2.3 HEALTH SERVICES DELIVERY

This section analyses the existing activities of the public allopathic sector and indigenous systems of medicine and of the private sector. It encompasses a broad spectrum of activities – preventive, promotive, curative, rehabilitative, and social services. Due to logistical constraints, however, it does not attempt at describing in great lengths the activities, achievements and actors responsible for many programmes particularly of the Ministry of Health. It is the intention of this section to provide an overview of the system activities without being superficial in the analysis. In some sections, the approach was to look at the institutions that play critical roles. In others, the strengths and weaknesses were appraised; then the critical issues, or proposed strategies, for planning were identified.

HEALTH SERVICES DELIVERY 1 ~CURATIVE HEALTH SERVICES~

This section analyses and discusses the situation of curative care activities and the situation of physical facilities of curative health service delivery.

(1) STANDARDS OF SERVICES

The Standards

For purposes of defining the standards of services, the ten major services that are provided in health facilities are as follows: outpatient; clinics; radiology; laboratory; inpatient; catering; intensive care; operation; ambulance; and health education. The health facilities in Sri Lanka can be categorised into the following:

1) NHSL
2) Tertiary Hospital
3) Teaching Hospitals
4) Provincial Hospitals
5) Base Hospitals
6) District Hospitals
7) Peripheral Units
8) Rural Hospitals
9) Prison Hospitals
10) Specialised Hospitals
11) Other Hospitals
12) Central Dispensaries & Maternity Homes
13) Maternity Homes
14) Central Dispensaries
15) Estate Hospitals
16) Private Hospitals

Table 2.3.1[28] Existing Standards of Services for Different Types of Health Facilities

Serial No.	Types of Services	Types of Health Facilities										
		NHSL	Teaching	Tertiary	Provincial	Base	District	Peripheral	Rural	CD & MH	MH	CD
1.	OPD	+	+	+	+	+	+	+	+	+	+	+
2.	Health Education	+	+	+	+	+	+	+	+	+	+	+
3.	Inpatient Facility	+	+	+	+	+	+	+	+	+	+	
4.	Catering Service	+	+	+	+	+	+	+	+	+	+	
5.	Ambulance Services	+	+	+	+	+	+	+	+	+	+	
6.	Surgical Theatre	+	+	+	+	+						
7.	Intensive Care	+	+	+	+	*+						
8.	Radiology											
8.1	X-ray	+	+	+	+	+						
8.2	US scanning	+	+	+	+	+						
8.3	CT scanning	+	+									
8.4	MRI scanning	+										
9.	Laboratory Services											
9.1	Biochemistry	+	+	+	+	+						
9.2	Haematology	+	+	+	+	+						
9.3	Histopathology	+	+	+	+							
9.4	Microbiology	+	+	+	+							
10.	CLINICS											
10.1	Child welfare		+	+	+	+	+	+	+	+	+	+
10.2	Family planning		+	+	+	+	+	+	+	+	+	+
10.3	Obstetric		+	+	+	+	+	+	+	+	+	+
10.4	Medical	+	+	+	+	+						
10.5	Surgical	+	+	+	+	+						
10.6	Paediatric		+	+	+	+						
10.7	Gynaecology		+	+	+	+						
10.8	ENT	+	+	+	+	*+						
10.9	Eye		+	+	+	*+						
10.10	Psychiatric		+	+	+	*+						
10.11	Orthopaedic	+	+	+	+							
10.12	Rheumatology	+	+	+	+							
10.13	Dermatology	+	+	+	+							
10.14	Oncology	+	+	+	+							
10.15	Onco-surgery	+	+	+	+							
10.16	Nephrology	+	+	+								
10.17	Cardiology	+	+	+								
10.18	Cardio-thoracic surgery	+	+									
10.19	Neurology	+	+									
10.20	Neuro-surgery	+	+									

Note: "+" available in all institutions while "*+" not available in all institutions. There are small laboratories in some District and lower hospitals that provide negligible service.

Table 2.3.1 shows the general types of health services that are recommended for different types of health facilities. As a standard, the list sets the goal for planning on one hand and is evolutionary on the other hand. Evolutionary because as new technology are adopted, they are added in the list as well. However, the list has not been designed as a regulatory tool; therefore, it has not and could not serve that purpose.

[28] Because of their unique nature, special hospitals, prison hospitals, other hospitals, estate hospitals and private hospitals are excluded in the analysis.

The 11 health facilities in Table 2.3.1 could be classified into seven depending on the types of services they are expected to provide.

- Category 1: Central Dispensaries
- Category 2: District Hospital, Peripheral Unit, Rural Hospital, Central Dispensary and Maternity Homes, and Maternity Homes
  These facilities are categorised as one because they are all supposed to provide similar package of services even if there are variations in levels and specifics of care.
- Category 3: Base Hospital
- Category 4: Provincial Hospital
- Category 5: Tertiary Hospital
- Category 6: Teaching Hospital
- Category 7: NHSL

All types of facilities are expected to provide outpatient and health education services. Except for central dispensaries, all the facilities should provide inpatient, catering and ambulance services. Except for the NHSL, all the facilities should provide child welfare, family planning and obstetric services.[29] Expected to be available only in base and other higher-level hospitals are the clinics (medical, surgical, paediatrics, gynaecology) as well as the following complicated procedures: surgeries requiring operation theatre; X-ray and ultra-sonography; biochemistry and haematology. Intensive care, ENT, eye, psychiatry, orthopaedics, rheumatology, dermatology, oncology, onco-surgery, histopathology & microbiology are standards for provincial, teaching, tertiary hospitals and NHSL. Only the NHSL and selected teaching hospitals, though, can provide services in the areas of cardio-thoracic surgery, neurology, neuro-surgery, and computerised tomography scanning. Magnetic Resonance Imaging is available only in NHSL.

Standard-Actual Gap

Analysis of the actual availability of services based on interview of key informants revealed 10 major findings:

1) Among the standard services, there is none that is never available or provided by any type of facility;
2) No standard service is consistently available in all facilities belonging to categories 1 and 2;
3) Facilities belonging to categories 3 to 6 always have OPD and major specialty clinics (i.e., Medical, Surgical, Paediatrics, Gynaecology, Obstetrics);
4) X-ray and ultrasound scanning facilities are always available in all facilities of categories 4 to 6;
5) The other services that are consistently available in categories 6 and 7 are inpatient, catering, ambulance, intensive care, surgical theatre, and health education;
6) All category 6 facilities are reported to have ENT, eye and psychiatric clinics;
7) Only category 7 meets all the standards of services;
8) Some higher-level facilities (categories 3 to 6) provide services that are beyond the standards (e.g., MRI in Teaching and Tertiary Hospitals and CT scan in tertiary hospitals) but this does not happen among lower-level facilities;
9) The probability that standard services are available in all facilities is greater among higher-level facilities; and
10) Conversely, the probability that standard services are available in some facilities is lower among higher-level facilities.

As previously mentioned, all facilities are expected to provide outpatient services. Unfortunately, there is no formal differentiation in the levels of care of OPD for each level of hospital. There are no clinical guidelines and no clear definition of what different providers should do, although there is more of a

[29] Aside from these three services, NHSL is also not expected to have clinics for paediatrics, gynaecology, ophthalmology, and psychiatry.

customary limitation on nurses and paramedics on what they cannot do, even though technically they would be capable to learn and do so safely.

There is yet a need to develop clinical norms for OPD or IPD that seek coherence, cost/ effectiveness, quality and responsiveness to needs and expectations. With clear clinical guidelines, nurses could order or do lab tests even before the doctor does a physical examination. Again, norms need to define whether a doctor, a nurse, or either should do a history based on clinical guidelines. Norms need to define that physical examination should be performed on all patients and what the minimum is depending on leading symptom. In terms of lab tests, they need to be defined by leading symptom for each patient and conversely each hospital should do all the testing relating to the diseases it should care for. For example, glycaemia testing should be provided in all facilities where there are internal medicine clinics and in the primary care units to which they counter refer for follow up.

Health information could and should be collected from OPD with the same degree of precision and specificity as IPD health information. This would form a much better epidemiological basis for monitoring services and their quality and for planning.

Hospital Re-Categorisation

Comparison of the proposed re-categorisation of hospitals and the existing hospitals leaves one without a clear guidance on functional rationalisation and improved quality. The re-categorisation seems to recommend a big expansion of district level services without giving guidance on functional rationalisation and improved quality. This might mean then that there will be more government hospitals with bigger capacity to receive patients but with services that will be even more inadequate because personnel and supplies would be even more stretched. By raising the bar of standard of volume of service, quality would not only not improve automatically but might tacitly be lowered by raising the volume of IPD inequity in the provision of curative services.

Relationship among Hospitals

In Sri Lanka, the facilities are independently managed by their institutional directors or heads. Networking among facilities does not exist in a formal manner. There are no formal relationships between facilities either of same or different levels. Sri Lanka has a collection of facilities that have MoH as policy maker and alternatively MoH or Provincial Council (with central subsidy) as fund source; so far no one is doing the monitoring.

(2) TRENDS IN PROVISION OF OUTPATIENT SERVICES

Figure 2.3.1 represents the activities at the outpatient departments of all government health facilities in Sri Lanka. It may reflect the provision of services or their utilisation.

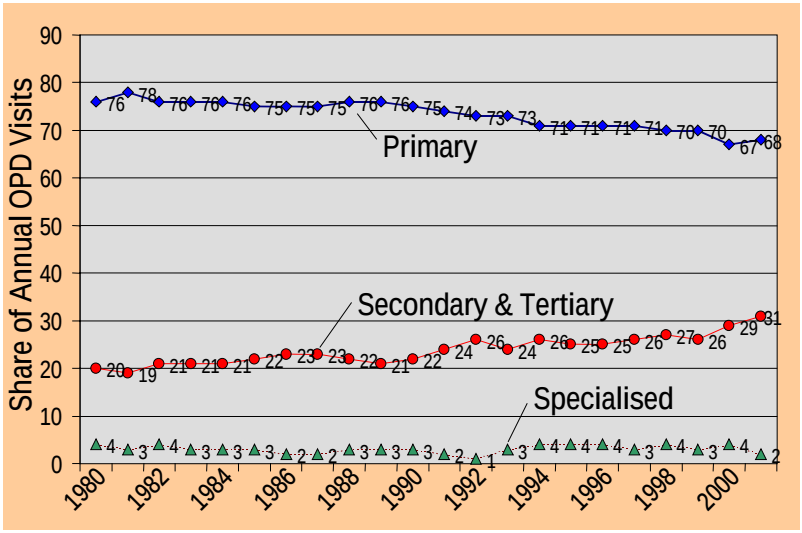


Figure 2.3.1 Share of Annual OPD Visits at Sri Lanka Government Health Facilities, 1980-2001

Source: Annual Health Bulletin

Whatever the case may be, the share of OPD visits at primary care institutions has been on the decline. Within a 20-year period from 1980, it has reduced by 8 percentage points. Where have the patients been going? It seems they have shifted to secondary and tertiary facilities such that they have contributed to the jump in the share of annual OPD visits from 20% to 31% and/or a few patients might prefer to utilise private[30] facilities since the 90s.

(3) TRENDS IN PROVISION OF INPATIENT SERVICES

Admissions

The year 1993 seems to be a milestone in the history of inpatient services. That year saw the shift in the share of annual admissions. Previously, primary care facilities had the biggest share. In that year, the number of admissions in secondary and tertiary overtook those in primary care facilities. While the number of admissions in specialised hospitals seems to be stable as a share of the total, the gap in the number of admissions between the other types of facilities seems to widen through the years. While six of every 10 patients were admitted in primary facilities in 1980, the same number were admitted in secondary and tertiary facilities twenty years later.

[30] Figure 2.5.7 shows a downward trend in the visits to private western providers.

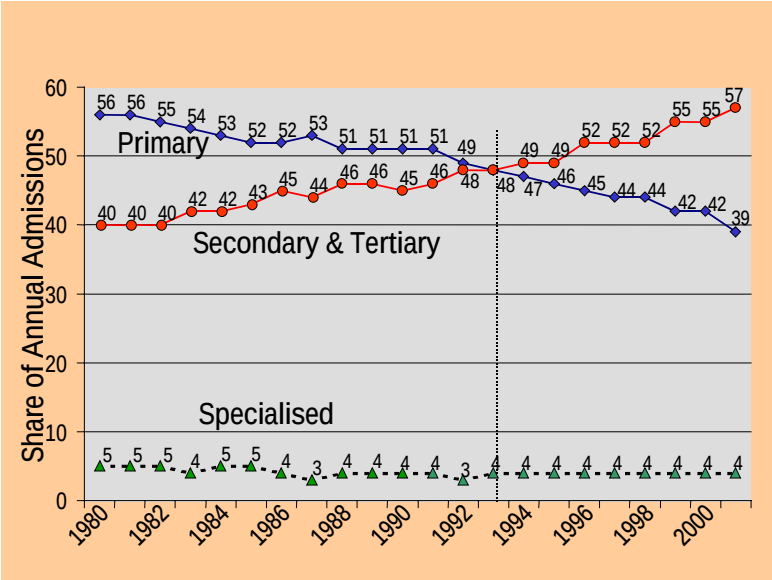


Figure 2.3.2 Share of Annual Admissions at Sri Lanka Government Health Facilities, 1980-2001

Source: Annual Health Bulletin

What is happening?

This phenomenon seems almost wholly due to a shift in financing. The most plausible hypothesis is that there are factors that drive patients away from primary care facilities. They are all related to lack of tests, drug supplies and even personnel.

Considering that the number of admissions at private hospitals increased by 10% between 1999 and 2000 (Table 2.3.2), could the taste of the public be changing? Probably that is a less powerful but plausible explanation also for the shift from primary to higher-level facilities. The increase in private OPD may be mostly driven by the convenience of their opening hours and their lower opportunity cost. Lastly, improvement of transport has improved accessibility of some of the higher level institutions, which may combine to drive people to go where they hope to find all the package of services.

How can we reverse the trends?

IPD admissions are in a high percentage, inappropriate and wasteful, as indicated by a high frequency and a low duration. No special study has been done on this but one can venture that better than 50% are inappropriate (all those below the median value of duration 3.8 days). Clinic visits similarly are often inappropriate and cursory (less than 2 min) and could profitably be done at primary care institutions once the diagnosis and treatment schedule is known. This might by itself reduce the clinic loads to about 15% of current loads (based on 2 productive clinic visits a year per chronically ill person versus 10 follow up visits) and leave time for a better quality and a more complete package of care. This implies that the primary facilities need to be improved in quality and convenience to be more attractive and, in particular, their OPDs should become high quality. This will increase cost/effectiveness as well as reduce total cost of care to the nation (patient and government).

Planning for Rational Hospital Development

The needed reallocation of resources to primary facilities should be for personnel, training, supplies and some basic equipment and should avoid capital expenditures except for facility renovation for safety and hygiene.

Developments in higher-level facilities must be focussed on increased functional rationalization and delivery of care responsive to people's needs, and Sri Lanka might consider a careful technological and financial assessment of tertiary care needs a priority. Until such assessment is accomplished, capital investment in tertiary care might be slowed down or even stopped. These are some of the issues for planning hospital services.

Average Length of Stay

The average length of stay at all levels of government facilities is on the downward trend (Figure 2.3.3). For primary facilities, it declined from four in 1980 to three days in 2000. During the same period, it was reduced from seven to four days for secondary and tertiary facilities. The narrowing in the gap between the length of stay at primary facilities on one hand and secondary and tertiary facilities on the other hand seem to hint at the types of patients that are being admitted in the latter (not very sick) and the type of services provided (no complex work-ups, simple drug treatment).

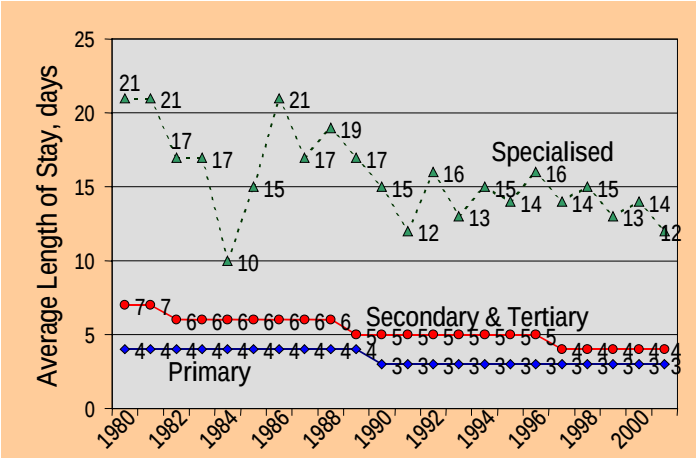


Figure 2.3.3 Share of Annual Average Length of Stays at Sri Lanka Government Health Facilities, 1980-2001

Source: Annual Health Bulletins

As such, should there be a review of admission practices? Should there be a formal policy to guide admissions that will protect the interests of the patients, admitting officers and health institutions? Should there be longer consultation hours, so that a patient can be receiving services without needing to be admitted? Alternatively, can there be two types of admissions, one for a patient unable or unwilling to go home and needing a roof, and another for a patient needing close supervision and real services?

There is another way of interpreting the declining trend in the average length of stay. As there are more inpatients sharing limited resources, could it be that no one is getting a full service anymore?

The inpatient days echo the trends in admissions and length of stay. During the initial years, the gap can be explained by the longer duration of admissions in secondary and tertiary hospitals. However, as the gap in share of admissions widened, so did the gap in inpatient days (Figure 2.3.4), probably as primary care admissions became more trivial and perceptibly providing a roof but little or no care.

The sharp decline in inpatient days explains the very low bed occupancy rates from district downwards. Upgrading the range and quality of services would help to decongest higher level IPDs, and make more efficient use of existing beds at the lower level.

If this upgrading of range and quality were not done, efficiency would be served by reducing the number of beds to current needs, which is about 30% of existing bed strength at district level and below.

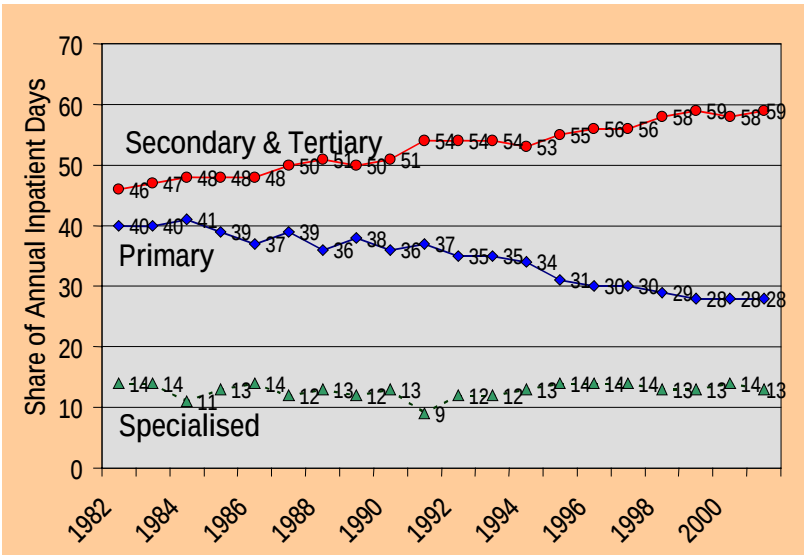


Figure 2.3.4 Share of Annual Inpatient Days at Sri Lanka Government Health Facilities, 1980-2001

Source: Annual Health Bulletin

The sharp decline in inpatient days explains the very low bed occupancy rates from district downwards. Upgrading the range and quality of services would help to decongest higher level IPDs, and make more efficient use of existing beds at the lower level.

If this upgrading of range and quality were not done, efficiency would be served by reducing the number of beds to current needs, which is about 30% of existing bed strength at district level and below.

In other words re-categorisation as proposed in 2003 needs upgrading of quality and range of services, otherwise the further increase in beds available at district level and below will be wasted.

(4) RESOURCE GENERATION AND FINANCING MANAGEMENT[31]

Government health services have not levied user fees for patient services in general. Since the inception of public sector medical provision in the 19th Century. After several attempts to introduce user's fees for those who can afford, it was found that the system of income means testing faced difficulties and was abandoned in 1950. A flat rate of 25 cents was then introduced in 1971 and this policy discouraged patient utilisation, which fell by 30% at MoH facilities, with only a 2% gross cost recovery rate. Public opinion surveys since the mid-1980s have repeatedly demonstrated that a significant and increasing percentage of the public continue to oppose user charges for general services at government facilities.

[31] The analysis is based on the MoH - JICA Master Plan Survey of "Resource Generation and Financing Management of Government Hospitals in Sri Lanka, 2002"

Table 2.3.2 Trends in Public Opposition to User Fees at Government Hospitals

User fee options	Number of respondents in 1996	Number of respondents in 2001	Percentage of respondents disapproving in 1996.	Percentage of respondents disapproving in 2001.
Fees for medicines	2,250	1892	79.8	85.7
Fees for doctors consultations	2,447	1886	84.4	91.5
Fees for inpatient treatment	2,244	1881	87.4	90.3

Source: Survey of resource generation and financial management of government: hospitals in Sri Lanka. (JST-IPS, 2002)

In the absence of standard user charges, the only source of patient fees is from pay-beds. Revenues from this source, however, have remained negligible. In addition to the standard pay-beds, the Sri Jayawardanapura General Hospital (SJGH) has levied user charges from all patients since its inception in 1984. This single institution accounts for the bulk of patient fees collected by government medical institutions as shown in Table 2.3.3. However, SJGH's cost recovery has been less than half of total operating costs.

The existing system of financial management controls is largely determined by historical experience and bureaucratic routine. It is largely focused on controlling expenditures and preventing unauthorised use of resources. Because the Ministry of Finance issue most key circulars, it serves to reflect the general priorities of expenditure control in the government sector. It is not performance-oriented. Total revenue from charges at government medical institutions as share of expenditure in 1999 was only 2.3%

(5) PHYSICAL FACILITY

In Sri Lanka, the hospital network, consisting of various types/categories of facilities from primary level to tertiary, is well developed and spread throughout the country, reaching the majority of the communities. However, behind this bright facade, some fundamental and structural problems exist, affecting the quality of curative services. This situation analysis makes clear what physical health care facilities exist and the problems in delivering quality services.

Health Facility Network

Providing health care services in the public sector is the responsibility of the central Ministry of Health (MoH) and eight Provincial MoHs. The central MoH is responsible for managing national facilities and hospitals, procuring drugs and supplies, while the Provincial MoHs are responsible for managing provincial/district health facilities and vertical programs. All hospitals in the public sector are organised into an extensive referral system with the hierarchy of several categories from primary level institutions to tertiary teaching ones. Many of the Base Hospitals and Provincial Hospitals have been upgraded recently according to the suggestions by the 1998 Presidential Task Force report.

In the past three decades, the number of hospitals as well as their bed capacity and central dispensaries have experienced extensive development as shown in Table 2.3.3. However, this development has covered only the increase in population during the same period, since the number of beds per 1000 population index shows no change for the same period and is around 3.0. Since 2000, health facility development work has been implemented in 604 hospitals and 59,745 inpatient beds. Ten estate hospitals have been transferred from the private sector to MoH management during this period. In contrast, the number of Central Dispensaries has fallen since 2000.

It is also notable that 160 private hospitals and maternity homes are now taking an active role with almost 8,000 beds around the country and that half of them are around Colombo. In addition, 800 fulltime general practitioners and a much larger number of part-time practitioners, 5,000 pharmacies, 5 ambulance services and 7 insurance companies are in operation. Finally, private care providers cover over 20% of outpatient care.[32]

In the distribution of hospital beds among referral categories, secondary level institutions account for 16.6% only, while tertiary levels including teaching hospitals account for 38.8%. The change during the two years since 2000 (which shows that the shares of the 3rd and 1st level have increased while the 2nd has lost its share) is brought about by the upgrading of 2nd level facilities to 3rd with new establishments of 1st level care facilities.

Table 2.3.3 Number of Health Institutions and Hospital Beds, 1970-2002

Item	1970	1980	1990 [1]	2000	Dec. 2002
Hospitals [2]	455	480	422	558	604
Patient Beds [2]	39,173	43,389	42,079	57,027	59,635
Beds / 1000population	3.1	2.9	2.9	2.9	?-
Central Dispensaries	332	347	278	404	385
Population	12,140,000	12,580,000	12,200,000	16,537,000	19,000,000

Note: 1) Northern and Eastern Provinces are excluded.
2) Includes Maternity Homes and Central Dispensaries.
Source: Annual Health Bulletin 2000, and MoH's latest statistics in 2003

Facility Development

1) Quantitative framework to analyse the current and past hospital bed use.

Demand for beds is influenced by the scale of population served and therefore population growth, changing age structure, epidemiology, people's health seeking behaviour, intervening opportunities for equivalent care (such as well functioning OPD) and last but not least the service delivery norms.

Government Health Facilities in Sri Lanka including MH/CD had 57,027 beds in 2000. The national rate is 29 per 10,000 population.

The table below shows the distribution of hospital beds by type of facility.

Table 2.3.4 Share of Inpatient Beds by Facility, 2001

Type of facility	No. of beds	No. of admissions	Bed Occupancy Rate	Ave. Duration of Stay	No. of bed days used	No. of bed days vacant
NHSL	2,897	194,807	99.5	5.4	1,046,831	10,574
Teaching H	9,635	737,596	87.7	4.2	3,059,594	457,181
Provincial H	5,012	461,650	104.5	4.1	1,902,555	-73,175
Base H	9,284	930,688	86.8	3.2	2,914,248	474,412
District H	13,409	918,758	48.3	2.6	2,349,257	2,545,028

[32] Source: Central Bank Annual Report 2001. The report shows the percentage of OPD care provided by private hospitals was 2.75% in 2000; however, the report covered only 34 major private hospitals. JST estimate is around 20% based on the number of GPs.

Peripheral Units	4,621	339,071	49.5	2.5	826,465	860,200
Rural H	3,998	256,669	42.6	2.4	612,893	846,377
MH & CD	440	4,500	8.6	3.1	13,812	146,788
Other Hospitals	384	19,427	77.2	5.6	107,923	32,237

Source: MoH

In Sri Lanka, it is estimated that 206 people per 1,000 population were hospitalised in public and private services. The public share is 199 per 1,000 population.

i. Slightly more than one out of five persons were admitted into hospital in 2001. Among them, almost 40% of beds are at community level facilities such as DH, PU, RH and MH, and 60% in TH, PH and BH.

ii. It is important to remark that in terms of bed occupancy, the 40% beds at district and lower level only give about 20% of bed days, because of short stays of only 3-4 days.

2) Distribution of Health Facilities

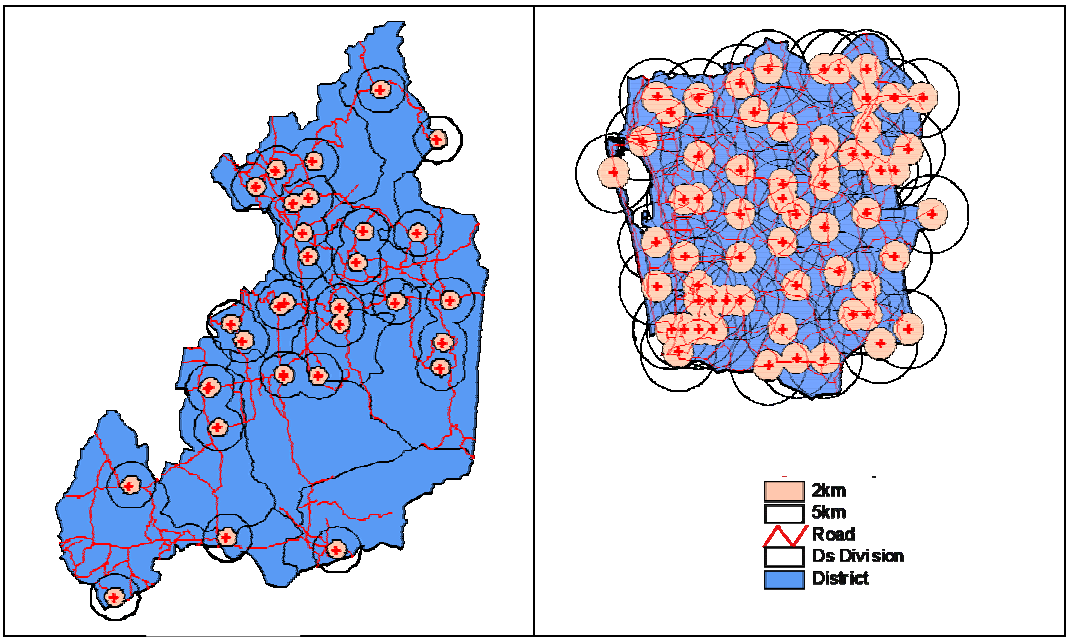
The present average level of hospital bed capacity at 2.9 beds per 1,000 populations on average appears satisfactory, However, disparity is observed among provinces and districts, with a large fluctuation of index from 1.9 in kilinochechi to 4.8 in Colombo (Table 2.3.5). It would be noted that all districts in Northern and Eastern Provinces fall below the national average rate of 2.9.

Table 2.3.5 Government Hospital and Beds by District, December 2000

District	All Hospitals		Beds per 1,000 pop.	District	All Hospitals		Beds per 1,000 pop.
	Institutions.	Beds			Ins.	Beds	
Colombo	26	10,768	4.8	Mullaitivu	4	283	***2.5***
Gampaha	33	4,744	2.9	Batticaloa	12	1,186	***2.3***
Kalutara	21	2,383	***2.3***	Ampara	24	1,615	***2.6***
Kandy	53	5,207	3.6	Trincomalee	12	807	***2.4***
Matale	18	1,346	***2.7***	Kurunegala	43	3,983	***2.5***
Nuwaraeliya	26	1,575	***2.7***	Puttalam	21	1,519	***2.3***
Galle	29	3,063	3.0	Anuradhapura	38	2,660	3.3
Matara	23	1,986	***2.3***	Polonnaruwa	11	1,187	3.0
Hambantota	22	1,385	***2.3***	Badulla	33	2,500	***2.8***
Jaffna	23	2,020	***2.0***	Monaragala	18	1,202	***2.7***
Kilinochchi	5	252	***1.9***	Ratnapura	32	2,814	***2.4***
Mannar	4	320	***2.4***	Kegalle	24	1,962	***2.3***
Vavuniya	3	260	***2.0***	TOTAL	558	57,027	2.9

Source: Annual Health Bulletin 2000
Note: Bold figures are below the national average

The GIS maps of Monaragala and Gampaha show the geographical disparities of health facility distributions. Gampaha has over wrapped health facility distribution with one teaching hospital and three base hospitals in the population of 1.76 million in 2001. While, Monaragala has scarce distribution of health facilities comparing with Gampaha and there is only one Base hospital as a highest level of hospital facility with the population of 396,000 in 2001. The ratio of a facility to the area size of Gampaha and Monaragala is 21km^2/facility and 182 km^2/facility respectively.



Monaragala District Gampaha District

Figure 2.3.5 Service Catchment Area per Facility in Monaragala & Gampaha

Source: MOH-JICA Study Team

New Categorisation of Facilities for Curative Services

The MoH is waiting for cabinet approval at present on the hospital development master plan that aims at facilitating a planned, organised hospital development mechanism, taking into consideration resource availability including human resources. Awaiting Cabinet approval as of 10th July 2003, "New categorisation of facilities for curative services" is a major part of the master plan as shown in Table 2.3.6, which proposes to upgrade and consolidate the institutions, in response to the 1998 Presidential Task Force report.

Table 2.3.5 Hospital Development Plan: New Categorisation of Hospitals

Referral Level	Category	Allocation criteria
APEX	Teaching Hospital	
3	Teaching/Provincial Hospital	One per province
2	District General Hospital	One per district
1～2	District Base Hospital	Minimum 1-2 per district
1	Divisional Hospital	Not specified yet
1	Primary Medical Care Unit	Not specified yet

Bed Occupancy and Facility Utilisation Efficiency

Clear contrast of facility utilisation between higher-level hospitals (Teaching, Provincial and Base) and of lower-level ones (District, Peripheral Unit and Rural) has been pointed out in many previous reports related to health. Table 2.3.7 shows very high bed occupancy rate in Teaching & Provincial Hospitals while lower rates in District, Peripheral Unit and Rural Hospitals. However, the national average shows a 75% occupancy rate, which can be said to reflect good overall performance.

Table 2.3.7 Relative Shares of Bed and Outpatient Utilisation by Facility Type, 2000

Facility type	Share of beds (%)	Share of admissions (%)	Bed occupancy rate (%)	Share of outpatient visits (%)
Teaching H.	25.7	27.1	93	10.8
Provincial H.	8.8	10.5	106	4.7
Base H.	17.3	21.3	83	16.4
District H.	23.8	24.5	52	26.9
Peripheral U.	8.0	8.8	52	11.8
Rural H.	7.7	6.0	37	11.7
MH & CD	1.2	0.1	6	3.1
Other Hosp.	7.5	1.6	-	1.3
Total number	57,027	4,015,087	75	43,329,090

Source: Annual Health Bulletin 2000

Table 2.3.7 shows a number of interesting figures.

1) Hospital beds are disproportionately (34.5%) distributed to higher-level hospitals of TH and PH and share of admissions (37.6%) surpass slightly even the share of beds; up to Base hospitals the share of admissions is higher than the share of beds.
2) For Teaching and provincial Hospitals the occupancy rates are too high to be able to accommodate seasonal increases in disease load.
3) The Base Hospitals seem the most balanced, with a satisfactory share and occupancy rate.
4) District hospitals, which are expected to play a role of referral level facility, show very low Bed occupancy rate of 52%, and facilities of lower levels show even worse occupancy rates.
5) There is a discrepancy between share of admission and occupancy. In the proposed scheme, district hospitals would get more use, probably to full utilisation. That will leave almost 25% of beds to be rationalised probably by making them secondary district hospitals or assigning lesser beds!

This study could only look at average performance; the rationalisation at all levels should look at seasonal occupancy rates for each facility and try to make sure that there is a safety net of 10% above maximum utilisation. The study should be done regularly as the network is being rationalised in terms of functions, referral and counter-referral. Detailed studies should be done of reasons for hospitalisation, including social reasons, observation, need for diagnostic tests, etc., also of the processing of the patient in IPD and the conditions and reasons for release. These measures should be designed to permit better approaches other than admission, better responsive and efficient management and earlier release of patients.

(6) BUILDING FACILITY MANAGEMENT

At the central/provincial level, regular inspection of facilities and preventive maintenance are scheduled; the unscheduled ones are sporadic repairs. In addition, there are no regulations to influence the hospital administrators to improve the management of buildings. Low priority on investment on facilities management/maintenance leads clearly to deteriorating quality of infrastructures. In some hospitals, the director's attitude makes a big difference but there is definite need to build in regulations and incentives to improve the conditions and facilities in general.

A national inventory of physical infrastructure has not been prepared either at central or provincial levels so far. Consequently, there have not been rational and objective criteria to prepare a long-term plan for rehabilitation, renovation and maintenance of hospital facilities. A survey of hospitals in three provinces was organised in the context of the Health master plan and may both serve as a pre-test of methodology and as a first indication at least on major structural deficiencies.

As opposed to steadily increasing health facilities over the country, the national maintenance system has been deteriorating because of institutional and human resource deficiencies. Table 2.3.8 shows the lack of an established Engineering Services Unit in the MoH and Maintenance Units in major hospitals, with severe shortages of technical staff both at central and local levels.

Table 2.3.8 Building (Engineering) in DHS Cadre

Post	Approved for 2002	Present Strength	Vacancies
Civil Engineer	4	1	3
Electrical Engineer	1	1	0
Mechanical Engineer	1	0	1
Civil Technical Officer	1	1	0
TOTAL	7	3	4

Source: Director, Building (Eng.) 2002

Administration

The administrative functions of hospitals in the public sector are the responsibility of the central MoH and Provincial Councils (PCs). The central MoH is responsible to operate and maintain Teaching Hospitals, while the PCs are responsible to manage Provincial Hospitals, most of the Base Hospitals and all facilities at district level.

Standard and Guidelines

Although the MoH has 558 health institutions with inpatient facilities, official guidelines for hospital planning have never been prepared; hence, most of the hospital buildings, which have been constructed recently, have been designed not based on MoH instructions, but on discussions between the hospital and the private consultant architect.

There is no specific planning guideline laid down for hospital installations such as electricity receiving systems, emergency power generators, water reservoir capacity, sewerage systems and waste disposal mechanisms. In addition, several manuals for hospital administrators, which are used for lectures at the MRI, have indicated the schedule for rooms and equipment in theory but have not been used as standards/guidelines in practice.

Regulations

Building codes on safety in case of a fire, such as use of non-inflammable material, installing stairs for evacuation and securing approach roads for fire engines, are applied only to those of five stories and more. This means that most of public hospitals in the country, which buildings have one or two stories only, do not have those fundamental structures to secure the safety of the patients in case of fire. Additional instructions to assure reliable measures for patient safety are not laid down in hospitals, or to accommodate the disabled.

Building Conditions

The MoH-JICA Study Team carried out a field survey about the conditions of buildings and utilities in selected three provinces. Preliminary results of the survey reveal several interesting findings:

- Infrastructure conditions at the OPD are quite variable. Some are in good condition due to recent renovation works and there are also some in bad condition. Generally, hospitals in the Sabaragamuwa Province are good, while those in the North Central areas are bad.
- Alarm systems and indications of escape routes are furnished only in two tertiary hospitals. In the NHSL, some newly constructed buildings have been equipped with this safety system. None of the hospitals has fire prevention alarm systems or signage for evacuation.
- Only one hospital has an incinerator for garbage disposal. Most hospitals dispose of garbage, including used injection needles, by burning or burying them in a dug hole. None of the hospitals has incinerators for waste disposal.
- All hospitals surveyed have a 24-hour water supply.

(7) MAINTENANCE OF FACILITIES

In MoH, Director of Buildings (Engineering) under the Deputy Director-General (DDG) for Buildings & Logistics is in charge of maintenance, renovations and construction of buildings. Total funds allocated for repair and investment of capital assets and construction of buildings has increased remarkably since 2000 to reach around Rs. 1,800 million in 2001 (Table 2.3.9).

Table 2.3.9 Change of Investment Funds for Buildings under MoH

(Unit: Rs. millions)

Year	Repair, improvement and construction	Acquisition of Equipment	Total funds allocated
1998	554.50	122.50	677.00
1999	607.70	184.15	791.85
2000	1,148.50	528.35	1,676.85

Source: Building (Eng.) department's paper, MoH

For maintenance and renovation works, MoH calls tenders for each individual work. However, this system is cumbersome and not efficient enough to cater to the urgent needs in hospitals. As to the Provincial Councils, little information could be obtained from MoH to measure their capacity on maintenance. However, conditions of facilities in district hospitals and below them are observed to be far worse than those in the line ministry hospitals.

The JICA Study Team carried out a survey of **capacity of PDHS & DPDHS** in building maintenance, since very little information is available at the central MoH on this. It was revealed that none of the PDHS and DPDHS has departments in charge of planning and maintenance of hospital buildings, and that some have an inventory system of buildings and some do not.

The field survey also revealed the fact that only some Teaching/Provincial hospitals have maintenance units within their organizations. Among 15 hospitals surveyed in three provinces, only NHSL and GH Ratnapura are furnished a unit in charge of building maintenance, and only three hospitals including them keep maintenance records.

(8) MEDICAL SUPPLIES AND EQUIPMENT

This section deals mainly with drugs because they often account for about 20% of total health expenditure and because the challenges related to drugs are somehow applicable to other medical supplies.[33] Because of information gaps in the private sector, this section focuses primarily on the government sector.

1) Policy, Legislation & Regulation

The policy is to supply safe effective, quality drugs and other supplies whenever and wherever needed equitably at a reasonable cost to the state. Towards this end, the Cosmetics, Devices and Drugs Act No. 27 was approved as a law of the land in 1980 and amended by Act No 38 of 1984. It serves as the legislative framework to regulate the use of medicinal drugs in the country. It is a comprehensive legislation, based in part on Canadian legislation, which placed a strong emphasis on generics and controls: (a) registration, (b) manufacture, (c) importation, (d) sale, (e) advertising, (f) labelling, (g) distribution as samples, (h) testing, and (i) destruction of outdated medicinal drugs.

When it comes to the importation, storage, distribution, and use of narcotics, the policy of Sri Lanka is embodied in the Poisons, Opium and Dangerous Drugs Ordinance (Chapter 218) as amended by Act No. 13 of 1984.

When the WHO introduced the concept of essential drugs, Sri Lanka adopted its own policy on essential drugs and published its first Essential Drug List (EDL) in 1985. In 1996, the then Ministry of Health, Highways and Social Services drafted the "National Medicinal Drug Policy" to "ensure that drugs and medical devices of approved quality, safety and efficacy are made available to the community at reasonable prices and with uninterrupted delivery".[34] Towards this aim, the proposed strategies included the establishment of a Cosmetics, Devices and Drugs Control Authority that will overlook the areas of Good Manufacturing Practices, Drug Registration, Regulatory Control and Inspection. To minimise waste due to spoilage, pilferage and other reasons, operational guidelines were scheduled to be developed for procurement, quality assurance, inventory control, distribution and transportation, and storage and warehousing.

The Policy further stipulates additional strategies:

1) Adherence to WHO Ethical Criteria on Promotion and Advertising;
2) Updating of the National Essential Cosmetic Devices and Drugs List for different levels of institutions;
3) Revision of the National Formulary at least once in three years;
4) Establishment of a National Cosmetics, Devices and Drugs Information Centre;
5) Ensuring appropriate prescribing by medical practitioners;
6) Promotion of appropriate self-care with "over the counter drugs"; and
7)Requiring approval of a recognised Ethics Committee for all trials of medicinal drugs and devices.

To date, all the aforementioned strategies have been adopted except for the establishment of information centre and formulation of operation guidelines.

Lack of coordination among central purchasing authorities

Despite the contribution of development partners in the Sri Lanka health system, there is yet to be formulated a policy on donations of drugs (and medical equipment). This policy will also improve coordination among central purchasing authorities. It has been observed that, due to the lack of coordination among central purchasing authorities, a large amount of resources are being wasted following duplication of items being purchased. In certain instances it has been found that, certain life

[33] The MoH classifies medical supplies into: drugs, surgical consumables and laboratory chemicals
[34] Ministry of Health, Highways and Social Services, National Medicinal Drug Policy (Draft), November 1996.

saving items are out of stock in some institutions, while large quantities are stored without being used in others. Quality and type of items imported by the institutions also vary and, as such, the prescribers and users are confused in selecting the correct items. All these clearly indicate that a well coordinated supply system should be developed so that the end user would get maximum benefit out of the available but limited resources. Dr. Ajith Mendis[35] explicitly articulated coordination among central purchasing authorities as another area that may benefit from a clearly defined policy on drug procurement. Apparently, the MSD, FHB, BES, AMC, and EPI overlap in their acquisition of at least seven types of drugs, eleven devices and one vaccine[36].

2) Availability and Accessibility[37]

There are two approaches to assessing availability of drugs. The subjective approach considers the perception of the primary clients whereas the objective one requires actual count of a basket of medicines. The 2002 IDA/WB Health Service Project[38] did both. Among the interviewees, the health administrators were the least satisfied with the availability of drugs in their respective institutions while the senior doctors were the most satisfied. From the perspectives of the pharmacists and patients, it seems there is ambivalence. Half of each group expressed satisfaction and the other half a contrary opinion (Table 2.3.10).

Table 2.3.10 Availability of Drugs in Government Health Institutions

Personnel Interviewed	Number Interviewed	Percentage Not Expressing Satisfaction
Health Administrators	41	63
Senior Doctors	39	11
Government Pharmacists	42	45
Patients	42	50

Source: MC Consultants, Final Report on Drug Costs and Availability, IDA/WB Health Services Project, 15 October 2002.

When it comes to private hospitals, shortages of drugs were not reported. Stocks are not kept in large quantities, too. Inspection of government hospital drugstores and dispensaries revealed that some drugs were short in supply. In the wards, the drugs in short supply are Co-amoxyclove, Ciprofloxacin, Nalidix Acid, Neomycin, Domphenelone, and Phenobarbitone. The study classified the factors affecting drug availability into the following: insufficient funds allocations; not maximizing the use of allocation; delays in the placement of orders due to suppliers or in the distribution; increase in the number of patients; over-usage; quality failures; losses due to spoilage, pilferage, improper issues (last come, first issue), and expiry; wastage due to improper handling, bulk pack dispensing, bad dispensing practices, bad packaging, and patients wastage or use; and problems related to management such as poor monitoring or stock control, lack of trained pharmacists, and lack of regular audits and supervision.

Among many factors, the availability and accessibility of drugs are influenced by the activities related to estimation and allocation, procurement (including importation), storage, distribution and inventory as well as to manufacturing and drug financing.

[35] See Supporting Document Vol. II (Study Number 1.9 by Dr. U. A. Mendis, MoH)
[36] See Supporting Document Vol. I Table 4.2.1
[37] Because many of the studies that are cited employed purposive sampling techniques, stating generalisations is not attempted. Instead, all the evidence presented is taken to be indicative of the prevailing situation in most health facilities in the country and were validated through a series of consultations with national experts in the conduct of the Health Master Plan Study.

[38] MG Consultants, Final Report on Drug Costs and Availability, IDA/WB Health Services Project, 15 October 2002.

Estimation and Allocation

In general, estimation of drugs, dressings & surgical consumables are prepared by pharmacist or by Registered Medical Practitioner when there is no pharmacist. The estimates for laboratory chemicals are prepared by Medical Laboratory Technologist in the institutions. The estimates for teaching hospitals and specialised campaigns as well as from the Armed Forces are submitted directly to the Medical Supplies Divisions. The estimates from hospitals under the Provincial Councils are consolidated by the Divisional Pharmacists at the office of the DPDHS before they are forwarded through the formal channel.

The institutional estimate books are checked and certified by the Drug Review Committee which consists of the DMO, Chief Pharmacist, Chief MLT, Consultants, MOIC – OPD, and Matron. Estimates are approved at the provincial level by the Central Drug Committee consisting of PDHS; RDHS; Divisional Pharmacist; Divisional RMO; and Consultants appointed to the Committee. At the approving stage of the estimate, there is no representative from the institution. If any alteration has to be made on the estimated quantities, there is no way to get the ideas of the end-users.

The institutions make their estimates for drugs that are appropriate for their level. There are three different lists of drugs designed for the three levels of institutions:

Level 1 – Central Dispensaries (CD) and CDs with Maternity Homes (MH);

Level 2 – Hospital with inpatient facilities manned by Medical Officers (MOs), Registered Medical Officers (RMOs) and Assistant Medical Officers (AMOs); and

Level 3 – Teaching, Provincial, Base and Specialised Hospitals.

The criteria used in preparation of estimates include the following: consumption rate of the previous year; available stock positions, disease pattern of the area, financial allocation, and addition of some percentage to the previous year estimate. Specifically, 79% said that they followed the method stated in the manual on management of drugs, 27% added ten per cent to the previous estimate, only 20% used diseases pattern in the region, and 4% considered financial allocation.[39] When it comes to allocating the drugs they receive, one pharmacist said that drugs were distributed according to percentage received, while another said it was done according to prescribing habits. In reality, morbidity and mortality data cannot be solely utilised as reliable basis for estimation of drugs because of the absence of information on OPD and of a well-developed medical records department even in large hospitals. At the time of estimation, officers do not have any information on the rupee allocation.

The DPHSs decides the allocation to an institution at the local level. In certain instances, this amount is being decided without considering the population, facilities available in institutions, geographical situation, morbidity and mortality patterns. Ninety percent (90%) of the respondents[40] indicated that drugs are being allocated to institutions according to the levels as indicated in the drug estimate books. Half of them (55%) have indicated that additional allocations are given whenever the supplied drugs become out of stock.

Procurement (including Importation)

The State Pharmaceuticals Corporation (SPC) was established in 1971 originally as the exclusive importer for the country. With the open market policy in 1977, some private companies were registered as importers, too.

[39] See Supporting Document Vol. II (Study Number 1.4 by Mr. C. Edward)
[40] See Supporting Document Vol. II (Study Number 1.4 by Mr. C. Edward)

All requirements of the MS are ordered with the SPC, which requires a minimum of 9-12 months lead-time to supply an item. The order list contains up to 500 – 600 items. These items vary in specification, description, quantity, pack sizes and delivery date. Because of the time between assessment and delivery, drugs with a minimum three years shelf life are required.[41]

The purchases are made by SPC through three types of tenders (Table 2.3.11). It uses its funds initially and subsequently collects the money from the DHS. For this purpose, SPC charges 12% of the C & F value of goods as service charge. This includes all clearing and ordering expenses such as port and airport levy. SPC clears and delivers the goods, which arrive at the Port of Colombo and the Airport Katunayake, to the stores of the MSD.

Table 2.3.11 State Pharmaceutical Corporation: Comparison of Tenders

Type	Value	Approving Authority	Time to Supply First Tender
SPC	Less than Rs.10 Million	SPC Tender Board	11 months from date of requisition
Ministry	Between Rs.10 Million and Rs.20 Million	Ministry Tender Board	13 months from date of requisition
Cabinet	More than Rs.20 Million	Cabinet Tender Board	Minimum 15 months from date of requisition

In order to ensure that products supplied are of the prescribed good quality, all suppliers are required to provide a certificate of quality from the Manufacturer or from an independent Quality Control Laboratory for each manufactured batch which are closely scrutinized prior to acceptance. No consignment of drugs is cleared from the port in the absence of such Certificates.

The SPC faces several problems related to procurement.[42] One, on completion of the stringent tender procedure and award as indicated previously, the successful supplier, after accepting award, at times, informs the SPC of his inability to ship goods within the specified period. The SPC is compelled to accept extended delivery time because a new supplier would require at least another 90 days for manufacture and supply; which means a total delay of at least 120 days.

Two, sometimes there is no suitable offer after invitation of worldwide tender. In such a case, the SPC is compelled to obtain fresh Tender Board approval to invite a new tender from selected sources (registered sources and suppliers). This problem results to a delay of at least another 100 days.

Third, some items are not being manufactured anymore at the time of tender. There is no available supplier.

Fourth, the problem of quality of item is noticed upon receipt at MSD stores despite testing conducted before awarding of contract. In some instances, quality failure on certain batches is declared only after they have been distributed to the stores. In such instances, the entire stock of the relevant batch is rejected and fresh stock ordered. The delay in receipt of fresh stock is approximately 90 – 120 days.

Finally, the inability to forecast accurate estimates of requirements compels the Director of Medical Supplies Division to order the same item on more instances in one year (additional order lists). The SPC has to make fresh orders with suppliers; this leads to at least 90 – 120 days delay.

Although the major part of the procurement is done through the SPC, the MoH allows for emergency purchases by calling for direct quotations from suppliers, by purchasing directly from SPC outlets or directly from the agent. In teaching hospitals, the Director has the power to approve requests from consultants for local purchases. In other hospitals, this power lies in the Provincial Director.

[41] See Supporting Document Vol. II (Study No 1.5 – 1.7)
[42] See Supporting Document Vol. II (Study No. 1.5 – 1.7)

Storage, Distribution and Inventory

The Medical Supplies Division (MSD) is in charge of central storage and distribution of medical supplies including the following: pharmaceuticals, dressings, X-ray films and chemicals, contrast media, special drugs, surgical consumables and non-consumables, special drugs, dental items, laboratory chemicals and glassware, and printed forms. It has Regional Medical Supplies Division (R-MSD) offices that are situated in each DPDHS area for storage of medical supplies. In general, most R-MSD offices are understaffed.[43]

The R-MSD offices were easily accessible to vehicles with adequate parking facility. Most R-MSD offices have been constructed according to a type plan. However, the physical conditions were not satisfactory such as inappropriate roofs and ventilation to maintain optimum room temperature. Cargo handling facilities were inadequate. Some lack basic principles in the storage facilities required to maintain the quality of drugs. For example, out of all R-MSD only Badulla has cool room facilities for storage of vaccines and X-ray items and drugs, which need low storage temperature. Others have refrigerators for this purpose.

The distribution of supplies from MSD to R-MSD is on a quarterly basis. Transport to RMSD is by lorries or railway wagons. Lorry is the most convenient means of transportation and most of R-MSD offices have a lorry and some vans for transport of vaccines. When transport is by the MSD lorry, costs are reimbursed by the funds from the provincial administration. The lorries belonging to the R-MSD also collect supplies from the MSD. Transport of supplies from R-MSD to the end-users is by R-MSD lorries. A common complaint is that these vehicles are sometimes misused by the provincial authorities and results in delays of distribution of drugs to the respective health institution.

Generally, medicines are at times not distributed on time. In the MoH-JICA Study, 44 (44%) respondents stated that supplies are received very late.[44] Six out of ten respondents (62%) collected drugs weekly because stocks are not available at the MSD. Unfortunately, more than a quarter (76%) reported that collecting drugs from MSD is a very tedious process and many delays are encountered at all sections.

At the institutional level, the common problems related to storage and stock control are:

1) Physical Facility
   Most of the hospital stores are part of hospital buildings and not suitable as stores such as poor ventilation and no cold storage facilities. They are poorly maintained and inadequate in many ways for storage. Facilities for packing goods, receiving & delivering goods such as platform, pallet trucks are deficient. Sometime, it lacks security, separate office room for the staff, separate telephone facilities, and separate store for the surgical consumable and special items like inflammable items.

2) Human resources
   There is normally shortage of Pharmacists, Medical Laboratory Technologists, Drivers, Storekeepers and Labourers.

3) Inventory
   The survey reveals that there is no defined time interval for balancing the Stores' Stock Books due to the heavy work load of the Pharmacist, whereas the Dispensers are balancing their books daily.

[43] See Supporting Document Vol. II (Study No. 1.5 – 1.7)
[44] See Supporting Document Vol. II (Study No. 1.5 – 1.7)

Stock verification was not regular due to shortage of manpower and lack of fun. Stock verification was done by clerical grade staff. Due to their unfamiliarity with medical items, inventory is a slow and laborious process for them, resulting in delay.

4)Disposal

Disposal of unwanted supplies was studied by a board of survey composed of four members. Disposal is by burying, burning and crushing.

Manufacturing

Local industry supplies 20% of the drug market. The seven large private manufacturers are supplying drugs in the country. Another player in Sri Lanka is owned by the Government – the State Pharmaceuticals Manufacturing Corporation (SPMC). Previously, one Chairman and Working Director supervised the SPMC and SPC. In 1998, though, a separate Chairman was appointed to the SPMC. Consequently, SPMC lost a captive market. Nonetheless, it continues to produce a total of 51 items, mainly generic products. Through the WHO, it has exported diethylcarbamazepine tablets to 10 countries.

The major challenge facing SPMC is to be price competitive while maintaining the quality of their products. Although it does not have to worry about investment for facilities, which were donated by the Japanese government, it is handicapped by its inability to produce any of its raw materials. It has to import from India or China. It does not receive any preferential incentive from the government. The tax incentive it receives when importing is also accorded to other private manufacturers in Sri Lanka.

Threat to Availability: Drug Financing

The Ministry of Health obtains funds from the Treasury to Medical Supplies Division. This is an advance account to procure pharmaceuticals, consumable items and some other supplies. Non-consumable items are obtained through a capital budget. Votes are collected by the treasury to the provinces of the hospital coming under the Ministry of Health to obtain their requirements of drugs, surgical and laboratory items.

The trend in government expenditure for drugs has been upward since 1991 (Figure 2.3.6). In 2002, the government budgeted Rs.4.8 billion on drugs and medical consumables; Rs.3.2 billion is allocated for the line MoH hospitals (mainly teaching), and Rs.1.6 billion for Provincial Councils (Provincial, Base and District hospitals). As a comparison, the budget for personal emoluments was Rs.4 billion.

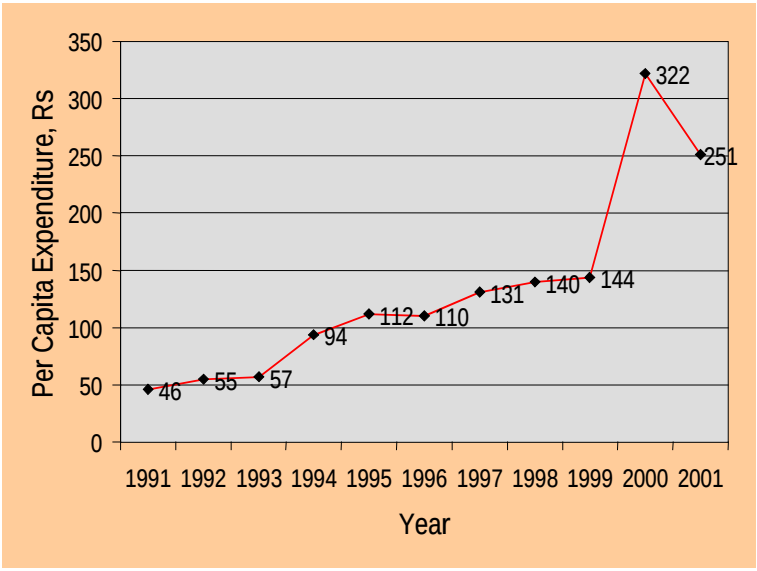


Figure 2.3.6 Government Expenditure for Drugs and other Medical Supplies, 1991-2001

Source: MoH-JICA Study No. 1.9

Is the increase in expenditures for drugs and medical supplies sustainable? Is the allocation of these resources fair and cost-effective? Is their use efficient? These are the major issues related to drug financing that need to be addressed as part of the bigger policy question on health finance.

3) Quality Assurance

Drugs may be of poor quality because they are illegal ones – unregistered, smuggled, counterfeit, adulterated, unlabelled, and spoilt/expired. Quality failures may also be due to many other reasons such as improper formulation, improper production, bad packaging or handling, and decomposition during transport, storage or dispensing from opened bulk packages. In Sri Lanka, the National Drug Quality Assurance Laboratory conducts pre- and post-marking quality surveillance to make available drugs of good quality to the general public.

The SPC, the major importer, ensures that the drugs supplied to them conform to international standards as specified in the British Pharmacopoiea and International Pharmacopoiea. In addition, Good Manufacturing Practices Certificate, as recommended by WHO, is obtained with respect to each batch of a drug imported.

Nevertheless, the IDA/WB Project pinpointed specific types of medicines that were supplied to government stores but were of poor quality during the inspection such as Promethazine, Ceferoxime, Methyldopa, Frusemide, Metformin, and Aluminium Hydroxide, on one hand, and Paracetamol, Aspirin, Amoxicillin, Cloxacillin, on the other hand. The latter group consists of drugs that were found to be short in supply, too. The poor quality drugs could be due to quality failure in manufacturing. Nonetheless, it could also be attributed to delays in disposal. During its he MoH-JICA documented about a quarter of the facilities having kept expired drugs in dispensaries for several years due to a setback in the appointment of boards of survey for destruction. (See Supporting Document Vol. II)

Drug Regulation and Quality Assurance

The Drug Regulatory Authority (DRA) is mandated by the Cosmetics, Devices and Drugs Act to carry out drug registration, licensing of retail and wholesale pharmacies, licensing of manufacturers, licensing of importers, inspection of storage facilities and vehicles, issuance of license to import drugs for personal use that are lifesaving, and regulation of cosmetics and medical devices.

Most of the operational problems of DRA are rooted to inadequacy in working space - for evaluation of applications, storage of registration applications, storage for registration samples and drugs seized by F&DI, and for maintaining confidentiality. Also, the present organisation structure has been criticised by WHO experts as being not suitable for a regulatory agency.[45] Since there are no proper guidelines, maintaining trained and adequate staff and evaluation of drugs for registration have been difficult.

The National Drug Quality Assurance Laboratory (NDQAL) was established in 1970 at the General Hospital, Colombo premises, with its facilities limited to chemical testing, and the Medical Research Institute was testing a part of Microbial and Biological for Pharmaceuticals. Initially it was called the National Drug Control Laboratory and as the facilities available then no longer met the standard of the WHO, a new and modern laboratory was set up in 1988 with the assistance of the NORAD Agency of the Norwegian Government.

At present, the activities of the NDQAL are primarily analysis of the following:

1) Samples of the drugs purchased on tender;
2) Post surveillance samples (i.e., Drugs, which are in use at the public medical institutions);

[45] Fernando, G. Report on Drugs and Supplies. Policy and Human Resources Development Project, October 2002.

3) Collected samples by the regulatory officers;
4) Complained samples from government institutions; and
5) Drugs manufactured by local manufacturers, which are registered with the authority.

The staff of the Laboratory has increased. Most of the Pharmacists and Scientific Officers are engaged in the Analysis of Drugs. The officers with short-term training for 3 months in pharmaceutical analysis are engaged in the functions. Others who are recently recruited are to be given foreign exposure.

The needs of the NDQAL are many: expansion of laboratory areas; provision of additional laboratory equipment; upgrading of computer system so it will have Internet access; and further staff development.

Shortage of Qualified Pharmacists

One of the primary reasons for not fully enforcing the Cosmetics, Devices and Drugs Act is the absolute shortage of trained Pharmacists in the country. Instead of addressing the problem in the supply side, the government has adopted remedial measures by training and appointing dispensers. Even the private sector is in need of pharmacists so much so that some stores are staffed only by unsupervised dispensers.

The qualification of the pharmacists in Sri Lanka needs to be upgraded. Their one-year academic training for basic pharmacy is equivalent only to that of a pharmacy technician in other countries. However, the status quo does not provide motivation for staff to take a diploma in pharmacy. The government has not provided a cadre for the diploma holders to receive higher salary or allowance.

4) Rational Use

In Sri Lanka, there is no system of monitoring drug use particularly with the help of a set of indicators like the one formulated by WHO (Table 2.3.12).

Table 2.3.12 WHO Core Drug Use Indicators

Prescribing Indicators	Patient Care Indicators	Facility Indicators
Average number of drugs per encounter	Average consultation time	Availability of a copy of the essential drugs list or formulary
Percentage of drugs prescribed by generic name	Average dispensing time	Availability of key drugs
Percentage of encounters with an antibiotic prescribed	Percentage of drugs actually dispensed	
Percentage of encounters with an injection prescribed	Percentage of drugs adequately labelled	
Percentage of drugs prescribed from an essential drugs list or formulary	Patient's knowledge of correct dosage	

The IDA/WB Health Services Project reported its observations on patterns of prescribing, dispensing and use of medicines and they are quoted such as dispensing error by unqualified personnel, non-compliance by patients, etc

To improve rational prescribing, the MoH updates essential drugs lists and maintains pharmacy committees. The MoH-JICA revealed that only a quarter of the respondents believe that meetings of the Regional Drug Review Committees are being conducted and another quarter believe that they are not. (See Supporting Document Vol. II) Majority have expressed very poor attendance by supervising officers for drug review committee meetings. Nonetheless, three of four respondents indicated that drug shortages and the existing situation on drugs are being discussed in the drug review committee meetings.

The other three approaches[46] effective in other developing countries to rationalise the use of drugs but have not been tried in Sri Lanka are the introduction of standard treatment guidelines, problem-based basic professional training and targeted in-service training of health workers. To improve access to unbiased drug information, the following have been published: Sri Lanka Prescriber; Drug Index; Sri Lanka Hospital Formulary; and Manual on Management of Drugs. Planners should bear in mind another finding of Laing: "Several simplistic approaches have proven ineffective, such as disseminating prescribing information or clinical guidelines in written form only."

5) Planning Challenges

Sri Lanka has had a history of pharmaceutical management dating back to 1857 when the state assumed responsibility for providing medical care and a medical store was established.[47] The Medical Supplies Working Group for the MoH-JICA Study identified many closely linked challenges in the management of drugs and other medical supplies.

Availability: Shortage and Overstock

Some essential medicines are not always available in public health facilities according to specifications when and where they are needed, while a few are overstocked.

The limited local production capacity, weaknesses in supply management, increasing demand in the face of funding constraints, and sudden withdrawal of drugs due to quality failure contribute to occasionally running out of stock.

On the other hand, incorrect estimates, poor compliance with standards and delays lead to either medicines being out of stock or overstocked. Incorrect estimates are due to inadequate or no morbidity data and, more importantly, due to inadequate use of existing data. A few officials and staff do not comply with standards either because of their lack of knowledge or refusal to follow the given regulations. A few specialists do not follow the standard treatment guidelines with respect to special drugs. Economic gain is another variant of competing interest. There have been sudden changes in procurement specifications by clinicians that have caused delay; however, these changes could have been prevented. Other sources of delays are inadequacy in transport and storage facilities, suppliers' failure, and actions of trade unions.

Inconsistent Quality

Some medicines in the public sector are expired or substandard; these in general are not issued to patients, while the private sector drug outlets, at times, issue expired, substandard, adulterated or even fake drugs.

The medicines in the public sector become expired or substandard because of problems associated to short expiration period for a few, delays in delivery for some, manufacturing failure for others, and conditions in storage facilities. In the private sector, the clients need to be protected from unscrupulous practices that include issuance of expired, substandard, adulterated or fake drugs. These practices persist for various reasons. The on-going drug testing seems to be inadequate. Manufacturers do not label their drugs clearly. Labels in a few storage facilities are not easily readable. Existing regulations are not strong enough to discourage unscrupulous practices.

Irrational Use of Drugs

At times, prescribing, dispensing and use of medicines have not been rationalised on scientific basis.

[46] Laing, RO, Hogerzeil, HV and Ross-Degnan, D, Ten Recommendations to Improve Use of Medicines in Developing Countries, Health Policy and Planning, 16 (1), 13-20.
[47] JICA - MoH Survey No. 1.4

Rational use of drugs includes practices related to prescribing, dispensing and actual use. On the part of the prescribers, some do not comply with standards and many seldom spend ample time to counsel patients or their relatives. At times, they are not assertive against patients' irrational requests. Some have limited opportunities for continuing education and they lag behind in terms of state-of-the-art medical practices. A few succumb to competing interests pedalled by drug manufacturers, distributors or medical representatives.

On the part of the dispensers, not all are trained in giving drug information. They are hardly motivated to giving information as there is no incentive for doing so and counselling is not incorporated into work norms. Others are simply overwhelmed by the volume of clients. In many drug outlets, pre-packaging is a common practice but not for all commonly used drugs.

Irrational drug use will continue for as long as the patients, caretakers or their significant others believe in fallacies like 'there is a pill for every ill' or 'that the more expensive medicines are superior'. It will be exacerbated if the medicine containers or packets are not sturdy enough, and if they are not labelled with at least the name of patients, name of medicines and dosage.

Long Waiting Time

Generally in government hospitals, waiting or queuing for medicines often takes time. However, time is a resource. When clients wait, resources are wasted. In government hospitals, resources are wasted in as much as clients have to wait for a long time before they can have their prescriptions filled from the pharmacies. Like many of the issues previously mentioned, the long waiting time is also a result of a combination of factors. Some of the higher-level hospitals are particularly vulnerable to failures in the referral system that occurs when patients bypass lower-level facilities leading to congestion in these higher-level hospitals. Most health facilities share common challenges: there is only a limited number of dispensers; limited number of windows for dispensing; and a pharmacy system that has not been updated.

No Coherent National Drug Policy

Sri Lanka still has to adopt a national drug policy that will stipulate the goals of the government for the pharmaceutical sector as well as the main strategies and approaches for achieving them. The "National Medicinal Drug Policy" that was drafted in 1996 has not been officially approved by the government.

HEALTH SERVICES DELIVERY 2 ~PREVENTIVE AND PROMOTIVE ACTIVITIES~

(1) INSTITUTIONS

MoH has a Division of Public Health Services, which has many units that together cover all the programmatic responsibilities for preventive care. There are two subdivisions: Community Health Services and Specialised Public Programs, each of which is led by a Deputy Director-General. These subdivisions have units/bureaus. The units have different logical bases: some focus on a disease or group of diseases; some address a target group; some are based on a methodological approach.

Community Health Services

1) Epidemiology Unit with EPI, ARI and CDD
2) Family Health Services
3) Primary Care
4) Health Education
5) Nutrition
6) Estate and Urban Health
7) Environmental Health and Occupational Health

Specialised Public Health Programs (also called Campaigns)

1) Epidemiology Unit with EPI, ARI and CDD
2) Vector-Borne Diseases Control
3) Respiratory Disease Control
4) Filariasis Control
5) STD/AIDS Control
6) Leprosy Control
7) Public Health Veterinary Service
8) Non-Communicable Diseases Control
9) Cancer Control
10) Poison Centre
11) Quarantine Services
12) Young, Elderly and Disabled Services

The actual preventive services each have different delivery approaches but most are done through the MOH clinics, the PHI and PHM. Such an organization can optimise efficiency and effectiveness only through close coordination of policies and plans and integration in service delivery relating to one target group (i.e., children under 5, mothers, people over 50) at least in time and place, often also in the person delivering the service. Currently, the degree of integration or coordination relies on MOH local efforts.

Strengths of preventive and promotive health care services can be summarised into two. One, Sri Lanka's Public Health Service has been recognised as a model for developing countries in terms of coverage reached and effectiveness of protection from infectious diseases of children, as well as safe motherhood and protection of high-risk infants from death. The latter seems to relate most closely to PHM contacts (David Peters 2002 Social Medicine to be published) and curative contacts (Ravi 1999). Two, the public service delivery is low cost per service contact (Hsiao 1997).

There are a number of weaknesses of the services, which can and need to be addressed:

(2) GENERAL WEAKNESSES

Lack of Coordination

At present, weakness of the preventive and promotive health care services are that programs, even within each subdivision, are often very much uncoordinated in policy and macro-plans, and whatever coordination or integration can still be achieved depends on the insight, motivation and management skills of the Medical Officers of Health at the district and divisional level. The execution is largely command-driven with monitoring principally used to check coverage, but only exceptionally to do quality control. Each unit has its vertical chain of command, its own cadre of workers, and its own budget that is often project- and donor-driven.

The areas that have suffered most from the lack of coordination and integration seem to be Nutrition, Non-communicable Diseases and Health Education. However, all program areas would benefit from close coordination and striving for prevalence of workers in contact with the communities as well as monitoring and supervision of quality of process including responsiveness to community needs.

The other area of problem is rigid division of preventive and curative functions. Integration of functions is left up to PHI/PHM and often does not happen. Such fact contributes to a lack of a comprehensive family and patient-centred primary health care.

Weak Response to Emerging Health Problems

The response to emerging health problems of Non-Communicable Diseases is still weak. Programs have lacked a strategy to incorporate health education, pro-active detection or follow-up of cases and also lacked an effective coverage of programs for school health needs, for nutrition, for prevention of non-communicable diseases and for prevention of trauma. Currently the extensive PHM network is not yet used for follow-up patients with non-communicable chronic diseases and to carry focused messages in health education on questions of lifestyle, nutrition, alcohol and tobacco use, and prevention of STD and other transmittable diseases.

(3) SPECIFIC WEAKNESSES

Family health

Within Community Health, the Public Health Nursing Sisters (PHNS) and Supervisory Public Health Midwives supervise the work of Public Health Midwives (PHMs) and the preventive care of pre-school children, and women of reproductive age. School health is instead under the responsibility of the PHI as historically the stress was on sanitation and environment. The PHMs and Family Health Workers at the grassroots level provide services to mothers and infants, and maintain the link between the clinic and the community. On the average, they are supposed to serve a population of 3,000 for whom they run preventive clinics (ANC, PNC, FP, Under-5 growth surveillance during normal working hours and scheduled outreach visits in postnatal time; in some areas, as part of a community-based DOTS of TB).

The PHM network was designed primarily as a family health delivery method more than 20 years ago. Currently about 21% of the areas have been disturbed and rendered ineffective as either people moved out because of the conflict or rural migration or they moved into urban areas and the population is now much greater than 3,000 per Midwife.

Women no longer seek assistance during delivery from PHM and prefer to go to Maternities or even hospitals. Moreover, the demography has changed because of declining fertility and increasing longevity. Mothers and children are no longer the major and only risk group; people over 50 are a high-risk group for hypertension, diabetes and their complications. This age group is bound to further grow in importance. They could benefit from affordable community-based services for detection, promotive and preventive measures.

Health Education

The Health Education Bureau is responsible for the planning, implementation, maintenance and evaluation of the health education component of all health services, programs and projects in Sri-Lanka. Its goal is to promote health, and prevent diseases and disability through advocacy and social mobilization. Its main functions so far are:

- Hospital health education, i.e., training of hospital staff and providing audiovisual equipment;
- School Health Clubs established in 1,520 schools;
- Mass Media orientation, i.e., seminars for media personnel; and
- Health education on Non-Communicable Diseases stressing the health risks of smoking and drinking alcohol among school children (more details about this are in the School Health Section below).

The issues identified in the area of Health Education are as follows.

- Insufficient coordination with other parts of community health or preventive or curative health care. Each section in the MoH, as well as donor agencies, including the United Nations (UN) are making their own education materials, such as posters, mass media commercials, flipchart, etc. independently without consulting and without documenting available materials.
- Insufficient quality control and pretesting of health education materials or educational methods.
- Shortage of human resources, especially highly skilled professionals on Information, Education and Communication (IEC) who could improve approaches to IEC in other programs and improve the interpersonal communication in preventive and primary and secondary care institutions.
- Even materials published by the Health Education Bureau are mostly just informative without inviting a participative and interactive mode of education and exchange.
- Community participation in health education campaigns, detailed activities for health promotion and health education for non-communicable diseases such as diabetes and hypertension seem not yet tackled.

Nutrition

The identified weaknesses in the area of nutrition are as follows.

- The absence of clear TOR and lack of coordination between the four offices has led to programmatic confusion.
- The decision to delegate monitoring and feedback of growth surveillance and nutrition advice to MOH clinics with no clear upward reporting has led to very uneven implementation and command-driven performance.
- No clear nutrition messages for mothers and children have been popularised. ANC lacks targeted interventions for nutrition of the pregnant mothers in order to prevent low birth weight. PHM themselves may not understand the importance of exclusive breast feeding in the first six months, they may not understand fully the importance of frequent small

complementary meals during weaning, and the importance of balanced frequent meals for the toddler and the school child.

- Most hospitals advice mothers about the care of low birth weight babies but, few if any study the causal factors that might help to improve prenatal services or educate the mothers on the immediate and delayed dangers of low birth weight.
- Adults and seniors at risk of hypertension and or diabetes are currently not detected or advised by PHM, nor does the Health Education Bureau have a major effort targeting them, nor do the OPD or most specialist clinics organise information, education and dialogue on the feasibility of changes in lifestyle and eating habits.

EPI, ARI, and CDD

The Epidemiology Unit was established in 1959, with assistance from the WHO, which helped in 1987 to computerise disease surveillance data. The functions of the unit are:

- Forecasting disease epidemics and taking appropriate action for their prevention and control;
- Training medical officers and other health staff on epidemiology and control of diseases;
- Providing feedback to the Weekly Epidemiological Report and Quarterly Epidemiological Bulletin on selected communicable diseases; and
- Conducting research activities relevant to epidemiology.

Its specific objectives are:

- Strengthening of surveillance activities for communicable and non-communicable diseases;
- Forecasting of disease epidemics and taking appropriate action for prevention and control;
- Expanded Programme on Immunisation (EPI): For eradication of poliomyelitis, elimination of neo-natal tetanus and reduction of mortality and morbidity due to childhood tuberculosis, measles, diphtheria, whooping cough and tetanus;
- Prevention of congenital rubella syndrome and rubella;
- Reduction in mortality due to diarrhoeal diseases and acute respiratory infections in children under 5 years of age;
- Reduction of morbidity and mortality due to Dengue Haemorrhagic Fever and Japanese Encephalitis;
- Prevention and control of new, emerging and re-emerging diseases; and
- Improvement of the epidemiological unit's capability to perform research on health-related issues beneficial to the public.

The identified issues in the area of EPI, ARI, and CDD are as follows.

- Lack of specialized human resources, such as medical officers, consulting epidemiologists and supporting staff at the central/ provincial/ regional levels; many posts remain unfilled. This hampers effective surveillance and disease control activities. Most of the qualified medical officers in the field are not willing to accept these posts due to insufficient incentives and lack of other benefits. There are insufficient financial resources to hire additional staff necessary for the regular publication of the Epidemiological Bulletins and for maintenance of the equipment.
- The central cold storage (building) for vaccines needs to be renovated and equipped with reliable power-supply and stand-by generators. The current practice of storing vaccines in private cold rooms is costly. Despite the decrepit condition of equipment, the cold chain system at the ward level is being adequately maintained by PHMs, but if daily vaccinations were to be tried, it might not be possible.
- Though the notification system is functioning even in North and East of Sri Lanka, due to the epidemiological transition of the society, surveillance should be extended o include NGDs such as hypertension and diabetes that are taking epidemic proportions.

- The control of transmittable diseases that have no vaccination has not been entirely successful. Diseases associated with lack of sanitation or are arthropod born or airborne have still high incidence but mostly fairly low fatality. The most important are dysentery, enteric fever, food poisoning, leptospirosis and viral hepatitis, measles and tuberculosis, malaria and dengue haemorrhagic fever in urban areas.
- More resources are necessary for the development of new programs, such as the introduction of new vaccines like Hepatitis B; the measles control campaigns, dengue prevention and control programme, and the prevention and control of new emerging/ re-emerging diseases.
- Disease notification is slow, as the office has no fax or E-mail link to provinces, divisions or districts. It is also incomplete as OPD, private hospitals and clinics pay very little attention on this matter.

Vector-Borne Diseases Control

Vector-Borne Diseases Control Programme aims to achieve better control of the four main vector-borne diseases: Malaria, Filariasis Dengue & Japanese encephalitis. The control activities will be planned and coordinated by the Vector-Borne Diseases Control Programme of the Central MoH and implemented through the Provincial Ministries of Health.

Some of the issues seen in the Vector-Borne Diseases Control are:

1) Malaria
   - Despite the efforts of the Anti-Malaria Campaign, fatalities of reported cases has been increased since 1995 mainly due to the increased number of Malaria cases in the N&E provinces.
   - The Roll-Back Malaria Programme has not been as active a control programme as wished due to the weak coordination among the concerned agencies, including the people in the community, the NGOs, etc.
2) Respiratory Diseases
   - The high rate of defaulting in the urban areas where there is a high percentage of floating population and in areas affected by armed conflict. A high default rate is observed due to associated stigma and lack of understanding about the need to continue taking the prescribed drug beyond the period one feels ill with TB.
   - There is insufficient coordination with the private sector, whose reporting system is not functioning well.
   - Frequent supervision from the central level is not possible due to lack of supervisory staff at the Central Unit; better monitoring is not possible as long as reports are delayed.
3) Filariasis Control
   - Living conditions of the poor or newly migrated people make it hard to eliminate breeding sites.
   - There is a need to further explore ways of improving the performance of this program.

STD/AIDS Control

National STD/AIDS Control Team is responsible for the implementation and coordination of the STD/AIDS Programme at central and regional levels. The National HIV/AIDS Control Program estimated that there were about 8,500 people living with HIV/AIDS at the end of year 2000. The weaknesses identified are as follows.

- Lack of adequate interventions, such as outreach activities and peer education, by public health workers for persons with high risk behaviours, including commercial sex workers, drug users, returnees from abroad, and male homosexuals. Conservative clergy is uncomfortable with explicit public education on safe sex. There is a low usage of condoms among married and unmarried individuals due to stigma on condoms and on HIV and this persists due to insufficient health education.
- Delays in initiating treatment of STDs because of patient embarrassment and health worker reluctance to ask questions and do appropriate examination and tests. There are also delays in the training of staff working in hospitals for STD detection and patient care.
- The sizeable number of STD patients that seek care from the private sector. This affects reporting and implementation of national treatment guidelines.
- Absence of quality control in HIV testing laboratories, including blood banks.
- KAP studies show very uneven knowledge on HIV and the prevention of its transmission. Many people are still uninformed about dangers of HIV transmission. Even fewer understand how to prevent infection. In the Estates, only about 40% of women have ever heard of HIV/AIDS. Moreover, no KAP study on HIV/AIDS has been done in the Northern and Eastern provinces.

Anti-Leprosy Campaign

Leprosy control activities in Sri Lanka are being implemented through the vertical programme, Anti-Leprosy Campaign, of the Ministry of Health. Sri Lanka is the first country in the Southeast Asian region to achieve 100% coverage with MDT in 1983 and one of the first countries in the region to reach the elimination target in 1995, five years ahead of the targeted year.

At the end of year 2001 – first year after integration – 2,302 new cases have been detected. Prevalence of leprosy increased from 0.6/10,000 (2000) to 0.8/10,000 (2001). Percentage of multi-bacillary patients remained same as the previous year. Both child and deformity rates have come down indicating that transmission is disrupted and patients are diagnosed in the early stages respectively.

The two provinces, Western and Eastern, have the prevalence higher than the elimination target. Colombo and Batticaloa have prevalence of almost 2/10,000. Five districts have prevalence slightly higher than the elimination.

Identified issues in the anti-leprosy campaign are as follows.

- Capacity building of regional health workers needs to be strengthened for training programmes at district level, diagnosis and management training for MOs of curative health units, epidemiological assessment and monitoring for MoHs and DDHSs.
- Monitoring of MDT distribution needs to be totally integrated.
- A decision has to be taken with regard to the two hospitals which has limited number of old cured patients. Repealing of the leper ordinance and outdated clauses in the establishment code.
- Request for additional allocation to carry out training programmes and other educational activities and to maintain the surveillance in the event of funding agencies leaving the programme.

Public Health Veterinary Services (Rabies)

The Public Health Veterinary Service is the authorized agency for the control programme for rabies. Rabies is usually fatal in humans. Three hundred seventy-seven (377) cases of human rabies were reported in 1973. This figure has been gradually reduced to 83 in the year 2001 due to massive health education and the control of dog rabies.

The identified issues are as follows:

- Coverage of the control programme in the Northern and Eastern provinces is still lower than the rest of the country.
- Preventive activities (family and temple dog vaccination) should be intensified and activities such as the dog registration and spaying system should be strengthened.
- A system for proper dumping of leftover food should be established through a massive health education campaign.

Non-Communicable Diseases

In Sri Lanka, the number of people suffering from non-communicable diseases (NCD) has increased significantly. Collectively, NCD has overtaken communicable diseases as cause of deaths reported to the Registrar General (Figure 4.3.4). Many of the top causes of deaths in government hospitals are non-communicable disease, too (Figure 4.3.5 and Figure 4.3.6)

Moreover, recent researches suggest a link between poor nutrition before birth and in infancy and higher rates of ischaemic heart diseases and diabetes later in adult life. If incomes were to rise substantially as projected in Sri Lanka in the coming decades and rates of malnutrition were to decrease as well, then the outlook would be bright for the country. However, if malnutrition rates were to increase instead, then the situation would pose a big problem.

The further increase in NCD is also anticipated because the risk factors (Figure 2.3.7) are known to be almost constantly present in Sri Lankan life, starting from foetal life, infancy, childhood, adolescence, and up to adulthood. All the foetal, early childhood and adolescent risk factors are being tackled more or less systematically through MCH and School health, even if some staff are largely unaware of their importance as risk factors for NCD. So where low birth weight is still reported at 17%, it has been coming down slowly; the same goes for stunting and wasting (see nutritional status).

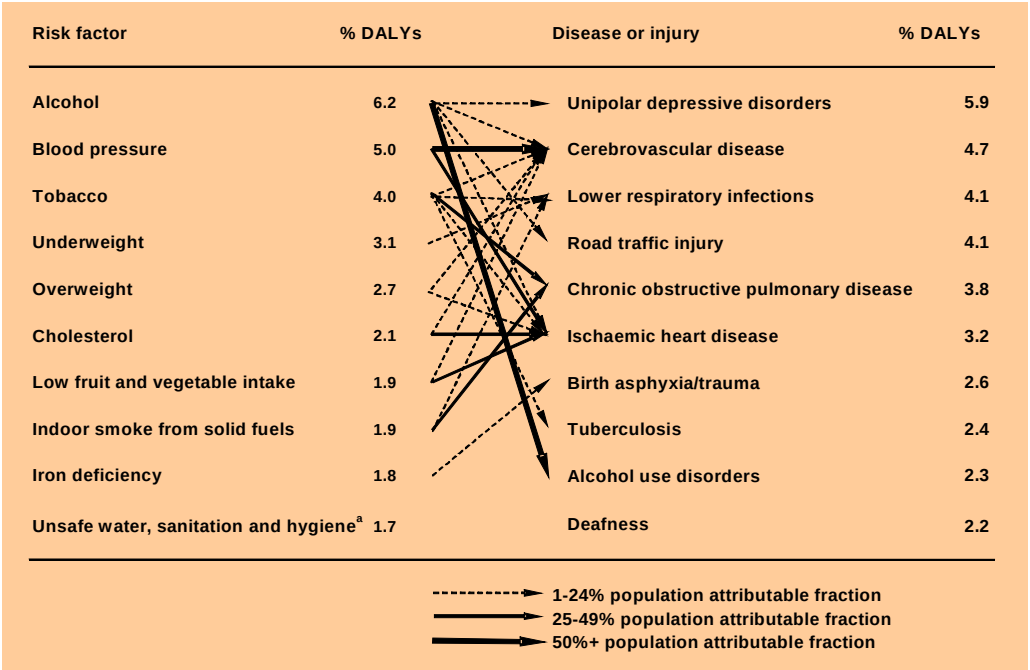


Figure 2.3.7 Burden of Disease: 10 selected risk factors and 10 leading diseases in developing countries with low child and adult mortality after WHR WHO 2002

Note: DALY means disability adjusted life years. It can be thought of as one lost year of healthy life and the burden of disease as a measurement of the gap between current situation and the ideal where everyone lives to old age in full health

The burden of NCD is greater than the communicable diseases because the medical and surgical treatment of conditions such as cardiovascular diseases, diabetes mellitus or cancer is extremely expensive. If the current rapid increase of NCD is left unchecked, it will have significant social, economic and health consequences. The most cost-effective way to combat the NCD epidemic is to devote our resources towards primary prevention.

The Ministry of Health, recognising the importance of the problem of NCD, has taken necessary steps to create a separate directorate in order to launch a comprehensive NCD programme throughout the country.

The Directorate of NCD identified the five major issues for planning:

1) It is of utmost importance to plan for primary prevention activities. Emphasis should be given to promotion of a healthy lifestyle throughout one's whole life. Specific school health programmes and programmes for youth have to be considered as long-term effective measures to prevent major NCDs. Primary prevention, moreover, could be directed first to patient families that are more at risk and their change will also help the patients. More aggressive preventive measures need to be implemented for other diseases/conditions, such as diabetes, accidents and suicides.
2) There should be provisions for basic screening at the primary health care level and followed by a proper referral across the different levels of care and basic health care package appropriate at each level of health care institute. NCD primary, secondary and tertiary prevention through MoH curative facilities has still to be started in a systematic way.
3) In order to manage the considerable caseload, Sri Lanka should be prepared to provide better treatment facilities to major NCD as well. As there is a plan already to have more organised health care at different levels, screening and treatment of NCD could be incorporated into the proposed health care facility plan, too.
4) Being the focal point, the NCD unit of the Ministry of Health currently implements the national programme through the provincial set-up in which, coordination is being done by Regional Epidemiologists and Provincial MO/ Planning, at present. Establishment of a focal point (MO/NCD) at each provincial level, or preferably at the district level, will enable delivering a comprehensive NCD programme throughout the country. The focal point can liaise with civil society as there is a need to support widespread movement for lifestyle change.
5) The NCD operates with minimum resources. It conducts programmes using the existing health infrastructure so that these activities will be sustainable and have long-term effects. However, it needs more resources and expansion. It is vital to devote additional resources to primary preventions of NCD, which is the most cost-effective way to combat the increasing prevalence.

Cancer Control

National Cancer Control Programme has been established in 1980 based on the recommendations made by a WHO team to the Ministry of Health after a detailed study on mortality and morbidity in Sri Lanka.

Cancers have become the second biggest killer in the developed countries and in the developing countries, too. At present, out of all deaths above the age of 35 years, cancer has become the 5th commonest cause of morbidity and mortality.

The aim of the Cancer Control Programme is to reduce the incidence of cancer and its morbidity and mortality. This could be accomplished with due attention to both the relevant knowledge about cancer and to socio-economic factors and by the introduction of legislative measures.

Cancer Control Programme strategy comprises seven main approaches:

- Primary Prevention
- Secondary Prevention
- Treatment of Patients
- Management of Terminal Cases
- Maintenance of Cancer Registry
- Rehabilitation of Cancer Patients
- Cancer Research
-

As a part of National Cancer Control Programme, five major projects funded by WHO have been implemented: 1. Awareness Programme for Primary Health Care Workers; 2. Community-Based Oral Cancer Awareness and Screening Pilot Project; 3. Awareness Programme on Hazards of Tobacco for Trainee Teachers; 4. Mobile Exhibition; and 5. Mobile Cancer Screening Clinics.

National Cancer Control Programme has been conducting an oral cancer awareness and screening programme in the estate sector since 1997, with the aid of Plantation Housing and Social Welfare Trust.

The Programme has implemented the data collection and analysis of cancer registry in every five years but because of lack of staff, data collection tends to be delayed.

Poison Control

Figures 2.3.8 shows that most poisoning deaths are declared as suicides. While accidents have decreased in all age groups in the last 20 years, the young seem to have benefited most from the effort at educating people about the dangers. In fact, in the last 10 years, accidents among those over 65 years old have once again become more frequent. This might be due to a misclassification of suicides as accidents. Suicides have not decreased and, in fact, have become more frequent in the last decade.

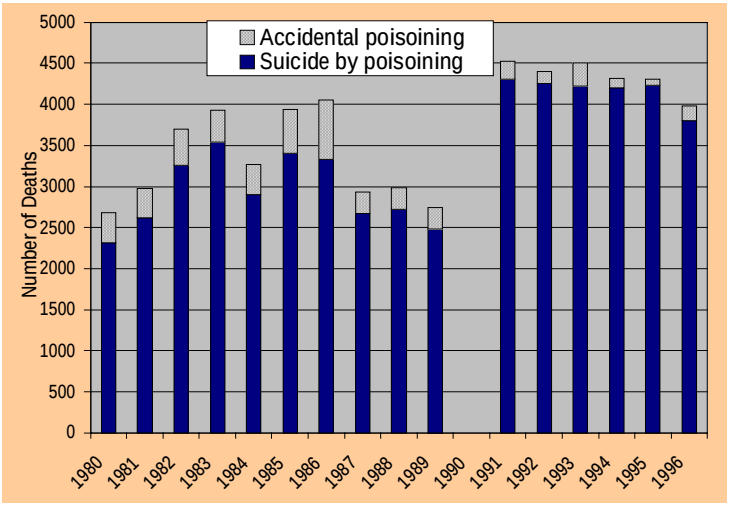


Figure 2.3.8 The Number of Deaths; Accidental Poisoning and Suicide by Poisoning, 1980-96

Source: Registrar General 1980-96

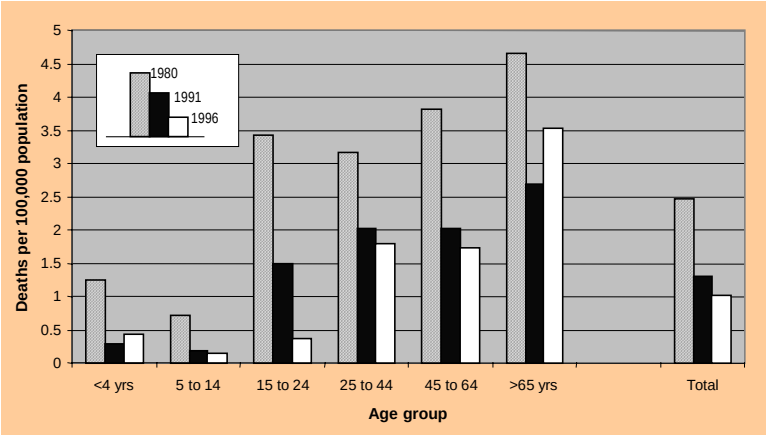


Figure 2.3.9 Deaths caused by accidental poisoning by age group, 1980, '91, and '96.

Source: Registrar General 1980, 1991, and 1996

Poisoning control so far has followed four approaches:

1) Control of pesticides and insecticides and their packaging (necessary but insufficient for accident control);
2) Public education on the dangers (helpful for accidents, may be counterproductive for suicides);
3) Hotline (9-4pm) on first aid and antidotes. It is used by care providers but not sufficiently known by the general public; and
4) ICU care in tertiary hospitals and a few secondary hospitals.

As one can see from Figure 2.3.9, these actions have had a favourable but insufficient effect; all need strengthening. The hotline needs to be opened 24-hours, 7 days a week. There is also a need to inform the public on where to take patients and what to do before and during transport. Counselling is also important especially for suicide attempts. Moreover, there is a need for education on first aid for poisoning. Last, but not least, there is a need to do mental health research and find out why so many young and old kill themselves. Social break down and economic stress have provoked suicide epidemics in India[48] (potato growers April 2003). Sri Lanka's very high suicide rate (7th highest in the world, highest for Asia) might be an expression of a much larger stress and suffering in rural populations due to strained economic situations.

Following consideration of the higher number of deaths occurring from poisoning in Sri Lanka, the National Poisons Information Centre was established in 1988 at the then Colombo General Hospital under the Ministry of Health Services, with the aim of providing patient management advice to all Health Personnel, in order to minimise the number of deaths. The International Development Research Centre, Canada, had granted funds under a three-year project to establish the National Poisons Information Centre (NPIC). NPIC is a full member of the International Programme on Chemical Safety of the World Health Organization. It was formerly in the Outpatient Department near the Emergency Treatment Unit (ETU). Now it is adjoining the Medical Intensive Care Unit (MICU).

The activities of the NPIC so far are as follows:

1) Presently, the Centre provides all the information relevant to any chemical substance, their nature and the management procedures to all doctors throughout the island.

[48] "Traders syndicate exploits farmers", Chander Prakash, Tribune, 3 Apr 03.

2) The Centre accommodates requests for information on a substance.
3) Awareness programmes on prevention of poisoning, first aid and safe use of chemical such as pesticides are conducted. This includes seminars, small group discussions, exhibitions etc.
4) Articles are published in journals.
5) A handbook on first-aid measures in poisoning and prevention of poisoning will be published soon.
6) Posters and leaflets on venomous snakes and toxic plants of Sri Lanka and preventing food toxicity will be printed soon.

In 2001, pesticides and pharmaceuticals accounted for 31% and 23% of the enquiries, respectively. About 6 out of every ten cases were suicides. Issues identified in the area of poisoning control are as follows:

1) Human resources - The permanent cadre is inadequate. Presently only three Research officers are in the cadre. To implement a 24-hour service by NPIC itself, the Centre needs more staff. The cadre should include medical doctors, research officers, nursing officers, librarian, data entry operators, and other paramedics.
2) Infrastructure – The NPIC is accommodated in a very small space and it is hardly enough to carry out the functions smoothly. There is a need for a permanent facility.
3) Finance - An annual grant is not allocated by the Department of Health Services or by the National Hospital of Sri Lanka, Colombo, to the NPIC in a separate vote.
4) Communication facilities – There should be more direct telephone lines, facsimile machines, etc.
5) Services - Since no facilities are available in the NPIC at present for treatment, analysis, research, etc., all the aspects have to be considered in the development process of the NPIC. Presently, antidote monitoring and distribution is not done through the NPIC. There should be an arrangement to supply antidote through the NPIC to all the hospitals in Sri Lanka.
6) Networking - Due to the poor networking with other hospitals, the NPIC does not get first hand information on all incidence of poisoning in Sri Lanka. A Central Data Bank has to be formed in the NPIC to obtain all data with regard to incidence of poisoning occurring in Sri Lanka. A link should be introduced to transmit all data from all the hospitals in Sri Lanka to NPIC. In addition, NPIC has to be linked with the Health Information Unit of the Ministry of Health.

Quarantine Service

Port Health Office comes under the Department of Health Services and carries out Quarantine activities of the Government under the International Health Regulations. In Sri Lanka, these activities are governed by the provisions of the Quarantine and Prevention of Diseases Ordinance.

The objectives of the Quarantine Services are:

- Prevention of entry of persons having communicable diseases in to the country through its seaports and airports with special emphasis on yellow fever and plague;
- Prevention of entry of infected vectors and rodents into the country through these ports;
- Prevention of establishment of disease reservoirs in and around the ports; and
- Provision of necessary services and carrying out activities to achieve above mentioned activities.

The major activities include inspections and granting of “Pratique” or health clearance for vessels and aircrafts arriving from foreign ports and airports; rodent control activities; and immunisation particularly against yellow fever and meningococcal meningitis for all persons destined to countries proclaimed by the WHO as endemic; and vector surveillance activities. The other activities include monitoring the quality of water provided to ships by the Sri Lanka Ports Authority; provision of “Radio Medical Services” to ships; food sanitation & control activities; training activities; release of dead bodies brought into the island; and implementation of other provisions of Quarantine Ordinance and International Health Regulations.

All the activities at the Port Health Office are carried out exclusively with the use of government funds. No foreign funds are available at present. Income generated through vaccination and issue of De-ratting Exemption Certificates are credited to the Consolidated fund.

The issues identified in the area of Quarantine Services are as follows.

1) Long existing vacancy of the post of Chief Port Health Officer and the fumigation office should be filled as early as possible.

2) Port Health Office should be assigned with new functions that need to be carried out to cover the emerging issues such as food and environmental sanitation at the port.

3) Arrangements should be made to preserve the authority of the Port Health Officer by issuing him with an identity card depicting his authority and functions and to inform the employees of the Sri Lanka Port Authority, especially the Security, not to interfere with the duties of the Port Health Officer.

4) Regulations related to the activities of the Port Health Office have not been updated for the last four decades or even longer and need urgent replacement with new regulations applicable to present day requirements.

5) The office need a face-lift, at least to be in par with the other government offices situated in the same building. Unwanted documents and condemned stores items should be disposed and adequately preserving the valuable old documents should be systemized. A computer of a reasonable standard is needed urgently.

HEALTH SERVICES DELIVERY 3 ~SOCIAL SERVICES~

(1) SITUATION

Traditionally Sri Lanka's governmental health services had been provided to the people more or less as a welfare facility since the consumer has not had to make any direct payments to obtain services. Even though this has been an enormous strength within the health sector enabling Sri Lanka's health indices to be superior to many of its neighbours in the region and putting it at par with some of the more developed countries, the time has come now to re-evaluate the system.

Like many countries in the West, Sri Lanka too is fast becoming a nation with a majority of ageing people. In fact, the proportion of the population aged 30 - 59 registered an increase from 29% in 1981 to 35.3% in 1994. It is expected to increase up to 37% in 2021 and up to 44% in 2042.

This indicates that the health service needs of the future would be very different to the needs of the present. Health services would have to cater to the many physical, psychological and rehabilitative health needs of the increased greying population. This would mean establishing new services and expanding some of the existing services.

At present, the services offer no special privileges for the elderly other than having separate queues in the OPD and in the pharmacy when collecting their prescribed drugs. There are no personnel in this country specialized in geriatric medicine. Separate institutions that cater very specially to the health needs of the elderly alone are also virtually non-existent.

(2) ISSUES TO BE CONSIDERED

Since there is no social security system in Sri Lanka, providing the elderly who are unemployed with a governmental allowance and those who would be drawing governmental pensions would be receiving just a minimal amount. Sri Lanka should establish a health welfare system for the elderly in the future.

With the increasing ageing population in the future one could expect hospital wards to be filled with old people either due to acute conditions such as fractures and accidents and acute chronic illnesses arising from the increase in non-communicable diseases such as diabetes and hypertension. However, the treatment that the hospitals will be able to offer will be limited and the time stayed in the wards will have to be minimised to prevent overcrowding. Nevertheless, what would be the alternative once the patient is discharged? Would the home and community be able to care for them until they are fully rehabilitated? If not, is it time to think of some sort of a halfway home where the patient is completely rehabilitated?

At present, there are a few day care centres for the aged managed by NGOs such as HELPAGE. These could be equipped with medical facilities as well to serve the health needs of the elderly. Strengthening community care for the elderly and creating a post of a community nurse to check on them at home could also be another suggestion.

HEALTH SERVICES DELIVERY 4 ~INTER-SECTORAL ACTIVITIES~

(1) SCHOOL HEALTH

The number of students in Sri Lanka is 4.3 million or about 25% of the total population. There are 9,972 public schools with a current enrolment rate of 92% for children at the age of five. Fifty-three percent (53%) of schools have more than 200 students. The School Health Programme is being implemented jointly by the Health Education and the Family Health Bureaus. Its goals are:

1) To ensure that children are healthy,
2) To ensure that the children are capable of promoting their own health as well as the health of their family and community, and
3) To ensure that the children are able to optimally benefit from educational opportunities available to them.

Three main institutions contribute to SHP, namely:

1) Health Education for “School Health Clubs”
   About 1,500 out of 9,900 schools have been carrying out this activity. This approach is similar to the “Child to Child Programme”. The concept is very interesting; however, one weakness is that the leadership in the clubs has been taken over by teachers. Moreover, there are very little or no recreational or fun activities included in the programme.
2) Family Health Bureau
3) School Medical Inspections (SMI)
   This refers to the students’ physical check up conducted by the Public Heath Inspector. During the SMI, the PHI collects wt, ht, visual acuity and hearing as well as gross orthopaedic problems. This examination is done for students of grades 1, 4, and 7 in schools that have more than 200 students, and for students of all grade levels in schools that have

less than 200 students. No national report has been made available on the School Medical Inspection for more than 10 years now. The SMI report is a potential good source of information on the school children's nutritional condition using the growth monitoring chart as basis. However, the objectives of this check up seem to be quite unclear to workers. It is not clear how well individual problems are followed up with teachers and or parents and how effective referrals are. Moreover, there may be some sloppiness in data collecting and recording and therefore concern about data accuracy and reliability.
The first report on school medical inspections that would describe the national situation would be available in September 2003.

Maintenance of a Healthy School Environment

In each school every year, the PHI conducts a School Sanitation Survey that collects the following data:

1) Background information of school
2) Information on school building
3) Furniture
4) Staff rooms
5) Dental clinic
6) Sanitation facilities (latrines, water supply, situation of water source, storage of water)
7) Waste disposal
8) School environment
9) School gardening
10) School canteen
11) School health clubs
12) Pest control
13) Other health-related activities in school (counselling sessions, health-related debates, special health-related programs, special nutrition activities, health seminars)
14) School development society
15) Hostel facilities for boarders

Table 2.3.13 shows the distribution of schools with basic amenities, such as toilets, urinals and safe water, in some selected districts in the year 2000. It is clear that not all schools have basic sanitation facilities. Among schools that do have basic sanitation facilities, there is no clear information on the number of students per toilet ratio, the condition of these toilets and the condition of safe water facilities.

Table 2.3.13 Number of Schools with Basic Amenities such as Toilets, Urinals and Safe Water in 2000

District	No. of Schools	With Toilet and Safe Water
Colombo (Urban)	15	11
Matara (South, rural)	15	12
Ratnapura (Urban)	15	14
Badulla (Rural)	15	12
Nuwaraeliya (estate)	14	2
Polonnaruwa (East coast)	11	8
Total	85	59

Source: "Study on the School Health Programme" (Policy Planning Studies of the Ministry of Health and Indigenous Medicine)

School Community Participation for Health Promotion

School health is considered as a broad range of school-based and community-based activities. School children are the agents of communication and motivation for the parents and the community. The programme coordinates with health care, educational, social, sports and youth service institutions in

carrying out its activities. Hence, the programme assists children, families and the community in preventing disease, and protecting and promoting health.

Ministry of Education - "Health Subject in the Regular Curriculum"

The commitment of the headmaster is essential to the success of the SHP. Then the school urges the active participation of students, teachers and parents. However, in most places even the strongly committed seem to acquiesce in very much theoretical teaching of health subjects, not oriented to practical knowledge, skills or practices. In the absence of the headmaster's support, the school programme will just be minimal. The educational system in Sri Lanka puts a lot of emphasis on the "results of exams". Therefore, teachers and students have very little time to spend on health.

Program Currently being Developed

From June 2002 to March 2003, the Family Health Bureau and UNICEF implemented, as part of the programme to control iron deficient anaemia among school children, a pilot study on "Improving Health & Nutrition through Schools" in five districts covering 1,762 schools. All students in grades 7 and 10 will each be given one tablet of Mebendazole (500 mg), one tablet of Ferrous Folate (60mg of elemental iron and 0.4mg of Folic Acid) and one tablet of Vitamin C (50mg) once a week for a period of six months. If successful, this might be scaled up.

The issues identified in the area of School Health Program are:

1) The National Health Policy report reviewing the SHP clearly stated that: "the services were highly unsatisfactory in terms of range of services actually provided, their quality and the coverage of school children. The coordination among institutions implementing the programme is far from satisfactory". The Policy review also recommended 12 points for SHP improvement. Each point showed very reasonable solutions as well. However, it is disappointing to note that none of these points was achieved in the last 10 years.
2) The poor coordination among related institutions at the central level is the most serious issue.
3) Sanitation facilities and amenities differ in each school.

(2) OCCUPATIONAL HEALTH

In Sri Lanka, the information available on occupational diseases is very limited. The reason given for this is that there is no institutional mechanism to ensure accountability to make the surveillance system operational.

Under the factories ordinance No.45 of 1942, which was further amended by acts No. 54 of 1961 & No.12 of 1976, there are 20 conditions notifiable as occupational diseases. These are anthrax, lead, mercury, phosphorus and arsenic poisoning, toxic jaundice, toxic anaemia, chrome ulceration, epitheliomatous ulceration, compressed air illness, silicosis, byssinosis, siderosis, asbestosis, dermatosis, and poisoning by aniline, benzene, or its homologues, carbon bisulphide, halogen derivatives of the aliphatic series, cadmium manganese, pesticides, weedicides and defoliators.

Apart from the above, occupational diseases and injuries are also considered under the following broad categories:

1) Industrial accidents/injuries. – With changing technology, modern machines and processes are introduced replacing old technology with new. These are done sometimes without proper training of the workers and without proper protective gear.
2) Pesticide poisoning. – This can be either deliberate or accidental. Rapid industrialization and agricultural development has resulted in many economic and social problems that lead to poisoning. Sri Lanka's suicide number is one of the highest in the world.
3) Occupational lung and skin diseases and cancers. Certain materials and processes that are the result of certain industries have not been adequately studied. Very little information is available on the many vegetable dusts, such as rice husk, coconut husk, chilli powder, and tea fluff that workers become exposed to.
4) Psychiatric problems. Occupations may sometimes act as a trigger factor in psychiatric problems. In the fast developing world of today coping with stress is a problem.
5) Allergies.
6) Zoonosis.
7) Snake bites. This is common among agricultural workers particularly in areas where jungles are cleared for agriculture.
8) Physical hazards. The body shape and the anthropometric measurements of Sri Lankans are different from that of people in countries from which machinery and equipment is imported into this country. As such equipment is designed for use by people with a different body structure, the postures adopted to use these result in fatigue, backache, and other muscular and joint pains.

Under the factories ordinance it is compulsory for all industries to maintain a general register (form 11) as prescribed in factories (No 01 –Regulations 1960) to record all accidents. Factories are requested to send in their returns every six months to the Labour Department. Factories are also requested to report all work-related injuries and diseases if the workers do not come to work for three days. But this mechanism is not effective as there is very little awareness among the employer and employees on occupational health and their consequences. According to law, if accidents are not reported to the Department of Labour, the factory authorities could be prosecuted and ordered to pay a fine of Rs 5000. But enforcement of these laws is also poor.

The Ministry of Health has a directorate on Environment and Occupational Health that works in conjunction with many other departments such as the Ministry / Department of Labour, Board of Investment, Central Environment Authority, faculties of medicine, etc. The Department of Labour has a separate commissioner in occupational hygiene and safety.

Some issues that were raised during an inter-country consultation on Regional Strategies for Strengthening Occupational Health in SEAR countries in 2003 are described in Volume 4, page 3-66.

Among the recommendations were to: a) develop health and safety standards and guidelines for specific industries; b) address the issues of training and research; c) explore the possibility of integrating the existing primary health care services of the Ministry of Health with the occupational health services of the Ministry of Labour; and d) train public health inspectors at divisional level and equip them with some basic knowledge and skills to complement the services of he Ministry of Labour.

(3) ENVIRONMENTAL HEALTH

Environment as a subject has been incorporated in the constitution of the Democratic Socialist Republic of Sri Lanka. Article 27 (14), chapter VI, of the constitution under "Directive Principles of State Policy and Fundamental Duties" specifies that: "The state shall protect, preserve and improve the environment for the benefit of the community". A separate cabinet ministry of environmental affairs was set up for the first time in 1990, namely, The Ministry of Environment and Parliamentary Affairs. Subsequently, the name has been changed into The Ministry of Environment and Natural Resources.

The Ministry issued a policy draft paper for discussion in January 2002. The Vision of the Environment policy is: "to achieve a healthy and pleasant environment sustaining nature for the well being of the people and the economy". This policy envisions that the national environmental policy will make a significant contribution to improve the quality of life of all citizens, particularly of disadvantaged groups through progress in reconciling economic development with sustainable use and protection and improvement of the environment for present and future generations.

As such The National Environmental Policy Objective is given as "ecologically sustainable development through protecting the integrity of the nation's environment and natural resource base, with due recognition of the contribution of natural resources to economic development and to the quality of life".

There are many national level institutions dealing with different subjects relating to the environment. The Ministry of Health also has an Environmental & Occupational Health directorate that works in close collaboration with other departments/institutions, etc. on environmental activities other than those handled by the public health staff of the ministry, which are sanitation, food safety and housing. These programs are implemented through the Medical Officer of Health Units by the Public Health Inspectors. These spheres of activities are well established and efficient.

The other activities carried out by the Environmental & Occupational health unit include the following: coordination of Health Care Waste Management Activities; coordination and follow-up activities of the committee meetings convened by the Ministry of Environment & Natural Resources; carrying out a paper recycling programme in collaboration with the Ministry of Environment, a paper corporation & other non-governmental organizations; coordination and follow-up activities of the committee meetings convened by the Central Environmental Authority(CEA) on chemical safety; follow-up activities of the committee meetings convened by the National Water Supply & Drainage Board; follow-up activities of the committee meetings convened by the meteorology department on climate change; and follow-up activities of the committee meetings convened by the Housing and Urban Development on waste management.

The unit also raises the awareness of the public on environmental health issues by printing of posters and other IEC material, and by giving public lectures, responding to public complaints on environmental health issues, coordination of PHI & MOH training programmes, and finalizing of legislations to prevent mosquito-borne diseases

HEALTH SERVICES DELIVERY 5 ~PRIVATE SECTOR ACTIVITIES~

(1) INSTITUTIONS

The MoH established the Private Health Sector Development directorate to provide the overall leadership in improving the interface between MoH policy-makers and the private sector. At present, there is a Bill in Parliament that proposes to regulate the Private Medical Institutions. It will establish an Executive Council that will be responsible for fostering public-private partnerships at all levels of the health system. The Executive Council will be composed of members representing both the public and private sectors:

1) A representative each from the Sri Lanka Medical Association, the Independent Medical Practitioners, the College of General Practitioners, the Sri Lanka Dental Association, and the Sri Lanka Nursing Association;
2) Three persons from among those who have rendered distinguished services in the field of Accountancy, Law or Management;

3) Six representatives from the Association of Private Hospitals and Nursing Homes; and
4) Ex-officio members: the DGHS, the Director of Private Medical Sector Development, the Registrar of the Sri Lanka Medical Council, and all Provincial Directors of Health Services.

The Director-General of Health Services shall be the Chairman of the Council and the Director of Private Medical Sector Development shall be its Secretary.

(2) ACTIVITIES

Data on the size, growth, distribution and activities of private providers is very limited in Sri Lanka. The MoH has no public reports on the private sector but the Central Bank has some on private hospitals in the Western Province. This province being the most populous and the richest has attracted most private practitioners as well as most private facilities. The Central Bank statistics show a slight increase in patients, both IPD (17%) and OPD (11%), from 2000 to 2002. It is hoped that the private sector will soon be asked to report regularly on their staffing and performance.

Table 2.3.14 shows the percentage of private sector inpatients and outpatients in the total number of patients in the year 2000. The information of inpatients and outpatients in private sector was reported from 34 private hospitals located in six provinces; however, it does not cover the number of outpatients seen by private general practitioners. Therefore, the total number of outpatients in the private sector should be bigger than 2.75%.

Table 2.3.14 Performance of Private Hospitals* 2000

	Private	% of total	Public	% of total	Total Publ+Priv
In-patients	118,515	2.87%	4,015,000	97.13%	4,133,515
Out-patients (OPD)	1,225,141	2.75%	43,329,000	97.25%	44,554,141

Note: Based on information reported by 34 private hospitals located in the Western Province (22), Southern Province (6), Central Province (2), North Western Province (2), Eastern Province (1) and Uva Province (1).

Source: Central Bank of Sri Lanka Annual Report – 2001.

(3) ISSUES ON IMPROVING INFORMATION ON PRIVATE SECTOR

The MoH and the JICA Study Team conducted a Private Sector Workshop during which several issues were identified regarding areas for improving information about services of private health care providers.

One, users need more information about the private health care services available: the services available at different facilities and the prices charged. Private practitioners need information about private hospitals to improve their referrals. Private hospitals need to share information among them.

Two, examples of effective information transfer from the private to the public sector were raised. Currently, notification of infectious diseases under categories A and B are mandated by law. However, some GPs may treat a patient with a category B disease but actually not inform the MoH or epidemiological unit. The reporting of vaccinations provided by the private sector was also disputed.

Three, for improvement of public-private partnerships, the main area where information was lacking was said to be the lack of information systems to register and monitor private practitioners. The proposed basic framework for collection of information on private providers is shown in Figure 2.3.10.

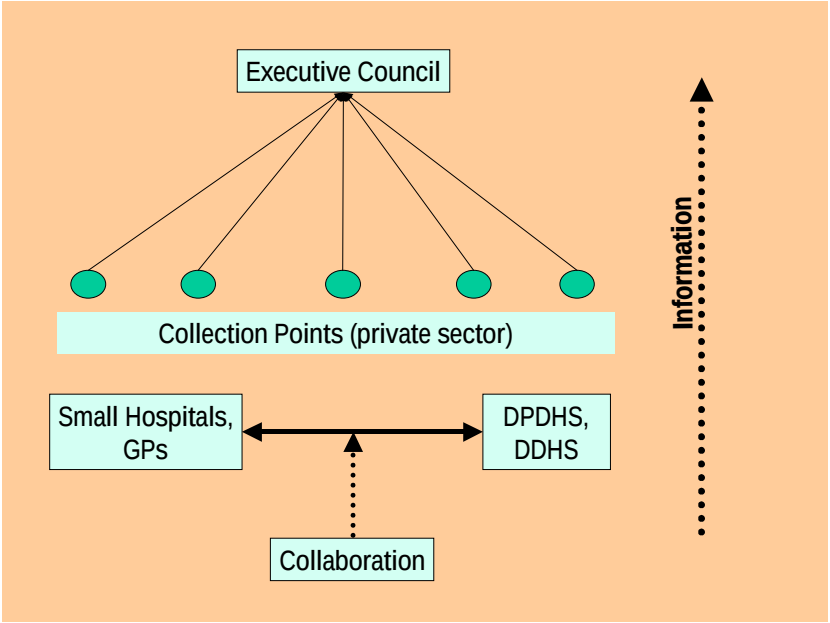


Figure 2.3.10 Basic Framework for Collecting Information on Private Providers under the New Legislation

A database would be developed to store and analyse this data. This would be updated regularly. The Executive Council would publicise this data through a Bulletin and on a website. The data to be collected by private sector collection points would be: Qualifications of staff; Quality of patient service; and Health information and statistics.

Four, at the MOH/DDHS level, the importance of collaboration between the private sector collection points and public sector officials (DPDHSs and DDHSs) was stressed. This would contribute to better reporting of data and provide safety checks against inaccurate or misleading information.

Five, the importance of making this information available to the public in a pro-active manner was also emphasised. The two ways that were suggested for making the information available to inform the public were through a bulletin and website.

2.4 HEALTH SEEKING BEHAVIOUR AND DEMANDS, HEALTH NEEDS OF SPECIAL GROUPS

(1) HEALTH-SEEKING BEHAVIOURS AND DEMANDS

Compared to the previous sections that dealt with the political, economic, physical and socio-cultural environment of the health system, this section zeroes in on the people. The people are actually part of the health system but at the same time also outside of that system. The people are the recipients of that system but can also be in the driver's seat. Their genetic make-up, for example, predisposes them to specific health conditions. Certainly, their lifestyles make them vulnerable to both communicable and non-communicable diseases. Their health-seeking behaviours determine whether they will get appropriate information, services or goods; consequently, this may influence the course of their ailments.

Because the needs of the general population is the main topic of this section, the first two sub-sections that follows focus on vulnerable geographical and demographic groups, their health needs and access to health services. The third sub-section attempts to understand the health-seeking behaviour of Sri Lanka based on the Knowledge, Attitude and Practice Survey (KAP) carried out during the course of the Study.

(2) HEALTH NEEDS OF SPECIFIC GEOGRAPHICAL GROUPS

The six geographical groups are: 1) Communities in urban slum areas; 2) Village expansion colonies; 3) Remote rural communities; 4) Fishery communities in coastal areas; 5) Estate communities; and 6) Areas affected by conflicts.

Communities in Urban Slum Areas

It is estimated that 50% of the city population lives in low-income settlements; therefore, the approximate population living in low-income settlement in Colombo is 321,000 or 77,612 families. One-third of those families have difficult access to drinking water, and only a third have their own toilets. Only 12% have regular sources of employment, and 34% depend on self-employment activities.

One of the main characteristics of this group is that accessibility to health care services is better compared with other groups. However, the government hospitals are not open when the working poor wants to visit them. Malnutrition is among the most serious health problems in these communities. Children, elderly and working adults are by and large consuming unbalanced diets since convenience foods are mostly consumed, and this leads to high fat consumption with little micronutrient content. Alcohol and drug addiction is high and difficult to solve. Family violence and neighbourhood brawls are a serious problem.

Village Expansion Colonies

Since the late 1970s, because of large-scale irrigation schemes, enormous numbers of people migrated and settled in the dry land zone. They came from all parts of the country, most of which are rural areas, expecting to improve their economic situation. As a result, several village expansion colonies were

formed in the settlement area. The largest one is known as the Mahaweli Development Scheme. There are several other irrigation schemes such as the Victoria, Randenigala and the Kirindioya.

Generally, that second and third generation settlers face a serious problem of enough land and water for cultivation. Most of them do not have regular source of employment and are forced to find other employment such as wage labourers. In general, the socio-economic conditions of illegal settlers around the irrigation schemes are bad and people who were forced to relocate due to the construction of irrigation scheme are even having a more difficult time.

The settlers now face multiple problems: 1) Lack of accessibility to the health care services especially for specialised care; 2) The disease pattern is relatively similar to traditional remote rural villages where 80% of the health problems in the area are related to respiratory system disease; 3) The suicide rate is comparatively high; 4) The scarcity of water is a strong determinant of poverty and poor sanitation in the area; and 5) Malnutrition is one of the most serious problems in the area.

The factors influencing malnutrition are inter-related. These factors include: scarcity of water, fewer varieties of food, as well as inadequate knowledge on nutrition and feeding. Due to poverty, parents cannot add variety to meals, causing children to lose interest in eating. Children are then forced to depend on breast milk and biscuits, which are insufficient for them to grow up healthy, and only satisfy their appetite.

Remote Rural Communities

Weehankattuwa was studied as an example of a remote rural community. The village is situated in the Mahakkumbukkadawara DS Division in Puttalam District. It consists of 79 households and 241 inhabitants (Baseline Survey, UC-JICA Project in 1999). The village is quite isolated, with poor accessibility. The closest township is 16 km away from the village and people have to walk 7 km to access public transport. The only service centres in the village are a church and a primary school. No other public service institutions, such as a secondary level school, a cooperative shop, a post office, a police station or a hospital, are available in the village.

Eighty-two percent (82.3%) of households receive government cash subsidies under the poverty alleviation programme. About 94% of households do not have access to a source of drinking water within less than 5 km. More than half of the households do not have toilet facilities. Agriculture has been a part-time activity for the majority of the villagers (34.3%); the majority of household income comes from other activities, such as seasonal fishing and animal husbandry. The literacy rate and level of education are relatively low. Seventy percent (70%) of the village is limited to primary and some secondary education. Only 46% have completed secondary education.

These communities have two major characteristics. One, the more remote a village is, the bigger the economic burden of health care because transportation costs and opportunity costs increase. In addition, if a patient is quite ill, one or more persons need to come along to assist in transport and care. Two, for the poor villagers in these remote rural areas, only the state health service is available and barely affordable in terms of specialised care and inpatient care.

Fishing Communities

The residents in the Egodawatta, Chilaw City, Puttalam District, started immigrating from Negombo in the 1940s. The population is still expanding with new families settling in the area from nearby fishing communities. It is characteristic that they identify themselves as ethnically Sinhala, but speak Tamil as a common language. Although there is no accurate socio-economic data available, the majority are low-income families who are engaged in small-scale fisheries and fishery-related labour. They do not have a regular income source, but are dependent on the daily catch from the sea. Most of them are

Catholic, while there are also a few Muslims. Although accurate data is not available, according to a PHI in the area, the majority of Egodawatta residents live in temporary houses and only 30% of homes have toilet facilities.

These communities have six common characteristics. One, the accessibility to health care institutions is very poor, since they have to travel six hours by boat to Kalpitiya Hospital for health care services. Two, the most common and serious health concerns are communicable diseases, such as Diarrhoea and Dengue Fever, as well as alcohol-related diseases and violence. Three, community participation in health promotion is poor due to the lack of a common language between workers and community and the low education level of the community. Four, family planning acceptance is said to be low. Most couples are married as teenagers and have two or three children in their early twenties. Birth control by pills, IUD and injection are not popular among residents, since they often believe rumours about side effects of various methods. Five, seasonal migration for fishing interrupts continuous contact for health services, such as immunisation, antenatal care, family planning and nutrition programmes. Six, although there is no accurate data, observation indicates that the nutrition level of infants and children under five years of age does not appear to be as low as in rural and estate areas. The PHI working in the area mentioned that, in school health inspections, they found that the micro nutrient problems, such as anaemia, are less in this area than in agricultural areas in the same Division.

Estate Communities[49]

Although the Ministry of Health came out with a policy that health care services in the estate sector should be integrated with other state health care services in 2001, the speed of integration is still slow with the exception of some Estate Hospitals in the area that were taken over by the government. Most health care in the area is still managed by the individual plantation companies and the Plantation Housing and Welfare Trust. Health care staff is trained mainly by the Trust. They are not recognized as professionals by the government. Many of the workers are so called “Indian Tamils” whose ancestors came as either indentured labourers or seasonal migrant workers. The estates evolved as separate communities historically, almost of extra-territorial status, complicated by the struggle since 1948 whether the “Indian Tamils” could/should receive citizenship in Sri Lanka.

In the estates, plantation companies manage the dispensaries and maternity homes in the area. The reason for this is that the state so far has not provided qualified health staff to the area. Therefore, the state leaves the Trust to fulfil the estates’ minimum health care requirements as it used to do in colonial times. The workers and their families in major Estates tend to be dependent on the managers of the company for health care, due to the patron-client relationship developed in the colonial period. Care for emergencies tend to be delayed, because of the lengthy decision-making process, involving family, community and management. Usually the manager of the company needs to agree that it is an emergency, and has to arrange transportation to the nearest health facility. Compared with the people living in large-scale plantations, the most neglected are the people living in small individual estates and in traditional villages. For them, quality health care services are not provided by the companies, while government health services are far away and difficult to reach. Poor housing conditions and poverty as well as poor water and sanitation are strong factors influencing the health of the people in the area.

Areas Affected by Conflicts

Please refer 2.9 People in Conflict-Affected Areas.

(3) HEALTH NEEDS OF SPECIFIC DEMOGRAPHIC GROUPS

[49] Health services in the plantation sector are further discussed in Section 2.3.

The three specific demographic groups discussed in this sub-section are: 1) Infant and children; 2) Learning age, youth and adolescence; and 3) Elderly group. They all share increased biological vulnerability as well as social vulnerability due to economic dependence and social status.

Infants and Children

The most significant problem in infants and children is the nutritional status of this age bracket, in spite of the continuous economic growth of the country. It has not improved significantly in the past decade especially in 1-4 year age group. With respect to both height for age and weight for age, the nutritional status of children has improved between 1987 and 1993. However, weight for height shows slight deterioration. Everyone agrees that the current rates are unacceptably high. Among children under five years old, 23.7% are suffering from chronic malnutrition, 15.5% are acutely undernourished, and 37.6% are underweight (Annual Health Bulletin, 2000).

Learning Age, Youth and Adolescence

The only health strategies currently in place for children of learning age are the "School Health Inspection" and "School Health Programme". However, the recording, monitoring and evaluation of these programmes have not been pursued intensively. So far, there is no integrated data available; no monitoring and evaluation has been documented.

T. P. L. Abeykoon and P. Wilson define adolescents and youths as those in the age group 14-24.[50] In Sri Lanka, they constitute 29% of the total population. The growth rate for the 14-25 years old will be negative between 1995-2005, as well as 2005-2015. However, the total number of youth and adolescents will remain much higher than the number in 1971, when the growth rate of this group was at its highest.

Considering the high unemployment rate and few opportunities for higher education among youths and adolescents, a substantial number of them are considered to have a lot of leisure time. They have difficulty establishing themselves socially as well as financially, which creates a negative psychological effect. Suicide, Alcoholism, Substance Abuse, Depression, Frustration, Unwanted Pregnancies, Abortions, Violence, Drug Abuse, STDs and HIV Infections were identified as their major health problems. Malnutrition needs to be further investigated.

There are about 4.7 million unmarried adolescents and youth in Sri Lanka (year 1995). Improvement in educational level, advancement of economic situation, is one of the main reasons for expansion of numbers in unmarried adolescents and youths, which in turn creates a need for greater attention to reproductive health issues. Data, mainly from hospitals in urban areas, indicate that women under age 20 accounted for approximately 60% of women with abortion-related complications.

Reproductive health is taught in school as one of the topics in the subject of "health and physical education"; however, it is not a compulsory subject. On the other hand, among the teaching staff and parents, there are still strong social objections to reproductive health education. They often express hesitation in actively participating in teaching about reproductive health, which they do not consider their responsibility. In addition, adolescents often express unwillingness to learn the subject, being ignorant of its importance. The effort of the MoH to provide information on reproductive health "directly" to the youth was quite successful. The ministry published a book called "Youth in Blossom" a few years ago, based on the questions and comments given by students, which were collected anonymously after the lectures on reproductive health education in schools. They were widely provided for the students in the country and were well received. NGOs, such as the Sarvodaya Movement, are

[50] However, according to the Director of the Youth, Elders, Disabled and Displaced in the Ministry of Health, the age of youth is defined as being between 15 and 24, and the age of adolescent is defined as being between 10 and 19. "Young person", therefore, is defined as between the age of 10 and 24.

conducting reproductive health education at the community level, although the impact has not been studied.

The suicide rate among the youth is quite high in Sri Lanka but has been on the decline. The MoH has introduced a "Life skills programme" for the youth in order to improve their skills for problem-solving and decision-making. There is no specialist on adolescence in Sri Lanka, although the generation faces serious problems.

The Elderly

In Sri Lanka, persons over 60 are now categorized as elderly. Since 1995, Sri Lanka has the highest proportion (8.5%) of elderly in the South Asian context, followed by India (7.3%). The proportion of the older population relative to the younger population has increased dramatically over the last four decades. This proportion is expected to keep on increasing and reach 22% by 2031.

Eighty-four per cent (84.2%) of the elderly population lives in rural areas. In a study, the popularity of traditional medicine among elders was identified. One-fourth (25%) of them selected traditional medicine as a source of medication, while the national average is only 9.2%. In a study, a third (32%) of the elderly mentioned that they needed more medical care. Among them, 90% identified "inability to afford the services" as the main reason, "too far to go" being the next important reason especially in those 80 years or more.

Cataracts are a very common condition in the elderly. However, according to the Director of Youth, Elders, Disabled and Displaced in the Ministry of Health, [51] there are 400,000 people on the waiting list for treatment, and each year 50,000 are added, since there are only about 30 eye specialists in Sri Lanka. Since most of the specialists are working in Colombo, the patients often have to travel from far away.

(4) HEALTH-SEEKING BEHAVIOUR

Analysis of the health-seeking behaviours in Sri Lanka is based on the KAP Survey, 2002, that was undertaken with the prime objective of exploring the health-seeking behaviour of patients taking into account all the sources of treatment available. It consisted of a survey with a structured questionnaire of a multistage random sample of 2,745 households comprising 11,644 individuals covering the three sectors of the country: namely, urban, rural and estate.

The KAP survey, 2002, shows that, on average, in any sector of the society, over 17% of people get ill in one month and have taken some kind of treatment. Among all reported illnesses 30.2% came under the acute category and 69.8% came under chronic category. Almost sixty-two percent (61.8%) of all visits for formal treatment have been for public allopathic treatment, 32.2% for private allopathic treatment, and only 5.1% to Ayurvedic treatment. Ayurvedic treatment was sought for 4.9% of acute illness and 5.3% of chronic illness (Table 2.4.1). The detail discussions are contained in Supporting Document I, Chapter 2, 2.5: People's needs and health-seeking behaviour.

[51] The Director of Youth, Elders, Disabled and Displaces, MoH, has recently conducted detailed household survey on health of elderly. Health information concerning elderly population is lacking data on nutrition of elderly; home-based health and social services for elderly; and Information on health care for elderly in institutions, such as home for the elderly. The data analysis has not been yet been completed to date but is supposed to fill these gaps.

Table 2.4.1 Source of Treatment by Type of Illness

	Source of Treatment	Acute Illness	Chronic Illness	Total
1	**INFORMAL TREATMENT: % of patients (N = 1897)**	**57.17**	**31.87**	**41.64**
1.1	Self treatment	47.48	17.35	28.99
	Self treatment and recovered	8.87	0.17	3.53
	Self treatment, not recovered and formal treatment	36.43	16.07	23.93
	Self treatment, not recovered but no formal treatment	2.18	1.12	1.53
1.2	Ritual treatment	6.96	11.51	9.75
1.3	No treatment	2.73	3.01	2.90
2	**FORMAL TREATMENT:% of patients (N=1987)**	**42.83**	**68.13**	**58.36**
	TOTAL	**100.00**	**100.00**	**100.00**

Source: MoH-JICA Study Team, 2002.

Table 2.4.2 Source of Formal Treatment by Type of Illness

	Source of Treatment	Acute Illness	Chronic illness	Total
2	**FORMAL TREATMENT: % of total number of visits**			
2.1	Public allopathic	55.4	64.4	61.8
	Public Inpatient care	16.3	20.4	19.2
	Public outpatient care	39.0	44.0	42.5
2.2	**Private allopathic**	***38.5***	***29.7***	***32.2***
	Private outpatient care	24.2	15.6	18.1
	Private Inpatient care	1.5	1.3	1.4
	Private care from a public doctor	9.5	6.1	7.1
	Private care at a channelling centre	3.2	6.6	5.6
2.3	**Ayurvedic (Public & Private)**	***4.9***	***5.3***	***5.1***
	Public outpatient care	1.0	1.4	1.3
	Public Inpatient care	0.2	0.9	0.7
	Private outpatient care	3.6	2.9	3.1
	Private Inpatient care	0.1	0.1	0.1
2.4	**Other**	***1.3***	***0.7***	***0.8***
	Homeopathy	0.0	0.1	0.1
	Acupuncture	0.1	0.0	0.0
	Pharmacist	0.5	0.2	0.3
	Other unspecified	0.6	0.4	0.5
	TOTAL	**100.0**	**100.0**	**100.0**

Source: MoH-JICA Study Team, 2002

Self-treatment

From a total number of 1,897 of patients (although 1,956 respondents reported illness, due to incompleteness/inconsistencies of responses, only 1,897 were analysed for the health-seeking behaviour), 28.99% of patients sought self-treatment as the first remedial measure for illness.

Previous studies (Central Bank) have been conducted also to understand the health-seeking behaviours of patients in Sri Lanka. Figure 2.4.1 demonstrates at least three important trends. The popularity of government OPD providing allopathic services has been consistent. The shares of private sector and Ayurvedic facilities as sources for OPD services are on the decline. The year 2002 saw the growing share of self-medication as the first option when people are sick.

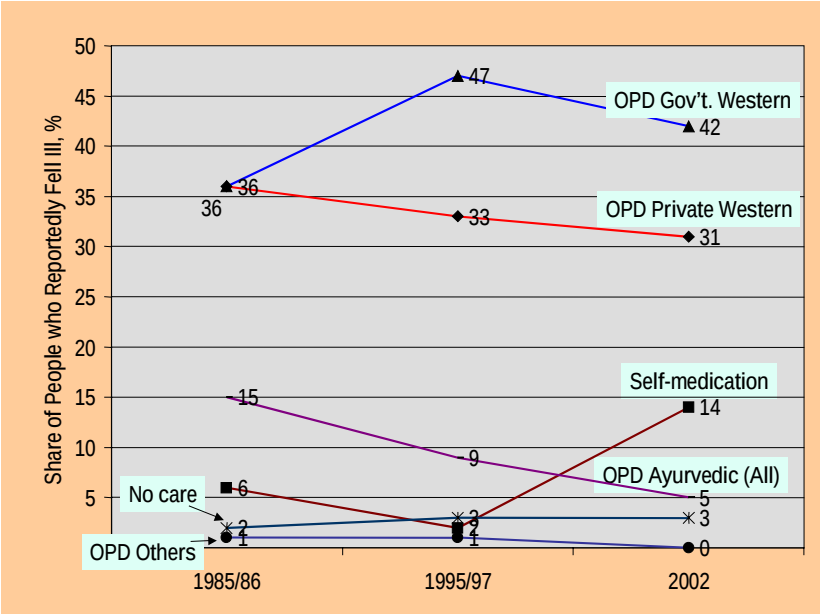


Figure 2.4.1 Three-Year Comparison of Sources of Treatment

Source: Central Bank of Sri Lanka, MoH-JICA Study KAP Survey

This phenomenon can be interpreted this way: People are more informed on medication so they tend to go for self-medication, and/or self-medication is more cost-effective method, since government OPDs are sometimes out of drugs and patients have to buy drugs outside of the hospital anyway, and/or people are, therefore, losing confidence in Government Western/Ayurvedic health care provided.

2.5 HUMAN RESOURCES FOR HEALTH

The development of health human resources, fundamentally, does not take a short time, especially for improvement of their quality. The focus should be both on present issues and on the future demands for health human resources to prepare the Master Plan.

The discussion on the management of human resources for health in Sri Lanka includes the following major components:

- Policy and Plan;
- Demand and Supply;
- Distribution;
- Quality and Competency;
- Production; and
- Personnel Development in the Public Health Sector.
-

(1) POLICY AND PLAN

Situation

There have been several initiatives to develop human resources for health. In the 60s, a task force set up by the Ministry of Health designed a national health plan. In 1975, a health manpower study was undertaken. In the late 1970s and early 1980s, two studies were undertaken: one on cadre determination of all medical, nursing and paramedical personnel (Report of staffing study 1981) and the other on nursing (1977). In 1992, a National Health Policy was initiated. In 1993, a study was undertaken by the Human Resource Development Council on Human Resource Development in the Health Sector. In 1994, a Perspective Plan for Health Development in Sri Lanka (1995-2004) was formulated. Their impacts on policy and the implemented plan on Human Resource Development are not known. The 1993 study found that health manpower planning in Sri Lanka has been episodic and, to a large extent, limited in scope; health manpower development in the private sector has not been given due consideration and the demand pattern for services and the technological changes have not been taken into account.

In addition, there have been some studies, which examined issues of human resource policy and management in the public sector health system such as the draft Strategic Human Resource Plan 1999-2009 and the Health Manpower Development Plan for Sri Lanka 1997-2006. In the Health Manpower Development Plan 1997-2006 for Sri Lanka report, recommended actions for health manpower plan were very precise about what should be done in the area of HRD policy formulation and plan formulation, production, manpower management and others; however, none of them have been implemented.

Issues Identified in the area of the Policy and Plan of HRD

One of the big issues in human resources is that there is no overall human resources policy and development plan existing in this country mainly due to a lack of an organisation at the national level to be the one to initiate and take the lead. Recently, at the Sub-Cabinet level, there have been attempts to discuss and propose specific actions to address issues of the trade unions and other stakeholders. However, the absence of a central human resources unit or department or that of a durable mechanism to

link functions of several units within the Ministry might serve as a handicap because decision-making might be segmented.

Because of the lack of a comprehensive human resource workforce plan and the lack of information on human resources, combined with no reference between human resource development and service needs, the existing categories of human resources do not seem to reflect actual needs. Their roles and responsibilities sometimes do not match with the actual health service needs and demands in this country. Many categories have vaguely defined roles particularly between similar categories such as Pharmacists and Dispensers as well as MLTs and Microscopists. The role of the Public Health Midwife is no longer midwifery in the field but is more on health promotion, public health service delivery and prevention of NCDs, so that the role and training curriculum of the Pubic Health Midwife should be reviewed and changed according to the service needs. The connection between service needs / demands and supply of human resources need to be established and the changing pattern of services need be reflected in the planning of human resources.

However, why is there no comprehensive policy and plan for the development and management of human resources for health? One of the major reasons is the absence of a central Human Resource Unit or Department within the Ministry of Health to coordinate various Human Resource functions. Therefore, various information regarding HRD and capacities to plan the HRD are scattered in different places. Whilst the stated policy within the public sector is to decentralise to Provincial level, the Provinces lack any real HR planning and management capacity. The other drawback is that there is no mechanism for involving other stakeholders such as private sector employers, education providers, or consumers, in making decisions on strategic Human Resource issues such as the future composition of the workforce and the numbers of specific cadres to be trained.

It would be important to have a unified unit or a department, or, if not, a mechanism to unify all compartmentalized human resource functions existing inside and outside of MoH. It might be considered expanding their organization and workforce according to the role and functions of human resource related units. The human resource related information should be corrected in MoH-related agencies such as training institutions, provincial health departments, the Ministry of Education and private hospitals where there is training capacity for human resources. The problem that existed in the past regarding compartmentalization of functions with no clear unified body to coordinate the functions need to be clearly solved in order to have a functional human development sector which can contribute to attain key objectives of the health sector strategy in the country.

(2) DEMAND AND SUPPLY

There are various kinds of category of health personnel. Health personnel includes not only Physicians and Nurses, but also paramedical and non-technical employees such as administrative officers and drivers. There are 276 categories of health personnel in public sector in Sri Lanka. There are 21 categories within paramedical. Registered/Assistant Medical Officer is a unique category. They had been produced during the era of shortage of medical officers, and they are not produced now.[52]

Projection of Demand for Cadre

The Department of Health Service has prepared a projection of health human resources in 2010 based on revised cadre. Table 2.5.1 shows the projection of key health personnel.

[52] In fact, some AMO has been produced in NIHS, because of political intervention.

Table 2.5.1 Cadre Projection of Key Health Personnel in 2010

Categories	Cadre in 2010	Existing in 1999	Balance	Growth rate
Medical Officers	n.a.	n.a.	n.a.	n.a.
Nursing Officers	47,517	13,240	34,277	258.9%
Public Health Midwives	14,852	7,409	7,443	100.4%
Microscopists	1,148	300	848	282.7%
Radiographers	924	271	653	241.0%
Pharmacists	3,420	807	2,613	323.8%
Medical Laboratory Technologists	3,312	743	2,569	345.8%
Physiotherapists	1,359	205	1,154	562.9%
Occupational Therapists	373	44	329	747.7%
Public Health Inspectors	2,872	1,074	1,798	167.4%
ECG Recordist	476	131	345	263.3%
Community Health Nurses	961	0	961	-
EEG Recordist	83	19	64	336.8%
Speech Therapists	31	2	29	1,450.0%
Public Health Nursing Sisters	659	262	397	151.5%
Entomology Assistants	218	63	155	246.0%
Dental Technician	19	11	8	72.7%
Ophthalmic Technologists	141	57	84	147.4%
Health Education Officers	147	42	105	250.0%
Audiology Scientist	15	0	15	-
Perfusionists	16	4	12	300.0%
Dispensers	1,249	825	424	51.4%
Field Assistants	1,859	845	1,014	120.0%
Opthologist	4	4	0	0%
Radiotherapists	47	8	39	487.5%
School Dental Therapists	1,137	350	787	224.8%
Food and Drugs Inspector	68	21	47	223.8%

Source: Department of Health Services

In 2010, most of category needs are more than double the number of existing health personnel in 1999. Figure 2.5.1 and 2.5.2 are projections for production of Nurses and Public Health Midwives. The projections show three levels of production (high, middle, and low case).

It is not easy to increase the number of health personnel to meet the cadre projection in 2010. The demand for nurses can be met by 2010 only in a scenario when production is high (Figure 2.5.1). According to Figure 2.5.2, **the production of public health midwives will be unable to attain the number of cadre projection even in the high cas**e. In addition, it is necessary to consider the numbers lost by brain drain to private sector and overseas, quality of graduates, and limitation of finance and facilities.

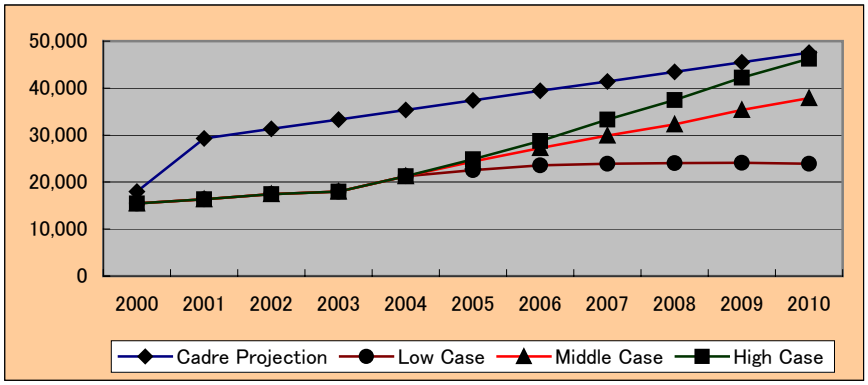


Figure 2.5.1 Projection for Production of Nurses

Source: Department of Health Services Technical Categories Projections & Scenarios Up to 2010

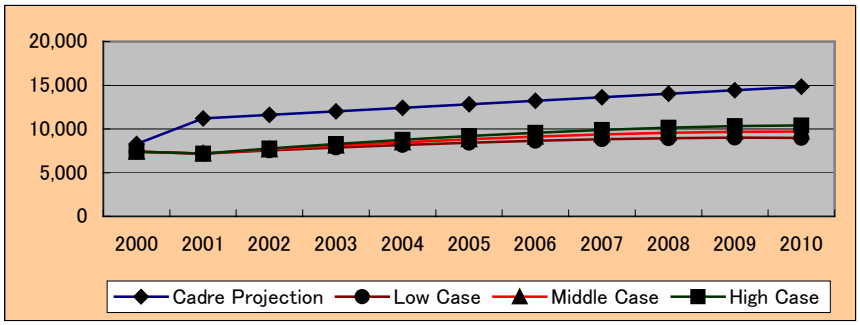


Figure 2.5.2 Projection for Production of Public Health Midwife

Source: Department of Health Services Technical Categories Projections & Scenarios Up to 2010

Shortage due to Unfilled Cadres

There is shortage of staff for some categories not only because of lack of cadres but also because of having these cadres not filled up. Table 2.5.2 reflects the problem of vacancies specifically among key staff. It is worst among Public Health Nursing Sisters (PHNS) such that the available workforce is only a little more than the demand. Out of 10 cadres, there are three unfilled for Public Health Inspectors (PHI), two for Nurses and one for Public Health Midwives (PHM). Aside from financial constraint, another possible explanation for these vacancies is simply the absolute lack in the production of these types of personnel.

Table 2.5.2 Vacancies in the MoH for Selected Health personnel, 1999

Category	Nurses	Public Health Midwives	Public Health Inspectors	Public Health Nursing Sisters
Present Cadre	18,016	8,272	1,489	466
Existing No.	14,052 *	7,409	1,074	262
Vacancy (Number)	3,964	863	415	204
Vacancy (%)	22%	10%	28%	44%

Sources: *Department of Health Services (2001), Annual Health Bulletin 2000, Department of Health Services Technical Categories Projections & Scenarios Up to 2010

Recently, the MoH is in the process of upgrading its standards for hospitals through a re-categorisation scheme. If the proposed cadre for the scheme is adopted to analyse the number of personnel in 2001,

then the share of vacancies will double for Nurses, triple for PHM and not much change for the other two categories (Table 2.5.3) compared to those in 1999.

Table 2.5.3 Vacancies in the MoH for Selected Health Personnel, 2001

Category	Medical Officers	Nurses	Public Health Midwives	Public Health Inspectors	Public Health Nursing Sisters
Revised Cadre	n.a.	29,286	11,216	2,091	554
Existing No.	6,553	15,844	7,630	1,486	270
Vacancy (No.)	n.a.	13,442	3,586	605	284
Vacancy (%)	n.a.	54.1%	68.0%	71.1%	48.7%

Note: The numbers of revised cadre is based on revised norms.

Sources: Department of Health Services (2001), Annual Health Bulletin 2000

(3) DISTRIBUTION

Maldistribution Across Districts

There is a significant imbalance existing in the distribution of current staff. Figure 2.5.3 shows huge disparities in distribution of health personnel by district. Specifically the number and the rate of health personnel in the Northern Province is extremely low while Colombo, Kandy and Galle have higher concentrations because of tertiary care health facilities. However, the private sector that is concentrated more in urban areas is not included in the figure.

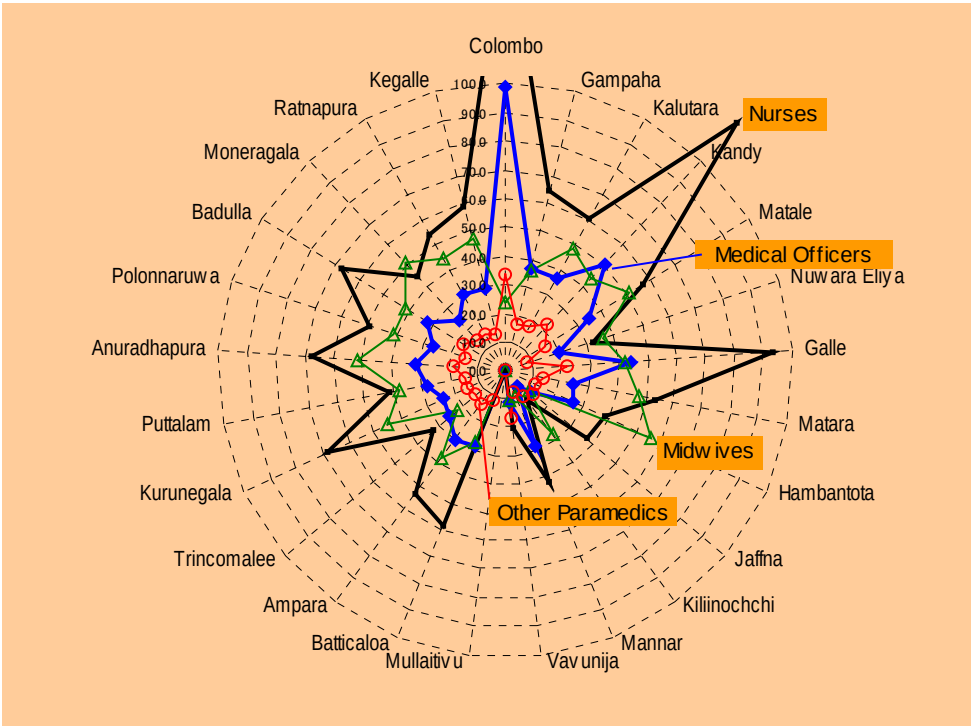


Figure 2.5.3 Distribution of Health Personnel by District (per 100,000 population)

Source: Department of Health Services (2001), Annual Health Bulletin 2000

Distribution by Institutions

1) Public Sector

a. Concentration to tertiary institutions

Health human resources tend to be concentrated in tertiary institutions such as the National Hospital and Teaching Hospitals, because these institutions provide broad services. However, it is difficult to say that present resource is allocated appropriately.

b. Lack of health personnel at secondary level

Secondary level institutions such as District Hospitals tend to have insufficient number of health personnel. Lack of health personnel at secondly level is a serious problem and affects upper level institutions. Lacking or insufficient number of health personnel is an obstacle for providing appropriate health services, and cause of bypassing referral system.

2) Private Sector: Allopathic Medicine

a. Growth and shift to private sector

The private sector, which includes both western medicine and indigenous medicine, is not included in the figure. Private medical institutions have around 50% of share of curative outpatient services, although they tend to be located at urban or sub-urban areas. A number of NGOs and civil society organizations, on the other hand, provide both curative and preventive services in rural area or in the conflict-affected areas. These health personnel are not counted in the health human resources statistics that are prepared by the government.

Although the MoH has no public reports on the private sector, the Central Bank has but only for some private hospitals (Table 2.5.4). Between 2000 and 2001, the average increase is five percent. More doctors and technical staff were absorbed in the private sector. It has been reported that many health personnel of the public sector work for the private sector during their off-duty hours. Some health personnel tend to move to the private sector from the public sector to seek better salary. On the other side, there are large numbers of young doctors without adequate clinical training in the private sector (Hsiao, 2000).

Table 2.5.4 Human Resources in Private Hospitals [(a)]

	2000	2001(b)	Change (%)
1. Doctors	1,140	1,216	7
Permanent	182	193	6
Visiting	847	906	7
Part-time	111	117	5
2. Nursing staff	2,640	2,718	3
Nurses	1,891	1,970	4
Qualified	1,356	1,407	4
Trainees	535	563	5
Attendants	749	748	0
3. Other staff	2,495	2,624	5
Technical staff	495	526	6
Administrative staff	450	475	6
Other (Labourers etc)	1,550	1,623	5

Note : (a) Based on information reported by 34 private hospitals located in the Western Province (22), Southern Province (6), Central Province (2), North Western Province (2), Eastern Province (1) and Uva Province (1)

(b) Provisional

Source: Central Bank of Sri Lanka Annual Report – 2001

b. Lack of Nurses

The private sector employs Nurses from overseas to secure the necessary number. The newly opened Apollo Hospital in Colombo, for instance, employs Nurses from India with approval by the Ministry of Health.

3) Indigenous Medicine

a. Significant Roles of Indigenous Medicine

Indigenous medicine such as *Ayurveda*, *Unani*, and *Siddha* has significant roles for health traditionally, especially in rural areas in Sri Lanka. Indigenous medicine is provided both by government and by private hospitals, clinics, and even at tourist facilities. Bandaranaike Memorial *Ayurvedic* Research Institute is the centre of indigenous medicine research, and carries out research activities pertaining to clinical, drug and literature research in *Ayurveda* and Traditional Medicine. Many health personnel such as Ayurvedic Therapists are trained and certified by the government institutions. Training for indigenous medicine is also available overseas such as in India. However, there are some unqualified practitioners in rural areas.

b. Lack of Statistics

Existing statistics do not cover all health personnel. It is necessary to identify various kinds of health personnel of public and other sectors such as private and civil societies to plan appropriate human resource allocation.

Tables 2.5.5 and 2.5.6 present some human resource indicators in the sector across the nation. About 16,000 Physicians have been registered under the Ayurvedic Medical Council, Sri Lanka.

Table 2.5.5 Number of Physicians Registered under the Ayurvedic Medical Council, Sri Lanka

	As of 31st Dec. 2000	As of 31st Dec. 2001
Traditional (General) Graduates	4,855	4,707
BAMS	349	395
BSMS	189	209
BUMS	89	97
Diploma Holders	3,607	3,602
Diploma in Ayurveda Shastri	486	526
Total (1)	**9,575**	**9,639**
Special Traditional Physicians		
Snake Bites	2,869	2,832
Fractures & Dislocations	1,420	1,415
Ophthalmology	573	561
Burns	30	35
Boils and Carbuncles	499	482
Rabies	166	159
Mental	84	83
Skin	262	259
Vidum Pilissum (Burning and penetrating skin with special tools)	67	7
Others	676	658
Total (2 specialists)	**6,646**	**6,491**
Total 1 + 2	**16,221**	**16,130**

Notes: BAMS – Bachelor of Ayurvedic Medical Science; BSMS – Bachelor of Siddha Medical Science; BUMS – Bachelor of Unani Medical Science.

Table 2.5.6 Comparison of Numbers of Practitioners by Type of Practice in the Private Sector, December 2002

PRACTITIONER TYPE	PRACTITIONERS	SPECIALISTS
Ayurveda	8,295 *(? 9825)*	6,345 *(? 6570)*
Siddha	1246	204
Unani	265	40
Homeopathy	n.a.	n.a.
Acupuncturists	n.a.	n.a.
Totals *(incomplete)*	9,806	6,589

Note: These figures do not tally with figures of the previous table. (n.a. means not available)

Source: Compiled by N D Kasturiaratchi-2003-02-12-on information provided by the Commissioner of Ayurveda

It is clear from the above that general indigenous practitioners outnumber specialists in the private sector by 10 to 6. Among the specialists, those specialising in snakebites are the most frequent and may reflect past, maybe current demand (see Chapter 8); next come bonesetters and specialists in eye care. The only category that seems to die out is the Vidum Pillisum.

Ayurveda and *Siddha* are the most prevalent categories of general practitioners. What is not apparent in this table is that most *Siddha* practitioners also use *Ayurveda* approaches in the last 20 years and they have experienced many problems especially with supplies.

The table below revealed that majority of the personnel in government Ayurvedic facilities belong to the administrative and support services, such as the Administrative Officer, Clerk, Minor Staff, Storekeeper, Overseers, Masseuse (Physiotherapists), Machine Operator, Cook, and Driver. In fact, the minor staff accounts for 64% of the total human resources. Only three of ten staff members are considered service providers. Of the eight provinces, only Southern and Uva provinces have management staff. There is only one Senior Scientist post in the country. All of the Lecturer posts are in one province – Uva. The issue here for planning is this – is this rational?

Table 2.5.7 Distribution of Human Resources in Government Ayurvedic Facilities, 2002

		SHARE OF MAJOR TYPES OF PERSONNEL (%)			TOTAL (Number)
		Management	Service Providers	Administrative & Support	
Department of Ayurveda	Ayurvedic Hospital (Borella)	0.6	37.1	62.3	313
	Research Hospital (Nawinna)	2.3	28.7	69.0	87
Provincial Ayurvedic Department	Western	0	32.7	67.3	205
	Central	0	32.9	67.1	149
	Southern	0.3	28.1	71.6	331
	Sabaragamuwa	0	30.1	69.9	239
	North-western	0	0	0	0
	Uva	1.7	20.9	77.5	302
	North-central	0	0	0	0
	North-east	0	25.3	74.7	75
	All	0.6	29.6	69.8	1701

Source: MoH

Distribution in Special Communities

1) Estate Area

There are health personnel working in estate (plantation) area that are not officially counted. In Nuwaraeliya District, for instance, the number of health personnel per population is extremely low compared with other districts except conflict-affected areas (see Table 2.5.8). Residents in the district live in some 339 estates that are controlled by the estate trust. Most of the residents are Indian Tamil. In the areas, the trust recruits estate health workers such as Medical Assistant Officers and Midwives who care for the residents in the area. Health volunteers who are selected from estate workers, in addition, have roles of health promotion at each community. Those health personnel are not counted on official statistics, and some of them are not officially qualified. It can be said that there are more health personnel in the estate areas than the government's statistics. The quality of the health personnel, however, is difficult to assess for appropriateness. It seems to be difficult for the MoH offices to conduct training courses for them and to control their quality,

because these health personnel do not belong to the DPDHS but to the estate trust. They do not have opportunities of training that are held by MoH offices, although they have some opportunities to attend ad hoc workshops.

2) Conflict-Affected Area

In conflict-affected areas, mostly located in the Northern and Eastern Provinces, the number of health personnel is low even compared with other provinces that do not have tertiary hospitals. The rate of medical officers per 100,000 populations in Kilinochchi District, for instance, is only 7.2 compared with the national average of 41.1. There are no Radiographers, Physiotherapists, and ECG Recordists (Department of Health Services, 2001). Fulfilment of cadre of each category, in addition, is extremely low compared with those of national average as shown in Table 2.5.8, although some provinces such as Central Province face an over-strength cadre situation. A cause of the vacancy is difficulty of deployment of health personnel under the conflict situation.

Table 2.5.8 Comparison of National Average and Conflict-Affected Areas, 1999

Category	Public Health Midwives			Public Health Inspectors			Public Health Nursing Sisters		
Province	National	Northern	Eastern	National	Northern	Eastern	National	Northern	Eastern
Present Cadre	8,272	547	630	1,489	149	156	466	27	43
Existing No.	7,409	156	421	1,074	49	99	262	1	7
Vacancy	863	391	209	415	100	57	204	26	36
Fulfilment (%)	89.5%	28.5%	66.8%	72.1%	32.9%	63.5%	56.2%	3.7%	16.3%

Sources: Department of Health Services (-) Technical Categories Projections & Scenarios Up to 2010

There is a serious lack of Psychotherapists, especially Tamil speakers, in the conflict-affected areas. Some people in Polonnaruwa district where there was a conflict-zone, for instance, are suffering from psychological problems such as trauma brought about by the civil war. Family, land and property are lost in the war. There are those who ended up as suicides and alcoholics, and others experience lingering psychological problems. However, there is only one Psychotherapist in the district, and he is attached to the General Hospital. In rural areas seriously affected by the civil war, people who have psychological problems can take consultation at a rural hospital from the Psychotherapist once a month. Nevertheless, it is difficult for the Psychotherapist to treat Tamil speaking patients because of lack of knowledge of Tamil.

Reasons for Maldistribution

The reasons for this problem of unequal distribution of human resources are, firstly, the capacity at provincial level to improve imbalance of health manpower is weak. The provinces cannot recruit personnel for paramedical fields from their areas, so that those who are recruited from other areas tend to avoid going to places far from their home areas. This precipitates a problem resulting in lack of health manpower in the rural areas, as it would be a disadvantage for health personnel to go to remote areas in terms of career development and income. A more decentralised human development system is needed to overcome the problem of understaffing and the imbalance of staffing.

Another reason for the disparity in distribution is the demand for services itself. Urban areas such as Colombo, Kandy, and Galle, have Tertiary Hospitals such as the National Hospital and Teaching Hospitals. These hospitals have a large number of health personnel and they care not only for people within a district but for also people from provinces and for other regions. The National Hospital in Colombo, for instance, covers the whole area of Sri Lanka.

(4) QUALITY AND COMPETENCY OF HEALTH STAFF

Another problem area in health human resource development is the issue of quality. This issue might have two main aspects; one is technical competency and the other is human attitude. The presidential task force in 1992 emphasized the importance of human resource development with emphasis on building positive human attitudes and appropriate knowledge and skills in provision of services of defined quality. This aspect needs to be emphasised in today's health service settings. For improvement of technical competency, in-service training and continuing education with career development and re-registration requirements need to be institutionalised. The private sector has not been involved in training health professionals, but some private sector employers have established nursing training schools primarily to provide staff for their own requirements. The production of human resources in the private sector has no mechanism to ensure quality. MoH has a responsibility to look into this aspect of quality assurance from the patient protection point of view.

The strongest complaints from the public today are mostly on the attitudes of health services providers. People's satisfaction and responsiveness is related to this aspect of human attitudes. In-house training, supervision and performance appraisal should be established in each institution, and service providers should be oriented towards a courteous and kind attitude from the beginning of their career.

(5) PRODUCTION

The production system of health human resources in Sri Lanka can be categorised as:

- Basic Training;
- Postgraduate Training;
- Post-Basic Training; and
- Continuing/In-service Training.

Basic Training

Basic trainings for health personnel are provided by various kinds of governmental bodies and some private bodies. In the private sector, currently, there is no education and training institution except indigenous medicine such as for Ayurvedic practitioners. Medical Faculties of universities provide education and training for Medical Officers (Physicians), Dental Surgeons and partly Pharmacists, and Teaching Hospitals conduct training programmes. Nurses training schools provide education and training for Nurses. Other paramedical personnel are trained in various kinds of training institutions such as the National Institute of Health Science (NIHS). Under the process of decentralisation, there are five regional training centres (Kadugannawa, Kurunegala, Jaffna, Batticaloa, Galle) for paramedicals, especially for public health workers such as PHI and Midwives. The NIHS coordinates them and exchanges training staffs to improve training skills. Table 2.5.9 shows basic trainings that are provided by the governmental bodies.

Many training programmes are conducted in English, though some courses (e.g., part of Nursing and Midwifery) are conducted in Sinhalese. Tamil is used as teaching language at nursing schools and regional training centres in Jaffna and Batticaloa.

Table 2.5.9 Basic Trainings

Category	Education/Training Institute	Duration of Training	Pre-qualification
Medical Officer	Medical Faculty of University (6 universities)	5 years	G.C.E. A Level
Dental Surgeon	Faculty of Dental Science, University of Peradeniya	4 years	G.C.E. A Level
Assistant Medical Officer	NIHS	3 years	G.C.E. A Level
Nurse	Nurses Training School (12 schools)	3 years	G.C.E. A Level
Pharmacist	Medical Faculty, University of Colombo NIHS	2 years	G.C.E. A Level
Medical Laboratory Technologist (MLT)	Medical Research Institute (MRI), NIHS, and School of MLT, TH Peradeniya	2 years	G.C.E. A Level
Radiographer	School of Radiography	2 years	G.C.E. A Level
Physiotherapist	School of Physiotherapy	2 years	G.C.E. A Level
Occupational Therapist	School of Physiotherapy	2 years	G.C.E. A Level
Public Health Inspector	NIHS, Regional Training Centres	18 month	G.C.E. A Level
Midwife	NIHS, Regional Training Centres	18 month	G.C.E. A Level
Dental Therapist	Dental Therapist's Training School	2 years	G.C.E. A Level
Family Health Worker	Nurses Training School	1 year	n.a.

Source: Department of Health Services (2001), Annual Health Bulletin 2000

Postgraduate Training

Postgraduate Training is conducted both locally and abroad. In Sri Lanka, the Postgraduate Institute of Medicine (PGIM) conducts various kinds of postgraduate courses and follows the practice of awarding academic degrees, following the successful completion of the academic courses and the final examination (further condition requires that a Board Certificate be obtained to ensure satisfactory professional competence). The PGIM has 1,445 trainees as at the end of 2001.

There are many students taking up postgraduate courses on specific skills and knowledge in foreign countries, although the PGIM has offered various kinds of higher degree courses. The detail number of trainees of PGIM in 2001 is referred in the Volume 4 page 4-14.

Post-Basic Training

The Post-Basic School of Nursing (PBN) and the National Institute of Health Science (NIHS) conduct post-basic training programmes for nursing personnel and public health staff. The PBN conducts two training courses: Nursing Tutor training and Ward Sisters (1 year training and 6 months practical training), and short-term and ad hoc training programmes. The NIHS provides post-basic trainings such as Teaching Skill Training and Middle Level Manager Training. These post-basic training programmes are not constructed based on long-term and systematic health human resources development policy.

In-Service/Continuing Training

In-service training programmes (both regular base and ad hoc base) are conducted for most categories of staff (Department of Health Services, 2001). The NIHS, the PBN, and other institutions provide in-service training programmes. Table 2.5.10 shows continuing education programmes at the NIHS.

Table 2.5.10 In-service/Continuing Training at the NIHS, 2002

Nature of Training	Duration of Training	Number of Trainees
Orientation in Community Health for DDHS/MOHs	6 weeks	25
Management Training for MOHs	10 days	25
Management Training for Province Health Care MLM	4 weeks	20
Training on HLM Production	2 weeks	10
Training on Social Science for Trainers	5 days	25
Review of Teamwork Skills	2 days	25
Participation Community Health Development for PHC Personnel	4 weeks	25
Community Health Management for PHC Personnel	4 weeks	25
Management Training for Senior Pharmacist	2 weeks	25
Training to Improve Skill of MLTs	5 days	25

Source: Kenneth Lee, *The Future of the National Institute for Health Sciences* (2002).

Most training programmes are ad hoc based. There is no systematic in-service training system and continuing education, although some institutions have regular programmes. Especially at provincial level, in-service and continuing education tend to have less priority than infrastructure construction. Provincial Ministers for health seem to be not interested in training, because in-service training is not attractive for them or for politicians. In Kurunegala district, in fact, there is no budget for in-service training in 2002, although the regional training centre submitted a proposal for in-service training programmes (Rs.1.3 million) to the provincial ministry.[53] The Regional Training Centre, therefore, requests financial support to NGOs to conduct the proposed programmes. Again, these programmes are not regular.

Issues for Planning

This analysis is based on the survey on "Analysis of Training Institution" conducted by MoH-JICA Study done in August 2002 and interview with training institutions in May 2002. Problems in health human resources development can be summarized as follows:

1) Insufficiency of Training Facility

Insufficiency of training facilities is a significant constraint of health human resources production. In the School of Nursing Colombo, for instance, there are only three rooms and one hall (tentatively used as classroom) for 651 students. In addition, the insufficient number of hostel facilities (250) causes geographical constraints for students who come from outside of Greater Colombo. Many of them take between one and three hours for a single trip to the school. The hostel facility is only available for females; the males have to travel to school from their home or find accommodation by themselves. The School of Nursing Kurunegala, for instance, is suffering from lack of facilities such as classrooms, hostels and furniture. The library of the school does not have sufficient books because of insufficient budget to purchase publications, although it has many shelves, which were donated by the Government of Japan.

The PBN, which provide post-basic nursing training, for instance, has no hostel for trainees, although their trainees come from the whole country. It is not easy for people who live outside of Greater Colombo to participate in courses.[54] The NIHS and other regional training centres have the same

[53] Most of in-service training for paramedical is conducted by district level. As for budget, DPDHS office or regional training centre has to submit its proposal to province when they plan training programmes.
[54] Interview with Special Grade Nursing Tutor of PBN, 07 May 2002.

geographical constraints. Most of trainees in the regional training centre at Kurunegala, who are recruited by the line ministry, are from outside of Kurunegala district such as Polonnaruwa.

The quality of training facilities and equipment, in addition, is insufficient. A cause seems to be lack of maintenance for the facilities and equipment. Both central and provincial institutions tend to be short of maintenance staff who maintain training facilities and equipment.

2) Shortage of Trainees

Shortage of trainers is a cause of limited production of health human resources. Both number and quality seem to be insufficient. The School of Nursing Colombo, for instance, has only 9 tutors, and they teach 651 students (that means 72 students/ a tutor).[55] The School of Nursing Kurunegala, likewise, is suffering for lack of tutors. The rate of students per tutor has deteriorated to around 60 in 2002, compared with 40 in the 1960s, although the number of tutors has increased. One cause is limited capacity of the PBN that produces tutors for nursing schools. The production of nursing tutor seems to be less interesting than the production of nurses. Regional training centres for training paramedical such as Public Health Inspectors and Midwives is facing lack of tutors as well. The regional training centre Kurunegala, for instance, is conducting two basic training courses for public health inspectors and midwives. However, there are only two Tutors who train 80 Midwife trainees, and only one unqualified Tutor who trains 38 PHI Trainees.

Training of trainers programmes, on the other hand, seem to be insufficient. The Medical Research Institute (MRI), which trains medical laboratory technologists (MLT), is facing a shortage of trainers, although it had a good tutor who had been trained in Japan. However, technology (tutor skills) transfer has not been conducted sufficiently, because there is no training budget except basic training for MLT.[56] In addition, the quality of trainers seems to be a problem in terms of not only technical skill but also communication skills or teaching method. The Centre for Professional Development, the National Institute of Education (NIE), provides teaching method courses to tutors from health training institutions in terms of assistance for implementation of curriculum. However, the courses are not regular but ad hoc on request from those institutions. There is no systematic in-service training programme.

3) Problems in Curriculum

Education/training curriculum affects quality of trainees. Thus, the curriculum has to meet not only present needs but also future demands. The curriculum is developed by various institutions. The curriculum for Nurses both on basic and post-basic training is developed by the Ministry of Health. Curriculum for Medical Officers and Paramedics training is developed by the Science, Maths and Health Education Unit, the Centre for Curriculum Development, the NIE. The NIE has curriculum developers for Medical Officer and Paramedical, and they develop curriculum. The NIE sometimes invite resource persons from the Ministry of Health to develop curriculum, although the NIE which is under the Ministry of Human Resource Development, Education and Culture, does not have direct relation with the Ministry of Health. Contents of curriculum, furthermore, are discussed on the Board of Studies with participation from the Medical Faculties of universities and the PGIM for medical officers curriculum, and from the NIHS for paramedics curriculum. The board is held every two months. These training institutions develop curriculum from practical views.[57] There are feedbacks from training courses to curriculum and teaching methods. In evaluation of training programmes in the NIHS, for instance, tutors evaluate each course, and students evaluate each lecture.

It is necessary to consider if the present curriculum meets future demands such as ageing society or epidemiological transition. The lack of personnel in charge of mental health service such as Psychologists, Occupational Therapists and Counsellors is significant. In 1996, there were only 26 Psychiatrists in public sector (less than 10 in private sector) in Sri Lanka (PTF, 1997). In addition, some

[55] Appropriate number is 20 students/ a tutor.
[56] Interview with Director of MRI, 07 May 2002.
[57] Interview with Director General of NIE, 13 May 2002.

curricula have not been revised for many years. The courses of the PBN are conducted according to the curriculum that was developed in 1968, although the curriculum for nursing education has been revised recently.

Training Curricula seem to concentrate on technical aspects only. For instance, there is no training curriculum about ethical or social aspects for MLT, and some MLT tend to abuse the system after they are assigned to medical institutions. It is necessary to teach not only technical skills but also ethics in the process of health human resources production to prevent a moral hazard and to promote responsibilities.

(6) PERSONNEL DEVELOPMENT WITHIN THE PUBLIC HEALTH SECTOR

Health human resources production is important, but it is not the only goal of human resource development for health. Health personnel have to adapt to epidemiological transition and new technology. Health human resources management, therefore, has significant roles in quality control, career development, and continuing training for health personnel. Medical Officers and Nurses have career ladders. However, quality control and systematic continuing training of health personnel seems to be insufficient. Monitoring and evaluation for career of graduates of each training institution seems to be lacking.

Recruitment and Deployment

Deployment of health human resources is based on the cadres of each institution. The central MoH recruits and deploys medical officers, and provincial MoHs recruit other categories, after administrative devolution/decentralisation. However, in fact, there are problems like limited authority, capacity and budget for recruitment at province/district level. Provinces do not always have the authority to decide cadre and to select health personnel that work in the province.

In addition, it is difficult to deploy health personnel to specific areas such as remote rural areas, estate areas, and conflict-affected areas. A central dispensary (CD) located at a border between North-Central Province and Eastern Province, for instance, has a medical officer who has worked at the CD since 1987. No Medical Officer wants to come the CD because the CD is located in a conflict-affected area. In this manner, there is a huge differentiation in cadre vacancies among provinces. As cadre fulfilment of Public Health Nurses in 1999, for instance, Northern Province was only 28% compared with 156% (over cadre) in Central Province. The inequality of deployment of health personnel causes geographical inequality of health services.

On the other hand, outsourcing of health personnel both technical and non-technical may contribute to improve the situation of shortage of health human resources. Especially for non-technical categories such as Cooks and Drivers, it maybe necessary to examine feasibility of introduction of outsourcing in terms of cost efficiency. Generally, outsourcing in the health sector can also reduce staff salaries and contribute to flexible employment without negotiation with trade unions.

Work Environment Condition, Motivation, Incentives and Ethic

The work environment and conditions of health personnel depends on institutions. A Nurse of the Welikanda Rural Hospital in Polonnaruwa district has to care for four wards by herself during duty hours, because of no alternative nursing staff. On the other hand, some general hospitals in urban area have many medical officers. Health personnel tend to be unwilling to work in conflict-affected areas, estate hospitals, and other difficult places such as remote rural areas. “Great consideration needs to be given to their needs, particularly the stress of working in a conflict situation (Wijemanne, 1997).” There is no incentive to go to difficult locations. In terms of salary, for instance, medical officers tend to lose the opportunity of working at private clinics after duty hours in rural areas.

The brain drain of health human resources, on the other hand, is a serious problem, especially for a Medical Officer. Some medical officers move to private hospitals or overseas to seek better salary and work environment. "The government gave public sector physicians the privilege to do private practice in their off-duty hours (Hsiao, 2000)". Administrative officers such as line ministry staff or provincial staff, however, cannot work in private sector according to the regulation. In terms of salary, to become an administrative staff member has less incentive than continuing as a medical officer. Regarding Nurses, the human resources drain can be seen also. Some nurses tend to go foreign countries, shift to administrative work or transfer to the private sector to seek better salary. People tend to see a Nurse as a stable job because unemployment is a serious socio-economic issue in Sri Lanka.

Some health personnel in the public sector quit working and escape to the private sector or overseas, although the government takes a huge cost to train them.

Quality Control, Career Development and Continuing Training

1) Medical officers

Figure 2.5.4 shows a career ladder of Medical Officer in Sri Lanka. Medical officers have various kinds of opportunities to take postgraduate education and other training. However, medical students have to wait one or two years to enter faculty of medicine of universities since the late 1980s.[58] Production of Medical Officers, on the other hand, tends to be excessive. Newly graduated students have to wait to have opportunity of internship. Thus, they tend to take longer time to become a Senior House Officer than the expected duration. This is a cause of brain drain to overseas or private sector. In addition, Hsiao pointed out that "insufficient government funding for public health services has kept physicians' salaries very low compared to what other equivalent professionally trained persons can earn in the private sector. As a result, the chance of a large exodus of the best doctors and specialists to the private sector have always been great (Hsiao, 2000:xiv)." Medical Officers tend to work at private hospitals after they finish their duty work at public hospital to earn additional salary, even if they remain in the public sector.

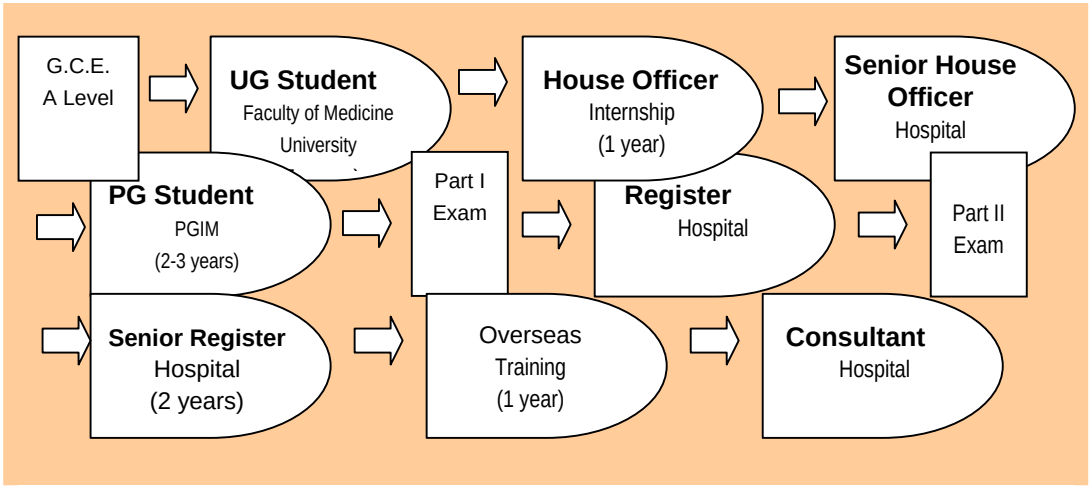


Figure 2.5.4 Career Ladder of a Medical Officer

The quality of Medical Officers is certified by the PGIM. The PGIM has conducted various postgraduate courses to meet present and future demands. However, once Medical Officers are qualified, there is no monitoring and evaluation system of their quality.

[58] Universities had been closed from the late 1980s to early 1990s. The gap between candidate and enrolment has been narrowed recently.

2) Nurses

Figure 2.5.5 shows the career ladder of Nurses. The shortage of Nurses has been pointed out for a long time. The number of production of Nurses has increased sharply during the last decade. However, quality of education seems to have deteriorated because of lack of training facilities and Tutors. For instance, a Tutor conducts three nursing practice for hundreds of students per day in the School of Nursing Kurunegala. Continuing education for Nurses, in addition, is limited because of lack of Tutors who can conduct advanced training.

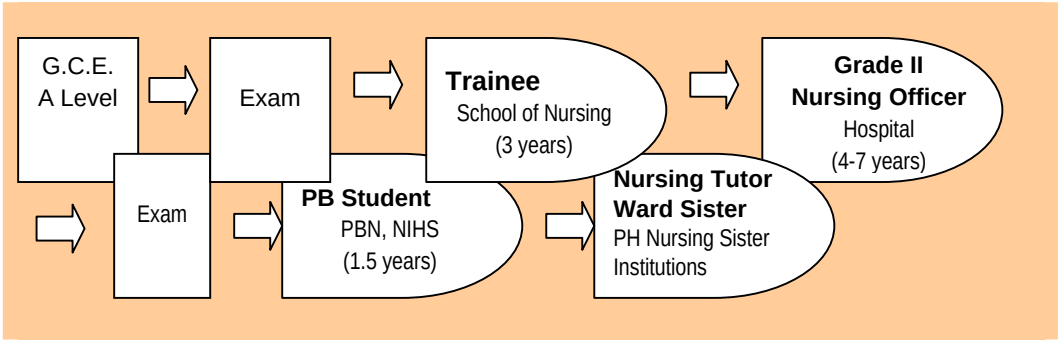


Figure 2.5.5 Career Ladder of Nurses

Source: Ohno Nursing School in the Educational System of Sri Lanka, Compiled by JICA Study Team

Some qualified nurses, especially male nurses, on the other hand, tend to quit their job in Sri Lanka and go abroad such as Middle East countries. The brain drain is a problem in terms of accelerating shortage of nurses and squandering production cost for them.

3) Paramedical Staff

There are 21 categories within paramedics such as Medical Laboratory Technologist, Radiologist, and Public Health Inspector. Trainees for paramedical are trained at training institutions such as NIHS, MRI and regional training centres for one or two years. Figure 2.5.6 shows Career Ladder of paramedical.

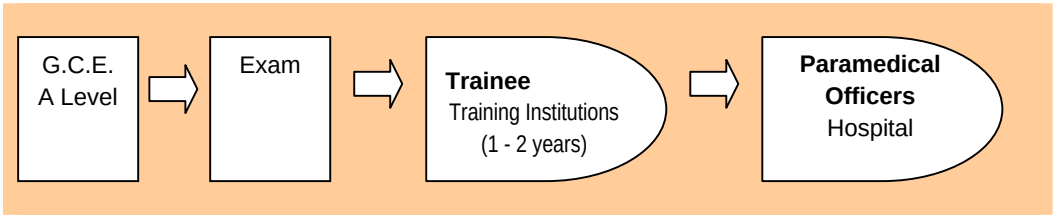


Figure 2.5.6 Career Ladder of Paramedics

However, there is no systematic continuing education/training for paramedical including training of trainers. Continuing training for paramedicals tends to be ad hoc and supported by donor agencies such as WHO, UNFPA and JICA, because training institutions do not have sufficient budget for continuing education.

4) Managers

The quality of health human resources seems to depend on management ability of managers in each institution. Continuing training for health personnel is important for quality assurance of staff, and

providing better services. However, there are not many managers who recognise or are aware of the importance of continuing medical education. Training of Managers, thus, is important.

The NIHS has conducted a middle level manager training programme for district level Managers. The training course is comprehensive and includes management skills and planning methods. Quality of Managers, however, seems to be insufficient for effective management of medical institutions. Some Managers such as a Director of a Base Hospital and Managers of MoH offices do not know their implementation budget, and how to prepare adequate plans to expand their activities, although they tend to be good at preparing statistics.

Management of the Castle Street Hospital in Colombo seems to be a good practice. The hospital has introduced Japanese management skills known as 5S: *Seiri, Seiton, Seisou, Seiketsu, and Shitsuke* (Arrangement, Putting in order, Cleaning, Cleanliness, Upbringing) for hospital management.

Current Problems in Personnel Management

An analysis of managerial problems in health human resources can be summarised in the following points:

1) Insufficient quality control caused by:
   - Lack of specialists adapted to the change of disease pattern;
   - Low responsiveness to patients caused by workload, concentration in certain facilities, part-time working after duty hours;
   - Increasing under-trained intern staff; and
   - Unsystematic continuing training.

2) Low motivation in government facilities due to part-time working after duty hours.
3) Lack of Monitoring and Evaluation, lack of performance-based wage system.
4) Brain drain overseas due to low compensation, low incentives, and (only for doctors) shortage of good posts.
5) Mismanagement of personnel / concentration in urban area due to lack of incentive for work in rural areas, proportional distribution not according to disease pattern / care needs.
6) Low social status of paramedical/co-medical personnel.
7) Low management / planning ability of health service sections at local level.
8) Insufficient devolution, e.g., deployment of Doctors by central MoH.
9) Lack of planning skill due to shortage of experience in the past.
10) Discretionary administration due to budgetary constraints.