

5. Public Health Services

The main functions of the Public Health Services are promotion of health and prevention of diseases. Health Units headed by Medical Officers of Health / Divisional Directors of Health Services (MOH/DDHS) carry out these services in Sri Lanka.

Public Health Inspectors, Public Health Nursing Sisters, Supervisory Public Health Midwives and Public Health Midwives assist the Medical Officers of Health. The Public Health Midwife (PHM) / Family Health Worker is the health worker for family health care at the grass-roots level and provides domiciliary service, mainly to mothers and infants and maintains the link between the clinic and the community. The Public Health Nursing Sisters and the Supervisory Public Health Midwives supervise the work of the PHMs and also see to the care of the pre-school and school children. The Public Health Inspector is primarily responsible for environmental sanitation, school health work and the control of communicable diseases.

The programme for preventive work provides for the control of communicable diseases, sanitation, school health work, epidemiological surveillance, family health, health education and the enforcement of the Food Act. These services are delivered to the community through both, the general Community Health Services, as well as through the Specialised Services executed by separate agencies in liaison with the MOH/DDHS. Following the devolution of power, the local staff involved in the control of certain special diseases like malaria and filariasis come under the direct administration of the MOH/DDHS, while those involved in the control of diseases like rabies, tuberculosis, sexually transmitted diseases and leprosy, come under the Provincial Directors of Health Services. The

Directorate of the special control programmes at the central level, functions mainly in an advisory and supportive capacity.

5.1 Community Health Services

5.1.1 Family Health Services

Family Health covers a wide spectrum of services comprising of the following:-

- Maternal care - antenatal, intra-natal and postnatal.
- Infant and child care which provides for,
 - Monitoring growth and development.
 - Psychosocial development of the child including Early Childhood Care and Development (ECCD).
 - Immunization against common childhood diseases.
- Nutrition of pregnant mothers and children.
- Care of the school children.
- Adolescent reproductive health.
- Family Planning.
- Women's reproductive health.

The Family Health Bureau (FHB) is the central organization responsible for the planning coordination, direction, monitoring and evaluation of maternal and child health and family planning (MCH/FP – Reproductive Health) programmes in the country. Conduct in-service training programmes to update the knowledge and

Table 5.1.1 MCH Performance, 2000 and 2003

Care by Public Health Midwives	2000	2001	2002	2003
Visits to pregnant mothers				
<i>First visits</i>	318,171	331,502	322,137	327,402
<i>Subsequent visits</i>	1,294,360	1,263,783	1,326,485	1,335,292
Post natal visits by PHM (1st visits)	233,416	230,801	301,896	312,045
Still births reported by PHM	3,155	3,592	2,906	N.A
Abortions reported by PHM	11,842	12,562	13,495	N.A
Infants registered by PHM	295,085	316,069	298,453	314,867
Care at clinics				
Visits of pregnant mothers to clinics				
<i>First visits</i>	321,798	322,330	331,339	341,711
<i>Subsequent visits</i>	1,497,133	1,642,993	1,735,978	1,846,045
Visits of infants to clinics				
<i>First visits</i>	298,125	306,896	285,105	297,015
<i>Subsequent visits</i>	1,829,433	1,689,603	1,518,705	1,460,063

Source: Family Health Bureau

Table 5.1.2 Family Planning New Acceptors by Method, 1998-2003

Method	1998	1999	2000	2001	2002	2003
Permanent methods						
Vasectomy	340	292	242	154	120	116
Tubectomy	19,186	14,894	15,499	15,063	14,949	10,940
Temporary methods						
IUD	26,174	24,706	28,832	32,498	39,385	38,608
Pill	47,476	47,690	50,212	47,627	49,972	44,961
Injectable	122,420	130,108	118,577	136,711	145,202	127,380
Implant	551	583	1,265	1,269	1,476	1,673
Total	216,147	218,273	214,627	233,322	251,104	223,678

Source: Family Health Bureau

the technical skills of relevant health staff. Providing feedback reports to the ministry of health, donor agencies and implementing authorities regarding the progress of implementation. Conducts relevant health services research and implements special projects funded by international agencies to support and strengthen service delivery throughout the country. Also, the procure and distribute contraceptive and some of the essential equipment and supplies needed for family planning and maternal and child health activities.

In performing this role, FHB works in close collaboration with the Epidemiological Unit, Health Education Bureau, Population Division of the Department of Health Services, and provincial health authorities and other related organizations.

The Medical Information System (MIS) established in 1980s for the monitoring and evaluation of all family health activities was revised in year 2000 and was in place from January 2001.

5.1.1.1 MCH Performance

A summary of work performed by the public health staff at the periphery and attendance at MCH Clinics during 2001 and 2003 are given in Table 5.1.1.

5.1.1.2 Family Planning Performance

During the year 2003, 223,678 new acceptors were recruited by the National programme. This includes those clients recruited by non-governmental organizations. Compared to the previous year, acceptors of

intrauterine contraceptive device (IUD), pills and injectables as well as acceptors of permanent methods have shown a decrease (Table 5,1,2).

Both tubectomy and vasectomy which showed an increasing trend from 1989 to 1992, experienced a decrease since 1993 and this is more marked for vasectomy.

5.1.1.3 Clinical Services Provided at the Family Health Bureau

The Clinic Centre at the Family Health Bureau functions daily and provides contraceptive services and services for management of sub-fertility.

Laparoscopic sterilization services have been provided daily since 1983, with continuous support from Johns Hopkins Programme for International Education on Gynecology and Obstetrics (JHPIEGO). A sub-fertility clinic is conducted every Wednesday, which is attended by a large number of sub-fertile and infertile couples. Other contraceptive services such as insertion of intrauterine contraceptive devices, injecting of long acting injectables, insertion of implants, and distribution of condoms and pills are also provided at the clinic centre. In addition to the above, immunization services are also provided for infants and pre-school children at the child welfare clinic at FHB. Activities carried out at the above centre during the period 1998 to 2003 are indicated in Table 5.1.2.

5.1.1.4 Foreign Funded Projects undertaken in 2003

The foreign funded projects undertaken by the FHB during 2003 are given below.

Project Title	Funding Agency
Reproductive Health Services	UNFPA
Supply of Contraceptives	UNFPA
Child health including ECCD	UNICEF
Nutrition including Breast Feeding	UNICEF
School Health and Adolescent Health	WHO & UNICEF
Emergency obstetric care	UNICEF & JICA
Safe Motherhood	WHO & UNICEF
Well Women Clinics	UNFPA
Strengthening of family planning services	UNFPA

5.1.1.5 In-service Training Programmes

The following in service training programmes were conducted for health personnel by the FHB during 2003.

- Lactation management.
- Training on contraceptive technology.
- Revised Reproductive Health Management Information System (MIS).
- School health training for PHC Staff.
- Training on life skills for school children.
- Emergency obstetric care training.
- Training on early childhood care and development.
- Training on growth monitoring and promotion.

5.1.1.6 Well Woman Clinic Activities

Well woman clinics were incorporated into the Family Health Services with the introduction of the concept of Reproductive Health from 1996. At the end of year 2003, 349 well women clinics were functioning in the country, mostly based at MOH offices. These clinics provide screening services for women over 35 years of age against common

non-communicable diseases. These diseases are diabetes mellitus, hypertension, breast and cervical cancers. Of the 349 clinics functioning, 260 clinics provided Pap smear examination facilities. The performance in Well Woman clinics during 2003 is indicated below.

Women Screened in WWCs	46,015
Pap smear examination	32,323
Diabetes mellitus detected	1,345
Hypertension detected	3,014
Breast abnormalities detected	806
Cervical smears reported CIN positives	268

5.1.1.7 Maternal deaths reported to Family Health Bureau – 2002

In the year 2003, maternal mortality reviews for some districts could not be conducted, due to unavoidable circumstance and the data for 2002 is published here. The total number of maternal deaths reported to the Family Health Bureau during the year 2002 was 194. Out of total death reported 70.1% were direct deaths, 23.2% indirect deaths and in 6.7% of deaths the causes were unknown. For year 2002, the computed Maternal Mortality Ratio (MMR) is 53.4/100,000 live births which is higher than the reported ratio of 47/100,000 for the year 2001.

The highest MMR was reported from the district of Nuwara Eliya (102/100,000 Live births) while Anuradhapura district reported the lowest (12/100,000 Live births). The main causes of maternal death include post partum hemorrhage (18.5%), pregnancy induced hypertension and its complications (17.5%), heart disease complicating pregnancy (13.4%), septic abortion (7.7%) and post partum sepsis (7.2).

5.1.1.8 School Health Programme

The Family Health Bureau is the focal point for the school health programme and the services are delivered through PHC infrastructure.

The goals of programme is to ensure that children are healthy, capable of promoting their own health and health of the family & community, and are able to optimally benefit from educational opportunities provided.

At present, FHB is in the process of establishing the concept of Health Promoting Schools in the country. Components of Health Promoting Schools packages are:

1. School medical services including counseling.
2. Healthy School environment.
3. Health Education and development of skills.
4. School community participation.
5. Healthy school policies.

According to School Census, 2003 there were 9,790 schools in Sri Lanka, where a population of 3.9 million school children receive education. The coverage of school medical inspection (SMI) during the year 2003, was 81.7% of the total schools. Special programmes are being conducted for the adolescent on counseling, and development of skills.

5.1.2 Environmental Health

5.1.2.1 Water Supply and Sanitation Programme

The Ministry of Health is not directly responsible for the provision of water to the country. However, through its field health personnel, health education is carried out to motivate people to consume water that is safe; usually boiled cooled water.

Public Health Inspectors (PHII), conduct routine tests for adequate chlorination of sources of drinking water during epidemics of bowel diseases and other disaster situations like floods, Tsunami etc.

Inadequate latrine facilities are still a problem. Use of sanitary latrines by the community is promoted through health education as well as by enforcing the provisions of relevant legislation related to housing. All new houses have to possess toilet

facilities in order to obtain approval from the local authorities. Assistance is provided to the poor for construction of sanitary latrines by many organizations, both state and private. In the past the Department of Health Services provided financial assistance to those without toilets and those unable to construct one with their own resources. After certification by the PHI, Rs. 3,000/- is provided to those with a monthly income less than Rs 2,500 for construction of a sanitary latrine. From 2002 this activity has been decentralized and funds were allocated to each province for this purpose.

Although the disposal of waste is the responsibility of the local authorities, disposal of healthcare waste is being given serious attention by the Department of Health Services. There is a Steering Committee on hospital waste management with representation from all the relevant stakeholders. Disinfection of waste by autoclaving is being identified for the Hospitals in Colombo Municipal area which is in process of implementation. Technical guidance and financial assistance is provided for some selected provinces as an initial step to improve the existing waste management practices which will be extended to the whole island based on the National Policy. Methods of final disposal of clinical waste are being explored for implementation. Training programmes are being conducted for Teaching, Base and District Hospital staff. Steps were taken to establish a hazardous waste disposal facility with Bureau of Infrastructure Investment.

Technical guidance and awareness is provided to other Ministries, relevant agencies and general public on environmental health, in the areas of waste disposal, bio safety, water supply and sanitation, climate change, environment and health toxicology, air and water pollution, etc and carry out inter Ministerial and inter agency

collaborative activities in order to strengthen the environmental health condition in this country.

5.1.2.2 Food Safety and Hygiene

Food Safety & Hygiene activities through the Food Control Administration Unit aims at ensuring the availability of safe and wholesome food to the consumers. The Health Sector plays a major role, while many other organizations are also involved.

5.1.2.2.1 Food Control Legislation

The main Food Law is the Food Act No. 26 of 1980, with its related regulations published in terms of section 32 of the Food Act. The act was once amended by Food (Amendment) Act No. 20 of 1991. The act is currently being further amended.

Review of all the current regulations has been completed and the following regulations were drafted, reviewed and prepared for publication.

- Bottle Water Regulation.
- Iodization of Salt Regulation.
- Irradiation Regulation.

Approved Analyst in terms of the Food Act is the Government Analyst. Additional approved Analysts are the MRI Colombo, Food Laboratory at NIHS Kalutara, City Analysts Laboratories in Colombo and Kandy Municipalities. The Anuradhapura Food Laboratory established under the concept of Provincial Laboratory has been gazetted as Approved Analyst.

5.1.2.2.2 Food Control Surveillance

The Imported Food Inspection Unit subjects all items of food imported into the country to inspection at two points of entry, namely Sea Port Colombo and Airport Katunayake. During the year 2003, imported food inspection was carried out by 7 Food and Drug Inspectors (F & DI) in the Sea Port and one Food and Drug Inspector at the Airport. During the year 15,434 consignments of food were subjected to inspection of which 26

consignments were found to be unsatisfactory and rejected.

All consignments of milk food imported into the country were inspected and sampled for analysis of radioactive contamination prior to release. A total number of 673 samples of milk food were drawn and analyzed in the laboratory of Atomic Energy Authority.

Food that did not confirm to the hygiene and standards parameters are rejected and either re-exported or destroyed under supervision. Food items that did not confirm to the provisions of the Food (Labeling & Miscellaneous) Regulations were conditionally released to consignees' warehouse for compliance by affixing supplementary labels after which final release granted

A total of 4,536 formal samples were sent by Authorized Officers from the provinces of which 1,245 were found to be unsatisfactory. A total of 1,432 prosecution were instituted under the Food Act and fines imposed totaled Rs. 7,53,100/=.

Monitoring of Iodization of salt with field test kits is continued. 18,500 of field tests kits were distributed among authorized Officers island-wide. A total of 203 consignments of imported salt consignment inspected and released.

In the Demography and Health survey Sri Lanka-2000 the availability of iodine in cooking salt was checked and found that 83 per cent of households had iodized salt with the specified concentration.

5.1.2.2.3 Special Issues

- Food labeling and advertising particularly misleading ads were under special consideration of FAC and actions were initiated to regulate these areas by drafting a new labeling and advertising regulations.
- BES (Mad Cow Disease) – A special committee to exercise vigil over the issue of BES was appointed and import

of meat products from EU countries are regulated on the recommendation of this committee-This activity continues.

- A new draft regulation for approval and labeling of GM food finalized.

- Bottle water- The FAC found that unregulated bottling of drinking water is taking place in the country. To ensure the safety of the bottled drinking water, regulations of register the premises of bottling water had been drafted in 2003 finalized for publication in 2004.
- A special panel to draft amendment to the Food Act and also to revise or frame new regulations was appointed in 2004-This activity continues.

5.1.2.2.4 Food Safety Education

- Four 5 day programmes on Food Safety & Hygiene for Public Health Inspector were held and 188 PHII articulated.
- A total of 444 awareness programmes were held at divisional level for food handlers and 5,031 participated.
- Awareness programmes on food hygiene were held in schools on a routine basis in which 9,336 students participated.
- Thirty seven awareness programmes were held for members of local authorities.
- New exhibits were designed and procured. They are now being displayed in various exhibitions.
- A quarterly publication of Food Safety news bulletin was launched.

5.1.3 Quarantine Services (Port Health Services)

The following units carry out the quarantine services in Sri Lanka.

- Port Health Office, Colombo Harbour.

Table 5.1.3 Port Health Services, 2003

Source	Pratique Granted		Immunizations Given		Derating Exemption Certificate	Release of Human Remains
	Ships	Aircraft	Yellow Fever	Meningococcal meningitis		
Colombo Port	3,914	-	435	-	189	4
Assistant Port Health Office	-	-	930	784	-	-
Galle Port	193	-	-	12	3	2
Trincomlee Port	86	-	43	15	-	-
Airport Health Office	*	12,388	-	-	-	339
Total	4,193	12,388	1,408	811	192	345

* Not applicable

Source: Port Health Units

- Office of the Assistant Port Health Officer, at the MRI (Vaccination only).
- Airport Health Office, Katunayake.
- Port Health Offices at Galle and Trincomalee.

Quarantine services are mainly concerned with the implementation of the International Health Regulations, which aim to ensure the maximum security against the international spread of diseases, with the minimum interference with world traffic and trade. The main duties of this service includes the prevention of listed infectious diseases being introduced to the Island, issuing of pratique to aircraft and ships, inspection and release of food items imported, release of human remains, ensure sanitation and maintenance of high standard of the food outlets within the airport and port, vector control and other public health activities.

5.1.3.1 Surveillance of quarantinable Diseases

Surveillance of passengers from endemic countries for yellow fever is carried out at the Airport. All passengers who do not possess a valid yellow fever vaccine certificate are isolated at the Infectious Diseases Hospital (IDH) for 6 days or deported. Although all passengers arriving from yellow fever infected countries are requested to report at the health counter some passengers are missed, as this is a voluntary check. Also,

passengers going through the VIP lounge are not checked.

The requirement for vaccination under the International Health Regulations is only for yellow fever. This is for travelers above one year of age, to and from yellow fever endemic countries in Africa and South Africa. During 2003, yellow fever vaccinations were given to 1,468 passengers.

Travelers to Mecca are provided meningococcal meningitis vaccine on request. During the year under review, 811 vaccinations were given as shown in Table 5.1.4.

5.1.3.2 Granting of Pratique

Ships and aircraft arriving in Sri Lanka are inspected and granted pratique at the Port and the Airport. In 2003, 4,193 ships and 12,388 aircraft were granted health clearance.

5.1.3.3 Rodent Control

The Health Authority inspects ships arriving in port for evidence of rodent infestation and De-ratting Exemption Certificates are granted.

5.1.3.4 Release of Dead Bodies Brought to Sri Lanka

This activity is carried out under the supervision of health authorities. In 2003, 345 dead bodies have been released.

5.1.3.5 Other Activities

The Port Health Office provides a day and night radio medical advisory service to ships at sea.

Activities such as mosquito control work, training of medical students on port health procedures, surveillance of infectious diseases and regular sanitary inspections are also carried out by the Airport Health Officer and the Port Health officers.

5.1.4 Health Education and Publicity

The Health Education Bureau (HEB) of the Ministry of Healthcare, Nutrition and Uva

Wellarssa Development is the National Centre of Excellence for Health Education and Health Promotion. The sole responsibility of the HEB is to bring about improved standard of health and well being through health education/promotion.

5.1.4.1 Goal of the Health Education Bureau

Promotion of the health status of the community through Information, Education and Communication (IEC)/Advocacy, Social and Community Mobilization, Social Marketing and Capacity Building using the different health promoting setting is the goal of the HEB.

5.1.4.2 Objectives of the Health Education Bureau

The objectives of the Health Education Bureau are:-

- To provide technical support for the development of the educational component in policy formulation, health planning and programming.
- To support various health programmes of the Department of Health Services through advocacy, motivation and mobilization of communities for health action.
- To develop the required health education manpower, both within and outside the Department of Health Services.
- To educate the public on health and environmental issues, in order to enable them to play their role in promoting individual and community health.
- To promote, support and undertake research in the field of health education.

5.1.4.3 Activities carried out by the Health Education Bureau

- Capacity building programmes on health education, disease prevention and health promotion for district level health staff.
- Conducting seminars for mass media personnel on current health problems and issues.

- Publication and distribution of newsletters on Reproductive Health among media personnel and health staff.
- Conducting feature programmes, magazine programmes and quiz programmes through printed and electronic media.
- Publication and distribution of newsletters and magazine on health issues among health staff, volunteer health workers and school children.
- Conducting social marketing programmes and community mobilization programmes on major health problems.
- Conducting health exhibitions targeted at general public.
- Co-ordinating IEC and advocacy activities on reproductive health with the Ministries of Labour, National Youth Services Council, University Grant Commission and the Provincial Ministeries of Health.
- Co-ordinating the School health education activities with the Family Health Bureau (FHB), National Institute Of Education (NIE) Ministry of Education and Provincial Health Administration.
- Conducting programmes in collaboration with special campaigns, special units of the health and international agencies.
- Providing technical support and guidance to national non governmental organizations in Health Education manpower development and implementation of information, Education and Communication (IEC) programmes and activities.

5.1.5 Epidemiology

The Epidemiological Unit undertakes surveillance of all communicable and non-communicable diseases except malaria, filariasis, tuberculosis, leprosy, STD/AIDS and cancer, for which there are special campaigns. This unit also undertakes surveys and studies in the country on epidemiologically important subjects. In addition, the Epidemiological Unit is responsible for control of vaccine-preventable diseases, diarrhoeal diseases, acute respiratory infections, dengue fever (DF), dengue haemorrhagic fever (DHF) and Japanese

encephalitis (JE) and other emerging and re-emerging diseases

5.1.5.1 Epidemiological Surveillance

Epidemiology unit carries out epidemiological surveillance activities and co-ordinates the disease surveillance activities with other specialized units, campaigns and all health institutions in Sri Lanka.

Surveillance of notifiable diseases is a major routine activity carried out by the Epidemiology Unit. All the Medical officers of health in the country send a weekly return (Weekly Return of Communicable Diseases) containing data on notified diseases by institutions and information through field investigations of the notified cases. The data collected through this (well established properly functioning notifiable diseases surveillance) system is published in the Weekly Epidemiological Report.

The other main regular surveillance system is the collection of institutional data through the Indoor Morbidity and Mortality Register. The data thus collected is transferred through the indoor Morbidity and Mortality Return to the Medical Statistics Unit to be collated, compiled and published in the Annual Health Bulletin.

Beside these, there is one Advisory Committee on Communicable Disease. It is the highest technical committee that functions at the central level. This committee to which the Epidemiologist is the secretary, is convened on schedule. Additionally quarterly consultative meetings with the regional epidemiologist were conducted on schedule. In these meetings relevant technical discussions are carried out and work of the regional epidemiologist are assessed and monitored.

Comprehensive Assessment of National Surveillance System in Sri Lanka was conducted in March 2003 with the sponsorship of world Health organization (WHO). The report of this assessment is

published by the WHO regional office, New Delhi – SEA-HSD-269. On Implementing the recommendations of this report, a workshop was conducted to develop case definition for diseases under surveillance in November 2003.

During November-December, 2003 Acute Flaccid Paralysis (AFP) surveillance activities in Sri Lanka were reviewed by experts from WHO/SEARO, Centers for Disease Control and Prevention (CDC) along with local experts from Sri Lanka.

5.1.5.1.1 Japanese Encephalitis (JE)

In 2003, a total of 133 cases of Japanese encephalitis (J.E) were reported from medical institutions and there were 20 deaths giving a case fatality rate of 15.03 % (Table 47). The male to female ratio for JE was 1.04:1.

The outbreak situation experienced in latter part of the year 2002 in Ratnapura district continued in early months of year 2003. A total of 167 cases reported from 2002 Nov to Feb 2003. The distribution of JE cases by months is shown in Table 49.

The age distribution of JE cases is given in Table 50. More than half of the total i.e. 75 cases (54.2%) was reported in 1-24 year's age group. There are three cases in the under 1 year age.

Blood and CSF of the patients were examined for JE antibodies in the Virology Department of the Medical Research Institute of which 52 cases were positive for IgM antibodies.

Following the JE outbreak in Ratnapura district JE immunization programme was expanded in 2003 to include Ratnapura and Jaffna districts.

Japanese Encephalitis immunization programme is usually conducted in June/July in the selected districts. But due to the delay of receiving JE vaccine in 2003, the programme commenced later in some districts. In Southern province the programme was conducted as usual in June/July with the 1st

consignment of 200,000 doses of single dose vials. In Western, Northwestern, North central, Eastern provinces and Ratnapura and Jaffna districts the programme was commenced in September. In Jaffna and Ratnapura districts children of 1-3 years were immunized whereas in other districts 1-10 years old children were immunized. Beijing strain vaccine from GPO Thailand were used to immunize the children. A total of over 650,000 doses of JE vaccine was distributed in 2003 programme.

A programme for immunization of pigs was also carried out in some areas by the Department of Animal Husbandry, with the assistance of the Public Health Veterinary Services Unit of the Ministry of Health Services.

The Entomology Department of the MRI and regional entomology teams in the DPDHS divisions carried out entomological surveillance activities. Health education activities were carried out by the MOH/DDHS, the Health Education Bureau and other specialised units of the Ministry of Health Services.

5.1.5.1.2 Dengue Fever (DF) and Dengue Haemorrhagic Fever (DHF)

During 2003, a total of 4,749 DF/DHF cases were reported from government institutions and there were 32 deaths, giving a case fatality rate of 0.67 per cent. Blood samples of these patients were examined for dengue antibodies at the Virology Department of the MRI and 79 were found positive.

A special sentinel surveillance system was established in 48 large hospitals, to report all suspected cases of dengue directly to the Epidemiological Unit. In addition, *Aedes* vector surveillance and control activities were done with the assistance of the Anti Malaria Campaign, Anti-Filariasis Campaign, MRI and the Regional Entomological Units to control the disease.

The distribution of DF/DHF cases by DPDHS division shows that the highest number of cases reported from Colombo (1,003). Gampaha, Kandy, Kalutara, Kurunegala and Anuradhapura were among the divisions mainly affected (Table 48).

The age distribution of DHF cases and deaths based on notifications for the year 2003 shows that 17.3 per cent of the cases was among those in the age group 20-24 years. Three Hundred and Sixty five (29.7%) were in the under 15-year age group (Table 50).

The seasonal distribution of cases reported indicates that the highest number was during January (660 cases) and the lowest number in July (18 cases).

The DF/DHF surveillance activities (disease vector and serology), health education of the community and vector control activities are being carried out by MOHs and the Epidemiological Unit assisted by the MRI and the other health personnel of the local authorities.

5.1.5.2 Expanded Programme on Immunization (EPI)

National Immunization Programme of Sri Lanka is major success story. According to the routine immunization coverage data as well as periodical surveys conducted, virtually all eligible children and women throughout the country are receiving all their scheduled vaccine at the correct time. Objectives of any immunization programme are to bring down the morbidity and mortality of vaccine preventable diseases. With the high levels of immunization coverage achieved with acceptable quality, not surprisingly the target diseases have declined to low levels and some are not being detected at all, in spite of both active and passive surveillance activities.

Polio cases have not been reported since 1993. Poliovirus transmission has probably ceased. Only two cases of neonatal tetanus were reported in 2003. Laboratory confirmed cases of Diphtheria and Pertussis were not reported during the recent past. After the

introduction of measles immunization to the EPI in 1984/85, the incidence of measles gradually decreased until the occurrence of 1999/2000 outbreak, predominantly among the adolescence and young adults who were born before and just after the initiation of measles immunizations. With the new immunization schedule introduced in 2001; all children were given the second opportunity for measles immunizations with MR at three years. A measles catch-up immunization campaign was launched for those who aged 10-14 years in 2003. The measles immunization has become an achievable target within a few years.

Introduction of Hepatitis B vaccine & AD syringes to the EPI was started in phase basis in the year 2003 and it was successfully implemented in three provinces in 2003 with GAVI support.

Field health staff under the supervision of divisional, regional and provincial health management with close collaboration with curative, estate and private health sector is mainly responsible for this success. Educated and well-motivated parents and medical community for immunization also an important factor in the success of immunization in Sri Lanka.

Number of cases of EPI target diseases reported in 2003 and trends over the years is given in Table 51. EPI coverage data, based on the EPI Quarterly Returns sent by Medical Officers of Health and Consolidated EPI Quarterly Returns sent by DPDHS, for 2003 are presented in Table 52.

Since the inception of the EPI in 1978, EPI coverage survey using 30-cluster methodology was carried out every year by the Epidemiology unit in selected districts and sectors. In 2003, three such surveys were done in Galle, Trincomalee and Jaffna DPDHS divisions.

However, the coverage for antigens administered with school health programme; DT/OPV at 5 years is yet to be reached the desired standard.

Fig 5.1.1 Trends in Reported Measles Cases and Immunization Coverage

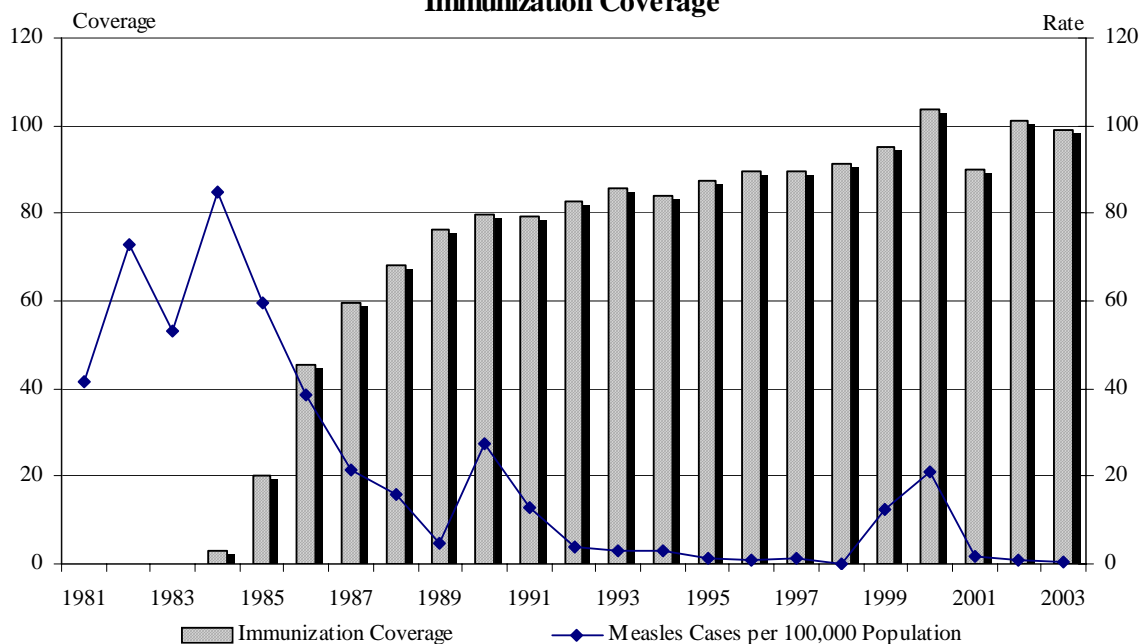
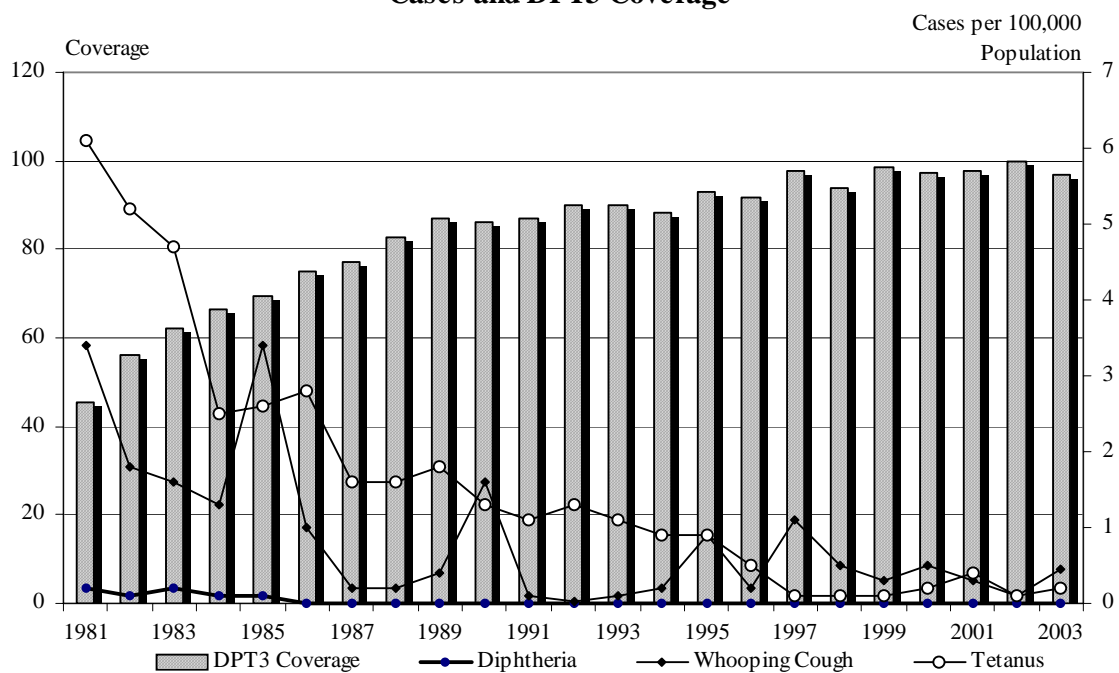


Fig 5.1.2 Trends in Reported Diphtheria, Whooping Cough and Tetanus Cases and DPT3 Coverage



Source : Epidemiological Unit

As Sri Lanka has achieved a higher coverage for almost all EPI antigens much, is needed to be done in the sphere of improvement of the quality of the EPI programme, in the areas of cold chain, injection safety, record keeping, prevention of adverse effects following immunization etc. Several training programmes on maintenance of cold chain and surveillance of adverse events following immunization for MOOH and other public health staff were conducted in several DPDHS divisions including Northeast provinces.

In 2003 Epidemiological Unit was recognized as a global Training Center on Adverse Effects Following Immunization by the Global Training Network of the World Health Organization and 1st training programme was conducted in June 2003 at Colombo. Fifteen participants arrived from 9 countries.

Polio Eradication Initiative

To strengthen the activities of AFP surveillance in year 2003 Epidemiological Unit conducted four quarterly meetings of Polio Expert Committee (PEC), which consists of a paediatrician, a virologist and an epidemiologist. The PEC is responsible for the classification of AFP cases when the diagnoses of those cases were doubtful.

Epidemiological Unit has also conducted four meetings of National Committee for Certification of Polio Eradication at the Epidemiological Unit Colombo.

Four consultative meetings were held for paediatricians, biologists, physicians Neurologists, pathologists, hospital directors and epidemiologists to discuss the means of improving surveillance of AFP cases so that it will contribute towards eradication and facilitate the declaration of polio free Sri Lanka.

In addition Epidemiologists from Epidemiological Unit had made several field visits to North and East as well as to the other provinces of the country.

5.1.5.2.1 Acute Flaccid Paralysis (AFP)

Acute Flaccid Paralysis (AFP) under 15 years of age or suspected poliomyelitis has been a notifiable disease since 1988. The last confirmed case of polio in Sri Lanka was detected in 1993.

The age and sex distribution of AFP cases reported during 2003 is given in Table 5.1.5 There were 94 cases of AFP reported to the Epidemiological Unit during 2003, giving an AFP rate of 1.77 per 100,000 population less than of 15 years of age. Of these cases, 24 (26 per cent) were under five year of age and 36 cases (38 per cent) were between 5 and 9 years old, while the remaining 34 (36 per cent) were in the 10-14 year age group.

The Epidemiological Unit with assistance of the Regional Epidemiologist investigated 100 per cent of the cases within 48 hours of notification. Two samples of stools were sent for virology within 14 days of onset of paralysis in 93 per cent of the cases.

The highest number of AFP cases (8) was reported from the Colombo DPDHS division. Kandy, Kurunegala, Nuwara Eliya, Galle, Matara, Gampaha, Ampara/Kalmunai and Anuradhapura DPDHS Divisions too reported higher figures.

Haemophilus Influenza Surveillance Study

Haemophilus Influenza is a leading cause of childhood infection worldwide. Clinical manifestation of severe haemophilus influenza b (Hib) infection include meningitis, pneumonia, epiglottitis and septicaemia. It is estimated that approximately 25,000 deaths and a million case of Hib disease occur annually in Asia alone. Data on Hib disease in Sri Lanka is scare.

Since the availability of effective vaccines, the developed countries have almost eliminated Hib disease in children. To understand the epidemiology and estimate the burden of disease due to Hib in

Table 5.1.4 Age and Sex Distribution of AFP Cases Reported During 2003

Age in Years	Male	Female	Total
>1	-	-	-
1-4	13	11	24
5-9	21	15	36
10-14	21	13	34
Total	55	39	94

Source : Epidemiological Unit

Sri Lanka the Epidemiology Unit has planned a population based prospective study., which will start the surveillance activities from January 2004.

Weekly Epidemiological Report (WER)

Weekly Epidemiological Report is a publication of the Epidemiological Unit. Although it is supposed to be published weekly, due to technical constrains there was a backlog of WER in 2002. However, in 2003 the Epidemiology unit was able to clear the backlog and ensure the timeliness of the Weekly Epidemiological Report.

5.1.5.2.2 Immunization Against Measles

Measles is an important childhood disease in Sri Lanka. According to hospital in-ward statistics, the annual prevalence of measles in Sri Lanka during the period from 1951 to 1960 varied from about 20-47 cases per 100,000 population. During 1961 to 1970 and 1971 to 1980, the prevalence varied from 18-38 and 12-49 cases per 100,000 population respectively. A measles outbreak in every 6 to 9 years is observed.

The measles vaccination programme was introduced on a phased basis initially in 4 DPDHS divisions in August 1984 and was extended to cover the island by 1985.

Five years after the introduction of the measles vaccine, i.e. in 1990, the overall immunization coverage had increased to 80 per cent. Over the years the coverage gradually increased and in 2003 it reached 100.0 per cent.

During the year 2003, 114 cases of measles were notified to the Epidemiological Unit. However, only 69 cases were confirmed

as measles. These cases were reported mainly from the district of Trincomalee (2.64 per 100,000 population) followed by Galle (2.15 per 100,000 population) and Kandy (0.68 per 100,000 population). No cases were reported mainly from Manar, Hambantota, Matara, Kilinochchi, Vavuniya, Mullaitivu, Batticola, Kalmunai and Jaffna. The age specific morbidity rate was highest among the under 1 year age group (3.56 per 100,000) population followed by the 20-24 years age group (1.08 per 100,000 population). The male to female ratio was 1:0.3. Analysis of the vaccination status of the measles cases indicates that the vaccinated were highest among the 1-4 year age group, whereas the un-vaccinated were mainly in the 20-24 age group. Ninety-five per cent of all cases had no post-measles complications and there were no deaths reported.

5.1.5.2.3 Immunization Against Rubella

Only 3 cases of rubella (two from Gampaha and one from Puttalam) to the Epidemiological Unit during the year 2003.

The rubella vaccine was introduced into the National Immunization Programme with the aim of preventing Congenital Rubella Syndrome (CRS), an epidemic which was predicted for the year 2000/2001. The programme began initially on a phased basis during 1996 and was implemented island wide in 1997. However, with the introduction of the measles/rubella (MR) vaccine to immunize all children completing 3 years of age, at the beginning of 2001, the objective of the rubella immunization programme has now been revised. The present objective of the programme is to prevent and control morbidity and mortality due to rubella infection among the general population (male and female) with special emphasis to prevent Congenital Rubella syndrome.

Initially the target group for rubella vaccination was females in the 11-44 years age group. The national target was to

immunize over 80 per cent of females in the 11-15 year age group and 60 per cent of females in the 16-44 years age group, before the end of 1999. This target was achieved and the current emphasis is to immunize all females completing 11 years of age at school. However, in 2001 a decision was taken to immunize all children both male and female, reaching 8 years of age.

The MR vaccine was introduced as part of the new immunization schedule, which became effective on 01.04.2001. The main objective in introducing the MR vaccine is to provide a second opportunity for vaccination against measles for those who failed to sero convert after the first dose of measles vaccine at 9 months.

All children (both male and female) born after 01.04.1998 should receive this vaccine when they reach the age of 3 years. The MR vaccine coverage for year 2003 was 86.8 per cent.

5.1.5.2.4 Viral Hepatitis

Viral Hepatitis is a notifiable disease in Sri Lanka. Out breaks are experienced in every 5-6 years, but with lesser magnitude. In the year 2003, 2,984 cases (15.5 PER 100,000) of viral hepatitis were notified, to the epidemiological unit. The highest number of 334 were reported from Kandy DPDHS division. But the highest rate of 57.9 per 100,000 was notified from Matale DPDHS division, where as the lowest of 1.4/100,000 was from Vavuniya. The other DPDHS areas where high number of viral hepatitis reported were; Colombo (163), Gampaha (251), Kalutara (191), Matale (261), Nuwera-Eliya (130), Badulla (162), Kurunegala (180), Batticaloa (216), Jaffna (116), Trincomalee (160) and Ratnapura (100). The lowest number of cases were reported from Vavuniya (2 cases) and Kilinochchi (7 cases). The possibility of under reporting of cases in some DPDHS divisions cannot be ruled out. The high rates reported could be due to the poor sanitary conditions, particularly due to lack of safe drinking water in most of these areas.

The highest percentage of 39.7% occurred in the age group 1-14 years and there is a subsequent decline of cases with the advanced age group. No cases were reported in the children less than 1 year of age in the year under review. The analysis of confirmed cases in 2003 of viral hepatitis gives a male to female sex ratio of 3:1.

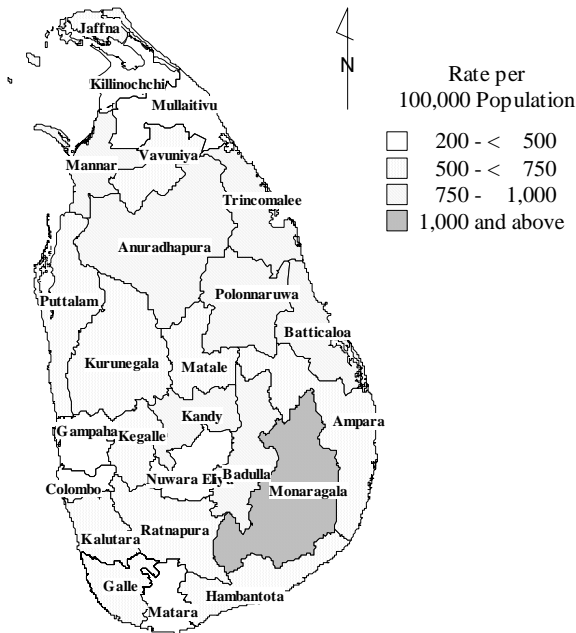
Data available at the Epidemiological Unit and the Medical Statistics Unit shows that hepatitis A is the commonest type of VH in the country; prevalence of hepatitis B and C ranges from 0.27% to 2.5% and 0.56% to 0.97% respectively.

Hepatitis B vaccine was introduced in to the EPI from 2003 in a Phased manner with the assistance from Global Alliance for vaccine and immunization (GAVI). Western, Southern and Northwestern provinces were covered in this year and subsequently by year 2005 the entire country will be covered. Hepatitis B vaccine has been introduced in to the current EPI schedule according to a 2, 4, 6 months schedule. Injection safety programme has been implemented in a phased manner, parallel to Hepatitis B vaccination and introduced to the use of Auto-disable (AD) syringes in the EPI with Hepatitis B vaccination as one of the strategies to improve quality of the immunization services.

5.1.5.3 National Programme for Control of Diarrhoeal Diseases

The National Programme for the Control of Diarrhoeal Diseases was started in Sri Lanka in 1983. Prior to the introduction of the programme, diarrhoeal diseases, especially watery diarrhoeas were mainly managed with the use of intra-venous fluid therapy for dehydration. The activities of the programme initially directed towards changing practices in the management of watery diarrhoea from intravenous therapy to oral re-hydration therapy. Increased fluids and continued feeding during illness has improved management of acute watery diarrhoea.

Fig 5.1.3 - Distribution of Cases of Diarrhoeal Diseases by District, 2003



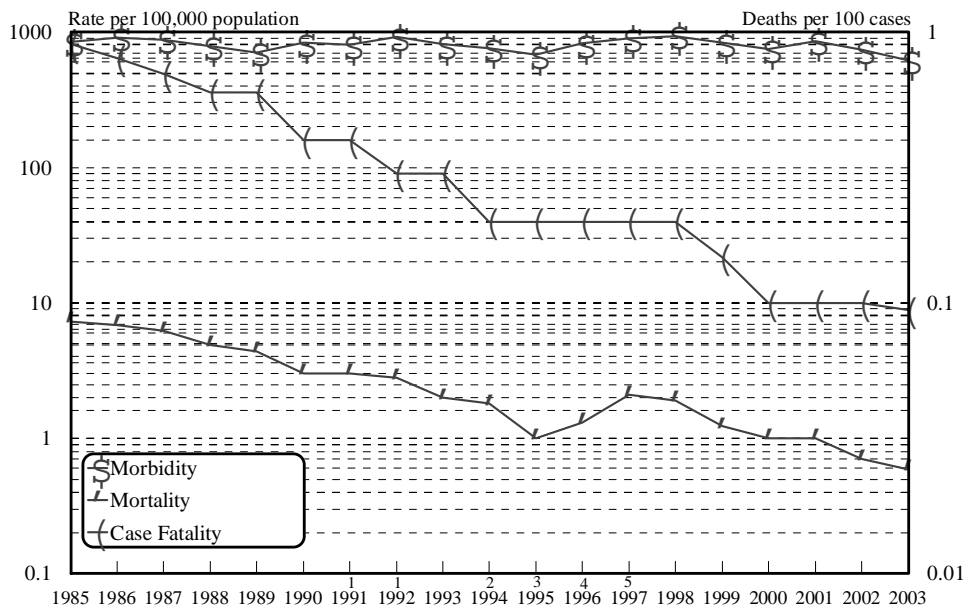
Source : Medical Statistics Unit
Prepared by Medical Statistics

Training of hospital and field staff, establishment of diarrhoea training units, and educational activities through mass media, played a major role and has resulted in early recognition of dehydration and its correction by using *Jeevani* oral rehydration salts, by the mothers and the health personnel at all levels. All these factors led to a very significant reduction in the death rate due to diarrhoeal diseases (Table 53).

Although the mortality rate due to diarrhoeal diseases has decreased dramatically the morbidity rate has not decreased at a similar pace.

Admission to government hospital due to diarrhoeal diseases has been fluctuating between 676.1 and 961.3 cases per 100,000 population. During 2003 the cases treated in government hospitals for diarrhoeal diseases per 100,00 population is 622.5. It is likely that diarrhoeal diseases will continue to be an important public health problem in Sri Lanka.

Fig 5.1.4 - Morbidity and Mortality of Diarrhoeal Diseases and Case Fatality Rate, 1985-2003



Source: Epidemiological Unit

Excludes 1 Northern and Eastern Provinces.
2 Polonnaruwa district.
3 Jaffna, Kilinochchi, Mullaitivu and Ampara districts
4 Kilinochchi and Mullaitivu districts
5 Ampara district

Two training programmes for health personal on prevention and control of

diarrhoeal diseases were carried out along with training on acute respiratory tract infection. In addition, control and prevention of diarrhoeal disease has been included in the in-services training programmes conducted or all categories of the health workers.

Dysentery Surveillance

A total of 8,073 cases of dysentery was notified to the epidemiological unit in the year of 2003. This is in comparison to 9,672 cases notified in the previous year. Karuwalagaswewa MOH area experienced an out break of dysentery in the November-December period with total of 120 cases notified in November and 45 cases notified in December 2003. In 2003 highest number of dysentery cases (1,127) was reported in he month of May. In November a total of 977 cases wee reported.

Enteric Fever Surveillance

A total of 3,116 cases of enteric fever was notified to the epidemiological unit in the year 2003. This in comparison to 2,962 cases notified in the previous year. DPDHS Jaffna reported the highest number of cases with 813 reported for 2003.

5.1.6 Thripasha Programme

The Thripasha Programme is the National supplementary food programme implemented throughout the country by the Ministry of Health for pregnant and lactating mothers, infant and preschoolers, in order to improve there nutritional status. This programme was commenced in 1973 with the assistance of CARE Sri Lanka and the complete food product was imported under PL 480 assistance. Since 1991, the programme has been completely maintained with government funds. The Ministry of Health spends about 570 Mn annually.

The Thripasha processing complex was constructed in Ja-Ela and started functioning in 1979. The annual Thripasha production

target is approximately 10,440 metric tons. This is to provide Thripasha for 580,000 beneficiaries. All the raw materials are processed with government funds and tested for conformity with specifications. The composition of the final product of Thripasha is Maize 66%, Soya 30%, full cream milk powder 3% and vitamins and minerals 1%.

A medical officer is appointed by the Ministry of Health as the project officer. The main responsibilities are to maintain quality, allocation and distribution of Thripasha to the beneficiaries. The selection of beneficiaries is done by the medical authorities at the respective health centres according to the stipulated regulation of the Ministry of Health.