GOVERNMENT OF KERALA

TWELFTH FIVE YEAR PLAN (2012-17)

Working Group Report on

MEDICAL AND PUBLIC HEALTH

STATE PLANNING BOARD
THIRUVANANTHAPURAM

November 2011

CONTENTS

PREFACE

The State Planning Board constituted Twelve Working Groups in the formulation of Twelfth Five Year Plan in the area of Social services. The Working Group on **Medical and Public Health** has been constituted with Sri. Rajeev Sadanandan IAS, the Principal Secretary to Government , Health & Family Welfare department, as Chairman and Smt. Shila Unnithan ,Chief, Social Services Division, State Planning Board as Convenor. The composition of Working Group is given in Annexuree-1

The Working Group in its four meetings on held on 31.08.2011, 13.09.2011, 28.10.2011, and respectively held at the Chamber of the Principal Secretary, Health, Secretariat has discussed broadly the problems in the light of guidelines for Plan formulation and the Approach paper. A one day workshop was held on 15.09.2011 and the problems in the Health sector were analysed and suitable suggestions for Twelfth Plan were evolved. All members of the Working Group extended whole hearted support in the process of completing the Report in time. I am grateful to the members of the Working Group for the task they done for completing the work.

Chairman

Thiruvananthapuram

07.12.2011

CHAPTER - I

Introduction

Kerala has better health indicators such as Death Rate, Infant Mortality Rate (IMR) and Expecta on of Life at Birth than most States in India. These have been achieved due to a large number of factors such as pro-active intervention by the State, social mobilization by social, political and religious groups and improvement in other social indicators such as female education. However recent trends indicate that health of the people of Kerala face the double threats of re-emerging communicable diseases and emergence of risk factors that predispose persons to chronic diseases. High levels of morbidity and high out of pocket payments for treatment are also a load on the economic well being of the people of the State.

The State also faces some other problems which need to be addressed. Mental health problems including higher suicide rates, health problems and death due to road traffic accidents are increasing. The suicide rate of women in Kerala, which stands at 31 per 100,000 is the highest reported anywhere in the World. We need a comprehensive programme with infrastructure and processes to deal with injuries arising from road traffic accidents and violence. The growth of private sector has not been matched with development of regulatory systems to manage it. If prepayment systems such as insurance preferred as the way to ensure that the poor are not denied access to health care due to inability to pay then the State needs to build capacity to manage such schemes which has led to runaway increase in health care costs and high levels of supplier induced demand in some States. Since changing lifestyles, dietary habits and tobacco and alcohol use are likely to increase the incidence of chronic diseases in future the State needs to build in measures to manage these into the primary health care system. Addressing these issues would require the State to harness high technical and managerial expertise soon.

Our health care sector needs to improve considerably in terms of availability and quality of its physical infrastructure, human resources and services so as to meet the growing demand. We have to design and implement an adequate response to the new problems that are confronting the State today. The Twelfth Five Year Plan should see Kerala gain ascendancy in health sector that it had enjoyed in the past.

CHAPTER - II

Health Sector in Kerala

Kerala has often been singled out as a paradox in having achieved ***'good health at low cost'***. The State is reported to have the lowest rural-urban inequalities in public health status. India's first ever Human Development Report published in 2002, placed, Kerala on top of all the other States in India, because of easy accessibility and coverage of medical care facilities. High level of education especially among women and greater health consciousness have played a key role in the attainment of good health standards in Kerala.

National Rural Health Mission (NRHM) has been working in the State to attain the goals and objectives of National Population Policy and Millennium Development Goals. It aims to provide accessible, affordable and accountable quality health services to the poorest households in the remotest rural regions. Gender development has gained special attention through schemes such as Standardization facilities in Maternal and Child Health units in Medical Colleges, *Seethalayam*, ASHA workers and dedicated units in District Hospitals to support the victims of gender based violence. *Seethalayam* is a new scheme of Homoeopathy Department started during 2010-11. It aims to provide aid for suffering women, in particular women victims of violence in the society by addressing women's mental, physical and social health through medical treatment and counselling. State Institute of Sports Medicine, Sports Ayurveda and Medical University received special importance during the Eleventh Plan period. At the same time, Indian System of Medicine and Homoeopathy has also been promoted. Ayurveda and Homoeo Hospitals were upgraded by providing 15% of State share of the amount provided by the Department of AYUSH, Government of India. The implementation of 11th Plan programmes has resulted in a significant all round improvement in the public health system and public health care.

Health Care Infra structure in Government Sector

The Health infrastructure of the State consists of 2699 institutions with 50622 beds. Besides there are 5403 sub centres. Out of the total institutions 46.87% are under Allopathy, 32.01% under Ayurveda and 21.12% under Homoeopathy Department. Medical

services are also provided through the Co-operative sector and the Private sector. There are 65 Hospitals with 6297 beds under the Co-operative sector in the State.

Table-1
Health Infrastructure in Government Sector during 2010

Sl. No.	System of medicine	Institutions	Beds	Patients treated	
				IP	OP
1	Allopathy(DHS)	1254	37177	1626000	51111000
2	Allopathy (DME)	11	9732	563000	3763000
3	Ayurveda	864	2764	48000	0
4	Homoeopathy	570	949	33000	17700000
	Total	**2699**	**50622**	**2270000**	**72574000**

Health Services

There are 1254 institutions and 37177 beds under the Directorate of Health services which includes 835 Primary Health Centres, 237 Community Health Centres, 78 Taluk Hospitals, 17 TB clinics/ centres, 29 grant in aid institutions and 3 leprosy control clinics/ units. Besides, there are 5403 sub centres. Out of the 835 PHCs, 174 are now categorized as 24x7 PHCs.

Medical Education

There are 23 Medical Colleges in the State of which only five are in the public sector. Medical Education in the Government sector in the State is imparted through five Medical Colleges, three Dental colleges and five Nursing colleges. Developments are on in the Medical Colleges in the State to meet the demand for specialised tertiary care. Government have announced the intention to start four new Medical Colleges in Idukki, Kasargod, Pathanamthitta, Harippad and Malappuram during 2011-12.

Ayurveda

The Department of Indian System of Medicine has 119 Hospitals and 745 dispensaries across the State. Besides, there are around 900 small to medium size Hospitals in the private sector. The Directorate of Ayurveda Medical Education manages 16 institutions; 3 are in Government sector, 2 in private sector (Aided) and 11 in self financing sector. The Ayurveda Colleges are functioning as per the CCI norms and regulations of concerned Universities of Kerala

Homoeopathy

The Department of Homoeopathy has 551 dispensaries and 30 Hospitals with total bed strength of 945. Out of the 30 Hospitals, 13 are District Hospitals and 17 Taluk Hospitals. In addition, Kerala State Homoeopathic Co-operative Pharmacy (HOMCO) Alappuzha, a medicine manufacturing unit is also functioning under the Directorate of Homoeopathy. Under Homoeo Medical Education, there are two Govt. Homoepathic Medical Colleges, one functioning at Thiruvananthapuram and the other at Kozhikode.

MAJOR DISEASES IN KERALA

Life Style diseases

Longevity and changes in life style have contributed to the growth of chronic and degenerative diseases also referred to as non-communicable diseases. These include diseases such as heart disease, stroke, high blood pressure, cancer and diabetes. It is estimated that there are about 1.5 million diabetic patients in Kerala. These people need lifetime management involving lifestyle modifications, drugs and diet. Recent surveys in different categories of subjects in Kerala reveal that one out of three adults in Kerala is a hypertensive. Hyper tension leads to heart attacks, stroke and kidney failure. It is a lifelong disease and needs careful and sensible management throughout life.

Alcohol consumption is increasing in the State. According to WHO estimates, there are about 2 billion people who consume alcoholic beverages and 76.3 million with diagnosable alcohol-use disorders. Excessive drinking can cause a variety of health problems. More than 72 per cent accidents on national highways were related to drunken driving. Domestic violence is also on the increase due to high alcohol consumption. Alcohol related diseases are growing. Chronic alcohol use can lead to adverse immunological consequences resulting in poor response to medication and avoidable mortality. Similarly, overweight and obesity leads to heart attack, hypertension, breast cancer, and diabetes and diseases of bones and joints.

Communicable Diseases

Kerala which had effectively eliminated indigenous malaria through public health measures is finding it difficult to deal with communicable diseases like Chikungunia, Dengue fever, Malaria, Leptospirosis, Cholera, and Typhoid. We need to have a systematic

programme to deal with each communicable diseases, based on their seasonality, to prevent them and manage complications that arise from their incidence. The Hospitals and staff have to be equipped to handle the complications. Private sector and AYUSH systems which are primary source of care for many patients also need to collaborate to prevent avoidable mortality.

Table-2

Common Communicable Diseases in Kerala

Disease	2006	2007	2008	2009	2010
Malaria	2101	1927	1804	2046	2199
Dengue	959	677	733	1425	2597
Chikungunia	66619	24052	24685	13349	1531
Hepatitis A	6285	5350	6963	7844	5181
Leptospirosis	1821	1359	1305	1237	1016
H1N1 fever				1578	1534

Source: Directorate of Health Services

Cancer

Cancer is a major disease that affects all sections of human population. Every year 35000 new cases of Cancer are detected in Kerala. It is estimated that almost 5 lakhs of persons will develop cancer every year in the country and in any given year there will be almost 15 lakhs cancer patients. As the demographic profile ages, this number will increase. In order to study the incidence of cancer in our country, and to monitor its trends, cancer registries have been started in several places by the Indian Council of Medical Research. It is recognized that some cancers can be prevented. Apart from Medical Colleges, Regional Cancer Centre, Malabar Cancer Centre and General Hospital Ernakulam provide treatment for Cancer. Only two District Hospitals and one Taluk Hospital have cancer detection facility in the State. With the expansion of the National Programme for Cancer detection and management started in the Eleventh plan all District Hospitals could be equipped to detect and provide primary management services.

Table-3
Cancer cases reported

Year	Number of new patients registered	Existing number of patients
2006-07	11173	129974
2007-08	11327	139818
2008-09	12123	163837
2009-10	13040	167628

Source: Regional Cancer Centre, Thiruvananthapuram

AIDS

Kerala is rated as a low prevalence State with prevalence largely confined to individuals with high risk behaviour and their sexual partners. The estimated number of people infected with HIV in Kerala is 55167. The route of HIV transmission in Kerala is heterosexual 82%, homosexual 2%, through injecting drug use 7.85%, mother to child 7%, through blood /blood products 1% and unspecified 5.5%. The prevalence among pregnant women attending Antenatal Clinics (ANC) as per the 2007 sentinel surveillance round is 0.38 %.The HIV epidemic in among IDUs in Kerala causes concern with more than 7.6% of Injecting Drug Users (1DUs) infected. Among other population groups with risk behaviours prevalence is only 0.96% among Men having Sex with Men (MSM) and 0.87% among Female Sex Workers (FSWs). Although HIV prevalence among FSWs and MSM are under 1%, the prevalence among IDUs is more than 7% . Effective steps have to be taken to reduce prevalence among IDUs and to maintain the current low levels among other risk groups.

The Kerala State Aids Control Society plays an important role in the prevention of HIV/AIDS epidemic. The Society implements various programmes with the support of National AIDS Control Organization (NACO) and supported by UNAIDS and WHO As per the estimate of the Kerala AIDS Control Society 2247 AIDS cases were reported during 2010. Details of AIDS cases reported during 2010 are given below.

Table -4
AIDS cases reported during 2010

Category	Cases reported	Death
Male	1344	163
Female	790	75
Children	113	7
Total	**2247**	**245**

Source: Kerala state AIDS Control Society

Mental Health

Mental health problems including higher suicide rates, health problems and death due to road traffic accidents are increasing. The suicide rate of women in Kerala, stands at 31 per 100,000 women is the highest reported anywhere in the world. Rates of suicide are higher among those with physical disorders than among other people, this is especially marked in elderly people. Depression is associated with reduced levels of functioning of immune system and an increased risk of other physical disorders (World Health Report, 2001). People suffering from chronic physical conditions such as 'heart disease, diabetes and cancer have a heightened probability of developing mental disorders such as depression (Mental Health Context, WH0, 2003). Rates of suicides are higher among those with physical disorders than among other people. An important finding of the WHO's world mental health survey is the high percentage of people who seek mental health care through general health services and professional services

CHAPTER-III

Eleventh Plan Outlay and Expenditure

The outlay for the implementation of schemes under Medical and Public Health during Eleventh Five Year Plan was Rs.96569.00 lakh. The total expenditure reported so far during the 11th Plan under Health sector is Rs. 59148.1 lakh. During 2010-11 and 2011-12, 15% State share for NRHM scheme has been provided under DHS which is distributed over the relevant schemes.

Table- 5
Eleventh Plan Outlay and Expenditure

(Rs. in lakhs)

Year	DHS		DME		ISM		DAME		Homeo		DHME	
	outlay	exp	outlay	exp	outlay	exp	outlay	Exp.	Outlay	Exp.	outlay	Exp.
2007-08	4435	3861.81	2200	5778.93	263	259.29	551	454.94	306	71.15	625	69.52
2008-09	4783	8525.52	4175	5101.36	750	597.08	896	758.04	607	225.93	325	234.81
2009-10	3678	5700.41	4324	9311.02	1022	732.9	900	530.23	866	200.44	410	153.79
2010-11	6565	3897.07	6295	9347.81	1170	1021.08	937	1193.52	1007	856.82	1160	264.63
2011-12	9799	0	11466	0	1330	0	1437	0	1244	0	1250	0
Total	**29260**	**21984.81**	**28460**	**29539.12**	**4535**	**2610.35**	**4721**	**2936.73**	**4030**	**1354.34**	**3770**	**722.75**

Out of the total outlay received during the 11th Plan period, 79.1% of expenditure has been made in the Health sector during the first four years of Plan. Though the Tenth Five Year Plan highly favoured the Medical Education Sector Eleventh Five Year Plan allotted more outlay for implementing schemes under Directorate of Health Services. The Directorate of Health Services has made 75.13% of expenditure during the first four years of 11th Plan. Progress of schemes under Capital Head for construction works is often lagging.

CHAPTER I-IV

Approach to Kerala's Twelfth Plan

Health sector in Kerala is at a cross road. Early success in reducing mortality has led to an ageing population suffering from degenerative diseases associated with the demographic shift. Having abandoned the public health strategies that helped the State control communicable diseases in the past the State is witnessing the re-emergence of these diseases. We need to leverage the tremendous advantages the State has in the Social Sector to evolve a strategy to deal with this double burden. Kerala has to recapture the basic structure and policies that helped us reduce mortality in the past and to develop the capacity to deal with the problems associated with non-communicable which now affect all segments of the population.

The vision of this approach paper is to develop Kerala into "a society that is healthy, active and vibrant to meet the twin challenges of re-emerging and emerging diseases; that can afford and willing to meet the cost of healthcare; with the State actively involved in the sector, providing an environment conducive to healthy life, regulating the unethical practices and taking care of the old and weak, thereby establishing a proper healthcare system for the people of the State"

Major focus areas for the Twelfth Five Year Plan are:

1. ***Control and Management of Communicable diseases*:**

Kerala had controlled communicable diseases in the past by focusing on public health and giving due emphasis to the determinants of health that lie outside health sector. Promotion of good health and prevention of diseases, while less glamorous than curative services, should be the priority for the State. This can happen only when leadership of the sector is provided by persons professionally qualified to lead on public health side. Building a cadre of public health leaders and empowering them should be a priority task for the State. The State needs to enact an effective and unified public health act soon.

Kerala should aim at total elimination of diseases where feasible. For instance, levels of vaccination should be high enough to ensure that there are no vaccine preventable

diseases. Filaria should be eliminated through effective implementation of MDA campaign and prevalence of leprosy brought down to zero. Kerala should assure safe drinking water to 100 % of the population and reduce mosquito and fly density by 50%. Based on the seasonality and epidemiology of the diseases the State should take advanced action to prevent spread of the diseases preventing avoidable mortality. An effective waste management and source reduction for mosquito is a necessary condition for reduction of incidence of communicable diseases. Kerala has to become serious about control of plastics as plastic waste has become the single most important location of waste water where mosquito breeds. Ayurveda and Homeopathy have to take up identified hotspots and establish that interventions using the strategies in their stream of medicine have brought down incidence.

Death rate for TB should be brought down by 50% through strengthening DOTS, better case detection and active case detection in pockets with high prevalence of TB, better management of HIV-TB co-infection including cross referrals, strategy for management of TB among persons with Diabetes and food supplementation for TB patients. Vigil should be maintained against a runaway HIV epidemic injecting drug users and active behaviour change communication must be maintained to ensure there is no slip back by other groups.

People's awareness and willingness to participate in disease prevention are the strengths of the State. The strategy to control of communicable diseases should focus on these. This would need formalising and strengthening structures such as the ward level health and sanitation committees and health standing committees of local self Governments and creating a dynamic communication strategy involving different channels of communication. A public health plan has to be developed for every grama panchayat with recurrent campaigns being taken up based on seasonality of the diseases. There should be routine outbreak investigations. We also need to have a strategy on how to control the outbreaks among migrant populations and how the transmission between local population and migrants are to be controlled.

2. Prevention and management of lifestyle related diseases:

Kerala has a high burden of Diabetes Mellitus, Hypertension, Obesity, Dyslipedima, major vascular diseases (Coronary Artery Disease, Cerebro Vascular Accidents, Peripheral

Vascular Disease) and cancers. Given the ageing profile of the population and the preponderance of risk factors burden is likely to increase, imposing a high burden on the State. The public health system is not oriented to prevention and management of life style related diseases. Kerala should aim at integrating community based prevention into primary health care, by incorporating lessons learnt from where these have succeeded, rather than creating vertical, disease based groups. Primary prevention and management has to be routed through the primary care providers rather than allowing patients to approach specialists directly. Community based screening is to be arranged for heart diseases, Diabetes Mellitus, Hyper Tension and Cancers of the mouth, breast and cervix. Since this will be an added load on the multipurpose health workers male and female and primary health centre doctor, the State should plan to augment staff at these levels and build the capacity of health workers. Effective use of policy instruments such as regulation of food preservatives, additives, taxation on harmful substances should also be made. Effective machinery for gathering and analysis of data to monitor the course of these diseases and a mechanism to act on them should be set up at the State and District level.

AYUSH systems have high levels of efficacy in managing some of these diseases. Ayurveda and Homeopathy should set up clinics to manage non communicable diseases either by themselves or in partnership with other systems.

The control and management of NCDs should adopt a holistic approach leading from preventive action for the healthy, screening for the high risk population, primary care for the affected, tertiary for the acute cases and palliative care for the terminally ill patients.

3. ***Prevention of accidents, trauma care:***

Management of the consequences of accidents and violence is a major load on health services. In the west it has emerged as the the primary cause of death for people under the age of 44 and the third leading cause of death for persons of all ages. The most effective measure to ensure survival and to prevent long term disability is immediate, specialized care by a multi-disciplinary team of health care professionals with special training and experience in evaluating and treating trauma supported by appropriate resources. Such care can reduce mortality by as much as 25%.

A Trauma System is an organized, coordinated effort in a defined geographic area that delivers the full range of care to all injured patients and is integrated with the local public health system. It is characterised by a seamless transition between each phase of care, integrating existing resources to achieve improved patient outcomes. Typically it consists of a communication system, ambulance system, transportation by paramedics trained in advanced life-support techniques, and a specialized Hospital unit fully equipped and constantly staffed. It will aim to reach the site of accident as quickly as possible, give first aid / advanced life support to the patient, quick and safe transportation of the patient to the Hospital, and to liaise with other organisations as Police, Fire service and any other Governmental or non Governmental agencies to provide pre-Hospital Care, acute Care facilities and community re-integration.

It should have at least the following elements:

a) Fully equipped ambulances- each run by one paramedic cum driver and a trauma nurse (male)

b) Good communication system between the ambulances and various centres and data transfer facility between different centres

c) A centralised helpline with a toll free number manned by a communication officer who collects basic information, and assigns the ambulance most strategically positioned, links to the emergency centre and remains in contact with all persons involved till the patient reaches the emergency centre.

d) **P**eripheral trauma care centres with a triage area, resuscitation area, observation area- (Male / Female / Paediatric), ICU- general

e) Acute care centre: In addition to the above the centre should have Operating Rooms, Post operative ICU, Specialty ICUs, CSSR, and Interventional Vascular Lab. Other support needed include X-ray, USG, (MRI), Outpatient radiology (X-ray), EKG & Laboratory Testing and Blood Bank

f) Rehabilitation and community re-integration unit: Hospital based and outreach units which focus on helping patients achieve greater independence, a higher degree of functionality, and a faster return to productivity and include psychological support.

Kerala needs to set up a State Trauma Management Council to serve as the locus for policy development and support, and coordinate the work of various Departments and the private sector. The Council will help formulate State trauma system standards and optimal resources guidelines for trauma prevention, and ensure implementation of an effective Trauma System in all Districts. To make available qualified manpower Kerala should start a PG course in Critical Care and make ATLS training a part of skill training in the Health Services.

4. Reduction of mortality and morbidity, IMR, MMR:

Infant and maternal mortality decline has plateaued in the State at unacceptably high levels. Kerala should aim to reduce IMR to 6 and to halve the MMR. It is possible to reduce infant deaths from low birth weight, birth asphyxia, and sepsis. Maternal deaths due to Post partum hemorrhage, Hypertension and infections can also be reduced. An effective strategy will be to focus on adolescent care through management of anemia, malnutrition/obesity, reproductive tract and sexually transmitted infections, through life skills development, and through immunization for TT and Rubella.

Nutrition remains an area of concern in spite of decline of poverty in Kerala. This should be addressed through greater awareness of nutrition for adolescents, periodic nutritional assessment and management and nutritious diet, providing breakfast and lunch to adolescent girls, pregnant mothers and children. Anemia prophylaxis and deworming, lifestyle education through anganwadis, schools and adolescent clinics and prompt and adequate management of infections are also important. Age of marriage continues to be a problem in some parts of the State, though there are signs of improvement.

While coverage of antenatal care is good in Kerala the effort should be to make it universal. Stress on proper nutrition, adequate exercise, birth-spacing, anemia prophylaxis, screening for congenital anomalies and referral for high risk pregnancies will contribute to reducing maternal mortality and improving the health status of the population.

Kerala has not only to ensure 100 % institutional delivery but also improve the quality of care provided in Government and private Hospital. To achieve this FRUs have to be fully equipped with resuscitation facilities, trained pediatrician, blood transfusion facilities and ambulance services. Quality obstetric and emergency obstetric care must be

available in all Taluk Hospitals and above and gradually brought up to CHCs. These must be linked to institutions below and with private institutions through written referral protocols. Neonatal care must be provided in all Taluk Hospitals and NICU in tertiary care Hospitals. Some of the other areas that need attention are: Sepsis reduction (maternal & newborn), detection and management of congenital malformation, early initiation of breast feeding, infection control.

Immunisation has dropped to dangerously low levels in Kerala with the most vulnerable being left out of the services. Kerala has seen reappearance of vaccine preventable diseases. This is the result of poor policy guidance and monitoring leading to reduction in importance of universal immunization and poor data collection. The Health Department has to ensure coverage above 95% and a GIS mapping of those voluntarily opting out to detect the emergence of an unimmunized cohort.

In family planning the State has reached the demographic target set by National planners. Focus has to shift to generating awareness regarding types of services available for temporary and permanent contraception and abortion and providing quality services to those that seek it.

Some of the strategies to be adopted are: integration of different systems of medicine preferably by locating them in the same building or compound, more effective involvement of Anganwadi workers, provision of supplementary nutrition and short stay homes for tribal and coastal mothers, quality essential newborn car and crackdown to prevent unnecessary cesarean sections. Every new born must be tested for motor, sensory, hearing, vegetative functions and for thyroidal abnormalities.

5. ***Mental Health***:

Issues related to mental health lie behind many of the problems of Kerala. High rate of suicides, high level of alcohol abuse, domestic violence even among persons belonging to higher socio-economic status, and even many medical complications may be traced to mental health problems. Promoting positive mental health, prevention of mental health problems, early detection and community based management of cases as against institutionalization should be the corner stones of mental health problems in the State. The stigma that surrounds this disease in Kerala inhibits patients and their families accessing

treatment. Proper management is also constrained by lack of qualified professionals such as psychiatrists, clinical psychologists and psychiatric social workers.

While service provision will need to be improved emphasis has also to be laid on prevention of risk factors and promotion of positive mental health. Investing in life skills training, communication training, cultivating the ability and power to say no to undesirable behaviors and assurance regarding availability of help in prevention of mental health problems would be some of the key strategies. Promotion of Mental Health among adolescents and addressing mental health needs of the aged are priority areas too. The plethora of agencies that provide mental health services to children and adolescents need to be co-ordinated preferably through education Department for students and social welfare Department for non-students. To address the mental health needs of aged persons teams of neurologists, psychiatrists and clinical psychologists are needed. Rehabilitation centers for persons with mental health problems should be integrated with other disabilities and palliative care services at local level.

Stigma has to be reduced if early detection and community based management are to succeed. Multi-purpose health workers need to be trained on early detection and primary care providers on confirmation and the skills reinforced periodically as part of Departmental training. They can be supported by mobile teams with a psychiatrist, psychiatric social worker and clinical psychologist. Persons who need attention during the day will need day care centres operated by the Non-Government organizations. The aim of the programme should be to treat near the patient's home and provide regular medication at primary care setting itself rather than institutionalisation. The role of Ayurvedic treatment for promotion of good health and management of problems need to be fully explored. Given the level of substance abuse in the State de addiction clinics have to be set up in all the tertiary and secondary Hospitals.

6. State specific treatment protocols, referral systems, quality of care, safety:

The emergence of drug resistant diseases strain, such as the NDM1, has emphasized the need to regulate prescription practices. As the Government is planning to set up prepayment schemes written down treatment and referral protocols will be needed to standardize treatment, avoid disputes and control costs. While this is likely to be resisted by

interest groups, the pressure of public health and the purchasing power of Government and insurance companies should be used to move towards this goal. The protocols already developed by Government of India, the Armed forces and some State Governments can be used as guidance documents to generate the protocols. These are to be circulated to academic institutions, professional organizations and public health activists for their comments. The protocols will be periodically updated based on the experience of clinicians and patient groups.

7. Health of the aged and palliative care:

With more than 11% of the population aged above 65 health of the aged has become a leading concern of the health sector. Every elderly person in Kerala is entitled to a person-centered and family-centered quality health care including attention to physical, psychological and social well-being.

Geriatric and palliative care should be integrated into routine health care. To achieve this there should be an emphasis on geriatrics and palliative care in undergraduate and advanced education of doctors, nurses and allied professionals in all systems of medicine. Training centers have to be set up in various regions of the State for training of professionals in geriatric care, including AYUSH systems. Nurse-led teams as conceived by Kerala's palliative care policy should also include geriatric care. Three nurse-led teams should be supported by one doctor who is available for consultation.

Specialty clinics are needed to attend to special problems, to ensure education on the subject and to train professionals and other care givers. Kerala will need to set up dedicated geriatric and palliative clinics in District Hospitals. Weekly geriatric-cum palliative care clinics will need to be started in all CHCs upwards. Every CHC should have at least one doctor and one nurse trained in geriatric and palliative care.

Care should, as far as possible, reach the patient at the community level in the patient's home. Reintegration into society and social rehabilitation of the elderly and of palliative care patients and their families will give them a feeling of being useful members of the society. When institutional care is necessary, health system should work with NGO-run care centers. The work of Social Welfare Department and health Department in the above areas should be synergized.

By experience patients in Kerala have arrived at an eclectic selection of medical systems. Though there could be legal objections to use of medicines of one system of medicine by practitioners of other systems of medicine, there is opportunity for working together leveraging respective strength of different systems. All systems of medicine should be available for patients to choose from under one roof at the District Hospital.

8. Infrastructure:

Years after the public health infrastructure was conceived quality remains unsatisfactory in most institutions in Kerala. The types and level of services that are to be made available in a defined administrative area – Panchayat ward, grama panchayat, block panchayat, Taluk and District – must be spelt out. Institutions that serve each of these areas – sub-centre, Primary Health Centre, Community Health Centre, Taluk and District Hospitals – must be equipped and staffed to provide these services. The institutions that lack the minimum prescribed standards must be upgraded before the better equipped ones are improved further. Clarity regarding services for a geographical/administrative area will remove the confusion caused by different names being given to institutions without any apparent logic.

The population norm of one SC for every 5000 population has proved inadequate to the workload that will result with implementation of the programme for prevention and control of non-communicable diseases. This should be changed to one for every 3000 population.

Primary Health Centres should have standard design with patient waiting areas, separate and clean toilets, safe drinking water, examination rooms that respect the privacy of patients and a lab that offers all routine investigations. Two medical officers are needed to manage the load that will emerge when public health of Non communicable diseases and gate keeper functions for pre-payment mechanisms are introduced.

Community Health Centres were meant to be the source of specialist treatment. Each CHC is expected to have facilities in major specialties viz. General Medicine, Obstetrics and Gynecology, Pediatrics, General Surgery (anesthesia). In order to ensure quality of services adequate space and infrastructure should be provided. Since Obstetrics services will not be acceptable unless facilities are available for emergency obstetric care, blood storage and facilities for emergency transfusion, facility for emergency transport and communication link with higher levels of Hospitals should be provided in every CHC.

Taluk Headquarters should have, in addition to the major specialties other specialties such as Orthopedics, ENT, Dentistry, Dermatology, Psychiatry and Ophthalmology. Blood bank facilities and second level lab facilities (including serum urea, blood sugar, Glucose tolerance/ challenge tests, and serum) should be provided. First level trauma management should also be possible here.

District Hospitals have to be upgraded in view of the increasing prevalence of non-communicable diseases and the challenges of managing co-morbidities. Dialysis, cardiac care, cancer care and treatment for neurological cases should be provided in District Hospitals. These facilities need to be linked to the corresponding Government Medical Colleges through telemedicine links and training being offered on new modes of treatment. Advanced laboratory facilities including CT scans should be available. Doctors being offered PG and super specialty seats under Government quota in Medical Colleges should be earmarked for posting in District Hospitals. Suicide prevention, de addiction services and adolescent services should also be available in District Hospitals.

Given the higher level of academic qualification of nurses entering service today, the job descriptions of doctors and nurses have to be reconfigured for "task shifting"(persons at lower levels relieving those at higher level of some of the functions). Hard to reach locations should be served through mobile dispensaries.

There should be one Ayurveda and Homeo dispensary per panchayat to provide OP services. In order to improve the level of services to patients it will be advisable to co-locate them in one place in the panchayat.

Since there is a heavy demand for inpatient facilities in Ayurveda fully equipped and staffed Taluk Head quarters Hospitals with 100 beds and District Hospitals with 250 beds have to be set up in stages. Increased emphasis is needed for Kerala specific specialities such as marma, bala, netra and visha. Medicinal plantations have to be set up in all Districts. Every Taluk should have a 25 bedded Homeo Hospital. Areas with large tribal population could have a ten bedded Hospital to address their needs. Mobile AYUSH clinics could support tribal in remote locations.

9. Health Manpower Medical education training:

Kerala faces the paradoxical situation of more doctors passing out every year and lesser number being available to work in the public sector. Systems have to be devised to ensure that persons educated through public resources are available to serve the public should the need arise. Medical education, if perceived as a means of improving the quality of human resources, should be funded privately and the resources thus saved used to improve access to health services for the poor.

Similarly there are adequate number of institutions for dentistry and nursing and no more institutions need be set up with Government resources. Here too the State can produce manpower for export or to meet the needs of private providers with Government effectively discharging the regulation functions.

However there is a need for clinical speciality and super speciality seats in view of the increasing demand for tertiary care. New courses are needed in geriatric, emergency and critical care and family medicine. M.Ed. courses which enables speciality practice has less arduous terms for recognition should be encouraged. Government institutions which can offer Diploma courses should be upgraded to do so. In Ayurveda and Homeo too there is a need to have more postgraduates to man the academic institutions in Government and private sector.

Continuing Medical Education should be made mandatory for all registered practitioners before renewal of license. This will update them on latest epidemiological situation in the Country and the World, train them on latest technology and techniques for disease control, diagnostics and treatment. In spite of the baffling nature of re-emerging diseases there has not been adequate research in the State. Research should be supported and encouraged.

10. Health Care Financing:

Health makes ever increasing demands on finances of the State. Choices regarding mode of provision determine the mode and quantum of finances that the State has to provide. When the percentage of financing by the State through general taxation comes

down private expenditure goes up. But since health is a sector with market failure it is more efficient for most of basic services to be funded publicly.

Types of care and modes of financing: The State should fund outpatient care, either through direct provision or through contracted providers paid through capitation fee. This also allows control over gatekeeper function which determines access to more expensive inpatient care and elective procedures. Inpatient admissions and a basket of basic services should also be free to all. Emergency care should also be publicly funded. The low volume high cost tertiary care could be funded through pre-payment mechanisms.

The State has to decide whether the services should be directly provided or only funded. Services have to be normatively costed and the costs periodically updated to assess the financing requirements irrespective of the source of funding. Standard treatment guidelines, use of generic drugs, bulk purchase of drugs and consumables, primary care providers acting as gate keepers to more expensive procedures help serve reduce the cost of providing health services without undermining quality and should be insisted upon. Resources spent on health care have opportunity costs for the economy and should not be wasted on unnecessary diagnostic and curative procedures.

11. *Governance of the sector*

Inefficiency in stewardship and management functions by Government has been one of the major reasons for underperformance of the health sector in the State. Kerala has to focus on developing and improving systems to ensure good governance of the health system. Some of the areas where action is to be taken are:

a. Establish a public health cadre with adequately qualified persons to oversee public health activities and coordinate the work of different agencies involved in managing public health in Kerala

b. Set up a gatekeeper system through primary care providers: Modeled on the General Practitioner or the Family Physician concept each family should have an identified primary care provider who acts as the gatekeeper to higher order services. If PHC doctors are to be entrusted these function their numbers may prove inadequate or their frequent transfers will defeat the purpose unless there is a seamless handing

over of charge. Therefore additional manpower will need to be in sourced and a web based individual Electronic Medical Records System set up with access restricted to primary care providers and treating doctors. Skills of public health staff at lower levels will also have to be enhanced to manage preventive and promotive care.

c. Improve regulatory environment: Due to reasons of market failure in the sector health is one of the areas that need good quality regulation. However Kerala does not have an act to regulate clinical establishments and to oversee public health. These need to be enacted and enforcement mechanisms set up.

d. Ensure quality of drugs and make them affordable: Poor infrastructure and lack of adequate manpower also prevent quality assurance systems for drugs. Kerala needs to set up two more regional drug testing laboratories and increase facilities in the existing drug testing laboratories so that all the needed tests can be done with adequate sampling.

e. Generate data: Good data is needed for evidence based management. Kerala needs to build a system for collection, analysis and dissemination of data on costs, epidemiology and access to services. Costing and prevalence studies have to be conducted to generate baseline data and periodic up-dation done to monitor and evaluate the outputs and outcomes in the sector. This data should also be made available to researchers to track the health situation in the State.

f. Systems for multi-sectoral collaboration: Many interventions that are not managed by the health sector impact health outcomes. Kerala needs to set up a mechanism for sectors that manage these interventions (eg. Supply of drinking water, Waste disposal) to work together to achieve the desired outcomes. Health Department has to work with Pollution Control Board and Local Self Government Department to prevent pollution of air and water and food adulteration. Developing village and District health plans, as mandated by the National Rural Health Mission, will provide a shared template to align the activities of different sectors to achieve good health. Kerala can leverage the experience of the decentralized planning process to develop such plans

g. Addressing special needs of special populations: The needs of marginalized and differently enabled population tend to get submerged when meeting the needs of the general population. Therefore we need to have special arrangements to identity, assess and address the needs of such populations.

Kerala had been lulled into complacency by comparatively better health indicators among Indian States. However the enormity of the problems that confront us today should help us shed our complacency. Kerala has access to the factors that helped us achieve good outcomes in the past. Awareness and public interest on health issues continue to be high. It is also a politically sensitive issue. These ensure that the sector can command the attention it deserves. With proper technical expertise and co-operation with other sectors it is possible to effectively confront the health problems faced by the State.

ANNEXURE -1

PROCEEDINGS OF THE MEMBER SECRETARY

STATE PLANNING BOARD, THIRUVANANTHAPURAM
(Present: Sri. Subrata Biswas. IAS)

Sub: Formulation of Twelfth Five Year Plan (2012-2017) – Re-constitution of Working Group on Medical & Public Health-Orders issued.

Ref: -1. Order No.5529/2011/SS(W9)/ SPB dated 22.08.2011 and 1/09/2011

2. Lr. No. 2222/2011/PCD/SPB Dated 10/10/2011 of the Chief, Plan Co-ordination Division, State Planning Board

No. 5529/2011/SS (W9)/SPB **Dated : 14 .10.2011**

As per reference cited 1st , Working group on Medical and Public Health has been constituted. Now as per reference cited 2nd , it has been decided to reconstitute the working group with the following chairperson/members.

1. Sri. Rajeev Sadanadan IAS — Chairman
   Principal Secretary to Government,
   Health & Family Welfare Department
   Government Secretariat,
   Thiruvananthapuram

2. Dr. Althaf, — Member
   TC 14/1923, Palayam
   Trivandrum-34

3. Dr.Prabha Chandran Nair — Member
   Psychatrist,
   Directorate of Health Services,
   General Hospital Junction,
   Thiruvananthapuram

4. Dr. Vasudevan Namboothiri — Member
   State Programme Manager,
   AYUSH,
   Programme Management Unit,
   NRHM Building,
   Thycaud, Thiruvananthapuram

5. Dr. Ravi.M.Nair — Member
   Aramam, HSRA E – 25,
   Kalady,
   Karamana, Thiruvananthapuram

6. Sri .Sankar Krishnan,
TC 28/1134
Sivanagar ,SWRA 10
Sreekanteswaram(W)
Thiruvananthapuram — Member

7. Dr. B. Iqubal
Kuzhivelil house,
Arppookkara East,
Kottayam- 686008 — Member

8. Dr. V. Ramankutty
Achutha Menon Study Centre for Health Science Studies
Sree Chithira Thirunal Institute of
Medical Science and Technology
Thiruvananthapuram — Member

9. Dr. K. Sundari Raveendran
Achutha Menon Study Centre for Health Science Studies
Sree Chithira Thirunal Institute of
Medical Science and Technology
Thiruvananthapuram — Member

10. Smt. Shila Unnithan
Chief,
SS Division,
State Planning Board. — Convener

11. Smt. V.Rajalekshmi
Research Officer ,
SS Division,
State Planning Board. — Co-Convener

Terms of Reference

1. To review the development of the sector with emphasis as to progress, achievements, present status and problems under its jurisdiction during the Tenth and Eleventh Five Year Plan periods.
2. To evaluate achievements with regard to the plan projects launched in the sector, both by the State Government and by the Central Government in the State during these plan periods.
3. To outline special problems pertaining to the sector
4. To outline, in the light of such review and evaluation, and in conformity with the broad approach outlined in the State Planning Board's Approach Paper to the Twelfth Five Year Plan for Kerala with projected flow of funds, a plan for the sector for the Twelfth Plan period.
5. To suggest, in particular, a set of projects which can be undertaken during the Twelfth Plan period in the sector.

6. The Chairman is authorized to co-opt additional members in the working group, if necessary. The Chairman can also modify terms of reference with approval of State Planning Board.
7. Various sub-committees can be constituted under each working group based on the requirement with the approval of Hon'ble Vice Chairman, State Planning Board.
8. The working group will submit its draft report by 31st October 2011 to the State Planning Board.

Sri. Subrata Biswas IAS

Member Secretary

Forwarded/By Order

Chief, Social Services Division

To

1. The person concerned
2. The Sub Treasury Officer, Vellayambalam

Copy to:

The Accountant General, Kerala (A&E) with C/L
All Divisions, State Planning Board
P.S. to Vice Chairman, State Planning Board
C.A. to Members
P.A. to Member Secretary
C.A. to Sr. Administrative Officer
P.P.O, Publication, Computer, Accounts Sections
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