proud to demonstrate it is capable of offering state-of-the-art care, even if, for obvious economic reasons, this can only be provided in a few places. Occasionally, these exceptional places are the foundations of politicians. More often than not, it is Teaching Hospitals which are provided with the necessary advanced technology.

In all cases, the effect on public health is insignificant, but the Teaching Hospitals undoubtedly benefit.

(b) The Teaching Hospital, symbol of political failure or success

Teaching Hospitals are the place where so-called miracles of modern technological medicine occur. Politicians can thus make use of this reputation to enhance their own image. In contrast, if Teaching Hospitals do not satisfy the public, they can rapidly become a symbol of political failure at local or national level.

(c) The Teaching Hospital, caught between two ministries

There are frequent conflicts between the Ministries of Health and Education and this has a deleterious effect on Teaching Hospitals.

(d) Medical power

The Teaching Hospital is an indispensable working tool for physicians and university professors; the prestige which the latter have always enjoyed among the country's elite has now spread, as a result of media exposure, among the general public. This results in a form of power: medical power which reaches well beyond the boundaries of medicine. Paradoxically, this power can have a bad effect on public health when those who wield it take advantage by favouring one particular discipline, or diverting budgetary resources to finance luxury treatments.

The Teaching Hospital and the world of politics are thus closely linked. Teaching Hospitals ought to be protected by law against political interference.

It is thus crucial that a national debate on Teaching Hospitals be encouraged. Teaching Hospitals themselves should also help define national health objectives.

CONCLUSION

Teaching Hospitals are hospitals which provide the most complex care. They have an important function in the health system and their burden on the economy is often not as great as is sometimes presumed, since they account for slightly less than 10% of total health expenditure in the countries which provided data. This result must be tempered by the fact that only 10 countries (5 of them in the high-income bracket) responded to questions enabling this percentage to be calculated.

The health system does, of course, have need of complex health care, but it must be provided advisedly, namely when it has a reasonably good chance of success in instances where more simple treatment would not. Such care is usually termed tertiary in contrast to the more basic "primary" and "secondary" care. Teaching Hospitals thus have a legitimate function to play in a multi-layered health care system which was not called into question at the seminar.

Do Teaching Hospitals play the role of last referral expected of them? The answer was sadly no.

In actual fact, even where formal referral systems are in place, the primary and especially secondary levels are all too frequently "short-circuited". Since patients apply to them direct, Teaching Hospitals are thus perfectly able to operate in isolation from the rest of the health care system. In fact, they do not hesitate to do so, and often maintain this situation by means of esoteric practices and patronizing attitudes.

In reality, two parallel systems coexist:

- on the one hand, overcrowded Teaching Hospitals dispensing costly treatments of all levels, often unjustifiably;

- on the other hand, a primary and secondary health care system which fails to refer patients in need of tertiary level care in order to keep them to themselves, to the obvious detriment of these patients' health.

This isolation of Teaching Hospitals from the rest of the health care system occurs everywhere, whatever the level of economic development of the country, and however its health care system is organized.

It was unanimously recognized that the proper function of Teaching Hospitals involves dispensing health care of a truly tertiary nature. The fact that Teaching Hospitals currently provide complex care in isolation from the rest of the health care system was also recognized (and deplored). The next task is to propose a strategy for reorienting Teaching Hospitals.

Firstly, it is necessary to be aware of the two tendencies which only serve to widen this chasm:

- The first is a marked tendency on the part of the Teaching Hospitals to rely on advanced technology, which they are perfectly capable of developing without any dialogue or cooperation with the rest of the health system.

- In contrast, the second tendency is for the Teaching Hospitals themselves to provide primary and secondary care at inordinate cost and in unfair competition with the services and units set up for that purpose.

Teaching Hospitals must then be integrated into the rest of the health care system:

- by formalizing the system of referral where necessary;

- by introducing arrangements to prevent short-circuiting of the system where formal referral already exists;

- by creating, on the basis of national directives, opportunities for dialogue at regional level between the units responsible for the three levels of care, using structures suited to the local situation (regional health and social organization schemes, forums, etc.);

- by encouraging physicians and other health personnel to revise their way of thinking. Currently, they are trained solely in Teaching Hospitals and often acquire wrong ideas. One of the means suggested would be to conduct more practical teaching outside the Teaching Hospitals. Another would be to involve Teaching Hospitals in continuous training;

- by using all available health education techniques to make the public understand that short-circuiting the secondary health care level carries risks;

- by making the various levels financially interdependent. Several solutions are possible: Health Maintenance Organizations or HMO (American model), funding of tertiary care by general practitioners (British model), etc. It is also, however, necessary to be aware of the possibly pernicious consequences which could jeopardize the quality of Teaching Hospitals.

Finally, this seminar provided a reminder of the indispensable nature of tertiary care and urged both national governments (or regional authorities) and the Teaching Hospitals themselves to reconsider the function of Teaching Hospitals, with a view to transforming them into true "last referral hospitals" linked to the rest of the health system and not alienated from it as is currently everywhere the case.

Annexe I

Comparaison statistique des pays représentés

Sources :

population totale et croissance de la population
- pays à revenus élevés et Albanie : tableau 45[1]
- autres pays : tableau 23[1]
- population de moins de 15 ans : tableau 26[2]
- population de 65 ans et plus : tableau 26[2]

population rurale
- pays à revenus élevés et Albanie : tableau 44[1]
- autres pays : tableau 10[1]

PIB/habitant (US$ ajustés) : tableau 1[1]

PNB/habitant
- pays à revenus élevés : tableau 28[1]
- Albanie : tableau A9[2]
- Vietnam : tableau A9[2]
- autres pays : tableau 2[1]

croissance du PNB/habitant
- pays à revenus élevés : tableau 50[1]
- autres pays : tableau 27[1]

IDH (indice de développement humain) : tableau 1[1]

espérance de vie : tableau 1[1]

mortalité infantile/1000 naissances
- Royaume-Uni : participant
- autres pays à revenus élevés[3] :
- autres pays : tableau 4[1]

nombre d'infirmières
- pays à revenus élevés : participant, sinon tableau A8[2]
- autres pays : participant, sinon tableau 12[1]

nombre de médecins
- Pays-bas : tableau 35[2]
- autres pays à revenus élevés : participant, sinon tableau 35[2]
- autres pays : participant, sinon tableau 12[1]

dépenses de santé par rapport au PIB : tableau 9[2]

dépenses de santé par rapport au PIB secteur public seul : tableau 9[2]

autres données sur le système de santé : participant

nombre de lits d'hôpitaux : participant, sinon tableau A8[2]

autres données sur les hôpitaux : participant

études médicales et hôpitaux universitaires : participant

Les sources sont indiquées ci-dessus d'une manière illustrée par les exemples suivants :

- *« tableau 9[2] » signifie que la source des données se trouve dans le tableau 9 de la deuxième référence mentionnée en bas de page, en l'occurrence un rapport de la Banque Mondiale.*
- *« participant, sinon tableau 12[1] » signifie que les données ont été fournies avant ou pendant le séminaire par un participant et, qu'à défaut, elles proviennent du tableau 12 de la première référence en bas de page, en l'occurrence un rapport du PNUD.*

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1. PNUD. Rapport Mondial sur le Développement Humain, 1993, Economica, Paris.
2. Banque Mondiale. Rapport sur le développement dans le monde, 1993, Investir dans la santé, Banque Mondiale, Washington.
3. OCDE. OECD Health Systems Facts and Trends, Paris.

Economies à revenu élevé

	SWI	JAP	SWE	F	NL	AUS	UK
Démographie							
population totale (Mhab)	6,8	124,0	8,6	57,0	15,0	17,3	57,6
croissance de la population	0,6%	0,4%	0,5%	0,4%	0,7%	1,4%	0,2%
population de moins de 15 ans	17%	18%	18%	20%	18%	22%	19%
population de 65 ans et plus	16%	12%	18%	14%	14%	11%	16%
population rurale	40%	23%	16%	26%	11%	15%	11%
Economie							
PIB/habitant (US$ ajustés)	20 874	17 616	17 014	17 405	15 695	16 051	15 804
PNB/habitant (US$)	32 250	25 840	23 780	19 590	17 570	16 560	16 080
croissance du PNB/habitant	1,7%	3,5%	1,8%	1,7%	1,4%	1,7%	2,5%
IDH (développement humain)	0,978	0,983	0,977	0,971	0,970	0,972	0,964
Indicateurs de santé							
espérance de vie	77	79	77	76	77	76	76
mort. infantile/1000naissances	6,8	4,8	5,8	7,7	6,8	8,7	7,0
Système de santé							
emplois de la santé/1000hab.		16,7	40,7	23,8	23,7	16,8	17,6
infirmières/1000hab.	4,1	6,5	9,3	5,4	8,3	8,7	8,2
médecins/1000hab.	3,0	1,7	3,0	2,7	2,2	2,2	2,0
spécialistes	70%	43%	67%	48%	57%	34%	49%
coût de la santé/PIB	7,5%	6,5%	8,8%	8,9%	7,9%	7,7%	6,1%
idem (secteur public seul)	5,1%	4,8%	7,9%	6,6%	5,7%	5,4%	5,2%
contribution personnelle	32%	12%	5%	17%	20%		9%
Hôpitaux							
lits d'hôpitaux/1000habitants	10,2	13,6	6,2	9,7	5,9	5,6	4,8
coût des hôp. /coût de la santé	43%	60%	55%	47%	55%	50%	51%
pourcentage de lits privés		55%	5%	18%	0%	25%	9%
médecins/lit	0,17	0,08	0,28	0,12	0,10		
autres employés/lit	1,73	0,66	4,69	1,57	1,24		
lits de psychiatrie/1000hab	1,6	2,9		1,7	1,6	0,5	1,5
lits long séjour/1000 h > 65 ans	12,9	12,1	7,7	8,6	25,2	39,0	5,5
lits aigus/1000hab	6,4	8,7	3,8	5,1	4,2	5,1	2,4
Etudes médicales							
nouveaux médecins/an/10Mhab	978	621	1047	614	967	751	694
durée des études de base	7		6	6	6	6	5
pourcentage se specialisant	75%		90%	60%	90%	50%	50%
durée de la specialisation	5		7	5	5	5	7
Hôpitaux universitaires							
lits de CHU/Mhab	1144	677	1181	1610	490		
lits de CHU/tous lits	11%	5%	19%	17%	8%		
lits de CHU/tous lits aigus	18%	8%	31%	31%	12%		
médecins/lit de CHU	0,5	0,4	0,4	0,4	0,5		
autres employés/lit de CHU	3,0	1,1	5,0	2,4	3,6		
coût/lit de CHU (1000 US$/an)	175	164	207	126	218		
coût des CHU/coût des hôp.	19,2%	11,0%	21,2%	24,8%	14,0%		
coût des CHU/coût de la santé	8,3%	6,6%	11,7%	11,7%	7,7%		
coût des CHU/PNB	0,6%	0,4%	1,0%	1,0%	0,6%		

Economies à revenu intermédiaire

	K	CHIL	JAM	COL	MOR	PHI	ALB
Démographie							
population totale (Mhab)	43,8	13,4	2,4	32,9	25,7	63,8	3,3
croissance de la population	0,8%	1,5%	1,0%	1,6%	2,3%	2,0%	1,0%
population de moins de 15 ans	25%	31%	33%	35%	41%	39%	35%
population de 65 ans et plus	4%	6%	5%	2%	2%	2%	
population rurale	28%	14%	48%	30%	52%	57%	65%
Economie							
PIB/habitant (US$ ajustés)	6733	5099	2979	4237	2348	2303	3000
PNB/habitant (US$)	5450	1950	1500	1260	970	730	640
croissance du PNB/habitant	8,9%	1,1%	−0,4%	1,1%	1,6%	−1,5%	
IDH (développement humain)	0,872	0,864	0,736	0,770	0,433	0,603	0,699
Indicateurs de santé							
espérance de vie	70	72	73	69	62	64	72
mort. infantile/1000naissances	22	17	15	38	72	42	
Système de santé							
emplois de la santé/1000hab.	10,0	6,5		3,6	1,3	10,3	
infirmières/1000hab.	1,7	2,7	2,0	0,5	1,0	2,8	3,5
médecins/1000hab.	1,1	1,0	0,5	1,0	0,3	1,1	1,8
spécialistes	55%			41%	49%		25%
coût de la santé/PIB	6,6%	4,7%		4,0%	2,6%	2,0%	4,0%
idem (secteur public seul)	2,7%	3,4%		1,8%	0,9%	1,0%	3,4%
contribution personnelle	61%			11%	63%	50%	
Hôpitaux							
lits d'hôpitaux/1000habitants	3,0	3,2	0,0	1,3	1,2	1,4	3,0
coût des hôp. /coût de la santé	52%			48%			
pourcentage de lits privés	21%	24%			8%	44%	
médecins/lit	0,16						0,16
autres employés/lit	1,17						
lits de psychiatrie/1000hab						0,1	0,3
lits long séjour/1000 h > 65 ans							
lits aigus/1000hab	2,3				0,7		
Etudes médicales							
nouveaux médecins/an/10Mhab	658	365		951	311	443	909
durée des études de base	6	7		6	7	5	6
pourcentage se specialisant	87%				31%		
durée de la specialisation	5			4			5
Hôpitaux universitaires							
lits de CHU/Mhab	630			126	200		606
lits de CHU/tous lits	21%			10%	17%		20%
lits de CHU/tous lits aigus	27%				30%		
médecins/lit de CHU		0,8		0,5	0,5	0,9	0,2
autres employés/lit de CHU		3,7			1,2	2,4	1,2
coût/lit de CHU (1000 US$/an)	119	68		18	6	19	
coût des CHU/coût des hôp.	40,0%			9,3%			
coût des CHU/coût de la santé	20,8%			4,5%	4,9%		
coût des CHU/PNB	1,4%			0,2%	0,1%		

Economies à faible revenu

	EGY	IND	PAK	CHIN	BEN	NIG	TAN	VN
Démographie								
population totale (Mhab)	53,6	187,7	121,5	1170,7	4,8	112,1	26,9	68,1
croissance de la population	2,1	1,7	2,7	1,2	3,0	3,1	3,2	2,0
population de moins de 15 ans	39%	36%	44%	27%	47%	46%	47%	
population de 65 ans et plus	3%	4%	2%	7%	2%	1%	3%	
population rurale	53%	69%	68%	67%	62%	65%	67%	78%
Economie								
PIB/habitant (US$ ajustés)	1988	2181	1862	1990	1043	1215	572	1100
PNB/habitant (US$)	610	560	400	370	360	290	110	110
croissance du PNB/habitant	2,1%	4,1%	2,9%	7,9%	-1,0%	-3,0%	-0,7%	
IDH (développement humain)	0,389	0,515	0,311	0,566	0,113	0,246	0,270	0,472
Indicateurs de santé								
espérance de vie	60	61	58	70	47	51	54	63
mort. infantile/1000naissances	59	68	101	29	88	99	104	39
Système de santé								
emplois de la santé/1000hab.		1,6		4,4	0,7		0,9	
infirmières/1000hab.	1,3	0,5	0,1	0,9	0,6	1,1	0,2	1,7
médecins/1000hab.	1,3	0,1	0,4	1,5	0,1	0,2	0,0	1,1
specialistes		33%			37%		27%	
coût de la santé/PIB	2,6%	2,0%	3,4%	3,5%	4,3%	2,7%	4,7%	2,1%
idem (secteur public seul)	1,0%	0,7%	1,8%	2,1%	2,8%	1,2%	3,2%	1,1%
contribution personnelle			47%	36%				
Hôpitaux								
lits d'hôpitaux/1000habitants	2,0	0,6	0,6	2,4	0,9	1,4	1,1	3,3
coût des hôp. /coût de la santé					58%		55%	
pourcentage de lits privés		30%						
médecins/lit							0,04	
autres employés/lit							0,29	
lits de psychiatrie/1000hab		0,0						
lits long séjour/1000 h > 65 ans		0,0						
lits aigus/1000hab		0,5			0,9		0,9	
Etudes médicales								
nouveaux médecins/an/10Mhab			412	393	104		19	
durée des études de base		7	5				5	
pourcentage se specialisant		76%					45%	
durée de la specialisation		4	2				3	
Hôpitaux universitaires								
lits de CHU/Mhab	373				131		56	
lits de CHU/tous lits	18%				14%		5%	
lits de CHU/tous lits aigus					14%		6%	
médecins/lit de CHU		0,6			0,1		0,2	
autres employés/lit de CHU		2,2			0,6		2,7	
coût/lit de CHU (1000 US$/an)		6			10		11	
coût des CHU/coût des hôp.					13,9%		22,2%	
coût des CHU/coût de la santé					8,1%		12,2%	
coût des CHU/PNB					0,3%		0,6%	

Annexe II

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Annexe III

Deux réflexions générales
sur les Hôpitaux Universitaires

III-a Hospitals and the health of communities
III-b Etude sur les Hôpitaux
Universitaires de quatre pays

Annexe IIIa

Hospitals and the health of communities

F. Siem Tjam,
Medical Officer, WHO

Introduction

The purpose of this text is to clarify the role of hospitals in the pursuit of Health for All in a system based on the principles of primary health care, and to highlight the issues that WHO is currently addressing in its programme on hospitals, which seeks to reorient hospitals and make them more responsive to local health needs.

The most visible contribution of hospitals to the health status of the populations they serve is in the domain of restorative and rehabilitative care. Their direct impact on the basic health conditions of communities is less obvious, but they can make essential contributions – particularly in the areas of preventive and promotive care. Much of our knowledge about the physiological and biological factors that detract from health, for example, usually originates in hospitals.

Because of their dedication to alleviating suffering and avoiding death, as well as due to their natural authority in their communities, hospitals have a respected place in every national or local health system. They are an expression of community and government concern to provide technical health care interventions which cannot be undertaken at the first contact level. As such, they ensure the availability of appropriate care for those who, in spite of preventive efforts, become injured or sick and will be in need of complex treatment. They provide emergency care for the severely injured or the critically ill, and serve as a bridgehead against the onslaught of natural or man-made disasters, providing relief from human suffering at such times. They are a centre of learning: a place for the transfer of knowledge and skills, and a basis for continuing education for all levels of health workers. At the same time they constitute an essential source of information, especially when new health threats emerge, on the prevalence of grave or complex health conditions in communities. Finally, the hospital industry is one whose product may be expressed in terms of restoration or rehabilitation for individual or social productivity, of charitable work or of financial gain.

District hospitals – in particular those at the first referral level in a district health system – are, because of their geographical locations, natural strong points in national health care networks. And yet they tend to fall far behind in the pecking order when governments are setting priorities and allocating resources. District hospitals should be accorded the recognition commensurate with their strategic value which, for the purpose of Health for All, may even exceed the input of large and university teaching hospitals and other high-tech medical centres.

The Division of Strengthening of Health Services is intent on focusing greater attention on hospitals in general and district hospitals in particular to promote that they receive the resources they desperately need to offer affordable

and good quality intramural care to the communities they serve. At the same time, the Division is seeking to identify the proper place of the various levels of technological care necessary in every community, including those of specialized and teaching hospitals.

Hospitals and health systems

For some 800 million inhabitants of the high-income countries, control of such health-related conditions as sanitation and exogenous pathogenic conditions is well in hand. More and more attention is being focused on genetic and lifestyle-related diseases and problems associated with managing the conditions of advancing years. An increasing range of complex interventions is available and some can now be performed on an outpatient basis, reducing the need for hospital beds. But high overall utilization of services, increasing investment costs and rising wages have a negative influence on social equity in health. The challenge for these high-income countries is, ironically, how to cope with the cost of their health and medial care.

By contrast, in the low-income and middle-income countries, whose total population exceeds 4000 million, the challenge is how to develop and strengthen the basic conditions for health – such as relief of poverty, availability of safe drinking water, sanitation, food, shelter and literacy – and at the same time to provide access to basic health services, including planned parenthood, the control of endemic diseases and essential medical care.

Thus, while far apart in levels of service delivery, health systems all over the world share a similar concern: that of social equity in access to health care, together that is of an affordable quality. In the context of primary health care and of Health for All, the hospital at the first referral level in a district health system must be much more than a curative facility functioning at a single level in a health system; it must in fact be closely linked with every aspect of health development within its district. With the community, the PHC services and other sectors of development, it will share the opportunity and the obligation to provide effective and affordable health services to the entire population and to involve the community in the planning, implementation and evaluation of those services.

The characteristics of hospitals

Subjectively, hospitals have been regarded by the layman as awesome institutions built largely to cure ills but partly also as places in which to die. The health professions have viewed them as centres of technical excellence for learning and practice; while budget officers in national ministries of health have struggled to justify their relative cost.

Over the past centuries, concerns and action for health care developed in a variety of ways. One major approach was individual care for the suffering, the sick and the dying. This approach gave rise to the development of ambulatory and institutional clinical care services, funded in various ways – by individuals and by charity, by direct and indirect payment methods.

Another approach arose from individual and collective empathy, feudal and religious obligations, and, in general, the desire of governments to promote order and protect productivity. This gave rise to public health care, administered through legislation and services for entire groups of populations, which was usually funded through government and other collective mechanisms such as taxes, mutualities, insurance and – more recently – a variety of co-payment schemes.

Both approaches changed in size and nature over the centuries to match the ideology, wealth and social structures of nations, and so did health care technologies. Hospitals today offer a picture of striking similarities and curious differences in the distribution, availability and performance of health care services in the world. They may include a mix of several concepts in their operational behaviour, but most fall into one of the following main categories:

a) The private hospital, conceived as an income-generating service whose performance is measu-

• hospitals use a large proportion of the most highly trained health personnel; thus, in Kenya 60 p. 100 of the total number of physicians and 80 p. 100 of the nursing officers are assigned to hospitals.

There can be no doubt that the problem of the "brain drain" still bedevils Third World countries; a certain percentage of the bright young medical and nursing students sent (expensively) abroad for further study will remain abroad. There is also increasing evidence of wastage within the health sector. In the Americas, wastage was estimated at 40 p. 100 of all the resources available for health services. In cash terms, this wastage amounted to some ten thousand million dollars per year in 1989 among the low and middle income developing countries of that region. Clearly, concern about finances, costs and efficiency in the health system should give rise to probing questions about how the hospitals utilize their resources.

Thus, there is a need for detailed country-level study of hospital cost and performance data, in order to make planning and management decisions. This will call for an examination not only of the actual expenditures and their trends but also of the principles and practices which underlie and explain those trends. For any of these questions to be fully explored, the patterns of hospital expenditure must be known and the hospital's functional mission needs to be carefully identified.

• Cost-effectiveness and quality

Hospital physical infrastructure are also important factor in the determination of cost-effectiveness and quality of care. Since hospitals consume a major part of health care budgets, inappropriately designed, constructed and equipped hospital plants may lead to an unacceptably high wastage of resources. Poor choices of equipment and poor planning of facilities, installations and medical equipment result in costly and ineffective maintenance, an unsafe environment and low quality of care, in turn affecting both the morale of staff and the confidence of patients. On the other hand, there are many examples in developing countries where appropriate and cost-conscious planning of health facilities and well-functioning technical services have ensured reasonable selection and procurement procedures, good maintenance and safe use of equipment.

Generally speaking, very little attention has been paid over the last two decades to hospitals as a self-sustaining service industry. Because many hospitals in developing countries are owned and operated by the state, they tend to be perceived primarily as government-subsidized and civil service-managed social institutions, implementing some variant of government charity.

In reality, hospitals stand in acute need of improved resource management and better monitored clinical "output" – that is to say, quality of care. Regardless of prevailing ideology, internal resource configuration and internal managerial capability, the hospital to a large degree depends for its success on the functioning of other services operating in its immediate environment. Among these are the presence or absence of: first contact level services, long-term care services, transport and communications, the level of technical capacity in the surrounding community, and the state of social and economic development, including literacy levels.

As a service industry, the hospital must learn to cope with resource management and consumer demand, as well as issues of effectiveness, efficiency and quality of care. While there is no shortage of information concerning the management of the hospital as a private or industrial enterprise, serious problems do arise with management within government owned and operated hospitals. This raises the question whether what is perceived as a need for management improvement is really related to the way in which government hospitals were designed and intended to operate. It should be clear that no amount of management can make an institution designed as a ship behave and fly as an aeroplane. There is clearly a need for some hard thinking about whether large central hospitals can truly serve a nation's health without a major review of their functions and possibly a shake-up and overhaul of their administration.

require the specific concentration of technologies and inpatient care that can only be provided by hospitals?
2. What criteria can be used to evaluate quality of care, and how can quality of care be integrated into all of the hospital's functions so as to ensure optimal effectiveness while, at the same time, considering community needs and resource limitations?
3. Which policies within national financing and within district health systems will most favour the appropriate use of such a concentration of technological and manpower resources?
4. What alternative ways of delivering health care may be possible? The advance of technology and the development of social infrastructures has made a number of "elective" interventions (e. g. cataract and plastic surgery) possible with little or no inpatient care, thus reducing institutional cost. Inevitably, in the developing countries, priority will still have to be given to emergency and life-threatening conditions that cannot be undertaken without inpatient care.
5. What architectural and engineering planning and design decisions, construction methods and equipment demands are most appropriate for the local needs and conditions?
6. What about the hospital's "image"? In The Hospital of Tomorrow, Jolly and Gerbaud suggested: "The hospital ought to create friendlier environments to cater for those of its clients who are not ill (those admitted for childbirth, preventive care etc.), to improve its staff recruitment, and to update its image for chronic patients (long-stay, psychiatric) in order to motivate its staff positively. These 'friendly environments' should halt the deterioration in relationships between the general public, the hospital staff and the hospital management. Some experts analyze them in terms of 'image and product. ' They see them as a way to escape from the image of the hospital as a place of disease and death, a source of anxiety, and transform the hospital into a place that meets the needs of the 'major stages in life': birth, procreation, acute diseases in adulthood, aging and death. This approach already exists in the areas of paediatrics and maternity, and ought to be applied more generally. The experts believe it is vital for hospitals, in particular the public hospital, to change its image in this way."

Here, at whatever hour you come, you will find light and help and human kindness.Inscribed on the lamp outside the jungle hospital at Lambaréné, Gabon, of Dr Albert Schweitzer, 1875-1965

Performance of hospitals

Developed countries have recently engaged the Struggle of the Rapid Increase for the Cost of Health Care, and particularly the share of the budget allocated to hospitals, that outranks anything else in the health sector. There is general recognition that controlling hospital costs can generate tremendous savings for the health system. As a result, extensive studies have been undertaken on hospital utilization and financing in an effort to reform health services policy and to control the cost of medical care; in some countries, reform includes reducing beds and closing down hospitals in addition to experimenting with limitations to demands and negotiating prices.

It is a different story in developing countries. Decision-makers and policy analysts have almost exclusively emphasized primary health care, despite all the evidence that the core spending of the nations' health system's resources – finances, facilities and personnel – is concentrated in hospitals. As a result, hospitals have been left out of the reckoning when health sector financing is under discussion in developing countries. Yet as we have seen, in many countries a high proportion of government health expenditure is for hospitals.

In fact, a World Bank/WHO study of hospital economics and financing in developing countries published in 1992 found more specifically that:
• hospitals utilize nearly half of the total national expenditure for the health sector;
• hospitals commonly account for 50 p. 100 to 80 p. 100 of government recurrent health sector expenditure;

medical economists, and therefore may not always take into account such practical considerations as where a hospital is sited, whom it is intended to serve and how measures taken will affect accessibility.

A final condition for success is the effective and efficient management of physical resources, including buildings, engineering installations, medical equipment and stocks, so as to achieve the maximum of coverage with an affordable quality of care. This will require awareness and understanding on the part of the administration in order to ensure an equal standing of the technical service within the hospital; a team approach to equipment selection and procurement; availability of qualified engineering personnel; and proper maintenance facilities.

However, even if all the elements of an integrated health service are technically in place, the system can still be easily upset by problems of self-referral by patients who have little faith in anything but hospital care; by inappropriate referral by inexperienced or overworked PHC worker; by inappropriate or misguided hospital treatment; or by the provision of inadequate referral or discharge information. An essential part of Health for All and the health care revolution is the fully integrated coordination of hospital and primary health care activities.

The planning of hospitals within Health for All

Old approaches to hospital planning, for instance by calculating so many beds per thousand population, have been abandoned. The Experts who prepared the WHO Study Group report on the functions of Hospitals (TRS 819) advised that Hospital functions and their planning be reviewed periodically, thereby taking into consideration changes in the effectiveness of other health care providers in the community, in addition to such factors as profiles of population – and socio-economic distributions, epidemiological patterns of severity and frequency, and local availability of human resources, utilities, communications and transport facilities. The challenge remains of how to provide adequate hospital care of affordable quality to those who really are in need of it.

This conceptual model of a District Health System was suggested by a WHO Expert Committee on the role of hospitals at the first referral level, held in Geneva in December 1985. At sub-national level, the district as a more manageable unit for operational purposes, is represented as a cube. The components of the system: the levels of service delivery, programme elements and functional infrastructure elements are represented as the three dimensions of a cube. This takes into account the fact that the resources and capacity of a District Health System are finite, while showing the scope for interaction and interdependency. For real progress to occur, the box needs to expand (development) and the wastage inside the box should be reduced (better coordination or collaboration)

The first referral level hospital forms a cornerstone of the cube – but claims no priority of attention or resources. In fact, no single element at any one level can be developed in isolation, and development of the total system is a preliminary to the better functioning of all its parts. Conversely, the improvement of any part should be undertaken with due consideration of all the other components (i. e. replacing competition by collaboration), so as to increase efficiency and avoid duplication, destructive rivalry and unnecessary waste within a finite system.

In any realistic setting, an essential "package" of services will have to include treatment of trauma and infections. Efficient delivery of these essential services will require a well-functioning district health system consisting of health posts and health centres as the first point of patient contact, and district hospitals or Reference health centres as referral facilities – with the two levels linked by normal or emergency transport. Hospital planning will need to take into account such a "minimum package of essential clinical services."

In planning and organizing hospitals within the HFA framework, the responsible health authorities need to consider the following:

1. Which part of a community's health needs will

The transfer of technologies and their application in hospitals equally appear to proceed on separate official and unofficial lines. Governments have difficulty in imposing ceilings on the adoption and use of technologies. The evolution of new technologies can be perceived as enriching the medical care industry but, without mechanisms to control the expenditure involved, governments are hard put to it to ensure a minimum quality and affordability of basic hospital care for the population under their responsibility.

It seems reasonable to expect that a considerable number of new medical technologies will enter the "health market" within the next ten years. Some of these may have a cost-reducing effect, for instance, by making hospitalization redundant for certain medical conditions. Others on the other hand may permit interventions that may be life-saving or merely of a convenience nature, but that have not been foreseen when facilities or financing mechanisms were originally planned. Governments, especially those of developing nations and particularly those that have not formulated a specific hospital policy as part of their national health policy, will be caught at a disadvantage when these evolutions hit their health systems. To counter such situations, it will be necessary for WHO to develop some guidance on the assessment and selection of relevant technology and its social control in hospitals as well as to assist member states in developing their own national and local hospital policies as part of an overall Health policy.

Conditions determining the functions of hospitals

• Some external conditions

The level of socio-economic development of the community in which the hospital is situated has a bearing on the availability and the quality of staff, including appropriate recurrent training and career structures. Also, whether there are many general practitioners or other health workers operational within the hospital's area of service or none at all, will have an influence on the patterns and level of referrals and self referrals coming to the Hospital. Other considerations will include education, support structure, roads, communications and transport facilities, and the availability of water and electricity, all of which may determine the case mix coming for treatment from, as well as the capacity for maintenance and repair in the community.

A second major condition is the prevailing financing structure and tradition in the community, and the degree of development of a monetized economy with concurrent availability of sufficient foreign currency. This to a high degree determines the sustainability and quality of functions, including regular access to consumable supplies such as pharmaceuticals, X-ray films, spare parts and so forth.

Thirdly, its location – both in terms of physical accessibility by locally available transport and of organizational linkages in the local health system network – to a high degree determines the way in which the hospital will be called upon to act.

• Intramural Conditions

Of the intramural conditions that determine the functions to be undertaken by a hospital, perhaps the most important is its "mission" or "goal," as set by its governing body. On this depends the types of care and interventions undertaken, the admission and discharge criteria, and the medical and ethical standards of quality.

Then, the hospital and its staff should be clear about their own tasks and how to meet the health needs of the community. This will be reflected in administrative and clinical decisions that favour a holistic rather than an incidental, "fire-fighting" approach to care delivery.

Many of the complex problems facing hospitals in developing countries and determining their functions and outputs relate directly or indirectly to the financial resources – issues falling within the three major areas of resource allocation, management of expenditures and revenue generation. In some instances, the problem may not so much be one of management but of design; health economists are invariably

neously building up its internal strength. These tasks are interdependent; district health services without hospital support are severely deprived, while hospital services and support capacities unrelated to community and district needs cannot realize their full potential. Overall, the focus of activity at the first contact and first referral levels is the community – the people. Success at either level means meeting all the people's needs to their satisfaction.

Large and teaching hospitals

Another area of the health scene that has been little explored in the context of Health for All is that of the significance of large and teaching hospitals. Many countries have such large institutions, which are further denominated according to prevailing customs as central, state or provincial hospitals or medical centres, and of course as public and private or university hospitals. Many of these institutions may have in addition to first referral and secondary referral functions also a full or partial training function for medical, nursing and other personnel.

In this latter function, these large training institutions imprint on the nation the directions that its health-related activities are likely to take in the future, and serve as an incubator or hatching-ground for future leaders in the health sector. For better or for worse, they set a pattern and a standard that their former trainees will ever after seek to emulate, and strongly influence the formulation of official and unofficial hospital policy in the minds of national decision-makers.

Since they have such a determining role in the introduction and consumption of technologies, they also have a major influence on the determination of health care demands. They tend by their very nature to promote the medicalization of the health care industry, and their product is not always considered in the light of benefits for the whole of society.

Large and teaching hospitals are extremely complex industries and difficult to manage in wealthy, industrialized countries. In developing countries, they are usually constituted as a multi-mission entity, with multiple owners or financiers and multiple constituencies. As a result they can sometimes appear wasteful and poorly managed, consuming a high proportion of available health resources while serving only a minority of the population.

Many countries still have no specific hospital policy as part of their national health policy, and these large institutions may be looked after by a separate department within the Ministry of Health that is quite detached from and competes with other health responsibilities of the Ministry for attention and resources. In addition there is often little coordination or agreement between the Ministries of Health, Education and also Social Affairs over the quality and quantity of Human resources needed for the health sector. Worse still, there is rarely any truly up-to-date and relevant legislation in place to govern the existing hospital subsystems including the private, industrial and NGO hospitals.

There is a current tendency for governments, even in wealthy countries, to be no longer able to fund and operate hospitals from tax-based sources. Instead, the move is towards co-payment, user charges, health insurance, HMOs and other preferred payment systems, all promoting a "privatization" approach to hospital care that is likely to be a dominant feature in the decades to come.

National governments, particularly in the developing world and in the former socialist-oriented countries, will be caught unawares by the upsurge of private clinics and hospitals. In the absence of any government policy on how to govern such hospital and clinical care, governments will find themselves increasingly unable to keep pace with social developments.

The continued existence of archaic hospital legislation, often inherited from colonial days, will be of very little help in those circumstances. What is needed is a contemporary vision at the decision-making level of what a country's true health needs are, and appropriate legislation to ensure that the hospital sector serves the national and local needs for intramural care in an efficient, effective and equitable manner.

tive and rehabilitative health activities. And the functions of the hospital at the first referral level may be defined in terms of patient referral, health programme coordination, education and training, and management and administrative support.

The Study Group emphasized that half of the world's people live in villages, where the organization of health services may be hampered by remoteness, adverse climatic conditions, poor communications and poverty, and perhaps by illiteracy and superstition. The first referral hospital may be very small, with a tiny staff that is limited in experience and expertise. The other half of the population live in cities, some of enormous size, where poverty is again a factor, and where overcrowding, pollution and stress may be overwhelming. The problems that city hospitals must face are different from those of village hospitals, yet both types of hospitals provide essential services. It is vital that they should be incorporated into district health system if they are to provide efficient, effective, affordable and equitable services to their communities. Large or small, of course, a hospital where surgery is carried out will require proper clinical support.

The Study Group added: "This is not to underrate good clinical care and diagnosis, which are still the bedrock of hospital practice at the first referral level, but rather to emphasize the importance of making such care available to those most in need of it."

Consequently a hospital at the first referral level has to be a place to which patients with complex medical conditions can be referred for diagnosis, treatment and care; and it can act as a resource centre for the health work of the district. Such a hospital will have the following characteristics:

- It has a place in the national system of health services, providing 24-hour clinical care;
- It can relate effectively to the district health system, and is concerned with the health and well-being of the entire population of the area it serves;
- It supports primary health care (e. g. by supporting such services as antenatal and maternity care, growth monitoring and immunizations), and ensures continuity of care between the PHC services and the hospital;
- It can relate effectively to communities and is committed to helping them to attain eventual community self-reliance and independence;
- It has referral functions – that is, it can respond appropriately to the needs of all patients referred from health facilities at first contact level, or can refer them safely to more complex levels of care;
- It has a training function, including developing training and continuing education programmes for all levels of its own staff; (it may be noted here that the training of nurses and doctors should be as much outside the hospital as within it!);
- It relates to other sectors of development;
- It is a problem-solving resource, meaning that it can address problems that have a bearing on the health of the people and the effectiveness of the health services.

The important thing is that the hospital should serve as a cornerstone rather than the apex of the District Health System, which in turn provides the vital functional linkage of a two-way referral system that is essential for the efficiency of all involved.

Not only is the hospital in a position to support the district health service: it has an obligation to do so. Areas of support may include:

- collection of information, including epidemiological surveys, analysis and information sharing;
- planning for health-related activities, including emergency work following disasters;
- supervised field training of health personnel at health centre and community level to maintain their efficiency and upgrade their skills in line with changing patterns of health problems;
- assistance in procuring, storing and distributing essential drugs and supplies, and in procuring and maintaining equipment;
- involvement in quality assurance programmes and the evaluation of disease control programmes.

The true challenge to the hospital is that of achieving effectiveness in two spheres of activity: reaching outwards to strengthen peripheral health services in the district, and simulta-

cently been a declared goal of national health services around the world. The Declaration of Alma-Ata in 1978 may not have been the only affirmation of the need for social justice in health, but it makes a convenient marker for the dawn of a new era. Its emphasis on Primary Health Care as the means of bringing about Health for all by the Year 2000 triggered a revolution in health services – in the industrialized world as well as in developing countries – and obliged everyone concerned with health to look afresh at the role of the hospital.

In fact, there has been confusion about the role which hospitals, and in particular hospitals at the first referral level, should play in this great movement for health. Some have felt that hospitals are too concerned with the technological aspects of sickness to be able to play any useful role in the promotion of health in the community; others, that the resources any hospital possesses should be used in the service of the Health for All movement.

Certainly, in the past the lack of clearly defined roles and responsibilities for different elements of the health system has resulted in a fragmented system with widespread disparities in financial and human resources between hospitals and primary health care facilities. The consequences of hospitals not being functionally integrated into the local health system can be seen in the contrasts in utilization at different levels: hospital outpatient facilities are overcrowded, while peripheral units are under-utilized due to non-functioning referral systems, public perceptions and popular self-referral. While a certain number of activities must be carried out in a hospital, only a small proportion of all health activities really need to take place there.

Once the appropriate roles have been defined in an integrated health system, it becomes possible to deal systematically with resource issues concerning the allocation of health personnel, facilities and finances. The determination of roles will permit changes in the health system which can improve the effective use of health sector resources. Hence, the central issue of the role and functions of the hospital in the health system must be addressed by countries if they are to answer questions about the proper number, type and size of hospitals as well as the human, physical and financial resources which should be allocated to them.

A basic premise of hospital involvement in PHC is acceptance of the principles of Health for All. A hospital must seek to promote the health of the whole population that it serves, including the health of individuals who never enter it. This ought to be as true for the big city hospital as for a small rural hospital serving a widely scattered handful of villages; of course, there are large discrepancies in available resources, whether financial, technological or in terms of human resources.

Whereas in past years there was a tendency on the part of health authorities to be preoccupied by large hospitals, it is now being increasingly recognized that the majority of populations, both rural and urban, are better cared for by smaller, more manageable institutions. Such units make more sense because of their proximity, flexibility of functions, efficiency and adaptability to changing needs in their environment. The question that arises is: "How much and what type and level of hospital care is truly needed, is realistically accessible, and is affordable in a specific social and economic environment?"

After all, hospitals are a major part of every health systems and account for a large proportion of their financial, human and capital resources. In developing countries health spending may account for as much as 5 p. 100 of gross domestic product and 5 p. 100 to 10 p. 100 of government expenditures.

Hospitals at the first referral level

A WHO Study Group on the Functions of Hospitals at the First Referral Level, which reported in 1992, pointed out that a district health system based on PHC, serves a well-defined population living within a delineated area. It includes all relevant health care agencies. It needs to be managed as a single entity with a fully comprehensive range of promotive, preventive, cura-

red in annual dividend. To a certain degree, the medical services it offers will depend on the ability of its clientele to pay for them.

b) The charity hospital: often conceived by a religion-based non-government organization, its success measured in terms of mercy and compassion. That is to say, its admission and discharge criteria and the management approach in such institutions may be quite different from that of the previous kind of hospital.

c) The industrial and military hospitals. These institutions are intended to provide the best care available to ensure optimal work performance for a defined population. Their success is measured in the reduction of days of work lost and their contribution to objectives achieved.

d) The public hospital, intended to provide care based on government responsibility and general funds. Initially focused on the indigent, its clientele soon came to include state employees, civil servants and – finally – all citizens who by preference, circumstances or means, do not enjoy access to other services. Its ultimate goal is to promote social equity and public harmony. On the other hand, in view of its often civil service character and tax based budget nature, public hospitals today are finding it painfully difficult to provide the services they are called upon to offer.

Nobody doubts the old adage that prevention is better than cure, and indeed many studies have shown the effective impact on health of introducing elementary hygienic or even a limited scope of primary health care provision. Yet despite sincere declarations at government level, the bulk of the health care budget is still devoted to relatively high technology hospitals in urban areas. Large city hospitals rarely have anything more than a workaday relationship with the populations living nearby; in extreme cases their activities may even serve to undermine the work of nearby health centres.

A WHO Expert Committee on the Role of Hospitals at the First Referral Level urged the need for the community to be involved in a much more practical way in such hospitals, and commented in its 1987 report: "On the whole, hospitals have lagged behind other sectors of the health service in terms of community involvement; there are all sorts of explanation, such as over-emphasis on the disease model of hospital care and the lack of contact with a defined community. However, these it is essential that these attitudes change if hospitals are to play their proper role in a comprehensive care that includes both prevention and treatment. Moreover, with resources becoming increasingly scarce, hospitals have no right to decide alone for the communities they serve which health issues should be given priority; technical decisions are one thing, but priority choices are generally at least as much social and political as technical."

District hospitals generally have 50 to 200 beds, serve 50 000 to 200 000 inhabitants and include departments of medicine, surgery, paediatrics, obstetrics and gynaecology, and dentistry. They also provide clinical support services such as essential anaesthesia, radiology and clinical laboratory services. The district hospital constitutes by and large the first level of referral from health centres, and provides complementary services such as essential surgical procedures. It mainly offers inpatient care but also typically provides some outpatient care, day surgery and emergency services of a kind not available at health centres.

Hospitals have in the past evolved as institutions isolated from the lives and comprehension of the mass of the people. This isolation has, if anything, been exacerbated by the march of modern scientific medicine over the past 50 years or more. Today the gaunt impersonal image of a "building for dying in" is being replaced by true places of care for the community. The metaphorical hospital walls – no less real to the patients for being abstractions – are at last beginning to sway in the wind of change, and the day is surely coming, even though yet still some way off, when that wind will finally blow the walls to the ground.

Equity and Health for All

While equity may have been a utopian vision for more than a century, it has only very re-

• Basic planning issues

Among the basic issues to be considered in the planning of hospitals are the following:

1. The small hospital, whether in a rural area or in an urban district, will have special problems which have hitherto rarely been addressed. Such hospitals need to develop links "upwards" – to the larger hospitals but also to the health authorities in its area; "downwards" – to the health centres which are dependent on it; and "sideways" – to such partners as district health committees, civic groups, funding agencies and donors.

2. With the larger hospitals the problems may be of another nature. They have a high profile at the Ministry of Health, and enjoy all advantages and disadvantages that go with such status. They all too often it absorbs more than a lion's share of the available resources in cash and personnel but, as in the case of University teaching hospitals, are also put to extremely complex and demanding tasks. More clarity in their mission and better transparency is needed in the financing and management of such "big beasts," and they must become much more responsive to the needs of remote and/or undeserved communities. Research is lacking on these aspects of the big hospital.

3. Too little attention is paid to quality assurance in the hospitals, of all sizes. Perhaps performance should be looked at almost in industrial terms of input – process – output. Hospital administrations themselves should be regularly evaluated, to ensure that their managerial performance is as good as it should be. On the other hand, it may not be appropriate to judge large public hospitals by the standards of small private hospitals; as we have seen, their "mission", their functions and their ownership differ fundamentally.

4. Even less research is being carried out in the need to integrate hospital policy within national health policy. This does not imply that hospital policy must necessarily be laid down at national level only or even explicitly; on the contrary, decentralization of policy making beyond some strategic principles laid down at national level, may be healthier both for the hospitals and for the communities they serve, permitting operational policy setting and regular adaptation by local or district government or management teams. Research is needed in this field to clarify actual intramural care needs, to make the financing of hospitals more "transparent" and – eventually – to arrive at a more equitable carving up of the cake, i. e. of the available resources. However, it does help if there is some guidance from the central authorities to permit local government some point of departure. Such research should pay specific attention to the functions, administration and performance of hospitals in district health services, in both urban and rural areas, and should also look carefully into whatever enabling legislation exists or needs to be developed.

Annexe IIIb

Étude sur les hôpitaux universitaires de quatre pays

Christine Thayer, Octobre 1993
Etude effectuée pour la Direction des Hôpitaux au Ministère des Affaires Sociales de la Santé et de la Ville – Paris-France

Cette étude met en lumière les pratiques actuelles concernant certains aspects de la gestion des hôpitaux universitaires dans quatre pays : l'Allemagne, la Belgique, les Pays-Bas et le Royaume-Uni.

Quatre aspects ont été examinés :
– la mission de l'hôpital universitaire : reconnaissance de sa spécificité dans les approches de la planification et du financement
– l'organisation du personnel relative aux activités cliniques, d'enseignement et de recherche : les différentes catégories de médecins (universitaires et autres), leur statut, leur système de rémunération
– la formation spécialisée : son organisation, le rôle accordé aux hôpitaux non-universitaires
– la recherche : l'importance relative accordée à cette activité et les modalités de son financement

Il est toutefois important de souligner que les règles et les pratiques peuvent varier d'un hôpital universitaire à un autre. C'est notamment le cas de la Belgique. Par conséquent, cette étude ne peut qu'en esquisser les grandes lignes.

La mission de l'hôpital universitaire : reconnaissance de sa spécificité dans les approches de la planification et du financement

• L'Allemagne

L'hôpital universitaire est perçu pour l'essentiel comme lieu d'enseignement pour les étudiants et mène dans cette optique des activités cliniques hautement spécialisées. Il est sous la tutelle du Ministère de l'Education du Land, qui lui verse une contribution (estimée entre 11 et 25 p. 100). Un nouveau système de remboursement, basé sur les groupes homogènes de malades, est prévu pour 1996. Selon les prévisions des caisses d'assurance maladie, une forte proportion d'établissements pourraient se trouver déficitaires avec ce système. Une autre conséquence serait une spécialisation accrue des hôpitaux universitaires.

Les hôpitaux universitaires sont, par ailleurs, les seuls en Allemagne ayant le droit de fournir des soins ambulatoires, et ceci de façon très limitée, uniquement en fonction de leur rôle d'établissement d'enseignement. La proposition faite dans les années 70, visant à l'introduction d'un système intégré de planification et de financement pour tous les hôpitaux, universitaires et autres, a été rejetée des deux côtés.

Plus récemment, un financement spécifique a été accordé à certains hôpitaux non-universitaires, dans des régions ayant besoin d'un hôpital universitaire supplémentaire, pour leur permettre d'améliorer leurs prestations.

Les deux types de professeurs sont rémunérés de la même façon, et ont les mêmes possibilités d'activité privée. Comme en Allemagne, l'hôpital retient un pourcentage des honoraires, sur une échelle qui varie de 10 p. 100 à un taux assez dissuasif de 90 p. 100 selon l'acte et le montant des revenus.

Si, à première vue, les postes de professeur académique et de professeur clinique peuvent paraître de poids égal, il existe néanmoins des différences subtiles de statut. Les professeurs cliniques n'ont pas, par exemple, le droit de porter la toge. Il se trouve aussi que les critères de sélection des professeurs cliniques sont en pleine évolution. Dès maintenant la nomination à un poste de professeur clinique ne se fera plus en fonction de l'ancienneté. Les commissions seront plus exigeantes et sélectives et demanderont l'agrégation comme c'est le cas pour un professeur académique.

• Les Pays-Bas

Les médecins travaillant dans les hôpitaux universitaires sont très largement des universitaires. Il y a trois grades principaux : professeur, « hoogtdocent » et « docent ». En prenant en compte les médecins chercheurs, il y a un rapport approximatif d'un poste de professeur pour 5.5 postes universitaires. Le nombre de postes de professeur a été limité en 1984, et en même temps les critères de nomination à un poste de « docent » sont devenus plus stricts. Les postes de professeurs comprennent deux grades, professeur chef de département et professeur chargé d'un programme spécifique de recherche. Tout le monde est loin d'accèder à un poste de professeur. Cela dépend surtout de l'intérêt du médecin pour les aspects cliniques ou d'enseignement du travail. Apparemment cela ne soulève pas de problèmes et ne semble pas être un point particulièrement sensible en ce qui concerne le statut du médecin.

Les professeurs sont nommés par la Faculté de Médecine, mais avec une participation de l'hôpital universitaire, qui insiste surtout sur des éléments cliniques et de management. Jusqu'à récemment, tout le personnel médical était payé par l'université, mais aujourd'hui, à la suite de changements, certains médecins sont rémunérés par l'hôpital universitaire en fonction de la répartition de leur temps entre les fonctions cliniques et universitaires. C'est le cas de la plupart des radiologues et des anesthésistes, par exemple.

Les salaires de tous les médecins, payés par l'université ou non, sont assez semblables. Pour faciliter le recrutement de médecins dans les hôpitaux universitaires – les possibilités de rémunération sont plus intéressantes dans les autres hôpitaux – les autorités ont introduit récemment des dispositions permettant un certain niveau d'activité privée. Les honoraires, gérés par l'hôpital, sont payés à une fondation, et les medecins eux-mêmes s'occupent de la répartition entre recherche, déplacements professionnels et compléments de salaires.

• Le Royaume-Uni

A l'intérieur de l'hôpital universitaire il y a un ratio d'environ 40 professeurs pour 60 spécialistes non-universitaires. La différence est essentiellement une question d'intérêt pour des activités cliniques ou d'enseignement. Il existe aussi plus de possibilités d'activité privée pour les non-universitaires. La rémunération pour les deux groupes est en général du même niveau. La réforme récente a pourtant donné au directeur général une liberté totale en matière de rémunération. Les deux catégories de médecins ont la possibilité de gagner des compléments de salaire, appelés « paiements au mérite », qui vont jusqu'à doubler leurs salaires.

Tous les spécialistes du NHS ont une responsabilité d'enseignement et la plupart d'entre eux y participent de façon active. Il y a même des non-universitaires qui participent autant aux activités d'enseignement que leurs collègues, professeurs de médecine. Dans ces cas ils reçoivent un contrat d'honoraire, le plus souvent de « senior lecturer » mais quelquefois de professeur. Apparemment il n'y a pas de sensibilités particulières entre médecins à l'intérieur de l'hôpital universitaire concernant des questions de statut, la grande différence étant entre les médecins travaillant à l'hôpital universitaire et ceux qui travaillent ailleurs.

La formation spécialisée : son organisation, le rôle accordé aux hôpitaux non-universitaires

• L'Allemagne

La formation spécialisée en Allemagne dure en règle générale quatre ans. Ceux qui veulent poursuivre une carrière universitaire doivent obtenir une « Habilitation », l'équivalent de l'agrégation. Dans la plupart des hôpitaux universitaires il y a la possibilité d'un contrat de « spécialiste en formation » qui, dans le cas de la Bavière, peut être renouvelé jusqu'à 13 ans pour permettre au médecin de terminer son « Habilitation ». La sélection du futur spécialiste est basée sur un certain nombre de critères et dépend du chef de département.

Deux autres types d'hôpitaux peuvent être associés à la formation médicale. D'abord les hôpitaux normaux peuvent accepter des étudiants pour des stages de sensibilisation de 4 mois. Ensuite les « hôpitaux d'enseignement » ont un contrat avec l'hôpital universitaire pour la formation pratique de jeunes médecins sur une période de 18 mois. Le Ministère de l'Education du Land contribue au financement de ce type d'hôpital selon le nombre de médecins en formation, et finance également deux ou trois postes de professeur. Il peut y avoir aussi un soutien financier pour des modifications structurelles ou pour des équipements lourds. Environ un tiers des jeunes médecins reçoivent cette formation pratique à l'extérieur de l'hôpital universitaire.

En ce qui concerne l'accréditation de ces hôpitaux, il n'existe pas de système formel. Tout dépend du nombre de places requises et des connaissances du personnel médical de l'hôpital universitaire concernant la qualité des services dans les hôpitaux généraux.

La formation spécialisée a lieu uniquement au sein de l'hôpital universitaire.

• La Belgique

La formation spécialisée en Belgique varie entre 4 et 6 ans selon la spécialité et suit un modèle de compagnonnage. La sélection des candidats pour la formation spécialisée s'établit sous la responsabilité des commissions de sélection de spécialistes au sein du Ministère de la Santé Publique, composées pour 50 p. 100 de médecins du syndicat et pour 50 p. 100 de médecins universitaires.

Pour la formation spécialisée, il y a une majorité de places en dehors de l'hôpital universitaire. Pour les Cliniques St. Luc les nombres sont de 200 à l'intérieur de l'établissement et 300 à l'extérieur. Ceci est nécessaire pour répondre à la forte pression de la démographie médicale. Une commission d'agrégation, composée pour la moitié d'universitaires et pour le reste de représentants des organisations professionnelles, est responsable de l'évaluation des hôpitaux souhaitant participer à cette formation. Ceci est fait à partir de critères liés pour l'essentiel aux lits et à l'effectif, et sur la base de plans de stages soumis par l'hôpital demandeur. Les critères de reconnaissance des maîtres de stages sont publiés dans la loi et mis en application par le Conseil Supérieur des Spécialistes, qui inclut, par ailleurs, les généralistes.

En ce qui concerne les étudiants en médecine, au cours des deux dernières années d'études qui sont consacrées à des stages pratiques, seulement 3 à 6 mois se passent à l'hôpital universitaire, faute de places en nombres suffisants.

• Les Pays-Bas

La formation spécialisée est la responsabilité de l'hôpital universitaire à l'exception de celle des généralistes, qui est organisée par la faculté de médecine. 60 p. 100 de la formation spécialisée se déroule à l'hôpital universitaire, tandis que 40 p. 100 a lieu dans les hôpitaux communautaires.

Aujourd'hui le futur spécialiste reçoit sa formation dans l'un ou l'autre établissement. A la suite de changements en cours, un système de rotation sera introduit. Ainsi les spécialistes en formation seront reçus dans les deux types d'établissements, et passeront environ quatre années à l'hôpital universitaire et deux dans les hôpitaux généraux. Des contrats seront négociés selon les besoins de ces hôpitaux, d'une part pour la formation en soins cliniques de base, d'autre part pour la recherche. Cette tendance, qui concerne

non seulement les spécialistes en formation, mais également les étudiants en médecine pour leur deux années de formation pratique, est liée à la spécialisation accrue des hôpitaux universitaires.

La tâche d'accréditation d'hôpitaux pour la formation spécialisée est du ressort des associations de spécialistes. L'agrément est fondé sur des critères tels que la taille de l'établissement, le nombre de spécialistes, les catégories de malades soignés etc. Les associations de spécialistes décident aussi du nombre de places à mettre à disposition. Cette procédure est reconnue et acceptée par le Ministère. Les membres des associations de spécialistes ont un intérêt pécuniaire à limiter le nombre de spécialistes, et donc la concurrence en matière d'honoraires. Ils ont plafonné le nombre de places, une situation qui, globalement, a convenu au Gouvernement pour des raisons liées à la maîtrise des dépenses de santé. Plus récemment une pénurie de spécialistes a mené le Gouvernement à s'intéresser de plus près à ces questions.

• Le Royaume-Uni

La formation spécialisée peut durer jusqu'à sept ans selon la spécialité et suit un modèle de compagnonnage. Sa conclusion est reconnue par un certificat. Un comité de liaison à l'intérieur de l'hôpital universitaire est responsable de l'organisation. Depuis de longues années, plus de la moitié de cette formation a lieu dans des hôpitaux généraux. Depuis la réforme récente, qui a modifié de façon assez radicale le système de financement des hôpitaux, les établissements commencent à remettre en question la rentabilité de cette participation à la formation. Pour répondre à cette nouvelle situation, un budget, qui représente 50 p. 100 environ des salaires des médecins en formation, a été accordé au « doyen de formation spécialisée ». En outre il reçoit un financement pour tous les coûts directs de cette formation, tels l'organisation des cours, les frais de fonctionnement des centres d'enseignement et les voyages d'études.

L'accréditation des hôpitaux pour la formation spécialisée est organisée par les « Royal Colleges », les associations de spécialistes. La procédure est extrèmement rigoureuse et comprend l'évaluation des services cliniques et medico-techniques au regard de normes – nombre et qualité du personnel, qualité des locaux etc. – et de l'organisation détaillée de la formation. Un comité présidé par le doyen de la formation spécialisée a la tâche de présélectionner les candidats aux postes de formation spécialisée avant leur embauche par les hôpitaux.

Recherche : l'importance relative accordée à cette activité et les modalités de financement

• L'Allemagne

Dans les hôpitaux universitaires le nombre de postes est majoré d'environ 30 p. 100 par rapport aux besoins cliniques, pour permettre une activité de recherche. Les modalités d'organisation de la recherche restent à la discrétion du directeur du service.

Quant au financement, une part importante vient de la « Deutsche Forschungsgemeinschaft » où une commission décide des priorités et des subventions. Une « liste bleue » a été créée pendant les années 70. Des instituts qui y étaient inscrits en reconnaissance de leur excellence en matière de recherche étaient subventionnés d'une part par le Gouvernement, d'autre part par le Land. Un certain nombre d'instituts médicaux ont donc été sélectionnés.

En 1976 un programme nommé « Recherche et Développement pour la Santé » était introduit. Sous ce programme des contrats de recherche étaient offerts dans des domaines spécifiques qui correspondaient à des priorités nationales. Les critères étaient très stricts et les universités n'étaient pas spécialement favorisées. Plus récemment un nouveau programme appelé « Recherche Santé 2000 » a été mis en place qui favorise surtout la recherche clinique et en santé publique. Le Gouvernement accorde une subvention pour une période de cinq et huit ans à condition que le Land accepte de continuer le financement.

• La Belgique

La plus grande partie du soutien officiel à la recherche, en termes de postes de fonction-

nement, est attribuée aux Universités via le Fonds National de la Recherche Scientifique dont les commissions sélectionnent les projets. En outre, certaines Universités, telle l'Université Catholique de Louvain, consacrent une part de leur budget (3 p. 100) au soutien de la Recherche, selon leur propre système de sélection de projets.

Les Facultés de Médecine bénéficient de leur part de ces fonds. De plus, dans les hôpitaux universitaires, jusqu'à 20 p. 100 du temps contractuel peut être consacré à la recherche. En outre, ces Facultés reçoivent des contributions de mécènats, de fondations, et de sociétés privées. Ces financements extérieurs représentent environ un tiers de leurs budgets de recherche. La recherche fondamentale est souvent privilégiée par rapport à la recherche clinique. Les Facultés s'efforcent actuellement de corriger ce déséquilibre.

La recherche clinique appliquée (environ vingt pour cent des recherches cliniques) est généralement financée par l'industrie, avec les risques de contraintes de rentabilité que ceci comporte ;

Il convient enfin de souligner que la recherche est considérée comme un élément important de la réputation des Facultés. C'est pourquoi le curriculum de recherche constitue un des critères majeurs de la sélection des professeurs.

• Les Pays-Bas

Dans les hôpitaux universitaires, jusqu'à 40 p. 100 du temps contractuel peut être consacré à des activités d'enseignement et de recherche. Le financement pour la recherche vient pour l'essentiel du Ministère de l'Education et de la Recherche. Cette partie représente probablement entre 50-65 p. 100 du budget. Le restant provient d'une variété de sources : hôpitaux universitaires, fondations etc. Aujourd'hui la politique du gouvernement dans ce domaine met l'accent davantage sur la nécessité pour les facultés de justifier leur projets de recherche. La compétition pour les moyens disponibles a augmenté et il y a un lien plus marqué entre le financement et les résultats.

• Le Royaume-Uni

Les activités de recherche des hôpitaux universitaires sont bien développées car le financement est très lié au nombre des contrats de recherche. A Birmingham, par exemple, un tiers du budget de la faculté provient de ces contrats, ce qui permet de salarier une cinquantaine de personnes. L'allocation accordée par le gouvernement à la faculté est à la hauteur du montant obtenu par d'autres sources, telles que les fondations, les sociétés privées etc. Ce montant est ainsi doublé. Au cours de ces procédures une attention particulière est prêtée à la qualité de la recherche menée. Comme conséquence de cette approche, la reconnaissance dans le domaine de la recherche est un des facteurs dominants de la nomination d'un professeur de médecine.

Conclusion

En ce qui concerne la mission de l'hôpital universitaire, elle paraît assez bien différenciée de celle des autres hôpitaux dans les quatre pays de cette étude. Dans deux cas (Allemagne, Pays-Bas), les hôpitaux universitaires sont sous la tutelle du Ministère de l'Education. Dans les autres (Belgique, Royaume-Uni), où ils sont sous la tutelle du Ministère de la Santé, il y a des dispositions particulières pour leur financement, du moins pour des activités très spécialisées. La tendance dans tous les pays est plutôt vers une spécialisation accrue.

Pour ce qui est du personnel médical des hôpitaux universitaires, la pratique dans les quatre pays est relativement uniforme dans la mesure où tous les spécialistes, universitaires ou non, peuvent participer à l'enseignement pour autant que cela présente un intérêt pour eux et pour l'établissement. Dans trois pays (Belgique, Pays-Bas, Royaume-Uni), les non-universitaires touchent la même rémunération que leurs confrères. En Allemagne, en Belgique et au Royaume-Uni, les spécialistes qui participent à la formation ont un type de contrat d'honoraire, qui constitue une réponse apparemment satisfaisante à leur revendication de reconnaissance.

Dans trois pays (Belgique, Pays-Bas, Royaume-Uni), une forte proportion de jeunes médecins est accueillie pour leur formation spécialisée dans des hôpitaux généraux. Les systèmes mis en place pour l'accréditation de ces hôpitaux qui participent à la formation spécialisée sont assez rigoureux. Dans les trois pays concernés, les associations de spécialistes ont la responsabilité de l'accréditation, ou jouent, au moins, un rôle majeur dans cette procédure. Dans chacun des quatre pays, de nombreux étudiants en médecine sont également reçus dans des hôpitaux généraux pour leur formation pratique.

Dans le domaine de la recherche, trois pays (Allemagne, Belgique, Pays-Bas) prévoient qu'une proportion spécifique du temps contractuel d'un professeur de médecine peut être consacrée à la recherche. Pour l'ensemble des pays, la plus grande partie du financement de la recherche provient du Gouvernement. Il y a des indications que les Gouvernements s'intéressent, de façon croissante, aux domaines retenus pour la recherche et aux questions de leur rentabilité économique.

Annexe IV

Quelques contributions de pays

4-a Australie
4-b Chili
4-c Corée du Sud
4-d Pakistan
4-e Philippines
4-f Royaume-Uni
4-g Suisse

Annexe IVa

Australian hospital costs

by James S. Lawson

Are public hospital costs more expensive than private hospital costs? Are teaching and referral hospital costs greater than non-teaching hospital costs?

The results of the Australian National Costing Study-version 1, conducted by the accounting firm KPMG-Peat Marwick on behalf of the Australian and State governments have been released[1]. For the first time, costs based on diagnosis related groups (DRG's) have been collected in a form which allows some comparisons to be made between public teaching, non-teaching and private hospitals.

Regardless of the limitations of the methodology and the limited availability of data the National Costing Study provides the best current information about the costs of Australian hospitals.

• Methods

The data in this paper is wholly based on the National Costing Study, which is based on the financial experience of 102 Australian hospitals for a 6 month period during 1992 and 1993. The assumptions and methodology used in the National Costing Study are outlined in detail in the summary report (1). Costs of teaching, research, accident and emergency services and non-inpatient care have been excluded.

1. National Costing Study Version One. Summary Report.

The degree of accuracy of the data is difficult to assess. With respect to the average costs of specific DRG's it is possible that the accuracy is as high as 95 p. 100. However the accuracy lessens with respect to cost centres such as ward nursing, theatre costs and overheads within specific DRG's.

Comparisons of costs between public teaching and non-teaching costs are valid. However direct comparisons between public and private hospital costs are not, partly because medical, imaging and pathology costs are not included in the data for private hospitals. For this reason the costs for medical, imaging and pathology have been deducted from the public hospitals so as to allow comparisons to be made with the private hospitals. In an era of "privatisation" such comparisons are inevitable and even desirable.

In addition DRG's have been selected which allow comparisons between the different hospital sectors. This has been acheived by selecting DRG's with the following characteristics:
a) the DRG's contain a single procedure (in contrast to the purpose of DRG's which is to group diagnoses and procedures)
b) the procedure is common in both the public and the private hospital sector
c) there are separate DRG's for complicated and uncomplicated cases.

Selection of DRG's according to these characteristics largely removes the criticism that teaching and referral hospitals treat patients with much more difficult and therefore expensive problems despite being in the same diagnostic group. For the same reason all DRG's with the

qualification "complications" have been excluded. A single exception is the DRG 317 "appendicectomy with complications" which has been retained because this DRG represents approx. 15 p. 100 of all appendicectomies and because it also provides a good example of the expensive adverse effect that can be caused by complications for even simple procedures.

• The analysis

As shown in Table 1 the average cost per DRG in Australian public teaching and referral hospitals at $2807 is much higher than the non teaching hospital cost of $2088 and nearly double the private hospital cost of $1571.

However it is crucial to indicate that comparisons on such a global basis are extremely misleading. This is because the teaching and referral costs include the provision of very expensive procedures which are rarely or never provided in the non-teaching or private hospital sector. Examples include transplantation of the liver at an average cost of $100,314, heart transplant at $30,699, care of extremely low birth weight infants at $48,620, and extensive burns at $62,460. In Australian teaching and referral hospitals at least half the workload is of a routine nature and is directly comparable to the workload of non-teaching and private hospitals. Selected and comparable procedures and conditions are shown in table 2. The average total costs of the selected DRG's are $1,601 for non-teaching public hospitals and $1,479 for teaching and referral hospitals and $1,767 for private hospitals. Again such comparisons are misleading because with one exception, myringotomy (DRG124), all surgical procedures in the private sector are less costly than the same procedures in the teaching hospitals. Private hospitals costs for surgical procedures are with the exception of cleft lip repair, tonsillectomy and myringotomy similar to public non-teaching hospital costs. However costs associated with obstetrics in private hospitals, namely Cesarian section and normal birth are more costly than both the public teaching and non-teaching hospitals

An examination of the length of stay and the key cost centres, ward nursing and overheads, as shown in table 2, gives some indication of the possible reasons for these differences in costs. For those DRG's where the length of stay in the three different hospital sectors are similar the ward nursing costs are also similar but the overheads in the private hospitals are consistently lower. These DRG's are 27, 122, 124, 239, 314, 316, 317, 603, and 683.

With respect to the obstetric DRG's, Cesarian section (673) and normal birth (675), the length of stay in the private hospitals is up to 30 p. 100 longer than in both the public teaching and non-teaching hospitals. This longer stay in hospital is reflected in higher ward nursing costs in the private hospitals and appears to account for the higher overall costs. Despite these higher overall costs the overhead costs in the private hospitals for these two DRG's are lower than in both public hospital sectors.

• Can any helpful conclusions be drawn from this analysis?

In my view the National Costing Study has been a valuable experience even if any conclusions are tentative or even speculative because several important hypotheses can be developed from the data. These hypotheses are:

1) For common or routine surgical procedures (but not obstetrics) public non-teaching and private hospitals appear to be less expensive than public teaching hospitals.

The main reason for the lower costs of the private sector appears to be the lower overhead costs.

2) For routine Cesarian sections and for normal births the private sector appears to be more costly than the public sector.

The main reason appears to be the much longer stay in hospital in the private sector.

3) Length of stay appears to be an important factor in the average cost of specific DRG's-the longer the stay the greater the cost.

Based on these hypotheses some practical steps can be taken immediately. For example with respect to some DRG's such as cleft lip and palate repair, the much longer stay and hence greater cost in the public sector deserves detailed examination.

On the other hand while it has long been known that discharge from hospital soon after birth can be safe for mothers and babies, enforced early discharge may well have adverse effects on the well being if not the safety of the mother and child and the expense of the longer stay may well be justified. In other words judgements have to be made about the ideal length of stay. Cost is only one, albeit an important one, of the factors which have to be taken into account. Again such issues deserve close attention.

Finally, this National Costing Study will lead to many similar questions and hypotheses, including even more detailed costing studies.

Table 1. Australian hospital costs 1992/93
(Teaching, Non-Teaching, Private Hospitals [102 Hospitals]).

	Public non-teaching				**Public teaching**				**Private**			
DRG (1)	cost/ DRG	LOS	% for ward nursing	% for over-heads	cost/ DRG	LOS	% for ward nursing	% for over-heads	cost/ DRG	LOS	% for ward nursing	% for over-heads
27	1049	1.6	17.3	36.0	1361	1.7	15.6	33.3	996	1.4	15.9	27.2
113	2266	5.1	28.8	36.8	2479	7.6	35.4	36.6	1106	2.4	23.9	30.3
122	1257	1.6	30.7	32.5	1137	1.6	26.2	32.1	915	1.3	26.3	26.3
124	996	1.1	15.9	39.5	739	1.1	16.6	33.3	820	1.1	17.3	30.0
239	1515	3.1	19.6	34.4	1658	3.1	17.4	35.6	139	2.9	19.4	28.7
314	1654	3.8	23.4	36.1	1836	3.7	19.2	36.4	1506	3.3	23.4	25.8
316	2128	5.7	25.3	34.3	3112	6.6	21.1	35.9	2181	5.8	30.8	28.2
317	1521	3.5	25.0	34.6	1929	3.7	19.8	36.1	1600	3.6	23.7	25.0
367	2359	5.2	25.6	31.5	2717	5.7	22.9	32.3	2010	4.12	5.4	23.0
495	2958	9.3	32.3	37.0	3148	8.9	27.7	37.2	2750	7.7	34.3	27.3
603	2146	5.6	29.0	38.0	2318	5.8	25.8	36.7	1903	5.2	32.9	27.0
673	3683	8.7	40.9	33.5	4049	10.8	38.3	35.5	4189	9.1	45.6	27.9
675	1854	4.0	44.7	35.6	1736	4.4	43.5	38.3	2255	6.1	49.0	29.5
683	901	1.2	17.6	35.5	1334	1.2	16.4	33.0	800	1.2	14.1	27.1

(1) Meaning of DRG codes
27. Carpel Tunnel Release
113. Cleft Lip + Palate Repair
122. Tonsillectomy < 10 years
124. Myringotomy < 10 years
239. Vein Ligation
314. Hernia Repair > 9 years
316. Appendicectomy with complications
317. Appendicectomy without complications
367. Cholecystectomy
495. Mastectomy Major
603. Transurethral Prostatectomy
673. Caesarean no complications
675. Vaginal delivery no complications
683. Abortion plus Dilation & Curette

Table 2. Australian hospital costs *(Average costs for all separations).*

1. Public Teaching (63 hospitals)	$ 2807
2. Public non-teaching (41 hospitals)	$ 2088
3. Private (28 hospitals)	$ 1571

Annexe IVb

The right place of teaching hospitals Chilean experience and perspectives

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Background

• Health and health care in Chile: situation and trends.

The health status of the fourteen million people of Chile (30.6.1994) may be described in general by the following three indicators:
life expectancy at birth: 72 years (1990-1995)
crude death rate: 5.4 per thousand (1992)
infant mortality rate: 14.3 per thousand (1992)

These levels should be assessed in the light of the country's gross national product of US$ 3.000 (end of 1992), which is below the world average income.

There are significant inequalities of the mortality rates of children and young adults among regions and municipalities. This may be related to the existing economic disparities: the latest national social survey showed that 32.7 p. 100 of the population are "poor" and that 9.0 p. 100 are "extremely poor" (1992). While these percentages have been reduced in the last few years, the income distribution has not changed (1987-1992)

The most frequent causes of death are the circulatory diseases and cancer. However, the greatest number of potential years of life lost, for the population aged between one and sixty-four years, is due to accidents, poisoning and violence, followed by tumors. Respiratory conditions occupy the fourth place among causes of death, while infections and parasitic diseases rank seventh, accounting for only 2.8 p. 100 of all deaths. Alcohol abuse affects 20 p. 100 to 30 p. 100 of the adult population.

In short: Chile is far advanced along the path of an epidemiological transition that puts mental and social conditions, in close relationship with accidents, violence, as well as circulatory diseases and cancer in young adults, high up among the health priorities.

The health care situation is also changing in Chile, and this is due more to policy decisions than to the epidemiological transition. Until 1973 the country had a National Health Service financed mainly by the central budget (65 p. 100) and by compulsory insurance contributions paid by salaried workers and their employers (20 p. 100). Afterwards, neo-liberal and structural adjustment policies led to a significant reduction of the central Government contribution and of personal remunerations. The revenue gap was filled by direct user payments and by an increase in the compulsory health insurance premium collected from the workers, In 1980, a new legislation abolished the National Health Service as such and favoured the creation of private for-profit intermediary organizations which are allowed to sell individual health insurance plans against the aforementioned compulsory contribution.

Only the higher-earning salaried population are able to meet the prices charged by those

organizations, which means that the majority of the population continue to rely on the public subsystem of care.

The present democratic government (1990-1994) has substantially increased the central budget contribution. The overall revenue of the public sector of health care has risen by about 40 p. 100 ln real per capita terms. However, the expansion of the government-subsidized private sector, which now covers around 25 p. 100 of the population, has increased costs and induced an exodus of doctors and nurses towards that sector. This makes recovery difficult for the public institutions, including the State Medical Schools and Hospitals. These are also affected by the lack of investment in maintenance and in new technology during the seventeen years of the previous goverment (1973-1990).

The changes just described have created new demands and a new environment for the health professions, medical education and teaching hospitals in Chile.

• The Universities and their Medical Faculties.

A University was created in the eighteenth century by the Spanish Government and this offered some medical courses since 1769. After Independence a Medical School was started in 1833. The oldest existing University was founded in 1840, with the name "Universidad de Chile" and the Medical School was established as its Faculty of Medicine in 1843. Its first Dean was a french physician, Lorenzo Sazié.

New Universities sprang up, starting in the 1920's and at the same time the University of Chile branched out into the main provinces. During the 1980's and 1990's market incentives have favoured the proliferation of twenty or so small private Universities, while at the same time the government has greatly reduced its financiai support to the "traditional" institutions, compelling them to obtain revenues from student fees and externally funded projects.

At present there are eight medical or health sciences faculties in the country. In 1992 they produced a total of 489 new doctors of medicine, as follows:

University of Chile (Santiago)	226
University of Valparaiso	42
University of Concepcion	81
University of Temuco ("La Frontera")	36
University of Valdivia ("Austral")	43
Catholic University (Santiago)	61
Los Andes University (Santiago)	32 as from 1997
San Sebastian University (Concepcion)	24 as from 2000

There are an estimated 14.900 doctors active in 1994, with a ratio of 1 per 960 inhabitants.

In 1987 the ratio of full-time teaching staff to annual number of medical graduates was 2.2 and the ratio of part-time teaching staff, 6.4. Only two of the six "Traditional" schools had significantly lower ratios; they accounted for 28 p. 100 of all graduates.

The development of teaching hospitals and teaching in hospitals, in Chile.

Ever since the beginning of the first Medical Faculty, clinical teaching has been entirely based on hospital practice by the students. At present this starts during the third year and is completed by a full-time internship in the sixth and seventh years.

Every one of the six "traditional" Medical Schools which now exist utilizes the government hospitals and other government health facilities located in its own region.

In the XIX century, clinical practice by students of the University of Chile was done in the main hospital of Santiago, "San Juan de Dios". As new public hospitals were created, they became, one by one, clinical fields for the national university.

Possibly due to the arisal of periodic conflicts between the hospital administrators and the Faculty, the latter repeatedly tried to gain control of one large general hospital. The target was the "San Vicente de Paul", which was next to the Medical School building. They at last succeded, in 1931: the "San Vicente" be-

came the Clinical Hospital of the University of Chile.

When the old building, erected in 1872, was replaced by a new one at the beginning of the 1950' s, the hospital was rechristened with the name of a former Dean, "Dr. Jose Joaquim Aguirre".

However, the University, with its nearly two thousand medical students, undergraduate and postgraduate, has continued to utilize most of the general and specialized hospitals and clinics of the Government Health System in the city of Santiago.

The Catholic University of Santiago opened its own Clinical hospital in 1943. It also sends students to one other hospital, this one belonging to the government system.

All the other Medical Schools are based on the corresponding regional public hospitals.

To summarize, there are two University Clinical (Teaching) Hospitals in Chile, but teaching is done in all the main hospitals of the public health system.

Statements by authorities of the two teaching hospitals, and of one important Government Hospital (San Juan de Dios), in which teaching takes place, are summarized in the next section.

Views from the Hospitals

• The present situation

Teaching

The main problems underlined by the Director of the Catholic University Hospital are: the lack of information on the country's needs for doctors and the lack of coordination among the Schools of Medicine.

The Dean of the Medical Faculty of the University of Chile has recently prepared projections of the ratio of doctors to population for the year 2003 – 1: 871 –, at the present rates of admission; although he believes that this is not far from the right proportion, he also points to the need for further studies on related issues, such as the geographical distribution of physicians, the need for specialists and the availability of nurses and other members of the health team. In the public hospital, San Juan de Dios, the quality of medical education provided by the clinical departments is criticized as paying little attention to the generation of positive attitudes and to the type of doctor required by the country. On the other hand, there is the risk of falling behind in regard to new technologies, and this concern is reflected in high costs, as expressed in the University of Chile Hospital.

Research

Clinical research is done in all the main hospitals of the country, with the two University hospitals ranking high in this respect.

Medical Care

In the University Hospitals and also in the main public ones, the patients are mostly complex cases. In the University of Chile this has been aggravated by its separation from the general health care system (around 1975). In San Juan de Dios Hospital teaching and care are done mainly in the wards where teaching requirements tend to overrule patient needs and specialists displace the general clinicians. However, in the Catholic University and other hospitals these problems are partly compensated by the trend towards day-hospitalization and ambulatory care. As mentioned before, they are also mitigated by student attendance at less specialized hospitals and clinics.

Resources and costs

Whereas the public hospitals are mainly supported by the budget of the Ministry of Health, both University Hospitals have had to become mainly self-sustained.

This implies in the case of the latter, a selection of both patients and students on economic grounds. Student fees are higher in the Catholic University, where they amount to the equivalent of US$ 2.250 per year, a sum that does not cover the whole of the educational costs. Research depends mainly on outside funding. This situation represents a drastic change in the case of the University of Chile, which by virtue of its ownership by the Government was supported by the Ministry of Education budget until the structural adjustment policy, applied since the seventies, greatly reduced that source or funding.

Social benefits

The University of Chile Hospital maintains a social role as a declared objective. The public hospitals participate in the substantial contribution that the public health care system takes to the improvement observed in the health status indicators of the population,

• Views on what should be the right place of the teaching hospitals

Teaching

Views from the San Juan de Dios and from the Catholic University Hospital are that there should be less information and more formation. Teaching, according to them, should be oriented to meet national needs. Both agree on the need to train "basic specialists" and "differentiated generalists".

Teaching cannot be done only in hospitals with a high level of complexity: it should be completed at other levels.

Whereas in the public hospital patient needs are foremost and this in itself is considered an educational asset, in the Catholic University Hospital teaching is seen as the main objective – care, research and productivity being tools at the service of that purpose.

Research

Ideally more research in clinical and preclinical disciplines should be done in the hospital, and this would improve the clinical education function.

Care

In San Juan de Dios Hospital, patient care at all levels is seen as the basis of continued education, with the specialists being trained in sophisticated hospitals.

The Catholic University Hospital strives to provide best quality care in the patients' interests.

Regulations

Teaching hospitals and hospitals in which teaching is done should be supported in a coordinated manner by a university and by the Ministry of Health.

They should be protected from political disturbance and economic policy changes.

Costs and financing

In the view of the public hospital there is a need for additional resources: full-time teachers are required, and they should be paid appropriate salaries; there should be joint University and Ministry of Health positions, under uniform career conditions. It is always possible to keep expenditures under control.

The director of the private University Hospital feels that teaching and research costs should be separately accounted for: care should thus prove to be not more expensive than in a non-teaching hospital of the same level of complexity. Unavoidably, patients that pay more have less contact with undergraduate students.

Social benefits. Ethics.

According to the public hospital, teaching promotes health care quality and thus benefits the patients.

• Answers to questions on strategy

The answer to the dilemna "intensify the sophistication of teaching hospitals" versus "impregnate clinical teaching into the health system" is entirely eclectical in the case of the Catholic University: the first alternative is valid for the hospital, the second one, for the school.

The answer from San Juan de Dios Hospital is more in favour of the second option: rather than speaking of "teaching hospitals", we should speak of "areas of health care in which health teaching in carried out". In such areas, persons needing care should receive it at the level of complexity that their condition requires, in a network where facilities are "communicating vessels" at the service of the patients; in the Chilean experience, the dissemination of this "coordinated care-and-teaching" approach across the country did, at one time, facilitate the development of new medical schools.

Main issues for further discussion

In the light of the Chilean situation the following issues may be singled out for discussion:

• National health care system design and financing:

This is the frame in which the place of the teaching hospitals should be considered.

One option for Government Medical Schools is to utilize the facilities of the public network for clinical teaching, incorporating University resources for the educational and research functions. In that situation the possibility of conflict arises, but this can be minimized through agreed regulations, accurate cost-accounting and joint governing bodies. On the other hand, there will be advantages for the users of the public services in terms of quality of care, and the students will benefit from teaching done in a more "realistic" setting.

Private Universities may also reach agreements with the Health Ministry in order to send their students to public hospitals, different from those utilized by the government schools. If they are able to develop their own hospital, this may perform a needed function within the system or else it may cater for a specific user-group, selected on the basis of affluence, charity, religious denomination, etc.

• National health manpower policy:

This is an intersectorial subject.

Decisions on quantity and type of health manpower required will provide orientation on the types of facilities in which clinical teaching should take place, as well as on the recommended syllabus.

• Health Sciences research policy:

In Chile, health sciences research may take place in Faculties of Sciences, in Faculties of Medicine or in specialized Research Institutes, public or private. Within Faculties of Medicine, research work may be divided between pre-clinical and clinical departments. Research may and possibly should also be done by as many health care teams as possible throughout the country.

A research policy should throw light on the kind of research that should take place in teaching hospitals and on how it should be funded.

Final Comment

In developing countries, the national objectives of clinical education should be clearly fixed and then pursued in the most effective and efficient manner. Teaching should become a function of the general health system, serving the system. Particular institutions designated as "teaching hospitals" should, if required or already existing, be seen in that context.

Annexe IVc

Improving the Role of Teaching Hospitals in Tertiary Care

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Introduction

Teaching hospitals play a pivotal role in medical care in Korea as is the case in western countries. There were 41 university teaching hospitals which were affiliated to 32 medical schools in Korea in 1992. The number of beds in those 41 hospitals were 27,600 which accounted for 23.9 p. 100 of total beds. About 80 p. 100 of university teaching hospitals were owned by non-profit private organizations.

Teaching hospitals in Korea share similar problems as teaching hospitals in other countries: I) they use disproportionately high percent of national health care resources, II) they treat mainly rare and complicated cases although they are supposed to prepare students for their future practice in which they treat mainly common and simple cases and III) their care tends to be bureaucratized, dehumanized, and impersonalized as their size and organization grow larger and more complex. In a study by the Seoul National University Institute of Hospital Services (1991), the case complexity of teaching hospitals measured by Diagnosis Related Groups (DRGs) and their intensity of resource utilization was 38 p. 100 higher than the complexity of non-teaching hospitals. On the average, mean case costs of DRGs in teaching hospitals were 28 p. 100 higher than mean costs in their non-teaching counterpart. It was estimated that about 40 p. 100 of inpatient care costs were incurred in teaching hospitals however they operated about 24 p. 100 of total beds.

One of the features of the Korean National Health Insurance is a two-tier referral system which categorizes hospitals into tertiary care hospitals and primary and secondary care hospitals. To be eligible for the insurance payments, visits to a tertiary care hospital should be referred by a primary or secondary care provider with some exceptions. There were 35 hospitals designated as a tertiary care hospital as of July 1, 1993 and 32 of them were university teaching hospitals. This indicates that teaching hospitals in Korea are expected to play a role as a final referral center in medical care.

Tertiary care hospitals are entitled to a 10 p. 100 surcharge presuming that they treat complex cases requiring resource intensive and/or high tech cares. Mainly due to this advantage in the insurance payments, hospitals want to become a tertiary care hospital and a number of hospitals apply for the tertiary care hospital status every year. The only criterion used to evaluate the application was the number of beds to be over 500. This resulted in a trend toward large scale among hospitals in Korea and over supply of tertiary care beds. A

The Government expects the impacts of this new policy in two ways:

I) redefine the role of tertiary care hospitals

II) keep the case complexity of tertiary care hospitals at the level where it should be.

In the long run, this will improve the quality of tertiary care by monitoring the behavior of tertiary care hospitals and will contribute in containing the growth of national health care expenditures by enhancing the efficiency of health care resource utilization at tertiary care hospitals.

Annexe IVd

The University hospitals in Pakistan. The case of the AGA Khan University Hospital

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February 1994

Introduction

The design and development of health care delivery systems globally, are undergoing significant changes. The evolving definition of health as not mere absence of disease and infirmity but a state of optimum physical and mental well-being which would enable populations to be productive socially and economically, implies a justified emphasis on preventive and promotive aspects of health and health-related activities. Health services are now being exhorted not to restrict themselves to care of the individual but broaden their horizons to include the family and the community. Incidence of ill-health is seen progressively in the social context and greater stress is laid on equity, relevance, access and utility of health services. In the developing countries, these concepts are even more relevant in order to conserve meagre resources and ensure appropriate resource allocation to ensure benefits for maximum numbers rather than provide for the few.

Against this evolutionary background, hospitals (including tertiary and teaching facilities) have to find their relevant place in the system.

Health care reform efforts even in various developed countries are increasingly pressuring the hospitals to become more efficient in cost-constrained environments. In particular, the hospitals can no longer be seen as free-standing institutions, whose high technology, low volume services are selfjustifying, with demands for them that are so strong that they can not stand in isolation from the rest of the system. Latest trends because of rising costs, managed care systems for defined populations, competition from rapidly growing ambulatory care technology are resulting in hospitals either closing or transforming their styles of action in the direction of being integral parts of evolving health systems, relating to defined populations.

Perhaps it is not too strong to say that hospitals that remain in yesterday's pattern of the grand isolation of a tertiary care institution may be trapped in a set of circumstances that will put their entire existence at risk. New Zealand has even "abolished" the hospital as an independent administrative and fiscal unit; it must now negotiate its services horizontally across the system with program system managers (mental health care, for example).

These debates have naturally promoted a close look at the role hospitals-particularly tertiary and teaching hospitals – should now play in the health systems to ensure an effective and relevant health care delivery for the benefit of populations and focussing attention on the deprived and under-served segments.

Historical Background

Evolution of hospitals, historically, has its origin from the days of discovery of major infectious diseases when special hospitals were required to not only address themselves to treatment and control of these diseases but also to protect the rest of the community. The hospitals, thus, became a refuge for those people who, having been afflicted with these diseases, could not continue to live in the community; conversely, the community, too, needed to be protected from them. Advances in epidemiological practice of medicine and effective preventive measures transformed that picture. Development of public health and community medicine while leading to organization and development of community health systems, also made the hospitals repositories of sophisticated technology concerned with curative aspects only. There was misallocation of resources with bulk going to the hospitals. Launching of preventive and eradication programmes targeted at specific diseases like malaria, tuberculosis, smallpox, leprosy etc. became the concern of the community health services. Public health departments, therefore, got progressively engrossed with care of the community while hospitals were concerned with care of the individual with coordination between the two, at best, remaining casual and incidental. Hospitals have, thus, continued to function in isolation from the health problems of concern to the community as a whole resulting in "disease model" of health care rather than community-based, problem-oriented health care.

The teaching hospitals, too, have remained in near isolation and the teaching they impart, therefore, may have little relevance to the health problems of real concern to the community. The output from the teaching hospitals, thus, find the concepts of practice of medicine not quite relevant to major health problems. Whatever the historical reasons for this isolation, none of them is valid in the present day context and therefore, out of line with development of a relevant educational system which should be responsive to the needs of a comprehensive and effective health care delivery system.

Present Organization

Hospitals, in general, no doubt, consume the largest share of health resource allocation particularly in developing countries where resources are scarce. Teaching hospitals, whether from educational or medical research angle or because of being at the center of health care delivery systems, may even be more disproportionate beneficiaries in this inequitable allocation. At the same time, in the context of Primary Health Care programmes, hospitals should be an essential and integral link in the chain of such programmes. An equitable resource allocation, however, is essential for the success of the very programme which the hospitals should be designed to support and sustain. By ensuring that hospitals provide appropriate support to the primary care level and that they are integrated into national health systems, the effectiveness of hospitals, in general and the tertiary and teaching hospitals, in particular, can be much enhanced. The vital importance of this concept and practice in these days of fiscal constraints needs no emphasis. Not withstanding the high or disproportionate consumption of resources, the tertiary and teaching hospitals are vital to the teaching, research and curative activities as well as for development of health leadership potential for the health care system of a country.

An important objection leveled against tertiary facilities is that they are located in major urban areas and that they consume a disproportionate share of scarce national resources. The validity of this objection, however, is becoming increasingly less significant as health planners and decision makers become aware of this anomaly and take remedial measures. The urban/rural divide among populations is also progressively showing lesser tilt in favour of the rural sector even in developing countries due to migration into cities in the wake of industrialization. Increasing numbers are moving to large cities in search for employment, attraction from relations who have already migrated and changing social patterns in the rural areas themselves by virtue of which lesser and lesser numbers of young people stay attracted to agriculture as

means of livelihood. An added factor, perhaps, is advance in agricultural techniques, resulting in less labour intensive measures (tube wells, tractors, mechanized crop harvesters replacing obsolete agricultural tools and practices), releasing large numbers from traditional/hereditary occupationswho then have to seek alternative means of livelihood in towns. This influx, in turn, results in squatter settlements and shanties on outskirts of towns producing large numbers of under-served and deprived segments of society with relatively higher incidence of morbidity and mortality and therefore, in dire need of extensive health care. The need for effective health care facilities (both secondary and tertiary) in urban areas is, therefore, not as regressive as it may appear.

A re-organized and balanced health care delivery system is, therefore, required within which these institutions can have their rightful place without detracting from the significance of lower level health facilities at the periphery and without themselves being in-undated with patients who could easily have been looked after lower down in the health system.

Conceptual Changes

Alma Ata's introduction of PHC concept should not be seen as detracting from the importance of secondary, tertiary and teaching hospitals; on the other hand, it emphasises their significance as vital links in the chain of health care delivery systems. Primary Health Care, while laying emphasis on promotive and preventive measures, is designed also to give essential curative and life-saving care to the needy at the first point of impact with the health system. This would need support from both secondary and tertiary referral facilities for ambulatory care and for more sophisticated investigations and treatment of complicated cases. Inclusion, indeed integration, of these referral and supportive facilities and ensuring easy access to them, should be an essential component of an effective PHC programme and the health systems that support it.

The major international organizations are on the move with a series of policy-influencing documents; among these are: Disease Control Priorities in Developing Countries (World Bank); Health of Adults in Developing Countries (World Bank); Human Development Report (UNDP); State of the World's Children (UNICEF) and 9th General Programme of Work of WHO. The World Development Report (WDR) is at the center of these and will influence development support strategies of the major donors and also of governments.

There are now available methods for measuring burdens of disease along with the benefits that can come from the alternative interventions (the basic measure is expressed as Disability Adjusted Life Years – DALYs). In short, we will soon be able to say what burden a given disease represents on a society and the gains from reducing that burden that will come from alternative interventions. The resultant data already tell us that the greatest burdens are associated with diseases for which there are cost-effective interventions that generally are responsive to PHC, including hospital back-up at the district level. Stated differently, well staffed and equipped district hospitals can handle most of the hospital components of those interventions.

The principles of equity, community involvement and empowerment, and decentralization of decision-making, far from being diminished as the years pass since Alma Ata, are gaining further emphasis. The World Development Report (WDR) orients its cost-effectiveness methodology toward equity. The Human Development Report of UNDP, and the upcoming Global Summit on Social Development, will give increased emphasis to making these principles operational. The implications for health services are clear – universal coverage, care according to need, and communities' involvement in decisions and operations.

The capacities for hospital-based care, therefore, must be decentralized to the district level, and the teaching hospital can contribute to that capacity building by assisting in developing prototype district hospitals, guiding the equip-

ping of those institutions, developing standardized procedures of care appropriate for that level, working out appropriate referral patterns between the teaching and district hospitals, and training staff including rotating their own faculty and trainees through such facilities.

The district hospital cannot be isolated from its district, but must become the hub of the district health system. It must be supportive of the surrounding network of services that reach throughout the district, to health centers, health posts, and beyond to communities, with preventive, promotive and curative services, including a carefully developed referral chain. This is complex system development, with many aspects requiring field-based research, evolving training systems, monitoring, and evaluation of prototypes. It is here that the teaching hospital and university of which it is a part, can play a key role.

By designing a health system where, minor/uncomplicated cases can be looked after at lower level facilities, the tertiary facilities can be saved from un-necessary overcrowding, at the same time cutting down cost of curative care which, in turn, can be diverted to health care in general. The teaching hospitals retain a vital role in this reorganisation for re-oriented medical education and because of their capacity to address the needs of rare and complicated afflictions, for providing facilities for research in furtherance of practice of medical science.

Such an evolving health system, focused on defined populations, provides an excellent opportunity for the education of health personnel. The defined population represents an important contrast to patient care. The patient, as an individual, is the focus for clinical problem solving. The defined population is the focus for problem solving with respect to the health of the entire population. Here the population as a denominator is the key factor that makes it possible to determine coverage, rates, impacts, and evaluation of interventions. The university and teaching hospital must be involved in both of these approaches. Either alone is insufficient. It would be inadequate for the students and faculty to be involved only in district-based services – they would miss too much of the important advances in biomedical science and the care of complex problems. But it would also be inadequate for them to be involved only in patient care in the teaching hospital and to miss the levels of care that will reach most of the population and the experience of adjusting health care to achieve desirable impacts. The two are complementary and synergistic.

The medical students, on graduation, will also be protected from getting a distorted view of practice of medicine and the teaching hospitals, by looking outside their four walls and towards the community, would transform themselves into essential components of the health care delivery system.

In an age where emphasis on comprehensive health care is at its highest and when disease (or its treatment) cannot be perceived without taking into account the community as a whole, tertiary and teaching hospitals cannot be seen as separate entities or rivals. This, indeed, would be a dangerous imbalance. With the demand for universal coverage gaining ground, it is essential that hospitals should not be continued to be seen as devouvering maximum slice of the meagre resources but should be integral part of the health care delivery system and therefore, what happens inside the hospital should have a clear-cut and close interrelation with health activities going on outside of them and in the community. The tertiary and teaching hospitals have an important role in support of all links in the chain of health care delivery (including primary health care), be it for referral, continuing education, preventive and promotive activities and also for rehabilitation services.

This transformation would also facilitate the teaching hospitals to play a more meaningful role for medical research. The teaching hospitals, by virtue of dealing with patients suffering from rare conditions are eminently suitable for conducting such research, while taking on a supportive role to the primary health care facilities. Awareness of health problems of the community at large would add a another valuable dimension to research potential of teaching hospitals and equip them with information and material required for involvement in health systems research. Thereby essential health policy issues ge-

nerated outside (in the community at large and its environs) can be addressed in the teaching hospitals in an academic climate and the results of such research then made available to the policy makers facilitating realistic and relevant health systems planning.

Role of Teaching and Tertiary Hospitals

The goals for health care set by WHO enshrined in the philosophy of "Health for All by the year 2000" and identifying Primary Health Care as the strategy to achieve that goal, also emphasize the fact that Primary Health Care cannot be realized without support from – and access to – a network of hospitals. And tertiary hospitals, including teaching hospitals, must be at the hub of that network. These hospitals must extend their activities and responsibilities into the communities they were designed to serve. There may be financial, managerial and organizational resource considerations hampering such extension in roles. It is imperative, however, that Governments and health planners encourage development of integrated health systems in which role of hospitals is redefined and highlighted and none of the health facilities function in isolation from each other or from the community at large.

Curricula in teaching hospitals in the developing world are even more out of tune and irrelevant to the needs of the people which they are intended to serve. Leadership for health services generally, is not trained for what ails the society in which they serve. Teaching methods, content and technology is very often outdated, a relic of perhaps the colonial past and too technology intensive. That this imbalance is beginning to be redressed can be shown by a few outstanding examples.

Some Examples of Right Place of Tertiary/Teaching Hospital

One of the examples of the right place for a teaching hospital may be found in the integrated set up of University Center for Health Sciences, Ben Gurian University of Negev, Beer Sheba, Israel where four institutions and services were merged in 1974. The local hospital, local public health services of the community, health network of peripheral clinics in the region and the faculty of health sciences of the university merged into a consortium called the University Center for Health Sciences. The purpose was to integrate medical education with health services and the hospital and to make the medical faculty a full partner in the designing and administration of comprehensive health services for the region, all under one head. The Dean of the Faculty also serves as Director of Health Services responsible for coordination and integration of education, services and research through specific division and departmental heads. Chiefs of medical specialties in the hospital are also responsible for quality of care in their respective specialties in the health services. This reorganisation has brought about strengthening of lower level facilities. At the same time reference from lower level facilities has been made mandatory for reporting to specialized/tertiary facilities in order not to overload the latter with cases which could easily be dealt with at lower levels. This, in turn, brings down the treatment costs and more proportionate allocation of resources.

Another such example is that of the Patan Hospital Lalitpur, Nepal, which is organised to establish a close interaction between Community Health Care Programme and the tertiary facility. The health workers in the community care projects have many opportunities to participate in the work of the hospital and its educational programmes. Patients are referred back to health centers from the hospital whose doctors send recommendations and comments for follow-up treatment, check-ups etc. Health workers come to the hospital each month for lectures and physicians from the hospital go to health posts for support, supervision and continuing education of health workers. Thus the hospital, in addition to fulfilling its tertiary functions and educational role, assists in strengthening skills available at lower health facilities and effectiveness of the health care delivery system.

Another outstanding example in a developing country is that of The Aga Khan University Hospital, Karachi Pakistan) as a teaching hospital and integral part of the Aga Khan University Medical Center. While fulfilling the role of a teaching hospital for promoting classical sciences and training physicians, it has neither been designed (nor has it chosen to remain) merely a well-equipped ivory tower but has opened a window to the community it aims to serve. Rather than continue to turn out physicians in the traditional mould, the institution graduates medical professionals who are in tune with the community and deeply involved in their health problems. The University's dual mission of graduating community oriented physicians and training leadership for the developing health services of Pakistan, is being achieved by devising a curriculum almost a quarter of which, throughout the five years of training, is devoted to teaching problem-oriented, community-based course content. The students are exposed from the very beginning to a well-defined, under served and deprived community where they learn to assess morbidity and mortality patterns, socio-cultural backgrounds and identify major health and health – related problems, define priorities and over the next few years devise solutions for those problems. The approach is very much in conformity with WHO defined principle of "Health for All" and Primary Health Care as the strategy to achieve that objective. The teaching hospital being at the hub of this philosophy of medical education is not only a clinical teaching institution but also serves the purpose of a tertiary link in the PHC programme. Its clinical faculty and various specialized disciplines, apart from providing the requisite support, lend their expertise for developing the secondary supervisory and referral links and ambulatory care within the PHC programme. In addition, the hospital by facilitating and supporting essential curative care at the basic health centers, responds to some of the main concerns of the community. By providing care for emergency and complicated problems, the value and effectiveness of the PHC programme for the community is enhanced. The clinical disciplines and supportive facilities laboratories, x-ray department etc.) are actively involved in the Primary Health Care and secondary referral facilities.

The concept is being translated into action by organisation, by the Community Health Sciences Department of the University, of PHC modules in seven squatter settlements in the urban metropolis of Karachi, a city of 12 million where almost 40 p. 100 of the population resides in about 360 such settlements. The squatter settlements are characterized by poverty, poor housing, unhealthy environment, and lack of access to water and sanitation. Small area studies reveal high morbidity and mortality among all groups of population, but mothers and children under 5 years of age have been found to be at much higher risk than other population groups.

The modules set up in these settlements for well-defined populations, are designed as prototypes for PHC systems that could be replicated by Municipal and Provincial tiers of Governments. More importantly, these field sites provide training facilities for AKU's medical and nursing students in order to prepare them for dealing with the major health-related problems of Pakistan.

By giving effective support to this PHC program, the teaching hospital of AKU underscores the responsiveness and relevance of such an institution to the needs of the community it aims to serve.

The Hospital's staff and the faculty of the University is also involved in development of PHC systems in rural and inaccessible areas, lending another dimension to comprehensiveness of teaching imparted by the institution. A rural area, Thatta, about 100 kilometers from Karachi, has been selected for developing interventions in the existing health services to strengthen management skills and capacity-building of training institutions. Similar community supported PHC modules have been set-up in the Northern Areas of Gilgit, Chitral etc. where the medical and undergraduate students as well as staff from clinical disciplines participate. The

undergraduate medical teaching, therefore, exposes the students to varying scenarios of providing services to under served populations of urban, rural and mountainous inaccessible areas.

The teaching of community medicine is also advanced by the clerkship component for final year students for 12 weeks. This programme is also organized by the Community Health Sciences Department and actively participated by clinical disciplines of the hospital, especially by Obstetric and Gynaecology, Paediatrics and Family Medicine departments. Staff from CHS as well as collaborating clinical disciplines act as resource persons to assist students to identify problems and issues and guide them through the process of critically appraising health care programmes.

The clerkship programme trains the students in skills which would enable them to assess health problems and disease patterns of individuals and families and capacity of health systems in a community setting with respect to bio-psycho-social aspects, to plan effective health care in line with minimum resources required at primary and secondary levels.

The field sites also provide eminent settings for conducting research programmes pertaining to specific diseases like Tuberculosis, ARI, Hepatitis, Diarrhoea, HIV etc. as well as addressing health systems research issues. Clinical disciplines of the teaching hospital are closely involved in these research programmes.

The AKU hospital's pioneering trends in medical education, health systems and research has generated interest in other teaching institutions as well as regulatory bodies in Pakistan for remoulding the instructional methods of medical education in conformity with needs of the country. For this purpose a workshop, sponsored and promoted by the Government of Pakistan and Pakistan Medical and Dental Council (the regulatory body for practice of medicine in Pakistan) and participated by majority of principals of medical schools and Deans of Universities, deliberated on the need for reorientation of medical and nursing education. The workshop formulated several consensus recommendations for bringing about desirable changes which have now been approved for implementation. The hospital, therefore, does not restrict its conceptual and operational relevance to its own activities but is also beginning to have wide implications for the people of Pakistan and the health services that serve them.

Implications for Teaching Hospitals

The examples of Aga Khan University Hospital and few others have been quoted to underscore the pivotal and legitimate role tertiary and teaching hospitals can and should play in an effective health care delivery system and in production of appropriate health manpower. It is by no means a hundred percent success story keeping in mind the fact that the institution has been an operational entity for only eight to nine years. It is, however, a plea for recognition of the right place of teaching hospitals for a relevant and effective health policy formulation and implementation. No where is such an argument more applicable than in developing counties where resources are scarce and whatever is available, needs to be harnessed in the interest of equity, accessibility, affordability and effectiveness of a health system.

The time is passing when the teaching hospital can stand in isolation from the surrounding health care system, because it has the largest number of specialists, the highest technology, and a claim on excellence (in some countries, it is only a slight exageration to say that this is already seen as a quaint vestige of the past!). These qualities are of undoubted value, but they become diminished in importance and cost-effectiveness unless they are strongly and deliberately supportive of the surrounding system of which they would like to be the pinnacle. Even the definition of excellence is ready for modification, away from its high tech meaning, and toward achieving equity at affordable costs.

The positive side of this change for the teaching hospitals is that the picture will not change as fully as is needed without their full involvement. That involvement will necessarily

previously renovated was further upgraded. This was completed in 1993, mainly thru the Andres Soriano Cancer Research Foundation, a private institution.

Patient care services increased considerably. There was a 41.79 p. 100 increase in inpatients, from 26,932 in 1986 to 38,187 in 1992. This was brought about by a 45.92 p. 100 increase in the beds, from 882 (of which there were only 35 private beds) in 1986 to 1,287 (of which 293 beds were private) in 1992. The outpatients rose by 68.98 p. 100, from 269,364 in 1986 to 455,163 in 1992. The emergency patients had a 12.22 p. 100 increase, from 74,395 in 1986 to 83,488 in 1992.

Likewise, laboratory services increased by 54.18 p. 100, from 1,175,092 examinations in 1986 to 1,811,765 in 1992. Surgical operations increased by 538.42 p. 100, from 4,386 operations in 1986 to 28,001 in 1992. The new OPD, completed in 1989 can now perform many operations on an outpatient basis.

Therapeutic and radiologic procedures increased from 30,237 in 1986 to 127,165 in 1992 (altho it was highest in 1989 at 154,481). Other services (e. g., dental, dietary, EKG, pharmacy, rehabilitation medicine, medical social services) rose from 1,422,419 in 1986 to 3,392,155 in 1992.

Students/trainees increased from 2,453 in 1986 to 2,990 in 1992. There was also a rise in researches, from 399 in 1986 to 473 in 1992. PGH studies have consistently won awards in various research contests.

Due to the expansion of the physical plant and services, there was a corresponding 28.94 p. 100 increase in the staff complement, from 2,305 in 1986 to 2,978 in 1992. Exemption from the attrition law was sought by the PGH and granted by the Department of Budget and Management. Dormitory facilities for the staff were also improved.

Budget and expenditures increased from P 123,680,656.00 (of which P 7,652,578.88 was the income) in 1986 to P 642,563,396.87 (with P 92,043,331.00 as the income) in 1992. It is to be noted that unlike the other income-generating government agencies, the PGH is allowed to keep its income instead of remitting them to the National Treasury. It is also able to spend its entire budget. In 1992, its expenditures in pesos were as follows:

Personnel expenses:	P 182,420,453.87
Maintenance and Other Operating Expenses:	P 203,153,612.00
Equipment, Building and Structure Outlay:	P 164,948,000.00
Total:	P 550,522,065.87

(Note: $1.00 = P 27.00)

There are other things to be done including the opening of the cardiac catherization laboratory and organ transplantation unit, expansion of the dialysis unit and blood bank, and operationalization of the renovated old OPD.

The changes in the PGH were made possible not only thru the subsidy from the government. Agencies, both government (e. g., Philippine Amusement and Gaming Corporation, Philippine Charity Sweepstakes Office) and private including pharmaceutical firms continuously donate cash and materials (supplies, equipment) to the PGH. Private individuals including medical alumni also contribute to the hospital. With the improvements in PGH, it can now be proud not only of its medical and other allied health personnel but also of its physical plant and equipment. It can compare with the other government specialty hospitals (e. g., Philippine Heart Center, National Kidney Institute) and private hospitals in providing care to service and private patients. Thus, it is on its way to its goal of contributing "to the national effort towards development in the area of health by serving as a center for health services and by providing oppotunities for training and research for health workers. In pursuit of this goal, the PGH adheres to its tradition of excellence and leadership."

Annexe IVf

Teaching hospitals in the UK

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To understand the UK teaching hospitals requires, on the one hand, a grasp of their historical development and, on the other, an awareness of where they fit into today's National Health Service and into the broader context of European medicine.

Historical Development

The oldest UK hospitals, such as St Bartholomew's and St Thomas', are mediaeval foundations, initially offshoots of monastic institutions. Others emerged at a later date as philanthropic initiatives, particularly in the 18th and 19th centuries. Originally there was nothing particularly distinctive about "teaching" hospitals. Medical practitioners learned by observation and apprenticeship. Students followed their teachers wherever their teachers worked, in the home, dispensary, clinic or hospital. Until the 19th century there were three distinct branches of the medical profession in Britain, namely physicians, surgeons and apothecaries (this last group being the forerunners of today's General Practitioners), all with their own arrangements for training, licensure and governance. Only in 1858 were they all brought together into a single medical register administered by the General Medical Council (GMC). Today it is the GMC which is the instrument for self-regulation by the medical profession, acting in conjunction with the universities for undergraduate medical education, and with the Royal Colleges for postgraduate education.

In England – as distinct from Scotland and most of continental Europe – medical schools were initially private initiatives, closely linked to particular hospitals, with which they shared staff. Often they had no separate legal status, apart from the hospital concerned, and were not necessarily affiliated to a university. As a result, the apprenticeship model of professional training continued to dominate. Medical students lived an enclosed, hospital-based life, largely segregated from the students of other Faculties. The same was true for nurses and for entrants to the other professions allied to medicine.

While there were obvious weaknesses to this approach, there were also some strengths. The educational function was embedded in, and ultimately subsidiary to, a service role. Teachers in clinical subjects were first and foremost clinicians, not academics, and it was clinical education which was paramount.

To a substantial degree this history still influences medical, nursing and allied professional education in Britain today. While medical and nursing schools are more strongly knitted into multi-faculty universities than they once were, and pre-clinical subjects are more excitingly taught than was once the case, the core of a British education in these subjects remains clinical experience in relatively small student groups, working alongside hospital clinicians. All sorts of valid criticisms can be levelled at the sys-

Table 1. British postgraduate teaching hospitals and associate institutes.

Hospitals	Institutes
Bethlem Royal and Maudsley	Psychiatry
Eastman Dental	Dental Surgery
Hospital for Sick Children	Child Health
Moorfields Eye	Ophtalmology
National Heart and Chest (The Royal Brompton)	National Heart and Lung
Royal Marsden	Cancer Research
Hammersmith and Queen Charlotte's	Royal Postgraduate Medical Institute

tem, but historically a lack of basic clinical experience has not been one.

The development of the postgraduate teaching hospitals shadows that of the undergraduates, in that their service function came first and their educational function second. All of them except The Royal Postgraduate Medical School (The Hammersmith Hospital) are specialist institutions where a hospital or group of hospitals and a postgraduate institute exist side by side (table 1). All of them are, as it happens, London-based, whereas the undergraduate teaching hospitals and medical schools are much more widely distributed around the United Kingdom.

The Current Situation

There are now 27 undergraduate schools – 8 in London, 12 in the rest of England, 5 in Scotland and 1 each in Wales and Northern Ireland. The combined entry of home students at all the schools is approximately 4000. It is controlled at this level by the UK Government and the total is reviewed from time to time, in order to produce the number of doctors thought to be required in medical careers, mainly in the National Health Service. While medical manpower numbers have increased steadily over the years, the ratio to population is relatively low by OECD standards and has never been uncontrolled. There is virtually no medical unemployment in the UK, although there are long-standing problems of imbalance in the medical career structure between training and career grades, particularly in the hospital service. Basically there have been too few posts at the consultant level for the number of junior (theoretically training) posts. The imbalance has partly been maintained by importing foreign medical graduates to fill the junior posts in the less popular specialties and hospitals, and partly by delaying the age at which hospital doctors can expect to reach the consultant level. Hence there are considerable numbers of specialists at the senior registrar level who are in fact fully trained and qualified. Bringing UK qualifications into line with the rest of Europe highlights this problem and requires a solution to it. The official response, which has the backing of the profession and the Government, calls for formal recognition of the completion of specialist training and for a substantial increase in the number of consultants. How that will actually work out remains to be seen.

Another uncertainty concerns the balance between men and women in medicine. In recent years, all the UK medical schools have moved close to equality between the sexes at entry. However, women are still grossly under represented at the top in many branches of medicine, for example, in surgery. To some degree this reflects a past history of conscious or unconscious discrimination against women candidates, and a lack of role models. It is not clear how quickly this will change and to what degree, if any, women's choices about their lives and careers will affect their availability for jobs, and hence the overall balance between candidates and medical posts in the NHS in the future.

The conventional shape of the undergraduate medical curriculum is shown in Table 2. However there is variation among the schools.

Table 2. The conventional pattern of basic medical education and training as followed in some UK medical schools.

	Year	Exams
Preclinical		
Anatomy and cell biology	1	
Biochemistry and molecular genetics		
Physiology and biophysics		Sessional
Biometry and medical statistics		
Psychology; sociology		
		MB Pt 1
Body systems	2	
Pharmacology		Sessional
General pathology		
		MB Pt 2 & 3
Clinical		
Introductory medicine and surgery including communication skills, ethics	3	Course exams
Paediatrics		
Obstetrics ans gynaecology		
Psychiatry and neurology		
General practice; public health; accident and emergency	4	
Pathology (histopath.; microbiol.; heamatol.; immunol.)		MB Pt 4
General medicine	5	
General surgery		
Elective		
Surgical specialties (ENT*; eyes; orthopaedics)		
Medical specialties (Dermatology; STD**)		
Anaesthetics		MB Pt 5-8
Clinical pharmacology and therapeutics		
General medicine	5	
General surgery		
		Medical degree
		Provisional registration with GMC
Preregistration year	6	
Working as qualified doctor under supervision; 6 months surgery and 6 months medicine, or 4 months surgery, 4 months medicine and 4 months general practice		
		Full registration with GMC

* Otorhinolaryngology
** Sexually transmitted disease
Source: (Richards P in Oxford Medical Companion 1994 p 517)

In particular a few have integrated the pre-clinical and clinical years, on the grounds that this lessens abstract, rote learning and makes much clearer what the clinical point is of mastering the basic science. A number of schools have introduced the option of an 'intercalated' extra year, leading to a BSc or equivalent, in order to provide a stronger basic science foundation for those who may want to follow a career that includes a substantial research element.

Basic medical qualification, usually after 5 years, is followed by a compulsory year of hospital medicine prior to registration by the GMC. Entrants to General Practice can then opt for vocational training, which lasts 3 years overall, including 4 six-month periods of training in appropriate hospital specialties and a compulsory year as a trainee in General Practice. Those who do not immediately opt for vocational training for General Practice, follow a 2 to 3 year period of general professional training at the senior house officer (SHO) grade in a variety of hospital specialties, before beginning higher specialty training at the registrar level (later continuing to senior registrar) in the specialty of their choice. Over 50 specialties are recognised in the National Health Service. The combined period of general professional training and higher specialist training will last at least 6 years and more typically 10. Until recently, and in large measure prompted by the need for harmonisation with continental European practice, there was really no formal recognition of the completion of higher specialist training until eventually the individual gained an NHS hospital consultant appointment in open competition.

One other career option is public health medicine. Entrants to the specialty are normally expected to have completed 2 years' general professional training in a clinical specialty, post-registration, before beginning a 5 year training in public health medicine.

The Place of the Teaching Hospitals

Britain's most famous hospitals are without exception teaching hospitals. They stem from the voluntary hospital tradition and were not owned or administered by Government until after the Second World War when they were nationalised at the inception of the National Health Service. In virtually every case, the medical school (and even more clearly the nursing, physiotherapy or radiology school) was an offshoot of the hospital.

From the inception of the NHS until 1974 these hospitals had a separate structure of governance from other hospitals. They had their own Boards of Governors, answerable direct to Ministers rather than to the Regional Hospital Boards. The associated medical schools received funding from the Department of Education via the University Funding Council. In addition, however, the hospitals themselves were more generously funded than other hospitals. The margin of generosity was determined more by history than by any attempt to cost their teaching function. Indeed when, in 1976, a national funding formula was introduced for resource allocation in the National Health Service, the Service Increment for Teaching (SIFT) was simply calculated by taking the historical difference in expenditure between non-teaching and teaching hospitals. It was essentially therefore a "fudge" factor which might, or might not, be justified by the costs of teaching, research or differences in case mix in these hospitals. Since then more systematic attempts have been made to quantify what the cost differences ought to be, but they remain quite elusive.

By law, it is the responsibility of the National Health Service to provide the facilities necessary for teaching. Academic funding, on the other hand, is the responsibility of the Department of Education. By implication academic funding must include an element of research infrastructure costs, and increasingly academic funding allocations reflect research ratings. But the principal funding for medical research comes from other sources – namely the Medical Research Council, the medical research charities and commercial organisations – and normally comes on a project or programme basis.

A word should be said about the place of the teaching hospitals in the broader service context. Since 1962, when Enoch Powell as Minister of Health published *A Hospital Plan for England,* British hospital policy has been based on district general hospitals and regional hospitals. District general hospitals (DGHs) were expected to provide all but the most specialised hospital services for a local population of around 250,000. In addition there would be at least one hospital for each of the 14 NHS regions in England that would also provide the hospital spe-

cialties like neurosurgery, burns and transplantation that needed to be planned on the basis of substantially larger populations. Virtually all undergraduate teaching hospitals served as DGHs, though not necessarily as the sole DGH in their vicinity. In the larger cities, in particular, the boundaries between hospital catchment areas were not at all clear-cut. But any undergraduate teaching hospital that did not provide hospital services to an NHS population of around 250,000 was potentially in a position of weakness. In addition, they frequently served as the major medical centre for regional services. The situation was clearest in those regions like Oxford where the teaching hospital was the sole DGH within the main centre of population and was also the sole teaching hospital for the region.

Historically a few NHS regions initially had no medical school, which led to the foundation of the "new" medical schools at Southampton, Leicester and Nottingham. These in fact proved to be pace-setters in medical education and in influencing patterns of service delivery throughout their regions.

Some Current Policy Issues

Three issues are currently affecting teaching hospitals in Britain. The first is one of identity, the second of comprehensiveness and the third of cost.

• Identity:

In the days when medical school and hospital were synonymous, students were by and large educated from start to finish in their own teaching hospital. This is no longer the case. As a matter of policy many medical schools now seek to root a substantial proportion of the student's clinical experience in general practice and in the community. In addition with hospital inpatient stays shortening and with fewer routine referrals into the teaching hospital, there are good arguments for sending out students to other hospitals for part of their course. Some medical educators argue strongly that it is essential that the "parent" teaching hospital maintains a dominant enough place in the scheme of things to ensure that every student learns certain skills to a high level in a standard way, such as how to examine a patient or how to record clinical findings, but it seems inevitable, at least at the undergraduate level, that most medical schools will deal with a substantial number of institutions and individuals to provide clinical experience and teaching for their students, rather than rely on a single hospital.

As a result it is becoming steadily less clear in Britain which are, and which are not, teaching institutions.

• Comprehensiveness:

This issue is one that affects all hospitals, not only the teaching hospitals. Whereas the orthodox view in Britain for the past 50 years has been to favour the large, general hospital as a provider of virtually all inpatient and specialist outpatient services for its local population, this assumption is increasingly under challenge. Why not, for example have specialised centres for elective surgery, thus separating it from the pressures of emergency admissions, and concentrating expertise? Equally, an increasing proportion of what has in the past required inpatient admission can now be done on an ambulatory basis, for example the treatment of diabetes or asthma. Much of that might in time be decentralised to general practice or to community-based clinics, albeit with close contact with the hospital for some of the diagnostic services and for specialist advice. What happens to the notion of the teaching hospital if services are much more heterogeneous and decentralised?

• Cost:

The problem of defining what teaching hospitals ought to cost, as distinct from what they actually cost, has been mentioned already. In the United Kingdom, the National Health Service is now organised on a basis that separates the task of commissioning health care for a given population, from that of actually running services. With very tight budgets, it is hardly surprising that the commissioners have no interest in meeting costs that they see as unjustified extras. If a teaching

hospital can show that its case-mix or the quality of the outcomes that it produces justify its costs, that is fine. but they will get nowhere in negotiation by claiming that their unit prices should be higher by divine right, or that the prices they charge for patient services should subsidise teaching and research.

As in the United States, major medical centres in the UK are under the threat of a downward spiral once commissioners decide to move services away from them on the grounds that they are too expensive.

The King's Fund interest in these issues

The remit of The King's Fund (which was founded in 1897 and is a royal foundation, independent of government) is to support the work of the hospitals of London, defining hospitals very broadly to include, for example, clinics, hospices and homes. Since many of the country's teaching hospitals are located in London, we could not escape an interest in the issues touched on in this paper, even if we wished to do so.

In recent years my colleague Dr Angela Towle has made important contributions to policy on medical education, particularly the debates around the undergraduate curriculum. There is widespread agreement that the curriculum is overloaded with fact, that most medical students find it a treadmill, and that it does not provide a good foundation for a life-time of enquiry and continual adjustment of practice. Part of the problem is the perceived need to ensure that medical graduates are safe practitioners on the day that they graduate. Another is the entrenched ownership of slices of the curriculum by pre-clinical and clinical departments which are often resistant to any change that lessens the status and power-base of their subject. The GMC Education Committee has for more than a decade called for radical change. In 1991 it recommended that the curriculum should include a core, which all students must study, and a variety of options, to reduce the factual overload and to allow them scope for personal choice. The trouble then is agreeing what can be excluded from the core. Dr Towle has been working with Deans and other medical educators to take this forward, and to continue the reform process into the pre-registration year, and into general professional training and continuing medical education.

Another King's Fund initiative, led initially by Jane Salvage (now at WHO, Copenhagen) and more recently by Barbara Vaughan, has been the development of nursing practice. Here the focus is not the undergraduate curriculum but stimulating the work of nurses as reflective clinical practitioners. There is now a large national network of individual practitioners and of nursing development units which provide in their hospital (or equivalent community-based service) a capability to evaluate practice and to disseminate the results.

We also have a strong interest, under the leadership of Angela Coulter, in evidence-based clinical practice, taking account of the views of patients as well as of the professions. With resources tightly constrained in the National Health Service, and increasing pressures on those resources from demographic and technological change, and from rising expectations, one indispensable response is to look systematically at the evidence of what is – and what is not – worth doing.

Finally, through the independent inquiry conducted by The King's Fund's London Commission, and through related initiatives, we are intensely concerned with reshaping the pattern of health services in London to select a number of basic principles. We are seeking to strengthen primary health care in London, and the community-based support for people who have chronic illnesses. We are trying to give Londoners, individually and collectively, more say in their own health care and more responsibility for their own health. We believe that fewer main hospitals will be needed, particularly in Central London, because of changes in population that have already taken place and because of likely changes in treatment patterns. And we want to see fewer, stronger tertiary medical referral and research centres, able to compete nationally and internationally in the 21 st century.

Annexe IVg

Switzerland
The right place of teaching hospitals

by Adrian Griffiths
Health Management Institute

Statistical profile: Switzerland

• Demographic and economic data (box 1-a)

Switzerland has a population of almost 6.9 million growing very slowly at 0.77 p. 100 annually (1989-91). As in other developed countries, the population is ageing demographically. Between 1981 and 1991, the proportion aged under 19 years fell from 27.3 to 23.4 p. 100 while those aged 65 and over rose from 14.3 to 15 p. 100 and those aged 75 plus rose from 6.0 to 7.1 p. 100. Life expectancy is amongst the highest in the world at 80.9 years for women and 74 years for men and still rising. Switzerland is also one of the richest countries in the world, with a Gross Domestic Product per head of $ 21,747 (using the purchasing power parity of SFR 2.21/$1 rather than the exchange rate of SFR 1.43/$1, which would give a grossly inflated $ 33,913 per head).

• Health System (box 1-b)

In 1991 there were 20,600 doctors, 3/1,000 population (compared to 2.5 in 1981), of whom over 70 p. 100 are specialists.

Total health spending in 1991 was estimated at SFr 26.2 billion. or 7.9 p. 100 of GDP, up from 7.3 p. 100 in 1981. This represents $ 11.75 billion (at purchasing power parity), which makes an average of $ 1.713 per head. It should, however, be noted that health sector sta-

Box 1-a. Switzerland statistical profile demographic and economic data.

	1981	1991
Population (millions)	6.354	6.860
Average annual growth p. 100 (1981-91)		0.77
p. 100 under 19	27.3	23.4
p. 100 65+	14.3	15.0
p. 100 75+	6.0	7.1
Life expectancy: Male	72.40	74.00
Life expectancy: Female	79.00	80.90
Infant mortality per 1,000 live births	0.76	0.62
Gross Domestic Product (GDP) S.Fr. millions	184,755	332,685
Purchasing power parity / $	2.25	2.23
Gross Domestic Product (GDP) $ millions	82,113	149,186
Gross Domestic Product (GDP) per head $	12,923	21,747
GDP Growth p. 100 (1981-91)		5.6

Source: OECD. Health Systems Facts and Trends

Box 1-b. Switzerland statistical profile: Health system.

	1981	1991
Number of doctors	15,865	20,594
p. 100 specialists		70
Health spending S.Fr. millions	13,482	26,200
Health spending $ millions	5,992	11,749
Health spending per head $	943	1,713
Health spending p. 100 GDP	7.30	7.88
Financing:		
public p. 100	68.3	68.3
private p. 100	31.7	31.7
Hospital doctors		11,553
Hospital other staff		119,730
Hospital beds		
Acute		43,301
Psychiatric		10,612
Chronic		13,988
Other		1,394
Total		69,295
Hospital In Patient care spending p. 100 total		42,8

Source: OECD. Health Systems Facts and Trends. Hospitals beds figures come from Hôpital Suisse

tistics in Switzerland are still not coordinated at national level (health services are essentially under cantonal jurisdiction) and real health spending data tend to be understated. Real spending is probably at least 8.5-9 p. 100 of GDP.

Switzerland finances almost a third of total spending (31.7 p. 100) from private sources, and two thirds from public sources, as do Australia and Austria. Among OECD countries, only Turkey (64.4 p. 100), the USA (56.1 p. 100) and Portugal (38.3 p. 100) rely more heavily on private financing. Most other OECD countries derive only 10-25 p. 100 of financing from private sources.

In 1992, the country had an estimated 69.295 hospital beds (10.11/l, 000 population), of which 43.301 (6.4/1,000) were in acute hospitals, 13.988 (2.0/1,000) were chronic hospitals, and 10,612 (1.6/1,000) were in psychiatric hospitals, and in-patient care accounted for almost 43 p. 100 of health spending.

• Teaching hospitals (box 1-c)

The definition of teaching hospitals implicit in the briefing papers issued for this meeting is university teaching hospitals, and affiliated services, and the analysis below is restricted to these hospitals. It should, however, be remembered that a wide range of other hospitals are recognised for post-graduate specialty training.

Switzerland has eight universities, of which five have medical faculties and teaching hospitals: Basle, Bern, Geneva, Vaud and Zurich.

The statistics published by the Swiss hospital association (VESKA) for 1992 (detailed breakdown in box 2) indicated 6,004 somatic teaching hospital beds (0.87/1,000 population) and 1,778 psychiatric teaching hospital beds (0.26/1,000), making 7,782 in all (1.12/1,000).

Overall occupancy was 81.7 p. 100 (80.9 p. 100 for somatic care beds and 84.2 p. 100 for psychiatric beds). These beds treated 171,310 cases, of which 163,642 (95.5 p. 100) were somatic cases. The average stay was 10.8 days for somatic beds and 71.3 days for psychiatric beds (overall average 13.5 days).

Teaching hospitals cost SFr 3.03 billion ($ 1.36 billion) to run (in 1992 not including major investment and equipment costs), of

Box 1-c. Switzerland statistical profile : Teaching hospitals.

	1992	1992
Annual undergraduate medical enrollment	665	
Length of undergraduate medical training	7 years	
p. 100 of graduates specializing	75	
Average length of specialist training	4-5 years	
Teaching hospital staff	27,090	
Total doctors	3,529	
Professors and assistants	na	
Residents	na	
Non medical staff	23,561	
Teaching hospital beds		
Somatic	6,004	
Psychiatric	1,778	
Total	7,782	
Teaching hospital patient days		
Somatic	1,772,986	
Psychiatric	546,561	
Total	2,319,547	
Teaching hospital discharges		
Somatic	163,642	
Psychiatric	7,668	
Total	171,310	
Teaching hospital spending (1,000)	S.Fr.	$
Somatic	2,619,450	1,174,641
Psychiatric	414,558	185,900
Total	3,034,008	1,360,542
Teaching hospital average cost per patient day		
Somatic	1,477.42	662.52
Psychiatric	758.48	340.13
Teaching hospital average cost per discharge		
Somatic	16,007	7,178
Psychiatric	54,063	24,244

Source : Same as box 1-b.

Box 2. University versus non university hospital costs.

Hospital type	no.	Beds	Occ. beds	Occ. %	Cases	Average stay	Spending SFr (000 s)	Cost/day SFr	Cost/case SFr
University somatic	5	6,004	4,857	80.90	163,642	10.83	2,619,450	1,477.42	16,007
Non-university 500+ beds	6	4,064	3,303	81.29	104,218	11.57	1,049,168	870.13	10,067
Non-university 250-499 beds	22	7,771	6,147	79.10	186,915	12.00	1,689,723	753.11	9,040
University psychiatric	7	1,778	1,497	84.22	7,668	71.28	414,558	758.48	54,063
Non-university psychiatric	47	8,834	7,360	83.32	19,791	135.75	844,875	314.49	42,690

Source: Hôpital Suisse

Box 3. University beds by UHC : Switzerland 1990.

UHC / Canton	Beds	Theoretical catchment population (000)	Bed ratio/1,000 Theoretical catchment population	Estimated effective catchment population (000)	Bed ratio/1,000 effective catchment population
Basle	1,767	500	3.53	400	4.42
Bern	1,607	1,800	0.89	1,120	1.43
Geneva	2,458	500	4.92	400	6.15
Vaud	1,736	1000	1.74	650	2.67
Zurich	2,051	3000	0.68	1250	1.64
Total	9,619	6,800	1.41	3,820	2.52

Source : RIGONI

which the somatic care hospitals represented SFr 2.62 billion ($ 1.17 billion) or 86 p. 100. Average costs per day were therefore SFr 1,477 ($ 663) in somatic and SFr 758 ($ 340) in psychiatric university hospitals. Corresponding costs per case were SFr 16,007 ($ 7,178) and SFr 54,063 ($ 24,243).

However, specific requests addressed to the health authorities of the five cantons concerned revealed 9,619 teaching hospital beds, in 1990, including recognised teaching beds under the responsibility of academic staff in affiliated hospitals, distributed as shown in box 3.

Assuming that each university hospital centre serves a certain hinterland beyond its own cantonal population gives the theoretical catchment populations in column 3 of box 3, and the corresponding bed ratios shown in column 4. These range from only 0.89 for the Bern region to 4.92 for the Geneva region, a range of 5.5 times in the provision of teaching hospital beds!

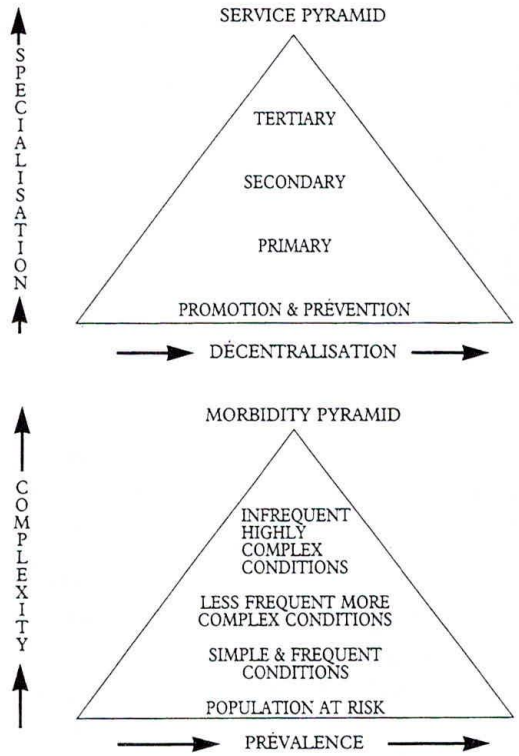
These theoretical catchment populations are over-generous. In practice, the net importation of patients from outside the cantons where the teaching hospitals are located averages only some 12 p. 100. The resulting catchment populations and bed ratios are shown in columns 5 and 6 of box 3. The range is from 1.43 for the Bern region to 6.15 for the Geneva region (still a range of 4.3 times).

This large variation is explained by the fact that the five cantons with teaching hospitals have followed radically different policies. The extreme case is Geneva. While its total bed ratio is lower than that of many other Swiss regions, virtually all its public sector beds are university hospital beds, the only non-university beds are the 550 or so beds in the canton's private clinics. If Geneva had the same university bed ratio as Bern, it would have less than 600 university beds. The proportion is roughly the reverse for Bern, where less than a quarter of beds are teaching hospital beds, the remainder being in various public and private nonteaching hospitals.

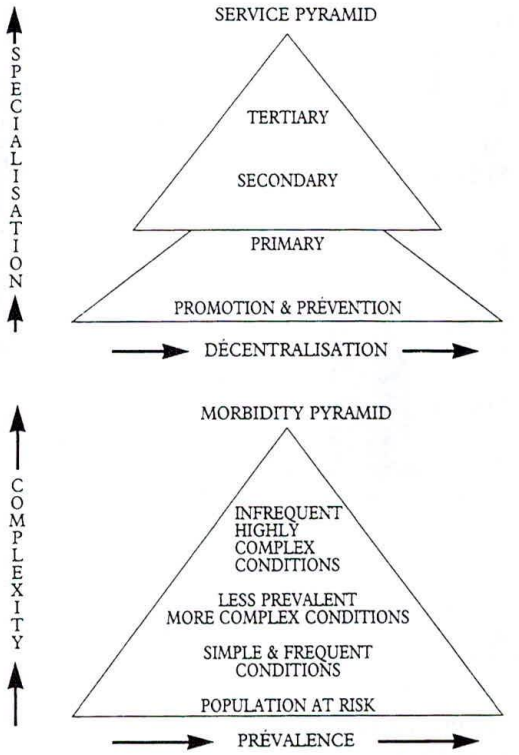
Box 4-a shows schematically, the normal structure of health service and hospital provision, with a pyramidal form, fitted to the pattern of morbidity to be treated, and reflecting the fact that most needs can and should be met in non-university beds, as is done in Bern.

Box 4-b schematises the massively top-heavy structure of hospital services in Geneva.

The economic implications of such heavy overprovision of university beds can be seen in the last two columns of box 2, and in boxes 5-a and 5-b. A day in a teaching hospital costs an average of SFr 1.477, compared to only SFr. 870 in a large (500 beds or more) acute nonuniversity hospital, and SFr 753 in a non-university hospital of 250-499 beds. In other words. needlessly putting patients in university hospitals when smaller acute non-university hospitals would be perfectly adequate,



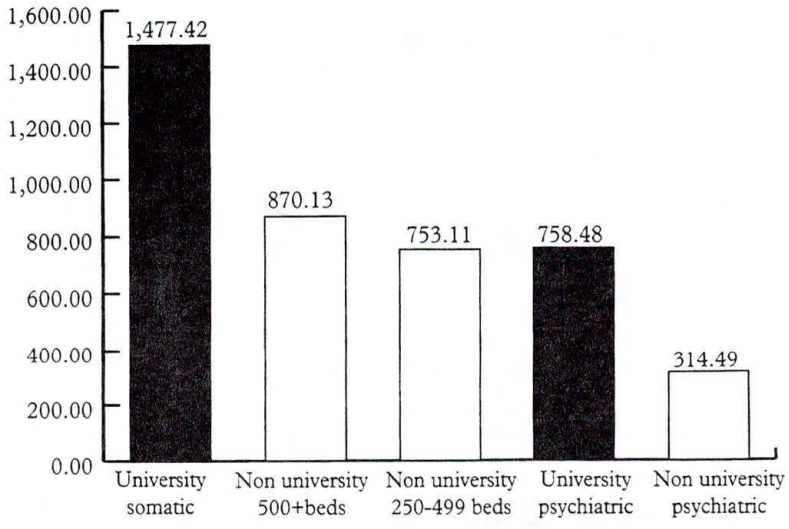
Box 4-a. Matching service and morbidity pyramids.



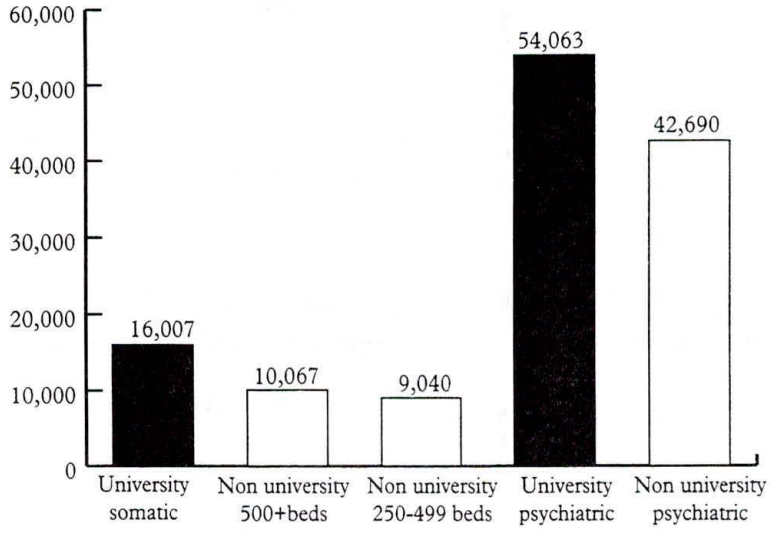
Box 4-b. Mismatching service and morbidity pyramids.

represents an extra cost of at least SFr 607 ($272) per day, or SFr 221.555 ($ 99,352) per occupied bed per year, that is 70 p. 100 more than necessary.

The same applies to psychiatric beds. Those in a university setting cost SFr 758 ($ 340 per day), compared to only SFr 314 ($ 141) in non-university psychiatric hospitals.



Box 5-a. University versus non university hospital costs per day (S.Fr.).



Box 5-b. University versus non university hospital costs per case (S.Fr.).

International comparisons

Boxes 6-a – c show that Swiss hospital bed provision is not only irrationally varied between University Hospital Centers (UHCs), but also excessive compared to international levels

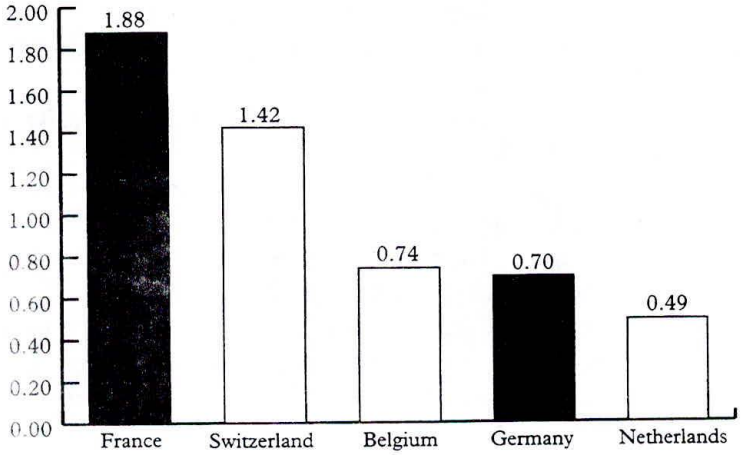
First, simply looking at average populations per UHC, and allowing 1.66 million as in the two smaller countries Belgium and Holland, Switzerland would have 4 rather than 5 UHCs. Concretely, this would mean one UHC rather than two for French speaking Switzerland's population of 1.5 millon.

Second, looking at the ratio of university beds per 1,000 population (boxes 6-a and b), France is clearly unusually high, with 1.88, and Switzerland is not far behind with 1.42, (Even taking the VESKA figure of 7,782 university beds, Switzerland still has 1.15 university beds/1,000 population) In comparison, Belgium and Germany have only 0.7 and the Netherlands has only 0.5. lf Switzerland had the same universitv bed ratio per 1,000 population as Germany and Belgium, it would only have 4,757 beds, that is 40-50 p. 100 less, depending on whether we use 7,782 or 9,619 as the actual number of beds

Third, looking at the "need" for university beds in terms of the number per medical graduate, (boxes 6-a and 6-c) we find a similar picture. France is exceptionally high at 20 university hospital beds per graduate, which provides strong suggestive evidence that there is a problem of definition. that all its UHC beds are not really university beds in the same sense as those of other countries. Switzerland is again in second place with 12.4 university beds per medical graduate (10.0 if we use the VESKA figure

Box 6-a. International comparisons 1990.

	France	Switzerland	Belgium	Germany	Netherlands
Population (000)	56,735	6,796	9,983	77,516	14,944
University hospital centres (UHC)	29	5	6	40	9
Population (millions) / UHC	1.96	1.36	1.66	1.94	1.66
UHC beds	106,939	9,619	7,374	53,921	7,372
UHC beds /1,000 population	1.88	1. 42	0.74	0.70	0. 49
Medical graduates	5,339	776	1,104	9,717	1,451
Medical graduates / million population	94.1	114.2	110.6	125.3	97.1
UHC beds / medical graduate	20.0	12.4	6.7	5.5	5.1



Box 6-b. UHC beds / 1,000 population.

of 7,782 beds). The arithmetic average for the other three countries in box 6-a (Belgium, Germany and the Netherlands), is 5.77 university beds per medical graduate. If Switzerland had this average bed ratio per medical graduate, its 776 medical graduates in 1990 would have required 4,475 beds, which is about the same as the number obtained in the previous paragraph, using the bed ratio per thousand population.

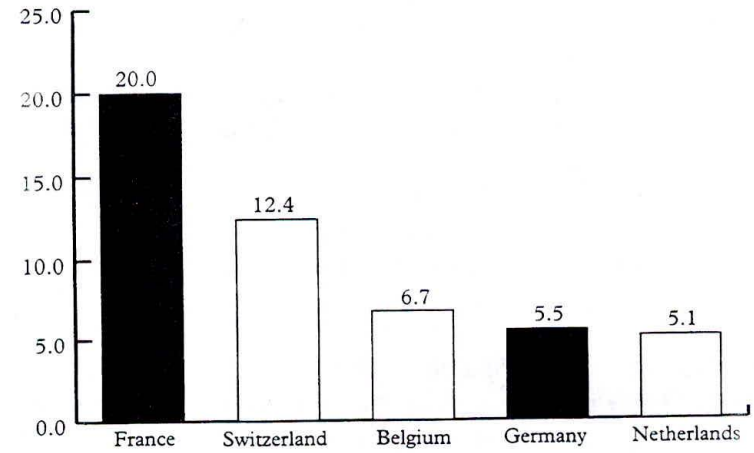
If, in addition, we allow for the fact that Switzerland will probably follow other European countries in reducing the number of doctors being trained per million population, the 'need' for teaching hospital beds would be still lower. Indeed, though no formal restrictions have been introduced, the number of doctors graduating has already fallen from 776 medical graduates in 1990 (a rather high 114/million population compared to 94 in France and 97 in the Netherlands), to 665 in 1992, ie. about 96/million.

• Implications for change

The above situation arises largely from a lack of clarity about the triple role of teaching hospitals and the alternative ways in which they may be fulfilled:

- basic and specialist training of doctors and paramedical professionals
- clinical research and development
- provision of secondary and tertiary hospital services.

A critical look at these roles leads us to a number of important conclusions and implications for change.



Box 6-c. UHC beds per medical graduates.

Basic training

Basic training of doctors and paramedical professions in the basic clinical skills they will need in general hospital practice, requires a broad range of patients typical of what they will encounter in their later professional practice. This implies that teaching hospitals should to a large extent serve as general hospitals, providing secondary care to their local catchment area. The data show that this is commonly the case. For example, in Switzerland, 85-90 p. 100 of their patients come from within the canton in which they are located, most of them from the local catchment area.

This raises a fundamental question. To what extent does basic clinical training need to be based in university teaching hospitals, and to what extent might it be conducted under the supervision of the medical faculty in non-teaching hospitals?

In addition, there is an accelerating trend towards ambulatory and non-hospital care, and an increasing recognition that teaching hospital based training, largely confined to in-patients, is neither sufficient nor appropriate, and that more training needs to be done in out-patient clinics, health centres. and primary care settings. Hospital based training, while good for teaching basic clinical history taking and physical examination, and the diagnosis and management of serious conditions, often entailing team care using high technology equipment, involves a highly selected patient population not representative of the overall morbidity in a population. It also tends to focus on the biomedical model of disease and has not been good at pulling together the physical, psychological and social aspects of clinical care. In short, future teaching requirements will need to be based on a more realistic unit than the teaching hospital bed. Clinical teaching needs patients in appropriate care settings not beds.

This conclusion is reinforced by a large consensus that the content of the undergraduate curriculum in most countries is overcrowded, uncoordinated, and often irrelevant.

A recent survey in Britain by Towle proposed ten major reorientations:

- Reduction in rote learning of facts.
- Teaching based on active learning and critical reasoning.
- Concentration on core knowledge, skills and attitudes.
- Development of general clinical competences on which to build more specialised skills.
- Integration between the preclinical and clinical stages and between disciplines.
- Early clinical contact and teaching of all subjects from the standpoint of clinical practice.
- Balance between hospital/community, curative/preventive.
- Inclusion of the wider psychological, social, ethical and economic aspects of health care.
- Preparation for interprofessional collaboration.
- Use of learning, teaching, and assessment methods consistent with the above principles.

The last point opens the way to more innovative teaching methods such as clinical skills laboratories (skillslab) such as the one developped by VanDalen at Limburg University in the Netherlands since 1975. A skillslab enables students to learn a full range of clinical skills in a protected environment on simulated patients – trained volunteers, other students, and increasingly sophisticated mannequins – in much the same way as pilots learn on flight simulators.

The skillslab concept offers many advantages.

- Students are not dependent on the patients that happen to be available.
- Complex clinical tasks can be broken down into simpler teachable skills.
- Skills can be repeated until mastered.
- Mistakes can be allowed, with no risk to patients.
- Immediate detailed feedback is provided.
- Procedures are taught in a standardised way.
- Team work can be practised.
- Long term care situations can be telescoped into a short period.
- Students are more competent and less stressed when they move on to real patients.

Specialist training

Specialist training is largely done with the same types of patients as are needed for ba-

sic training, only a relatively small part involves tertiary services. This is amply demonstrated by the fact that most specialty residencies are done in non-university hospitals.

Tertiary services

Tertiary services are highly specialized services beyond the capability of general hospitals, and requiring considerably larger catchment populations to be clinically and economically viable. Teaching hospitals have a clear comparative advantage for such services, which are in addition closely related to specialized clinical research and development. It must, however, be recognized that the dissemination of sophisticated technology and skills has enabled increasing development of tertiary services in non-teaching hospitals within regional hospital networks. For example, in Switzerland, regions without a local UHC, but having sufficient catchment populations, are increasingly establishing cardiac surgery centres in designated non-teaching hospitals locally.

Clinical research and development

Here too, teaching hospitals also have comparative advantages. First, they have concentrations of highly specialised staff, with international reputations. which enables them to attract more research funds. Second, they also concentrate tertiary clinical services and supporting basic research capacity in other parts of the medical and science faculties. Nevertheless, here again it is clear that hospital based clinical research and development is in no way the exclusive preserve of university teaching hospitals. Much research is done independently by specialists in non-teaching hospitals. In addition, it is now commonplace to find multi-centre projects including researchers and patients from both teaching and non-teaching hospitals.

• Proposals for change

The inappropriate development of UHCs described above persists, because though their roles are increasingly clearly agreed, little change has been made to the way they are funded. Hospital services, clinical training, and clinical research and development continue to be paid for as an inseparable bundle. This makes it easy to use "black box" arguments to defend the high costs of UHCs. They argue that they have a unique set of multiple functions, whose interactions are very complex and hard to understand, but which fully justify their costs. In fact, there is no reason why the bundle of services provided by UHCs can not be unbundled and paid for separately. On the contrary, this would improve transparency and make for much more efficient resource allocation.

Unbundled purchasing of the different services of UHCs could be implemented relatively easily. The main obstacle is the vested interests of the UHCs themselves. Prominent UHC clinicians can usually muster equally prominent political support.

Clinical services could be purchased separately using price and volume contracts or Diagnosis Related Group (DRG) based pricing. UHCs would compete on equal terms with non-UHC hospitals for cases and would be granted higher prices only when they could demonstrate higher severity, and consequently higher costs of care, within a DRG. Tertiary care services would in any case receive higher payments corresponding to their higher cost DRGs.

Training of undergraduate doctors and paramedicals could be purchased as such at an agreed cost per student. The price would be paid to the medical faculties not to the university teaching hospitals. The faculties would then be free to allocate this money as they thought appropriate between different teaching settings – university hospitals, non-university hospitals, out-patient and day care services, health centres and general practice groups, skillslabs etc.

Post-graduate specialty training could be paid for on a similar basis, bearing in mind that doctors doing residencies are normally included as part of the medical staff budgets, already included in the cost of clinical services

Clinical reasearch and development could similarly be paid for independently, through a combination of block programme budgets and individual research projects, both awarded as far as possible on a competitive basis, open to all clinical services, university and nonuniversity. Indeed, much clinical research is already funded on this basis and a wider application would improve both transparency and accountability.

Annexe V

Document préparatoire du Séminaire

La juste place des hôpitaux universitaires dans les systèmes de santé

Introduction

Suite à la conférence d'Alma Ata en 1978, l'importance capitale des soins de santé primaires comme facteur essentiel pour atteindre l'objectif de la Santé Pour Tous en l'an 2000 a été largement reconnue. Il en a découlé que les soins secondaires, et plus encore les soins tertiaires (auxquels les hôpitaux universitaires se rattachent) devaient recevoir une attention moindre. Et il est vrai que les hôpitaux universitaires peuvent être considérés comme ayant peu d'impact sur l'état des santé des populations compte tenu que...

(I) ils traitent principalement les maladies rares et les cas complexes

(II) ils sont généralement situés dans de très grandes villes, loin des vastes espaces ruraux où la majorité des hommes sont encore éparpillés.

Les hôpitaux universitaires peuvent même avoir un impact négatif sur la santé si l'on considère que...

(I) ils absorbent les rares ressources (tant en hommes qu'en argent) qui pourraient être employées plus utilement dans les soins primaires et secondaires Cette remarque est tout particulièrement vraie s'agissant des pays en développement où les hôpitaux universitaires peuvent consommer plus de la moitié de toutes les dépenses du pays qui, trop souvent ne s'élève qu'à moins de 20 p. 100 du Revenu National per capita.

(II) ils donnent aux étudiants en médecine une image partielle et déformée de leur future profession.

De tels raisonnements ont rarement conduit à des mesures sérieuses à l'encontre des hôpitaux universitaires. En fait, ces hôpitaux ont gardé, et parfois accru, leur importance écrasante. Ceci s'explique, en partie, par :

(I) le prestige de leurs médecins incluant les professeurs d'université qui détiennent le pouvoir médical, un pouvoir professionnel amplifié par les médias et renforcé par l'estime que leur portent les élites,

(II) les activités de recherche clinique (les innovations médicales sont testées dans et diffusées à partir des hôpitaux universitaires),

(III) le fait que les hôpitaux universitaires sont souvent le seul endroit où les pauvres des grandes villes peuvent trouver une quelconque forme de soins.

C'est pourquoi si, d'un côté, les reproches formulés à l'encontre des hôpitaux universitaires sont fondés et si, de l'autre, les hôpitaux universitaires sont des institutions indestructibles, il convient de repenser leur rôle

dans les systèmes de santé et de leur assigner une place plus conforme à leur mission.

Quelle est la place des hôpitaux universitaires ?

Souvent le concept d'hôpital universitaire et celui d'hôpital de dernier recours sont utilisés l'un pour l'autre. Cette confusion n'est guère surprenante puisque d'ordinaire les hôpitaux universitaires servent aussi de dernier recours. Cependant ce n'est pas toujours le cas et assez fréquemment la réciproque est fausse.

Pour éviter les inconvénients d'une telle confusion, il conviendra d'utiliser, tout au long de la réunion de Paris, une définition des hôpitaux universitaires acceptée de tous les participants. Voici une définition possible :

Un hôpital universitaire est un hôpital (ou une partie d'hôpital) où des professeurs de médecine et leurs équipes délivrent leur enseignement pratique.

Cette définition ne dit rien, intentionellement, quant
- à la complexité des soins (primaire/secondaire/tertiaire)
- à l'appartenance (privée/publique)
- au financement (budget de l'Etat, sécurité sociale, assurances privées, contributions personnelles)

Afin de décrire la place des hôpitaux universitaires, il sera commode de les approcher selon plusieurs axes :

Un axe historique

Comment les hôpitaux universitaires se sont-ils développés ? Cela explique-t-il leur caractéristiques ?

Un axe éducationnel

Qu'enseigne-t-on dans ces hôpitaux ? pendant combien de temps ?

Nombre et rôle des étudiants, des internes et des résidents ? Nombre et rôle des enseignants ?

Combien de médecins (généralistes/spécialistes) sont diplômés chaque année ? Qui décide de ce nombre ? Quels sont les besoins du pays ?

Comment est organisé l'enseignement des autres professionnels de santé ?

Qui paye la formation dans les hôpitaux ? (Ministère de la Santé, Ministère de l'Education ? Autre ?)

Un axe en recherche médicale

Les hôpitaux universitaires sont-ils le lieu de la recherche, fondamentale ou clinique, un endroit où de nouvelles techniques sont développées, testées et répandues ?

La recherche, telle qu'elle est pratiquée à l'hôpital, participe-t-elle de façon significative au progrès médical ?

Un axe de soins

Quelles sortes de soins sont pratiqués (spécialisés, urgents...) ?

Selon quel mode (hospitalisation classique, hôpital de jour, soins ambulatoires, soins à domicile...) ?

La qualité des soins est-elle meilleure à l'hôpital universitaire ? Cela peut-il se mesurer ?

Les hôpitaux universitaires sont-ils des centres de réfèrence (c'est-à-dire des centres auxquels les malades sont référés physiquement et/ou des centres qui sont considérés comme une référence au sens de standard pour des soins de meilleure qualité) ?

Les soins spécialisés sont-ils directement accessibles à tous ? Sinon, comment les malades sont-ils sélectionnés ?

Un axe juridique

Quel est le statut juridique des hôpitaux universitaires ? Sont-ils publics ou privés ? S'ils sont privés sont-ils à but lucratif ou non ?

Y-a-t-il des lois qui régissent les rapports entre les universités et les hôpitaux universitaires ? Quelle est la nature de leurs liens juridiques ?

Un axe économique

Quel est le poids des hôpitaux universitaires comparés aux autres hôpitaux (en termes de nombre de lits, en termes de budget de fonctionnement) ?

Quel le poids des hôpitaux universitaires comparés au reste du système de santé ?

Le traitement d'une maladie donnée revient-il plus cher dans un hôpital universitaire qu'ailleurs ? Si oui, est-ce justifié par une gravité particulière ou simplement parce que l'environnement universitaire est la cause de coûts indûs ?

Un axe social

Qui est admis ? Les malades viennent-ils de loin de leur propre initiative ? Arrivent-ils généralement trop tard (non pas tant à cause de la distance que pour ne pas avoir reçu les soins appropriés aux niveaux primaire et secondaire ?

Les traitements sont-ils gratuits ou payants, remboursés ou non ? en totalité ou partiellement ?

Les règles de facturation sont-elles les mêmes pour tous ?

Y-a-t-il confusion entre les soins de santé et les soins sociaux (par exemple : des lits d'hôpitaux sont ils utilisés comme orphelinats ou lieux d'accueil pour les pauvres) ?

Quelle devrait être leur juste place ?

La question n'est pas tant « Quelle est la place des hôpitaux universitaires ? » mais bien « quelle est leur juste place ? » ce qui implique une certaine forme de jugement. Pour répondre à cette question plus délicate l'on utilisera les mêmes axes d'approche : Pour chacun de ces axes l'on se demandera si la place actuelle est la bonne (selon des critères qui restent à élaborer) et, si ce n'est pas le cas, dans quelle direction faut-il faire évoluer cette place et quels moyens utiliser pour ce faire.

Questions relatives à l'enseignement.

Les hôpitaux universitaires jouent-ils le rôle que le pays attend d'eux en tant que formateurs de professionnels de santé ?

En forment-ils trop ou trop peu ?

Leur fournissent-ils un savoir utile et suffisant ?

Qui devrait payer pour cet enseignement ?

Questions relatives à la recherche medicale.

Quels types de recherches devraient être faits dans les hôpitaux universitaires. Ces types de recherche devraient ils être faits seulement dans les hôpitaux universitaires ?

Ces recherches devraient-elles être financées séparément des soins ? Pourquoi ? Est-ce possible ?

Questions relatives aux soins médicaux.

Les hôpitaux universitaires devraient-ils n'être que des hôpitaux de référence ou devraient-ils fournir des soins de tous niveaux (y compris les soins primaires) sous toutes leurs formes (y compris les soins ambulatoire et les soins à domicile) ? Devraient-ils fournir des soins préventifs ?

Les soins dans les hôpitaux universitaires devraient-ils être de meilleure qualité ? Pourquoi ? Selon quels critères ?

Questions juridiques.

La loi peut être un moyen particulièrement interessant et efficace pour changer un système. Ainsi, par exemple, en France, c'est une loi qui en 1958 a permis de moderniser les grands hôpitaux publics en leur imposant de nouveaux liens avec les universités.

Questions économiques.

S'il s'avère que le traitement d'une maladie donnée coûte effectivement plus cher s'il est délivré dans un environnement universitaire, et ce pour un résultat identique, il faudra rechercher soit comment réduire ce surcoût, soit comment réduire le nombre des lits universitaires. Dans quelle mesure ceci est-il envisageable ? Y-a-t-il une limite inférieure au poids des hôpitaux universitaires par rapport aux autres hôpitaux et par rapport au reste du système de santé ? Si oui, quelle est cette limite ?

Questions sociales.

Les hôpitaux universitaires, à cause de leurs avantages (présence des professeurs) et de leurs inconvénients (conditions d'hébergement souvent déplorables, présence d'étudiants inexpérimentés) attirent particulièrement à la fois les

classes sociales privilégiées (qui ont les moyens d'en surmonter les inconvénients) et les classes pauvres qui n'ont pas d'autre choix que d'accepter les inconvénients. Ceci peut conduire à des situations plutôt gênantes tant du point de vue moral que financier ? Faut-il exclure certains ? Comment attirer les classes moyennes ?

Quelle stratégie ?

Quand toutes les questions ci-dessus auront été discutées, certaines stratégies devraient apparaitre. Pour illustrer ce que de telles stratégies pourraient être, en voici deux exemples qui sont à l'opposé l'une de l'autre :

• Stratégie n° 1 :

Faire des hôpitaux universitaires les hôpitaux de réference ultime et rien d'autre

Ce serait la tendance naturelle. Cette stratégie aurait probablement la préfèrence des professeurs de médecine particulièrement interessés par les soins exceptionnels susceptibles d'accroître leur prestige. Elle serait bien en accord avec le concept de soins gradués supposé conduire à la meilleure utilisation des ressources limitées. Cette stratégie, pour tentante qu'elle soit, n'est pas sans danger pour les hôpitaux universitaires qui à la longue pourraient ne plus avoir de contacts avec le reste du système de santé si ce n'est à travers leurs prescripteurs.

• Stratégie n° 2 :

Diluer les hôpitaux universitaires dans le reste du système de santé

Les universités développeraient des réseaux pour l'enseignement clinique utilisant toutes les composantes du système de santé. Ces réseaux seraient flexibles. Leurs membres seraient liés par conventions avec les universités. De tels liens pourraient être noués et dénoués en permanence en réponse à la demande éducationnelle. Cette stratégie pourrait bien à terme signifier la fin des hôpitaux universitaires en tant que tels.

En fonction des situations locales, la juste stratégie pourrait fort bien se tenir quelque part entre les deux extrêmes qui viennent d'être évoquées. Bien sûr, ces stratégies ne sont que des exemples. D'autres stratégies, développées selon d'autres axes, pourront très bien s'imposer au cours des discussions.

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