KARNATAKA PUBLIC HEALTH POLICY

PREPARED BY KJA TASK FORCE

Karnataka Jnana Aayoga
(Karnataka Knowledge Commission)
Government of Karnataka

September 2017
Karnataka Public Health Policy (KPHP)  
September 2017

Karnataka Jnana Aayoga  
(Karnataka Knowledge Commission)  
Government of Karnataka
Published by:
Kamataka Jnana Aayoga
(Kamataka Knowledge Commission)
Government of Kamataka
Room No. 432, 433, 438 and 439,
4th Floor, Vikasa Soudha
Dr. B. R. Ambedkar Veedhi
Bengaluru - 560 001
Email:adminkkc@gmail.com
www.kamataka.gov.in/jnanaayoga
Public health is an important and evolving social guarantee in any nation's governance - a way of assuring merit good for citizens, quality and importance to every human life. Good health demands and needs are dynamically changing with varying quality of life - public health institutions, including doctors, nurses, hospital, diagnostics, pharma agencies etc., are stressed to maintain a constant in public health service. Every government strives to assure good quality public health care for its citizens - the goal has to achieve a high-level standard of affordable, good quality health services. Public health policies play a very pivotal role in defining vision, aims, priorities, budgetary decisions and course of action in constantly improving health services for its people.

KJA has considered public health policy for Karnataka as an important activity - urged to work upon by Hon'ble Minister for Health and Family Welfare in Karnataka. Public health initiatives in the state, over the years, have improved considerably - with a network of health centres, hospitals and speciality centres that have not only contributed significantly to the improvement of health indicators but also in making Bengaluru a preferred health-care destination for many citizens. Public health is impacted by actions in various developmental sectors, including Rural Development, Agriculture, Food Production, Sanitation, Drinking Water Supply, Education, etc. Within society, changing life-styles and economic prosperity is impacting health-care in a major way - not only many new life-style diseases are becoming prevalent in all age groups but newer and newer strains of communicable diseases are emanating. Rising incomes is also bringing preference to private sector health care dependency - especially in speciality services. Old age care is another immediate need in the state - with a large demographic shift to 60+ age groups. With longevity of life increasing, old age and geriatric care becomes very important.

KJA recognised that a comprehensive Karnataka Public Health Policy (KPHP) for the integrated health development and functioning of the health sector needs to explicitly articulate optimal, people oriented development of health services. I am happy that the KJA Task Force on KPHP - led by Dr Devi Shetty, an eminent cardiology expert doctor of the country and Dr Alex, yet another eminent public health expert has defined a State Public Health Policy that addresses the shortage of health human resources, especially in rural areas; training of doctors and nurses; hospital information
systems; electronic medical records; quality improvement etc. The policy has also highlighted strengthening and improving health services to elderly and old age care. The policy document has also suggested some of the strategies to improve retention of health workers, AYUSH workforce integration, development of paramedical workforce training, public health nurse practitioners, public health education and comprised with systematic and scientific procedural costing study. Medicine and public health need to be in tandem to improve health maximally — and emphasize society’s responsibility to promote both healthy environments and consistent, high-quality care. The involvement of many parts of society, including government agencies, health organizations, nongovernmental organizations, clinicians, the private sector, and communities, is increasingly important for success. Karnataka will benefit when its people are healthier.

I commend Dr. Devi Shetty, Chair of the Task Force and Dr. Alex Thomas, Member Secretary of the Task Force and all other Members of the Task Force for their far-sighted vision in defining the multifaceted aspects of a public health policy.

I am thankful to Mr. Ramesh Kumar, Hon’ble Minister for Health and Family Welfare Department for fulsome support of the department to KJA for this activity - which, in fact, was suggested by Mr. U. T. Khader, Former Minister for Health and Family Welfare. I am also thankful to Dr. Subhash Chandra Khuntia, Chief Secretary and Dr. Shalini Rajneesh, Principal Secretary, Dept. of Health and Family Welfare for very useful inputs on perspectives of health issues in state and also helping on defining recommendations of the policy. From the KJA side participated in the deliberations effectively to provide his own valuable inputs.

On behalf of the KJA, I am extremely pleased to submit the KJA Recommendation on Karnataka Public Health Policy (KPHP) to Government of Karnataka for effective implementation.

October 3, 2017

(K. Kasturirangan)
Chairman, KJA
Karnataka Jnana Aayoga (KJA) has been established by Government of Karnataka (GOK) as an expert recommendatory body on innovation and knowledge activities in governance systems and for benefit to the state. With 30 experts from various walks of life, KJA is a unique “pool of knowledge and expertise” that works with the GOK Departments and many institutions to consider and recommend unique ideations – that are not only relevant but have a far-reaching impact for future state development.

KJA considers public health care and health services a primary goal for the future development of the state. Karnataka state is one of the pioneer states in the country in providing comprehensive public health services to its people. The state has already made considerable progress in providing comprehensive health care and a delivery system consisting of curative, preventive, promotive and rehabilitation health care, to the people of the state.

Public health encompasses the science and management for promoting good health, preventing diseases, providing affordable and quality healthcare through state-coordinated efforts and informed choices of good health for society, organizations, public and private, communities and individuals. A progressive health-care would show up quickly on positive health indicators and bring to fore a healthy population and good quality of life. It is the state’s responsibility to ensure complete physical, mental and social well-being, apart from the absence of disease or infirmity in the state. Equally critical is the availability of good quality and affordable health-care – hospitals, health facilities and experts across the state so that every citizen is assured of excellent health services, at affordable costs.

In 2016, Chairman, KJA had met the Hon’ble Minister of Health and Family Welfare (HFW) (then Hon’ble Mr UT Khader) and need for a policy for public health and a possible Health Ombudsman was identified as a task that KJA should look into. The Policy needs to address gaps in the equity and accessibility of health services, both in public and private sector, and its availability, in rural and urban areas. Thereby, a health divide that is afflicting society and the challenges in access to good and affordable health care must get bridged. In addition, there is also the need to standardise costs and health-care methods, in provision of health services through various mechanisms – which calls for a transparency and also for citizen redressal mechanisms in health sector. The larger issue is also of adequacy of health facilities for the young and growing population in the state - there is a need to ingest in modem and innovative health facilities/infrastructure that can serve all segments of society.
and the state efficiently. Child and women care needs immediate attention – as it reflects on the future generation health. At same time, old age care is becoming extremely important – with a large number of 60+ age group in population.

KJA constituted an expert Task Force – led by Dr. Devi Shetty and Dr. Alex – both of whom are eminent personalities in health and medicine sector. The Task Force had many state and national-level experts in health – the task force met innumerable times to discuss and define a holistic policy. The task force roped in many other experts through sub-committees – almost 100-120 experts were associated in the policy-making exercise of KJA. The result was a draft KPHP which was then discussed with the Health and Family Welfare Department of GOK and also with Chief Secretary, GOK and other senior officials of GOK. Various inputs and suggestions were incorporated to make the KPHP - draft of which was also discussed in KJA meetings. Finally, KJA, in its 7th meeting held on September 7, 2017, considered final draft and made a final set of observations to be incorporated and approved/endorsed the KPHP – thus bringing the exercise to conclusion and for the KPHP to be submitted to GOK.

KJA, as part of its recommendation, proposes an inclusive and participatory approach that ensures that all stakeholders in the health sector are involved in its further development. The Policy defines the objectives, principles and strategies to reach a high standard of healthcare in the state, as well as an implementation framework required to achieve this standard. The KJA Recommendation on KPHP also includes specific recommendations in 12 areas of intervention – primary healthcare, Human Resources for health, healthcare technology, training of healthcare staff, health information systems, electronic health records, AYUSH development and integration, state health ombudsman, procedural costing, quality in healthcare, access to affordable medicines and care of the elderly.

KJA is also happy to note that excellent coordination and support of the HFW Department in definition of the Policy – so much so that even as KJA was in final steps of finalizing its recommendation, the HFW Department was quick in “adopting” the Health Policy and started the process of formalizing it. However, now with this formal KJA submission of the KPHP, the HFW department can proceed ahead in formalizing a “State Health Policy”. KJA would be happy to further interact and engage with HFW Department in ensuring that the Policy is implemented.

I would like to express my gratitude and thanks to the Task Force-KPHP – specifically to Dr. Devi Shetty and Dr. Alex for providing excellent leadership to the Task Force and for their excellent contributions in preparing the Policy. The Task Force sub-committees also deserve a specific commendation for having addressed nitty-gritty issues in 12 important areas – integration of which makes the KPHP holistic and complete.

I take the opportunity to thank all KJA Members – who guided this activity through various discussions and also for providing valuable guidance and input to the TF-KPHP. Ms. Jayashri of KJA Secretariat provided “ground level” coordination and support to
the Task Force – in terms of research coordination, analytics and report drafting – her contributions have been extremely professional and of high quality.

Dr. Kasturirangan, Chairman, KJA engaged with the Task Force right from beginning and reviewed/discussed on various aspects that the Task Force was working upon. His guidance and mentoring the Task Force provided high-level of motivation and helped envisioning the policy definition. Dr. Kasturirangan’s perspective on dynamics of a developing society, future societal development and need to adopt technology to address health issues was at the foundation for KJA to take up this important activity. His deep insights and vast experience not only helped KJA but also the TF-KPHP in preparing this innovative Policy for Karnataka. I take this opportunity to thank Dr. Kasturirangan for his guidance, mentoring and overall steering of KJA activities and for guiding the development of KPHP.

As mentioned earlier, the involvement of the HFW Department of GOK was fulsome and interactive - on behalf of KJA, I acknowledge, with gratitude and thanks, for the excellent support of Sri. K. R. Ramesh Kumar, Hon'ble Minister of Health and family Welfare, GOK; Dr. Subhash Chandra Khuntia, Chief Secretary, GOK; Dr. Shalini Rajneesh, Principal Secretary, HFW Dept. of GOK and senior officers of HFW Department – all of whom were convinced of the need for a progressive policy direction for future health of the state and were supportive of the KJA vision and the need for KPHP.

On behalf of the KJA, it is a matter of great pleasure for me that KJA Recommendation on Karnataka Public Health Policy (KPHP) is now submitted to GOK and look forward to its implementation – toward this, KJA will continue to support and work with GOK.

October 3, 2017

(Mukund Kadursrinivas Rao)
Member-Secretary, KJA
mukund.k.rao@gmail.com
PREFACE

The genesis of this document stems from the farsighted vision of the Government of Karnataka to plan ahead for the next 10 years in providing affordable, quality and equitable health care to the citizens of our state.

A proper understanding of the current health scenario coupled with critical analysis of the factors influencing it, helped us to arrive at a baseline data where from, we could efficiently plan for the future.

Over 150 Policy and domain experts from all over the country had a series of consultations interacting on different aspects of public health and identified twelve broad areas where intervention as suggested could yield a positive outcome on the health status of our state in the decade ahead.

One of the main objectives of the recommendations is to strengthen Government hospitals and make them more vibrant. Since private healthcare may not be able to contribute significantly in Tier 2 and 3 cities to the extent as in Tier 1 cities, it is important for Government systems to be strengthened to address this important issue. Therefore, the focus should be on developing and refining Human Resources. MBBS doctors should be provided adequate opportunity to upgrade themselves to intermediate specialists. Additionally, Nurse Practitioner courses and other such programs that strengthen the quality, productivity and utilization of nurses and other paramedical staff should be formulated and implemented. Allied skill programs should also be strengthened.

Healthcare Sector Skill Council training programs are to be utilized for addressing the shortage of support staff in healthcare.

Emphasis has been laid on quality and patient safety, incorporation of technology in delivery of healthcare and maintenance of medical records and evolving Health Information System. Strengthening of Primary Health care services through active community participation is advocated in order to reap the benefits.

Integration of the other systems of medicine (AYUSH) at the Primary Health Care level is being promoted in order to offer a wide range of choice (cafeteria approach) to the citizens to choose from.

Efficiently trained and motivated manpower is the key to the strength of the Health care delivery system and it has been appropriately addressed. Making available quality medicines at affordable cost and ensuring easy accessibility will benefit larger sections of the society. As life expectancy is moving up, a larger section of the society
comprises of the elderly, whose social and medical health needs are to be met with and this has been duly addressed.

In any service set up, redressal of Grievances is a must to ensure efficiency and progress, and the methods for the same have been well spelt out.

One of the highlight of this document is the Procedural Costing involving institutions, NABH, IIM-B, which has given us an insight into private participation in Government Health Schemes, which needs to be strengthened.

The political will with which this Task force on Public Health has been constituted reveals a positive outlook towards, Health Care in our state and if the same zeal is evinced in implementation of the recommendations made in this document, Karnataka is all bound to set example for other states to follow in the decade to come.

This document also enunciates the way forward in the form of Road Map with timeline for implementation.

My sincere gratitude to all connected with this project and it is the collective wisdom which finds expression in this document.

I present this document with pride to the beloved citizens of our state of Karnataka.

Dr. Devi Prasad Shetty
Chairman, KJA TF-KPHP
Sep 7, 2017
KJA RECOMMENDATION
KARNATAKA PUBLIC HEALTH POLICY

http://www.karnataka.gov.in/jnanaayoga/Govt%20Order%20Circulars/Amendment%20order_TFKPHP.pdf

CHAIR OF TF

- Dr. Devi Prasad Shetty, Chairman, NH Group, Bangalore

MEMBER-SECRETARY OF TF

- Dr. Alexander Thomas, President, Association of Healthcare Providers India (AHPI), Bangalore

MEMBERS OF TF

- Principal Secretary, Health & Family Welfare Department, Government of Karnataka
- Principal Secretary, Medical Education Department, Government of Karnataka
- Project Administrator, K.H.S.D.R.P, Government of Karnataka
- Vice-Chancellor, Rajiv Gandhi University of Health Sciences, Bangalore
- Dr. Kiran Mazumdar Shaw, Chairman & Managing Director, Biocon Limited, Bangalore. Chair
- Dr. Issac Mathai, Chairman, Managing & Medical Director, Soukya Holistic Health Centre, Bangalore
- Dr. C. N. Manjunath, Director, Sri Jayadeva Institute of Cardiovascular Sciences and Research, Bangalore
- Dr. K. Srinath Reddy, President, Public Health Foundation India (PHFI), New Delhi
- Dr. Mukund K. Rao, Member Secretary, Karnataka Jnana Aayoga, Government of Karnataka
- Dr. Darshan Shankar, Vice-chancellor, Transdisciplinary University (TDU)
- Director, Department of Medical Education, Government of Karnataka
- Joint Director, Department of Health Planning and Finance, Government of Karnataka
- Dr. N. Devadasan, Co-Founder and Director, Institute of Public Health (IPH), Bangalore

PERMANENT INVITEE TO TF

- Dr. Radha Murthy, Co-Founder & Managing Trustee, Nightingales Medical Trust, Bangalore
CONVENOR OF TF

- Dr. M. Jayashri, Convenor, TF-KPHP, KJA
- Mr. K. Deepak, Co-Convenor, TF-KPHP, KJA

SUB-COMMITTEES OF TF-KPHP

HEALTHCARE TECHNOLOGY

- Dr. Vijay Agarwal, Secretary General, Consortium of Accredited Healthcare Organizations, New Delhi. Chair
- Mr. Vishwaprasad Alva, Managing Director, SKANRAY Technologies, Mysore
- Dr. Nagendra Swamy, Medical Director, Manipal Health Enterprise Pvt Ltd, Bangalore
- Ms. Deepanvita Chattopadhyaya, Chairman & CEO, IKP Knowledge Park, Hyderabad
- Dr. Kumar Sanjaya, Lead Clinical Specialist & Product Manager, Philips Healthcare, Bangalore
- Mr. Shivkumar, Health Equipment Officer (Former), Government of Karnataka
- Dr. Suresh Devasahayam, Professor & Head, Bioengineering, CMC Vellore
- Mr. K. V. Kumar, Group Head Information Technology, Narayana Health, Bangalore
- Mr. Arvind Sivaramakrishnan, Chief Information Officer, Apollo Hospitals Enterprise Ltd, Chennai
- Mr. Ashokan Somuveerappan, Vice President & Head - Technology, Columbia Asia Hospitals Pvt Ltd, Bangalore

TRAINING OF HEALTHCARE STAFF

- Dr. Kishore Murthy, Professor & Head, Department of Hospital Administration, St. John’s Medical College, Bangalore. Chair
- Dr. Aruna, Director, State Institute of Health & Family Welfare, Government of Karnataka
- Dr. V. C. Shanmuganandan, Joint Director, AHPI, Bangalore
- Dr. Bipin Batra, Executive Director, National Board of Examinations, New Delhi
- Sis. Rohini Paul, Chief of Nursing, Narayana Health, Bangalore
- Director, Paramedical Board, Government of Karnataka
- Dr. K. S. Ravindranath, Vice Chancellor, Rajiv Gandhi University of Health Sciences, Bangalore
- Dr. Siddique M. Ahamed, Member Secretary, Paramedical Board, Government of Karnataka
HOSPITAL INFORMATION SYSTEMS

- Dr. Devi Shetty, Chairman, NH Group, Bangalore. Chair
- Mr. K. V. Kumar, Group Head Information, Narayana Health, Bangalore. Coordinator
- Mr. Arvind Sivaramakrishnan, Chief Information Officer, Apollo Hospitals Enterprise Ltd, Chennai
- Mr. Ashokan Somuveerappan, Vice President & Head - Technology, Columbia Asia Hospitals Pvt Ltd, Bangalore
- Mr. R. Venkatesh, Technical Director, National Informatics Centre, Karnataka State Unit
- Dr. Dinesh Jain, Vice President, Clinical Data Analytics, Max Healthcare, New Delhi

ELECTRONIC MEDICAL RECORDS

- Dr. Devi Shetty, Chairman, NH Group, Bangalore
- Mr. K. V. Kumar, Group Head Information - Technology, Narayana Health, Bangalore. Coordinator
- Ms. Shobha Mishra, Senior Director, Federation of Indian Chambers of Commerce and Industry, New Delhi
- Mr. R. Venkatesh, Technical Director, National Informatics Centre, Karnataka State Unit
- Mr. Anil Reddy, Founder & Creative Director, Lollypop, Bangalore

ELECTRONIC MEDICAL RECORDS (TECHNICAL COMMITTEE)

- Mr. K. V. Kumar, Group Head Information Technology, Narayana Health, Bangalore. Chair
- Mr. Arvind Sivaramakrishnan, Chief Information Officer, Apollo Hospitals Enterprise Ltd, Chennai
- Mr. Ashokan Somuveerappan, Vice President & Head - Technology, Columbia Asia Hospitals Pvt Ltd, Bangalore
- Mr. Gaur Sunder, Head Medical Informatics Group, Centre for Development of Advanced Computing, Government of India
- Dr. B. S. Bedi, Advisor, Health Informatics, Centre for Development of Advanced Computing, Government of India
- Dr. Suman Bhattacharyya, Member, National HER Standardization Committee, MoHFW, Government of India
- Mr. Anirudh Sen, Deputy Director, Federation of Indian Chambers of Commerce and Industry
- Mr. Prashanth Desai, Assistant Professor, National Law School of India University
• Dr. Dinesh Jain, Vice President, Clinical Data Analytics, Max Healthcare, New Delhi

AYUSH

• Dr. Issac Mathai, Managing & Medical Director, Soukya Holistic Health Centre, Bangalore. Chair
• Dr. Darshan Shankar, Vice Chancellor, Transdisciplinary University (TDU). Co-Chair
• Dr. Ravi Narayanan, Member, SOCHARA, Bangalore
• Dr. Balasubramaniam, Founder & Chairman, Grassroots Research & Advocacy Movement
• Dr. H. R. Nagendra, President, Vivekanada Yoga Anusandhana Samsthana
• Dr. G. G. Gangadharan, Director, M.S. Ramaiah Indic Centre for Ayurveda & Integrative Medicine
• Dr. Subhash K. Malkede, Director (Former), Directorate of Ayush, Government of Karnataka

HEALTH OMBUDSMAN

• Dr. Devi Shetty, Chairman, NH Group, Bangalore. Chair
• Prof. O. V. Nandi Math, Registrar, National Law School of India University, Bangalore. Co-Chair
• Dr. Alexander Thomas, President, Association of Healthcare Providers India (AHPI), Bangalore. Co-Chair
• Dr. Nagendra Swamy, Medical Director, Manipal Health Enterprise Pvt Ltd
• Mr. Jayakar Jerome, Member
• Mr. P. S. Vastrad, Commissioner (Former), Health & Family Welfare Services, Government of Karnataka
• Dr. Prakash Kumar, Deputy Director for Malaria & Filariasis Control, NVBDCP (Karnataka)

PROCEDURAL COSTING OF DIFFERENT SCHEMES

• Dr. Alexander Thomas, President, AHPI, Bangalore. Chair
• Dr. P. L. Nataraj, DHPW, Government of Karnataka, Co-Chair
• Dr. V. C. Shanmuganandan, Joint Director, AHPI, Bangalore
• Prof. S. Raghunath, Professor, Corporate Strategy & Policy, IIM-Bangalore
• Dr. A. M. Jagadeesh, Professor of Anaesthesiology & Liaison Officer, Sri Jayadeva Institute of Cardiovascular Sciences & Research, Bangalore
• Dr. S. C. Nagendra Swamy, Medical Director, Manipal Health Enterprises Pvt Ltd, Bangalore
• Ms. S. Seetha Lakshmi, Metro Editor, Times of India, Bangalore
• Dr. R. Bhanu Murthy, Joint Director (Former), Department of Health & Planning, Government of Karnataka

**TECHNICAL COMMITTEE OF PROCEDURAL COSTING OF DIFFERENT SCHEMES**

• Dr. V. C. Shanmuganandan, Joint Director, AHPI, Bangalore
• Dr. Manisha B. Aithal (IIMB), Member
• Mr. Ram K. Motwani, (IIM-B), CA, Member
• Dr. Vijayakumar, Past President, Indian Association of Surgical Oncology, Hyderabad
• Mr. Nagaraja Pani, Programme Manager, Narayana Health, Bangalore
• Dr. Manjunath, Joint Director, Medical, MoHFW, Government of Karnataka
• Dr. Girdhar Gyani, Director General, Association of Healthcare Providers India (AHPI), New Delhi
• Dr. Harish Nadkami, CEO, NABH
• Dr. Vijay Agarwal, Secretary General, Consortium of Accredited Healthcare Organizations, New Delhi
• Dr. A. M. Jagadeesh, Professor of Anaesthesiology & Liaison Officer, Sri Jayadeva Institute of Cardiovascular Sciences & Research, Bangalore
• Mr. S. Sezlian, Senior Manager, Accounts & Costing, CMC Vellore
• Dr. Vidya Shankar, Medical Officer, ISRO
• Ms. Neerja Kapur, Regional Manager, The New India Assurance Co Ltd, Bangalore
• Dr. Sunil Nakka, The New India Assurance Co Ltd, Bangalore
• Dr. Giridhar Kamalapurkar, Member, Indian Association of Cardiovascular-Thoracic surgeons (IAC/TS)
• Dr. Roshan Kumar, President, Bangalore Orthopaedic Society (BOS)
• Dr. Suresh Dugani, President Elect, Karnataka Neurosciences Academy (KNA)
• Ms. Roshini, Head - Finance Services, Bangalore Baptist Hospital, Bangalore

**TECHNICAL COMMITTEE - ASSESSORS AND AUDITORS - PROCEDURAL COSTING**

• Dr. Ryan Savio Bareto, IIM-B, Bangalore
• Dr. Lallu Joseph, Quality Manager, CMC Vellore and Principal NABH Assessor

**QUALITY SYSTEMS**

• Dr. Alexander Thomas, President, Association of Healthcare Providers India (AHPI), Bangalore. Chair
• Dr. H. C. Badri Datta, Consultant(ENT) & Quality Manager, Bangalore Baptist Hospital, Bangalore. Coordinator
• Dr. K. K. Kalra, CEO, NABH, New Delhi
KJA RECOMMENDATION
KARNATAKA PUBLIC HEALTH POLICY

• Dr. Giridhar J. Gyani, Director General, Association of Healthcare Providers India (AHPI), Bangalore
• Dr. R. Bhanu Murthy, Joint Director (Former), Department of Health & Planning, Government of Karnataka
• Dr. Sadhana S. M, Executive Director, Karnataka State Health System Resource Centre (KSHSRC), Health & Family Welfare Department, Government of Karnataka
• Dr. Sacchidanand, Director, Directorate of Medical Education, Government of Karnataka
• Dr. Vimala Patel, Director (Former), Directorate of Health & Family Welfare, Government of Karnataka

STRENGTHENING OF PRIMARY HEALTHCARE

• Dr. K. Srinath Reddy, President, Public Health Foundation India (PHFI), New Delhi - Chair
• Dr. Giridhar R. Babu, Additional Professor, Indian Institute of Public Health (IIPH), Bangalore (A Unit of PHFI)- Coordinator
• Dr. Suresh Shapeti, Senior Administrative Officer & Deputy Registrar, Indian Institute of Public Health (IIPH), Bangalore (A unit of PHFI)
• Dr. Rathan U. Kelkar, Commissioner, Health & Family Welfare Department; Mission Director, National Health Mission and Project Administrator, K.H.S.D.R.P, Government of Karnataka
• Dr. Thelma Narayan, Director, Academics & Policy Action, SOCHARA, Bangalore
• Dr. T. N. Sathyarayana, Assistant Professor, Indian Institute of Public Health (IIPH), Bangalore (A Unit of PHFI)
• Dr. Arvind Kashturi, Professor & Head, Department of Community Health, St. John’s National Academy of Health Sciences, Bangalore
• Dr. N. Devadasan, Co-Founder and Director, Institute of Public Health (IPH), Bangalore

ACCESS TO AFFORDABLE MEDICINES

• Dr. Kiran Mazumdar Shaw, Chairman & Managing Director, Biocon Limited, Bangalore. Chair
• Dr. Shaktivel Selvaraj, Senior Public Health Specialist, Public Health Foundation of India (PHFI)
• Mr. G. Srinivas, Chief Supervisor (Former), Karnataka State Drugs Logistics & Warehousing Society (KDLWS)
TECHNICAL COMMITTEE ON ACCESS TO AFFORDABLE MEDICINES

- Mr. Suresh Subramaniam, Senior Director - Marketing, Biocon Limited, Bangalore
- Dr. Jitendra Sharma, Senior Consultant & In-charge Division, Healthcare Technology & Innovations, National Health System Resource Centre, New Delhi
- Dr. Shamit Sharma, Director, Integrated Child Development Services, Government of Rajasthan
- Dr. Om Prakash Kasera, Managing Director, Rajasthan Medical Services Corporation Limited
- Mr. G. R. Gokul, Managing Director, Kerala Medical Services Corporation Limited
- Dr. Dileep Kumar, General Manager, Kerala Medical Services Corporation Limited
- Dr. N. S. Prashanth, Faculty, Institute of Public Health (IPH), Bangalore

CARE OF THE ELDERLY

- Dr. Radha Murthy, Co-Founder & Managing Trustee, Nightingales Medical Trust, Bangalore. Chair
- Prof. S. Vasundhra, Member
- Dr. Nidhin Mohan, Consultant in Internal Medicine, Mazumdar Shaw Medical Centre, Narayana Health City, Bangalore
- Dr. Preethesh Kiran, Associate Professor, Department of Medical Education, St. John's National Academy of Health Sciences, Bangalore
- Dr. Anoop Amamath, Chairman Geriatric Medicine, Manipal Hospitals, Bangalore
- Dr. Soumya Hegde, Associate Director & Geriatric Psychiatric Consultant, Nightingales Medical Trust, Bangalore
- Dr. Indira Jai Prakash, Rtd. Professor of Psychology, Bangalore University, Bangalore
- Dr. Gopukrishnan S. Pillai, Consultant in Geriatrics & Palliative Medicine, Mazumdar Shaw Medical Centre, Narayana Health City, Bangalore
- Dr. Girish N. Rao, Additional Professor of Epidemiology, NIMHANS, Bangalore
- Dr. Sanjay T.V., Associate Professor, Department of Community Medicine, Kempegowda Institute of Medical Sciences, Bangalore
- Mr. S. Premkumar Raja, Co-Founder, Nightingales Medical Trust, Bangalore
- Mr. Pramod Shenoi, Director, Tarani Care Pvt Ltd, Bangalore
HUMAN RESOURCES AND MANPOWER ASSESSMENT

- Dr. K. Srinath Reddy, President, Public Health Foundation India (PHFI) - Chair
- Dr. Suresh Shapeti, Senior Administrative Officer & Deputy Registrar, Indian Institute of Public Health (IIPH), Bangalore (A unit of PHFI). Coordinator
- Dr. Giridhar R. Babu, Additional Professor, Indian Institute of Public Health (IIPH), Bangalore (A Unit of PHFI)
- Sis. Rohini Paul, Chief of Nursing, Narayana Health, Bangalore
- Dr. R. Bhanu Murthy, Joint Director (Former), Dept. of Health Planning, GOK

DRAFTING COMMITTEE

- Dr. Devi Prasad Shetty, Chairman, NH Group, Bangalore - Chair
- Dr. Alexander Thomas, President, Association of Healthcare Providers India (AHPI), Bangalore - Co-Chair
- Dr. V. C. Shanmuganandan, Joint Director, AHPI, Bangalore
- Dr. Darshan Shankar, Vice Chancellor, Transdisciplinary University, Bangalore
- Dr. Issac Mathai, Chairman, Managing & Medical Director, Soukya Holistic Health Centre, Bangalore
- Dr. Kiran Mazumdar Shaw, CMD, Biocon Limited, Bangalore
- Dr. R. Bhanu Murthy, Joint Director (Former), Department of Health Planning, Government of Karnataka
- Dr. N. S. Prashanth, Faculty, Institute of Public Health (IPH), Bangalore
- Dr. Sadhana S. M, Executive Director, Karnataka State Health System Resource Centre (KSHSRC), Department of HFW, Government of Karnataka
- Dr. T. N. Sathyanaarayana, Assistant Professor, Indian Institute of Public Health (IPH), Bangalore (A Unit of PHFI)
- Dr. Suresh Shapeti, Senior Administrative Officer & Deputy Registrar, Indian Institute of Public Health (IIPH), Bangalore (A unit of PHFI)
- Dr. Thelma Narayan, Director, Acad. & Policy Action, SOCHARA, Bangalore

KJA SECRETARIAT AND COORDINATION

- Dr. M. Jayashri, Convener, TF-KPHP, KJA
- Mr. K. Deepak, Co-Convener (Former), TF-KPHP, KJA
- Ms. Jenifer Thamizhpriya, Research Associate (Fr), TF-KPHP, KJA
- Ms. Rachana, Research Associate, KJA
- Mr Ashok Kumar, Finance/Admin Executive, KJA
- Mr B Ravi, DEO, KJA
- Ms NV Vinutha Rani, Office Asst, KJA
- Mr Roshan, Finance Asst, KJA
In preparing this KJA Recommendation on Karnataka Public Health Policy (KPHP), KJA has had numerous consultations and discussions with a wide range of experts and officials of GOK.

The need for a Public Health Policy was discussed by the Hon’ble Minister of Health and Family Welfare with Chairman KJA and it was agreed that KJA would involve experts in preparing this policy. KJA would like to thank Shri. K. R. Ramesh Kumar, Hon’ble Minister of Health and Family Welfare and Shri. U. T. Khadar, former Minister of Health and Family Welfare for creating the demand and giving the opportunity to KJA for preparing this policy. The Hon’ble minister has been very supportive and provided all encouragement and guidance to KJA for this activity.

Grateful thanks to the following senior officers of GOK:

- Shri. Subhash Chandra Khuntia, IAS, Chief Secretary, Government of Karnataka - who has provided the leadership of the bureaucracy to KJA and, specifically, valuable guidance and direction to the Task Force on KPHP.
- Smt. Shalini Rajneesh, IAS, Principal Secretary, Department of Health and Family Welfare, Government of Karnataka - who was the key-anchor for interfacing with KJA on various issues relating to Health services, supported KJA with valuable data and guidance for shaping the policy.

KJA is also grateful to Prof. Dr. M.S. Valiathan, National Research Professor, Manipal University, for reviewing the draft report and providing valuable comments.

KJA gratefully acknowledges the support of the officials and experts of the Department of Health and Family Welfare, Government of Karnataka for helping and participating in the numerous discussions and contributing to finalization of this report.

KJA expresses its gratitude to all the experts of the various institutions in Health across the country for sparing their valuable time and supporting the TF-KPHP.

In the preparation of the final KPHP Recommendations, the KJA Task Force consulted, discussed, obtained suggestions, inputs and support from large number of experts – KPHP Task Force and KJA extends special thanks to this “collective body of experts” for their valuable inputs and contributions to the Report.

KJA acknowledges the excellent role played by the KPHP Task Force Members – especially its Chairman – Dr. Devi Prasad Shetty (also a Member of KJA) and Dr. Alexander Thomas, Member-Secretary of the task force who along with all the Members have put in their best efforts and brought innovative thinking towards finalizing this public health policy in the state.
KJA Members are the “fulcrum” that has shaped the various activities of KJA – in this case the Karnataka Public Health Policy. The KJA Members have had numerous meetings/discussions on the various aspects of health policy, development of public health policy in the state. Grateful thanks to all the KJA Members.

KJA Secretariat provided the back-end research support and coordination support – a team of youngsters that coordinated and networked with all Members and officials and brought tremendous impact to the Task Team in its numerous meetings, record-keeping and in finalising the report.

KJA OFFERS SPECIAL ACKNOWLEDGEMENT TO:

- Dr. Ravi Narayanan, Member, SOCHARA, Bangalore
- Dr. Shyam Kaluve, Director, CISCO Systems, Bangalore
- Dr. Arun K. Aggarwal, Former Dean, Maulana Azad Medical College, New Delhi
- Dr. T. S. Selva Vinayagam, Additional Director of Public Health, Government of Tamilnadu
- Dr. Tharun Bhargava, Co-Founder, Advisor – Technology & Product Strategy, Pratibha Healthkon Pvt Limited, Bangalore
- Prof. S.V. Joga Rao, Visiting Professor, National Law School of India University, Bangalore
- Dr. Arati Verma, Senior Vice President- Medical Quality, Max Healthcare, New Delhi
- Dr. B. R. Jagashetty, Former National Advisor (Drug Control), MoHFW, Government of India
- Dr. Sheelu Srinivasan, Founder President, Dignity Foundation, Mumbai
- Dr. Balasubramaniam, Founder & Chairman, Grassroots Research & Advocacy Movement
- Dr. John Franco Tharakan, Managing Director, Nepumcene Pvt Ltd
- Dr. Garimella Giridhar, Former Director, UNFPA Sub-regional office, Bangkok
- Ms. Divya Alexander, Independent Consultant
- Dr. M. J. Paul, Professor and Head, Surgical Endocrinology, CMC, Vellore
- Dr. Kiron Varghese, Professor, Dept. of Cardiology St. John’s Medical College, Bangalore.
- Dr. M. Niranjan, Head, Department of Orthopaedics, Bangalore Baptist Hospital, Bangalore.
- Dr. Vickram Kashyap, Consultant, Neurosurgery, Bangalore
- Dr. Prashanth Katakool, Neurosurgeon, Karnataka Neurosciences Academy EC Member, Bijapur
- Dr. Deepak Abraham, Professor & Ag. Head, Department of Endocrine Surgery, CMC Vellore
- Dr. Vivek B. Joseph, Professor, Department of Neurosciences, CMC Vellore
- Dr. K. Varghese Zachariah, Head, Department of Anaesthesia, Bangalore Baptist Hospital, Bangalore
- Dr. Gigi Varghese, Assistant Professor, Department of Surgery, CMC Vellore
- Dr. Conerstone Wann, Assistant Professor, Department of Urology, CMC Vellore
- Dr. Sudhir Joseph, Director, St. Stephen’s Hospital, New Delhi
- Ms. Kalpana, Head – Finance, St. Stephen’s Hospital, New Delhi
- Ms. Sadhvi C. kanth, Research Associate, National Law School of India University, Bangalore
- Ms. Arpita, Assistant Professor of Law, National Law School of India University, Bangalore
- Dr. Ravi Gopal Verma, Chief Neurosurgeon, M.S. Ramaiah Memorial Hospital, Bangalore
- Dr. B. S. Ajai Kumar, Founder, Chairman & CEO, HCG, Bangalore
- Dr. Sharan Patil, Chairman, Sparsh Hospitals, Bangalore
- Dr. Joseph Pasangha, CFO, Narayana Health, Bangalore
- Mr. Rajamanikya Rao, Senior Manager, Internal Audit, HCG, Bangalore
- Mr. Badri Narayan, CFO, Sparsh Hospital, Bangalore
- Mr. Narayan Jawhar, Narayana Health, Bangalore
- Dr. Govindaiah Yatheesh, Assistant Medical Director- Karnataka region, Apollo Hospitals, Bangalore
- Dr. Prashanth, National Law School of India University, Bangalore
- Ms. Megala Mani Ramasamy, AHPI
- Mr. Shadrach Thangaraj, AHPI
- Mr. Antony George, AHPI
- Ms. Neelima Karlappa, AHPI
CONTENTS

MESSAGE
FOREWORD
PREFACE

TASK FORCE- KARNATAKA PUBLIC HEALTH POLICY

ACKNOWLEDGEMENTS

EXECUTIVE SUMMARY.................................................................................................................. 1

1. INTRODUCTION.................................................................................................................................... 7
  1.1. THE CURRENT HEALTH STATUS IN KARNATAKA ................................................................. 7
  1.2. KARNATAKA HEALTH SYSTEM ANALYSIS ............................................................................. 10
    1.2.1. HEALTH SERVICE DELIVERY ............................................................................................... 10
    1.2.2. HUMAN RESOURCES FOR HEALTH ...................................................................................... 12
    1.2.3. HEALTH INFORMATION SYSTEMS ....................................................................................... 13
    1.2.4. MEDICINES AND HEALTH TECHNOLOGIES ........................................................................ 15
    1.2.5. HEALTH FINANCING ............................................................................................................. 16
    1.2.6. HEALTH GOVERNANCE ........................................................................................................ 18
  1.3. THE RATIONALE FOR UPDATING THE KARNATAKA HEALTH POLICY, 2004 ...................... 19
  1.4. THE UNDERSTANDING OF ‘HEALTH’ IN THE POLICY .............................................................. 20

2. KARNATAKA PUBLIC HEALTH POLICY, 2017 ............................................................................ 23
  2.1. THE GOAL OF THE POLICY ......................................................................................................... 23
  2.2. OBJECTIVES OF THE POLICY ...................................................................................................... 23
  2.3. THE PURPOSE OF THE POLICY .................................................................................................... 23
  2.4. GUIDING PRINCIPLES AND VALUES ........................................................................................... 24
  2.5. DURATION OF THE POLICY .......................................................................................................... 26
  2.6. THE SCOPE OF THE POLICY ........................................................................................................ 26

3. HEALTHCARE POLICY INTERVENTIONS THAT PROMOTE HEALTH .............................................. 31
  3.1. HEALTHCARE SERVICES .......................................................................................................... 31
    3.1.1. UNIVERSAL HEALTHCARE ................................................................................................... 31
    3.1.2. STRENGTHEN PRIMARY HEALTHCARE .............................................................................. 31
    3.1.3. ESTABLISH HEALTH AND WELLNESS CENTRES AT SUB-CENTRE LEVELS .................. 32
    3.1.4. IMPROVE THE OFFER OF SERVICES AT SECONDARY CARE LEVELS ................................ 32
    3.1.5. EXPAND GOVERNMENT-PROVIDED TERTIARY CARE ....................................................... 32
    3.1.6. PREVENTIVE, PROMOTIVE AND CURATIVE MENTAL ILLNESS SERVICES ...................... 33
    3.1.7. FOUR-TIER SYSTEM ............................................................................................................... 34
    3.1.8. INTEGRATE AYUSH INTO MAINSTREAM HEALTHCARE SERVICES ............................... 34
    3.1.9. CENTRES OF EXCELLENCE IN SERVICE IMPROVEMENT ............................................... 35
    3.1.10. SUSTAINABLE LOW COST DIAGNOSTIC SERVICES ......................................................... 35
    3.1.11. TREATMENT PROTOCOL, REFERRAL PROTOCOLS AND MANAGEMENT ..................... 35
    3.1.12. URBAN AND RURAL HEALTHCARE SERVICES ............................................................... 35
    3.1.13. STATE-MANAGED EMERGENCY SERVICES ENTITY ............................................................. 36
3.14. STRENGTHEN EPIDEMIC SURVEILLANCE, PREPAREDNESS AND DISASTER/OUTBREAK RESPONSE USING THE ONE HEALTH APPROACH ................................................................. 36
3.15. IDENTIFY SUSTAINABLE AND HEALTH SERVICE-BASED SCREENING SERVICES .................. 36
3.16. CHRONIC CONDITIONS AND THE CARE OF THE ELDERLY ................................................... 37
3.17. FACILITATE HOME-BASED CARE ......................................................................................... 37
3.18. IMPROVE THE QUALITY OF HEALTHCARE IN PUBLIC FACILITIES, AND MONITOR QUALITY AND SAFETY IN THE PRIVATE SECTOR ...................................................... 37
3.19. STRENGTHEN MORTUARY FACILITIES .............................................................................. 38
3.20. AIRPORT/INTERNATIONAL TRAVEL SURVEILLANCE ......................................................... 38
3.2. HUMAN RESOURCES ......................................................................................................... 38
3.2.1. ESTABLISH HUMAN RESOURCE CELL AND PUBLIC HEALTH CADRE ................................. 38
3.2.2. REFORMS RELATED TO RECRUITMENT, DEPLOYMENT AND TRANSFERS ............................ 39
3.2.3. IMPLEMENT STRATEGIES TO IMPROVE THE RETENTION OF DOCTORS AND HEALTH WORKERS IN GOVERNMENT HEALTH SERVICES ............................................ 39
3.2.4. IMPROVE THE RELEVANCE OF PUBLIC HEALTH AND MEDICAL EDUCATION ................ 40
3.2.5. HEALTH WORKFORCE TRAINING ..................................................................................... 40
3.2.6. EVIDENCE-BASED HUMAN RESOURCE MANAGEMENT .................................................. 40
3.2.7. RIGHT SKILL IN THE RIGHT PLACE AND THE RIGHT NUMBER OF STAFF ............................. 41
3.2.8. AYUSH WORKFORCE INTEGRATION .................................................................................. 41
3.2.9. PROFESSIONAL ASSOCIATIONS AND HEALTH HUMAN RESOURCE ..................................... 41
3.2.10. INNOVATIVE APPROACHES TO MEDICAL SPECIALIST COURSES .................................... 41
3.2.11. DEVELOPMENT OF PARAMEDICAL WORKFORCE TRAINING, COURSES, & RESEARCH ACROSS MEDICAL SYSTEMS .......................................................... 42
3.2.12. NURSE PRACTITIONERS .................................................................................................. 42
3.2.13. PUBLIC HEALTH EDUCATION ........................................................................................ 42
3.3. HEALTH INFORMATION SYSTEMS ..................................................................................... 42
3.3.1. IMPLEMENT ELECTRONIC MEDICAL RECORDS AND SMART CARDS FOR EFFICIENT HEALTHCARE INFORMATION ........................................................................ 42
3.3.2. E-HOSPITALS .................................................................................................................... 43
3.3.3. E-REFERRAL SYSTEM ......................................................................................................... 43
3.3.4. E-OFFICES AND E-LOGISTICS MANAGEMENT ................................................................. 43
3.3.5. E-HUMAN RESOURCE MANAGEMENT SYSTEM .................................................................. 43
3.3.6. E-DISEASE SURVEILLANCE SYSTEM AND HMIS .............................................................. 44
3.3.7. TELEMEDICINE ................................................................................................................ 44
3.3.8. HEALTH HELP-LINE ........................................................................................................ 44
3.3.9. HEALTH INFORMATION FOR MONITORING AND REGULATORY PURPOSE ........................ 44
3.3.10. RESEARCH INFORMATION FOR HEALTH PROGRAMS IMPROVEMENT ........................... 45
3.3.11. E-HEALTH PORTAL .......................................................................................................... 45
3.3.12. E-HEALTH GOVERNANCE SYSTEM ................................................................................. 45
3.4. MEDICINES/VACCINES AND HEALTH TECHNOLOGIES ..................................................... 46
3.4.1. ANTIMICROBIAL RESISTANCE STEWARDSHIP IN HEALTH .................................................. 46
3.4.2. GENERIC DRUGS MEDICAL STORES ACROSS STATE ......................................................... 46
3.4.3. WEB BASED DRUG/MEDICINE PROCUREMENT AND SUPPLY MANAGEMENT SYSTEM .... 47
3.4.4. EVIDENCE-BASED STANDARD TREATMENT GUIDELINES ................................................. 47
3.4.5. ALLOPATHY AND AYUSH ESSENTIAL DRUGS PROCUREMENT .................................................. 47
3.4.6. HEALTH TECHNOLOGIES, DIAGNOSTIC EQUIPMENT ASSESSMENT AND PROCUREMENT .......... 48
3.4.7. DRUG REGULATORY MEASURES .................................................................................................. 48
3.4.8. MEDICINAL PLANTS PROMOTION .................................................................................................. 48

3.5. HEALTH FINANCING .......................................................................................................................... 49
3.5.1. INTEGRATE MULTIPLE SOCIAL HEALTH INSURANCE SCHEMES INTO SINGLE HEALTH ASSURANCE PLAN .............................................................................................................................................................................. 49
3.5.2. TOWARDS UNIVERSAL HEALTHCARE .......................................................................................... 50
3.5.3. INNOVATIVE HEALTH FINANCING APPROACHES ........................................................................ 50
3.5.4. FINANCING THE STATE HEALTH SYSTEM AND POLICY RESEARCH .............................................. 50
3.5.5. HEALTH FINANCE ORIENTATION TOWARDS HEALTH INFRASTRUCTURE ........................................ 51
3.5.6. INCREMENTAL INFRASTRUCTURE DEVELOPMENT IN LINE WITH IPHS ....................................... 51
3.5.7. E-INFRASTRUCTURE AND INVENTORY PORTAL ........................................................................... 51

3.6. HEALTH GOVERNANCE AND LEADERSHIP ..................................................................................... 51
3.6.1. MANAGEMENT SYSTEMS AND FUNCTIONS .................................................................................. 52
3.6.2. OVERSIGHT TO REGULATE AND ASSESS STANDARDS AND QUALITY OF SERVICES .................. 52
3.6.3. OMBUDSMAN AND GRIEVANCE REDRESSAL .............................................................................. 52
3.6.4. COMPREHENSIVE LEGAL AND REGULATORY FRAMEWORK THAT GUIDES SECTOR ACTIONS ....... 53
3.6.5. ACCREDITATION OF MEDICAL COLLEGES, HOSPITALS IN THE PUBLIC AND PRIVATE SECTOR ....... 53
3.6.6. STRENGTHENING PUBLIC PARTICIPATION IN HOSPITALS THROUGH COMMITTEES......................... 53
3.6.7. DECENTRALIZATION AND HEALTH ............................................................................................... 53
3.6.8. MONITORING AND EVALUATION ................................................................................................... 54

3.7. CROSS CUTTING ISSUES ..................................................................................................................... 54
3.7.1. PUBLIC PRIVATE PARTNERSHIPS ................................................................................................... 54
3.7.2. ENVIRONMENTAL HEALTH AND MEDICAL WASTE DISPOSAL .................................................. 55
3.7.3. HEALTH SYSTEMS RESEARCH ..................................................................................................... 55
3.7.4. DIFFERENTLY ABLE-FRIENDLY HEALTH SYSTEM ....................................................................... 56

4. SOCIAL POLICY INTERVENTIONS ........................................................................................................ 57
4.1. ADDRESSING SOCIAL DETERMINANTS OF HEALTH TO REDUCE INEQUALITY ............................. 57
4.1.1. FOOD SECURITY, HUNGER AND MALNUTRITION ......................................................................... 57
4.1.2. WATER AND SANITATION .............................................................................................................. 57
4.1.3. SCHOOL HEALTH PROGRAM ......................................................................................................... 58
4.1.4. FOOD SAFETY QUALITY MONITORING ........................................................................................ 58
4.1.5. ROAD TRAFFIC ACCIDENTS PREVENTION AND MANAGEMENT .................................................... 58
4.1.6. NUTRITIONAL INTERVENTIONS ................................................................................................... 58
4.1.7. GENDER, CASTE AND SOCIO-ECONOMIC GROUPS .................................................................... 58
4.1.8. ENVIRONMENT AND HEALTH ................................................................................................... 59

5. POLICY ENCOURAGING HEALTHY LIFE STYLE ................................................................................ 61
5.1. INDIVIDUAL/GROUP LIFE STYLE FACTORS/ DETERMINANTS .......................................................... 61
5.1.1. STRENGTHEN TOBACCO CONTROL AND REDUCE INDUSTRY INTERFERENCE ......................... 61
5.1.2. REGULATION AND REDUCTION OF ALCOHOL CONSUMPTION .................................................. 62
5.1.3. REDUCTION OF RISKY SEXUAL BEHAVIOUR ............................................................................ 62
5.1.4. REDUCTION OF UNHEALTHY FOOD AND PROMOTION OF BALANCED DIET .............................. 62
# 6. SPECIFIC RECOMMENDATIONS BY SUB-COMMITTEES OF TF-KPHP

6.1. PRIMARY HEALTH CARE - RECOMMENDATIONS

6.2. HEALTHCARE TECHNOLOGY - RECOMMENDATIONS

6.3. TRAINING OF HEALTHCARE STAFF - RECOMMENDATIONS

6.4. HOSPITAL INFORMATION SYSTEMS - RECOMMENDATIONS

6.5. ELECTRONIC MEDICAL RECORDS - RECOMMENDATIONS

6.6. AYUSH - RECOMMENDATIONS

6.7. HEALTH OMBUDSMAN - RECOMMENDATIONS

6.8. QUALITY SYSTEMS - RECOMMENDATIONS

   6.8.1. NABH ACCREDITATION

   6.8.2. CENTERS OF EXCELLENCE

   6.8.3. EDUCATION AND TRAINING

   6.8.4. INFECTION CONTROL PROGRAM AND MEDICATION SAFETY

   6.8.5. STRATEGIC PLAN FOR QUALITY

6.9. ACCESS TO AFFORDABLE MEDICINES - RECOMMENDATIONS

6.10. CARE OF ELDERLY - RECOMMENDATIONS

   6.10.1. HEALTH

   6.10.2. SOCIAL SUPPORT MEASURES

   6.10.3. INFORMATION, EDUCATION AND COMMUNICATION (IEC) ACTIVITIES

6.11. HUMAN RESOURCES AND MANPOWER ASSESSMENT - RECOMMENDATIONS

# 7. STUDY ON PROCEDURAL COSTING

7.1. INTRODUCTION

7.2. OBJECTIVE

7.3. BACKGROUND

7.4. METHODOLOGY

   7.4.1. SELECTION OF PROCEDURES

   7.4.2. SELECTION OF HOSPITAL

   7.4.3. CLINICAL PATHWAY METHODOLOGY

   7.4.4. COSTING DATA FROM HOSPITALS

   7.4.5. AUDIT

   7.4.6. DECLARATION

   7.4.7. DISCLAIMERS

7.5. MAIN STUDY - COST DATA ANALYSIS

   7.5.1. CARDIOTHORACIC SURGERY

   7.5.2. ORTHOPAEDIC

   7.5.3. NEUROSURGERY

   7.5.4. SURGICAL ONCOLOGY

7.6. INFERENCE

7.7. LIMITATIONS

7.8. RECOMMENDATIONS
8. OVERARCHING IMPLEMENTATION & REVIEW FRAMEWORK FOR KPHP .......................................................... 91
   8.1. STAKEHOLDERS’ SUGGESTED ROLE IN STATE HEALTH POLICY IMPLEMENTATION ...................... 92
   8.2. CABINET SUB-COMMITTEE .............................................................................................................. 95

9. POLICY REVIEW & ANALYSIS ............................................................................................................. 97

ANNEXURE I: ROAD MAP FOR IMPLEMENTATION OF RECOMMENDATIONS ........................................ 99

RECOMMENDATIONS OF THE SUBCOMMITTEE ON PRIMARY HEALTH CARE ...................................... 99
RECOMMENDATIONS OF THE SUBCOMMITTEE ON HEALTHCARE TECHNOLOGY .................................. 109
RECOMMENDATIONS OF THE SUBCOMMITTEE ON TRAINING OF HEALTHCARE STAFF ...................... 116
RECOMMENDATIONS OF THE SUBCOMMITTEE ON HEALTH INFORMATION SYSTEMS ...................... 128
RECOMMENDATIONS OF THE SUBCOMMITTEE ON ELECTRONIC MEDICAL RECORDS (EMR) ............ 130
RECOMMENDATIONS OF THE SUBCOMMITTEE ON AYUSH .................................................................. 132
RECOMMENDATIONS OF THE SUBCOMMITTEE ON HEALTH OMBUDSMAN ...................................... 135
RECOMMENDATIONS OF THE SUBCOMMITTEE ON QUALITY SYSTEMS .............................................. 136
RECOMMENDATIONS OF THE SUBCOMMITTEE ON ACCESS TO AFFORDABLE MEDICINES ............ 139
RECOMMENDATIONS OF THE SUBCOMMITTEE ON CARE OF ELDERLY ............................................. 146
RECOMMENDATIONS OF THE SUBCOMMITTEE ON HUMAN RESOURCE AND MAN POWER ASSESSMENT 153

ANNEXURE II: GOVERNMENT ORDER ON CONSTITUTION OF KJA ........................................................ 155
EXECUTIVE SUMMARY

The Karnataka Jnana Aayoga, constituted by the Government of Karnataka, set up the Task Force for the Karnataka Public Health Policy (TF-KPHP) of which Dr. Devi Shetty is the Chairman and Dr. Alexander Thomas the Member-Secretary. The mandate of the Task Force is to develop a State Public Health Policy recommending specific actions towards the development and provision of improved, affordable, equitable and transparent health services in the State of Karnataka.

The TF-KPHP has developed a document which proposes a comprehensive approach to address the health agenda in Karnataka. An inclusive and participatory approach ensures that all stakeholders in the health sector are involved in its development. The report is in two parts:

- The first part contains the State Public Health Policy, which defines the objectives, principles and strategies to reach a high standard of healthcare in the state, as well as the implementation framework required to achieve this standard. It outlines the role of each stakeholder in delivering the health agenda while taking into account the specific state machinery already in place. A monitoring and evaluation framework enables tracking of the program objectives. The state health policy will be implemented through a ten-year state integrated strategic plan with agreed goals/targets that respond to the needs of essential health programmes and the population. A palliative care policy is already in place, and the KPME Act 2007 is being reviewed by a separate committee; therefore, these do not come under the purview of the Task Force.

- The second part contains the recommendations of the TF-KPHP subcommittees in twelve areas of intervention.

VISION

OUR VISION FOR HEALTHCARE IN THE STATE OF KARNATAKA IS TWO-FOLD:

- A high-quality, uniform, equitable and easily accessible pluralistic Public Health service system across the state that will promote good healthcare, effective disease management, critical disease care, and preparedness for health emergencies for a healthy citizenry across the state.

- Technologically-advanced high-quality healthcare institutions for medical education and research for future needs with motivated and service-oriented health and medical professionals in the state thereby enabling a fair, transparent and citizen-centric health service system across public and private medical institutions.
KJA RECOMMENDATION
KARNATAKA PUBLIC HEALTH POLICY

MISSION

To provide Universally Accessible, Acceptable, Affordable and Quality Healthcare Services through a holistic approach emphasizing Prevention and Patient Safety; and utilizing and integrating locally-available and time-tested health systems.

Specific recommendations made by the task force are as follows:

1. PRIMARY HEALTHCARE

Within Karnataka state, there is a wide variation in the major population health indicators across subgroups, regions, and social class. The recommendations by the subcommittee are grouped under universal healthcare, improvement of services at secondary and tertiary care, mental illness services, centres of excellence, integration of AYUSH into mainstream healthcare services, sustainable low-cost diagnostic services, State emergency services, screening services, home-based care, and disaster preparedness.

2. HUMAN RESOURCES FOR HEALTH

Health services require large numbers of well-trained qualified professionals and workers, with a variety of skills and appropriate knowledge and attitude for effective healthcare service delivery. The HR gaps at primary health care level need to be urgently addressed and the subcommittee recommends reforms related to recruitment, deployment and transfers, along with strategies to improve retention of health workers, AYUSH workforce integration, development of paramedical work force training, public health nurse practitioners and public health education.

As per the law, MBBS doctors are not permitted to perform most procedures that would be required at the primary healthcare level. Therefore, they should be provided adequate opportunity to upgrade themselves to intermediate specialists. Additionally, Nurse Practitioner courses and other such programs that strengthen the quality, productivity and utilization of nurses and other paramedical staff should be formulated and implemented. Allied skilling programs should also be strengthened.

Healthcare Sector Skill Council training programs are to be utilized for addressing the shortage of the support staff in healthcare.

3. HEALTHCARE TECHNOLOGY

Technology plays a crucial role in healthcare. Medical technology advancements have enabled physicians to better diagnose and treat patients. Information technology and development of medical devices and equipment have directly contributed to improving health and healthcare services. The subcommittee
KJA RECOMMENDATION
KARNATAKA PUBLIC HEALTH POLICY

recommends, use of health technology to improve access to health information, access to healthcare providers, to regulate the usage of Hospital Information Systems and wellness apps, for maintaining health records, and for tele-care. It is also recommended that a standing committee on technology be constituted, which will oversee usage of technology, training in technology and medical technology courses.

4. TRAINING OF HEALTHCARE STAFF

There is a need to bring uniformity in teaching methodology, clarify protocols of certification and set national standards for regulation of medical, nursing and allied health professionals, as also training of administrators for delivery of quality healthcare services. Topics that need to be included in the medical, nursing and allied health curriculum are quality, communication skills, ethics and empowerment. The subcommittee emphasises the importance of certification and accreditation to ensure quality health education, and also recommends a strengthening of the links between educational institutions and health services.

5. HEALTH INFORMATION SYSTEMS

Digital transformation to enable seamless flow of information which in turn can result in better care delivery and co-ordination is to be initiated. The subcommittee recommends stringent product evaluation and review of contractual terms before adopting any software system to deliver healthcare.

6. ELECTRONIC HEALTH RECORDS

The subcommittee recommends inclusion of EHR courses in health education institutions and also the creation of an advisory team that would be able to assist organisations with technology solutions. It is also essential to create standardised operating procedures with NABH, NABL and JCI, at the same time ensuring against monopoly by any single agency as it will adversely impact cost and thereby inhibit adoption of technology.

7. AYUSH

The subcommittee recommends to train and utilise human resources in this area, support innovative public health programs, develop an integrated approach for treatment of certain diseases, accreditation and certification of AYUSH courses, and bridging courses for all public health professionals.
8. STATE HEALTH OMBUDSMAN

The subcommittee recommends that in light of the existing mechanism (the Lokayukta), there is no need to have another sector-specific ombudsman with statutory powers. The subcommittee also emphasizes the need for all hospitals to undergo the accreditation process – if this is taken seriously and implemented, the need for establishing a separate grievance redressal mechanism will not arise as the accreditation process mandates such a grievance redressal mechanism at the hospital level.

9. PROCEDURAL COSTING

The sub-committee felt that there is a need to conduct a procedural costing in a very systematic and scientific manner. The procedural costing study reveals that the reimbursement being made to the empanelled private hospitals for different procedures under various schemes by the Government of Karnataka is far less than the actual cost incurred by these hospitals in carrying out the said procedures. Data provided by a government hospital indicates that in many cases, the reimbursement covers only the cost of food, drugs and consumables. As a result, private hospitals do not find it viable to participate in Government Schemes. Thereby, the poor are deprived of access to quality care. It is recommended that uniform reimbursements be followed across various schemes for the same procedure. Similar studies using the same methodology should be carried out for all procedures under the scheme, and also at Tier 2 and Tier 3 cities, both in Private and Government hospitals. It is critical that Government and private players work closely to provide quality healthcare centered around patient safety, that is realistic and sustainable for the scheme. Under the Universal Health Care, deserving patients must have access to care with scheme rates. For the remaining patients, private healthcare providers shall be paid at the hospital rate. Co-payment by these patients should be considered as one of the options. A periodic review of Government reimbursements for schemes should also be conducted.

10. QUALITY IN HEALTHCARE

Quality assurance is essential for patient safety and patient satisfaction. The task force recommends several pivotal programs and steps to initiate the quality journey, especially in the government’s healthcare delivery system, which are most affordable and accessible to all. The recommendations are grouped under the themes of education and training, centres of excellence, infection control programs and medication safety, and strategic plans for quality. The subcommittee places emphasis on NABH accreditation as it provides the best framework for both private and public-sector hospitals, addressing all aspects of quality holistically.
11. ACCESS TO AFFORDABLE MEDICINES

An efficient public drug procurement system, as well as an effective drug distribution method is needed to reduce the out-of-pocket expenditure of the public. The subcommittee recommends the implementation of a central drug procurement mechanism which is demand-based and encourages increased use of technology which can help in-patient profiling and disease mapping. Centralised agencies with their own outlets to distribute medicines to the public will be cost effective and improve acceptability.

12. CARE OF THE ELDERLY

India is home to the second-largest number of elderly (60 years and above) persons in the world. Changes in family structure leading to loneliness, lack of care givers, unfriendly physical and social environments and elder abuse are factors which need to be addressed on a priority basis. The subcommittee recommends that the implementation of the National Programme for Healthcare of the Elderly (NPHCE) and evolving social support measures and IEC activities, with an emphasis on the use of technology in addressing the problems of non-communicable diseases and co-existing multiple morbidities.

OVERARCHING RECOMMENDATION

The Task Force on Karnataka Public Health Policy also reviewed the hurdles faced in implementation due to the vast inter-dependent and cross-functional organizational structure of the State. While the Department of Health and Family Welfare provides leadership in policy implementation of issues in the health sector, there are several aspects that do not come under its purview although they greatly affect the health status of our country. These aspects come under other departments such as those of Finance, Education, Agriculture, Public Distribution System, Labour, Forest, Ecology and Environment, Water Resources, IT, BT and Science and Technology, Commerce and Industries, and Rural Development and Panchayat Raj. The Task Force, therefore, strongly recommends that a cabinet subcommittee with representation from each of the above-mentioned government bodies be formed to oversee those aspects.

-----------------------------------------------------------------------------------------------X-----------------------------------------------------------------------------------------------
1. INTRODUCTION

1.1. THE CURRENT HEALTH STATUS IN KARNATAKA

Karnataka, India’s eighth largest State in terms of geographical area (1,91791 sq.km) is home to 6.11 crore people (2011 Census) and 6.6 crore people in 2016. The State’s population has grown by 15.7% during the last decade, and population density has risen from 276 per sq. km in 2001 to 319 per sq. km in 2011. Karnataka has made significant progress in improving the health status of its people over the last few decades. However, despite the progress, the State has a long way to go in achieving the desired health goals. In the last 15 years, since the drafting of the first Karnataka State Integrated Health Policy and its adoption, by the State Cabinet in 2004 (Order No. HFW (PR) 144 WBA 2002, Bangalore dated 10-02-2004), several changes have taken place in the State. There have been numerous gains in public health and healthcare, while new challenges and opportunities have also emerged. Administratively, three new districts have been added. The State has also achieved several Millennium Development Goals (MDGs) in varying fields and the Government of Karnataka has a Palliative Care Policy already in place.

In the years to come, healthcare facilities would have to gear up and appropriately utilize technological advancement to meet different types of challenges relating to lifestyle/environmental/genetic/critical care/epidemic diseases etc. and these will have to be appropriately addressed. This would necessitate changes in the health services system, to which we need to be in the state of preparedness. As a result, the healthcare services of the future could be much different from that of the present.

<table>
<thead>
<tr>
<th></th>
<th>Karnataka 2001</th>
<th>Karnataka 2011</th>
<th>India 2011</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total population</strong></td>
<td>5,28,50,562</td>
<td>6,10,95,297</td>
<td>1,210,854,977</td>
</tr>
<tr>
<td><strong>Total fertility rate</strong></td>
<td>2.4</td>
<td>1.9</td>
<td>2.4</td>
</tr>
<tr>
<td><strong>Sex ratio (Female per 1000 male)</strong></td>
<td>965</td>
<td>973</td>
<td>940</td>
</tr>
<tr>
<td><strong>Child sex ratio (Female per 1000 male)</strong></td>
<td>946</td>
<td>948</td>
<td>914</td>
</tr>
<tr>
<td><strong>Crude Death Rate (per 1000)</strong></td>
<td>7</td>
<td>7</td>
<td>7</td>
</tr>
<tr>
<td><strong>Crude Birth Rate (per 1000 mid-year population)</strong></td>
<td>19.3</td>
<td>18.3</td>
<td>21.4</td>
</tr>
</tbody>
</table>
Table 1: Comparison of Karnataka’s socio-demographic indicators between the 2001 and 2011 census with national figures

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Literacy rate (in percent)</td>
<td></td>
<td>75.60</td>
<td>74.04</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female Literacy rate (in percent)</td>
<td>56.87</td>
<td>68.13</td>
<td>65.46</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Karnataka has accomplished the projected twelfth five-year plan fertility rate of 1.9 children per woman in the year 2013. However, the infant mortality rate of 31 in 2013 and 28 in 2015-16 (NFHS 4) is higher than the eleventh five-year plan target of 24 set for the year 2012.

The State’s major achievements in public health as shown by indicators are -

- Fall in Infant Mortality Rate from 47 to 31 per 1000 live births during 2007-2015
- Fall in Maternal Mortality Rate from 178 to 133 for 100,000 live births during 2007-2015
- Total Fertility Rate has been reduced to replacement level (2 children per couple).
- Rise in people opting for institutional delivery (up to 99%)

Table 2: Achievement of the Family Welfare Programme in Karnataka

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Birth Rate (for 1000 Population)</td>
<td>19.5</td>
<td>19.2</td>
<td>18.8</td>
<td>18.5</td>
<td>18.3</td>
<td>18.3</td>
<td>18.3</td>
</tr>
<tr>
<td>Death Rate (for 1000 Population)</td>
<td>7.2</td>
<td>7.1</td>
<td>7.1</td>
<td>7.1</td>
<td>7.0</td>
<td>7.0</td>
<td>7.0</td>
</tr>
<tr>
<td>Total Fertility Rate</td>
<td>2.0</td>
<td>2.0</td>
<td>1.9</td>
<td>1.9</td>
<td>1.9</td>
<td>1.9</td>
<td>1.9</td>
</tr>
<tr>
<td>Maternal Mortality Rate (for every 100000 live births)</td>
<td>178</td>
<td>-</td>
<td>178</td>
<td>144</td>
<td>144</td>
<td>144</td>
<td>133</td>
</tr>
<tr>
<td>Infant Mortality Rate (per 1000 live births)</td>
<td>41</td>
<td>38</td>
<td>35</td>
<td>32</td>
<td>31</td>
<td>31</td>
<td>31</td>
</tr>
<tr>
<td>Under-five Mortality Rate (per 1000 children)</td>
<td>50</td>
<td>45</td>
<td>40</td>
<td>37</td>
<td>37</td>
<td>37</td>
<td>35</td>
</tr>
<tr>
<td>Average life expectancy (years)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>63.6</td>
<td>-</td>
<td>63.6</td>
<td>63.6</td>
<td>63.6</td>
<td>63.6</td>
<td>63.6</td>
</tr>
<tr>
<td>Female</td>
<td>67.1</td>
<td>-</td>
<td>67.1</td>
<td>67.1</td>
<td>67.1</td>
<td>67.1</td>
<td>67.1</td>
</tr>
</tbody>
</table>
## Details of Hospitals and Health centers

<table>
<thead>
<tr>
<th>S.No</th>
<th>Health Centre/Hosp.</th>
<th>Available Numbers</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>PHC</td>
<td>2479</td>
</tr>
<tr>
<td>2</td>
<td>CHC</td>
<td>204</td>
</tr>
<tr>
<td>3</td>
<td>Taluk Hospitals</td>
<td>146</td>
</tr>
<tr>
<td>4</td>
<td>No. of Govt. Med. College</td>
<td>10</td>
</tr>
<tr>
<td>5</td>
<td>District Hospitals</td>
<td>21</td>
</tr>
<tr>
<td>6</td>
<td>Autonomous &amp; Teaching Hospitals</td>
<td>31</td>
</tr>
<tr>
<td>7</td>
<td>No. Private Medical Colleges</td>
<td>28</td>
</tr>
<tr>
<td>8</td>
<td>Ayush Health Centers</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td><strong>Total Number of Health Care Institutions</strong></td>
<td><strong>2919</strong></td>
</tr>
</tbody>
</table>

Table 3: Current Status of Availability of Hospitals and Health Centres

**SOURCE:** Karnataka State Health System Resource Centre

## Details of Availability of Health Care Professionals

<table>
<thead>
<tr>
<th>S.No</th>
<th>Category</th>
<th>Available</th>
<th>Shortage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Specialists</td>
<td>1299</td>
<td>1249</td>
</tr>
<tr>
<td>2</td>
<td>MOS</td>
<td>2377</td>
<td>209</td>
</tr>
<tr>
<td>3</td>
<td>Dental Doctors</td>
<td>272</td>
<td>134</td>
</tr>
<tr>
<td></td>
<td><strong>Total Medical Personnel</strong></td>
<td><strong>3948</strong></td>
<td><strong>1592</strong></td>
</tr>
<tr>
<td>4</td>
<td>Nurses</td>
<td>6641</td>
<td>1769</td>
</tr>
<tr>
<td>5</td>
<td>Allied Health Professionals</td>
<td></td>
<td></td>
</tr>
<tr>
<td>i</td>
<td>Jr. Health Assistant (Female)</td>
<td>7792</td>
<td>1990</td>
</tr>
<tr>
<td>ii</td>
<td>Jr. Health Assistance (male)</td>
<td>2818</td>
<td>4747</td>
</tr>
<tr>
<td>iii</td>
<td>Lady Health Visitors</td>
<td>762</td>
<td>189</td>
</tr>
<tr>
<td>iv</td>
<td>ASHA</td>
<td>29915</td>
<td>2179</td>
</tr>
</tbody>
</table>
Table 4: Current Status of Availability of Healthcare Professionals

<table>
<thead>
<tr>
<th>Health Professionals</th>
<th>Total</th>
<th>Under-privileged</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Allied Health Professionals</td>
<td>41287</td>
<td>9105</td>
</tr>
<tr>
<td>6 Paramedical Staff</td>
<td>5537</td>
<td>3427</td>
</tr>
<tr>
<td>7 Administrators</td>
<td>186</td>
<td>56</td>
</tr>
<tr>
<td>8 Ayush Doctors</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Total Number of Health Care Professionals</td>
<td>57599</td>
<td>15949</td>
</tr>
</tbody>
</table>

**SOURCE:** Karnataka State Health System Resource Centre

1.2. KARNATAKA HEALTH SYSTEM ANALYSIS

According to WHO, six building blocks identified as components of a strong health system include Health Services, Human Resources, Health Financing, Medicines and Technologies, Health Information and Governance. A systematic analysis of the State’s health achievements, as well as an analysis of current gaps and challenges is an important step in choosing broad policy directions for the State.

1.2.1. HEALTH SERVICE DELIVERY

Good health services are those which deliver effective, safe, quality individual and population-based health interventions to those who need them, as and when required, with optimal use of resources, at a cost that the individual and community can afford. Similar to the rest of the nation, Karnataka has a mix of health service providers; private, public and not for profit institutions, practitioners of AYUSH and local health practitioners.

The health outcomes in Karnataka still lag behind neighbouring States like Kerala and Tamil Nadu. For example, the Maternal Mortality Ratio reported by the Sample Registration Survey (2010-12) for Karnataka is 144 per 100,000 live births (and 133 in 2015). Although this represents close to a 20% reduction in two years, it continues to be the highest among the four southern States. Though, Karnataka has achieved the India-specific Millennium Development Goal target of <38 per 1,000 live births, its IMR which stands at 28 per 1,000 live births, is higher than rates in Kerala and Tamil Nadu which is 12 and 22 respectively. Inequity in health outcomes and access to healthcare services, as evidenced by indicators disaggregated for vulnerable groups and different geographies, continues.
1.2.1.1. REGIONAL DISPARITY IN HEALTH INFRASTRUCTURE AND SERVICES

The distribution and level of functionality of these health centers varies across the State. While southern districts of the State such as Mysuru and Hassan have 81 PHCs in excess of the recommended Indian Public Health Standards (IPHS). The sub-centre population coverage in districts like Raichur and Gulbarga has deteriorated over the years. There are urban-rural inequities and regional inequities within the State. The seven districts of north Karnataka namely, Yadgir, Gulbarga, Raichur, Koppal, Ballary, Bidar and Bagalkot and one district in south Karnataka namely, Chamaraja nagar have poor health indicators compared to most other districts. For example, the average population coverage of a PHC in Raichur is 41,842 as against 30,000 prescribed by IPHS whereas in Tumkur it is 19,027. There also exist regional disparities in the distribution of the infrastructure at the secondary and tertiary levels. While in Tumkur, a First Referral Unit (FRU) is available for a population of 297,938, in Raichur, there is one for a population of 384,954 populations (PIP 2011-12, Karnataka). In line with infrastructural issues, variation in the services can be seen across the State. For instance, the institutional delivery rates vary from 98.9 percent in Udupi to 70.8 percent in Koppal district and; coverage of full immunization varied between 93% in Tumkur to 56% in Yadgir. In addition, there are tribal areas and Naxal-affected areas which need special focus. Vulnerable communities and population with poorer economic quintiles continue to have poor access to health services.

1.2.1.2. SEVERE GAPS IN SECONDARY AND TERTIARY CARE INFRASTRUCTURE

The situation is similar within secondary and tertiary level health facilities in the Government sector. The introduction of National Rural Health Mission (NRHM) in the State in 2005 resulted in the strengthening of infrastructure at the secondary and tertiary levels. However, while infrastructure is indeed upgraded, several functional deficiencies remain. According to the District Level Household and Facility Survey – IV (DLHS 2012-13) 5% of CHCs do not provide 24x7 normal delivery services, 30% of CHCs do not have operation theatre facilities and only 23% of CHCs offer Comprehensive Emergency Obstetric Care (CEmOC). Critical facilities such as blood banks and storage units, intensive care units, dialysis and trauma care, counselling services and enhanced laboratory facilities are still lacking, and are not in line with Indian Public Health Standards or other national norms in most Government secondary and tertiary care facilities, especially in northern Karnataka.

1.2.1.3. POOR QUALITY OF CARE

The quality of care delivered is a matter of grave concern and this seriously compromises the effectiveness of care. For example, though over 98% of pregnant women received one antenatal check-up and 87% received full TT immunization, only
about 68.7% of women received the mandatory of three antenatal check-ups. For institutional delivery, standard protocols are often not followed during labour and in the postpartum period. Only 76% of children (12-23 months) have been fully immunized. There are gaps in access to safe abortion services and in the care of sick neonates. Issues related to people’s perception of quality of care in Government hospitals remains an area of concern. Data on patient satisfaction and safety of care in Government hospitals are neither monitored nor available.

1.2.1.4. PRIVATE SECTOR GROWTH

The private sector has grown exponentially in the State in the last decade with people choosing care more often from the private sector, often due to inadequacy of care, medicines or services in the Government sector. According to DLHS-4, for acute illnesses more than 60% of the population preferred treatment from the private sector and for chronic illness this number further rose to 70%. On the contrary, according to the 71st National Sample Survey Organization (NSSO) Survey (2014), Karnataka is the only State other than Andhra Pradesh, which has seen a decline in the utilization of public health services in the last decade from 34% to 26%.

1.2.1.5. GAINS IN MATERNAL HEALTH BUT STAGNATION IN CHILD HEALTH

The population coverage of health services in the State has also seen an increase in the last decade. Institutional deliveries increased from 65% in 2008-09 to 89% in 2012-13, women receiving three or more ante-natal check-ups increased from 81% to 86% and women receiving post-natal care increased from 68% to 92%. However, in terms of certain indicators such as children receiving full vaccination, Karnataka has stagnated at just above 75% during the last decade.

1.2.2. HUMAN RESOURCES FOR HEALTH

Karnataka has the highest number of medical colleges and third highest number of doctors trained in the country. Despite this increase in the number of doctors, it is unclear as to how many of these doctors are entering the public sector, how many are going to the private sector, and how many are leaving the State/Country. There is a dire need to recruit and retain doctors and health workers within the State, and especially within Government services through improvements in recruitment and retention of the health workforce.

1.2.2.1. DISTRIBUTIONAL DISPARITIES OF HEALTH WORKERS AND SEVERE SHORTAGE OF SPECIALISTS

According to Rural Health Statistics, the shortfall of Junior Health Assistant – Female commonly called as ANMs at the Health Sub-Centre (HSC) level increased from 13% in 2005 to 28.5% in 2015; the shortage of total number of specialists went up from 32%
KJA RECOMMENDATION
KARNATAKA PUBLIC HEALTH POLICY

to 39%. The distribution of health workers is also highly skewed in favour of urban areas and the private sector.

1.2.2.2. PARTIAL INTEGRATION OF AYUSH INTO THE HEALTH SYSTEM

To overcome these shortages and also to integrate other systems of medicines into one ambit, NRHM proposed the co-location of AYUSH doctors with allopathic doctors. However, this has only been partially achieved and several gaps remain in administratively and financially integrating AYUSH into mainstream health services in line with the national health policy and internationally accepted guidance.

1.2.2.3. NEGLECT OF PUBLIC HEALTH MANAGEMENT

Karnataka had the Mysore State Public Health Act which led to formation of a public health department which achieved the highest reputation in the country. After independence, with Indian Medical Service (IMS) being disbanded, changes in the public health system cadre and the dilution of skill-sets amongst staff, there has been a decline in the quality of the public health system in the State.

In spite of being trained clinically, and with the introduction of Diploma in Public Health (DPH) curriculum into undergraduate medical education, the current staff in the public sector lack the necessary ability needed to understand and tackle complex and increasingly challenging public health issues, thereby necessitating a public health cadre of staff trained specifically to address these issues. Despite a strong recommendation of the Karnataka Health Task Force, 2001 for establishment of a public health cadre, it is yet to be operationalized.

1.2.2.4. POOR CAREER PATHWAYS AND INTER-PROFESSIONAL EXCHANGE

There are several other issues that are currently affecting the human resources in the State public health system. These include but are not limited to a lack of inter-professional education opportunities and mobility across health worker cadres and across systems of medicines, an increasing number of contractual workers who are far less paid than the regular workers for the same tasks. Issues related to sanctioning of posts and recruitment, proper implementation of policies relating to promotions, transfers and postings should be followed. Staff should be motivated to effectively utilize the opportunities available for career advancement and incentives. The future of our health systems relies heavily on tackling these issues effectively.

1.2.3. HEALTH INFORMATION SYSTEMS

1.2.3.1. POOR USE OF DATA FOR DECISION-MAKING

A well-functioning health information system is one that ensures proper capturing, analysis, dissemination and use of reliable and timely information on health
determinants, health systems performance and health status. The current information system in the State leaves much to be desired. There is a clear discrepancy in the type of data available and the data needed by public health managers, researchers and policy-makers. The data available is not sufficiently disaggregated to relevant socio demographic parameters, is not specific; (for example, paucity of cause specific mortality) and is often not real time. The Health Management Information System (HMIS) currently is designed to capture routine monthly reporting from the peripheral facilities to the district and national levels. This data is often supported by programme specific surveys conducted periodically. While most of the data collected is now available in one HMIS portal several new programmes such as NPCDCS have not yet been integrated into the HMIS.

### 1.2.3.2. OUTMODED INFORMATION SYSTEMS

The staff in the public health sector is often overburdened with the maintenance of multiple registers and many forms that need to be filled each day. The existing health workers lack sufficient training in data collection, reporting and submission of the reports for most health programmes. Most of the reporting still occurs manually with a lot of duplication of work. Technological advances achieved by the State in the last decade have not been leveraged to transform hospitals, health centers and patient records into digital format.

At present, there are nearly 34 registers maintained at each sub-centre. From these registers, a single programme like Reproductive and Child Health (RCH) programme produces more than 30 reports monthly. Currently only NRHM-HMIS, MCTS (Mother and Child Tracking System) and NACP-SIMS (Strategic Information Management System) have the provision for internet based reporting, which involves real time data entry and feedback from the level of PHC. For the rest, it is paper-based and largely vertical. The utilization of available data is very minimal and limited to administrative aspects such as indenting drugs, consumables and budgets. There is a complete lack of any inter-sectoral sharing of data, coordination etc. between various departments and various wings of the health department and also lack of integration with other population based surveys such as the census, DLHS etc. There is also poor integration of the public health sector with AADHAR and other social protection schemes.

### 1.2.3.3. PRIVATE SECTOR INFORMATION UNAVAILABLE

There is lack of information available from the private sector. Systematic and complete data on the health infrastructure, human resources, service provision and patient information is not available to inform any public health strategies. It is currently extremely difficult to even ascertain the number of private practitioners providing services in the State. Although attempts like the KPMEA Act have been made in the
KJA RECOMMENDATION
KARNATAKA PUBLIC HEALTH POLICY

last decade to bring in some aspects of private medical facilities under Government regulation, it still remains unsatisfactory and fragmented.

1.2.4. MEDICINES AND HEALTH TECHNOLOGIES

A well-functioning health system ensures equitable access to essential medical products, vaccines and technologies of assured quality, safety, efficacy and cost-effectiveness, and their scientifically sound and cost-effective use.

1.2.4.1. DRUG PROCUREMENT IN KARNATAKA

Karnataka started the Karnataka Drug Logistics & Warehousing Society (KDLWS) in 2002, which is responsible for the procurement and supply of medicines to the Government health system in the State. This scheme has resulted in improved availability of drugs in the Government sector compared to the previous system which was the provision of drugs through Government medical stores. The current system procures drugs through a process of e-bidding with quality control of the medicines as a part of the procurement process.

1.2.4.2. SUPPLY CHAIN INEFFICIENCY

An electronic Drug Distribution Management System helps in effective management of stocks at the warehouse level. However, the efficiency reduces as one reaches the PHC level which witnesses frequent stock-outs of drugs. The supply is based on the previous year’s consumption which is often inaccurate due to improper maintenance of the OPD and drugs issue registers at the PHC, resulting in insufficient dispensing of drugs from the warehouse.

1.2.4.3. REGULAR STOCK-OUTS

Stock-outs of drugs were seen at all levels of the public health system. On the day of assessment only 23% of all items were available in all the warehouses and the assessment of selected drugs showed stock-out of 89% of the drugs at the level of facility in Chamaraja nagar district while they were available at the warehouse level (Karnataka, Pharmaceuticals in healthcare delivery, Mission report – 2013).

1.2.4.4. INADEQUATE EXPENDITURE ON MEDICINES

Public spending on drugs remains low in the State and has decreased from 7.9% of total health expenditure in 2001-02 to 6.3% of total health expenditure in 2011-12. This is nearly half of the national average of 13% and the least among the four southern States. Considering that more than 60% of the expenditure in both inpatient and outpatient care is incurred on medicines, the non-availability of drugs in the public-sector due to low government expenditure, poor forecasting and poor supply chain...
management has a major impact on the out-of-pocket expenditure of households in the State.

1.2.5. HEALTH FINANCING

Health expenditure in the State has seen an increasing trend in the last 15 years. Although the total expenditure on health increased over the years, the proportion of health expenditure to the GSDP has decreased from 1.46 (2000-01) to 1.0 (2013-14) while the percentage of total State expenditure spent on health has remained stagnant.

A large part of the expenditure on healthcare continues to be out-of-pocket which takes place at the time of illness, thus imposing a huge burden on families. It is estimated that about 70% of per capita expenditure on health was incurred by households, while public sources covered only 23.2% of this expenditure. This puts an undue financial burden on the population leading to catastrophic health expenditures.

Karnataka is a pioneer State that started the Yeshasvini scheme, a health insurance programme that provided insurance cover to 2.2 million farmers for an annual premium of Rs 60. This scheme was shown to have resulted in increased utilization of health services and reduced out-of-pocket expenditures. Together with the central Government the State also started the Rashtriya Swasthya Bhima Yojana that currently covers 35 million families living below poverty line. The Government of Karnataka has also launched the Vajpayee Arogyashri scheme to provide super speciality services to families below poverty line.
However, the schemes are fragmented; many families are not covered by any of the schemes and the State is still far from providing universal healthcare for its citizens.
Also, evidence shows that in a particular year, a few households may need hospitalizations, but the majority of healthcare needs came in the form of outpatient care and medicines, which are not covered.

1.2.6. HEALTH GOVERNANCE

Leadership and governance involves ensuring that strategic policy frameworks exist and are combined with effective oversight, coalition-building, provision of appropriate regulations and incentives, attention to system-design, and accountability. Karnataka was one of the first States in the country to adopt a State-level health policy in 2004. This policy aimed at “improving access to good quality healthcare” and would “endeavor to provide quality healthcare with equity, which is responsive to the needs of the people, and is guided by principles of transparency, accountability and community participation. However, even in the current scenario the effective implementation of the principles of accountability and transparency remain a problem in the health sector within the country and the State. According to the Karnataka Lokayukta, 25% of the health budget in the State is lost to corruption at various levels in the health system. They also identified several instances of corruption from areas including recruitment, transfers and promotions so on. Some reforms, for example, the introduction of the Karnataka State Drugs Logistics Society, have improved the procurement and stocks of essential drugs in the peripheral health facilities.

The quality of healthcare is another aspect of governance where the State must improve. While recommendations like IPHS exist, there are no mechanisms that ensure that the quality standards laid down are being followed. In particular, the large private sector which provides 70-80% of healthcare needs standardization and adherence to quality care. Although attempts have been made by the introduction of the Karnataka Private Medical Establishment Act which covers certain aspects of quality in private health facilities, the implementation of this act remains slow and mostly ineffective. Improving accountability and prevention of corruption involves strong community participation. However, the community largely remains as mere recipients of the services and are often not actively involved in the functioning of health system. There are also no effective grievance redressal mechanisms that can aid in identifying patient-related issues and addressing them.

Regarding the improvement of community participation in health services, several positive steps have been taken up under the “communitisation” component of the National Rural Health Mission/National Health Mission through the setting up of Village Health Sanitation, Nutrition and Health Committees and Arogya Raksha Samitis at various levels, along with training of ASHAs (Accredited Social Health Activist).
However, in many instances these platforms have not resulted in adequate participation, ownership or empowerment of communities in managing or monitoring health services. Karnataka has also pioneered community-based monitoring of health services through pilot projects, but these have never been properly scaled up across the system.

1.3. THE RATIONALE FOR UPDATING THE KARNATAKA HEALTH POLICY, 2004

The rationale for an updated health policy document is to bring together in one manuscript all the main health policy elements and issues related to healthcare, including illness and healthy growth and development, to establish a technically sound political, economic, social and legal framework that gives clear long-term directions and support to improve the health status of the people of Karnataka, in the context of changes that have taken place over the past 12 years. The assumption is that this document will enable Karnataka to further institutionalize its commitment to improve the health of the public and translate it into stronger action, with positive health outcomes and impacts.

Karnataka formally adopted an integrated health policy combining health services, systems and social determinants of health on 10th February, 2004. The Karnataka Jnana Aayoga Mission Group on Public Health document “Towards a community oriented public health system development in Karnataka”, 2013 also provided guidance to the State. Since the adoption of the State integrated health policy, there have been several policies and programmes to improve healthcare delivery and promote health both at the national and State level. Some of these programmes have transformed the health infrastructure, incorporated new cadres of health workers and improved access to various services across the State. There have also been several changes in the financing of health services and with respect to governance of health. Many of these developments have resulted in important lessons that need to be incorporated within the State health policy framework. Some of the developments that have driven the need to update the policy include:

- Issues related to the quality of healthcare delivered in Government and private health centers and hospitals
- Gaps in integrated services and a lack of skilled health workforce in Government health services through the National Health Mission
- The poor integration of AYUSH into mainstream health services
- The pluralistic aspirations of the community evidenced in their health-seeking behaviour
The continuing need to strengthen comprehensive primary healthcare

Improving access to medicines and diagnostics especially in Government health services

Re-thinking the financing of health services to ensure affordable health services for all

Concern over ineffective regulation of health services

Increasing focus on non-communicable diseases, mental health, palliative care and care of the elderly

Continuing urban-rural disparity in the availability of doctors and health workers in rural and tribal areas

Need to update the technological capacity of health services especially with respect to electronic medical records and health information systems

In light of these developments, and in order to ensure that the latest technological and policy developments are within the policy focus of the State, a new updated State Integrated Public Health Policy has been initiated through the Karnataka Jnana Aayoga (KJA) based on a request by the Government.

1.4. THE UNDERSTANDING OF ‘HEALTH’ IN THE POLICY

Definitions are important and it is of practical value towards developing a shared understanding of public policy processes of health, with use of consistent language, facilitating comprehension of issues by all stakeholders. It helps to promote and guide the exchange of ideas with and among policy promoters, practitioners/implementers and the public. For the purpose of this policy document, we reiterate the World Health Organization definition of health, i.e. “Health is a state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity”. However, Indian definitions of health date back to early Ayurvedic texts framing health in a much broader sense. The Sanskrit word swasthya means “to be in equilibrium with the self”. It implies equilibrium at six levels viz., physiological, tissues, metabolism, excretory function, senses and the mind. “Svasminstiteitisvasta” meaning “those who are in equilibrium in the above manner are considered to be healthy” is the full meaning for the Sanskrit word Swasthya.

This policy document seeks to widen the conceptualization of health with the broader definition of health as a dynamic equilibrium between an individual, and his/her environment and society. This is in consonance with the thinking regarding the social determinants of health, and enhancing the strength and resilience of individuals and communities to sustain and improve their health and well-being.
The term “policy” is defined as “…decisions made within Government that are intended to direct or influence the actions, behaviours, or decisions of others pertaining to health and its determinants. These decisions can take the form of laws, rules and operational decisions…Policies can be allocative or regulatory in nature”. A health system is sum total of all the organizations, institutions and resources whose primary purpose is to improve health (WHO).

Thus, this document is recommended to be adopted as an authoritative Government policy, and hence a Statement of its intentions to invest in particular policy directions. The second part of the document contains specific recommendations that can be implemented in the short-term (not intended to be comprehensive or exhaustive). However, a detailed action or implementation plan will need to be prepared for each of the broad policy directions in the first part of this policy document.
2. KARNATAKA PUBLIC HEALTH POLICY, 2017

2.1. THE GOAL OF THE POLICY

The attainment of the highest possible level of good health and well-being of all people in the State will be realized through a preventive, promotive, curative and rehabilitative healthcare orientation, with universal access to quality and affordable healthcare services to all, and inclusion of health in all developmental policies.

MISSION

To provide Universally Accessible, Acceptable, Affordable and Quality Healthcare services through a holistic approach emphasizing Prevention and Patient Safety; and utilizing integrating locally-available and time-tested health systems.

VISION

OUR VISION FOR HEALTHCARE IN THE STATE OF KARNATAKA IS TWO-FOLD:

- A high quality, uniform, equitable and easily accessible Public Health service system across the state that will promote good healthcare, effective disease management, critical disease care, and preparedness for health emergencies for a healthy citizenry across the state.

- Technologically-advanced high-quality healthcare institutions for medical education and research for future needs with motivated and service-oriented health and medical professionals in the state thereby enabling a fair, transparent and citizen-centric health service system across public and private medical institutions.

2.2. OBJECTIVES OF THE POLICY

1. To identify areas of interventions necessary to achieve the goals
2. To evolve a time bound roadmap with periodic assessment evaluation and institution of necessary corrective measures
3. To implement the evolved road map
4. To set up a proper monitoring system to ensure the goals are achieved

2.3. THE PURPOSE OF THE POLICY

The purpose of the Karnataka Integrated Public Health Policy, 2016, is to specifically have a written policy document to provide clear direction for:
Long-term, outcome-oriented directions and priorities (‘what to do’) for population health, within the resources that the State can mobilize, and identifying strategies (‘how to do it’) based on scientific and ethical norms; Ensures commitment and continuity over time and promotes standardization Formalizes decisions already made, legitimizes existing guidelines, and institutionalizes strategies and interventions; Commits financial and human resources and helps in strategic thinking and planning Brings together all [health] elements in one document which ensures consistency and maximizes the use of available resources, reducing chances of misinterpretation Clarifies the roles and responsibilities of staff, defines lines of communication and identifies coordination mechanisms and structures Serves as a reference for all partners, and establishes directions for their involvement Reflects system views, going beyond individual diseases/health problems Adds a new dimension of health education for community empowerment Ensures operational mechanisms for community participation in decision-making, building on the NRHM and NHM Guidelines Allows for optimal growth and development of plural health systems (including AYUSH)

2.4. GUIDING PRINCIPLES AND VALUES

The following principles, values and commitments will guide the State Health Policy:

Equity and social justice: Public expenditure in healthcare should prioritize the needs of the most disadvantaged due to prevailing inequalities in health and healthcare across caste, socio-economic groups, gender and other social vulnerabilities. The State’s health policy and programme shall be guided by the principle of achieving equitable health and healthcare in the spirit of social justice. This implies greater attention to access and financial protection measures for the poor and disadvantaged.

Respect for the dignity and personhood of all people
Universality: Systems and services should be designed to cater to the entire population—not only a targeted sub-group. Care must be taken to prevent exclusions on social, cultural or economic grounds.

People-centred quality services: Health services should not only be delivered through institutional structures, but also designed, managed and monitored, keeping in mind the aspirations, rights and entitlements of patients and communities. Health services should be effective, safe, and convenient, provided with dignity and confidentiality with all facilities across all sectors being assessed, certified and appropriately incentivized to maintain the quality of care.

Inclusive partnerships with public orientation: The task of providing healthcare for all cannot be undertaken by the Government acting alone, though it would lead the process and be accountable within its mandate. It would also require the participation of communities, families and individual persons—who view this participation as a means to a goal, as a right, as a responsibility and a duty. It would also require the widest level of partnerships with academic institutions, not-for-profit agencies, AYUSH practitioners and private sector and other healthcare industry actors, to achieve these goals.

Pluralism: Patients who so choose and when appropriate should have access to AYUSH care providers based on validated local health traditions. These systems will be provided with Government support and facilitation to contribute to the overall goal of meeting national health goals and objectives. Research, development of models of integrative practice, efforts at documentation, validation of traditional practices and engagement with such practitioners would form important elements of enabling medical pluralism.

Subsidiarity: To ensure responsiveness and greater participation, decision-making should be transferred to as decentralized level as is consistent with practical considerations and institutional capacity. (Nothing should be done by a larger and more complex organization which can be done as well by a smaller and simpler structure within this organization.)

Accountability: Financial and performance accountability, transparency in decision making, and the elimination of corruption in healthcare systems, both in the public systems and in the private healthcare industry, is essential.

Professionalism, integrity and ethics: Health workers and managers shall perform their work with the highest level of professionalism, integrity, ethical conduct and trust and be supported by systems and a regulatory environment that enables this.
KJA RECOMMENDATION
KARNATAKA PUBLIC HEALTH POLICY

- Learning and adaptive system: The health system should be a constantly improving dynamic organization of healthcare which is knowledge and evidence-based, learning from the communities they serve and from national and international knowledge partners.

- Affordability: As the costs of care rise, the focus settles on affordability. When the healthcare cost of a household exceeds 10% of its total monthly consumption expenditure, or 40% of its non-food consumption expenditure, it is designated as catastrophic health expenditure and declared as an unacceptable level of healthcare cost. Impoverishment due to healthcare costs is, of course, even more unacceptable.

- Life-course approach: Recognition of continuous quality care from pre-conception, pregnancy, neonatal period through childhood, adolescence to old age would avoid duplication and the verticalization of health services and health problems.

- Sustainability: This should be promoted at all levels through participation, an adaptive systems approach and the involvement of all stakeholders as advocated in NRHM and in line with the global sustainable development goals.

2.5. DURATION OF THE POLICY

This policy document could guide the strengthening of health systems in Karnataka for the next 10 years with mid-term review at the end of 5 years. Monitoring and evaluation needs to be incorporated on yearly basis to assess the progress of implementation of the policy. The Department can review and revise the policy depending on dynamic epidemiological and demographic profile of the population in the State.

2.6. THE SCOPE OF THE POLICY

The Karnataka Integrated Public Health Policy interventions broadly comprise three dimensions:

- Healthcare strategies that promote health
- Social policy initiatives that address the social determinants of health and inequities
- Individual factors / life style determinants / community empowerment
Firstly, it proposes healthcare policy directions aimed at strengthening existing health system capacities to provide good quality healthcare and health services in a sustainable manner.

Secondly, it proposes social/public policy interventions to address the social determinants of health by establishing and maintaining linkages with political, social-cultural and economic sectors. The social determinants of health are an important element of public policies that facilitate health at population level. Therefore, health policy dimensions should develop cross-connectivity with public policies in order to reduce social inequalities as a part of State health policy.

Finally, it identifies the individual/group-level interventions that promote healthy behaviours by addressing individual and group-level modifiable risk factors for ill-health in a cost-effective and sustainable manner.

**Table 5: Matrix that shows the SCOPE of Karnataka Integrated Public Health Policy**

<table>
<thead>
<tr>
<th>Health care interventions that promote health</th>
<th>(Proximal determinants of health)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health care services</td>
<td>Primary, secondary and tertiary care services, plan, execute both in rural and urban</td>
</tr>
<tr>
<td>Human resources</td>
<td>Robust human resources management in terms of size, composition and distribution</td>
</tr>
<tr>
<td>Health information system</td>
<td>Strengthened health information system (e-hospitals, e-records, e-disease information-logistics, e-HR, e-office, telemedicine, e-referral info system)</td>
</tr>
<tr>
<td>Health technologies/medicines</td>
<td>Comprehensive medicines/vaccines/equipment assessment of requirement, procurement strategic approaches</td>
</tr>
<tr>
<td>Health financing</td>
<td>Robust sustainable single payer/pooled financing</td>
</tr>
</tbody>
</table>

- Political
- Economic
- Legal framework
### KJA RECOMMENDATION
KARNATAKA PUBLIC HEALTH POLICY

<table>
<thead>
<tr>
<th>Health governance and leadership</th>
<th>mechanisms for secondary and tertiary care</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Build robust processes in the system with checks and balances and methods to mediate differences that are immune to interferences. Lay process to identify leaders within the departments at different levels</td>
<td></td>
</tr>
</tbody>
</table>

#### II-Social policy intervention that promote health
(social determinants of health that reduce inequality)

<table>
<thead>
<tr>
<th>Social policy interventions</th>
<th>Housing</th>
<th>Water and sanitation</th>
<th>Working conditions</th>
<th>Income status</th>
<th>Education</th>
<th>Agricultural production</th>
<th>Employment status</th>
<th>Transport/OTHER departments</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Convergence of multiple departments keeping the health of public as the hub, designing policies and management decisions around it</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Political</td>
<td>• Economic</td>
<td>• Legal framework</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### III-Individual factors/lifestyle determinants

| Non-modifiable | Age, sex, genetic factors |
| Lifestyle factors amenable for health promotion | Reduction of consumption of tobacco, alcohol (with efforts to regulate these industries), risky sexual behaviour |

---

---
3. HEALTHCARE POLICY INTERVENTIONS THAT PROMOTE HEALTH

3.1. HEALTHCARE SERVICES

3.1.1. UNIVERSAL HEALTHCARE

The State of Karnataka is committed to ensuring quality healthcare services that are affordable and accessible, to all people living in the State. The government’s focus is on improving the health status and reducing health inequities by expanding access to social safety networks and promoting affordable primary, secondary and tertiary care services for every household. For the poor and vulnerable, existing safety nets will be further improved and consolidated to ensure wider access to public healthcare services. Thus, the key objective of healthcare service delivery is attainment of universal care of high-quality health services by scaling up the utilization of well-defined and comprehensive primary, secondary and tertiary care health interventions;

Redefine the existing service delivery levels and delineate types of health services for each of these levels of the healthcare to ensure continuity and harmonized referral and supervisory functions with use of information technology;

A comprehensive set of essential health services with special emphasis on health promotion and preventive healthcare, using well-articulated and transparent criteria based on the epidemiological, technological, geographical, economical and socio-political situation of the State shall be put forward. Efforts will be made to involve community-based groups in order to ensure effective demand for health services; and to promote community participation in the planning and delivery of health services.

The department of health shall from time to time refine the comprehensive health services including promotive, preventive, curative and rehabilitative healthcare. These shall be provided free of charge to citizens in all public health facilities with partnerships involving not-for-profit private providers.

3.1.2. STRENGTHEN PRIMARY HEALTHCARE

Primary healthcare is the foundation of the State’s health system. Universal access to good quality comprehensive primary healthcare services is a pre-requisite for achieving health for all. The State shall invest in strengthening primary health centre for integrated care with compassion spanning curative and rehabilitative services, preventive healthcare and health promotion. Each medical college should adopt PHCs in their neighbourhood.
In view of mal-distribution of primary health centers, the State shall rationalize services as per norms and guidelines. Specific recommendations for strengthening primary healthcare are listed in Part 2. Communityisation of health is an important aspect which has been addressed in this document.

3.1.3. ESTABLISH HEALTH AND WELLNESS CENTRES AT SUB-CENTRE LEVELS

The existing health sub-centres shall be converted into Health and Wellness Centres (HWC) not just in name but in spirit and practice. The goal of HWCs would be to address the Social Determinants of Health such as poverty, gender-based inequalities, water and sanitation, child under-nutrition and others, and seek convergence at the village level across all departments, rather than merely following an illness-based approach. Person centred approach and community participation is the cornerstone for this to be accomplished. The State shall develop a policy framework for implementation of HWCs and implement this over a period of time. The HWCs shall also be an interface across all systems of medicine including nurse health practitioners, AYUSH practitioners and local traditional healers, focusing on health promotion.

3.1.4. IMPROVE THE OFFER OF SERVICES AT SECONDARY CARE LEVELS

The State shall commit to strengthening the quality of services and availability of specialty and super-specialty care in its, taluka hospitals, district hospitals and various specialty hospitals run by the Government. All taluka hospitals shall be upgraded to provide comprehensive emergency obstetric care and blood bank facilities. A list of services and norms related to strengthening CHCs and hospitals are included in the Part 2.

3.1.5. EXPAND GOVERNMENT-PROVIDED TERTIARY CARE

In keeping with the growing population in Karnataka and the need for good quality referral services, tertiary care institutions, specialty and super-specialty hospitals shall be strengthened and where necessary established equitably across the State and operationalized in close association with all district hospitals and Government medical colleges (without disturbing existing facilities and staff of district hospitals). Special provision should be made for metropolitan centers and large cities in other parts of the State. As a part of super-specialty care strengthening, facilities in all the district hospitals should be upgraded in order to facilitate organ transplantation. All districts should have a medical college. In addition, all district hospitals and taluka hospitals should be upgraded to have intensive care units. Efficient 108 ambulance services should also provide in rural areas.
3.1.6. PREVENTIVE, PROMOTIVE AND CURATIVE MENTAL ILLNESS SERVICES

The State shall expand its offer of mental health care within the existing PHCs, CHCs, taluka hospitals and district hospitals to organize primary healthcare and community-based mental healthcare in an integrated manner. This will be in keeping with the revised District Mental Health Programme, 2012, the National Mental Health Policy, 2014, and the National Mental Health Act, 2016. Existing health worker capacity shall be enhanced to improve early detection, continuous care and management of mental health problems (including substance abuse and de-addiction) within communities, health centers and hospitals. Wherever needed specialized centers at various district hospitals shall be established in close coordination with the State mental health authority. Person with mental illness and care givers will be the primary stakeholders, who together with health providers will work towards recovery and social integration. Parenting skills, life skills education, school and college mental health programmes with counsellors, help lines for suicide prevention will be strengthened or initiated.

The State has initiated a fixed day strategy for delivery of mental health services in public health facilities since October 2014. Referred to as Mono-Chaitanya, this program envisages, along with primary care mental health services on all Tuesdays, provision of mental health services in Taluka Hospitals by mental health professionals on select Tuesdays.

National Health Mission under National Mental Health program in the year 2016-17 approved all the 30 districts in the state to be included under the District Mental Health Program (DMHP) and Bangalore city has been considered as a district for initiating the 31st DMHP.

Thus, the basic framework has been put in place to provide dedicated mental health care in primary and secondary levels.

In consonance with the National Mental Health Policy, 2014, and the National Mental Health bill, 2016, mental health services in the state re-affirms the strategy of providing services to be client-centered and rights-based and be consistent with the principles of equity and with public health ethics. In addition to the facility based services, the State will organize and provide community-based and domiciliary mental health care.

Firmly asserting that there is no health without mental health, the mental health care provision in the state would be comprehensive (preventive, promotive and curative services) and would be integrated with ongoing national health programs (NPCDCS, NHPCe, RCH, NIDDCP, RNTCP, AIDS prevention, etc.,) and other public services in
KJA RECOMMENDATION
KARNATAKA PUBLIC HEALTH POLICY

health and welfare with the goal towards recovery and social integration. A wide-ranging action plan for Integrating Mental Health services would be drawn up.

Parenting skills, life skills education, school and college mental health programmes, help lines for suicide prevention, etc., will be strengthened or initiated.

Existing health personnel capacity shall be enhanced to improve early detection, continuous care and management of mental health problems (including substance abuse and de-addiction) within communities, health centers and hospitals.

The State Mental Health Authority would continue to oversee implementation of the provisions of the Mental Health Act 1987 and also advise for enhancing mental health care in the state.

Quality assurance processes for Mental Health services would be devised and a periodic monitoring mechanism will be set up for the state.

3.1.7. FOUR-TIER SYSTEM

Though a four-tier system was discussed, it was concluded that at the present time, the State shall continue with the present three tier system. The Government should enhance its efforts in promoting the Individual/family with defined roles in taking responsibility for their own (health lifestyle/behavioural modification+ redefined traditional home remedies/AYUSH for primordial prevention).

The State shall establish a Provider’s Charter of rights and responsibilities outlining the obligations and responsibilities in the provision of healthcare as well their rights in protecting patients’ health and privacy, besides the Citizen’s Charter of Health Rights and Responsibilities.

3.1.8. INTEGRATE AYUSH INTO MAINSTREAM HEALTHCARE SERVICES

Various international resolutions passed by WHO member States urge National (and State) Governments to respect, preserve and widely communicate traditional medicine knowledge while formulating national policies and regulations to promote appropriate, safe and effective use; to further develop traditional medicine based on research and innovation and to consider the inclusion of traditional medicine into their national health systems. The State shall strive to create a pluralistic health system in keeping with people’s preferences and aspirations for pluralistic healthcare. Government health services shall provide care under all systems of medicine. Operational guidelines for co-location and integrated provision of AYUSH care within the formal health system shall be prepared and implemented. Adequate and fair financial allocations for AYUSH shall be integrated into the health budget and protocols. Guidelines for treatment under AYUSH, similar to standard treatment guidelines in modern medicine shall be prepared.
The department of health shall ensure the provision of a comprehensive set of health services through an Integrated Health Services Plan. The emphasis should be on co-location of AYUSH dispensaries in taluka, district and referral hospitals.

The Government shall provide the regulatory framework for Allopathy and AYUSH medical practice and create an enabling environment for effective involvement of traditional practitioners as well as exploring traditional medicinal plants.

The State will strengthen the Swasthya Vritta Programme. It will also draw upon the health promoting traditions of other systems of health. The State will strengthen community health and knowledge practices related to food and dietary practices using traditional knowledge and practices for promoting a healthy nutritional status.

3.1.9. CENTRES OF EXCELLENCE IN SERVICE IMPROVEMENT

The Government will establish Centers of Excellence to maximize health efficiency and effectiveness in specific health-related fields such as in communicable diseases, non-communicable diseases, social determinants, health systems, AYUSH, community health, health promotion etc.

3.1.10. SUSTAINABLE LOW COST DIAGNOSTIC SERVICES

The department of health shall strengthen the public health laboratory services to support disease control programmes including emerging and re-emerging diseases. Developing low cost accredited diagnostic centers in all taluka, district and State headquarters and operating through a professionally managed autonomous body on a not-for-profit basis, they could charge the actual fee to recover running costs instead of wholesale privatization. Each diagnostic centre/facility will organize and manage the delivery of expected services based on its level.

3.1.11. TREATMENT PROTOCOL, REFERRAL PROTOCOLS AND MANAGEMENT

Karnataka will move towards the adoption of standard operating procedures and standard treatment guidelines to ensure quality and transparency in health, both in allopathy and AYUSH systems of medicine which shall be periodically updated.

3.1.12. URBAN AND RURAL HEALTHCARE SERVICES

Historically, Indian policy has been rural-centric based on the urban-rural ratio of earlier decades; this has changed significantly in recent years. But now, the State’s healthcare challenge has substantially grown to include the needs of urban healthcare. Because of shifting demographics caused by continuously increasing rural-to-urban migration, there needs to be a change in the thinking on urban health. Rapid urbanization and the significant growth of the urban poor population in absolute numbers have made new demands on the available infrastructure and
service delivery mechanisms. The urban poor are a mix of people living in slums, those who are homeless and several others in higher socio-economic groups (including affluent groups), resulting in areas with high inequities in health and development. Urban poverty is characterized by food insecurity, varied morbidity pattern, poor access to drinking water and sanitation, high costs of living and job in security.

Karnataka has established its own Urban Health Mission. An integrated inter-sectoral framework of services and action campaigns, with an increased focus on the urban poor and the vulnerable sections of urban society needs to be developed, to address these challenges, keeping in mind the diversity of urban areas – metros, cities and towns in the State. With increasing urbanisation and rural to urban migration, this is an urgent policy imperative.

3.1.13. STATE-MANAGED EMERGENCY SERVICES ENTITY

Karnataka has in place a very efficient emergency service (Aarogya Kavacha) on a PPP model. It is recommended that the number of ambulances with advanced life support system be increased as per requirement.

3.1.14. STRENGTHEN EPIDEMIC SURVEILLANCE, PREPAREDNESS AND DISASTER/OUTBREAK RESPONSE USING THE ONE HEALTH APPROACH

The Integrated Disease Surveillance Programme is in operation in the State, but needs to be strengthened to include more health conditions that should be systematically monitored. There is a need to strengthen early detection of outbreaks, and institute protocols for appropriate response with teams at the district level. Integration of data from the private sector into disease surveillance and involving all stakeholders including private sector and communities in response to outbreaks is crucial. In keeping with international efforts at an integrated approach towards human, veterinary and wildlife health (the One Health approach), the State shall strive for greater coordination within and across these three agencies. Mechanisms shall be identified for better harmonization between district and State level disaster response agencies and health services to ensure a coordinated response to outbreaks and natural disasters.

3.1.15. IDENTIFY SUSTAINABLE AND HEALTH SERVICE-BASED SCREENING SERVICES

Screening for diseases and other health problems is an important measure of primary prevention. The State shall ensure availability of good quality screening services for health conditions that are amenable to early detection. Instead of a camp-based approach, the State shall ensure availability of such services through the wide network of primary, secondary and tertiary care services. Guidelines for choosing health
3.1.16. CHRONIC CONDITIONS AND THE CARE OF THE ELDERLY

The elderly, that is, the population above 60 years, are a vulnerable section among which those above 75 years are most vulnerable. The State needs to develop its own cost-effective and culturally appropriate solution to address the health and care needs of the elderly, in line with the National Programme for the Healthcare of the Elderly (NPHCE).

A community-centred approach where care is provided in synergy with family support, with a greater role for community-level caregivers with good continuity of care with higher levels shall be the focus. A closely-related concern is the growing need for palliative care, where in life-threatening illness or in end of life contexts, there are active measures to relieve pain and suffering, and provide support to the patient and the family. Increasing access to palliative care would be an important objective, and continuity of care across levels will play a major role. Existing health services will be carefully upgraded to ensure sufficient availability of beds and infrastructure for palliative care and geriatric care, and wherever needed, specialised geriatric care facilities shall be set up in an integrated manner linking with the existing health services. The State shall seek to leverage support from the private sector and the community in improving the care for the elderly.

3.1.17. FACILITATE HOME-BASED CARE

Specific services that require home-based care may be identified and guidelines enunciated and the same shall be considered for operationalization through the existing primary healthcare services. If needed, capacity building of existing health workers for this purpose may be undertaken.

3.1.18. IMPROVE THE QUALITY OF HEALTHCARE IN PUBLIC FACILITIES, AND MONITOR QUALITY AND SAFETY IN THE PRIVATE SECTOR

The State commits to improving and sustaining high quality health services within the Government health services, as well as monitoring and facilitating high quality health services in the private sector, in the interest and safety of the State’s population. The State shall implement a quality assurance strategy and a programme to monitor, improve and sustain the quality of healthcare (effective care delivered in an efficient manner, is accessible, acceptable and patient-centered, equitable and safe). In addition, the State shall ensure suitable mechanisms to monitor quality (including safety) of care in the private sector through strengthening existing rules and regulations, as well as by improving grievance redressal pathways for both public and
private sector. The State shall implement credible and voluntary graded accreditation systems such as NABH, to ensure that Government hospitals and private healthcare services comply with an acceptable quality standard.

3.1.19. STRENGTHENING MORTUARY FACILITIES
Mortuaries shall be strengthened at all taluka and district hospitals. Necessary transport facilities to the mortuary from all PHCs shall be provided.

3.1.20. AIRPORT/INTERNATIONAL TRAVEL SURVEILLANCE
In view of emerging and re-emerging diseases, the State should continue cooperation with appropriate authorities at the post of entry.

3.2. HUMAN RESOURCES
The key objective for human resources for health is to ensure an appropriately skilled, motivated, well distributed and productive workforce for the provision of effective and efficient quality health services to all the people living in Karnataka. The health workforce constitutes those persons recruited primarily for health and related service provision and management who have undergone a defined, formally recognized training programme. The policy’s aspiration is for an adequate and equitable distribution of a productive health workforce.

3.2.1. ESTABLISH HUMAN RESOURCE CELL AND PUBLIC HEALTH CADRE
The health workforce of the Government is one of the largest Government workforces and needs a committed and dedicated Human Resources Management Team to ensure timely recruitment, appropriate induction training for all health workers, efficient management during their tenure, sustaining and enhancing their skill-set and performance during their service and a responsible exit after their services. For this purpose, the State shall establish a Human Resources Cell to manage the large health workforce in Government health services - strategically plan the health workforce development for the sector, develop and continuously review recruitment and retention strategies for the health workforce; and strengthen management of human resources through development and implementation of performance standards and norms for efficient service delivery.

The directorate of health shall strategically forecast the HR needs, taking into account the multiplicity of professions and skills; service delivery facilities and providers; population health needs and their growth; and geographical distribution every year; and harmonize the recruitment and deployment criteria of the health workforce to reduce turnover and ensure continuity of care.
3.2.2. REFORMS RELATED TO RECRUITMENT, DEPLOYMENT AND TRANSFERS

There is a need to revise and improve policies related to recruitment, deployment and transfers of health workers, in keeping with the objective of efficient management and improving performance. The State shall commit to instituting reforms to improve these processes. The relevant cadre and recruitment rules shall be periodically reviewed and revised to ensure efficient and prompt recruitment, task shifting and task sharing across health worker cadres wherever needed.

Karnataka is self-sufficient in Infrastructure availability and the number of PHCs throughout the state. Regarding the availability of the doctors at the PHCs the Government’s proposal to introduce one-year compulsory rural posting for doctors will fulfil the need.

3.2.3. IMPLEMENT STRATEGIES TO IMPROVE THE RETENTION OF DOCTORS AND HEALTH WORKERS IN GOVERNMENT HEALTH SERVICES

Karnataka State shall strive to be a model State for best practices in health workforce management. The Government commits to implementing innovative strategies to improve recruitment and retention of doctors and health workers into Government services. Effective and timely promotions and postings of all cadres under their control shall be made an important measurable performance indicator for appropriate administrative authorities. The State shall also invest in creating good quality and comfortable quarters for all doctors and health workers to improve retention and performance.

The human resources management cell under the directorate of health shall periodically review the conditions of service (professional advancement, contractual obligations, involvement in decision making, recognition of staff contribution and other incentives) and develop appropriate recruitment and retention strategies both for specialists, public health cadre, paramedical staff and administrative staff at State, district and taluka and PHC level within the public sector. The directorate of health shall ensure that all data generated in pre-service and in-service training, recruitment, deployment and migration of health workers is captured, stored in a database, analyzed, and interpreted for decision-making to inform future State policy direction.

The Government shall review from time to time, the norms and standards as far as human resources for health are concerned. The Government shall put in place the necessary health department customized policies to attract and retain the workforce such as high pay, working environment etc.
3.2.4. **IMPROVE THE RELEVANCE OF PUBLIC HEALTH AND MEDICAL EDUCATION**

All public health courses must have provision of a specific time frame for skill building at undergraduate and postgraduate levels. All public health training institutes must have a close collaboration with the district health system in order to provide student with exposure to public health practices. The State shall promote inter-professional education through short-term courses across medical systems.

3.2.5. **HEALTH WORKFORCE TRAINING**

While identifying training needs and providing opportunities for training, the organizations need to ensure the appropriate redeployment of health workers on completion of their training. In addition, appropriate human resource training and continuous professional development and career progression (Ex: public health, medical education, DNB courses, laboratory training, nurse practitioner) should be present. There should be an increase in equitably distributed health worker specialists, with the goal of ensuring equitable access to health specialist services. The human resource cell, under the directorate of health, shall be responsible for various cadres and will continuously ensure that all health workers undertake continuous professional development and provide the required accreditation in line with State training policy.

Post-graduate training is a part of capacity building and will remain a State function. To improve retention of health workers in hard-to-reach areas, affirmative action shall be applied in the following areas: a) Promoting multi-skilling and multitasking of the health workforce; b) Ensuring that health personnel interact in a professional, accountable, and culturally sensitive way with clients; and c) Improving management of the existing health workforce by putting in place attraction, retention, and motivational mechanisms for the workforce.

The State Government will maintain a database for all registered health workers providing services in the entire State and in every district. The State Government, in consultation with the districts, will develop a comprehensive training policy and implement schemes of service for all health workers. Health workers providing services in corrective facilities and other institutions will be managed by the Governments where such institutions are located. The State Government will put in place systems to measure the performance and competencies of health workers, which will be informed by the health service beneficiaries.

3.2.6. **EVIDENCE-BASED HUMAN RESOURCE MANAGEMENT**

The sector shall focus on evidence-based human resource management by reviewing and applying evidence-based health workforce norms and standards for the different tiers of services delivery. Facilitation of rational capacity development of
the health workforce through alignment of curricula and training to need-based on
the above-mentioned policy objectives, ensuring that health personnel interact in a
professional, accountable, and culturally sensitive way; and improving management
of the existing health workforce by putting in place attraction, retention, and
motivational mechanisms, especially in marginalized areas.

Development of consolidated and centralised data of healthcare professionals and
institutions throughout the state, with the help of Information Technology, will help in
efficient distribution of men and material, and respond to emergencies promptly and
efficiently.

3.2.7. **RIGHT SKILL IN THE RIGHT PLACE AND THE RIGHT NUMBER OF
STAFF**

The directorate of health shall incorporate the Health Workforce Strategic Plan
outlining that the right number of staff, with the right skills, is in the right place to deliver
the health services. The directorate of health shall develop and periodically update
staff norms/skills-mix by care level based on research including users' views to ensure
well informed pre-service training, efficient recruitment and deployment of the health
workforce and to ensure uninterrupted provision of health services.

3.2.8. **AYUSH WORKFORCE INTEGRATION**

The Government shall develop guidelines for optimal utilization of AYUSH /Alternate
Medical practice, preferably in preventive, promotive areas and safeguarding
against malpractice and misconduct. The State will promote Public Health Orientation
and Training for all AYUSH Health Personnel starting with the Government sector and
later offering it to private registered medical practitioners as well as including
community-supported Local Health practitioners on a voluntary basis.

3.2.9. **PROFESSIONAL ASSOCIATIONS AND HEALTH HUMAN
RESOURCE**

The Government shall promote the formation and strengthening of professional
associations. The Government should take initiative to periodically review various Acts
contextually as laid down.

3.2.10. **INNOVATIVE APPROACHES TO MEDICAL SPECIALIST COURSES**

In order to address the severe shortage of specialist doctors in secondary and tertiary
care setups, innovative courses to upgrade skills and qualifications of Government
doctors working in rural areas shall be undertaken. The State shall implement new
courses prioritizing placement of specialists in rural areas, including DNB courses in rural
surgery. The Government may consider promoting diploma courses under College of
Physicians and Surgeons (CPS) Institute, Mumbai, and a course in family medicine
under Rajiv Gandhi University of Health Sciences, to address immediate requirement of in-service Government doctors. The Government should also provide a legal and administrative framework for practitioners with such degrees to serve the citizens of Karnataka. Due precautions should be taken to ensure quality training is imparted to the trainees.

3.2.11. DEVELOPMENT OF PARAMEDICAL WORKFORCE TRAINING, COURSES, & RESEARCH ACROSS MEDICAL SYSTEMS

Paramedical and health worker training and courses shall receive greater priority to ensure that all health worker cadres are equally provided opportunity to improve. The State shall improve paramedical health worker cadres across medical systems, including AYUSH.

3.2.12. NURSE PRACTITIONERS

The State shall provide advanced training and career progression opportunities for nurses to function as Nurse-Practitioners providing comprehensive healthcare services in the community as well as in hospital ICU settings. This shall be in line with national and internationally acceptable guidelines by setting up Nurse-Practitioner cadres.

3.2.13. PUBLIC HEALTH EDUCATION

The State shall strengthen Public Health Education, Research and Training by carefully selecting motivated and dedicated staff at different levels to support Health Program Management as well as Hospital Management. The State shall provide appropriate career paths for Public Health Administration, Health System Research, and training of all staff.

3.3. HEALTH INFORMATION SYSTEMS

Health Information concerns the availability, completeness and timeliness of data that is used for evidence-based policy, planning and implementation. Data collection, collation, analysis and interpretation require norms, standards and guidelines for efficient utilization. For effective monitoring and evaluation of health services and programmes, a viable information system is essential. Thus, the key objective is to ensure timely availability, accessibility, quality and appropriate use of health information for sustainable improvement of the health status of the people living in Karnataka.

3.3.1. IMPLEMENT ELECTRONIC MEDICAL RECORDS AND SMART CARDS FOR EFFICIENT HEALTHCARE INFORMATION

In this digital age, healthcare needs to undergo a digital transformation to enable seamless flow of information which in turn can result in better care delivery and co-
ordination. This can be achieved through an Electronic Medical/Health Record (EMR/EHR) which is a single record that contains complete and accurate information of a patient. EMRs can also flag potentially dangerous drug interactions (to help prescribing doctors explore alternatives before a problem occurs), verify medications and dosages (to ensure that pharmacists dispense the right drug), and reduce the need for potentially risky tests and procedures. A common Electronic Health Record Platform coupled with smart cards will also improve the exchange of information between healthcare providers and improve and strengthen referral. The State shall begin a plan to upgrade medical and health information into Electronic Health Records and patient-held smart cards, without compromising on security, privacy and liable considerations.

3.3.2. E-HOSPITALS
The State shall digitize and upgrade digital infrastructure in its hospitals to improve information flow and facilitate good quality care and management within hospitals. All hospitals in the State can be linked with each other to facilitate information sharing, patient referral and easy monitoring of quality and patient outcomes.

3.3.3. E-REFERRAL SYSTEM
This can be achieved by setting up networks either through dedicated optic fibre system for hospitals or through wireless systems to ensure a dedicated health system based hospital network and referral system. This will enable the seamless flow of health information across geography, hospitals and health administrators for efficient referrals and delivery of services.

3.3.4. E-OFFICES (DIRECTORATE OFFICE/DISTRICT/TALUKA/PHCS/CHCS) AND E-LOGISTICS MANAGEMENT
Management of offices and supply chains including drugs, medicines and other consumables shall be digitized in order to ensure smooth functioning and transparency in procurement and supply. This will enable the collection and analysis of health information about diseases, services, finances, health workforce, medicines and medical products, infrastructure and equipment from all stakeholders of the health sector. It clarifies the roles and functions of different stakeholders in data management in order to minimize duplication and maximize the optimal utilization of resources and ensures timely, wide and need-based dissemination of data to all stakeholders.

3.3.5. E-HUMAN RESOURCE MANAGEMENT SYSTEM
The current human resource management system needs to be overhauled to ensure transparency and fairness in terms of performance monitoring and career progression of Government health staff. A transparent human resources management system that
KARNATAKA PUBLIC HEALTH POLICY

3.3.6. E-DISEASE SURVEILLANCE SYSTEM AND HMIS

The State shall enable the effective use of information collected through disease surveillance as well as monthly routine data collected at all health centers for efficient management and performance monitoring of all Government health services. The data shall also be made openly available to enable independent monitoring and assessment of Government health services by researchers and communities. The department of health shall ensure that all relevant health information regarding population dynamics, diseases, health services, health financing, health workforce, medicines and vaccines, infrastructure and equipment is collected from all sources. The directorate of health shall develop capacity and tools, including a web-based observatory, to ensure effective data collection, collation, analysis, interpretation and timely feedback and dissemination for improved evidence based decision making at all levels. The directorate of health shall establish an institutional/organizational arrangement that will harmonize and link all the data management units, with the aim of reducing duplication and wastage of data, and maximizing its effective use through prompt reporting and feedback.

3.3.7. TELEMEDICINE

A strategy shall be prepared for the effective use of telemedicine wherever geographic considerations require the application of this technology, especially in remote rural and forested tribal areas. The use of telemedicine shall especially be encouraged to form a community of practice among government doctors, build their skills and improve exchange and communication between specialists based in urban centers and doctors based in rural areas, especially in radiology, dermatology, cardiology and psychiatry.

3.3.8. HEALTH HELP-LINE

The existing health helpline (104) shall be strengthened as per need.

3.3.9. HEALTH INFORMATION FOR MONITORING AND REGULATORY PURPOSE

The department of health, in consultation with all stakeholders, shall develop indicators for measuring performance in different policy areas and programmes. The department of health shall develop a regulatory framework (norms, standard operation procedures, policy directives and laws) that will ensure that all data is collected and reported to the relevant data management units and shared with all the concerned stakeholders. Regulations regarding mandatory reporting of defined information requirements should be developed and implemented.
3.3.10. RESEARCH INFORMATION FOR HEALTH PROGRAMS IMPROVEMENT

The department of health, in collaboration with research institutions shall develop a comprehensive research agenda to streamline areas that require new knowledge and provide guidance to the State Health Policy, plans and programmes. The Department of Health shall setup an autonomous State Health Research Council which will be responsible for ensuring adherence to scientific and ethical standards in the conduct of health research.

3.3.11. E-HEALTH PORTAL

The State will adopt and enhance e-govemance within the public health system at all levels. The collaboration between State Health Department and the evolving State GIS platform will enhance the development of an effective health GIS.

3.3.12. E-HEALTH GOVERNANCE SYSTEM

![E-Health Information Governance Conceptual Frame]

*Figure 3: E-Health information governance conceptual frame*
This relates to the process of generating and managing adequate health information to guide evidence-based decision making in the provision of health and related services at State levels. All healthcare providers are obliged to report on their activities as required by law through established channels in a manner that meets safety and confidentiality requirements, and according to the health research and information policies, regulations, and standards that will be developed in consultation between the State Government and stakeholders. The key stakeholders include health managers, policymakers, patients and all others in the health sector, with a view to guiding their decision-making processes.

3.4. MEDICINES/VACCINES AND HEALTH TECHNOLOGIES

Medicines, vaccines and other medical products are fundamental resources in the provision of healthcare. There is already a comprehensive essential drugs (medicines) list addressing areas such as selection, procurement, storage, etc. This State Health Policy will focus on areas that need further improvements and clarity of functions. The main objective of the health policy with regard to medicines and health technologies is to ensure the availability of medicines, vaccines and other medical products, as and when needed, which is of acceptable safety, efficacy and quality, and also to ensure rational use of medicines, vaccines and blood products. This could be achieved by ensuring that there is universal access of essential medicines, vaccines, laboratory reagents and other medical products for the people of Karnataka, while adhering to norms and standards related to usage, prescription and dispensing.

3.4.1. ANTIMICROBIAL RESISTANCE STEWARDSHIP IN HEALTH

Increasing antimicrobial resistance is a global problem due to irrational use of antibiotics. The State shall improve the use of evidence-based medicine and promote rational use of antibiotics in all hospitals and health centers through hospital/health centre based antibiotic stewardship platforms. The State shall implement improved awareness and regulate the use of antibiotics in animal farms and in agriculture through inter-sectoral coordination.

3.4.2. GENERIC DRUGS MEDICAL STORES ACROSS STATE

The Government and Department of Health shall setup medical stores for generic medicines in all secondary and tertiary care centers and make selected ones operable 24x7. An appropriate autonomous structure/organization to monitor manage and organize pharmacy stores should be in place.
3.4.3. WEB BASED DRUG/MEDICINE PROCUREMENT AND SUPPLY MANAGEMENT SYSTEM

The directorate of health shall develop a web-based tracking system for the drug/medicine management system, Essential Drug List (EDL), its procurement and stock-outs. The directorate should also look into advancements in medical technology and the patterns of resistance to available medicines and ensure proper selection, forecasting and quantification of medicines and vaccines in collaboration with districts, facilities and other relevant stakeholders to reflect the needs of the health services. It should also have in place effective and reliable procurement and supply systems which leverage public and private (not for profit) investments, to enable patient access to essential health products and technologies, and deliver value for money across the system.

3.4.4. EVIDENCE-BASED STANDARD TREATMENT GUIDELINES

The State shall define and apply evidence-based essential health products/medicines/diagnostics and technologies. This shall be judiciously applied in acquiring, financing, and other access-enhancing interventions. It will incorporate essential medicines, health products and diagnostics, treatment protocols, and standardized equipment. The directorate of health shall develop and periodically review the medicine formulary and Standard Treatment Guidelines; impart training to encourage rational use by the health service provider at all levels in the health sector; lead the review of the medicines and introduction of new medicines and medical products in the State; explore and promote the evidence-based utilization of AYUSH/herbal and other alternate medicines through mutual collaboration with AYUSH/alternate health practitioners and institutionalization of the regulatory framework for regulation of alternate medicine practice; strengthen documentation of clinical outcomes in the AYUSH sector by introducing a standardized system and rationalize investment in the management of health products and technologies. This will ensure the most effective management of patients in line with established standards and incorporate cost-effective prescribing and other interventions to improve the rational use of drugs and other health products.

3.4.5. ALLOPATHY AND AYUSH ESSENTIAL DRUGS PROCUREMENT

The State shall commit to a centralized drug procurement method in order to benefit from the economies of scale and achieve minimum cost per unit, thus reducing the financial burden on public resources. The use of information technology to upgrade supply chains of medicines and vaccines shall be taken up to improve efficiency, transparency, responsiveness and adequate response to demand. The State shall ensure the identification of inexpensive, good quality generic medicine suppliers and
facilitate their availability through its hospital pharmacies, or set up generic medicine outlets of its own in close association with its hospitals.

3.4.6. HEALTH TECHNOLOGIES, DIAGNOSTIC EQUIPMENT ASSESSMENT AND PROCUREMENT

The State will ensure the availability of affordable, good quality health products and technologies. This shall be done through the full application of all options (promoting the use of generics and exploiting all provisions in the trade-related aspects of intellectual property rights) and public health safeguards relating to health products and technologies, through multi-sectoral interventions on trade, agriculture, food, and related sectors. The department of health will establish a State appraisal mechanism for health products and technologies. This will provide guidance on the clinical and cost-effectiveness of new health products, technologies, clinical practices, and procedures. Local production, research, and innovations of essential health products/AYUSH, traditional medicines and technologies shall be promoted in a manner that enables universal access and encourages competition.

3.4.7. DRUG REGULATORY MEASURES

The State will strengthen regulatory measures to prevent drug misuse and abuse. The Government, through re-engineering the existing Drug Regulatory mechanisms specific to Karnataka State, shall setup an autonomous independent body as the medicine regulatory authority, to institutionalize pharmacovigilance, both for allopath and AYUSH, so as to ensure universal access to quality, efficacious and safe medicines, vaccines, reagents and other medical products. This can be achieved by regulating manufacture, import, export, distribution, sale and dispensing of medicines and related substances, including cosmetics in coordination with Ministry of Health, Government of India. The department of health shall develop and strengthen the State Drug Quality Control Laboratory and ensure that medicines, vaccines, reagents and other medical products produced, distributed, exported, procured and used in Karnataka are tested for conformity to the standards of quality. A harmonized State regulatory framework for health products and technologies shall be put into place to advance quality, safety, and efficacy/effectiveness based on sound science and evidence. The regulatory framework shall be autonomous in its operations, and shall encompass human drugs, blood and its products, diagnostics, medical devices, technologies, food products, tobacco products, cosmetics and emerging health technologies.

3.4.8. MEDICINAL PLANTS PROMOTION

The directorate of health in collaboration with the Department of Forest and Agriculture, Department of Transport and Communications, Department of
Infrastructure, Science and Technology, Department of Environment, Wildlife & Tourism, Health University, and Department of Commerce and Industry shall explore the possibility of encouraging the transformation of locally available medicinal plants into industrialized medical products.

3.5. HEALTH FINANCING

The way in which resources are raised, pooled and allocated, and the way services are paid for, all have a major impact on access to healthcare and, in turn, on the efforts to alleviate poverty through attainment of the highest level of health status. Thus, health financing is about raising and allocating sufficient resources and putting in place appropriate payment arrangements to ensure that all people living in Karnataka have access to a range of cost-effective health interventions at an affordable price, regardless of their economic status.

3.5.1. INTEGRATE MULTIPLE SOCIAL HEALTH INSURANCE SCHEMES INTO SINGLE HEALTH ASSURANCE PLAN

In line with the commitment to achieve universal healthcare for the State’s population, all the fragmented social insurance schemes shall be merged into a single health assurance plan to improve efficiency. The State shall develop robust and sustainable financing mechanisms, while strengthening the public sector and harnessing private services (not-for-profit) to ensure that public services of highest quality are maintained, keeping the public health interest in mind, whenever needed. The integration of multiple social health insurance schemes into a single health assurance plan will ensure that the taxpayers’ contribution and other resources are pooled into a single entity for health financing, and raising sufficient funds to meet health needs in a sustainable manner. This will also enable efficiency in the collection and pooling, as well as cost effectiveness in utilization of funds.

Periodic determination and review of health services costing according to levels of healthcare, mobilizing and managing the required finances will ensure the uninterrupted provision of health and related services. The policy’s commitment is to progressively facilitate access to services for all by ensuring social and financial risk protection through adequate mobilization, allocation, and efficient utilisation of financial resources for health service delivery. The primary responsibility of providing the finance required to meet the right to health lies with the State government. This will be attained through ensuring equity, efficiency, transparency, and accountability in resource mobilization, allocation, and use.
3.5.2. **TOWARDS UNIVERSAL HEALTHCARE**

The State should commit to ensure universal access to healthcare for all people in the State irrespective of caste, socio-economic group, religion or any other consideration. The State commits to begin by covering all Government employees and public-sector staff under a comprehensive social insurance scheme. A strategy to broaden coverage to include all of the population in a phased manner under a State-run social protection scheme shall be formulated. Innovative measures should be objectively undertaken to ensure social protection and universal access to comprehensive health services. The Government shall ensure the availability of financial resources for incremental primary, secondary and tertiary care services, so that all citizens of Karnataka receive services free of charge at the service delivery point. The department of health shall promote not-for-profit oriented public-private partnerships in order to achieve universal coverage of healthcare services.

3.5.3. **INNOVATIVE HEALTH FINANCING APPROACHES**

The Government shall introduce and periodically revise taxations and levies from cigarettes, alcohol, etc. to fund promotive and preventive activities. The health department shall formulate and periodically review and revise resource allocation formulae for the equitable and timely disbursement of funds to all districts and health facilities as well as national health programmes. The Government shall evolve new innovative fund pooling and allocation to promote single payment mechanisms. The Government shall ensure an increase in per capita allocation and expenditure of funds to health.

Efforts shall be made to progressively build a sustainable political, State and community commitment, with a view towards achieving and maintaining universal health coverage through increased and diversified financing options. This will be achieved by establishing a social health protection mechanism to progressively facilitate attainment of universal pooling of resources to increase efficiency in utilization of health resources; and developing and implementing diverse sustainable healthcare financing models.

3.5.4. **FINANCING THE STATE HEALTH SYSTEM AND POLICY RESEARCH**

All schemes, services and programmes in health shall be subject to the highest quality of monitoring, evaluation and supervision. At the same time, relevant research on appropriate and people-oriented health policies, and research to strengthen the State’s health system shall be an important priority. The State shall set a goal of committing at least one percent of its overall health budget to monitoring, evaluation and relevant health policy and systems research.
3.5.5. HEALTH FINANCE ORIENTATION TOWARDS HEALTH INFRASTRUCTURE

Health infrastructure relates to all the physical infrastructure, non-medical equipment, transport, and technology infrastructure (including ICT) required for the effective delivery of services by the State Government. The goal of this policy is to have adequate and appropriate health infrastructure. There shall be a network of functional, efficient, safe and sustainable health infrastructure based on need.

3.5.6. INCREMENTAL INFRASTRUCTURE DEVELOPMENT IN LINE WITH IPHS

The State shall facilitate the development of infrastructure that progressively moves towards the norms and standards envisaged, and update electronic infrastructure details of both available and future needs in line with Indian Public Health Standards (IPHS). The State also will develop norms and standards to guide the planning, development, maintenance and investment in health infrastructure to ensure a progressive increase in access to health services. The necessary logistical support for an efficiently functioning referral system will be provided. Promoting and increasing the not-for-profit private sector in health services through infrastructure utilization will be encouraged.

3.5.7. E-INFRASTRUCTURE AND INVENTORY PORTAL

The State shall develop guidelines on e-portals for purchases of vehicles and medical equipment, and for the disposal of the same; adopt evidence-based health infrastructure investments, maintain an electronic inventory and infrastructure portal, and replacement through utilization of norms and standards in line with IPHS; and strengthen the regulatory framework to enforce health infrastructure standards.

3.6. HEALTH GOVERNANCE AND LEADERSHIP

The performance of the health sector is dependent on the quality of leadership and governance. In the context of Karnataka, leadership includes: the stewardship role; inter-sectoral collaboration and coordination; harmonization and alignment; clarity of roles and the relationships between the department of health, local authorities and other departments and stakeholders.

Governance relates to: setting a strategic vision with a timeframe; inclusive participation and consensus around policy and implementation; health legislation, regulation, standards setting and enforcement mechanisms, including oversight and supervision; transparency; responsiveness; equity and inclusiveness for social protection and universal access; effectiveness and efficiency through sound stakeholder involvement in strategic planning, priority setting and budgetary
frameworks; accountability; information and intelligence; and ethics. Thus health governance relates to how the oversight of the delivery of health and related services shall be provided. The policy aspiration is for a comprehensive leadership that delivers on the health agenda.

The State Government will provide overall policy direction, strategic leadership and stewardship aimed at defining the strategic vision of the health agenda in Karnataka. This will also aim at setting the pace for good governance in the delivery of health services which will be attained by focusing on the following strategies:

3.6.1. MANAGEMENT SYSTEMS AND FUNCTIONS

The health governance and management structures will ensure: oversight for implementation of a functionally integrated, pluralistic health system; mechanisms for engaging with health-care personnel; jointly developed operational and strategic plans and undertaking review processes; partnership and coordination of healthcare delivery. For better health governance and delivery in the state, it could be considered to integrate the roles and activities of the Department of Health and Family Welfare and Department of Medical Education.

3.6.2. OVERSIGHT TO REGULATE AND ASSESS STANDARDS AND QUALITY OF SERVICES

The Government can form a Karnataka State Health Commission to ensure strategic guidance and oversight chaired by an Eminent Health Professional of Karnataka with representation from the departments of Health, Finance and Development Planning, Local Government, development partners, NGOs, private sector, professional associations, notable health professionals and the community. The Cabinet, through the Karnataka state health commission, shall clarify the roles between different key players to ensure provision of continuous and sustainable health services for better health development. The State shall consider integrating the SHC into existing legislation towards regulation of the private sector, such as the KPMEA or similar national legislation.

3.6.3. OMBUDSMAN AND GRIEVANCE REDRESSAL

The State recognises the important role of ombudsman for health in and recognises that the Karnataka Lokayukta is playing this role in terms of addressing public grievances. The State shall strengthen the capacity of the Lokayukta in dealing with healthcare grievances, as well as establish effective grievance redressal systems within Government health services. Also, every private hospital will have its own patient grievance redressal mechanism. According to the Karnataka Lokayukta Act, 1984, the Lokayukta has authority to investigate complaints from citizens about mal-administration and to initiate prosecution. It is headed by a sufficiently high judicial
authority. In addition, there are other forums to take disputes or complaints regarding healthcare services, including the Karnataka Health Adalat, the Karnataka State Human Rights Commission, the implementation of the RTI Act, innovations in the area of Public Interest Litigation, as well as forum for grievances against medical practitioners or medical institutions, such as the Karnataka Medical Council and complaints under the Consumer Protection Act. The Government may take necessary steps to revive and make more effective the office of the Vigilance Director (under the Health Directorate).

3.6.4. COMPREHENSIVE LEGAL AND REGULATORY FRAMEWORK THAT GUIDES SECTOR ACTIONS

The department of health shall facilitate the formulation of a Public Health Bill/Act and ensure its implementation and regulation. The Public Health Bill/Act will also incorporate the necessary and relevant Health Regulations. The department of health shall review, revise and develop norms, standards, legislative documents to harmonize and protect the quality of health services provided by all stakeholders in the health sector.

3.6.5. ACCREDITATION OF MEDICAL COLLEGES, HOSPITALS, BOTH IN THE PUBLIC AND PRIVATE SECTOR

The State shall ensure that all hospitals, both public and private, shall undergo a process of accreditation in order to ensure that the standards of care at these hospitals are of an expected level.

3.6.6. STRENGTHENING PUBLIC PARTICIPATION IN HOSPITALS THROUGH COMMITTEES

While the National Health Mission has created hospital management and welfare committees in all public hospitals, people’s participation in health continues to be weak. A decentralized health system needs effective participatory environment and platforms for open dialogue and discussion between the health services and the community. The State shall strive to invigorate community participation platforms at all levels of health services.

3.6.7. DECENTRALIZATION AND HEALTH

Since, the State is still continuing decentralization in health, support structures need to be developed at the block, district and State levels to take up a lead role in effective implementation of decentralization. The proposed Public Health cadre at all levels may be made responsible to shoulder this responsibility through appropriate HR development.
3.6.8. **MONITORING AND EVALUATION**

The State Health Policy will be monitored by the Karnataka State Health Commission comprising of Government and eminent personalities, using a comprehensive monitoring and evaluation framework based on the objectives set out in the policy. This needs data collection, collation and analysis on diseases, health services, health finances, health workforce, medicines and medical products, health infrastructure and equipment from all stakeholders of the health sector. In this connection, the SHC conducts quarterly reviews (that involve all stakeholders) to assess performance. At the first review, priorities for the year will be identified while the subsequent review missions will assess the progress being made. At the middle of each Strategic Plan period, a mid-term review will be undertaken to assess progress made towards set goals and to inform intervention measures for the remainder of the plan period. In the last year of the Strategic Plan, the final evaluation of the plan will be undertaken, as well as development of the new Strategic Plan.

The department of health shall adopt sector-wise approaches to harmonise and align planning, financing, implementation monitoring and evaluation of the health sector. The State shall review from time to time, and revise its organisation and management structures to respond to newer developments and challenges in order to gain and maintain high efficiency in the provision of healthcare. The Government shall encourage partnerships and the Department of Health shall lead and coordinate all partnerships in the health sector through the creation of different bodies for coordination at State and local levels.

3.7. **CROSS CUTTING ISSUES**

3.7.1. **PUBLIC PRIVATE PARTNERSHIPS**

The State Policy recognizes the role of the voluntary and private sectors (not-for-profit) in providing healthcare. Though already existing, in an ad hoc and often informal manner, public, private and voluntary partnerships will be further developed in a planned, systematic manner in order to develop in spirit and practice for better healthcare, and also for the optimal utilization of health resources, always keeping larger public health interest in mind and ensuring the effective monitoring of such partnerships. Areas for partnerships will be carefully identified to ensure the maximum public health benefit. The State shall also ensure that public and private entities (not-for-profit) in such partnerships are mutually beneficial and are able to keep public health interest as the goal. Private sectors (not-for-profit) entities involved must be transparent and accountable, in line with the defined standards and programmes thereof. Technology will play a very crucial role in the future of healthcare. Hence, it is recommended that a technology platform with involvement of ISRO, DRDO, AERB,
industry partners, academic institution, and medical experts, be constituted to look into the aspects of integration of technology into healthcare for the benefits of the citizen.

3.7.2. ENVIRONMENTAL HEALTH AND MEDICAL WASTE DISPOSAL
The policy recognizes that health is intricately linked to the environment within which people live, both within households, as well as with respect to the air, water, noise and the larger climatic variations. Unplanned industrialization, inadequate monitoring and control and excessive use of chemical pesticides, can and do have serious health effects on people. Air pollution through vehicle and factory emissions, as well as water pollution through untreated sewage is an important problem in our cities. Various international bodies have also urged to take into account the problems imposed by climate change, especially on vulnerable communities and geographies. The State shall strive for identifying linkages and coordination with pollution control boards, transport departments and city planning authorities to ensure mitigation of health impacts of environmental factors.

The State will establish a healthcare waste management infrastructure to ensure proper treatment of biomedical waste not only in large cities, but also in all districts and select taluks, either through Public–Private partnerships, or with the assistance of Pollution Control Boards.

3.7.3. HEALTH SYSTEMS RESEARCH
Research and evidence are important inputs into State policy, programmes and practice. The State recognizes the importance of investing in cutting-edge biomedical research, and also in socially relevant health policy and systems research. The State shall establish a health system research cell with the support of public health institutes supported by State government. The department of health shall enter into strategic partnerships with public health research institutes. At least 1% of the State’s health budget shall be allocated as a norm for monitoring, evaluation and research on health policies and systems research. This shall include research on modern medicine, healthcare and AYUSH systems.

The State department of health prioritizes health policy and system research in order to support evidence based policy and intervention formulation, identifying gaps and critical factors for special needs for vulnerable groups. Particular attention will be given to how research can be used to guide the development and implementation of health systems, health promotion, environmental health, disease prevention and early diagnosis and treatment. The health department shall take the lead in formulation of the agenda for operations research while other institutions such as public health institutes shall be more involved in the execution of research. This will be
achieved through: development of a prioritized State health system and policy research agenda; effective dissemination of research findings; harnessing development partners' and government funds to implement the State health research agenda; promotion of research to policy dialogue in order to ensure that research is relevant to the needs of the State; strengthening of health research capacity in institutions at all levels and developing quality human resource and infrastructure.

Some of the action points in setting the strategic direction for health research in Karnataka are as follows:

i. Develop and implement a comprehensive research agenda for health by incorporating epidemiological, clinical and health systems research, together with sociological, ethnographic and other multi-disciplinary methods, while recognizing the role of diverse disciplines and methodologies, including the participatory research methods

ii. Commit equitable funds for promoting health research, with a target consistent with the burden of health problems in the State

iii. Invest in building research capacity in health through existing institutions and developing new institutions focused on niche areas

iv. Foster partnerships between public health institutions, Medical College Departments of community medicine with the District Health Officer and State officers, and with appropriate NGOs and research institutions to implement priority health research

v. Develop sites in different regions of the States, around such partnerships, to monitor population health and evaluate health programs

vi. Develop and facilitate mechanisms for dissemination of research findings and for translating research findings into action at the service delivery level

3.7.4. DIFFERENTLY ABLED-FRIENDLY HEALTH SYSTEM

All hospitals in the State shall undertake necessary modification to be differently abled-friendly and improve access for people who are physically and mentally challenged. They will also have a dedicated centre/facility with a person trained and assigned to ensure comprehensive care for such individuals in the hospital.

--------------------------------------------------------------------------------
4. SOCIAL POLICY INTERVENTIONS

4.1. ADDRESSING SOCIAL DETERMINANTS OF HEALTH TO REDUCE INEQUALITY

4.1.1. FOOD SECURITY, HUNGER AND MALNUTRITION

Convergence shall be sought between health and all related departments ranging from agriculture to women and child development to promote health, and tackle hunger and malnutrition. Convergence between health services and the ICDS system shall be an important focus. Early detection and management of malnutrition and establishment of nutrition rehabilitation centres at secondary and tertiary care shall be an important component. Strategies to improve nutrition shall also lean on traditional diets and AYUSH approaches rather than expensive nutritional supplements available in the market.

Affordability and access to fruits, vegetables, cereals and pulses is very important in ensuring health promotion and nutrition, especially for the elderly and for people with non-communicable diseases. The AYUSH tradition especially focuses on improving health through diet recommendations and hence accessible and affordable fruits and vegetables and investing in efficient supply chains in these sectors will also have public health benefits.

4.1.2. WATER AND SANITATION

Water and sanitation are known to be one of the earliest known drivers of ill-health. The incidence of water-borne diseases and disease outbreaks correlate to gaps in safe water and sanitation at the local level. Joint inter-sectoral response teams to address these outbreaks and prevent future outbreaks should be developed. Anganwadi workers and ASHAs supported by Village Health, Sanitation and Nutrition Committees (VHSNCs) and ICDS structures would be trained and supported to address problems relating to safe water and sanitation. VHSNC capacity for collective action to protect water sources and promote sanitation would be encouraged. The health system shall work in close coordination with water supply and sanitation systems towards local strategies for solid waste management and protection of water sources from contamination with sewage and other chemical waste. All hospitals and health centres shall ensure safe drinking water availability for all patients and attendants. Similarly, hygiene and sanitation facilities in all government hospitals shall be given utmost importance to improve the quality of healthcare. This will also, to some extent, strengthen the trust and improve credibility of public services.
4.1.3. SCHOOL HEALTH PROGRAM
The State shall promote the concept of every school and pre-school being considered as a primary healthcare location for all relevant screening, health education, health promotion, dietary supplementation, and ensuring continuity of healthcare in some contexts, and even the management of common illness. This requires a school health programme to be organised by the education department and supplemented by the health department. The State will leverage and strengthen the school mid-day meal programmes by identifying and correcting child malnutrition with appropriate nutrition related interventions like weekly iron and folic acid supplements, de-worming etc. Again this should be organised by Education department with support by the health department. The school and its environs itself should be a site of behaviour change that encourages safe health practices including hand washing, use of sanitary latrines, menstrual hygiene etc.

4.1.4. FOOD SAFETY QUALITY MONITORING
Ensuring quality and safety of food in canteens, hotels and private enterprises is an important health and safety measure. The health department shall be capacitated with more training and human resources to discharge this function.

4.1.5. ROAD TRAFFIC ACCIDENTS PREVENTION AND MANAGEMENT
Road traffic injuries are an important contributor to morbidity and mortality in the State. In the interest of people’s health, close and effective cooperation shall be sought with road transport and public safety agencies and health advisory to these agencies to strengthen road safety. Within the health system, all district hospitals and select taluka hospitals shall be upgraded to provide trauma care.

4.1.6. NUTRITIONAL INTERVENTIONS
The State shall leverage the potential of public agencies such as HOPCOMS and KMF to improve the nutritional rehabilitation and canteen facilities in all its hospitals, so that patients in public hospitals receive a balanced diet.

4.1.7. GENDER, CASTE AND SOCIO-ECONOMIC GROUPS
While universality will be a guiding principle rather than charity-based approaches, there shall be a strong focus on equity in all health and related policies, programmes and schemes to ensure that societal barriers in the form of caste, socio-economic groups, gender and other social vulnerabilities do not hinder access to these schemes, services and programmes. In order to ensure equitable allocation of resources, the regional and inter-district disparities would be factored into the mechanisms of allocation of resources among the regions and districts.
Disadvantaged groups: The Scheduled Castes and Scheduled Tribes will receive priority attention. Besides primary care, access to complete treatment, follow up and referrals, to secondary and tertiary care services at subsidized costs will be assured. For indigenous peoples, a package commensurate to their needs will be developed, offered and implemented.

Gender: The poor status of women’s health, the declining gender ratio and lack of total coverage and quality of mother and child health services (including instances of disrespect and abuse during delivery) are areas of concern. Measures to improve women’s health status and access to care will be implemented and closely monitored. Efforts will be made to increase the number of women doctors, senior and junior health assistants, male / female (Lady Health Visitors and Auxiliary Nursing and Midwifery) by providing adequate reservations for women in health educational institutions and appointments and providing better residential facilities and relation to emergency obstetric care and personal security. Widely prevalent conditions affecting women such as anaemia, low backache, cancer of the cervix, uterine prolapse and osteoporosis will be addressed. Services for psychosocial problems and emotional distress will be developed. Empowerment of women for management and monitoring of health services will be encouraged and supported. Programmes for the special needs of adolescent girls and boys will be developed in collaboration with the Department of Education. The PCPNDT Act implementation should aim at correcting the imbalance in sex ratio at birth. Social interventions to welcome the girl child through promotional measures are to be taken to correct the declining gender ratio.

Other Vulnerable Groups: Innovative, flexible and collaborative approaches would be adopted for meeting the health needs of street children, out-of-school and working children, persons with disabilities, the elderly and other vulnerable groups in the community.

4.1.8. ENVIRONMENT AND HEALTH
Efforts will be made to increase community awareness about the inter-linkages between environment and health. Children and youth in schools and colleges should be sensitized on the impact of climate change on health, and methods to mitigate them. This should be done through health promotion initiatives based on existing knowledge. Steps to make all health institutions (public, private, voluntary) environmentally friendly through adoption of policies and practices will be introduced.
5. POLICY ENCOURAGING HEALTHY LIFE STYLE

5.1. INDIVIDUAL/GROUP LIFE STYLE FACTORS/DETERMINANTS

Modifiable lifestyle factors are to be an important and integral part of health policies. This is primarily because it demands fewer resources and brings perceivable changes. But, there is a limitation to this intervention - modifiable lifestyle factors constantly change and responsibility is vested in individuals for population’s health instead of public institutions to address structural determinants of health. While recognizing that the responsibility for ensuring and protecting health of the population rests equally with the State, the policy shall identify broad directions towards interventions that promote and protect health at an individual level such as:

- Reduction of smoking/tobacco consumption regulations
- Reduction of alcohol consumption regulation
- Reduction of risky sexual behaviour
- Reduction of consumption of unhealthy junk food
- Promotion of balanced diet
- Promotion of physical activity

5.1.1. STRENGTHEN TOBACCO CONTROL AND REDUCE INDUSTRY INTERFERENCE

Nearly one in two men and one in five women in India consume tobacco in one form or another. Directly or indirectly, tobacco kills one million adult Indians every year. At the family level, expenditure on tobacco crowds out spending on education and essential items such as food. At the societal level, we are yet to come to terms with the ecological impact, through deforestation and environmental degradation of large-scale tobacco farming and manufacturing processes. However, Karnataka is one of the pioneers in effective implementation of tobacco control legislation. The State shall continue to ensure that the new and young population shall be offered healthy choices through school and society-based programmes, and thereby limit recruitment of new smokers through tempting advertisement and endorsement of tobacco products. The policy also encourages a progressive system of increasing tobacco taxation in line with international commitments made by the Indian Government, as well as the health burden imposed by tobacco consumption in various forms. The State shall invest in a tobacco cessation infrastructure at all district levels in order to help people seeking help with addiction to tobacco use.
5.1.2. REGULATION AND REDUCTION OF ALCOHOL CONSUMPTION

Alcohol dependence (and the related psychological and social impact) is a complex medical and social problem, affecting several sections of the society and especially having indirect ill-effects on children, women and poor households. Irresponsible and harmful alcohol use is also closely linked to road traffic injuries and violence. The State shall ensure sufficient geographical spread of alcohol de-addiction infrastructure in its district hospitals, as well as invest in a primary healthcare and school based programme to promote healthy choices among adolescents. Existing regulations and taxation shall be used to limit consumption of alcohol.

5.1.3. REDUCTION OF RISKY SEXUAL BEHAVIOUR

The policy shall invest in effective adolescent and reproductive health education at schools and PHCs.

5.1.4. REDUCTION OF UNHEALTHY FOOD AND PROMOTION OF BALANCED DIET

In line with the need for improved nutrition and health, the policy encourages all government departments and schemes to promote traditional diets drawing from local food over multi-national, pre-packaged food.

5.1.5. PROMOTION OF PHYSICAL ACTIVITY

Physical activity is an important determinant of various lifestyle-induced disorders as well as a contributor to population health. The State shall pursue a policy of promoting physical activity through the establishment of parks, playgrounds and public spaces for exercise and physical activity.

5.1.6. COMMUNITY EMPOWERMENT FOR SELF-RELIANCE OF HOUSEHOLDS IN IMPROVING AND PROMOTING HEALTH

Traditional health culture of Indian households includes hundreds of eco-system specific practices for management of common ailments, nutrition, prevention, safe drinking water, ethnic diets and so on. This policy commits to validate and disseminate health education through building upon these practices. The policy encourages the use of ICT for this purpose in order to achieve the desired scale. Certification and accreditation of community-supported village-based traditional health practitioners shall be pursued. It is anticipated that this policy intervention will result in an innovation towards establishing a new dimension in the definition of the health system by introducing a non-institutional tier for health delivery and promotion.

---------------------------------------------------------------------------------------------------

62 | Page
6. SPECIFIC RECOMMENDATIONS BY SUB-COMMITTEES OF TF-KPHP

6.1. PRIMARY HEALTH CARE - RECOMMENDATIONS

i. Communitisation: To ensure that primary healthcare is pro-active, women-friendly, child-friendly, elderly-friendly, disability-friendly, and friendly to sub-groups that face relentless exclusion (homeless or transgender). Gender sensitization of the health system and of all health providers is a priority. Ensure communitisation of health institutions by fostering partnership with the community and transferring the ownership and management of health institutions and services to the community. The government has to invest its resources through all channels to capacitate all the stakeholders through training, practical exposure, documentation of best practices and follow-up monitoring and supervision.

ii. Diagnostic facility for critical infectious diseases (like for H1N1; chikungunya etc) must be either made available at or extended to the PHC level, as these diseases are increasing and also require immediate attention.

iii. Health service delivery: Ensure that integration of primary, secondary and tertiary care services is done with a focus on preventive, promotive, diagnostic, curative, rehabilitative and palliative services. The department of health should constitute mechanisms to build and implement the roadmap for integration. The department should deliberate and make necessary changes in service rules, issue Government orders for integration and provide details regarding how to make the integrated platforms successful.

iv. Improving the efficiency of provision of primary healthcare services: The health department should implement quality improvement protocols in every PHC; convert the existing sub-centers to Health and Wellness Centres (HWC); introduce the Primary Healthcare team at a village and community level; develop a policy framework for implementation of HWCs and implement this over a period of time; health promotion activities should be carried out at HWCs; have nurse health practitioners and AYUSH practitioners focus more on health promotion than they presently do; implement the Ministry of Health & Family Welfare’s Quality Assurance Framework for Public Hospitals; ensure entry-level NABH accreditation for PHCs as this can provide assurance of quality of facilities; review and revamp the Clinical Establishments Act.

v. Strengthen Government Hospitals: One of the main objectives of the recommendations is to strengthen Government hospitals and make them more effective. Since private healthcare may not be able to contribute in Tier 2 and 3 cities to the extent as in Tier 1 cities, it is important for Government systems to
be strengthened to address this important issue. Therefore, the focus should be on developing and refining Human Resources. MBBS doctors should be provided adequate opportunity to upgrade themselves to intermediate specialists by way of promoting diploma courses under College of Physicians and Surgeons (CPS) Institute, Mumbai, and also through a course in family medicine under Rajiv Gandhi University of Health Sciences. Also, Nurse Practitioner courses and other such programs that strengthen the quality and productivity of nurses should be formulated and implemented. Allied skilling programs should also be strengthened.

vi. Community participation and equity: The ASHA and the VHSNC (Village Health Sanitation and Nutrition Committee) should play an important role in mapping individuals and communities, and ensuring service reach and follow up. The Government should introduce best practices for establishing clear terms of reference for local health associations; increase participation from representatives of various communities in local health committees, including business leaders, women’s groups and school administrators.

vii. Addressing social determinants of health: The subcommittee has provided several recommendations for key social determinants. The Government should ensure inter-sectoral coordination at several levels to follow the social determinant approach to health.

viii. Health workforce: A comprehensive primary healthcare approach would require redistribution of health centres and revision of skill sets including upgrading the qualifications of the staff. Karnataka State needs to develop vision and road map for strengthening the community and village level primary healthcare, apart from streamlining the PHCs as per IPHS norms. Linking and placing the database of the department under the human resource cell for real time data usage and facilitating data utilization should be ensured. The earlier committees have provided implementable recommendations on the health work-force to match the aspirations of the Government for the efficient delivery of healthcare services, and a strategic approach for creation of efficient public health system through a public health cadre. A report and a draft G.O was prepared for implementation. This has to be reviewed and immediately issued as a G.O. A Nurse Health Practitioner (NHP) can lead the team at Health Wellness Centre (HWC), trained to provide allopathic curative care, in addition to preventive and promotive public health. Separate efforts to create public health cadre for non-medical services should be made. Since there is a shortage of doctors in rural areas, it is suggested that medical seats should be reserved under the “Public Health Service” category during intake for MBBS, wherein it will be mandatory to serve in rural areas. Another way to
address the shortage would be to make rural health service compulsory at PG level.

ix. Technology in health: A State-of-the-art ‘Public Health Skills Laboratory’ (PHSL) for improving health for all sections of the people by addressing challenges in human resources in health needs to be established. A coalition for Care and Health Excellence in affiliation with academic institutions, NGOs and hospitals should be set up. Protocols for prevention, screening, care, diagnosis and referral should be standardized.

x. Health financing: Government spending on health needs to be increased. To operationalize comprehensive primary healthcare, fund flows to districts should be organized so that while safeguarding against misuse, sufficient flexibility be allowed so that allocation is more responsive and efficient. The government should consider sanction of funds under a limited number of heads, with some of the heads sanctioned on a fixed basis and others related to utilization. The fund flows related to utilization constitute a simple form of output based financing, with Health and Wellness Centers which have a higher number of cases receiving additional financing.

xi. Improving governance: The Public Affairs Index (PAI) should be considered in Karnataka State for the health department. The State Government should consider the macro, micro and contextual factors in the institutional environment including both formal and informal rules and norms at work in Government and society at large. The incentives should be team-based, and aligned to improve performance. The Government should develop performance indicators which can address the complex nature of primary healthcare. This is an important pre-requisite. A special meeting of the KDP (Karnataka Development Plan) can be held for addressing health issues. The Health Task force at the district level can coordinate inter-sectoral efforts. The rules for procurement of goods and services should be modified by empowered authorities to suit specific categories of tasks and contexts.

6.2. HEALTHCARE TECHNOLOGY- RECOMMENDATIONS

“ANY-TIME, ANY-PLACE HEALTH”

i. Connect care providers, citizens and administration through web portal and mobile apps to locate relevant healthcare facilities, find out timings, make appointments, provide feedback and access credible health information.

ii. Develop a State Health Command and Control Center with 24x7x365 Health Toll Free Number and for seeking ambulance help; war room to handle outbreaks, major fires and other disasters.
iii. Air ambulance services can help save time and life, and can be an effective alternative to patient/organ transport.

iv. Help the population keep their health record through Uniform Health Digitalized Record Service – where every patient/hospital action is digitally captured (all tests/reports/diagnosis/prescriptions, etc.) and may be made available to patient/hospitals/regulators/insurance agencies. The Government can initiate an open call to entrepreneurs for proposals to achieve this aim in the most cost-effective way.

v. Link patient record to Aadhar, to enable patients and hospitals to archive and retrieve data across the State and Nation, while ensuring security and confidentiality of data.

vi. Have a registry of vendors and Hospital Information Systems (HIS) solutions. There is a need to mandate support for interoperability standards like Health Level 7(HL7) or Fast Healthcare Interoperability Resources (FHIR). A Government backed/mandated Cloud HIS should be available free of cost/ at a nominal cost to promote HIS usage even in small hospitals which do not have the necessary funding to adopt HIS system.

vii. Setup a screening committee to decide the privacy policy and screening guidelines for healthcare apps and devices, so that appropriate recommendations can be given to citizens.

viii. State should make use of Mobile apps and Information and Communication Technology(ICT) on priority to tackle maternal care, infant care and non-communicable diseases.

ix. Patient feedback can be captured using a multilingual app on smartphones and tablets. With graphical and data reports, feedback analysis can reach the decision-makers instantly, and also periodically enable service improvements.

x. Home care: Vital signs of patients can be monitored at home with appropriate apps on smartphones and Internet of Things(IoT). This can minimize visits to a healthcare facility, especially for the elderly and differently-abled.

xi. Telemedicine/Telecare can be very useful in providing specialty-wise healthcare to people at an affordable cost, as there is a shortage of specialists across the country. By interlinking every Public Healthcare Center with Referral and Super Specialty Hospitals in the State, tele medicine can provide advanced, state-of-the-art healthcare to even the remotest areas, both in emergencies and on a regular basis. Two specific projects recommended are E-ICU and Tele-Radiology.

xii. In view of extensive usage of technology in medicine and the need for computerised simulation and training centres for medical and para-medical personnel, opportunities for specialization in medical technology courses are
KJA RECOMMENDATION
KARNATAKA PUBLIC HEALTH POLICY

to be created. This will be overseen by the KJA through a Standing Committee on technology.

xiii. The Government of Karnataka to encourage the concept of “Make in INDIA” by providing a boost to Indian Medical Equipment manufacturer by way of incentive to harness high end technology at low cost.

6.3. TRAINING OF HEALTHCARE STAFF- RECOMMENDATIONS

India’s mandate for universal health coverage, to a great extent, depends on the availability of qualified and adequate allied health professionals at primary, secondary and tertiary levels in both the private and public sector. Addressing shortages in human resources is the first step towards expanding the reach of health services in under-served areas.

i. Regulation of Quality Healthcare Education through certification is to receive a critical assessment which will improve the quality of staff and students. In order to ensure quality, norms regarding the number of institutions and number of seats should be put in place. Similar guidelines would apply for Ayurvedic, Homeopathic and Unani Colleges in the State. The Paramedical College will strive to maintain the standard of education in various Paramedical Diploma Courses.

All paramedical healthcare staff must undergo training with certification from HSSC and their institutions should obtain accreditation from the Health Sector Skills Council (HSSC)

ii. PHC adoption by Medical Colleges should serve as a requirement to train students. Each Medical College should be required to take up some PHCs for training and service. Essential services will be maintained round the clock in the teaching hospitals.

iii. Each district should have a medical college

iv. Reservation in MBBS, for those opting for Public Health Cadre (to serve in rural areas)

v. The number of PG seats being made available should be increased with the long-term objective of having twice the number of undergraduate seats. This will address the shortage of specialists.

vi. It is recommended to start DNB courses in all district and taluka hospitals, depending on the bed strength and availability of staff.

vii. The Nurse Practitioner Program should be initiated as nurses are a critical cadre. Advanced training to improve skills in providing comprehensive healthcare and ICU services will serve the population well.
viii. The focus of training should not just be on medical education of doctors but on all allied health professionals, including the practitioners of Indian Systems of Medicine and Homeopathy. A team effort of all these systems will enable better healthcare services in response to the tremendous need. The RGUHS must include in the undergraduate course curriculum of all their courses the subjects on empowerment, communication skills, ethics and healthcare quality.

ix. Efforts must be made to improve the infrastructure and functioning of existing educational institutions of all systems at all levels to bring them up to acceptable norms laid down by the respective Professional Councils. A study of financial and other requirements of these institutions should be undertaken to ensure sustainability of these institutions.

x. Closer working links should be encouraged between the University, educational institutions and health services for mutual advantage and development. Health Service professionals may be permitted to undertake some teaching responsibilities. Teaching staff also will be exposed to field situations so that their teaching and research could be of practical relevance and importance. Simulation Labs must be set up as a Hub and Spokes Model for medical professionals to enhance their skills especially in surgical and Intensive care departments.

xi. Mandatory teacher training programmes on teaching methodology for health sciences, which is learner-centered with problem-solving approaches, should be implemented. Each institution will be encouraged to initiate and run such educational programmes.

6.4. HOSPITAL INFORMATION SYSTEMS - RECOMMENDATIONS

Any healthcare provider, be it a hospital, nursing home or a clinic, is in need of a software system that supports its healthcare delivery model in an effective and efficient manner. The subcommittee submits the following recommendations for HIS in any organization:

i. The healthcare organization should form a team of professionals / officials to conduct a thorough review of the products during the selection process. The composition of the team should be such that it is aligned with the business goals set forth for this purpose. Considering the complexity of the operations and multi-skill set levels in a healthcare organization, the team formed to review the HIS products should have representatives from most of the key departments or functional areas, including Operations (Administration, Customer Support and Finance), Clinical and Ancillary Services.

ii. HIS product evaluation must be carried out in multiple phases to ensure that the product being reviewed is useful for the organization in achieving its stated
objectives. Every review of the product should result in an outcome of points identifying rate and ranking for specified parameters. Vendor Evaluation is also crucial.

iii. Contractual Terms should be reviewed thoroughly. While a thorough product and vendor review completes most of the selection process, it is the contractual terms that are often ignored which stand as obstacles in the continuous usability of the product.

Healthcare organizations can follow the staged approach prescribed by Healthcare Information Management Systems Society (HIMSS) called the Electronic Medical Record Adoption Model (EMRAM) and go through the adoption of an HIS or EMR system in an effective and successful model. HIMSS has put forth hospital based models and ambulatory-based models for organizations to review and adopt as shown in the diagrams below.

6. 5. ELECTRONIC MEDICAL RECORDS - RECOMMENDATIONS

i. In India, the EMR journey has begun and is gaining momentum. According to the draft report submitted by MOH&FW, GoI in November 2015, standards for usage are classified into the following four major categories, for ease of use and adoption by various stakeholders in the healthcare ecosystem across the country: (1) Software Specifications (2) Data Exchange (3) Medical Terminology and Coding (4) Data Standards for Image, Multimedia, Waveform and Document.
KJA RECOMMENDATION
KARNATAKA PUBLIC HEALTH POLICY

ii. Skilled resources that have experience in EMRs are essential. This skill pool would comprise those with exposure to technology, change management, and workflow analysts. This skill pool will also serve as the trainers of EMR adoption.

iii. The Government can consider Public Private Partnership (PPP) ventures on upskilling and training.

iv. Creation of standardized operating process in conjunction with bodies such as NABH and NABL, including adoption of guidelines from JCI may be considered.

v. Education is the key to adoption. The Government should consider including courses on EMRs in medical colleges, nursing colleges, allied health colleges, health management colleges at both graduate and post-graduate levels.

vi. Creation of certification courses accredited by the Government would boost the education drive for those who are already working in this field, and would incentivize them to pursue the same as a continuing education initiative of working professionals.

vii. The Government can consider providing financial grants or tax benefits for those who undertake such programs, so that the cost of these programs is not viewed as a deterrent.

viii. Creation of an advisory team that helps organizations with the technology solutions that would deliver the EMR is essential.

The Government can strongly consider Indian-based organizations to ensure that the Indian Health IT sector benefits from this initiative. This clearly has the ability to boost the Health IT economy and create meaningful and sustainable skill based jobs in the State. While both open source technology and patented licensed software may be considered, the Government should ensure that no monopoly is created in this domain. Creation of a monopoly can create an adverse impact on the cost and talent thereby contributing to failure of adoption. Also, patient confidentiality and security of all health-related data should be ensured.

6.6. AYUSH- RECOMMENDATIONS

i. Indian Systems of Medicine and Homeopathy (ISM&H) has not received sufficient attention in health planning and resource allocation. They should be involved in health decision-making and in the provision of health services, so that people can freely exercise pluralistic choices.

ii. Appointment of a Joint (Government and civil society) Health Commission chaired by a non-official to plan, recommend outlays and monitor implementation of major health initiatives in the State, including training and utilization of human resources.

iii. Creation of a budget line in the department of health and family welfare to support community-oriented, innovative public health programs, in both
directorates of health and AYUSH, including ICT platforms for home-based health education.

iv. Innovative schemes in NHM for model integrative healthcare initiatives at taluka level should be supported.

v. SOPs (based on evidence) for treating at least 50 common diseases with an integrated approach at the primary health center level should be created.

vi. There should be an accreditation and certification system for local health practitioners, and female traditional Health Workers to be empowered through training.

vii. The State should promote Public Health Orientation and Training for all Health Personnel starting with the government, sector in both modern and AYUSH services.

viii. The State has to expand Swasthya Vritta Programme which is presently being experimented in five districts.

ix. The State will strengthen Yoga awareness and skills through health Promotion in school and college curricula.

x. The State has to strengthen community health related to food and nutrition based on AYUSH.

xi. The State should support Clinical Research in non-government and state run hospitals to generate evidence about integrative healthcare for Non-Communicable Diseases (NCDs).

xii. Documentation of clinical outcomes should be strengthened for generating evidence through a standardized web based system that can be used by all clinical establishments.

xiii. The State Government should support bridging courses in public health and integrative healthcare, for all medical professionals and paramedics.

xiv. It is recommended that a study be conducted in “co-located institutions” by experts in healthcare management to identify short falls if any, and appropriately address them before expanding “co-location” as the main strategy for integration.

6.7. HEALTH OMBUDSMAN- RECOMMENDATIONS

Although some policy papers do recommend that an ombudsman be established, these are in fact pointing towards establishing an effective ‘complaint/grievance mechanism’. Therefore, there is no need to have another sector-specific ombudsman with statutory powers.

The Lokayukta is more than sufficient ombudsman to take care of public grievances. Karnataka was one of the first States to establish the Lokayukta. According to the Karnataka Lokayukta Act, 1984 inter alia; the Lokayukta has authority to investigate
complaints from citizens about mal-administration and to initiate prosecution. It is headed by a sufficiently high judicial persona. In the technical sense, (as observed above) the Kamataka Lokayukta is the ombudsman for the State of Kamataka. In addition, there are other fora to take disputes or complaints regarding healthcare services, including the Kamataka Health Adalat, the Kamataka State Human Rights Commission, the implementation of RTI Act, innovations in the area of Public Interest Litigation, as well as forum for grievances against medical practitioners or medical institutions such as the Kamataka Medical Council and complaints under the Consumer Protection Act.

The Government may take necessary steps to revive and make more effective the office of the Vigilance Director (under the Health Directorate). In 2001, Lokayukta created three new posts of Vigilance Director for Police, Municipal Administration and Health & Education (VDHE). This was done as per the powers vested in Lokayukta under sub-section (3) of section 15 of the Kamataka Lokayukta Act.

The Sub-Committee emphasizes the need for all hospitals to undergo the accreditation process – if this is taken seriously, the issue of establishing an effective grievance redressal mechanism will be put to rest as the accreditation process mandates the same.

6.8. QUALITY SYSTEMS- RECOMMENDATIONS

6.8.1. NABH ACCREDIATION:

NABH gives the best framework for quality improvement both for private and public-sector hospitals. It addresses all aspects of quality holistically. The following are the recommendations:

i. Entry level accreditation should be made mandatory for all healthcare organizations. This is to be implemented in a time bound manner.

ii. The State Government and RGUHS should have a strategic plan towards full accreditation considering the resources and challenges.

iii. Other certification programs like Safe I, Nursing Excellence, and Emergency Standards should be encouraged to help organizations move towards full accreditation.

iv. The accredited organizations should be incentivized or non-accredited organizations should be dis-incentivized.

v. The knowledge and expertise of NABH assessors from the State should be utilized for the above-mentioned activities, as was done earlier.

vi. State-wise Policies and SOPs should be drafted to standardize care in Government hospitals, which can be further modified by individual hospitals.
6.8.2. CENTERS OF EXCELLENCE

i. The centers of excellence in public and private sectors should be identified and recognized. These centers can be used to guide and hand-hold other organizations.

6.8.3. EDUCATION AND TRAINING

i. State level training plan for quality improvement of the relevant staff
ii. Inclusion of Quality and communication in the RGUHS curriculum
iii. Training on quality tools and Management tools for public sector hospitals should be provided

6.8.4. INFECTION CONTROL PROGRAM AND MEDICATION SAFETY

i. A State-wise antibiotic policy and infection control program should be launched, which is applicable both to public and private hospitals.
ii. Prescription audits at both private and public sectors should be done to improve medication safety.

6.8.5. STRATEGIC PLAN FOR QUALITY

i. The roadmap for quality should be drawn with a long-term focus considering both strategic advantages and strategic challenges. This needs to be done at the State level and cascade down.

6.9. ACCESS TO AFFORDABLE MEDICINES-RECOMMENDATIONS

i. A central drug procurement mechanism should be put in place in the State for drugs which are available only in international markets. In this way, international players will be able to participate in the process and the availability, affordability and quality of drugs will increase.
ii. Centralized methods have an obvious advantage over decentralized methods as economies of scale is achieved, and cost per unit is reduced to a large extent which reduces the financial burden on the public (as they are given medicines either at very low prices or for free).
iii. Usage of IT should be increased during the complete drug procurement process. Attempts should be made to include IT at each step- this makes the whole process transparent, traceable, documented, and provides ease of access to information available. Demand estimation and forecasting should also be improved by using prior information. Quality reports can also be accessed with more ease. Bidders can keep track of their bids. The parameters of selection of a supplier will also be clear and transparent.
iv. Set up as many independent committees as possible with a professional leadership and team. For example, finance should be handled by an independent committee so that suppliers are assured that they will receive their fee in a timely manner, and it will also motivate more suppliers to participate in the bidding. Procurement of medicines and equipment should be handled by different wings, as otherwise, with time, the agency can get over-burdened.

v. Centralized agencies should establish their own outlets to distribute free medicines to the public. For example, the Kerala Medical Services Corporation Ltd. has established the Karunya Community Pharmacy Services where medicines are made available at very affordable prices (up-to 93% lower). This initiative has reduced the benefits to middlemen. Such initiatives can also be taken up by other centralized drug procurement agencies. This will increase the availability of medicines to the general public.

vi. Demand based procurement of drugs should be considered for implementation.

vii. Ensuring the presence of a drug warehouse, qualified pharmacist and medical inspector who can inspect and examine healthcare facilities to ensure they are meeting licensing and legal regulations at every taluka level.

viii. For better budget utilization, cost-effective medicines should be supplied from companies which satisfy certain essential guidelines laid down by credible health bodies.

ix. Better quality control during drug procurement should be exercised.

x. Patient profiling and disease mapping should be done at the PHC level. This data collection will be useful in drug procurement. This can be achieved with the help of NIC or any private data management firm.

6.10. CARE OF ELDERLY- RECOMMENDATIONS

The Karnataka State Policy for Senior Citizens came into force in 2003 as per Government Order No. WCD/314/SJD/2003. The policy envisages initiatives in different areas of concern for the elderly and also considers them as a resource. With changes in the epidemiological, demographic socio cultural and economic areas, the elderly today are more vulnerable necessitating a need to review and reenergize the State Policy on Senior Citizens. The proposed policy should look into all aspects of ageing such as medical, social, emotional, mental health, living environment, economic empowerment and involvement of seniors in all developmental activities and using their wisdom and knowledge as resources.

The recommendations, which are broadly under the following three heads, aim to improve the quality of life of the elderly through comprehensive and holistic care:
6.10.1. HEALTH

i. Strengthening and implementation of the National Program for the HealthCare of the Elderly (NHPCE) in all districts.

ii. State Level Geriatric Training Centre to focus on holistic care training including medical healthcare for a wide range of personnel from bedside caregivers to nurses, paramedical staff, social workers, therapists and doctors.

iii. Improving health services through the setting-up of a State level geriatric hospital as an advanced centre for geriatric research and training, geriatric units in all Government hospitals and medical colleges and strengthening of geriatric healthcare at the primary and secondary level at every district and taluka level.

iv. Ensuring better access to healthcare services by making health services elder-friendly, subsidizing drugs and consumables for chronic diseases, vaccinations for the elderly and improved public private partnerships.

v. Home Care - strengthening the community support by equipping primary health centers to train and supervise community workers in delivering basic healthcare at home.

6.10.2. SOCIAL SUPPORT MEASURES

i. Regular reviews of old age or widow pensions, development of Health Insurance for the elderly, popularizing reverse mortgage and promoting the concept of healthy ageing at the village and district level day care centers.

ii. Encourage community participation, involvement of non-governmental organizations, and development of minimum standards for setting up and managing old age homes.

iii. Initiatives to develop newer assisted technology for the elderly along with the propagation of Telemedicine / Tele-geriatric services.

6.10.3. INFORMATION, EDUCATION AND COMMUNICATION (IEC) ACTIVITIES

i. Sensitizing the younger population to the problems faced by the elderly, and changing the negative perception of the community in relation to geriatric mental health issues

ii. Empowering and improving the quality of the senior citizens’ helpline and optimum utilization of mass media and other communication channels to educate and spread awareness about issues like elder abuse and preventive health.

iii. Caregivers will be approved subject to satisfactory completion of a training program which will be given from the nearest PHC. Payments will be determined based on the extent of disability and frequency of hospital visits.
Public health nurses will periodically visit the patient at home to ensure quality and continuity of service. In case no suitable family caregiver is available, another person from the community can take up the responsibility for caring at home and accompanying elders on hospital visits.

6.11. HUMAN RESOURCES AND MANPOWER ASSESSMENT-RECOMMENDATIONS

The overarching principles for the recommendations on Human Resources for Health are as below:

i. It is important to create a Human Resource Cell in the directorate of health. A web-based electronic database of human resources in the department should be created (see section on technology), linked and validated real-time to reflect transfers, attrition due to retirements and trainings, continued and post-graduate deputations etc.

ii. To address HR gaps at primary healthcare level, it is important to create positions and have a cadre of nurse health practitioners. Institutions located in under-served areas should receive support from medical officers on a rotation basis.

iii. Consider addressing the following issues on priority basis: (a) the increasing number of contractual workers, paid far less than regular workers for the same tasks, (b) issues related to sanctioning of posts and recruitment, (c) lack of clear policies and timely implementation of promotions, transfers and postings, (d) opportunities for career advancement, (e) lack of any system of performance measurement and incentives, and (f) current quality of leadership that is expected to manage this large workforce.

iv. With regard to workforce management, the adoption of recommendations of IPHS standards in the immediate future is recommended. It is required to rationalize posts at various levels of hospitals both specialty-wise and number-wise.

v. Setting professional boundaries and task shifting is essential. Investment in training institutions – both infrastructure and human resources and linkage to district hospitals for clinical material and primary centres for community level care should be put in place.

vi. The number of PG seats being made available should be increased with the long-term objective of having twice the number of undergraduate seats. This will address the shortage of specialists.

vii. DNB courses and College of Physicians’ courses (Mumbai model) should be introduced in the State Government Hospitals to mitigate the shortage of specialists.
viii. Medical colleges should adopt 100 bedded and above hospitals within the districts, for providing specialists' care in these geographic areas.

ix. Scale up postgraduate training in family medicine and general practice, so that common referred surgical work can also be handled.

x. Recruit and deploy specialist mentors to work in district hospitals. Every district hospital should be assigned to one or more medical colleges. Volunteer specialists from medical colleges who opt to do this as service in return for a modest honorarium.

xi. Undertake administrative reform to create a specialist cadre with enhanced salary package, and put in place workforce management policies that ensure they are posted only where they can practice their specialist skills.

xii. Plan proactive phased recruitments

xiii. There can be three levels in Public Health Cadre namely, Taluka level officers (block level), District level officers and State level officers. The entry level for Public health cadre shall be at the level of Taluka health officer. Cadre-wise seniority list shall be published and updated every year. All the promotions will have to be based on appropriate criteria.

A detailed roadmap for implementation of the recommendations of the various sub committees is attached (Annexure I).
7. STUDY ON PROCEDURAL COSTING

7.1. INTRODUCTION

The Government of Karnataka has always been at the forefront, pioneering ways and means of improving the health status of its citizens. The KJA through its Task Force on Health has been responsible for carrying out this unique, indicative, systematic and scientific study on Procedural costing, in order to understand the actual cost involved in carrying out a set procedure in the hospital empanelled under various Government Health Schemes of Government of India and Government of Karnataka.

7.2. OBJECTIVE

Ensuring patient safety is pivotal to the outcome in any healthcare procedure. The objective of this exercise is an attempt to compare the actual cost of various procedures in selected hospitals empanelled under the scheme, as against the reimbursement being made by the various Government welfare schemes (Vajpayee Arogya Shree (VAS), Yeshasvini and CGHS). This is a prototype study based on available data, incorporated into the approved clinical pathway, and aimed at comparing the cost incurred with the reimbursement being made by the Government Schemes.

7.3. BACKGROUND

Though significant all-round advances have been made in our country, we are yet to provide equitable access to health care and achieve Universal Health Coverage (UHC) for our population.

Increased health awareness coupled with higher spending has provided significant growth opportunities for healthcare providers. The healthcare sector is gradually emerging as one of the largest service sectors in India, comprising of both private and public players.

Publicly-funded government hospitals provide care, but often lack adequate infrastructure and are understaffed, leading to heavy crowding and long waiting hours. On the other hand, private hospitals that offer state of the art healthcare are considered expensive.

The High-Level Expert Group (HLEG) on Universal Health care, while recommending an increase in public spending on health, also advocates improving financial risk protection through various measures including health insurance schemes. Many private institutions do not partner under these schemes as the fixed package rates do
not even cover the costs, and on many occasions, package rates remain unrevised for long periods.

Further, these package rates are uniform across all types of patients for a particular procedure with no provision for any associated co-morbid conditions or complications. As a result, some hospitals enrolled under such Government-sponsored schemes may tend to cut corners, which might result in compromise on patient safety.

Considering all these factors the Task Force- KPHP deliberated and constituted a Subcommittee and Technical committee on procedural costing, co-chaired by the Director of Health, Government of Karnataka, with representatives from NABH, CAHO, AHPI, CMC Vellore, the Medical Department of ISRO, the Health and Family Welfare Department of Government of Karnataka, IIM-B, the General Insurance Council of India along with community representatives and four specialty associations: Association of Cardiovascular-Thoracic Surgeons, Neurosciences Academy, Orthopaedic Society and Association of Surgical Oncology. The technical committee felt that there is a need to approach the issue of costing in a very systematic and scientific manner. With this background, the Task Force- KPHP approved the project for procedural costing with NABH and IIM (B) as the neutral third-party participants of the study.

7.4. METHODOLOGY

This study aims at determining the actual costs incurred for the identified procedure by the participating hospitals during the period 2015-2016. A mixed costing methodology was considered as a viable alternative to standard top down and gross costing approaches. The flexibility of a mixed methodology allowed using all available data sources and allowed making trade-offs between more accurate bottom up micro costing and more feasible approaches to measure cost items. Such methodology applies bottom up micro costing to activities which account for a large share of total costs or to activities for which data collection is reasonably feasible and in this way the costing methodology was tailored to the decision problem.
Methodology matrix and the level of accuracy at the identification and valuation of cost components

7.4.1. **SELECTION OF PROCEDURES**

i. 20 frequently carried out procedures as identified by the Government and the insurance providers were included in the study.

ii. These 20 procedures/surgeries were categorised under 4 Specialties namely Cardiothoracic Surgery, Orthopaedics, Neurosurgery and Surgical Oncology.

iii. Reimbursement rates for various identified procedures have been obtained from official sources.

iv. Under CGHS for oncology procedures, the package rates were calculated as per category. The clinical pathway was used as far as possible to determine the number of days of stay in hospital, and also for the investigations, to arrive at the rates being reimbursed. The CGHS rates for oncology have been calculated as per the circular issued in September 2015 as these rates were applicable for a period of the seven months of the financial year under consideration for the study.

v. As regards the cost of implants used in the various procedures under CGHS, the lesser of the value between that of the clinical pathway and the ceiling rates of CGHS was taken into account.

7.4.2. **SELECTION OF HOSPITAL**

i. For each speciality, 2 hospitals were shortlisted, one Government, one private specialty hospital from Bengaluru, along with one not for profit hospital covering all specialties.
ii. While attempting to collect data from the selected hospitals, in spite of persistent and prolonged efforts, the relevant data from the Government hospitals for Neurosurgery and Oncology could not be obtained. Also, in case of the not for profit hospital and Government Orthopaedic Hospital, the data could not be validated. In the case of the Government Cardiology Institute, though the data provided was inadequate and could not be validated, an attempt has been made to utilise the data as appropriate.

The four private speciality hospitals covering Neurosurgery, Cardiothoracic Surgery, Surgical Oncology and Orthopaedics included in the study are reputed, NABH accredited and cater to a large number of Government scheme patients.

7.4.3. CLINICAL PATHWAY METHODOLOGY

i. In-order to have a common platform for comparing the costs across hospitals for a particular specialty, there needs to be a standard pathway for the treatment of each of the procedures/surgeries concerned.

ii. The clinical pathway for each of the procedures/surgeries for each of the 4 specialties was defined by the Cardiothoracic Surgery, Neurosurgery, Surgical Oncology and Orthopaedic Societies which are independent clinical bodies. The final pathway was defined by the respective speciality association after inputs were received from independent experts in the field.

iii. The clinical pathway specified the following for each of the procedures/surgeries as per the Government scheme packages:

- No. of pre-admission visits
- No. of pre-operative days of stay in the hospital
- No. of hours of theatre usage for the procedure
- No. of post-operative days of stay in the ICU
- No. of post-operative days of stay in the post-operative wards
- No. of post discharge visits
- The list and number of investigations, drugs and consumables used for the respective procedure was also specified

iv. All the hospitals were asked to provide the cost in line with that specified in the clinical pathway
7.4.4. COSTING DATA FROM HOSPITALS

i. Identification of cost Items
   a) All the cost items were taken from the clinical pathway list specified by the respective speciality societies
   b) This included direct costs like the list and number of investigations, drugs and consumables

ii. Measurement of Cost Items
   a) For direct costs like that of the drugs and consumables used, costs in terms of the purchase was used
   b) For all the investigations, the logic behind the costing was defined by the hospitals

iii. Overheads
    For all the indirect costs considered, the overheads in terms of the heads considered and the apportioning of the same was done according to the logic as specified by each of the hospitals

iv. All collected data was clarified and standardised by experts from NABH and IIM-B.

7.4.5. AUDIT

i. Sampling of data
   a. Two phases of verification audits were conducted by the IIM-B team and the NABH team respectively
   b. During the first phase of the audit, random verification was done on the costs provided for drugs, consumables and investigations. In addition, the logic used in calculating the indirect costs for Ward, ICU, OT and OPD was verified
   c. During the second phase of audit conducted by an independent NABH team, the parameters assessed as mentioned in point (b) was randomly verified again

ii. Mapping with Audited Financial Statements
   a. The indirect cost calculation in line with the logic used for apportioning the costs was verified with the audited financial statements

iii. Verification of identification and Measurement of Cost Items
   a. The cost of Drugs and Consumables was verified using the purchase cost (including tax) for the items listed
   b. Indirect costs were verified using the audited financial statements as well as the logic used to apportion the costs
7.4.6. DECLARATION

Authenticity and accuracy of the information provided for the study, was certified by the respective Head or authorised signatory of the respective Institution.

7.4.7. DISCLAIMERS

i. Data for FY 2015-2016 of the 4 hospitals involved in the study was utilized to calculate the actual cost of the procedures.

ii. The data from the Government cardiology hospital is as provided by the hospital.

iii. The CGHS rates for oncology have been calculated as per the circular issued in September 2015 as these rates were applicable for a period of the seven months of the financial year under consideration for the study.

1a

Analysis of data provided by Government Cardiology hospital for 2015-2016

Data as provided by Government cardiology hospital (Not validated and not as per clinical pathway)

<table>
<thead>
<tr>
<th></th>
<th>CAG</th>
<th>PTCA</th>
<th>CABG</th>
<th>ASD</th>
<th>MVR</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Government Cardiology Hospital Cost (as per statement provided)</strong> only drugs, consumables, and food cost.</td>
<td>7,106</td>
<td>55,011</td>
<td>1,17,066</td>
<td>94,162</td>
<td>1,04,486</td>
</tr>
<tr>
<td><strong>Reimbursements made by various Govt schemes</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>VAS</td>
<td>55,000</td>
<td>95,000</td>
<td>90,000</td>
<td>1,20,000</td>
<td></td>
</tr>
<tr>
<td>Yeshaswini</td>
<td>6,500</td>
<td>70,000</td>
<td>85,000</td>
<td>85,000</td>
<td>1,35,000</td>
</tr>
<tr>
<td>Non-NABH</td>
<td>10,350</td>
<td>80,540</td>
<td>1,12,770</td>
<td>46,627</td>
<td>1,51,254</td>
</tr>
<tr>
<td>NABH</td>
<td>11,903</td>
<td>91,421</td>
<td>1,29,686</td>
<td>53,621</td>
<td>1,65,241</td>
</tr>
</tbody>
</table>

Above cost **does not include** salaries of employees, cost of building and maintenance of equipment. Investigations such as CT angiogram/MRI, Hormone test, etc., cost of implants such as stents, prosthetic valves, devices, pacemakers etc.,

It appears that the reimbursement made by the Government for many of the given procedures in Cardiology meets only the cost of drugs, consumables and food.
Comparison of package rates between 2013-2014 and 2015-2016

<table>
<thead>
<tr>
<th>Total Cost</th>
<th>CAG</th>
<th>PTCA</th>
<th>CABG</th>
<th>ASD</th>
<th>MVR</th>
</tr>
</thead>
<tbody>
<tr>
<td>2013-2014</td>
<td>5,329</td>
<td>53,076</td>
<td>96,644</td>
<td>85,764</td>
<td>88,725</td>
</tr>
<tr>
<td>2015-2016</td>
<td>7,106</td>
<td>55,011</td>
<td>1,17,066</td>
<td>94,162</td>
<td>1,04,486</td>
</tr>
<tr>
<td>Percentage increase</td>
<td>33.34%</td>
<td>3.64%</td>
<td>21.13%</td>
<td>9.79%</td>
<td>17.76%</td>
</tr>
</tbody>
</table>

The above indicates percentage increase in the cost of drugs, consumables, and food only of cardiac procedures at the Government Hospital. The average percentage increase is approximately 17.13% across all procedures, with a maximum increase of 33%. All data has been provided by the hospital.

1b

As per directions of Government of Karnataka, a comparison was made with the revised rates for the year (2017) under VAS and the actual costs incurred by participating hospitals for the year (2015-16)

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Actual Cost incurred by hospital in 2015-16</th>
<th>Govt Revised Cost 2017</th>
<th>Percentage being reimbursed by Govt</th>
</tr>
</thead>
<tbody>
<tr>
<td>PTCA</td>
<td>85,818</td>
<td>48,000</td>
<td>55.9</td>
</tr>
<tr>
<td>Mitrval Valve replacement</td>
<td>2,77,609</td>
<td>1,30,000</td>
<td>46.8</td>
</tr>
<tr>
<td>Amputation Major (Above Knee)</td>
<td>94,003</td>
<td>35,000</td>
<td>37.2</td>
</tr>
<tr>
<td>Lumbar Discetomy</td>
<td>81,769</td>
<td>30,000</td>
<td>36.7</td>
</tr>
<tr>
<td>VP Shunt</td>
<td>1,09,689</td>
<td>27,000</td>
<td>24.6</td>
</tr>
<tr>
<td>Craniotomy and Evacuation of tumours</td>
<td>2,05,358</td>
<td>80,000</td>
<td>39.0</td>
</tr>
<tr>
<td>Aneurysm clipping</td>
<td>3, 55,412</td>
<td>1,10,000</td>
<td>30.9</td>
</tr>
<tr>
<td>Abdominal Perineal Resection</td>
<td>1,25,992</td>
<td>50,000</td>
<td>39.7</td>
</tr>
</tbody>
</table>
### 7.5. MAIN STUDY- COST DATA ANALYSIS

#### 7.5.1. CARDIOThorACIC SURGERY

<table>
<thead>
<tr>
<th>Procedure Name</th>
<th>Actual cost incurred by Hospital</th>
<th>Karnataka Government Package Rate</th>
<th>CGHS Package Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>2015-16 Reimbursed Rate in %</td>
<td></td>
</tr>
<tr>
<td>CAG</td>
<td>17,320</td>
<td>Nil</td>
<td>37.5</td>
</tr>
<tr>
<td>PTCA Stent1</td>
<td>85,818</td>
<td>64.1</td>
<td>81.6</td>
</tr>
<tr>
<td>CABG</td>
<td>1,88,231</td>
<td>50.5</td>
<td>45.2</td>
</tr>
<tr>
<td>Atrial Septal Defect Repair</td>
<td>1,59,438</td>
<td>56.4</td>
<td>53.3</td>
</tr>
<tr>
<td>Mitral Valve Replacement</td>
<td>2,77,609</td>
<td>43.2</td>
<td>48.6</td>
</tr>
</tbody>
</table>

#### 7.5.2. ORTHOPAEDIC

<table>
<thead>
<tr>
<th>Procedure Name</th>
<th>Actual cost incurred by Hospital</th>
<th>Karnataka Government Package Rate</th>
<th>CGHS Rate Package</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Reimbursed Rate in %</td>
<td></td>
</tr>
<tr>
<td></td>
<td>INR</td>
<td>VAS</td>
<td>Yeshasvini</td>
</tr>
<tr>
<td>Arthroscopic Knee ligament reconstruction</td>
<td>1,30,254</td>
<td>34.5</td>
<td>43.3</td>
</tr>
<tr>
<td>Total Hip replacement with un cemented prosthesis</td>
<td>2,05,615</td>
<td>51.1</td>
<td>48.1</td>
</tr>
<tr>
<td>Total Knee replacement</td>
<td>1,98,207</td>
<td>53.0</td>
<td>75.2</td>
</tr>
<tr>
<td>Arthroscopy Diagnostic</td>
<td>42,549</td>
<td>22.6</td>
<td>18.1</td>
</tr>
<tr>
<td>Amputation Major (Above Knee)</td>
<td>94,003</td>
<td>31.9</td>
<td>19.1</td>
</tr>
</tbody>
</table>
### 7.5.3. NEUROSURGERY

<table>
<thead>
<tr>
<th>Procedure Name</th>
<th>Actual cost incurred by Hospital</th>
<th>Kamataka Government Package Rate</th>
<th>CGHS Package Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abdominal Perineal Resection</td>
<td>2,05,358</td>
<td>22.8</td>
<td>22.8</td>
</tr>
<tr>
<td>Cervical Disectomy</td>
<td>1,09,689</td>
<td>22.2</td>
<td>18.2</td>
</tr>
<tr>
<td>Ventricular Peritoneal Shunt</td>
<td>1,11,758</td>
<td>26.8</td>
<td>26.8</td>
</tr>
<tr>
<td>Orchiectomy and Evacuation of tumours</td>
<td>1,45,143</td>
<td>34.4</td>
<td>31.0</td>
</tr>
<tr>
<td>Hysterectomy for cancer</td>
<td>1,04,263</td>
<td>24.0</td>
<td>24.0</td>
</tr>
<tr>
<td>Thyroidectomy</td>
<td>81,769</td>
<td>30.6</td>
<td>36.7</td>
</tr>
<tr>
<td>Lumbar Disectomy</td>
<td>74,954</td>
<td>33.4</td>
<td>66.7</td>
</tr>
<tr>
<td>Cervical Disectomy</td>
<td>47,409</td>
<td>31.6</td>
<td>38.0</td>
</tr>
<tr>
<td>Vascular Peritoneal Shunt</td>
<td>3,55,412</td>
<td>28.1</td>
<td>22.5</td>
</tr>
</tbody>
</table>

### 7.5.4. SURGICAL ONCOLOGY

<table>
<thead>
<tr>
<th>Procedure Name</th>
<th>Actual cost incurred by Hospital</th>
<th>Kamataka Government Package Rate</th>
<th>CGHS Package Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mastectomy for cancer breast</td>
<td>31.7</td>
<td>39.7</td>
<td>60.6</td>
</tr>
<tr>
<td>Orchiectomy</td>
<td>31.6</td>
<td>38.0</td>
<td>87.7</td>
</tr>
<tr>
<td>Hysterectomy for cancer</td>
<td>34.4</td>
<td>31.0</td>
<td>54.0</td>
</tr>
<tr>
<td>Thyroidectomy</td>
<td>24.0</td>
<td>24.0</td>
<td>38.8</td>
</tr>
</tbody>
</table>
7.6. INFERENCES

This is an indicative study comparing 20 commonly done procedures. This study reveals the following:

i. The Government schemes have different rates for the same procedure

ii. Private hospitals in the study are providing treatment at subsidised rates for most scheme patients being treated by them

7.7. LIMITATIONS

i. The cost was calculated based on the information given by the hospitals participating in the study. Therefore, there will be a variation in the cost of items from hospital to hospital

ii. The cost arrived at for each of the procedures would be the actual cost incurred if the clinical pathway as defined by the specialty societies are adhered to. This does not take into account cost towards the management of co-morbid conditions and complications

iii. The standard clinical pathway described is for an individual undergoing the procedure or surgery and assumes that there are no complications. It does not take into account the pre-existing benchmark for complication rates across the country or state for the particular procedure or surgery

iv. All schemes cover the cost of take home medicine, and only some schemes cover patient transportation cost. However, both these costs have not been included in this costing analysis

v. It is presumed that, all payments to empanelled Hospitals are being made as stipulated in the Memorandum of understanding

vi. The study was limited to 4 hospitals in Bangalore. A comparison between different hospitals would have given us more insights

vii. The four selected hospitals being NABH accredited are presumed to be operationally efficient

7.8. RECOMMENDATIONS

i. Uniform reimbursement across various Schemes for the same procedures is recommended
ii. Similar studies using similar methodology to be carried out for all procedures under the scheme, and also at Tier 2 and Tier 3 cities, both in Private and Government Hospitals including Kidwai Memorial Institute of Oncology (KMIO) and National Institute of Mental Health and Neurosciences (NIMHANS).

iii. With the Government of Karnataka’s ambitious project of providing Universal Health Care to its citizens, there is a need for the Government and the private players in healthcare to work in closer coordination to provide quality healthcare, centred around patient safety which is realistic and sustainable for the scheme.

Government of Karnataka to ensure healthcare to the most deserving at scheme rates to be reimbursed by the Government.

Other than the most deserving, under the Universal Health Care the private healthcare provider shall be paid at hospital rate. Co-payment as is being allowed in some Government of Karnataka schemes could be one of the options.

This model could be sustainable provided there is cross subsidy by the latter of the former.

iv. Periodic review of financial compensation and related support to beneficiaries to ensure that increasing medical costs are taken cognizance of in ensuring affordable health care to all.

This mutuality between the Government and Private sector for affordable healthcare security is unprecedented and unique in our country in ensuring healthcare for all.
8. OVERARCHING IMPLEMENTATION & REVIEW FRAMEWORK FOR KPHP

The implementation of the policy aims at ensuring harmony, improving efficiency, clarifying roles of relevant stakeholders and effective involvement of communities, Non-Governmental organizations and development partners through the proposed structures. The State health policy will be implemented through a ten-year State integrated strategic plan with agreed goals/targets that respond to the needs of essential health programmes and the population.

Figure 6: Health Policy Implementation Framework
There are a number of stakeholders whose policies and activities will directly or indirectly impact on the implementation of this Policy. To ensure effective implementation of the recommendations a standing committee on monitoring is to be constituted as suggested.

8.1. Stakeholders’ Suggested Role in State Health Policy Implementation

The Task Force on Karnataka Public Health Policy (TF-KPHP) conducted a detailed analysis of the current health status in the State. It also reviewed the hurdles faced in implementation due to the vast inter-dependent and cross-functional organizational structure of the State. While the Department of Health and Family Welfare provides leadership in policy implementation of issues in the health sector, there are several aspects (like pollution, safe drinking water and sanitation etc.) that do not come under its purview although they greatly affect the health status of our country such as:

i. The Finance Department for funding on sector-wide approaches
ii. The Education Department to ensure health education and community empowerment
iii. The Agriculture Department for food safety and affording nutritious food especially to vulnerable communities
iv. The Public Distribution System which comes under the Food, Civil Supplies and Consumer Affairs Department to ensure accessible and balanced nutrition to the target population especially in districts where the malnutrition ratio is high
v. The Labour Department to collect vital information related to health and welfare services, especially for the unorganized sector
vi. The Forest, Ecology and Environment Department to handle pollution and maintain the green cover of the State to avoid environment-related health risk factors
vii. The Department of Water Resources in providing safe drinking water to all, specifically in healthcare centers
viii. The Department of Science & Technology and IT &BT in promoting health sciences and creating awareness on the usage of traditional medicine practices using ICT’s
ix. The Department of Commerce and Industries to develop State-relevant pharmaceutical production, food price market monitoring and quality assessment
x. The Department of Rural Development and Panchayat Raj to develop district and taluka level autonomous professional managed healthcare trusts to address the local health service requirement
xi. The Department of Women and Child Development to oversee the welfare and development of women, children, elderly and disabled of the state

xii. The Urban Development Department to manage solid, liquid and bio-medical waste management, as derivatives of health have a bearing on health outcomes for which department of health is responsible

All of these issues directly affect the state health status but are separate from the Department of Health, and are not addressed in the recommendations that follow. Similarly, the topics of palliative care and the Clinical Establishment Act are beyond the purview of this report and have not been addressed herein, as separate government bodies have been established to examine them. However, Organ Transplant is an issue which also needs to be addressed from the patient’s point of view and the Government should take a relook at the present Act. Allowing foreign nationals to be listed for transplant in accordance with the transplant Act will help in optimal utilization of available human organs.

Research in the field of medicine forms the stepping stone to newer and innovative healthcare initiatives. Therefore, there is a need for advanced research in medical field – clinical, medical, disease and epidemics, pharma to encourage and promote research in Health Institutions.

<table>
<thead>
<tr>
<th>Depts/Key policy actor/s</th>
<th>Role</th>
</tr>
</thead>
</table>
| Chief Minister           | ▪ Clarify and set mandate to the department of health.  
                           | ▪ Ensure the implementation of health policy through inter-sectoral coordination |
| The Cabinet              | ▪ Ensure adequate legislative, legal and administrative support/framework.  
                           | ▪ Review the performance through the legislative committee on health. |

I- Healthcare interventions that promote health (Proximal determinants of health)

| Health Department         | Oversee and provide leadership in health policy implementation. The department shall also lead the process of agenda-setting on various issues identified with other related departments |
| Department of Finance     | Support the department of health in developing the health sector wide comprehensive sustainable health |
### KJAR Recommendation
**Karnataka Public Health Policy**

<table>
<thead>
<tr>
<th>Department</th>
<th>Functions and Interventions</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Development pool of funds and health financing approaches as specified in the health policy</strong></td>
<td></td>
</tr>
<tr>
<td><strong>II- Social policy interventions that reduce inequity (social determinants of health)</strong></td>
<td></td>
</tr>
<tr>
<td>Department of Education</td>
<td>Ensure health education, communication for community empowerment</td>
</tr>
<tr>
<td>Department of Agriculture</td>
<td>Ensure food safety, security, affordable nutritious food to all especially to the vulnerable.</td>
</tr>
<tr>
<td>Department of Public Distribution System</td>
<td>Ensure accessible, balanced food grains to all vulnerable populations in the State. Establish monitoring and evaluation through e-portal to monitor the indicators.</td>
</tr>
<tr>
<td>Department of Labour</td>
<td>Ensure safe working conditions through proper regulations and implementation of those regulations. Develop monitoring indicators and improve vital information related to labour health and welfare services</td>
</tr>
<tr>
<td>Department of Forest, Environment</td>
<td>Collaborate with department of health and develop a Health Disease and environmental Risk Factors Surveillance Systems. Implement environmental improvement programs to reduce health risk factors.</td>
</tr>
<tr>
<td>Department of Transport</td>
<td>Priority could be given to develop healthcare centers accessibility by expanding road networks.</td>
</tr>
<tr>
<td>Department of Water Resources</td>
<td>Provision of safe drinking water to all, more specifically to all healthcare centres in the State.</td>
</tr>
<tr>
<td>Department of Energy</td>
<td>Provision of sustainable renewable energy for all</td>
</tr>
<tr>
<td>Department of Youth Empowerment</td>
<td>Create an environment for youth behavioral change communication.</td>
</tr>
<tr>
<td>Karnataka state health commission</td>
<td>Oversee and advise the health sector on policy promotion, policy implementation monitoring and possible legislation to health issues wherever necessary.</td>
</tr>
<tr>
<td>Department of Science, Technology and IT/BT</td>
<td>Promote State relevant health science/molecular science research in collaboration with the department of health.</td>
</tr>
</tbody>
</table>
### KJA RECOMMENDATION
#### KARNATAKA PUBLIC HEALTH POLICY

<table>
<thead>
<tr>
<th>Department/Agency</th>
<th>Recommendation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Small and Medium Scale Industries</td>
<td>Promote research in AYUSH, traditional medicine practices, traditional plants to preserve and promote local health healing options.</td>
</tr>
<tr>
<td>Department of Commerce and Industries</td>
<td>In collaboration with the department of health develop state relevant pharmaceutical production and supply at affordable prices.</td>
</tr>
<tr>
<td>Department of Rural Development and Panchayati Raj</td>
<td>In collaboration with the department of health, develop food price market monitoring-surveillance systems. Conduct of Food quality assessment and use appraisal system.</td>
</tr>
<tr>
<td>Department of Women and Child Development</td>
<td>In collaboration with the department of health, to oversee the welfare and development of women, children, elderly and disabled of the state.</td>
</tr>
<tr>
<td>Department of Urban Development</td>
<td>Manage solid, liquid and bio-medical waste management, as derivatives of health have a bearing on health outcomes for which department of health is responsible.</td>
</tr>
</tbody>
</table>

### 8.2. CABINET SUB-COMMITTEE

As ensuring effective implementations of the recommendations is an integral component of the Karnataka Public Health Policy, there is a need for the creation of a committee to be named as Karnataka Health Commission, comprising of group of Secretaries of the concerned Departments and eminent personalities under the chairmanship of Hon'ble Minister for Health/Chief Secretary to the Government, which is to be setup as part of the Cabinet subcommittee to coordinate and oversee the implementation of the various recommendations to the inter-connected ministries to achieve the goals.
This policy represents a commitment towards improving the health of the people of Karnataka by significantly reducing ill health. The policy proposes a comprehensive and innovative approach to addressing the health agenda, which represents a radical departure from past approaches to addressing the health challenges in the State. This policy was developed through an inclusive and participatory process involving all stakeholders in the health sector and related sectors. The policy defines the health objectives, principles, orientations and strategies aimed at achieving the highest standard of healthcare in Karnataka. It also outlines a comprehensive implementation framework to achieve the stated policy vision and objectives. It delineates the roles of the different stakeholders in the sector in delivering the health agenda and details the institutional management arrangements under the devolved system of Government, taking into account the specific roles of the various State ministries. It therefore provides a structure that harnesses and gives synergy to health service delivery at all levels of Government.

The policy defines the monitoring and evaluation framework to enable tracking of the progress made in achieving its objectives. The monitoring of progress shall be based on the level of distribution of health services; responsiveness of health services to the needs of the people; progress in respective disease domain areas, including both proximal and distal determinants of health and the policy interventions of health-related sectors.

The task force has also given an implementation framework as part of the policy recommendations to enable effective execution by the Government with periodic review.

These policy recommendations are the result of the efforts of more than 150 experts from all over the country. It is our hope that if these comprehensive, integrated and inter-related recommendations are implemented, the State of Karnataka would take the lead in assuring the availability of quality healthcare to all citizens.

-------------------------------------------------------------------------X-------------------------------------------------------------------------
ANNEXURE I: ROAD MAP FOR IMPLEMENTATION OF RECOMMENDATIONS

The roadmap for implementing various subcommittee recommendations are categorised in to immediate implementation (0 to 1 years), short to medium term(1-2years) and medium to long term (2to 5 years). There will be a review at the end of 5 years. Details are given as per the priority recommended for implementation.

RECOMMENDATIONS OF THE SUBCOMMITTEE ON PRIMARY HEALTH CARE

<table>
<thead>
<tr>
<th>Recommendations</th>
<th>Immediate: (0 to 1 Year)</th>
<th>Short to Medium term: (1 to 2 years)</th>
<th>Medium to Long term (2 to 5 years)</th>
<th>Executing Orders/ action by Government of Karnataka</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reservation of Medical seats under Public Health Service category</td>
<td>• During intake for MBBS, there should be reservation under the “Public Health Service” category, wherein it will be mandatory to serve in rural areas</td>
<td></td>
<td></td>
<td>Principal Secretary, Health</td>
</tr>
<tr>
<td>Mandatory Rural health service at PG level</td>
<td>Immediate</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Efficient diagnostic services at PHC level</td>
<td>• Diagnostic facility for critical infectious diseases (like for H1N1; chikangunya etc) to be made available or extended to the PHC level</td>
<td>Immediate</td>
<td></td>
<td>Principal Secretary, Health</td>
</tr>
<tr>
<td>Recommendations</td>
<td>Immediate: (0 to 1 Year)</td>
<td>Short to Medium term: (1 to 2 years)</td>
<td>Medium to Long term (2 to 5 years)</td>
<td>Executing Orders/ action by Government of Karnataka</td>
</tr>
<tr>
<td>------------------</td>
<td>--------------------------</td>
<td>------------------------------------</td>
<td>----------------------------------</td>
<td>-----------------------------------------------</td>
</tr>
<tr>
<td>PHC adoption by Medical Colleges</td>
<td>• Medical colleges to adopt PHCs in their neighborhood to improve upon their services</td>
<td>• Enhancing services and providing adequate staff</td>
<td>• Enhancement of Preventive and Promotive services</td>
<td>Principal Secretary, Health and Dean of concerned college</td>
</tr>
<tr>
<td>Communitisation</td>
<td>• Understanding the community setting is the first priority.</td>
<td>• Gender sensitization of the health system and of all health providers is a priority</td>
<td>• Integration of primary, secondary and tertiary care services</td>
<td>• A policy framework and implementation plan for handing over ownership and management to community.</td>
</tr>
<tr>
<td></td>
<td>• Needs assessment studies, for proper implementation of health care services.</td>
<td>• Take proactive measures to make health care institutions women-friendly, child-friendly, elderly-friendly, disability-friendly, friendly to sub-groups that face relentless exclusion (homeless or transgender).</td>
<td>• Integration of preventive, promotive, diagnostic, curative, rehabilitative and palliative services</td>
<td>• Documentations for Follow up, monitoring and supervision.</td>
</tr>
<tr>
<td></td>
<td>• Involvement of village health and sanitation committee and nutrition committee involvement should be maximized.</td>
<td></td>
<td>• Integration of AYUSH, allopathic and other non-allopathic services</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• To understand the community organizing Fgd’s is the best way with different groups like married men and women, unmarried men and women), they can open up freely with their peer group. It should be easy to understand their needs regarding health issues.</td>
<td></td>
<td>• Integration of services offered by public, private,</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Identifying key persons or community responsible person. Whom the community will listen and obey their orders.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Principal Secretary-Health</td>
<td></td>
</tr>
</tbody>
</table>
## KJA Recommendation
### Karnataka Public Health Policy

<table>
<thead>
<tr>
<th>Recommendations</th>
<th>Immediate: (0 to 1 Year)</th>
<th>Short to Medium term: (1 to 2 years)</th>
<th>Medium to Long term (2 to 5 years)</th>
<th>Executing Orders/ action by Government of Karnataka</th>
</tr>
</thead>
</table>
| **Health Service Delivery** | • Allow Medical officers, ANMs and others to perform the job tasks they are supposed to do, job tasks and terms are to be clearly delineated.  
• Mapping of the time spent by ANM in performing actual job responsibilities.  
• Develop the subcenters as HWCs. Time spent at sub-centre and outreach centers should be maximized by allocation of needed resources. | • Provide the required infrastructure and transport facilities to the health workers.  
• Provision of Technical audits using Standard Treatment Guidelines (STGs) and compliance. | • The health department should constitute mechanisms to build and implement the roadmap for integration.  
• Enforcement Accountability mechanisms introduced | The department should deliberate and issue government orders for the following:  
• Guidelines on best utilization of time spent by ANM.  
• Structure, content and mechanisms of review at different levels |
| **Community** | • Rough graphical map of community important places and local resources, which can help to organize health services in upcoming days.  
• Start identifying groups (Like SHG’s, Anganwadi’s and peer educators) by interacting with the panchyath members and with community. | | community organizations, NGOs and trusts.  
• Integration of physician and non-physician led service  
• Focus on Health care along with addressing social determinants | |
<table>
<thead>
<tr>
<th>Recommendations</th>
<th>Immediate: (0 to 1 Year)</th>
<th>Short to Medium term: (1 to 2 years)</th>
<th>Medium to Long term (2 to 5 years)</th>
<th>Executing Orders/ action by Government of Karnataka</th>
</tr>
</thead>
</table>
|                 | • The fixed tour program of the ANMs and reviews by MOs should be enhanced with stronger support.  
• Involvement of ASHA workers and train them, to identify the minor elements in the community.  
• Organizing Health camps (ex, health checkups) at the community level periodically.  
• Organizing different folk shows street plays one to one interactions related health issue  
• Introduction of public health cadre | • Initiate the career pathway structures for all levels of health workers.  
• Ensuring universal health coverage through equitable primary, secondary and tertiary health care services should be focused immediately. | through the National Health Mission such as Community Monitoring | • Guidelines for Finalizing the fixed tour program of the ANMs and reviews by MOs  
• Guidelines for Technical audit using Standard Treatment Guidelines (STGs) and compliance.  
• White Paper on universal health coverage through equitable primary, secondary and tertiary health care services should be focused immediately. |
| Improving the Efficiency | • To convert the existing sub centers to Health and Wellness Centers | • The nurse health practitioners should be  
• Follow ups, monitoring and evaluation and | | Principal Secretary, Health |

---

**Principal Secretary, Health**
<table>
<thead>
<tr>
<th>Recommendations</th>
<th>Immediate: (0 to 1 Year)</th>
<th>Short to Medium term: (1 to 2 years)</th>
<th>Medium to Long term (2 to 5 years)</th>
<th>Executing Orders/action by Government of Karnataka</th>
</tr>
</thead>
<tbody>
<tr>
<td>(HWC) to improve services should be focused.</td>
<td>placed at HWCs focus more on health promotion and primary health care at sub centers.</td>
<td>quality assurance should be team from ministry and family welfare</td>
<td>period of time health promotion as the primary focus at HWCs.</td>
<td></td>
</tr>
<tr>
<td>• The state should develop a policy framework for implementation of HWCs and implement this over a period of time health promotion as an approach at HWCs.</td>
<td>• Different training, clinical awareness, and treatment training should be given to the identified practitioners.</td>
<td>• A nurse health practitioner (NHP) can lead the team at HWC skilled to provide modern medicine care in addition to preventive and promotive public health. The Indian nursing council can certify the NHPs, and an independent body set up by the health department can help in flexing Schedule K.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Introduce the Primary Health Care team at village and community level.</td>
<td>• Implement quality improvement protocols in PHCs</td>
<td>• Accreditation and rolling out of Nurse Health Practitioner in Karnataka to be</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Up gradation of Anganwadi centers with good and improved infrastructure.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Periodic health checkups for the anganwadi helpers, ANMs, ASHAs and other women staff members/volunteers</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Recommendations</td>
<td>Immediate: (0 to 1 Year)</td>
<td>Short to Medium term: (1 to 2 years)</td>
<td>Medium to Long term (2 to 5 years)</td>
<td>Executing Orders/ action by Government of Karnataka</td>
</tr>
<tr>
<td>------------------</td>
<td>--------------------------</td>
<td>-----------------------------------</td>
<td>----------------------------------</td>
<td>---------------------------------------------------</td>
</tr>
<tr>
<td>Principal Secretary, Health</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- Introduce the Primary Health Care team at village and community level.
- Policy document on Best practices for establishing clear terms of reference for local health associations.
- Establishing and operating quality control and efficiency programs for healthcare organizations.
- Review and revamp the Clinical Establishment Act.
<table>
<thead>
<tr>
<th>Recommendations</th>
<th>Immediate: (0 to 1 Year)</th>
<th>Short to Medium term: (1 to 2 years)</th>
<th>Medium to Long term (2 to 5 years)</th>
<th>Executing Orders/ action by Government of Karnataka</th>
</tr>
</thead>
</table>
| Community Participation and Equity | • Ensuring that the health committee are established properly  
• Involvement and Training to of ASHA/ Anganwadi workers and health workers to provide health educational activities in the community. | • ASHA workers and others will help to identify and increasing participants, representatives from the different community | • Enforce Review and Accountability mechanisms | • Government guidelines on management and sustenance by the local self-governments.  
• Guidelines on community ownership and handling of administrative and financial mechanisms. |
| Addressing social Determinants of health | • Improving the health service delivery and strengthening health system in rural areas  
• Reducing mortality rate in rural areas.  
• Increasing women’s access to health seeking services.  
• Addressing key determinants like child development, nutrients and sanitisation. | • High focus on weaker rural areas.  
• Integrated monitoring team  
• Reducing out pocket expenditure | • Intensive monitoring and evaluation.  
• Annual health surveys. | • Government orders and guidelines for phase wise implementation of Universal Health Coverage in Karnataka.  
• Government should ensure |
<table>
<thead>
<tr>
<th>Recommendations</th>
<th>Immediate: (0 to 1 Year)</th>
<th>Short to Medium term: (1 to 2 years)</th>
<th>Medium to Long term (2 to 5 years)</th>
<th>Executing Orders/ action by Government of Karnataka</th>
</tr>
</thead>
</table>
|                 | • Gender sensitisation programs  
• Advocacy programs  
• The state should develop a policy framework for implementation of universal health coverage and implement this over a period of time as an approach.  
• Organizing Advocacy programs  
• Some innovations such as rehabilitation centers, swach panchayth yogana and school health programs. | • Improve delivery of health care services by creation of efficient public health cadre  
• Retain doctors for long term  
• Public health implementing, teaching and research.  
• Trained Nurse to lead the team at sub center  
• Doctors to provide Supportive supervision.  
• Continued professional development | • A G.O has to immediately issue enacting public health cadre. Necessary C&R rules have to be amended.  
• Initiate the career pathway structures for all levels of health workers.  
inter-sectoral coordination at several levels to follow the social determinant approach to health. |

| Health Workforce | Create public health cadre, clinical services cadre and training cadre.  
• Revision of skills and upgrading qualification of staff its ongoing process.  
• Community involvement and participation  
• Improve delivery of health care services by creation of efficient public health cadre  
• Retain doctors for long term  
• Public health implementing, teaching and research.  
• Trained Nurse to lead the team at sub center  
• Doctors to provide Supportive supervision.  
• Continued professional development | • A G.O has to immediately issue enacting public health cadre. Necessary C&R rules have to be amended.  
• Initiate the career pathway structures for all levels of health workers. | Principal Secretary, Health  
Commissioner, Health & Family Welfare |

Principal Secretary, Health  
Commissioner, Health & Family Welfare
<table>
<thead>
<tr>
<th>Recommendations</th>
<th>Immediate: (0 to 1 Year)</th>
<th>Short to Medium term: (1 to 2 years)</th>
<th>Medium to Long term (2 to 5 years)</th>
<th>Executing Orders/action by Government of Karnataka</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health Financing</td>
<td>• Government should release funds time to time for the program implementation. It should also monitor that fund should be utilized in proper way not to be misused</td>
<td>• Funds should be released in limited heads it’s easy to monitor, how it will be utilized</td>
<td>• The fund flows related to utilize constitute a simple form of output based financing, with health and wellness centers which have a higher number of cases</td>
<td>• Guidelines for Continued professional development for different level of health workers. • Guidelines on Systematic needs assessment</td>
</tr>
</tbody>
</table>

Principal Secretary-Health

Director of Health & Family welfare

Principal Secretary-Health
**Recommendations**

<table>
<thead>
<tr>
<th>Recommendations</th>
<th>Immediate: (0 to 1 Year)</th>
<th>Short to Medium term: (1 to 2 years)</th>
<th>Medium to Long term (2 to 5 years)</th>
<th>Executing Orders/action by Government of Karnataka</th>
</tr>
</thead>
</table>
| **Improving Governance** | • Training the doctors on administration  
• Involvement of community based institutions, like mahila arogya samithi, and rogi kalian samithi  
• IEC/BCC activities  
• Information, Education and (Communication/Behavioral Change Communication activities) | • Organizing some outreach activities like healthy month, sanitation day and nutrition day etc.  
• Special meetings of Karnataka development plan on “health theme” | Empowered authorities to suit specific categories of tasks and contexts should modify the rules for procurement of goods and services.  
A state-of-the-art ‘Public Health Skills Laboratory’ (PHSL) for improving health for all sections of the people by addressing challenges in human resources in health needs to be established. | • Government spending on health needs to be increased to at least twice of that now  
• Operationalize comprehensive primary health care as per the GoI guidelines |

**Principal Secretary-Health**
# Recommendations of the Subcommittee on Healthcare Technology

<table>
<thead>
<tr>
<th>Recommendations</th>
<th>Short to Medium term (0 to 1 Year)</th>
<th>Medium to Long term (1 to 2 years)</th>
<th>Executing Officer, GOK</th>
</tr>
</thead>
</table>
| Connecting: Care Providers, Citizens and Administration: | Multilingual search engine can help a person even from village or small town to access healthcare, health information and provide feedback and suggestions. To be done through web portal and mobile app to:  
  - Locate nearby/ relevant healthcare facility (Govt and Private)  
  - Find OPD timings and Specialists available  
  - Get an appointment for a consultation if possible; especially for elderly and disabled.  
  - Provide feedback of the facility that one visits  
  - Access credible health information especially in relation to locally relevant diseases  
  - Access all the health / medical laws that can impact his life e.g. |  
  - 24x7x365 Health Toll Free Number and for seeking ambulance help.  
  - Centralized monitoring of all Public Health Parameters of Karnataka State  
  - Tools for Tracking and Mitigating of Exceptions  
  - War Room to Mitigate Serious Exceptions, Outbreaks, Major Fires, Droughts, Floods, Disaster, etc.  
  - Emergency Communication System to interact with Fire Brigade Control Room, Disaster Management Control Room, during Outbreaks, Major Fires, Droughts, Floods, Disaster, etc.  
  - A review of the existing Emergency Command Centre should be done to achieve above mentioned goals over next 2 years. | Commissioner, Health & Family Welfare |


<table>
<thead>
<tr>
<th>Recommendations</th>
<th>Short to Medium term (0 to 1 Year)</th>
<th>Medium to Long term (1 to 2 years)</th>
<th>Executing Officer, GOK</th>
</tr>
</thead>
<tbody>
<tr>
<td>Helping the population keeping their health record</td>
<td>Obtaining birth/ death certificate/ getting a disability certificate.</td>
<td>Execution of EHR for public should take place based on the outcome of phase 1</td>
<td>Principal Secretary, Health</td>
</tr>
<tr>
<td>Aim:</td>
<td>It was recommended that in Phase 1, the Government can initiate an open call to public and entrepreneurs to give their suggestions and proposals to achieve this aim in the most cost-effective way and a prize and support to be given to the winner. This should be over in the next 9 to 12 months.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Patient EHR in read-only format can be with patients on a simple multilingual App on patient’s smart phones. This EHR is embedded with a QR code that can be quick scanned right from the phone when the patients visit the hospital. Alternatively, patients without the smartphones can be given with an embedded USB stick that will have the EHR. This USB EHR Stick when plugged into the hospital systems will open up the EHR for a quick Read-only view. It would be prudent to store the data on</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Recommendations

<table>
<thead>
<tr>
<th>Short to Medium term (0 to 1 Year)</th>
<th>Medium to Long term (1 to 2 years)</th>
<th>Executing Officer, GOK</th>
</tr>
</thead>
<tbody>
<tr>
<td>the cloud than as local copies. The App can provide the secure interface to data on the cloud and can be used to provide one-time data access permissions for consultations. Hospitals should be able to access the data from cloud based on identity and biometric information in case of emergencies. Entrepreneurs can come with any other suggestion</td>
<td>We should roll out the identified HIS in Phase 1. HIS usage even in small hospitals who do not have necessary funding needs to be encouraged. Funds for implementing the HIS can be a part of CSR initiative. Insurance companies should be roped in to promote use of HIS in hospitals.</td>
<td>Director, Health &amp; Family Welfare</td>
</tr>
</tbody>
</table>

### Hospitals Using HIS

- In the market, we have various vendors providing HIS solutions to hospital at variable cost. Most of them are not registered. It was suggested to have a registry of those vendors and products. Need to mandate support for interoperability standards like HL7 or FHIR. Otherwise the vendor fragmentation becomes a complex problem to solve.
- A Government backed/mandated Cloud HIS with a high degree of scalability is very much need of the hour in Phase 1. We should look at identifying an open source cheap HIS solution.
<table>
<thead>
<tr>
<th>Recommendations</th>
<th>Short to Medium term (0 to 1 Year)</th>
<th>Medium to Long term (1 to 2 years)</th>
<th>Executing Officer, GOK</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mobile Apps for healthcare</td>
<td>- Programs are available for monitoring quality norms in hospitals and they should be adopted.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>- As there are large number of Healthcare and wellness apps and devices available in the market, it was suggested to setup a standing screening committee to decide on the privacy policy and guidelines to screen the apps and devices so that appropriate recommendations can be given to citizens.</td>
<td>- Based on the study conducted in phase 1, It was suggested that the state should make use of Mobile apps and IOT on priority to tackle:</td>
<td>Director, Health &amp; Family Welfare</td>
</tr>
<tr>
<td></td>
<td>- A registry of all the healthcare apps and vendors be started.</td>
<td>- Maternal Care</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Based on the study conducted in phase 1, It was suggested that the state should make use of Mobile apps and IOT on priority to tackle:</td>
<td>- Infant Care</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Non-Communicable Diseases: Identifying all n cases to provide help and guidance.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Elder care and mental health care</td>
<td></td>
</tr>
<tr>
<td>Facilitating Receiving Feedback</td>
<td>- The patient feedback of services can be captured the easiest on a multilingual app with smartphones and tablets.</td>
<td></td>
<td>Commissioner, Health &amp; Family Welfare</td>
</tr>
<tr>
<td></td>
<td>- On the fly, editable forms to suit every hospital can be created to suit every location and every ailment distinctly.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>- With graphical report and data reports, feedback analysis can reach out to the decision makers</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Recommendations</td>
<td>Short to Medium term (0 to 1 Year)</td>
<td>Medium to Long term (1 to 2 years)</td>
<td>Executing Officer, GOK</td>
</tr>
<tr>
<td>------------------</td>
<td>--------------------------------------------------------------------------------------------------</td>
<td>-----------------------------------</td>
<td>------------------------</td>
</tr>
</tbody>
</table>
| Instantly and periodically enabling service improvements.  
  Another mode could be through a simple visual kiosk within the hospital with patient ID triggered application. |                                                                                       |                                    |
| Home care & Elder care  
  With the advent new technology like the IoT, today patients can be effectively monitored at home. All the vital signs of pulse, BP, blood glucose, ECG and weight can be tracked with apps residing on smartphones and IOT. The main purpose is the use of technology in minimizing visits to a healthcare center. The scope of providing healthcare at home can be enormous. Assistive devices and monitors for Elder care and people with disability can be implemented.  
  It was suggested that the GoK should have a separate cell for continuous updating and advice to public regarding new apps and devices that can help people in reducing number of visits and stay |                                      | Principal Secretary, Health          |
<table>
<thead>
<tr>
<th>Recommendations</th>
<th>Short to Medium term (0 to 1 Year)</th>
<th>Medium to Long term (1 to 2 years)</th>
<th>Executing Officer, GOK</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Telemedicine/Telecare</strong></td>
<td>• Today Telecare services can work with more realistic evaluations of remote patients with myriad devices talking to apps residing on smartphones that transmit real time data to care providers &amp; decision makers on a number of clinical scenarios. This is thus very useful tool in providing healthcare to people at affordable cost keeping in mind the shortage of specialists in the country.</td>
<td>• The execution of Tele services can spill on to the next year also.</td>
<td>Director, Health &amp; Family Welfare</td>
</tr>
<tr>
<td><strong>E-ICU:</strong></td>
<td>Following specific projects should be undertaken:</td>
<td></td>
<td>Director, Health &amp; Family Welfare</td>
</tr>
<tr>
<td></td>
<td>• It was reported that every year 2% of population in India come down to poverty because of admission to critical care facility. Mature technology is available and a subcommittee can evaluate the best option. This will have a great impact in making critical care services available at CHC and District levels. A service level</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## Recommendations

<table>
<thead>
<tr>
<th>Recommendations</th>
<th>Short to Medium term (0 to 1 Year)</th>
<th>Medium to Long term (1 to 2 years)</th>
<th>Executing Officer, GOK</th>
</tr>
</thead>
</table>
| **Tele Radiology** | Agreement can be signed with the technology providers to ensure good services and outcome.  
- A block diagram of the remote patient monitoring using E-ICU is as follows | **Tele Radiology:**  
- This is also a well-developed modality which should be adopted to improve TAT (Turnaround Time) for delivering radiology reports and also to tackle shortage of radiologists.  
- A standing committee should be formed to evaluate the performance of the above and to add more telemedicine solutions.  
- A pilot project on deployment of Automatic Medicine Vending Machine can be undertaken after working out the logistics that this facility is not misused at a later stage.  
- Telemedicine and healthcare IoT are the enablers for a future healthcare system bridging the | **Director, Health & Family Welfare** |

- General Consultation: A state run tele health portal can give citizens access to timely advice and quality care at remote centers. The state can also have public private partnerships to get access to specialists from private hospitals of modern system and alternate system of medicine.
### Recommendations of the Subcommittee on Training of Healthcare Staff

<table>
<thead>
<tr>
<th>Recommendations</th>
<th>Immediate (0 to 1 Year)</th>
<th>Medium term (1 to 2 years)</th>
<th>Long term (2 to 5 years)</th>
<th>Executing Officer, Government of Karnataka</th>
</tr>
</thead>
<tbody>
<tr>
<td>Creating intermediate specialists by promoting diploma courses under College of Physicians and Surgeons (CPS) Institute, Mumbai</td>
<td>Immediate</td>
<td></td>
<td></td>
<td>Principal Secretary, Health</td>
</tr>
</tbody>
</table>

**Karnataka Public Health Policy**

**Recommendations**

<table>
<thead>
<tr>
<th>Recommendations</th>
<th>Short to Medium term (0 to 1 Year)</th>
<th>Medium to Long term (1 to 2 years)</th>
<th>Executing Officer, GOK</th>
</tr>
</thead>
<tbody>
<tr>
<td>time/distance gap and solving the continuous monitoring and care problem. Ubiquitous availability of telemedicine stations and accessibility of experts on the system either through the app or through telemedicine stations can bring a revolution in patient-doctor relationship/experience. For some of the above use cases personalized medical devices can be provided on a rental model.</td>
<td>time/distance gap and solving the continuous monitoring and care problem. Ubiquitous availability of telemedicine stations and accessibility of experts on the system either through the app or through telemedicine stations can bring a revolution in patient-doctor relationship/experience. For some of the above use cases personalized medical devices can be provided on a rental model.</td>
<td>time/distance gap and solving the continuous monitoring and care problem. Ubiquitous availability of telemedicine stations and accessibility of experts on the system either through the app or through telemedicine stations can bring a revolution in patient-doctor relationship/experience. For some of the above use cases personalized medical devices can be provided on a rental model.</td>
<td></td>
</tr>
<tr>
<td>Recommendations</td>
<td>Immediate (0 to 1 Year)</td>
<td>Medium term (1 to 2 years)</td>
<td>Long term (2 to 5 years)</td>
</tr>
</tbody>
</table>
---|---|---|---|---|
<p>| The number of PG seats being made available should be increased with the long-term objective of having twice the number of undergraduate seats. Each district should have a medical college Reservation in MBBS, for those opting for Public Health Cadre (to serve in rural areas) | Immediate | | | Principal Secretary, Health |
| To start the Diplomate of National Board examinations in various specialties at Govt. District hospitals | Immediate | | | Commissioner, HFV |
| Insist on rural bond of 2 years for such candidates post DNB | Immediate | | | Director SIHFV |
| To start Nurse Practitioner programme for registered nurses and other such programs | Immediate | | | Director SIHFV |</p>
<table>
<thead>
<tr>
<th>Recommendations</th>
<th>Immediate (0 to 1 Year)</th>
<th>Medium term (1 to 2 years)</th>
<th>Long term (2 to 5 years)</th>
<th>Executing Officer, Government of Karnataka</th>
</tr>
</thead>
<tbody>
<tr>
<td>paramedics. Allied skill programs should also be strengthened.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Training programmes on communication skills</td>
<td>Immediate</td>
<td></td>
<td></td>
<td>Director SIHFW</td>
</tr>
<tr>
<td>Training programme on telemedicine</td>
<td>Immediate</td>
<td></td>
<td></td>
<td>Director SIHFW</td>
</tr>
<tr>
<td>Training programme on hospital management, Strategic planning (PIP)</td>
<td>Immediate</td>
<td></td>
<td></td>
<td>Director SIHFW</td>
</tr>
<tr>
<td>Training programme on Organizational development, Leadership conflict</td>
<td>Immediate</td>
<td></td>
<td></td>
<td>Director SIHFW</td>
</tr>
<tr>
<td>Training programme on information technology, data mining and analysis</td>
<td>Immediate</td>
<td></td>
<td></td>
<td>Director SIHFW</td>
</tr>
<tr>
<td>Training programme on POI (implementation) for NABH for all institutions</td>
<td>Immediate</td>
<td></td>
<td></td>
<td>Director SIHFW</td>
</tr>
<tr>
<td>All healthcare institutions such as</td>
<td>Immediate</td>
<td></td>
<td></td>
<td>Director SIHFW</td>
</tr>
<tr>
<td>Recommendations</td>
<td>Immediate (0 to 1 Year)</td>
<td>Medium term (1 to 2 years)</td>
<td>Long term (2 to 5 years)</td>
<td>Executing Officer, Government of Karnataka</td>
</tr>
<tr>
<td>---------------------------------------------------------------------------------</td>
<td>-------------------------</td>
<td>-----------------------------</td>
<td>--------------------------</td>
<td>-------------------------------------------</td>
</tr>
<tr>
<td>medical, nursing, paramedical colleges and district hospitals must have Continuing education cell which optimizes the skills of the staff on regular basis including their teaching skills.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SIHFW must identify the training needs and draw up a master plan for the training of staff at all levels immediately and include budgetary requirement. And be responsible for all training program me</td>
<td>Immediate</td>
<td></td>
<td></td>
<td>Director SIHFW</td>
</tr>
<tr>
<td>Include all aspects of curriculum development</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Strengthening of existing regional and district centers</td>
<td>Immediate</td>
<td></td>
<td></td>
<td>Director SIHFW</td>
</tr>
<tr>
<td>Recommendations</td>
<td>Immediate (0 to 1 Year)</td>
<td>Medium term (1 to 2 years)</td>
<td>Long term (2 to 5 years)</td>
<td>Executing Officer, Government of Karnataka</td>
</tr>
<tr>
<td>---------------------------------------------------------------------------------</td>
<td>-------------------------</td>
<td>---------------------------</td>
<td>--------------------------</td>
<td>---------------------------------------------</td>
</tr>
<tr>
<td>Inclusion of AYUSH training programs</td>
<td>Immediate</td>
<td></td>
<td></td>
<td>Commissioner, HFW</td>
</tr>
<tr>
<td>Include one Stint of training for every Government servant in a period of two years</td>
<td>Immediate</td>
<td></td>
<td></td>
<td>Commissioner, HFW</td>
</tr>
<tr>
<td>Financial support to carry out research activities and publish papers may be provided</td>
<td>Immediate</td>
<td></td>
<td></td>
<td>Principal Secretary, Health</td>
</tr>
<tr>
<td>Training programs on Geriatric care</td>
<td>Immediate</td>
<td></td>
<td></td>
<td>Director SIHFW</td>
</tr>
<tr>
<td>Training programs - HSSC - collaboration</td>
<td>Immediate</td>
<td></td>
<td></td>
<td>Director SIHFW</td>
</tr>
<tr>
<td>Training programs on Epidemiology for drugs estimation</td>
<td>Immediate</td>
<td></td>
<td></td>
<td>Director SIHFW</td>
</tr>
<tr>
<td>Training programs on pharmao vigilance</td>
<td>Immediate</td>
<td></td>
<td></td>
<td>Director SIHFW</td>
</tr>
<tr>
<td>Repository of training data of all Officers health department</td>
<td>Immediate</td>
<td></td>
<td></td>
<td>Director SIHFW</td>
</tr>
<tr>
<td>Develop detailed course content on communication skills,</td>
<td></td>
<td>Medium term</td>
<td></td>
<td>Director SIHFW</td>
</tr>
<tr>
<td>Recommendations</td>
<td>Immediate (0 to 1 Year)</td>
<td>Medium term (1 to 2 years)</td>
<td>Long term (2 to 5 years)</td>
<td>Executing Officer, Government of Karnataka</td>
</tr>
<tr>
<td>------------------</td>
<td>-------------------------</td>
<td>---------------------------</td>
<td>--------------------------</td>
<td>------------------------------------------</td>
</tr>
<tr>
<td>Information Technology, hospital management based on needs assessment and make it mandatory training programmes for all healthcare staff</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>All paramedical courses to be accredited to Health sector skill council. Have a detailed survey of the need for training of paramedics and take appropriate action. Review the job oriented paramedical courses</td>
<td></td>
<td>Medium term</td>
<td></td>
<td>Director SIHFW</td>
</tr>
<tr>
<td>Health sector skill council to mandatory partner with all health sector institutions to encourage standards in paramedical care</td>
<td></td>
<td>Medium term</td>
<td></td>
<td>Director SIHFW</td>
</tr>
<tr>
<td>A Co-ordination Committee at the State level will bring together</td>
<td></td>
<td>Medium term</td>
<td></td>
<td>Director SIHFW</td>
</tr>
<tr>
<td>Recommendations</td>
<td>Immediate (0 to 1 Year)</td>
<td>Medium term (1 to 2 years)</td>
<td>Long term (2 to 5 years)</td>
<td>Executing Officer, Government of Karnataka</td>
</tr>
<tr>
<td>------------------</td>
<td>-------------------------</td>
<td>---------------------------</td>
<td>-------------------------</td>
<td>---------------------------------------------</td>
</tr>
<tr>
<td>representatives from different councils, including Indian Systems of Medicine and Homeopathy (ISM &amp; H) along with Government policy makers and University / Board representatives to address issues raised by the National Education Policy for Health Sciences.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Strengthen State Institute of Health and Family Welfare as a centre of excellence by lateral entry of experts in various fields and also encourage Development of a faculty team, consisting of not just good teachers but learners-oriented facilitators of an educational process, who are also</td>
<td></td>
<td>Medium term</td>
<td></td>
<td>Director SIHFW</td>
</tr>
<tr>
<td>Recommendations</td>
<td>Immediate (0 to 1 Year)</td>
<td>Medium term (1 to 2 years)</td>
<td>Long term (2 to 5 years)</td>
<td>Executing Officer, Government of Karnataka</td>
</tr>
<tr>
<td>--------------------------------------------------------------------------------</td>
<td>--------------------------</td>
<td>-----------------------------</td>
<td>--------------------------</td>
<td>---------------------------------------------</td>
</tr>
<tr>
<td>good role models with social vision, commitment to ethical norms and values and inspirers of people and community oriented vocations through precept and example</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Development of a supportive team of staff at SIHFW and RHFWC who will complement the faculty in the educational institutions, laboratories, outpatients, wards and others specialized clinics, field practice areas and community health centers with needed skills and motivation</td>
<td>Medium term</td>
<td></td>
<td></td>
<td>Commissioner, HFW</td>
</tr>
<tr>
<td>Improvements will be made in the pedagogy of health science institutions. The University and Para-</td>
<td>Medium term</td>
<td></td>
<td></td>
<td>Principal Secretary, Health</td>
</tr>
<tr>
<td>Recommendations</td>
<td>Immediate (0 to 1 Year)</td>
<td>Medium term (1 to 2 years)</td>
<td>Long term (2 to 5 years)</td>
<td>Executing Officer, Government of Karnataka</td>
</tr>
<tr>
<td>--------------------------------------------------------------------------------</td>
<td>-------------------------</td>
<td>----------------------------</td>
<td>--------------------------</td>
<td>--------------------------------------------</td>
</tr>
<tr>
<td>Medical Board will organize Teacher Training Programmes on Teaching Methodology for health sciences.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>To enhance quality care, “Quality Indicators” for primary, secondary and tertiary Health care will be standardized and continuously monitored at various levels of Health and Medical Care Institutions. NABH to be made compulsory</td>
<td>Medium term</td>
<td></td>
<td></td>
<td>MD, National Health Mission</td>
</tr>
<tr>
<td>Review of existing C&amp;R policy once in five 5 years</td>
<td></td>
<td></td>
<td>Long term</td>
<td>Principal Secretary, Health</td>
</tr>
<tr>
<td>Revise Cadre and recruitment rules and regulations for a career path for absorption into Government clinical</td>
<td></td>
<td></td>
<td>Long term</td>
<td>Principal Secretary, Health</td>
</tr>
<tr>
<td>Recommendations</td>
<td>Immediate (0 to 1 Year)</td>
<td>Medium term (1 to 2 years)</td>
<td>Long term (2 to 5 years)</td>
<td>Executing Officer, Government of Karnataka</td>
</tr>
<tr>
<td>-----------------</td>
<td>-------------------------</td>
<td>---------------------------</td>
<td>--------------------------</td>
<td>-------------------------------------------</td>
</tr>
<tr>
<td>cadre as a specialist post DNB</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Set up simulation Labs at various teaching hospitals on hub and spoke model for improving clinical skills</td>
<td></td>
<td></td>
<td>Long term</td>
<td>Principal Secretary, Health</td>
</tr>
<tr>
<td>Modify the medical, paramedical and nursing courses through the RGUHS to bring in value based education, ethics, behavioral &amp; social sciences medicine as foundation courses</td>
<td></td>
<td></td>
<td>Long term</td>
<td>Principal Secretary, Health</td>
</tr>
<tr>
<td>Selection of students (both undergraduate and post graduate) should not be based only on the ranking at the entrance examination. Stress should be on the aptitude of the candidate. The selection should be</td>
<td></td>
<td></td>
<td>Long term</td>
<td>Principal Secretary, Health</td>
</tr>
<tr>
<td>Recommendations</td>
<td>Immediate (0 to 1 Year)</td>
<td>Medium term (1 to 2 years)</td>
<td>Long term (2 to 5 years)</td>
<td>Executing Officer, Government of Karnataka</td>
</tr>
<tr>
<td>---------------------------------------------------------------------------------</td>
<td>-------------------------</td>
<td>---------------------------</td>
<td>--------------------------</td>
<td>--------------------------------------------</td>
</tr>
<tr>
<td>Based on their commitment to the social objectives and technical challenges of</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>education the State. The output from these institutions should be need based.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The education should be competence and value based. Nurture the human resources</td>
<td></td>
<td></td>
<td>Long term</td>
<td>Principal Secretary, Health</td>
</tr>
<tr>
<td>holistically in terms of knowledge, skills, value, attitude and social commitment</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Encourage the staff at all levels to participate in distance learning programs of</td>
<td></td>
<td></td>
<td>Long term</td>
<td>Principal Secretary, Health</td>
</tr>
<tr>
<td>reputed Universities and institutions -</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The State Institute must plan and conduct courses in Public Health and Hospital</td>
<td></td>
<td></td>
<td>Long term</td>
<td>Principal Secretary, Health</td>
</tr>
<tr>
<td>Recommendations</td>
<td>Immediate (0 to 1 Year)</td>
<td>Medium term (1 to 2 years)</td>
<td>Long term (2 to 5 years)</td>
<td>Executing Officer, Government of Karnataka</td>
</tr>
<tr>
<td>---------------------------------------------------------------------------------</td>
<td>-------------------------</td>
<td>----------------------------</td>
<td>--------------------------</td>
<td>------------------------------------------</td>
</tr>
<tr>
<td>Management and Health Management</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Post graduate courses such as DPH, Masters or Doctorate in Public Health, in collaboration with the Rajiv Gandhi University of Health Sciences, to be started in 3 years.</td>
<td></td>
<td></td>
<td>Long term</td>
<td>Principal Secretary, Health</td>
</tr>
<tr>
<td>Encourage the Medical Colleges in the State which are conducting courses in Community Health/Community Medicine to have the courses strengthened to serve the needs of the state</td>
<td></td>
<td></td>
<td>Long term</td>
<td>Principal Secretary, Health</td>
</tr>
<tr>
<td>Teachers who present papers at National and International Conferences may be deputed for the same, meeting the expenses for registration, travel</td>
<td></td>
<td></td>
<td>Long term</td>
<td>Principal Secretary, Health</td>
</tr>
</tbody>
</table>
### Recommendations of the Subcommittee on Health Information Systems

<table>
<thead>
<tr>
<th>Recommendations</th>
<th>Immediate (0 to 1 Year)</th>
<th>Short to Medium term (1 to 2 years)</th>
<th>Medium to Long term (2 to 5 years)</th>
<th>Executing Officer, Government of Karnataka</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Form a multi-disciplinary HIS Governance committee to build a registry of healthcare</td>
<td>• Based on the type of facility (Clinic, Nursing Room, Primary Care, Tertiary Care etc.) help healthcare providers to</td>
<td>• Enable healthcare providers to implement EMR for IP (In-Patient)</td>
<td>Director, Health &amp; Family Welfare</td>
<td></td>
</tr>
</tbody>
</table>

- A scheme of providing sabbatical leave may be worked out to upgrade skills and knowledge of teaching staff, taking into consideration the needs of the department, institutions and the State.
<table>
<thead>
<tr>
<th>Recommendations</th>
<th>Immediate (0 to 1 Year)</th>
<th>Short to Medium term (1 to 2 years)</th>
<th>Medium to Long term (2 to 5 years)</th>
<th>Executing Officer, Government of Karnataka</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>providers and define guidelines</td>
<td>follow a module wise rollout plan</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Form a Healthcare provider’s advisory committee encompassing Clinics, Nursing Homes, primary, secondary and tertiary care to understand challenges and develop strategy to address the same</td>
<td>• Form a quality monitoring cell which will work with the Healthcare provider committee and EMR governance committee to identify gaps and quality issues</td>
<td>• Continuous quality monitoring initiatives</td>
<td>Director, Health &amp; Family Welfare</td>
<td></td>
</tr>
<tr>
<td>• HIS Committee to review the national guidelines and existing HIS software providers</td>
<td>• Enable healthcare providers to implement EMR for OP (Out-Patient)</td>
<td></td>
<td>Director, Health &amp; Family Welfare</td>
<td></td>
</tr>
<tr>
<td>• Develop guidelines on evaluation criteria, provider certification, engagement plan, timelines, quality metrics, incentives (economic and non-</td>
<td></td>
<td></td>
<td>Director, Health &amp; Family Welfare</td>
<td></td>
</tr>
</tbody>
</table>
## Recommendations of the Subcommittee on Electronic Medical Records (EMR)

<table>
<thead>
<tr>
<th>Recommendations</th>
<th>Immediate (0 to 1 Year)</th>
<th>Short to Medium term (1 to 2 years)</th>
<th>Medium to Long term (2 to 5 years)</th>
<th>Executing Officer, Government of Karnataka</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Form a multi-disciplinary EMR Governance committee to oversee the implementation of EMR</td>
<td>• Empanel service partners who can guide healthcare providers on EMR implementation</td>
<td>• Enable healthcare providers to</td>
<td>Director, Health &amp; Family Welfare</td>
<td></td>
</tr>
</tbody>
</table>

Reference:
- [https://cdac.in/index.aspx?id=hi_his_hospital_info_systems](https://cdac.in/index.aspx?id=hi_his_hospital_info_systems)
- [https://cdac.in/index.aspx?id=pdf_brochure_health](https://cdac.in/index.aspx?id=pdf_brochure_health)
<table>
<thead>
<tr>
<th>Recommendations</th>
<th>Immediate (0 to 1 Year)</th>
<th>Short to Medium term (1 to 2 years)</th>
<th>Medium to Long term (2 to 5 years)</th>
<th>Executing Officer, Government of Karnataka</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>EMR across Healthcare providers</td>
<td>Enable healthcare providers to implement EMR for OP (Out-Patient)</td>
<td>Continuous quality monitoring initiatives</td>
<td>Director, Health &amp; Family Welfare</td>
</tr>
<tr>
<td></td>
<td>• Form a Healthcare provider’s advisory committee encompassing Clinics, Nursing Homes, primary, secondary and tertiary care to understand challenges and develop strategy to address the same</td>
<td>• Form a quality monitoring cell which will work with the Healthcare provider committee and EMR governance committee to identify gaps and quality issues</td>
<td></td>
<td>Director, Health &amp; Family Welfare</td>
</tr>
<tr>
<td></td>
<td>EMR Committee to review the national guidelines and build/validate registry of providers</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Karnataka Public Health Policy**

**KJA RECOMMENDATION**
### RECOMMENDATIONS OF THE SUBCOMMITTEE ON AYUSH

<table>
<thead>
<tr>
<th>Recommendations</th>
<th>Immediate (0 to 1 Year)</th>
<th>Short to Medium term (1 to 2 years)</th>
<th>Medium to Long term (2 to 5 years)</th>
<th>Executing Officer, Government of Karnataka</th>
</tr>
</thead>
<tbody>
<tr>
<td>Use &quot;revalidated&quot; knowledge of AYUSH to solve 4 key public</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>Commissioner, HFW</td>
</tr>
</tbody>
</table>

Reference:
http://www.mohfw.nic.in/showfile.php?lid=4138
<table>
<thead>
<tr>
<th>Recommendations</th>
<th>Immediate (0 to 1 Year)</th>
<th>Short to Medium term (1 to 2 years)</th>
<th>Medium to Long term (2 to 5 years)</th>
<th>Executing Officer, Government of Karnataka</th>
</tr>
</thead>
<tbody>
<tr>
<td>health problems in the State viz:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Disseminate to millions of homes microbially safe drinking water solution, via low cost copper device for point of use</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Solve Fe deficiency anemia in women, children and girls with low cost AYUSH formulations and nutritional advice, on Tamilnadu model. Involve nodal agency to coordinate preclinical research before public dissemination</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>Commissioner, HFW</td>
</tr>
<tr>
<td>3. Empower millions of households with revalidated self- help solutions (using ecosystem)</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>Commissioner, HFW</td>
</tr>
<tr>
<td>Recommendations</td>
<td>Immediate (0 to 1 Year)</td>
<td>Short to Medium term (1 to 2 years)</td>
<td>Medium to Long term (2 to 5 years)</td>
<td>Executing Officer, Government of Karnataka</td>
</tr>
<tr>
<td>------------------</td>
<td>-------------------------</td>
<td>------------------------------------</td>
<td>-----------------------------------</td>
<td>---------------------------------------------</td>
</tr>
<tr>
<td>Specific medicinal plants, yoga and ethnic foods for oral health, eyecare, home remedies, prevention and wellness on ICT enabled platforms including mobile apps. Implement through a nodal agency which coordinates with research and educational institutions, NGOs, PHCs and self-help women organizations.</td>
<td></td>
<td></td>
<td></td>
<td>Commissioner, HRW</td>
</tr>
</tbody>
</table>

4. Development and implementation of AYUSH protocols for management of NCDs in primary, secondary and...
### RECOMMENDATIONS OF THE SUBCOMMITTEE ON HEALTH OMBUDSMAN

<table>
<thead>
<tr>
<th>Recommendations</th>
<th>Immediate (0 to 1 Year)</th>
<th>Short to Medium term (1 to 2 years)</th>
<th>Medium to Long term (2 to 5 years)</th>
<th>Executing Officer, Government of Karnataka</th>
</tr>
</thead>
<tbody>
<tr>
<td>tertiary clinical establishments via pilot projects in selected PHCs and hospitals.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A Comprehensive focused study may be conducted to understand the Impediments for rendering the Vigilance Director ineffective. This study should clearly indicate the desired policy change.</td>
<td></td>
<td>✓</td>
<td></td>
<td>Principal Secretary, Health</td>
</tr>
<tr>
<td>Encourage Accreditation by NABH for all Health Care Organizations and such Accreditation would facilitate in establishing an effective Grievance Mechanism.</td>
<td></td>
<td>✓</td>
<td></td>
<td>Director, Health &amp; Family Welfare</td>
</tr>
</tbody>
</table>
### Recommendations of the Subcommittee on Quality Systems

<table>
<thead>
<tr>
<th>Recommendations</th>
<th>Immediate (0 to 1 Year)</th>
<th>Short to Medium term (1 to 2 years)</th>
<th>Medium to Long term (2 to 5 years)</th>
<th>Executing Officer, Government of Karnataka</th>
</tr>
</thead>
<tbody>
<tr>
<td>By Notification Vigilance Director may be upgraded in cadre and made to report directly to the Principal Secretary, Health and Family welfare and preferably this officer shall either be from Administrative services rather than Medical Department</td>
<td></td>
<td>√</td>
<td></td>
<td>Chief Secretary and Principal Secretary, Health</td>
</tr>
<tr>
<td>Establishing monitoring system for quality</td>
<td>Setting up of task force for quality implantation with representations from public &amp; private sectors</td>
<td>Having quality indicators state level &amp; developing a data base.</td>
<td>Central monitoring of indicators with IT</td>
<td></td>
</tr>
<tr>
<td>Quality improvement plan for Teaching institutions</td>
<td>RGUHS to give a strategic plan regarding NABH</td>
<td>All the teaching hospitals to go for at least entry level accreditation programme</td>
<td>All the teaching hospitals to become NABH accredited</td>
<td></td>
</tr>
<tr>
<td>Recommendations</td>
<td>Immediate (0 to 1 Year)</td>
<td>Short to Medium term (1 to 2 years)</td>
<td>Medium to Long term (2 to 5 years)</td>
<td>Executing Officer, Government of Karnataka</td>
</tr>
<tr>
<td>--------------------------</td>
<td>------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>------------------------------------------------------------------------------------------------------------------------</td>
<td>-----------------------------------------------------------------------------------------------------------------</td>
<td>------------------------------------------</td>
</tr>
<tr>
<td></td>
<td>accreditation plan for teaching hospital.</td>
<td>incorporation of Quality and communication in the curriculum</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• RGUHS to form a team for inclusion of quality &amp; communication in the curriculum at the levels</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Infection control</td>
<td>• Forming a state level Infection control committee for Infection control and antibiotic stewardship</td>
<td>Education of all public and private hospitals through various forums on HIC</td>
<td>Developing a data base of HIC indicators and antibiotic usage</td>
<td>Director, Health &amp; Family Welfare</td>
</tr>
<tr>
<td>programme</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Policy making</td>
<td>• Making NABH entry level certification mandatory for both Government and private hospitals</td>
<td>Incentivizing for quality and disincentivising for poor quality</td>
<td>Making progressive and full accreditation compulsory for all hospitals</td>
<td>Director, Health &amp; Family Welfare</td>
</tr>
<tr>
<td></td>
<td>• Exempting the NABH accredited hospitals from the purview of</td>
<td></td>
<td>To link various licenses to be</td>
<td></td>
</tr>
<tr>
<td>Recommendations</td>
<td>Immediate (0 to 1 Year)</td>
<td>Short to Medium term (1 to 2 years)</td>
<td>Medium to Long term (2 to 5 years)</td>
<td>Executing Officer, Government of Karnataka</td>
</tr>
<tr>
<td>-----------------------------------------</td>
<td>----------------------------------------------------------------------------------------</td>
<td>-------------------------------------------------------------------------------------------------</td>
<td>-------------------------------------------------------------------------------------------------</td>
<td>--------------------------------------------</td>
</tr>
<tr>
<td>Recommendation</td>
<td>clinical establishment act.</td>
<td>At district level, everybody should get the training</td>
<td>Every healthcare personnel is trained in quality appropriate to area of work</td>
<td>Director, Health &amp; Family Welfare and SIHFW</td>
</tr>
<tr>
<td>Training</td>
<td>State level training cell for quality training</td>
<td>District quality cell to be formed to monitor the quality of each district</td>
<td>The quality needs to percolate to the level of individual clinics and PHCs</td>
<td>Director, Health &amp; Family Welfare</td>
</tr>
<tr>
<td>Monitoring of quality</td>
<td>Suitable deployment / appointment of an officer at high level to monitor the quality of state (Joint director/Director)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Accreditation of Government hospitals (at least Entry level)</td>
<td>5% of hospitals to be NABH accredited</td>
<td>50% of hospitals to be accredited</td>
<td>100% of hospitals be accredited</td>
<td>Principal Secretary, Health</td>
</tr>
</tbody>
</table>
## Recommendations of the Subcommittee on Access to Affordable Medicines

<table>
<thead>
<tr>
<th>Recommendations</th>
<th>Immediate (0 to 1 Year)</th>
<th>Short to Medium term (1 to 2 years)</th>
<th>Medium to Long term (2 to 5 years)</th>
<th>Executing Officer, Government of Karnataka</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Use of IT and technology-enabled service in drug procurement</strong></td>
<td></td>
<td>• IT is being used extensively in the system already. Inventory management, distribution of drugs etc. should be captured on an e-platform. Monitoring should be robust using technology</td>
<td></td>
<td>Principal Secretary, Health and Commissioner, HEW</td>
</tr>
<tr>
<td><strong>Presence of independent committees with professional leadership</strong></td>
<td></td>
<td>• There is a presence of Therapeutic and Need Assess Committees at present which meet once in 3 months. These committees should be strengthened in terms of devising a defined framework for drug</td>
<td></td>
<td>Principal Secretary, Health and Commissioner, HEW</td>
</tr>
<tr>
<td>Recommendations</td>
<td>Immediate (0 to 1 Year)</td>
<td>Short to Medium term (1 to 2 years)</td>
<td>Medium to Long term (2 to 5 years)</td>
<td>Executing Officer, Government of Karnataka</td>
</tr>
<tr>
<td>------------------</td>
<td>------------------------</td>
<td>------------------------------------</td>
<td>------------------------------------</td>
<td>-------------------------------------------</td>
</tr>
<tr>
<td>Transparency in drug procurement process and better monitoring of supply</td>
<td></td>
<td>selection, procurement, therapy and disease mapping. The recommendation should be implemented and committees should continue meeting regularly.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Monitoring of drugs being supplied and the entire process should be transparent. Inventory management should be made more robust using technology. Data of non-moving drugs/stock-outs should be monitored and recorded to flag for early intervention. Karnataka</td>
<td></td>
<td>Principal Secretary, Health and Commissioner, HEW</td>
</tr>
</tbody>
</table>
### Recommendations

<table>
<thead>
<tr>
<th>Immediate (0 to 1 Year)</th>
<th>Short to Medium term (1 to 2 years)</th>
<th>Medium to Long term (2 to 5 years)</th>
<th>Executing Officer, Government of Karnataka</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>Procurement of Goods &amp; Services Act</strong> has a stringent transparency policy which only benefits the company quoting the least price. In the absence of systematic way of reviewing this process, this particular aspect should be recommended to the government.**</td>
<td><strong>It is recommended to have a more comprehensive systematic evaluation on technical parameters.</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Disease mapping and data collection for better forecasting</strong></td>
<td><strong>Patient segmentation should be conducted in a way that it helps</strong></td>
<td></td>
<td><strong>Principal Secretary, Health and</strong></td>
</tr>
</tbody>
</table>

141 | Page
**Recommendations**

<table>
<thead>
<tr>
<th>Immediate (0 to 1 Year)</th>
<th>Short to Medium term (1 to 2 years)</th>
<th>Medium to Long term (2 to 5 years)</th>
</tr>
</thead>
<tbody>
<tr>
<td>and reduce drug wastage, stock-outs and expiry situations</td>
<td>with understanding the disease burden and assist in forecasting. The endemic and epidemic disease monitoring should be done effectively</td>
<td></td>
</tr>
<tr>
<td>Demand-based drug procurement</td>
<td>• Drugs supplied should be in accordance with the services being rendered. Demand-based procurement of drugs needs to be accelerated.</td>
<td>• Prescription demand is usually not captured in the system but the demand for medicines needs to be made based on prescription demand, hospital demand with other intangibles as well. This can be worked out along with the EHR/EMR committee. (Electronic Health/Medical Records)</td>
</tr>
</tbody>
</table>

**Executing Officer, Government of Karnataka**

**Commissioner, HEW**

**Principal Secretary, Health and Commissioner, HEW**
## Recommendations

<table>
<thead>
<tr>
<th>Recommendations</th>
<th>Immediate (0 to 1 Year)</th>
<th>Short to Medium term (1 to 2 years)</th>
<th>Medium to Long term (2 to 5 years)</th>
<th>Executing Officer, Government of Karnataka</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Cold-chain plan</strong></td>
<td>• Recommended to have dedicated infrastructure and a cold-chain management plan for biologicals (vaccines, monoclonal antibodies etc), ensuring access to potent medicines in the last mile with minimal excursion.</td>
<td></td>
<td></td>
<td>Principal Secretary, Health and Commissioner, HEW</td>
</tr>
<tr>
<td><strong>Training and skill-set building</strong></td>
<td>• Pharmacovigilance and prescription auditing should be a part of the quality-training parameter. For training and skillset building, there should be a focus on Epidemiology Training.</td>
<td></td>
<td></td>
<td>Principal Secretary, Health and Commissioner, HEW</td>
</tr>
</tbody>
</table>
## Recommendations

<table>
<thead>
<tr>
<th>Recommendations</th>
<th>Immediate (0 to 1 Year)</th>
<th>Short to Medium term (1 to 2 years)</th>
<th>Medium to Long term (2 to 5 years)</th>
<th>Executing Officer, Government of Karnataka</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drug disposal of expired or short-life span drugs</td>
<td></td>
<td></td>
<td>- There is a 2016 policy on disposal of biomedical waste. It has been recommended that expired medicines or short-life medicines should be disposed of in a timely manner. Expired medicines should be returned to the supplier and they should take care of its disposal. This recommendation should be made and also be strengthened.</td>
<td>Principal Secretary, Health and Commissioner, HEW</td>
</tr>
<tr>
<td>Collaboration with AYUSH</td>
<td></td>
<td></td>
<td></td>
<td>Commissioner, HFW</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>- Use &quot;revalidated&quot; knowledge of AYUSH to solve 4 key public health problems in the State viz:</td>
<td></td>
</tr>
<tr>
<td>Recommendations</td>
<td>Immediate (0 to 1 Year)</td>
<td>Short to Medium term (1 to 2 years)</td>
<td>Medium to Long term (2 to 5 years)</td>
<td>Executing Officer, Government of Karnataka</td>
</tr>
<tr>
<td>------------------</td>
<td>------------------------</td>
<td>-----------------------------------</td>
<td>----------------------------------</td>
<td>------------------------------------------</td>
</tr>
<tr>
<td></td>
<td>Microbially safe drinking water via low cost copper devices</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Fe deficiency anemia</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Empower millions of households with revalidated self-help solutions for oral health, eye care, home remedies, prevention and wellness on ICT enabled platforms including mobile apps</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Management of NCDs in primary, secondary and</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
**RECOMMENDATIONS OF THE SUBCOMMITTEE ON CARE OF ELDERLY**

The Karnataka State Policy for Senior Citizens came into force in 2003 as per Government Order No. WCD/314/SJD/2003. The policy envisages initiatives in different areas of concern for elders and also considers them as a resource. With changes in the epidemiological, demographic socio cultural and economic areas, the elderly today is more vulnerable necessitating a need to review and reenergize the State Policy on Senior Citizens. The proposed policy should look into all aspects of ageing issues such as medical, social, emotional, mental health, living environment, economic empowerment, and involvement of seniors in all developmental activities and using their wisdom and knowledge as resources.

The recommendations which are broadly under three heads aim to improve the quality of life of the elderly through comprehensive and holistic care.

<table>
<thead>
<tr>
<th>Recommendations</th>
<th>Immediate (0 to 1 Year)</th>
<th>Short to Medium term (1 to 2 years)</th>
<th>Medium to Long term (2 to 5 years)</th>
<th>Executing Officer, Government of Karnataka</th>
</tr>
</thead>
</table>
| Strengthening and implementation of the National Program for the Health Care of the Elderly (NPHCE). | - Review of the NPHCE and strengthening in currently ongoing districts especially the rehabilitation component.  
- Expansion to Districts with NPCDCS program | - Expansion of NHPC to all districts  
- Establishment of Rejuvenation centres (Rehabilitation / Physio-therapy Centres) in all district hospitals | | Principal Secretary, Health |
## Recommendations

<table>
<thead>
<tr>
<th>Recommendations</th>
<th>Immediate (0 to 1 year)</th>
<th>Short to Medium term (1 to 2 years)</th>
<th>Medium to Long term (2 to 5 years)</th>
<th>Executing Officer, Government of Karnataka</th>
</tr>
</thead>
</table>
| Training in holistic Geriatric care including mental healthcare for a wide range of personnel from bedside caregivers to nurses, paramedical staff, social workers, therapists and doctors. | • Designate a State level institution and 3 others as Regional resource centres  
• The State Level Geriatric training Centre should be well equipped to develop modules and curriculum to train bedside caregivers, nurses, para medical staff, social workers, therapists and doctors.  
• Modules on mental health care in a geriatric population  
• Practical training with placements at the Geriatric hospital. Training also to be imparted to ANM’s, ASHA’s Anganwadi workers and NGO community health workers, working in elder care. | • Development of manuals/resource materials for training  
• Evolving a training calendar for Geriatric Care for all categories of health personnel which includes a mix of methods and strategies. | • Initiating formal training programmes in at least 1 centre in each District | Director, SIHFW |
### Recommendations

<table>
<thead>
<tr>
<th>Recommendations</th>
<th>Immediate (0 to 1 year)</th>
<th>Short to Medium term (1 to 2 years)</th>
<th>Medium to Long term (2 to 5 years)</th>
<th>Executing Officer, Government of Karnataka</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>• Mobile training units</td>
<td>• Setting-up of a State Level Geriatric Referral hospital and nodal centre for referral of complex medical cases</td>
<td>• Establish a Geriatric Unit in each medical college</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Collate available resources</td>
<td>• Comprehensive outpatient consultation facilities including provision for alternative therapies</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Depute staff to go for short term courses (including IGNOU Certificate course in Geriatric Medicine) for Geriatric Mental Health enhancing care giving at least 50 doctors and 50 staff nurses in the first year.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Sensitisation to all government personnel on special health care needs of the elderly through satellite link</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Improving / strengthening of geriatric healthcare at the primary and secondary level, and starting of Comprehensive Holistic Geriatric care</td>
<td>• Initiating the weekly elderly health clinics (including memory clinics) in all public health facilities</td>
<td>• In weekly Geriatric Clinics, the Staff to include a doctor, nurse and</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• In weekly Geriatric Clinics, the Staff to include a doctor, nurse and</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

---

**Principal Secretary, Health**
<table>
<thead>
<tr>
<th>Recommendations</th>
<th>Immediate (0 to 1 year)</th>
<th>Short to Medium term (1 to 2 years)</th>
<th>Medium to Long term (2 to 5 years)</th>
<th>Executing Officer, Government of Karnataka</th>
</tr>
</thead>
</table>
|                  | physiotherapist trained in Geriatric medicine.  
• Clinic to cater to both physical and mental health needs of elders particularly dementia.  
• Physiotherapy advice provided to elders to minimize complications resulting from falls, fractures and poor balance  
• Provision for specialist consultations on certain days on the month  
• Establishing a dedicated elderly male and female ward in each district hospital  
• Establishing Day care facilities: To be modelled on the lines | • Inpatient care for 100 patients to focus on physical and mental rehabilitation and respite care  
• Equip to manage acute mental illness and difficult behaviours in dementia  
• The Centre to also cater to geriatric mental health problem including dementia.  
• Setting up of 3 to 5 Holistic comprehensive geriatric care centres under AYUSH department  
• Start a healthy ageing Campaign focusing on preventive and promotive health |
<table>
<thead>
<tr>
<th>Recommendations</th>
<th>Immediate (0 to 1 year)</th>
<th>Short to Medium term (1 to 2 years)</th>
<th>Medium to Long term (2 to 5 years)</th>
<th>Executing Officer, Government of Karnataka</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>• Provide structured activities focusing on physical and mental health needs through a combination of physical, cognitive and social activities • Provision for respite care for elders, including those with dementia. • Initial assessments and monitoring by the Geriatric clinic team. Also function as Centre for skill development and employment generation in an elderly population • Create awareness, use technology for early detection of age related issues and</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>of the anganwadi under ICDS</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Executing Officer, Government of Karnataka**
<table>
<thead>
<tr>
<th>Recommendations</th>
<th>Immediate (0 to 1 year)</th>
<th>Short to Medium term (1 to 2 years)</th>
<th>Medium to Long term (2 to 5 years)</th>
<th>Executing Officer, Government of Karnataka</th>
</tr>
</thead>
<tbody>
<tr>
<td>Support and catalyze Home Care</td>
<td>• Training of Family caregivers of the elderly at the District Hospitals. • Integrate domiciliary geriatric care with existing Mobile medical units • Strengthen 104 call centre facility for geriatric care.</td>
<td>• Strengthen community support by equipping primary health centers to train and supervise community workers in delivering basic healthcare at home.</td>
<td>• Dedicated Mobile medical team led by a doctor to be initiated in each taluka</td>
<td>Director, Health &amp; Family Welfare</td>
</tr>
<tr>
<td>Social Support Measures</td>
<td>• Enhance old age pension to a minimum of INR 1000 pm • Establish a pilot for Elderly peer network on the lines of self-help groups.</td>
<td>• Establish elderly day care centres in each Hobli • Income supplementation to trained caregivers to cover for loss of income incurred • Caregivers will be approved subject to</td>
<td></td>
<td>Principal Secretary, Health Principal Secretary, Finance</td>
</tr>
<tr>
<td>Recommendations</td>
<td>Immediate (0 to 1 year)</td>
<td>Short to Medium term (1 to 2 years)</td>
<td>Medium to Long term (2 to 5 years)</td>
<td>Executing Officer, Government of Karnataka</td>
</tr>
<tr>
<td>--------------------------------------------------------------------------------</td>
<td>----------------------------------------------------------------------------------------</td>
<td>---------------------------------------------------------------------------------------------------</td>
<td>-----------------------------------</td>
<td>---------------------------------------------</td>
</tr>
<tr>
<td>village and district level day care centers.</td>
<td>• Integrate and strengthen insurance network for health care of the elderly.</td>
<td>satisfactory completion of a training program which will be given from the nearest PHC. Quantum of payments will be determined based on extend of disability and frequency of hospital visits. Public health nurses will periodically visit the patient at home to ensure quality and continuity of service. In case no suitable family caregiver is available another person from the community can take up the responsibility for caring at home and accompanying elders on hospital visits.</td>
<td></td>
<td>Principal Secretary, Social Welfare</td>
</tr>
<tr>
<td>Encourage community participation, involvement of non-governmental organizations, development of minimum standards for</td>
<td>• Establish a registry of Old Age homes and make registration mandatory which renewable every 3 years. Report of</td>
<td>• Draw up a Charter for minimum standards in Old Age homes</td>
<td></td>
<td>Director, Health &amp; Family Welfare</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Awareness and advocacy by observing occasions like World Elders Day at all</td>
<td></td>
<td>Frauen</td>
</tr>
<tr>
<td>Recommendations</td>
<td>Immediate (0 to 1 year)</td>
<td>Short to Medium term (1 to 2 years)</td>
<td>Medium to Long term (2 to 5 years)</td>
<td>Executing Officer, Government of Karnataka</td>
</tr>
<tr>
<td>-----------------------------------------------------</td>
<td>-------------------------</td>
<td>-------------------------------------</td>
<td>-------------------------------------</td>
<td>---------------------------------------------</td>
</tr>
<tr>
<td>Setting up and managing old age homes.</td>
<td>current status required before every renewal</td>
<td>district levels to highlight elder related issues</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**RECOMMENDATIONS OF THE SUBCOMMITTEE ON HUMAN RESOURCE AND MAN POWER ASSESSMENT**

<table>
<thead>
<tr>
<th>Recommendations</th>
<th>Immediate (0 to 1 Year)</th>
<th>Short to Medium term (1 to 2 years)</th>
<th>Medium to Long term (2 to 5 years)</th>
<th>Executing Officer, Government of Karnataka</th>
</tr>
</thead>
<tbody>
<tr>
<td>Creation of human resource cell</td>
<td>0-1 years</td>
<td></td>
<td></td>
<td>Commissioner, HFW and Director, HFW</td>
</tr>
<tr>
<td>Web based data based linked with trainings done</td>
<td>0-1 years</td>
<td></td>
<td></td>
<td>Commissioner, HFW and Director, HFW</td>
</tr>
<tr>
<td>Creation of nurse practitioner at primary care level (SC)</td>
<td>0-1 years</td>
<td></td>
<td></td>
<td>Commissioner, HFW and Director, HFW</td>
</tr>
<tr>
<td>Adaption of IPHS standards phase wise</td>
<td></td>
<td></td>
<td></td>
<td>Commissioner, HFW and Director, HFW</td>
</tr>
<tr>
<td>Rationalisation of posts and services in different level of hospitals</td>
<td>1 to 2 years</td>
<td></td>
<td></td>
<td>Commissioner, HFW and Director, HFW</td>
</tr>
<tr>
<td>Adaption of DNB course alternative to MD/MS</td>
<td>0-1 years</td>
<td></td>
<td></td>
<td>Commissioner, HFW and Director, HFW</td>
</tr>
<tr>
<td>Recommendations</td>
<td>Immediate (0 to 1 Year)</td>
<td>Short to Medium term (1 to 2 years)</td>
<td>Medium to Long term (2 to 5 years)</td>
<td>Executing Officer, Government of Karnataka</td>
</tr>
<tr>
<td>-----------------------------------------------------</td>
<td>-------------------------</td>
<td>-------------------------------------</td>
<td>-----------------------------------</td>
<td>--------------------------------------------</td>
</tr>
<tr>
<td>Planned proactive recruitments</td>
<td></td>
<td>1 to 2 years</td>
<td></td>
<td>Commissioner, HFW and Director, HFW</td>
</tr>
<tr>
<td>For Optimum use of skills separate cadres on skills--- clinical and public health cadres</td>
<td></td>
<td>1 to 2 years</td>
<td></td>
<td>Commissioner, HFW and Director, HFW</td>
</tr>
<tr>
<td>Post-graduation in family medicine for primary care of 1yrs</td>
<td></td>
<td>1 to 2 yrs</td>
<td></td>
<td>Commissioner, HFW and Director, HFW</td>
</tr>
<tr>
<td>Need based PPP for delivery of services in primary care</td>
<td></td>
<td>1 to 2 yrs</td>
<td></td>
<td>Commissioner, HFW and Director, HFW</td>
</tr>
</tbody>
</table>
ANNEXURE II

GOVERNMENT ORDER ON CONSTITUTION OF KJA

PROCEEDINGS OF THE GOVERNMENT OF KARNATAKA

Subject: Reconstitution of Karnataka Knowledge Commission.

2) Government Order No. ED 462 URC 2013, dated 28-12-2013

Preamble

Karnataka has emerged as the Knowledge Capital of the country. The State needs to take on the global challenges in terms of innovation, conservation of heritage, generation of new knowledge, application of knowledge in every sphere of life, skill development, enhancement of competencies, creation of better human capital to create new knowledge economy besides creation of a more humane society. Keeping in view the setting up of National Knowledge Commission, the Karnataka Knowledge Commission was constituted in 2008, vide Government Order No: ED 110 URC 2008, dated 5-9-2008 read at (1) above, under the guidance and Chairmanship of renowned Space Scientist Dr. K. Kasturirangan. After completion of term of the Commission, was reconstituted and the term was extended till December 28, 2013 vide G.O. read at (2) above. Further, the term of the Commission was extended for 03 years vide Notification read at (3) above. Recognizing the important role to be played the Commission in making Karnataka a Knowledge State and a Knowledge economy, it is proposed to reconstitute Karnataka Knowledge Commission.

The Government has considered reconstitution of Knowledge Commission for another term with the focus on institution building, policy innovation and excellence in the field of education, health, science and technology, industry, entrepreneurship, research and innovation, traditional knowledge, agriculture, e-governance, rural development, etc., and other relevant areas in the context of Karnataka. In view of the above, the Government has decided to reconstitute the Karnataka Knowledge Commission. Hence this order.

GOVERNMENT ORDER NO. ED 354 URC 2016 (Part - 1)
BANGALORE DATED: 2-8-2017

In the circumstances explained above, the Government is pleased to reconstitute the Karnataka Knowledge Commission in the State with the following eminent persons as Chairman and Members.
<table>
<thead>
<tr>
<th>Sl.No</th>
<th>Name and Address</th>
<th>Designation</th>
</tr>
</thead>
</table>
| 1     | **Dr. K. Kasturirangan,**  
Former Chairman of ISRO, Ex- Member (Science), Planning Commission, GoI, Emeritus Professor, National Institute of Advanced Studies, Bengaluru                        | Chairman          |
| 2     | **Dr. Mukund Kadursrinivas Rao**  
Adjunct Professor, NIAS, Bengaluru                                                                                                                  | Member-Secretary  |
| 3     | **Sri. P.G.R. Sindia**  
Former Minister for Home, Transport and Finance, Government of Karnataka                                                                            | Member            |
| 4     | **Sri. Mohandas Pai TV**  
President, MEMG International India Ltd.  
No. 70, 4th Floor, Grace Towers, Above Navaneeth Motors, Milers Road, Bengaluru – 560052                                                      | Member            |
| 5     | **Prof. Anurag Behar**  
Vice Chancellor, Azim Premji University, PES Institute of Technology Campus Pixel Park, B’ Block Electronic City Hosur Road, Bengaluru                  | Member            |
| 6     | **Prof. M. R. Satyanarayana Rao,**  
Ex- Director, Jawaharlal Centre for Advanced Scientific Research (J.N.C.A.S.R), Jakkur, Bengaluru- 560064.                                               | Member            |
| 7     | **Dr. Nazeer Ahmed,**  
Advisor, World Organization for Research Development and Education, Ex-Scientist, NASA, No. 4, 9th Cross, Jayamahal Main Road, Jayamahal Extension, Bangalore – 560046 | Member            |
| 8     | **Prof. Sunney Tharappan,**  
Director, C.L.H.R.D, Valenclia Circle, Mangalore – 575002.                                                                                         | Member            |
| 9     | **Prof. G. Padmanabhan,**  
Former Director of IISc, Bangalore – 560012.                                                                                                         | Member            |
| 10    | **Dr. Gayatri Saberwal,**  
Institute of Bioinformatics and Applied Biotechnology, Biotech Park Electronics City Phase I, Bangalore – 560100                                               | Member            |
| 11    | **Prof. S. Sadagopan,**  
Director, IIIT-Bangalore, 26/C, Electronics City, Hosur road, Bangalore – 560100.                                                                 | Member            |
| 12    | **Dr. Devi Prasad Shetty,**  
Heart Specialist, Narayana Hrudayalaya, 258/A, Bommasandra Industrial area, Anekal Taluk, Bangalore – 560099                                               | Member            |
| 13    | **Dr. Rajashekar H. B.**  
Director Jawaharlal Nehru Medical College, Nehru Nagar, Belgavi – 590010.                                                                        | Member            |
| 14    | **Dr. B.M. Hegde,**  
Ex-Vice Chancellor, Manipal University,Ganesh Lower Bendur, Il cross, Mangaluru – 575702.                                                     | Member            |
<table>
<thead>
<tr>
<th>No.</th>
<th>Name</th>
<th>Position/Address</th>
</tr>
</thead>
<tbody>
<tr>
<td>15</td>
<td>Dr. P. Balakrishna Shetty</td>
<td>Vice Chancellor, Sri Siddartha Academy of Higher Education, Agalakote, B.H. Road, Tumkur - 572 107. Member</td>
</tr>
<tr>
<td>16</td>
<td>Sri. Rahul Sharad Dravid</td>
<td>B 17, Epsilon Ventures, Yemlur PO, Bengaluru – 560037 Member</td>
</tr>
<tr>
<td>17</td>
<td>Sri. Prakash Padukone</td>
<td>Prakash Padukone Badminton Academy, No. 4, 3rd Main, KBA Stadium, Jasma Bhavan Road, Opposite to Congress office, Vasanth Nagar, Bengaluru – 560052. Member</td>
</tr>
<tr>
<td>18</td>
<td>Dr. Mohan Alva</td>
<td>Chairman, Alva Education Society, Vidyagiri, Moodbidri, Dakshina Kannada Dist - 574227. Member</td>
</tr>
<tr>
<td>19</td>
<td>Dr. B N Suresh</td>
<td>Vikram Sarabhai Professor, ISRO Hqs, Antariksh Bhavan, New BEL Road, Bengaluru-560 231 Member</td>
</tr>
<tr>
<td>20</td>
<td>Sri. S V Ranganath</td>
<td>Retd. IAS &amp; Ex- Chief Secretary Member</td>
</tr>
<tr>
<td>21</td>
<td>Smt. Ashwini Nachappa</td>
<td>International Athlete, No. 516, 16th E Cross, 17th A Main Koramangala, 6th Block, Bengaluru- 560094 Member</td>
</tr>
<tr>
<td>22</td>
<td>Dr. Pulak Ghosh</td>
<td>Professor, IIM-Bengaluru Member</td>
</tr>
<tr>
<td>23</td>
<td>Prof. B. K. Chandrashekar</td>
<td>Hon’ble Ex-Minister, GoK Member</td>
</tr>
<tr>
<td>24</td>
<td>Prof. Radhakrishna</td>
<td>Academician Member</td>
</tr>
<tr>
<td>25</td>
<td>Smt. Sudhamurthy</td>
<td>President, Infosys Foundation Member</td>
</tr>
<tr>
<td>26</td>
<td>Prof. Basavaraja K. P</td>
<td>Professor, IIM, Bengaluru Member</td>
</tr>
<tr>
<td>27</td>
<td>Dr. S.R. Patil</td>
<td>Rtd. Professor &amp; Head, Geography Department, Kamataka University, Dharwad Member</td>
</tr>
<tr>
<td>28</td>
<td>Dr. Angarai Ganeshan Ramakrishnan</td>
<td>Professor &amp; Chairman, Department of Electrical Engineering, IISc, Bengaluru Member</td>
</tr>
<tr>
<td>29</td>
<td>Sri. Bharat Khinji</td>
<td>Industrialist, Hubballi Member</td>
</tr>
<tr>
<td>30</td>
<td>Sri. Shivkumar Kheni</td>
<td>Industrialist Member</td>
</tr>
</tbody>
</table>
## Ex-Officio Members

<table>
<thead>
<tr>
<th>Sl. No</th>
<th>Name and Address</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Additional Chief Secretary to Government, Finance Department, Government of Karnataka, Vidhana Soudha, Bengaluru-560001</td>
</tr>
<tr>
<td>2</td>
<td>Additional Chief Secretary to Government, Primary and Secondary Education Department, Government of Karnataka, 6th Floor, 2nd Stage, M.S Building, Bengaluru-560001</td>
</tr>
<tr>
<td>3</td>
<td>Additional Chief Secretary to Government, Medical Education Department, Government of Karnataka, 6th Floor, 4th stage, MS Building, Bengaluru-560001</td>
</tr>
<tr>
<td>4</td>
<td>Principal Secretary to Government, Higher Education Department, Government of Karnataka, 6th Floor, 2nd Stage, MS Building, Bengaluru-560001</td>
</tr>
<tr>
<td>5</td>
<td>Principal Secretary to Government, Health and Family Welfare Department, Government of Karnataka, # 105, 1st Floor, Vikasa Soudha, Bengaluru-560001</td>
</tr>
<tr>
<td>6</td>
<td>Principal Secretary to Government, Information Technology, Bio Technology and Science &amp; Technology Department, Government of Karnataka, 5th Floor, 5th stage, M.S Building, Bengaluru-560001</td>
</tr>
</tbody>
</table>

### Terms of Reference:

The Commission shall strive to give recommendations in the following areas.

1. To focus on institution building, policy innovation and excellence in the field of education, health, science and technology, industry, entrepreneurship, research and innovation, traditional knowledge, agriculture, e-governance, rural development, etc., and other relevant areas in the context of Karnataka.

2. Build excellence in the educational system to meet the challenges of the 21st century and increase Karnataka’s competitive advantage in the fields of knowledge.

3. Promote creation of knowledge in all formal and non-formal educational, scientific and Knowledge institutions of Karnataka.

4. Improve the leadership and Management of educational and knowledge institutions of Karnataka.
5. Promote knowledge applications in agriculture, rural development, health, industry and other areas.

6. Enhance the use of knowledge capabilities in making government an effective service provider to the citizen and promote widespread sharing of knowledge to maximize public benefit.

7. Promote intersectoral interaction and interface with the objective of preservation, access, new concepts, creation, application, dissemination, outreach and services relating to knowledge.

8. Develop appropriate institutional frameworks to strengthen the education system, promote domestic research and innovation, facilitate knowledge application in various sectors.

9. Leverage information and communication technologies to enhance governance improve connectivity and reduce digital divide.

10. Device mechanisms for exchange and interaction between knowledge System in the global arena.

11. Conserve indigenous and heritage knowledge in Karnataka for better Utilization of time tested concepts and knowledge by society.

By Order and in the name of the Governor of Karnataka

Sd/-
(M.A. AHAMED JHON)
Under Secretary to Government Higher Education Department (Universities-2)

To,
The Compiler, Karnataka Gazette -for publication in next issue of the Gazette.

Copy to:
1. The Principal Secretary to Hon’ble Chief Minister, Government of Karnataka, Vidhana Soudha, Bengaluru.
2. PS to Chief Secretary / Additional Chief Secretaries / Development Commissioner to Govt., of Karnataka, Vidhana Soudha, Bengaluru.
   All Principal Secretaries/ Secretaries, Govt. of Karnataka, Bengaluru.
3. Dr. K. Kasturirangan, Member (Science), Planning Commission, Government of India. Director, National Institute of Advanced Studies, Bengaluru.
4. Vice Chancellors/Registrars of All Universities.
5. Executive Director, Karnataka State Council for Higher Education, Bengaluru.
6. Dr. K. Kasturirangan, Member (Science), Planning Commission, Government of India. Director, National Institute of Advanced Studies, Bengaluru
7. Dr. Mukund Kadurshrinivas Rao, Adjunct Professor, NIAS, Bengaluru
9. Sri. Mohandas Pai TV, President, MEMG International India Ltd., No. 70, 4th Floor, Grace Towers, Above Navaneeth Motors, Milers Road, Bengaluru - 560052
10. Prof. Anurag Behar, Vice Chancellor, Azim Premji University, PES Institute of Technology Campus Pixel Park, B’ Block Electronic City Hosur Road, Bengaluru
14. Prof. G. Padmanabhan, Former Director of IISc, Emeritus Professor Department of Biochemistry, Indian Institute of Science Bangalore - 560012.
15. Dr. Gayatri Saberwal, Institute of Bioinformatics and Applied Biotechnology, Biotech Park Electronics City Phase I, Bangalore - 560100.
16. Prof. S. Sadagopan, Director, IIT-Bangalore, 26/c, Electronics City, Hosur road, Bangalore - 560100
17. Dr. Devi Prasad Shetty, Heart Specialist, Narayana Hrudayalaya, 258/A, Bommasandra Industrial area, Anekal Taluk, Bangalore - 560099.
18. Dr. Rajashekar H B Director, Jawaharlal Nehru Medical College, JNMC Campus, Nehru Nagar, Belgaum - 590010.
19. Dr. B.M. Hegde, Ex-Vice Chancellor, Manipal University, Ganesh Lower Bendur, 2nd Cross, Mangaluru - 575702.
21. Sri. Rahul Sharad Dravid, B 17, Epsilon Ventures, Yemlur PO, Bengaluru – 560037
22. Sri. Prakash Padukone, Prakash Padukone Badminton Academy, No 4, 3rd main, KBA stadium, Jasna Bhavan road, Opp Congress office, Vasantha Nagar, Bengaluru - 560052.
23. Dr. Mohan Alva, Chairman, Alva Education Society, Vidya Vihar, Moodbidri, Dakshina Kannada Dist - 574 227.
24. Dr. B N Suresh, Vikram Sarabhai Professor, ISRO Hqs, Antariksh Bhavan, New BEL Road, Bengaluru-560 231
25. Shri. S V Ranganath Retd. IAS & Ex-Chief Secretary, Vice-Chairman, Karnataka State Higher Education Council, Palace Road, Bengaluru.
27. Dr. Pulak Ghosh, Professor, IIM-Bengaluru, Bengaluru, Bannergatta Road, Bengaluru-560076.
28. Prof. B. K. Chandrashekar, Door No. 4032, 28th Cross, 17th Main Road, Banashankari 2nd Stage, Bengaluru - 560070
29. Prof. Radhakrishna, Academician
30. Dr. Sudha N. Murthy, Chairperson, Infosys Foundation, Infosys Towers, No. 27, JP Nagar, 3rd Phase Bannerghatta Main road, Bangalore – 560076.
31. Prof. Basavaraja K P, Professor, IIM Bengaluru, Bannerughatta Road, Bengaluru-560076.
32. Dr. S.R. Patil M. A. Ph.D, Professor of Geography, (Retd) Department of Geography, Karnataka University, Dharwad
33. Dr. Ramakrishnan Angarai Ganesan, Ph.D,(Bio-Medical Engineer), Department of Electrical Engineering, IISc, Bengaluru
34. Mr. Bharat Khinji, Director, Founder and Chief Executive Officer BDK Engineering Industries Limited 47/48, Gokul Road, Hubli, Karnataka
35. Sri. Shivakumar Kheni, Industrialist, Managing Director, Nandi Highway Developers Ltd., BF Utilities, Ltd., Bengaluru.