

Champion Services Sector Scheme: Health and Wellness



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Abbreviations

AI	Artificial Intelligence
APAC	Asia Pacific
AYUSH	Ayurveda, Yoga & Naturopathy, Unani, Siddha
CAGR	Compound Annual Growth Rate
CPHC	Comprehensive Primary Health Care
CSO	Central Statistics Office
CSSS	Champion Services Sector Scheme
CVD	Cardiovascular Disease
DALY	Disability Adjusted life Years
EoDB	Ease of Doing Business
FDI	Foreign Direct investment
FTAs	Foreign Tourist Arrivals
GDP	Gross Domestic Product
GHO	Global Health Observatory
GoI	Government of India
GSVA	Gross State Value Added
GVA	Gross Value Added
H&W	Health & Wellness
IDFC	Infrastructure Development Finance Company
IFC	International Finance Corp
INR	Indian Rupee
IoT	Internet of Things
IVF	In Vitro Fertilization
MEMG	Manipal Education and Medical Group
MVTF	Medical Value Travel Facilitator
NABH	National Accreditation Board for Hospitals and Healthcare
NASSCOM	National Association of Software and Service Companies
NIMHANS	National Institute of Mental Health and Neurosciences
PMU	Project Monitoring Unit
PPP	Public Private Partnership
USD	United States Dollar
WHO	World Health Organization
YLD	Years Lost due to Disability
YLL	Years of Life Lost
YOY	Year On Year

Preface

With the objective to make India a USD 5 trillion economy, Government of India, in year 2018 announced the Champion Services Sector Scheme (CSSS) with thrust to 12 identified sectors. Aligning with the objective, Government of Karnataka constituted a High-Power Committee for the promotion of Service activities in the State vide Govt. Order No.CI 159 SPI 2018, Bengaluru dated 05.09.2018. The 1st High Power Committee meeting under the Chief Secretary, identified Six (6) Champion Services for the the State and Sectoral expert groups were constituted with respective departments of Karnataka. Department of Commerce & Industries was nominated as the nodal department for coordinating the efforts of individual departments. Visvesvaraya Trade Promotion Centre (VTPC) under the aegis of the Department of Commerce and Industries, was identified to coordinate the formulation of the sector specific reports by engaging consultants. Price WaterHouseCoopers (PwC) was engaged as Knowledge Partners for the study and to draw up the action plan and coordinate with respective line departments for the exercise.

The following Sectoral expert groups, along with the respective nodal departments were formulated vide the G.O pertaining to the subject:

SI No.	Sectoral Expert Group	Chairperson	Nodal Department
1.	Health & Wellness Services	Additional Chief Secretary to Govt., Medical Education Department	Medical Education
2.	Education Services	Principal Secretary to Govt., Higher Education Department	Higher Education
3.	Media & Entertainment Services	Secretary to Govt., Information and Publicity	Information and Publicity Dept.
4.	Remittances & Emigration Services	Secretary to Govt., Skill Development Department	Skill development
5.	Construction & Related Engineering Services	Additional Chief Secretary to Govt., Urban Development Department, Co-chaired by Secretary to Govt., Housing Department	Urban Development Department
6.	Transport & Logistics Services	Principal Secretary to Govt., Commerce & Industries Department	Commerce & Industries Department

This Report is a culmination of the efforts in charting a sector specific Strategy/Scheme for the Health and Wellness Sector in the State. The report has taken into consideration inputs and feedback from stakeholders in the sector space besides, the views of nodal department.



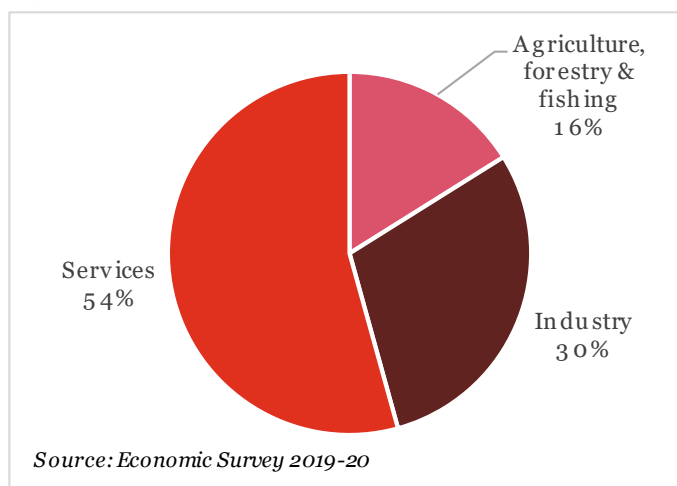
Executive Summary

1. Executive Summary

India is one of the fastest growing economies in the world. The country recorded Gross Domestic Product (GDP) growth of 6.8% in FY 2018-19 against 7.2% in FY 2017-18¹. A burgeoning service sector is a key driver for India's economic growth.

The service sector remains the largest contributor to Gross Value added (GVA) at 54.3% (2018-19). Within Services, Trade, Hotel, Transport, Storage, Communication and Services related to Broadcasting contributed to 18.3% of GVA. Financial, Real Estate & Professional Services contributed to about 21.3% of GVA while Public Administration, Defence and other services contributed to 14.7% of GVA. The Services sector contributed to 65.4% (2018-19) of Karnataka's Gross State Value Added (GSVA) with a 5-year Year-over-Year (YOY) growth of 10.5%². Figure 1 displays sectoral contribution to India's GVA for FY19.

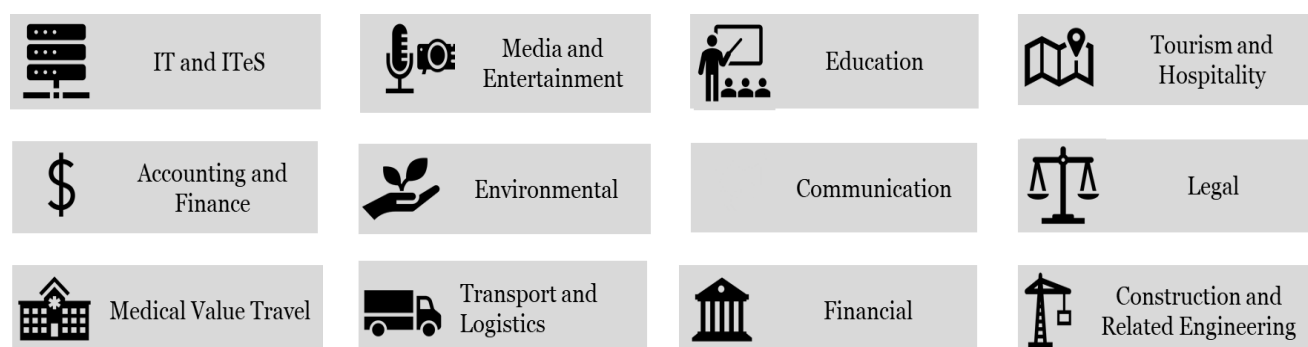
Figure 1: Sectoral contribution to GVA: 2018-19



The Champion Services Sector Scheme (CSSS) was launched with an objective to provide focussed attention to Services Sectors thereby promoting Gross Domestic Product (GDP) growth, creating more jobs and promoting exports to global markets.

The CSSS was approved by the Government of India (GoI) in February 2018 to give a boost to various Services sectors in the Country. The Government of India has set a target to increase India's share in Global Services exports to 4.2% (from 3.3% in 2015) and increase the Services sector's share in Gross Value Added (GVA) to 60% by 2022³. The Government of India has identified twelve champion sectors under the Champion Services Sector Scheme as represented in Figure 2:

Figure 2: Twelve Champion Sectors



Source: Department of Commerce, Government of India, 2018

¹ The Central Statistics Office, (CSO), The Ministry of Statistics and Programme Implementation, GoI, 2018-19

² Economic Survey 2019-20-State of the economy

³ The Economic Times- India's strategy is to increase exports for higher market share 25/02/2019

The CSSS will focus on implementing reforms in each of these sectors based on the following 5 pillars:

1. **New Processes:** to improve Ease of Doing Business (EoDB)
2. **New Infrastructure:** to strengthen physical and digital connectivity
3. **New Sector:** to identify untapped sectors for value addition
4. **New Mindset:** to change the official mindset from issuing/approving authority to partnering in business
5. **New Standards:** to strengthen export competitiveness of various service sectors

The CSSS program entails the implementation of a focussed action plan for each of the identified sectors to promote growth of the sectors. A dedicated fund of Rs. 5000 Crores has been approved under the CSSS for implementing the recommendations approved under the program. The Government of Karnataka has identified six champion sectors out of the twelve identified sectors as part of the CSSS with the goal to boost the state's position in these sectors. The six sectors identified are Medical Value Travel, Transport and Logistics Services, Media and Entertainment, Education Services, Infrastructure & Construction and Remittances & Immigration. This document pertains to the sector development strategy in the Health & Wellness (H&W) sector in the State of Karnataka.

The Healthcare sector is expected to grow to USD 11.9 Trillion by 2022 growing at a rate of 8.9% CAGR (2019-22)⁴. Indian Healthcare Sector is one of the largest and fastest growing sectors in terms of revenue and employment. Indian Healthcare revenue is expected to reach US\$ 280 Billion by 2020, and further grow to US\$ 372 Billion by 2022 at a CAGR of 16.28 %⁵.

In India, Karnataka has always been a pioneer State in terms of Healthcare Services. Karnataka is one of the first Indian states to have a State Health Policy in place (2004). Karnataka currently has about 1,930 Health and Wellness Centres as part of the Ayushman Bharat Scheme with about 1,464 trained community officers⁶. The study presented identifies key interventions needed across the value chain, which have the potential to drive growth of the Health & Wellness sector. To achieve further growth and boost industry potential the following interventions have been identified in line with the five pillars of the Champion Service Sector Scheme as represented in Figure 3. It is very important that implementation of the Strategic interventions happens in a holistic and focussed manner.

⁴ Businesswire: The \$11.9 Trillion Global Healthcare Market: Key Opportunities & Strategies (2014-2022)

⁵ IBEF: Indian Healthcare Industry Analysis, 01/2018

⁶ The Economic Times: With 1,930 health and wellness centres, Karnataka hopes to focus on community well-being - 24/02/2020

Figure 3: Recommendations based on the 5 pillars of the Champion Services Sector Scheme

Pillar 1: New Process	Pillar 2: New Infra	Pillar 3: New Sector	Pillar 4: New Mindset	Pillar 5: New Standard
<ul style="list-style-type: none"> • Clear Definition of what constitutes wellness • Branding Karnataka as a niche wellness destination • Dedicated wellness portal with accredited services • Enhance data collection efforts for targetted wellness marketing 	<ul style="list-style-type: none"> • Setting up hospitals for critical care treatment within close vicinity of major hospitals to free up beds and doctors for emergency and regular patients • Region wise promotion of wellness sectors 	<ul style="list-style-type: none"> • Hire digital marketing firm to promote medical tourism on online platform and social media. 	<ul style="list-style-type: none"> • Task force to discuss the legality and guidelines for implementation of Telemedicine in Karnataka• • Review of guidelines to permit training of students in teleradiology 	<ul style="list-style-type: none"> • Increasing minimum wage for nurses • Reducing work burden due to understaffing through efficient shifts • Work appreciation through bonuses and certificates of appreciation • Reduce excessive regulation and introduce guaranteed employment for nurses for up to 3 years

Source: Study Team Analysis

Structure of the document

The report has been written through a combination of primary and secondary research and analysis. The document is divided into 7 Chapters covering 2 sections: 1. Health and 2. Wellness. The report introduces the Healthcare industry and its constituents. This is followed by the global and national scenario in Healthcare. These sections cover the market size and analysis involving how India compares against various countries on various parameters and what has changed in the nation over the past decades. The section also identifies what trends will drive the healthcare system Globally and in India. The section also analyzes how Karnataka fares in Healthcare infrastructure and what is working well for the state. Through consultations with stakeholders in the Healthcare industry, specific issues were identified. Chapter 4 identifies these issues and presents them within the context of India and Karnataka. In the Healthcare section the Healthcare Delivery System and related areas, and Medical Value Travel are primary areas of focus. The recommendations proposed have incorporated feedback from stakeholders including eminent doctors and academicians in the state.

The wellness section continues in the same lines as that of the Healthcare section with the Wellness market being introduced followed by global and national scenarios. This section includes how India compares with other countries in terms of the Wellness industry, what is working well for India and what is not. The recommendations section focusses on benchmarking the scenario with other states and how Karnataka can brand itself as a favoured Wellness destination. It also recommends strategies on how Karnataka can leverage the tourism sector to promote and enhance Wellness tourism in the state. The report concludes with an implementation plan with each of the recommendations categorized under the various Champion Service Sector Scheme pillars. Annexures provide supporting data to the content provided in the document.



Global Healthcare Sector

2. Global Healthcare

The global healthcare market is a USD 9 Trillion market growing at a CAGR of 8.9%

The Healthcare sector is expected to touch USD 11.9 Trillion by 2022 growing at a rate of 8.9% CAGR by 2022. The current Healthcare market is driven by technological advancements in Healthcare but at the same time an increase in factors related to today's lifestyle. North America is the largest market for Healthcare with a share of 42% of the Global Healthcare market (2018). Africa and Asia Pacific are poised to be the fastest growing markets at approximately 13% CAGR followed by the Middle East and South America⁷. Healthcare is a very vast sector and can generally be categorized into 6 major sub sectors as displayed in Figure 4. These subsectors are major contributors to the healthcare market.

Figure 4: Healthcare subsectors



Source: Study Team Analysis

Healthcare delivery systems sector like hospitals (including Primary, Secondary and Tertiary care) is still the major sub-sector contributing approximately 75% of market share, followed by medical devices & equipment and health insurance⁸. Healthcare insurance penetration is low in countries like India where less than 29% of households have at least one health insurance/health scheme⁹. The Hi-Tech Medical Devices market will be worth over US \$198.5 Billion by 2026 while the wearable medical devices market will touch \$87 Billion by 2025^{10,11}. The Clinical Trials market stood at US \$ 46.75 Billion growing at a CAGR of 5.1% until 2027. The Telemedicine sector is expected to grow at 15.1% CAGR to touch 155.1 Billion by 2027¹².

Cardiovascular diseases and Cancer contribute close to about 48% of deaths Globally

While the life expectancy of all countries has increased, there is also a growing ageing population and a rise in the number of chronic diseases. Healthcare systems are expanding specifically in developing markets. Globally, the increase in life expectancy over the last decade has been driven by several important factors and this is discussed in Table 1.

⁷ Businesswire: The \$11.9 Trillion Global Healthcare Market: Key Opportunities & Strategies (2014-2022)

⁸ Healthcare – Time to realize true potential, Edelweiss-2016

⁹ Live mint - Just 20% women and 23% men are covered by health insurance in India, says survey-2018

¹⁰ Global Newswire: Hi-tech Medical Devices Market Size Worth US\$198.4 billion by 2026 – 02/2019

¹¹ Global Market Insights, Inc- Wearable Medical Devices Market to Hit \$87 Billion by 2025 - 06/2019

¹² Grand View Research - Clinical Trials Market Size, Share & Trends Analysis by Phase 02/2020

Table 1: Life expectancy factors

Life expectancy factor	Status
Under-5 mortality rate	59% reduction (1990-2018) ¹³
Maternal mortality ratio	38% Decline (2000-2017) ¹⁴
HIV mortality	33% drop in 2018 (From 2010 Numbers) ¹⁵
Malaria mortality	30% drop in 2018 (From 2010 Numbers) ¹⁶
Cardiovascular disease (CVD) mortality	31% of Global Deaths are from CVDs ¹⁷
Cancer mortality	17% of all deaths Globally ¹⁸

There has been a significant reduction in Maternal Mortality Rate in the past two decades with a 38% reduction in Maternal Mortality rate between 2000 and 2017. As of 2018 there were about 37.9 million people living with HIV in the world with 770000 (2%) deaths in the same year. In the same year there were about 228 million cases of Malaria with a death rate of 0.17% (405000 deaths). According to the World Malaria report (2018), Nigeria, Democratic Republic of Congo, Mozambique, India and Uganda accounted for about half of all worldwide malaria cases in 2018 with India accounting for 4% of cases worldwide. Approximately 17.9 million people worldwide die every year from cardiovascular diseases (CVDs) making it the leading cause of death globally. In India, 15% of heart diseases were due to CVDs in 1990 and this had risen to 28% by 2018. The second leading cause of deaths worldwide is Cancer, with an estimated 9.6 million deaths in 2018 and with about 70% of deaths in low- and middle-income countries¹⁹.

Although there is a general focus towards Universal Health Coverage, the future of Healthcare will gravitate towards early intervention and prevention of diseases²⁰. Consumers today are more aware and have more access to new technologies. As a result, the traditional Healthcare systems have more challenges to be at par with the requirements and need of the people. Healthcare systems need to be developed at a rapid pace to reach the needy, with accurate and time bound solutions²¹. Governments world over have had different approaches to providing healthcare facilities to their citizens. Countries such as Canada and the United Kingdom have a universal health coverage approach to healthcare while countries such as India and the United States do not. This has resulted in an increased Out-of-Pocket expenditure for Indians.

A breakdown of Out-of-pocket expenditure as a percentage of health expenditure of certain major economies are as represented in Figure 5 . Out of pocket payments refer to payments made to Healthcare service providers at the time of availing the service. India has one of the highest percentages of out of pocket expenditure relative to total health expenditure in the world. Given the

¹³ WHO- Global Health Observatory (GHO) data- Under-five mortality

¹⁴ UNICEF – Maternal Mortality -September 2019

¹⁵ WHO- Global Health Observatory (GHO) data- Number of deaths due to HIV/AIDS

¹⁶ WHO-World malaria report 2019

¹⁷ WHO-factsheet- Cardiovascular Disease-2017

¹⁸ WHO- Cancer-Key Facts -September 2018

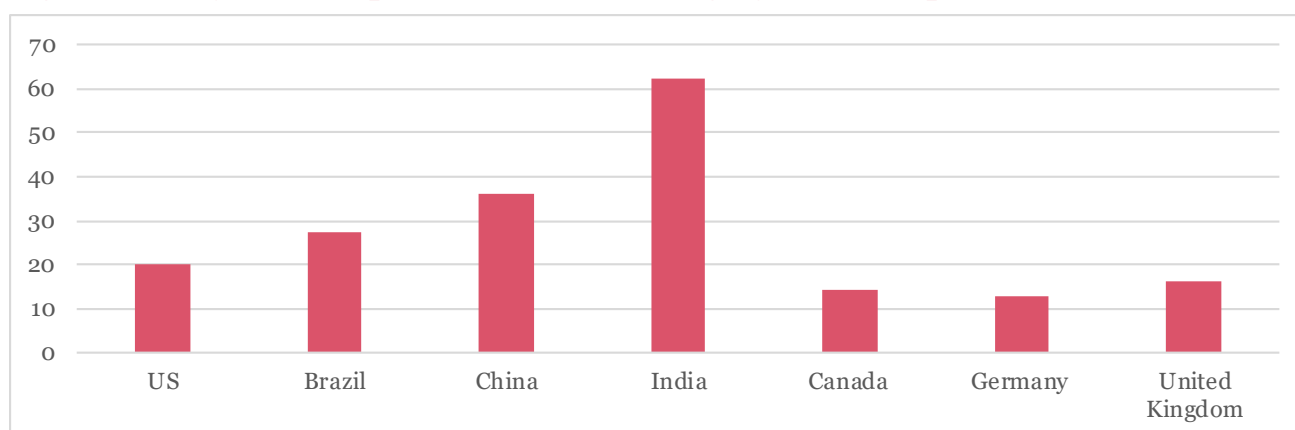
¹⁹ WHO-Cancer key Facts-September 2018

²⁰ Deloitte: 2020 Global Health Care Outlook

²¹ PwC Health Research Institute-Global Top Health Industry Issues- 2018

population that is at risk to the leading cause of deaths such as Cardiovascular Diseases and Cancer, there is a need to reduce out of pocket expenditure and ease the financial burden on the population.

Figure 5: Out of Pocket Expenditure as a Percentage of Current Expenditure



Source: The World Bank- Out-of-pocket expenditure (% of current health expenditure)- 2017

The Digital Health system is expected to grow with an increase in health monitoring software and hardware. Companies are taking cognizance of digital health systems. Access to digital technologies has enabled better patient-doctor interaction and convenient means of sharing information. In this context, light wearable technology and mobile apps for health monitoring and evaluation are gaining prominence and provide convenience in terms of accessing digital technologies. In light of these developments, Artificial Intelligence (AI) is playing a major role in refining data and making coherence of a large quantity of data that is collected. The Internet of Things refers (IoT) refers to how technology can be leveraged to enable physical devices to be connected to the internet. IoT has major applications in Healthcare and will improve data analytics thus improving patient outcomes.

There is a trend towards Universal Health Coverage. Publicly financed health models are being implemented in different parts of the world to reduce financial burden on residents when paying for healthcare. Universal health coverage extends beyond just financial support to include improving the network of Healthcare and access to high quality healthcare. Countries such as Canada, Australia, France and Germany have an already established healthcare model.



Indian Healthcare Market

3. Indian Healthcare

The Indian healthcare market is projected to touch USD 372 Billion with a CAGR of 22%. The hospital industry is expected to grow by around 16% while medical tourism is expected to grow at about 18%²²

India has advanced in Healthcare Services such as organ transplants, cardiovascular procedures, cancer treatments, etc. along with a large number of well-trained medical professionals. The hospital industry in India is expected to touch USD 132.84 Billion by 2022²³. Government initiatives and high private & foreign investments have led the Healthcare and wellness sector on a path of steady growth including longevity. According to the latest data from the World Health Organization (WHO) India's population had a life expectancy of 67 and 70 for males and females respectively with a 37% probability of death under five years of age. There is scope for growth, especially in Healthcare expenditure. In FY-19 the government spend on healthcare as percentage of GDP was 1.5% and the country was ranked 129 in the Global Human Development Index (2018) ahead of Bangladesh and Myanmar but below countries such as China, Brazil, South Africa and Indonesia. Healthcare will always be a priority in the Government as a high-quality healthcare system is a sign of a nation's growing economy.

The Ayushman Bharat Programme as per the National Health Policy aims for access to high quality Healthcare services for all. The scheme attempts to cover two important areas of Healthcare as follows:

1. Health & Welfare Centres: Creation of 1,50,000 Health and Wellness Centres (HWCs) to deliver comprehensive Primary Healthcare (CPHC) covering areas of Non-communicable diseases, Maternal and Child Health Services, essential drugs and diagnostic services.
2. Pradhan Mantri Jan Arogya Yojana (PM-JAY): A Healthcare assurance scheme for over 10.74 crore poor and vulnerable families providing 5 Lakh per family per year towards secondary and tertiary care schemes.

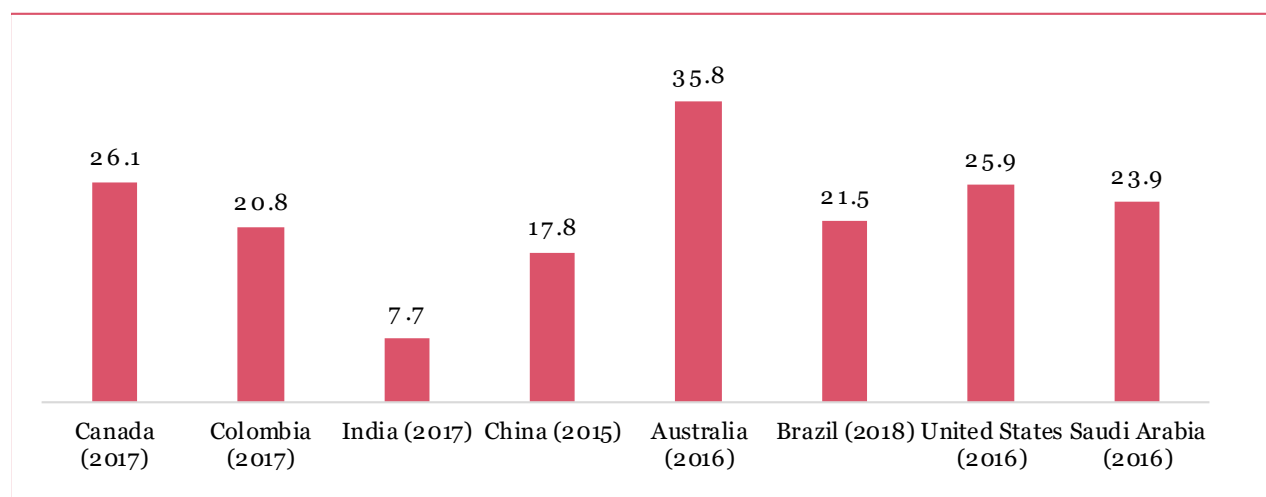
There has been increasing emphasis on Healthcare Infrastructure in the country. Between 2014 and 2018 Government Hospitals increased by 27%. During the same period AYUSH hospitals and dispensaries increased by about 7%. The number of Medical Colleges increased by 35% between 2015 and 2019 while the number of doctors (Modern System) increased by 23.6%²⁴. Figure 6 displays the density of Medical Doctors in India compared to that of developed economies. Observations here are between 2015 and 2018 and are meant to give an overview of India's performance in this area.

²² Healthcare Industry in India- IBEF March 2020

²³ IBEF-Healthcare (01/2019)

²⁴ Economic Survey 2019-20 (National Health Profile 2015 and 2019)

Figure 6: Density of Medical Doctors per 10,000 population

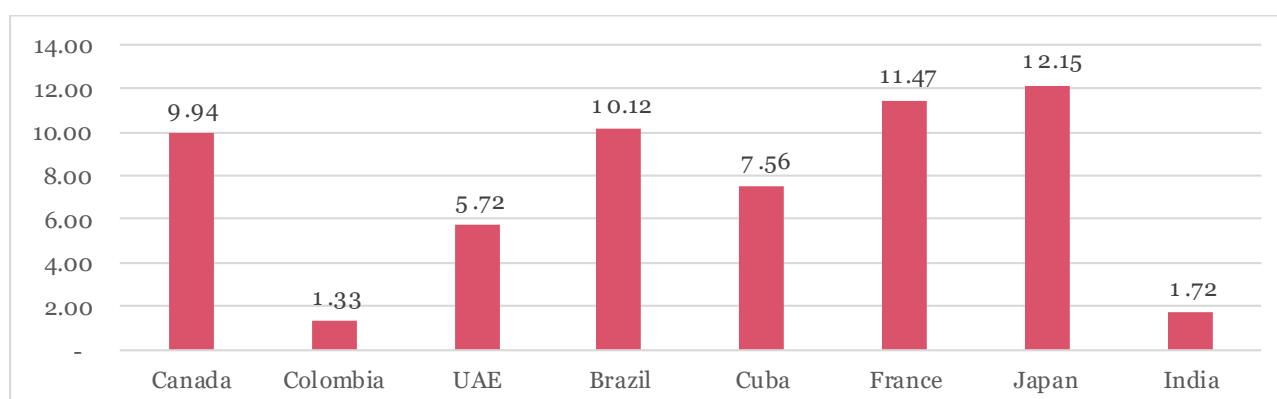


Source: WHO-Global Health Observatory (GHO) data 2016/17.

According to data from WHO, more than 45% of WHO member states reported less than 1 physician per 1000 population. India had just 0.77 physicians per 1000 population in 2017 compared to 2.61 for Canada, 1.78 for China and 2.15 for Brazil. There is a need to increase the number of medical doctors per 1000 population from current numbers to get India on par with other developed economies.

Figure 7 shows the number of Nurses and Midwives per 1000 among various countries in 2018. India has 1.72 Nurses & Midwives per 1000 people, a number which is less than 1/5th of that of Canada and Brazil. India is among 55% of WHO member states to report less than 4 Nurses or Midwives per 1000 population²⁵.

Figure 7: Number of Nurses and Midwives per 1000 people in 2018



Source: World Bank 2018- World Health Organization's Global Health Workforce Statistics

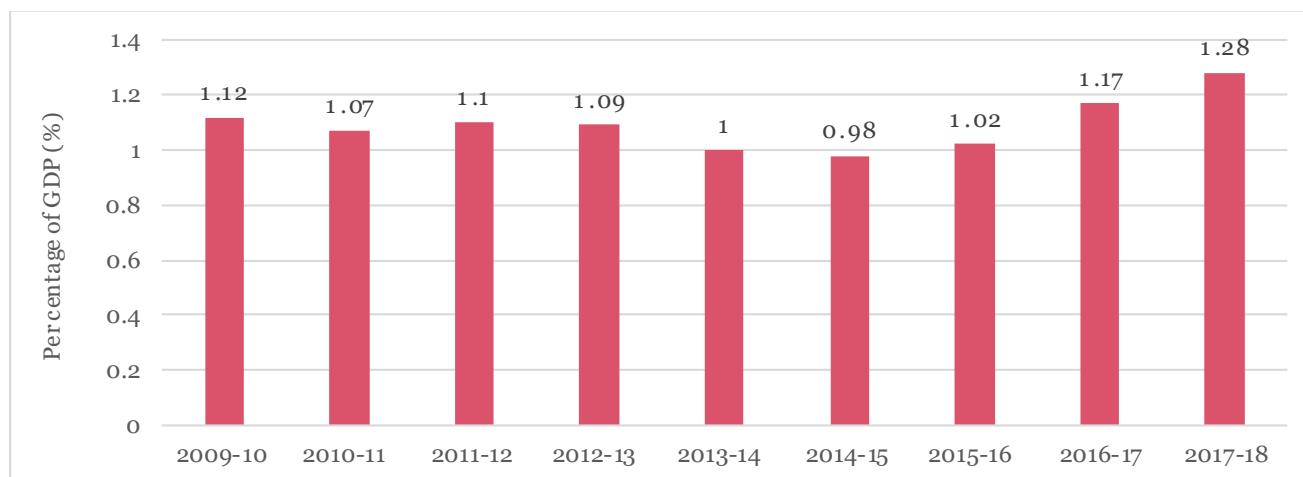
The medical educational infrastructure of India has had a remarkable growth during the last 26 years. The number of medical colleges in India had increased to 476 in FY18 as compared to 314 medical colleges in FY11. The number of doctors possessing recognized medical qualifications (Under I.M.C Act) registered with State Medical Councils/Medical Council of India increased to 10, 41,395 in FY18, compared to 827,006 in FY11²⁶.

²⁵ WHO- Nursing and midwifery personnel (per 10 000 population) 2018

²⁶ <https://www.ibef.org/download/Healthcare-July-2019.pdf>

Figure 8 shows India's public health as a percentage of GDP. India's public health expenditure as a percentage of GDP stood at just 1.28% for 2017-18. India has allocated INR 67,484 Crore for Health and Welfare in the 2020 budget, an increase of 2,485 crore from the previous year. By 2025, the government aims to raise public health expenditure to 2.5% of GDP²⁷.

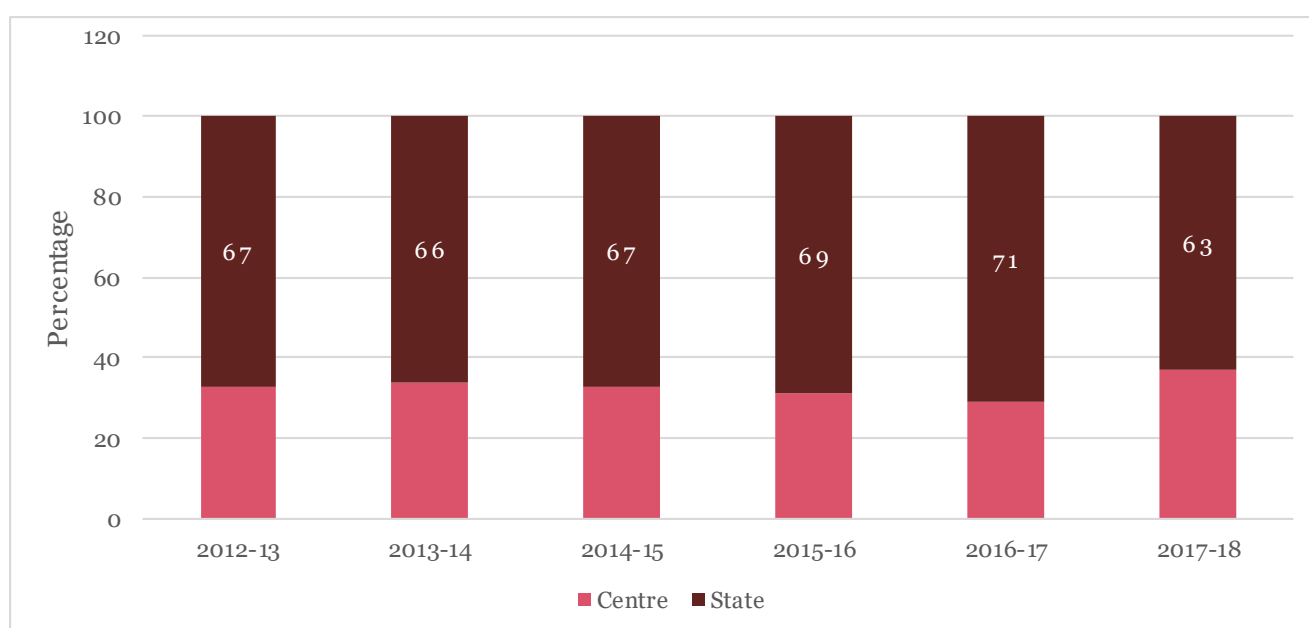
Figure 8: India's Public Health Expenditure as a Percentage of GDP



Source: National Health Profile 2019

Figure 9 lists the Centre-State percentage share in total public health expenditure. It can be observed that the share of Centre's expenditure as a percentage of total public health expenditure remains between 63% and 71%.

Figure 9: Centre-State share in Total Public Health Expenditure



Source: National Health Profile 2019

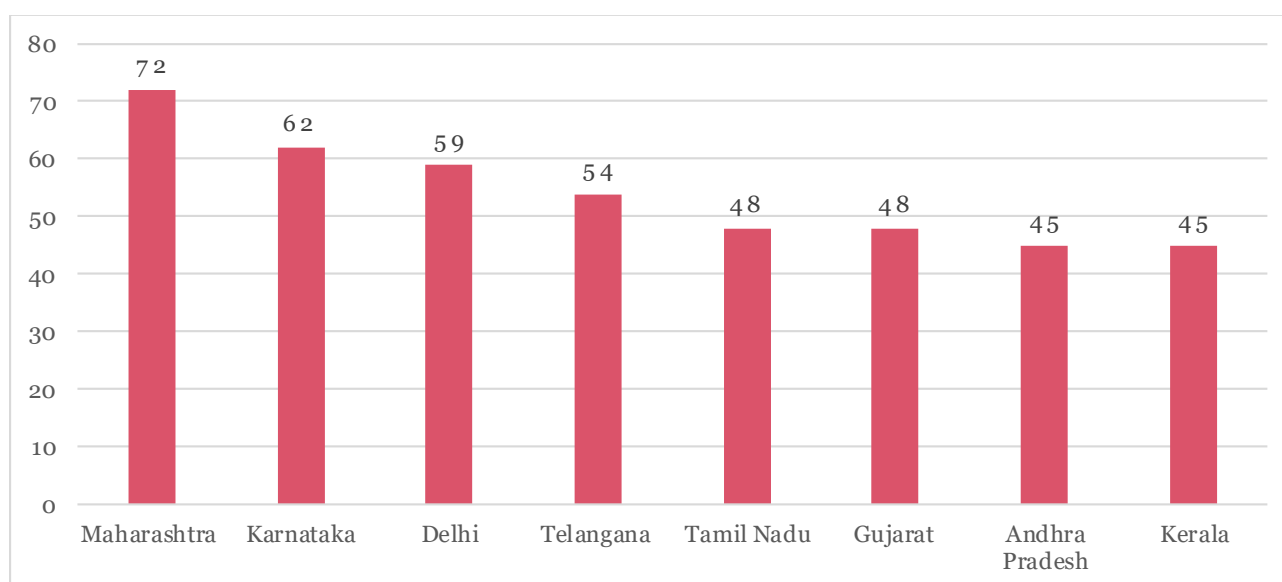
²⁷ Economic Times: India to increase public health spending to 2.5% of GDP: PM Modi-12/2018

Healthcare in Karnataka

The Government of Karnataka is taking various initiatives to improve the health status of the state. The Arogya Karnataka Scheme was developed with the aim to provide Universal Health Coverage to residents of the state covering Primary, Secondary and Tertiary Healthcare. All current ongoing health schemes will be converged to the Arogya Karnataka Scheme²⁸. The scheme will be implemented in phases with 10 major hospitals currently identified initially followed by 33 major district level hospitals.

Karnataka has strengths in Telecommunications, Electronics, Information Technology, and Biotechnology, and is a leader in knowledge-based, technology driven industries. Karnataka invests substantially in infrastructure and is investor-friendly due to the government's encouragement of Public-Private Partnerships (PPPs). Technology advancement elements such as AI (Artificial Intelligence), wearables and other mobile technologies, along with the Internet of Things (IoT), can play a big role in delivering quality and affordable care in Karnataka. There is great potential for the Government to use these advancements and further nurture growth of such innovation in the state. Karnataka is home to numerous medical institutions. Bengaluru, the capital, is home to many reputed public and private hospitals such as St. Johns Medical College and Hospital, Bowring and Lady Curzon Hospital, Narayana Hrudayalaya, Victoria Hospital, St Philomena's Hospital, Fortis Hospital, Apollo Hospital, Manipal Hospital, Columbia Asia Hospital and Hosmat Hospital to name a few. Karnataka has one of the highest number of National Accreditation Board for Hospitals & Healthcare Providers (NABH) accredited hospitals among some of the states in India as displayed in Figure 10. NABH is a constituent board of Quality Council of India which operates accreditation programmes and sets benchmarks in the Healthcare industry.

Figure 10: Number of NABH accredited Hospitals in selected states in India

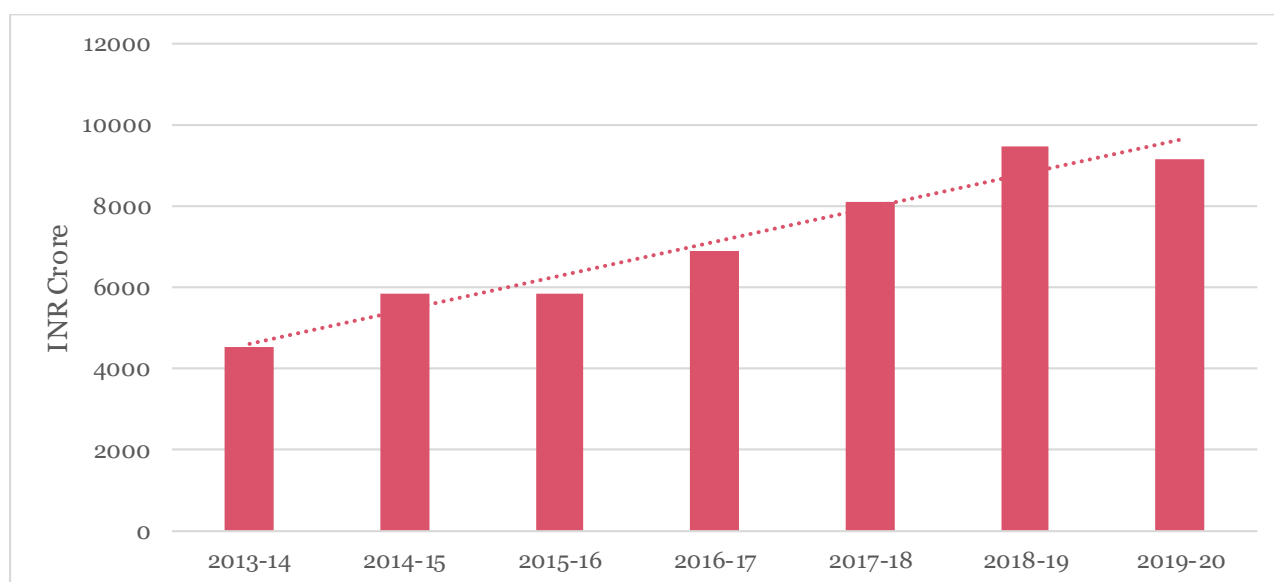


Source: National Accreditation Board for Hospitals & Healthcare Providers (NABH) 2020

²⁸ <https://arogyakarnataka.gov.in/>

Dakshin Kannada, Mysuru and Udupi in Coastal Karnataka have also emerged as major healthcare destinations. Cities such as Mangaluru and Manipal have emerged as major centres with well-known institutions such as Kasturba Medical College, AJ Hospital, City Hospital and Tejasvini Hospital. These hospitals cater to the coastal regions and parts of Kerala, apart from attracting patients from all over Karnataka and India. The Government's development outlay for health has also been steadily increasing. Figure 11 shows the development outlay for health from FY14 to FY20.

Figure 11: Development Outlay in Crores for the Health sector in Karnataka



Source: Economic Survey of Karnataka 2018-19, 2019-20, PRS Legislative Research- Karnataka Budget Analysis 2020-21, (2019-20 – Revised Estimate)

In terms of developments in the Biotechnology sector, India is among the top 12 Biotechnology hubs in the world and Karnataka is one of the top hubs for Biotechnology in the country. The Department of Biotechnology, under the Ministry of Science and Technology, Government of India has identified and supported 9 biotech parks in the country. These Biotechnology parks are developed with a goal to serve as technology incubators besides providing support for scientists and SMEs. The Biotech parks and incubators are located in Lucknow, Hyderabad, Chennai, Guwahati, Cochin, Bengaluru and Naya Raipur. India also has Bilateral and Multilateral cooperation in terms of Biotechnology research and development. Joint programmes, MoUs have been initiated between India and countries/Regions such as Finland, Sweden, Denmark, USA, UK, Brazil, Cuba, South Korea, Australia, Canada, Germany, The Netherlands, Russia and the EU. The programmes cover cooperation and research in areas ranging from Cancer and Vaccination to Food Nutrition and Plant Sciences.

In terms of education in Biotechnology, India also provides numerous Masters programs in many fields of Biotechnology such as Veterinary, Agricultural, Marine, Industrial Biotechnology, Bioprocess Technology, Bio-informatics, Food Science, Nutrition Biology and Computational Biology. These courses are spread among various universities across the country and candidates can apply through the Common Entrance Test (CET) conducted by Jawaharlal Nehru University. In Karnataka the Department of Biotechnology, Government of India along with Department of IT, BT and S&T,

Government of Karnataka is setting up a finishing school which offers a paid fellowship for about 180 students. Biotechnology Skill Enhancement Programme (BiSEP) is certified by Life Sciences Sector Skill Development Council (LSSSDC), New Delhi ²⁹.

Karnataka, being a leading biotechnology hub has made great strides in the development of the sector in the state. The state is home to some of the largest companies or their subsidiaries such as Biocon and Novozymes, as well as numerous startups in this sector. Karnataka Innovation and Technology Society (KITS), the nodal agency of Startups in Karnataka has set up a Startup Cell. KITS has over 4000 startups registered, and it includes over 70 core Biotech companies and many from Meditech, Diagnostics, etc. The Karnataka Biotechnology Policy (2017-22) aims to further boost the sector in the state. While the Government of India expects the Biotechnology sector to reach USD 100 Billion by 2025 Karnataka is expected to contribute anywhere between USD 40 to USD 60 Billion to these figures ³⁰.

The Government of Karnataka is currently undertaking a study of a Knowledge-Health Corridor from Manipal in Udupi district to Konaje in Dakshina Kannada. The project aims to promote the region as a global destination for health and education, and develop an ecosystem for academics, research, manufacturing and healthcare ³¹. The goal of this project is to boost the local economy as well as foster innovation and talent in these sectors ³². The recommendations provided as part of the Champion Services Sector Scheme in conjunction with that of the knowledge-Health corridor project can provide greater synergies in developing the Health and Wellness sector in the state.

Future Drivers of the healthcare system in India and Karnataka

Health Coverage, Digitization, Government Spending and Medical Value Travel - Key Drivers in the growth of Healthcare

The growth of the Healthcare sector hinges on key factors such as Demand, Investment in products and technology and Policy. Growing levels of income, increase in quality of healthcare delivered, rise in Medical Tourism and a growing awareness of best practices in Health and Wellness among the population have led to a rise in demand for health facilities. On the policy level, ease of investments and ease of doing business in India coupled with an increase in Foreign Direct Investment (FDI) and Research will help grow the sector. On the policy level, progressive policies to reduce health and financial burden on citizens will play a major role in driving healthcare growth in the country depicted in Figure 12.

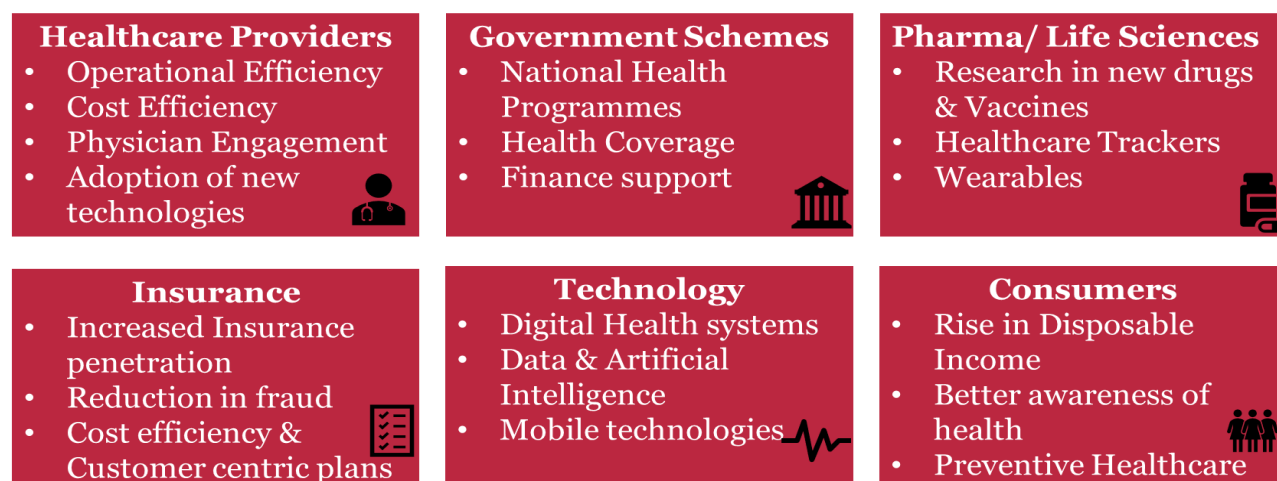
²⁹ Department of Biotechnology, Ministry of Science and Technology, Government of India

³⁰ Karnataka Biotechnology Policy (2017-2022)

³¹ As per information provided by representative of KUIDFC for the Champion Services Sector Scheme

³² Deccan Herald: Knowledge, health corridor: Draft report in 6 months, 01/2020

Figure 12: Future drivers of the healthcare system



Source: PwC Report- financing and funding Indian Healthcare system -2018

An increasing ageing population will drive demand for Healthcare services in the long term

The percentage of the elderly in India has been increasing and the trend is likely to continue in the coming years. As of 2018, 66.77% of the population of India is between 15 and 64 years of age and the percentage of aged population (60 and above) is expected to reach 20% of total population by 2050³³. Additionally, India is expected to add about 273 Million people between 2019 and 2050³⁵. This will lead to an increased demand for healthcare services in the years to follow. The next three decades will see an increased emphasis on healthcare needs tailored towards an ageing population.

Change in disease profile owing to changing lifestyles will influence future trends in healthcare growth

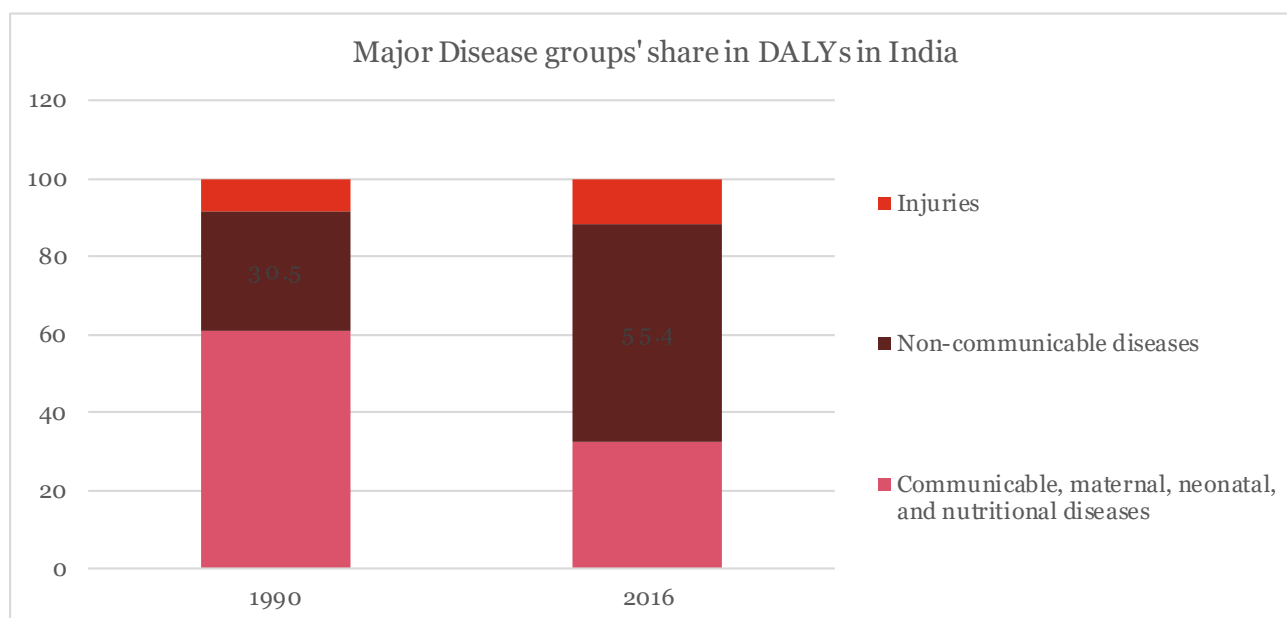
The disease profile is changing from communicable to non-communicable diseases. Changing lifestyle, and eating habits play a major role in this shift. This can also be seen in the increasing number of cases of diabetes and other diseases. Figure 13 displays the Disability Adjusted Life Year (DALY) over 2 decades apart. The Disability Adjusted Life Year is a measure of disease burden in populations. It is calculated as sum of Years of Life lost (YLL) due to premature mortality and Years lost due to disability (YLD). It can be noticed that by 2016, India's Non-Communicable disease had increased in share from 30% in 1990 to about 55% in 2016, while Communicable, Maternal, Neonatal and Nutritional Diseases have reduced from 62% to 32% approximately. The leading causes for Communicable, Maternal, Neonatal & Nutritional Diseases in 1990 were Diarrhoeal Diseases, Preterm Birth Complications, Lower Respiratory Infections etc., while in 2016 the leading causes for this disease category were Diarrhoeal Diseases, and preterm birth complications. For non-communicable diseases, in 1990, ischemic heart disease was the main cause of non-communicable diseases; while in 2016 ischemic heart disease, chronic obstructive pulmonary disease and stroke were the leading causes for this disease category. In 2016, self-harm was the leading cause for injuries.

³³ Data.worldbank.org

³⁴ Economic Times -Share of population over age of 60 in India projected to increase to 20% in 2050: UN, 04/2019

³⁵ World Population Prospects 2019 Highlights

Figure 13 : Major disease groups in DALYs in India



Source: Health of the Nation's States, The India State-Level Disease Burden Initiative

Table 2 illustrates the leading causes of DALYs over two decades apart. Karnataka has made large improvements in many areas including diarrhoeal diseases and preterm birth complications as evidenced in their contribution to DALYs. However ischemic heart diseases have risen as one of the leading causes of DALYs in the state.

Table 2: Leading Causes of DALYs in Karnataka between 1990 and 2016

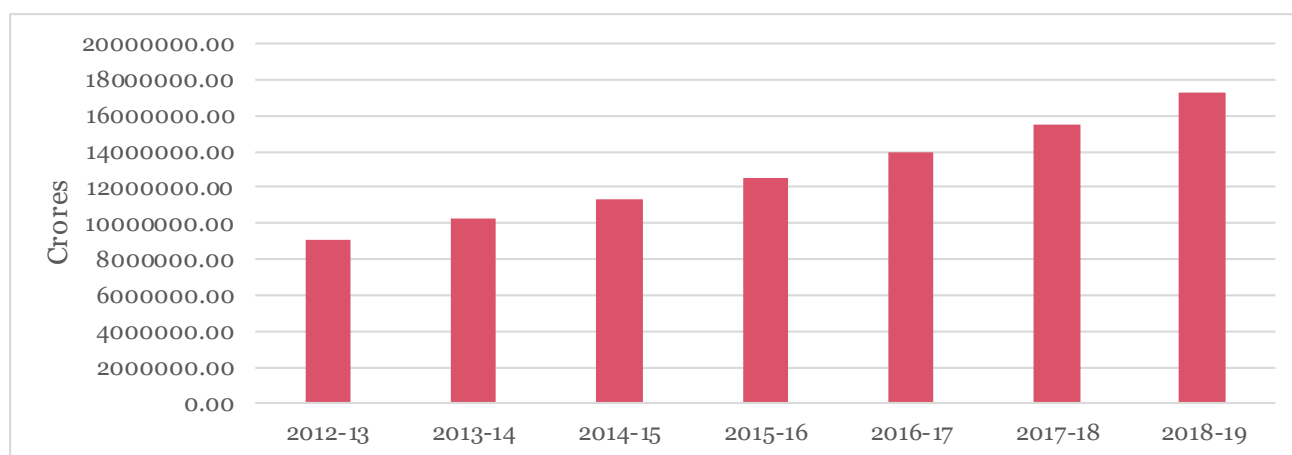
Leading Causes of DALYs			
1990		2016	
Diarrhoeal Diseases	11.70%	Ischemic Heart Disease	11.00%
Preterm Birth Complications	7.90%	Chronic Obstructive Pulmonary Disease	4.90%
Lower Respiratory Infections	6.60%	Self-Harm	4.30%
Ischemic Heart Disease	4.80%	Stroke	3.80%
Other Neonatal Disorders	4.00%	Diarrhoeal Diseases	3.50%
Tuberculosis	3.80%	Preterm Birth Complications	3.40%
Measles	3.80%	Diabetes	3.40%
Neonatal Encephalopathy	3.60%	Sense Organ Diseases	3.20%

Source: India: Health of the Nation's States, The India State-Level Disease Burden Initiative, 2017

Increasing disposable income will make high quality healthcare accessible

An increase in disposable income in the country has led to an increase in demand for better healthcare facilities. Figure 14 shows the rise in National Net Disposable Income from FY2012 to FY2019. It can be observed that between FY2013 and FY2019 alone India's National Net Disposable Income increased by about 90%.

Figure 14: Net National Disposable Income in Crores



Source: RBI Publications - Macro-Economic Aggregates (At Current Prices) -09/2019

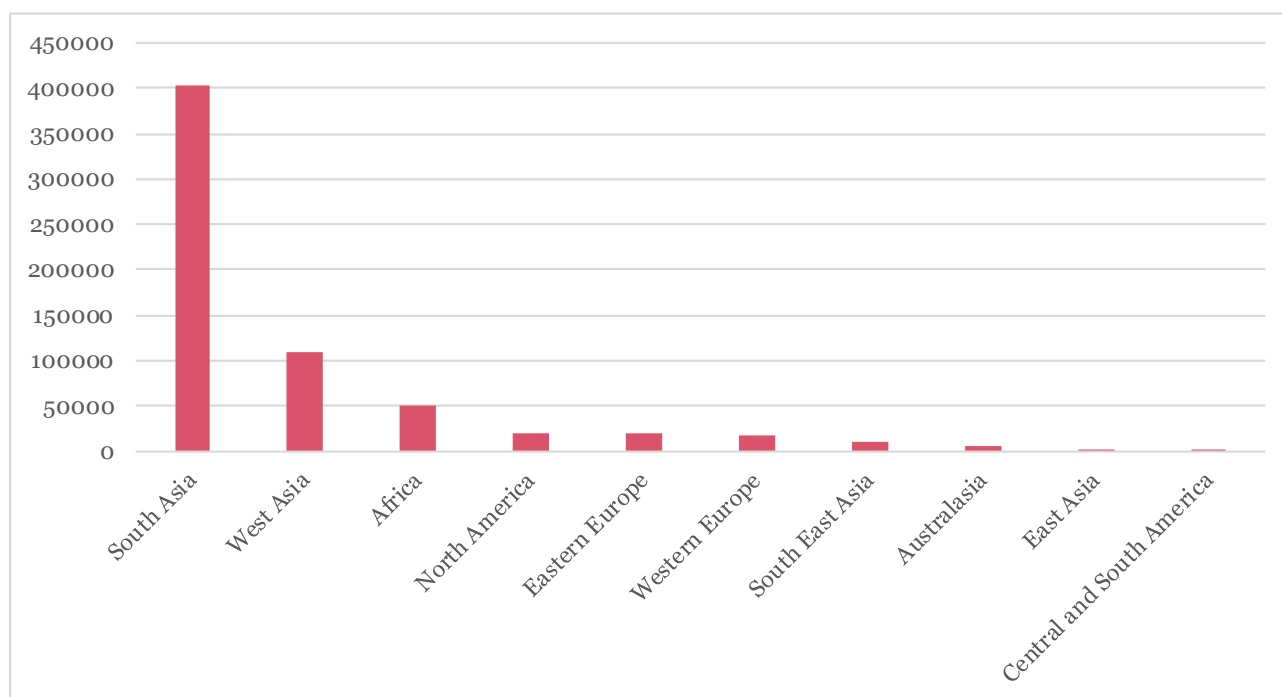
Medical Tourism is poised to grow with increasing awareness and high-quality treatment

Medical Tourism can be broadly defined as seeking cost effective private medical care in collaboration with the tourism industry for patients needing surgical and other forms of specialized treatment. This process is being facilitated mostly by the corporate sector involved in medical care and the tourism industry (Private & Public). The Medical Tourism market is expected to be a USD 9 Billion market by 2020. As of 2016 India held the 5th position out of 41 Medical Tourism Destinations surveyed ³⁶. Thailand is a major Medical Tourism destination and has established improvements such as simplifying visa procedures, providing visas at a reasonable cost, visa extensions for select countries and ease of obtaining permits through direct contact with Government approved hospitals to make it a Medical Tourism friendly destination.

In 2018 about 6.1% of the Foreign Tourist Arrivals (FTAs) were categorized as arriving for medical purposes. The Medical category of FTAs includes patients who are seeking treatment as well as their attendants. Figure 15 displays the number of tourists arriving to India from different geographies for medical purposes. It must be noted that the figure is merely indicative as people categorized as medical can include patients as well as their attendants. South Asia has the highest number of tourists arriving in India for medical treatment followed by West Asia, Africa, North America and Europe.

³⁶ FICCI -EY Report -India: Building Best Practices Globally-2019

Figure 15: Medical FTAs from various regions in the world



Source: India Tourism Statistics 2019, Ministry of Tourism, Government of India

High Quality healthcare, a dedicated marketing team and tie ups with International medical insurance providers have enabled hospitals attract foreign medical tourists. In Karnataka, hospital chains such as Apollo, Fortis, Narayana Health, Manipal Hospitals and Columbia Asia to name a few have well established Medical Value Travel teams and are much sought after hospitals in the state. The Medical Value Travel Facilitator program is provided by National Accreditation Board for Hospitals & Healthcare Providers (NABH) to agencies with the goal of facilitating Medical Value Travel. Medical Value Travel Facilitators are agencies that play a role in the wellbeing of the patients by coordinating all activities related to the patients' Medical Tourism journey. So far, a total of 18 members from 6 states have availed the certification. Table 3 represents the states and the number of agencies in the state that have availed certification.

Table 3: NABH certified Medical Value Travel Facilitators

State	NABH Certified MVTF
Karnataka	5
Delhi	5
Haryana	3
Maharashtra	3
Goa	1
Tamil Nadu	1

Source: National Accreditation Board for Hospitals & Healthcare Providers (NABH)

Telemedicine will increase cost and make healthcare accessible

Telemedicine is an emerging sector in India which can bridge the rural-urban divide, in terms of medical facilities. Telemedicine entails low-cost consultation and provides diagnosis facilities to remote areas via high-speed internet and telecommunication facilities. According to a McKinsey Global Institute report, telemedicine has shown to reduce costs by up to 30% compared to in person visits. About 66% of India's population is considered rural³⁷. In Karnataka about 61% live in rural areas and this provides tremendous opportunities for application of Telemedicine³⁸. Through telemedicine, residents can have access to expert doctors in urban areas for consultations. Major hospitals like AIIMS and Apollo have adopted Telemedicine services and have entered into a number of PPPs (Public Private Partnerships). In addition, the technological growth and development of medical electronics have made it possible to provide high quality medical care at home at affordable prices.

Ayurveda and traditional medicine are increasing in popularity

The Ayurveda products market in India is expected to rise at a CAGR of 16% between 2016 and 2021³⁹. Alternative medicines such as Ayurveda, Homeopathy, Unani, etc. will play an important role in public health, apart from Government initiatives such as National AYUSH Mission, National Health Mission and Prevention and Control of non-communicable diseases, etc. Karnataka has about 13 National Accreditation Board for Hospitals & Healthcare Providers (NABH) accredited Ayurveda, Yoga & Naturopathy, Unani, Siddha and Homoeopathy (AYUSH) hospitals behind Kerala which has 27, opening opportunities to further brand itself as a sought-after healthcare destination. Table 4 provides an overview of NABH accredited AYUSH hospitals in some of the states in India.

Table 4: NABH accredited AYUSH hospitals in India

State	NABH accredited AYUSH Hospitals
Kerala	27
Karnataka	13
Gujarat	10
Maharashtra	8
Uttar Pradesh	8
Delhi	6
Telangana	5
Tamil Nadu	4

Source: National Accreditation Board for Hospitals & Healthcare Providers (NABH) 2020

Insurance coverage is critical to make healthcare affordable

Global Healthcare insurance industry is growing at a fast pace. Healthcare insurance is also gaining momentum in India due to the implementation of new health policies and schemes in the country. As per the most recent Government estimates (2011-12) about 1.3 crore or 20.9% of people in Karnataka lived below the poverty line. This was in comparison to neighbouring South Indian states such as Andhra Pradesh (9%), Kerala (7.1%), Tamil Nadu (11.3%). As India works towards lifting people out

³⁷ WHO-Rural population (% of total population) 2018

³⁸ <http://raitamitra.kar.nic.in/stat/27.htm>

³⁹ Researchgate- Trends in Ayurvedic FMCG Market 04/2019

of poverty, health coverage will play a major role in this exercise. Countries such as Australia, Canada, Italy Japan New Zealand, United Kingdom already have a well-established mechanism for universal health coverage. In Canada the healthcare system is supported by the province (Equivalent to state) in which the resident lives, with guidelines and standards set by the government of Canada. The system is funded through taxation and government funds. This has resulted in a high-quality healthcare system where healthcare is publicly funded but delivered by private healthcare institutions. In the UK, healthcare is funded through the National Health Service (NHS). Healthcare service also includes ambulance service, emergencies and preventive procedures⁴⁰.

The Government of India has enabled health insurance portability. A customer can port his or her insurance to another provider without losing the accumulated benefits from the last insurance provider. The Insurance Regulatory and Development Authority of India (IRDA) now specifies certain rights of the consumer along with conditions to enable Health Insurance Portability. Portability applies to family policies too as well as porting to a different plan within the same insurer⁴¹. Migration shall be provided at least to the extent of sum insured and IRDA has also prohibited insurers from applying fees solely for the purpose of migration.

⁴⁰ International Insurance.com

⁴¹ Insurance Regulatory and Development Authority of India 01/2020



Key Issues and Recommendations

4. Key Issues and Recommendations in Healthcare

Critical Care infrastructure, staffing and promoting Medical Tourism are key to boosting the Healthcare services sector in the state

Healthcare service sector is expected to be among the largest employers in the future and Karnataka can build on its healthcare infrastructure to become a leading state in Healthcare Services. In consultation with various stakeholders that included doctors and academicians, certain specific issues were identified which, when addressed, can further improve Karnataka's healthcare system.

Addressing staffing and high workload in the nursing profession

Nurses play a very important role in the healthcare system. Recognizing this, the World Health Organization (WHO), in fact, has designated 2020 as *International Year of the Nurse and the Midwife*. Stakeholder consultations have revealed a scarcity of nurses, overwork and underpay in the profession. Many nurses are overworked due to high number of patients and constant schedule changes, and most of the time they lack the recognition they deserve. Furthermore, nurses are underpaid and thus those that graduate are switching careers or are looking for opportunities abroad. Nurses also have a very limited role in administration and everyday decision making⁴².

To combat the issue of wages it is recommended that the minimum wage for nurses in Karnataka be looked into to provide better support for well qualified nurses. Furthermore, quality of care by nurses needs to be recognized through patient and employee feedback. Actions such as acknowledgement of hard work during critical times can go a long way in alleviating stress in employees. Rewards may be financial, non-financial, psychological or a combination of these. Studies published have identified that this can greatly reduce stress, improve professionalism and increase job satisfaction⁴³. Nurses should also be made to play a more active role in administration, leadership and decision making. Bangalore Baptist Hospital in the city involves nurses in administrative roles and has them more involved in everyday decision-making⁴⁴.

Capacity planning - Establishing Critical Care Hospitals to free up ICU beds

Consultations have revealed that capacity planning has become critical in hospitals. There is a need to free up beds in ICUs to reduce waiting time and plan capacity better. There can be instances when demand can outstrip supply resulting in prolonged ICU wait times. Setting up hospitals specifically for critical care treatment within the vicinity of major hospitals to free up beds and doctors for emergency and regular patients should be considered. These critical care hospitals will accommodate patients who are classified to have suffered 'Brain-death', or patients that do not need continuous doctor supervision⁴⁵. This will reduce wait times for critically ill patients. The approach is to identify land close to hospitals for Critical Care Units that will free up space for emergency patients.

⁴² Nursing Reforms - Paradigm shift for a bright future FICCI/EY 2016

⁴³ <https://www.ncbi.nlm.nih.gov/> - Identifying nurses' rewards: a qualitative categorization study in Belgium-2006 Sara De Gieter, Rein De Cooman, Roland Pepermans, Ralf Caers, Cindy Du Bois, and Marc Jegers

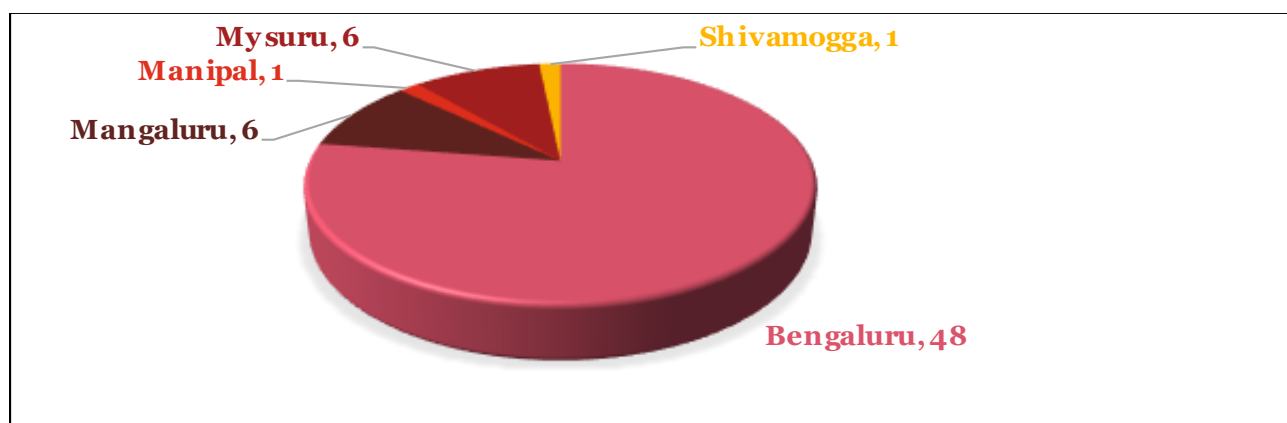
⁴⁴ Deccan Chronicle- SOS to doctors, nurses: Karnataka needs you 2017

⁴⁵ Stakeholder interactions for Champion Service Sector Scheme revealed a 5-acre land is available in the vicinity of K.C General Hospital Bangalore for establishment of Critical care facilities

Promote Karnataka as a high-quality Healthcare destination

Karnataka has one of the highest numbers of NABH accredited hospitals in India. These hospitals are concentrated in Mangaluru, Bengaluru and Mysuru as displayed in Figure 16. These destinations have also long been known for their high-quality Healthcare and medical educational institutions. Out of these, 48 hospitals are located in Bengaluru, 6 in Mangaluru, 6 in Mysuru and 1 each in Manipal and Shivamogga⁴⁶. Mangaluru is gaining popularity as a Medical Tourism destination with patients from the Gulf region and Africa⁴⁷. Furthermore, Bengaluru and Mangaluru benefit from the presence of International Airports which adds a layer of convenience to medical tourists.

Figure 16: Concentration of NABH accredited hospitals in Karnataka



Source: National Accreditation Board for Hospitals & Healthcare Providers (NABH) 2020

India is a very cost competitive destination for medical procedures. Procedures such as a heart bypass, on average, costs about half of what it would in Thailand and about 46% of what it would in Singapore. Table 5 presents cost comparison of various procedures among leading Medical Tourism destinations in the world and savings over average costs (India, Thailand, Malaysia, Singapore, Turkey, South Korea) for procedures in India. Similar trends can be seen in procedures such as Hip Replacement and In-Vitro-Fertilization (IVF) treatment.

Table 5: India Savings over average costs on Medical procedures (USD)

Procedure	India	Thailand	Malaysia	Singapore	Turkey	South Korea	India Savings
Heart Bypass	7900	15000	12100	17200	13900	26000	7450
Angioplasty	5700	4200	8000	13400	4800	17700	3266
Hip Replacement	7200	17000	8000	13900	13900	21000	6300
Gastric Sleeve	6000	9900	8400	11500	12900	9950	3775
Spinal Fusion	10300	9500	6000	12800	16800	16900	1750
Dental Implant	900	1720	1500	2700	11000	1350	2295
IVF Treatment	2500	4100	6900	14900	5200	7900	4416

Source: FICCI EY Report on Medical Value Travel 2019

⁴⁶ National Accreditation Board for Hospitals & Healthcare Providers (NABH)

⁴⁷ Times of India-Mangaluru opens up to medical tourism 02/2019

Although India is cost competitive there needs to be a better perception of India as a high-quality medical tourism destination. The perception is tied to cleanliness of the cities, hygiene and perception of medical institutions to be offering high-quality healthcare. While Karnataka is taking strides to make the city cleaner, the perception of the patient can best be improved by creating a robust ecosystem where all stakeholders' work together to create a seamless customer experience. Table 6 provides a list of stakeholders and their role in developing Medical Tourism in the state.

Table 6: Major stakeholders in the Medical Tourism ecosystem

Stakeholder	Role
Government of Karnataka	<ul style="list-style-type: none"> • Marketing and Promotion of Medical Tourism within India and abroad • Providing a portal to provide information on medical facilities, procedures and general profile of healthcare institutions
Healthcare Service Providers	<ul style="list-style-type: none"> • Providing High quality healthcare & follow-up services • Focus on overall patient experience • Providing transparent cost information • Working with International and National accreditation agencies
Insurers	<ul style="list-style-type: none"> • Facilitating insurance through tie ups with hospitals, government institutions and international agencies
Regulating/certifying Agencies	<ul style="list-style-type: none"> • Assess quality and provide accreditation to hospitals to establish credibility and quality standards. • Redressal of issues and complaints involving fraud or other complaints
Patients	<ul style="list-style-type: none"> • Word of mouth promotion of the state's Healthcare system in their respective states and countries • Feedback on improvement of Healthcare and the Medical Tourism ecosystem

Source: FICCI Building best practices in healthcare services globally, 11/2019

Hospitals in popular medical tourism destinations world over are constantly looking to improve perception of their facilities as high quality and meeting international quality standards. In this regard certain international certifications such as JCI (Joint Commission International) are increasingly sought by hospitals to provide a sense of quality to prospective healthcare seekers. India has about 35 JCI accredited organizations with 31 accredited hospital programs and 4 ambulatory care programs. Among these Maharashtra has the highest accredited organizations at 7 followed by Gujarat at 4. Karnataka has 3 JCI approved Hospital Programs, all located in Bengaluru. Even though Karnataka has about 62 NABH accredited hospitals it has only 3 JCI approved hospitals. It is recommended the Government consider incentives to hospitals to assist secure international accreditations. International accreditations help boost tourist confidence and also aid in future collaborations between healthcare providers.

The Government of Malaysia provides tax incentives to assist secure accreditations. Private Healthcare providers registered with the Malaysia Healthcare Travel Council are entitled to a double deduction incentive on expenditures incurred in the process of obtaining accreditation from certain specific bodies. The accreditation agencies recognized for incentives are Joint Commission International Accreditation (JCIA) from the United States of America, Malaysian Society for Quality in Health (MSQH), CHKS Accreditation from the UK, The Australian Council on Health Care Standards (ACHS) and Accreditation Canada⁴⁸.

A database of reputed hospitals for Medical Value Travel needs to be established either as a standalone website or as part of Karnataka Tourism. The database shall contain the specialties of the hospital, location, accreditation and approximate costs for individual procedures. These provide customers a basic idea of what kind of costs and procedures they can expect and be better prepared financially. The database shall also provide information such as distance to the hospital from the airport, modes of transport, approximate cost of travel and contact details of the hospital's Medical Tourism advisor/International Medical Tourism Coordinator. The database shall also have a list of certified Medical Value Travel Practitioners with certification validity dates clearly displayed.

It is recommended that an Industry Council on Medical Tourism be formed in collaboration with the Department of Tourism to implement the above recommendations and further develop the Medical Tourism ecosystem in the state. The council will be driven by the Tourism Department and may be formed on the lines of NASSCOM. The council will bring together all the stakeholders including the Health, Wellness and Tourism departments to drive the growth of the Health and Wellness tourism in the state. Learnings from the development of NASSCOM can be used to help grow this industry body. A task force may be set up in this regard to understand the existing challenges in the Health and Wellness sector and to collaborate with stakeholders to form the Industry Council.

Post Procedure Follow Up Sessions

Follow up consultations for medical procedures sought overseas is an important criterion for patients and often deters patients from seeking medical help in other countries. In an article published by the International Journal of Environmental Research and Public health considering South Korea as a case study, it was observed that ease of post procedure follow up care ranked the third most important consideration in determining a patient's choice for availing healthcare services. In the case of South Korea, it was observed that South Korean hospitals had, where possible, partnered with hospitals in the patient's home country to enable ease of following up. This was apart from provisions for online consultations by skype or other video calling services⁴⁹.

Post procedure complications may arise in certain instances. There needs to be a well-defined mechanism to address post procedure complications or follow ups. Setting up overseas centres with Telemedicine facilities or having tie ups with medical centres overseas can help reduce the uncertainty regarding post procedure follow up. This can encourage Medical Tourism by guaranteeing post procedure consultation and care in the patient's home country.

⁴⁸ Malaysian Investment Development Authority- Malaysia: Investment in the service sector – Medical and Healthcare Services

⁴⁹ Critical Success Factors of Medical Tourism: The Case of South Korea- Soojung Kim , Charles Arcodia and Insin Kim 2019

Promoting the state through local & international magazines and forums

The Ministry of Tourism, Government of India has been promoting India as a Medical Tourism destination at various events such as World Travel Mart in London and ITB Berlin. The Government of Karnataka can play a major role in promoting Medical Tourism in this regard by Advertising through similar travel events and digital channels. The intention of this exercise shall be to assure a seamless user experience right from the customer's research on prospective medical destinations in Karnataka until the time the customer completes the procedure and returns home. Medical Tourism Marketing and Advertising can be achieved by:

- Creating awareness on Karnataka's healthcare expertise through the social influencer market by encouraging users to blog about their experiences thus encouraging bloggers to raise awareness of India's Medical Tourism industry⁵⁰.
- Promotion of the Health and Wellness sector in the state through marketing in multiple foreign languages based on target demographics. Marketing in multiple languages for different countries also helps in better reach and promote awareness of Karnataka's high-quality Health and Wellness ecosystem.
- Dedicated funding may be earmarked for the sake of promotion of medical tourism through roadshows and international forums.
- Hiring services of a digital marketing agency to brand and promote Medical Tourism in Karnataka. The strategy can involve identifying prospective destinations where Karnataka can be promoted and ensuring targetted campaigns to promote the state's healthcare facilities in these regions. For example, Mangaluru hospitals can be promoted to treatment seekers from the Gulf and African region. This will be preceded by a data gathering exercise based on historical preference of Bengaluru or Mangaluru to specific regions in the world. Based on this data health clusters can be promoted to specific countries and newer markets.
- Medical Value Travel events hosted by the state can play a great role in projecting the state's image as a high-quality healthcare destination. The Karnataka International Travel Expo (KITE) provides a great platform for promoting Medical Value Travel in the state. The event can however benefit from a dedicated Medical Value Travel exposition with major sponsors from the Health care industry and increased involvement of all the Medical Value Travel stakeholders such as, healthcare providers, Government health agencies, wellness services providers, Medical Value Travel facilitators, insurance providers, translation services agencies and consulates. The event can be hosted by the Department of Tourism jointly with the Department of Health and Family Welfare, Government of Karnataka. Through these events, participants have better opportunities of understanding the best practices in the Medical Tourism sector and network with other stakeholders such as language translation agencies and insurance providers to enhance their competence in Medical Value Travel. While these events provide access to networking and best practices in the industry, healthcare professionals in the state can also benefit from attending national and international events to broaden their exposure in healthcare.
- Creation of a dedicated channel for Medical Value Travel at Bengaluru and Mangaluru international airports to fast-track services for Medical Value Travellers. This will help ensure ease of Medical value travel for patients and provide a positive perception of the state as one that is committed to improve patient experience. This can be further advertised in magazines and forums to enhance the image of Karnataka as a high-quality healthcare destination.

⁵⁰ Royal Thai Embassy Singapore - Enhancing Thailand As The Global Center of Excellence For Medical Tourism -2011

The Tamil Nadu Travel Mart Society has, in collaboration with Confederation of Indian Industry (CII), organized the second edition of CII Tamil Nadu Travel Mart and Medical Value Travel Mart Exhibition-2019 at Chennai. The three-day event was aimed at projecting Tamil Nadu's tourism and Medical Tourism industry. Tamil Nadu Medical Value Travel Mart which was organized in association with the Department of Health, Government of Tamil Nadu saw participation from leading hospitals, wellness facilities, insurance companies, Medical Tourism Facilitators and health departments of the state and centre.

Eliminating middlemen & facilitating Medical Value Travel

Choosing a healthcare destination requires a lot of research. Patients can end up with high costs due to middlemen who charge a commission. In addition, there is a lack of clarity with these brokers on costs, as many people associated with the tourism industry, from taxi operators to tour operators, act as brokers trying to profit from medical tourists⁵¹. Eliminating middlemen can bring down costs for the consumer, thereby increasing the cost competitiveness of Medical Tourism in the state. The Government of Karnataka can take steps to reduce dependency on middlemen and thus allay fears of being overcharged for services. The Medical Value Travel Facilitator Empanelment Programme by NABH has about 18 certified agencies from 6 states of which 5 are from Karnataka. Facilitators play an important role in facilitating Medical Value Travel by coordinating with potential patients and ensuring they have a comfortable travel and healthcare experience. The cost of certification is INR 20,000 + 18% GST annually with an application fee of INR 5000. The state can encourage such Medical Value Travel Facilitators through incentivizing registration and certification through reimbursement of the annual fee for the first year and subsequent year's fees based on annual evaluation⁵².

Better synergies can be obtained by effective tie-ups and coordination between hospitals, police and Medical value travel facilitators. This will facilitate visa compliance and help the system deal effectively with any unforeseen circumstances involving medical tourists or the people accompanying them.

Skill development in Teleradiology

The Telemedicine segment has grown at CAGR of 20% between 2016 and 2020 and is expected to touch USD 32 million by 2020⁵³. A 2017 survey shows patients are more interested in seeking Telemedicine services for minor symptoms like allergies, colds, or nausea, but still prefer in-person consultations for more serious issues such as injuries and major surgeries which constitute a major part of Medical Tourism⁵⁴.

⁵¹ Deccan Chronicle- Foreign patients fed up with Indian setup 2016

⁵² NABH- Certified MVTF- <https://nabh.co/firmViewAccreditedMVTF.aspx>

⁵³ Healthcare-India Brand Equity Foundation 2019

⁵⁴ <https://mhealthintelligence.com/news/consumers-like-telehealth-but-still-prefer-face-to-face-Healthcare>

Stakeholder consultations have revealed that there is a lack of skill availability and difficulty in finding Radiologists for Teleradiology. To become a radiologist, a student needs to complete his MBBS and MD in radiology, while consultations reveal that, for Teleradiology, resources can be trained quicker and need not be trained completely in medicine. The task force in telemedicine can also investigate this subject and explore options to address the shortage of Radiologists for Teleradiology.

Enhancing Rural Health Infrastructure through Mobile Medical Units

Karnataka has made great progress in rural health infrastructure as per Rural Health Statistics for 2018-19. Over 61% of the state's population lives in rural areas and there is scope for improvement of rural health infrastructure in the state. Karnataka has a varied landscape and many rural areas lack easy access to emergency healthcare. It is imperative that quality healthcare infrastructure be accessible to these residents. Karnataka has about 22 mobile medical units compared to neighbouring Tamil Nadu (416) and Kerala which has 38 units, despite having a much lower population⁵⁵ as in

Figure 17. Mobile Medical units (MMUs) make healthcare better accessible to the rural population, not just for regular healthcare but also during emergencies such as the recent COVID-19 pandemic.

Figure 17: Top state-wise Mobile Medical Units



Source: Government of India, Ministry of Health and Family Welfare - Statistics Division 03/2019

Mobile Medical Units have played a major role in the recent COVID-19 pandemic. In Uttar Pradesh, MMUs were dispatched to collect samples from migrants returning to the state. These MMUs were used to collect pool samples to test random samples of returnees⁵⁶. In Kerala, Mobile Medical Units were utilized to detect COVID-19 infections in remote areas of the state with a goal to identify and contain COVID-19 clusters in tribal areas and other remote locations⁵⁷.

⁵⁵ Rural Health Statistics- Government of India Ministry of Health and Family Welfare Statistics Division 2018-19

⁵⁶ Source: Times of India-Uttar Pradesh: Mobile medical Units to visit villages to collect pool samples of migrants, 05/2020

⁵⁷ The Hindu- Mobile medical surveillance units to combat COVID-19, 06/2020



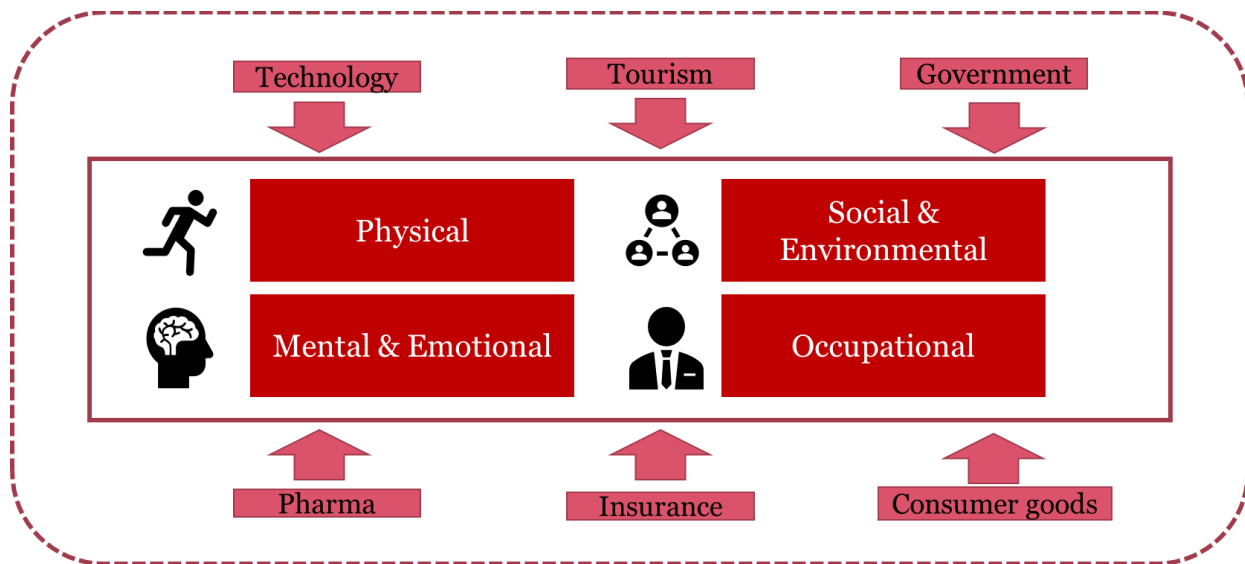
Wellness

5. Wellness

The wellness sector is a USD 4.2 Trillion industry with Personal care and Physical Activity market alone accounting for more than USD 1.8 Trillion

Wellness can be broad in scope, but the sector can be fundamentally classified as Physical, Social, Emotional, Environmental, Mental and Occupational. This is supported by technology, tourism, consumer goods, insurance and the pharma sector as per Figure 18.

Figure 18: Wellness Ecosystem



Source: Study team analysis

The wellness sector is fast growing. It is currently a USD 4.2 Trillion industry⁵⁸. Wellness has long been seen as a choice and a lifestyle. However, the trend has been changing and people are incorporating wellness-related activities as part of their everyday lives. As wellness becomes a more integral part of people's lives, the sector opens up many more opportunities for healthcare, technology, tourism thus enabling employment. Growing disposable income, awareness of the benefits of wellness and an increased need to live a healthy & stress-free life has created a demand for wellness related services among all walks of life. From wellness in the workplace to physical fitness, diet and wellness related travel, the sector is ever expanding to create new products and services that will cater to growing consumer demand in this sector.

Given the general classification of the wellness ecosystem above, the sector can be further classified into 10 major subsegments such as Wellness Tourism, Healthy Eating & Weight Loss, Fitness, Preventive personalized Medicine, Spa, Thermal Mineral Springs, Traditional Medicine, Workplace Wellness, Personal Care, Beauty & Anti-Ageing and Wellness real estate as shown in Figure 19.

⁵⁸ Economic Times: How wellness industry has emerged as a thriving sector in the past 10 years -21/12/2019

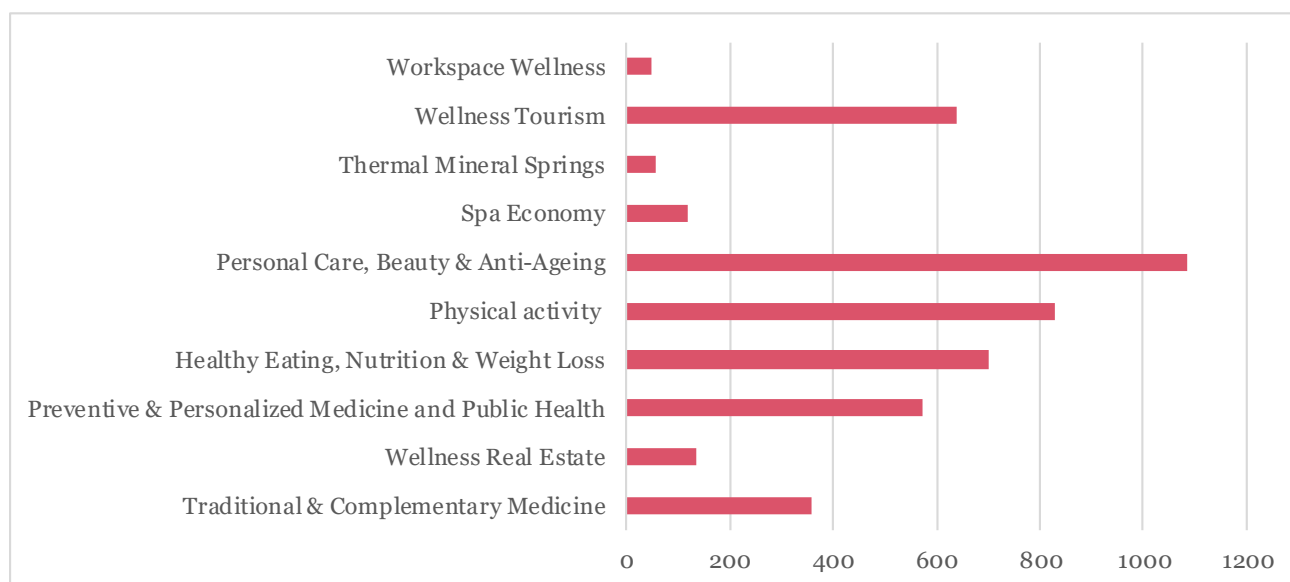
Figure 19 : Sub sectors of the Wellness ecosystem



Source: Global Wellness Summit 2018

Figure 20 displays the various areas that contribute to the global wellness economy. Physical fitness and Personal Care, Beauty and Anti-Ageing are the largest sectors with a size of over a Trillion US Dollars.

Figure 20: Global Wellness Economy in USD Billion



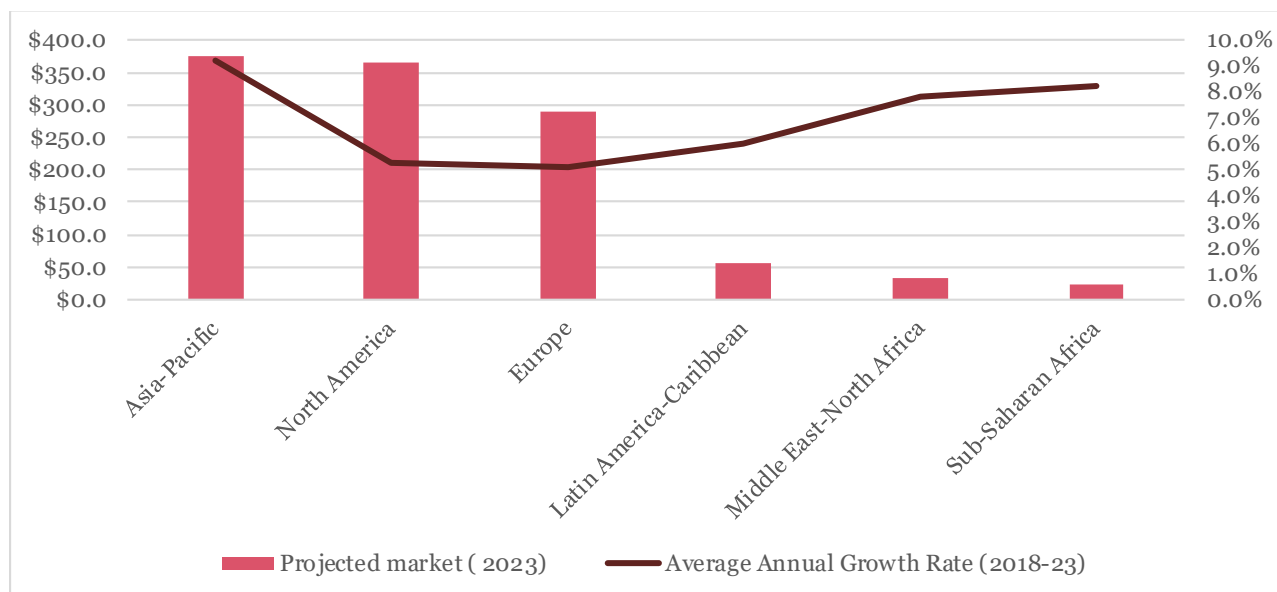
Source: Global Wellness Summit & Institute (GWS & GWI) 2018

Each sector has shown a steady growth rate since the last few years and is expected to grow at a higher rate due to higher demand for these services globally⁵⁹. The North American region remains the largest wellness market followed by Europe and the Asia Pacific Region (APAC). By 2023 the Physical

⁵⁹ Global Wellness Summit Releases In-depth Report, "Eight Wellness Trends for 2019"-2019

Activity market in the Asia Pacific region is expected to reach USD 373.5 Billion followed by North America at USD 366 Billion as shown in Figure 21 ⁶⁰.

Figure 21 : Physical Activity market growth projections 2023 (USD Billion)



Source: Global Wellness Summit & Institute (GWS & GWI) 2018

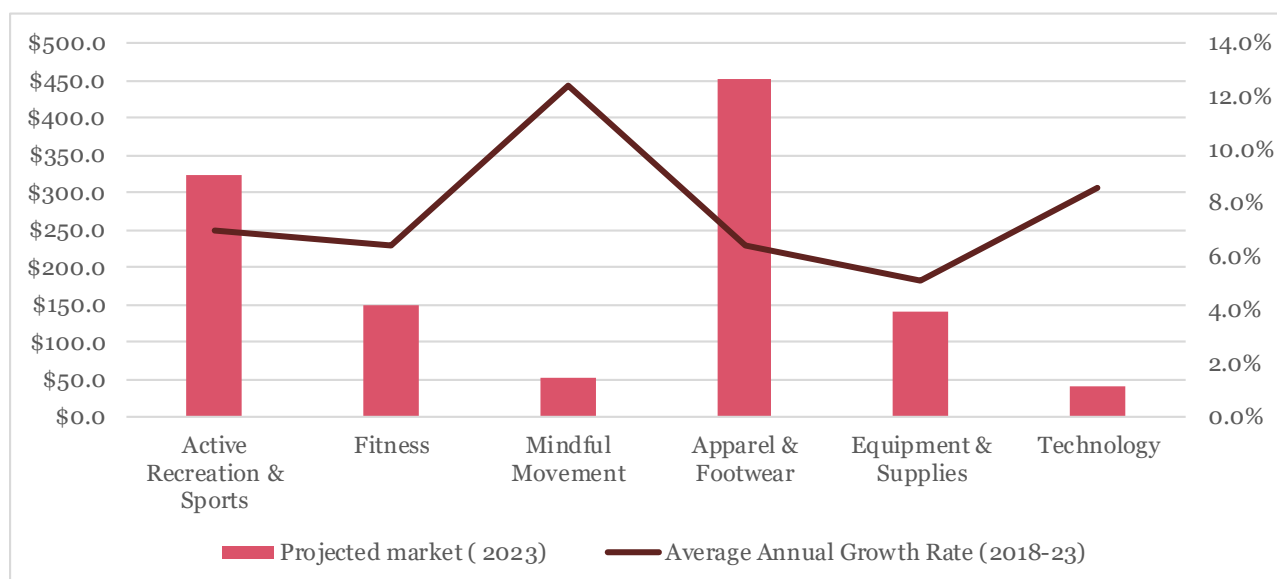
The global fitness market in 2020 is expected to touch USD 94 Billion covering 210000 health & fitness clubs with about 183 Million members⁶¹. The global beauty products market was valued at USD 532 Billion in 2017 and is expected to reach a market value of USD 805 Billion by 2023 with a CAGR of 7.14% (2018-23)⁶². There is growing awareness on the importance of sports and recreation, given today's sedentary lifestyle. Active Recreation & Sports and associated apparel are some of the biggest markets while technology to support activities and mindful movement related activities are fast growing. Figure 22 shows the global physical activity market by sector.

⁶⁰ Global Wellness Institute – Physical activity market growth projections, 2018- 2023

⁶¹ wellnesscreatives.com

⁶² <https://www.marketwatch.com> -Cosmetics Products Market 2019 Global Industry Trends, Share, Size, Demand, Growth Opportunities, Industry Revenue, Future and Business Analysis by Forecast -2023

Figure 22 : Physical Activity market by sector – projections (USD Billion)

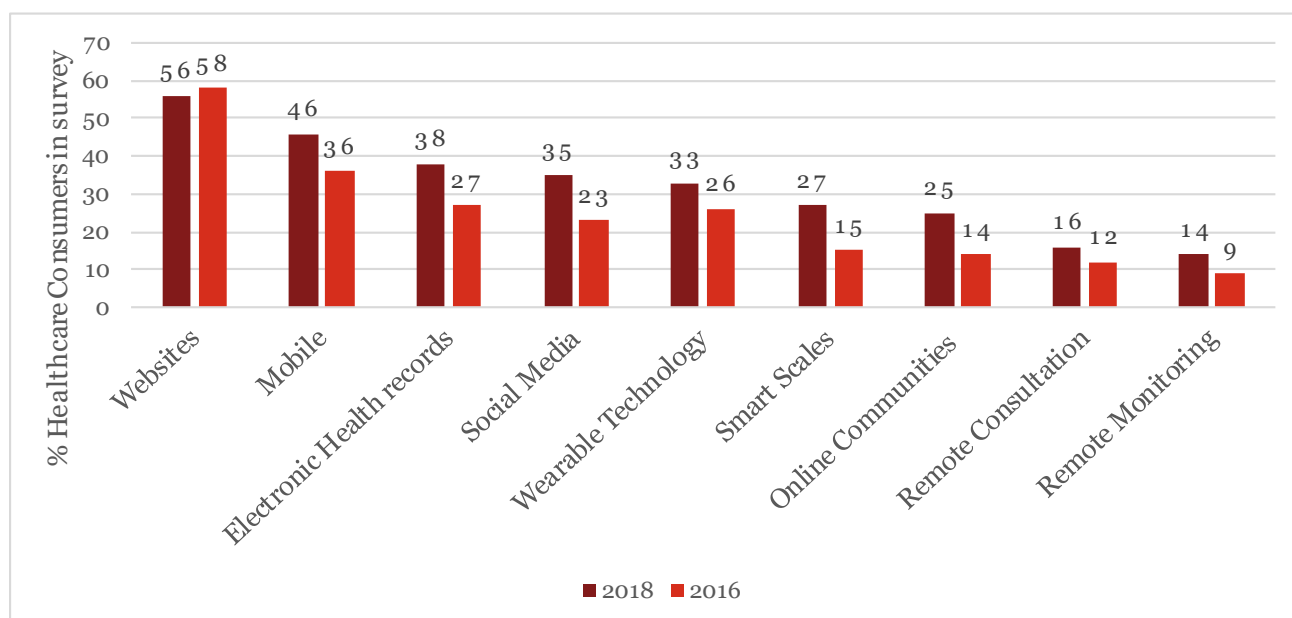


Source: Global Wellness Summit & Institute (GWS & GWI) 2018

The smart wearables market is expected to grow at CAGR 19.1% between 2020 and 2025 to touch 614.31 Million units by 2025. This rapid growth has been a function of innovation, better technology, increased features, enhanced aesthetic appeal of wearables and a growing millennial population that prefers to track its activity and keep healthy⁶³. The advent of new technologies and scientific breakthroughs have paved the way for Telemedicine and use of fitness devices in daily life. Rising awareness among public about technology has resulted in an increase in consumer expectations and desire for convenient, personalized care. There is a rise in health apps and smart health devices which attempt to cater to the growing digital wellness market. The United States is the largest market and a pioneer in terms of consumers using technology to monitor their health. A US survey by Accenture in 2018 showed that about 90% of the respondents were willing to share data from their wearables with their doctors while about 75% of the respondents believed wearables help in better understanding their health condition. There has been a shift in consumer trends in the adoption of technology and digital health in the United States (US) as seen in Figure 23 and this trend is expected to be a global trend in the years to follow.

⁶³ Mordor Intelligence- Smart Wearable Market - Growth, Trends, And Forecast (2020 – 2025)

Figure 23: Percentage surveyed in the US using technology to monitor their health



Source: Accenture – 2018 Consumer survey on Digital Health

The increased use of digital technology has enabled ease of using healthcare data including transmission, storage, access and analysis. As per the survey mentioned, there had been an increase to about 16% (up from 12%) among US healthcare consumers who took part in remote consultations with a 74% satisfaction rate among consumers who had accessed such types of virtual healthcare⁶⁴.

Indian Wellness Market moves beyond Ayurveda and Yoga

The Indian wellness market is expected to cross over 2463 Billion INR by 2025⁶⁵. Ayurveda, Naturopathy, yoga and traditional treatments have long been a popular form of therapy or exercise in India. The country's population is increasingly moving towards staying fit and adapting better lifestyle habits. A rise in middle class income coupled with a growing health and beauty conscious population has driven the demand for services in the sector. The rise in demand also gives rise to a demand for trained professionals in this area and for high quality affordable healthcare. Although Yoga, meditation and traditional medicine have always been popular in India, wider awareness is growing among other forms of wellness with a rise in adoption of social media. For example, the spa economy is expected to touch INR 1.5 lakh crore by 2020 from INR 85000 crore in 2014-15⁶⁶. Similarly, healthy eating, nutrition and eating clean foods are gaining momentum in the country, driven by awareness and a general need to adopt healthy eating habits.

Going forward technology will play a major role in driving the wellness sector, with wellness-based technology startups being a hit among the urban populace in India. For example, Cure fit, a Bengaluru based Health and Wellness brand has under its umbrella fitness, healthy eating, Yoga centres and doctor consultations. These are app driven with booking for fitness centres, food delivery or doctor consultations performed through a single application either on a mobile phone or on a personal computer. Figure 24 shows the top fitness markets in the world as of 2018. The fitness segment involves activities in areas such as gyms, fitness studios, CrossFit centres, HIIT (High Intensity

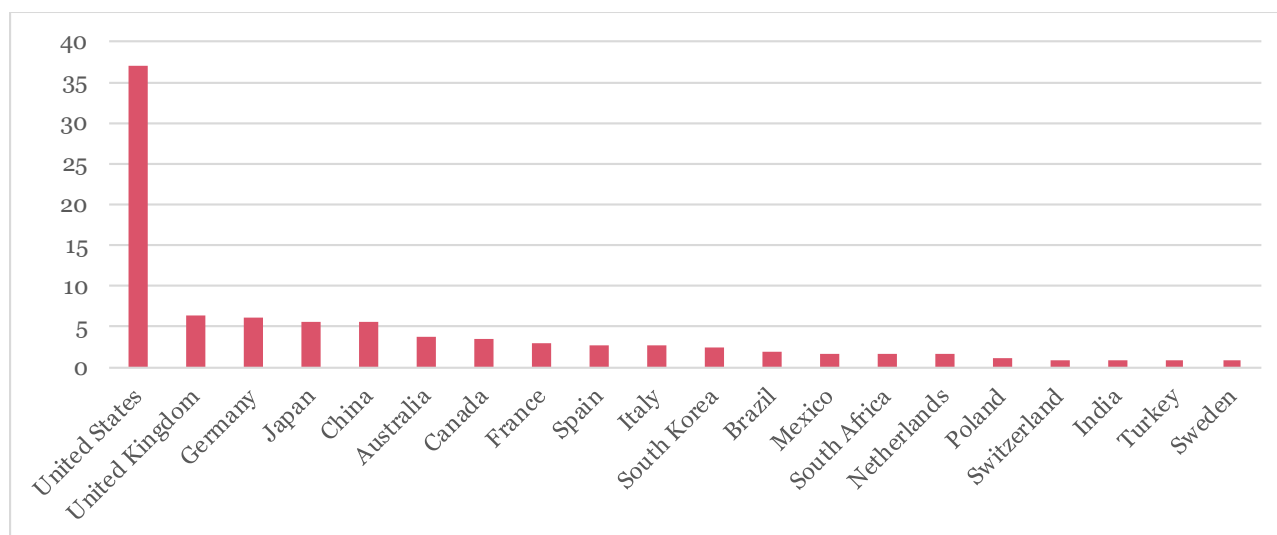
⁶⁴ Accenture 2018 Consumer Survey on Digital Health

⁶⁵ India Beauty & Wellness Market - A CAGR of 18.40% Expected During the Forecast Period, 2019-2024 - ResearchAndMarkets.com

⁶⁶ Economic times: How wellness industry has emerged as a thriving sector in the past 10 years, 12/2019

Interval Training) activities etc. Although highly populated, India ranks 18th with a fitness market of approximately 1 Billion USD.

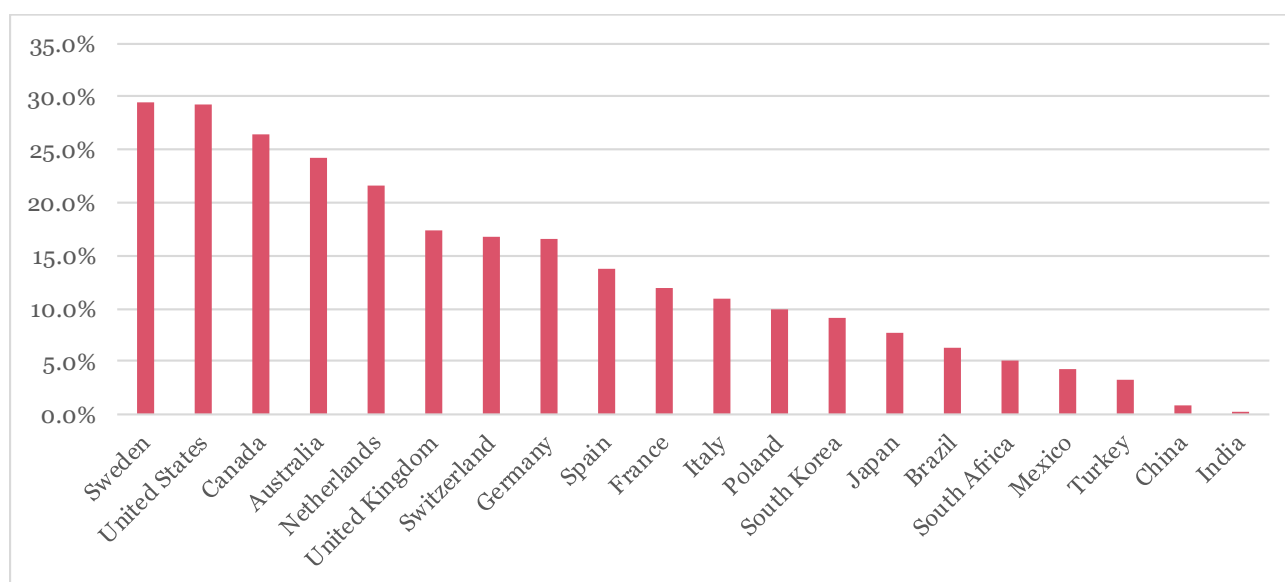
Figure 24 : India in relation to the top fitness markets in 2018 (USD Billion)



Source: Global Wellness Summit & Institute 2018

Participation rate is the percentage of the population that is enrolled in fitness centers such as a gym or a health club. It can be observed in Figure 25 that although India is one among the top 20 fitness markets, the participation rate remains very low at 0.3% behind countries such as South Africa and Mexico.

Figure 25 : Participation rate in Fitness markets by country



Source: Global Wellness Summit & Institute 2018

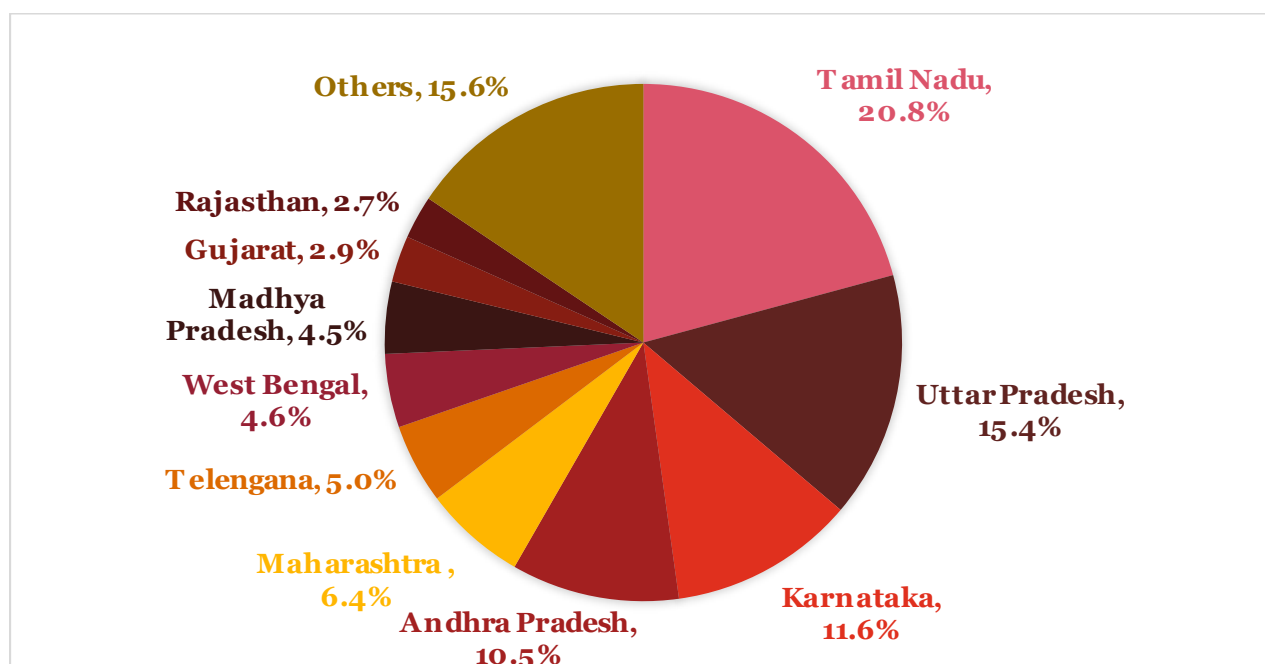
North America, Europe and Australia are geographies with a high participation rate in Fitness markets as evidenced by the figure. High quality facilities, an awareness of various fitness options and the desire to keep fit and healthy has driven the population in these geographies to have a higher participation rate.

The global spa market is growing by 5.7% with the European Union and North America emerging as the largest markets and the Asia Pacific region emerging as the fastest growing⁶⁷. The Spa market was valued at INR 11000 crores in 2018 with a strong projected growth according to the Spa Association of India ⁶⁸.

Yoga, Ayurveda and meditation have always been popular forms of fitness and healing, and this trend is going to continue and increase in popularity in the years to follow. With the growing popularity of smartphones there are many apps that are now offering online courses and options to book such activities online. Going forward, smartphones are going to play a major role in the wellness industry in terms of access to courses, marketing and creating awareness. This is expected to be complimented by social media as a means of generating awareness about wellness and as a marketing tool for businesses in this sector. Rising incomes of Indians now gives them access to high quality wellness activities, thereby increasing the standard of living.

Higher quality Healthcare and Wellness has opened doors for Wellness Tourism with state tourism boards now encouraging wellness tourism and associated marketing activities. The wellness sector is a highly competitive sector. Karnataka has made great progress in the areas of Ayurveda, Yoga, holistic healing and Naturopathy and Karnataka Tourism is also looking to promote wellness as part of its tourism agenda. Mysuru is a well-known destination for Ashtanga Yoga and has gained prominence as a yoga destination in the country. Ayurveda and holistic healing have also gained prominence in the state with many Ayurveda and holistic healing centers being setup statewide. Establishments such as Holistic Treatment centres, Yoga and Meditation centres in the state and many other retreats have been popular among individuals looking for retreat or therapy. This opens up various opportunities to promote Wellness Tourism for tourists visiting the state. Figure 26 shows the percentage of tourist visits in the country for 2018.

Figure 26: Share of top 10 states by domestic tourist visits



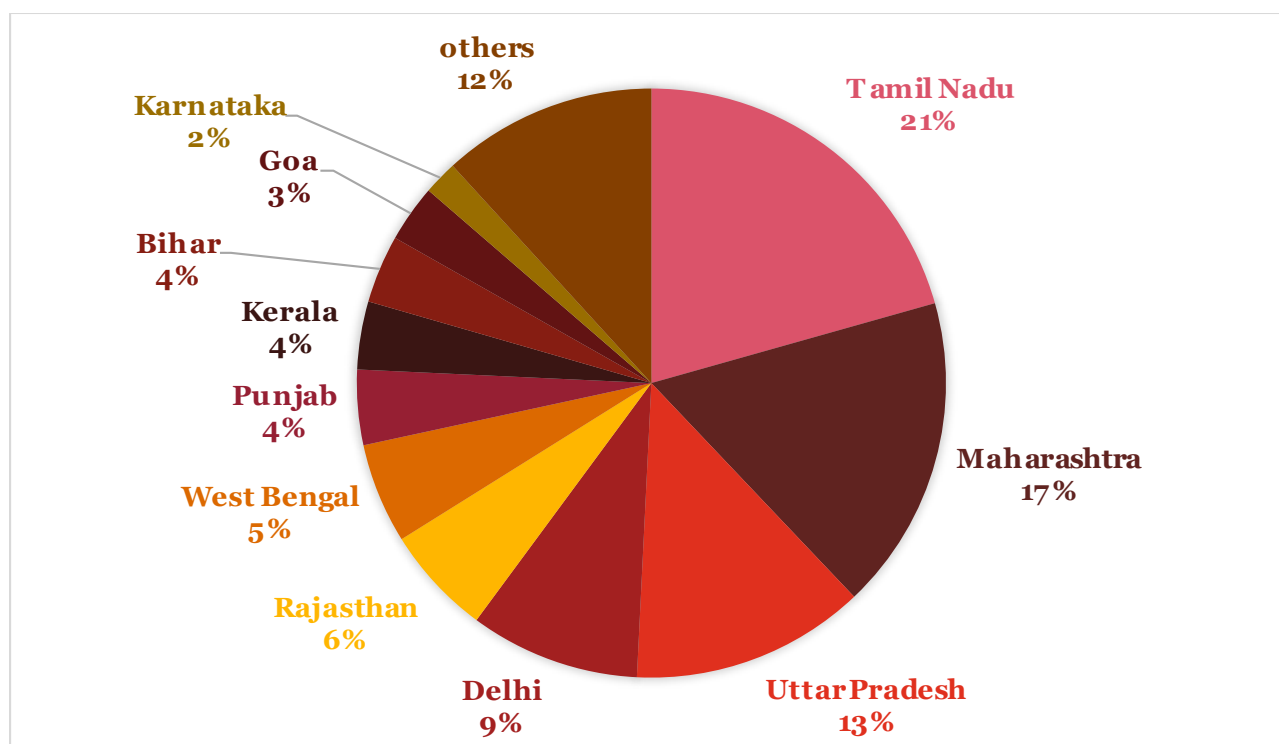
Source: tourism.gov.in – Tourism Statistics at a glance, 2019

⁶⁷ Mordorintelligence.com- Spa Market - Segmented by Service Type (Salon/Day Spa, Hotel/resort, Medical spa, Destination spa, Thermal/mineral spring spa) and by Geography - Growth, Trends and Forecasts (2020 - 2025)

⁶⁸ Economic Times: Beauty & wellness in 2018: Brand identity, unique products will drive the industry 2018

Karnataka ranks third in terms of domestic tourist visits in India with approximately 11.6% of the total domestic visits in the country. However it is ranked 11th in terms of international tourist visits with just a 2% share in the total number of international tourist visits to the country as displayed in Figure 27. There is great potential for improving Karnataka's rankings in terms of foreign tourists and a focussed wellness campaign can play a major role in this push.

Figure 27: Share of top 11 states by international tourist visits

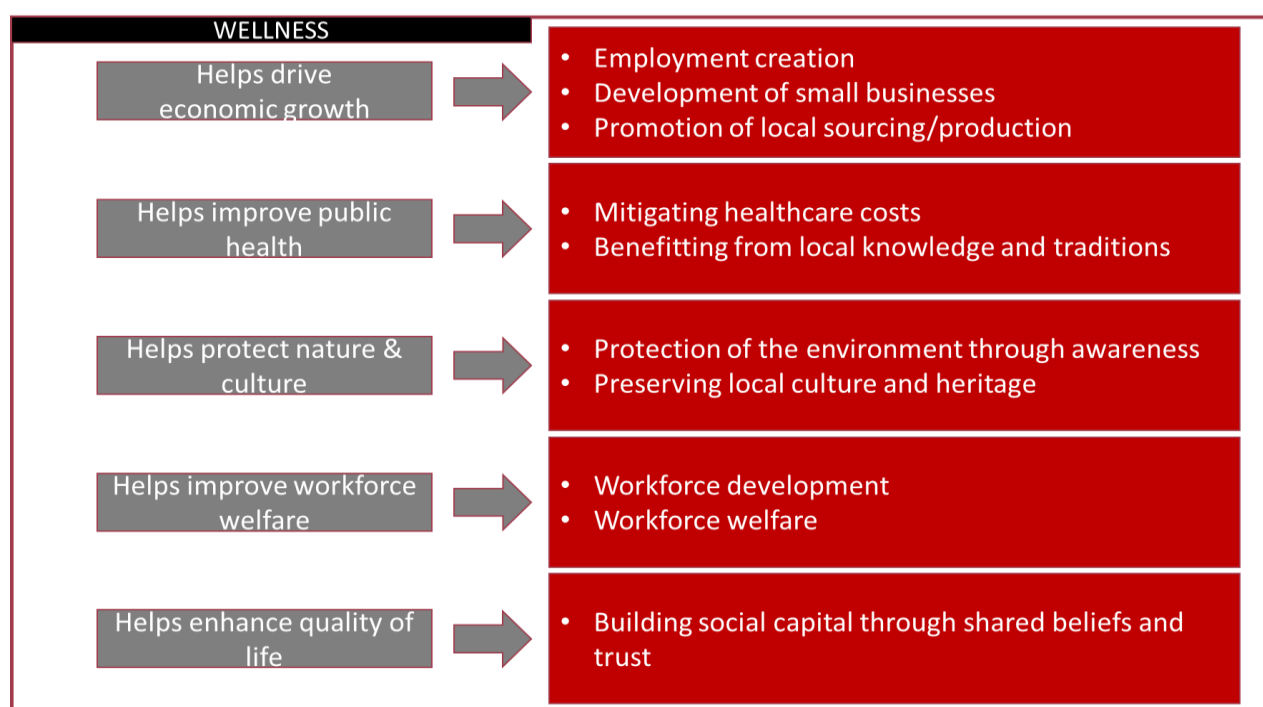


Source: tourism.gov.in – Tourism Statistics at a glance, 2019

India with its population of more than 13.26 crores is a thriving economy. With rising disposable income and better infrastructure, India has seen a surge in domestic and foreign tourists. India is also seen as a popular wellness destination with Yoga, meditation and Ayurveda increasing in popularity. India's citizens are increasingly adapting fitness trends and the Urban population is exploring services in Fitness, Spas, Mineral springs and mental fitness. Rising income and increasing affordability coupled with organizing the wellness sector through accreditation and skill development has created credibility and increased popularity of these upcoming sectors. As a result, wellness tourism, fitness (Body and mind), spa, personal beauty & anti-ageing and thermal mineral springs are sectors in India that are gaining in popularity.

In Karnataka the demand for Spa, Physical & Mental fitness activities is seeing a rise amongst the urban populace in line with national trends. In addition, Karnataka, supported by its rich nature, architecture and culture has great potential in emerging, not just as a sightseeing location, but also as a well sought-after wellness location. Wellness is crucial to Karnataka's overall growth and the sector plays an integral role in the State's development in terms of the economy, environment and culture as displayed in Figure 28. Wellness is not just an industry that promotes tourism but also an industry that improves physical and mental health among the state's population, thus resulting in a happy and healthy populace that drives productivity.

Figure 28 : Role of wellness in the overall development of Karnataka's profile

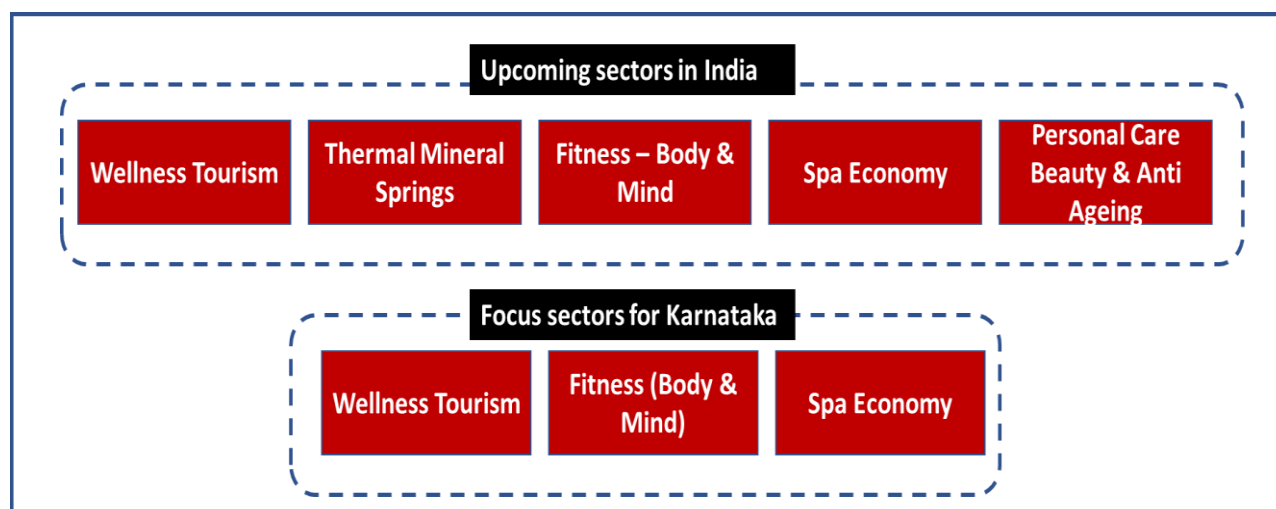


Strategy to develop the wellness sector in Karnataka

1. Region wise promotion of specific Wellness sub-sectors in Karnataka

Three subsectors have been identified in Karnataka that have the potential to boost the state's Wellness sector. These subsectors have been identified based on their potential to create value and build on the state's strengths.

Figure 29: Focus sectors for promoting wellness in Karnataka



The focus sectors are **Wellness Tourism**, **Fitness (Body & Mind)** and **Spa economy**. Table 7 summarizes the strategy to boost the focus sectors in the state. This will be expanded in further detail below.

Table 7: Strategy to boost specific Wellness subsectors in Karnataka

Subsector	Strategy
Wellness Tourism	<ul style="list-style-type: none"> • Creation of wellness tourism circuits across Karnataka • Enhance existing Karnataka tour packages with Wellness stopovers
Fitness (Body & Mind)	<ul style="list-style-type: none"> • Promote fitness through outdoor fitness equipment in public spaces and fitness events throughout the state • Create Yoga and meditation hubs, Ayurveda and holistic healing clusters across Karnataka
Spa Economy	<ul style="list-style-type: none"> • Establish skill development initiatives in the beauty and spa sector to enable high quality service

Karnataka has over 11% share of domestic tourists but only 2% share of international tourists⁶⁹

Karnataka had 21,43,06,456 domestic tourists and 5,43,716 International tourists visiting the state in 2018 ranking it third in terms of number of domestic tourists visiting the state and 11th in terms of the number of international tourist visits. In terms of domestic tourists, Tamil Nadu and Uttar Pradesh rank ahead of Karnataka⁷⁰. In terms of International tourists, Tamil Nadu, Maharashtra, Uttar Pradesh, Delhi, Rajasthan, West Bengal, Punjab, Kerala Bihar and Goa had higher tourist visits. Table 8 shows a comparison between tourist visits in Tamil Nadu, the top ranked state in, both, domestic and international tourists and tourist visits in Karnataka. Karnataka ranked 3rd in domestic tourist visits and 11th in International tourist visits as of 2018.

Table 8: Comparison of tourist visits in 2018 between Tamil Nadu and Karnataka

	Karnataka	Tamil Nadu	Observations
Domestic Tourists	21,43,06,456	38,59,09,376	Tamil Nadu had 80% more domestic tourist visits than Karnataka in 2018
International Tourists	5,43,716	60,74,345	Tamil Nadu had 11 times the number of international tourists than Karnataka in 2018

Source: tourism.gov.in – Tourism Statistics at a glance 2019

Tamil Nadu has been a popular tourist option due to its temples, coastal areas and UNESCO World Heritage sites. This has helped brand the state as a popular spiritual and wellness destination among local and international tourists. Furthermore, the state is also easily accessible through four

⁶⁹ Source: tourism.gov.in – Tourism Statistics at a glance 2019

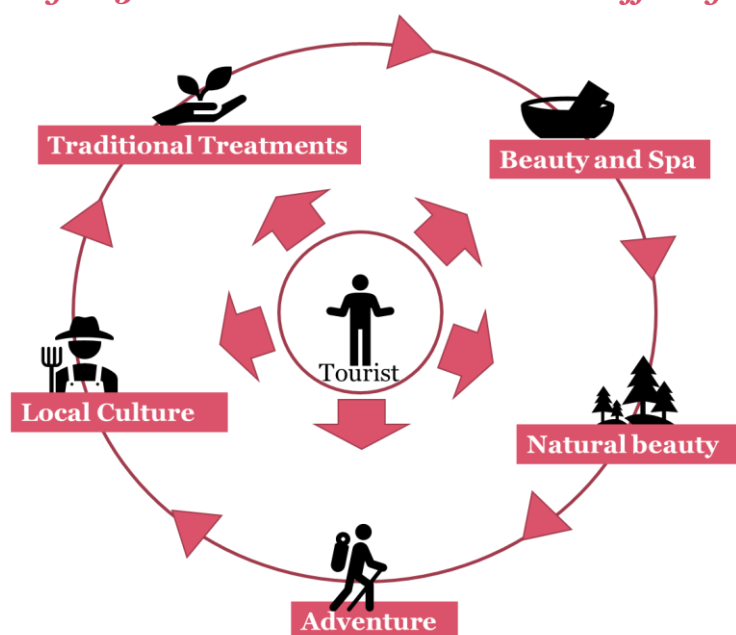
⁷⁰ 2019 India State Ranking Survey- Hotelivate in association with World Travel & Tourism Council

international airports and two major ports enabling easy connectivity to popular destinations within the state⁷¹.

Wellness circuits with a combination of Nature, History, Culture and traditional treatments can create a transformational Physical, Mental and Spiritual experience for tourists

Travel organizers and tourists are now focusing on wellness tourism in a new light. There is a rising trend in tourists looking at more diverse experiences in their tours. Tourism packages that contain visits that involve nature, history and culture with a combination of wellness activities such as yoga and Spa treatments are gaining popularity. Tourists have begun to focus on authentic and local experiences and are beginning to appreciate wellness circuits that offer physical, mental and spiritual stimulation as displayed in Figure 30.

Figure 30: Wellness Circuit with a diverse offering



Case Study: The six senses lodge in Bhutan offers guests a well-planned wellness circuit as part of their stay. The tourists travel to five different locations in Bhutan to facilities covering nature, culture, spa treatments, mental wellbeing and traditional treatments⁷². This is part of the many wellness tourism circuits operating in the country. The Government of Bhutan acts as an enabler to the Wellness Tourism sector by introducing tourists to travel companies that operate these wellness circuits. This provides a layer of credibility to prospective tourists wishing to visit the state. The Tourism Council of Bhutan operates a comprehensive website detailing the destinations in the country, activities and tour packages organized on

the lines of culture, nature, adventure and wellness⁷³.

Identifying regional strengths in wellness will assist sector specific promotion of the wellness sector in Karnataka

There is great potential for Karnataka to benefit from the number of tourists visiting India, given the natural beauty, diversity of landscape and good infrastructure. This can be achieved by promoting wellness tourism in the state by identifying wellness clusters across the state such as Yoga and Ayurveda clusters. Regions such as Mysuru, Bengaluru, Coastal Karnataka, Hubballi and Gokarna are well known for their Yoga and Ayurveda institutions and hence are ideal locations for promoting Yoga and Ayurveda treatments in Karnataka. Coastal Karnataka, regions in the Western Ghats and other scenic destinations can be identified as spa clusters for sustainably developing the spa economy

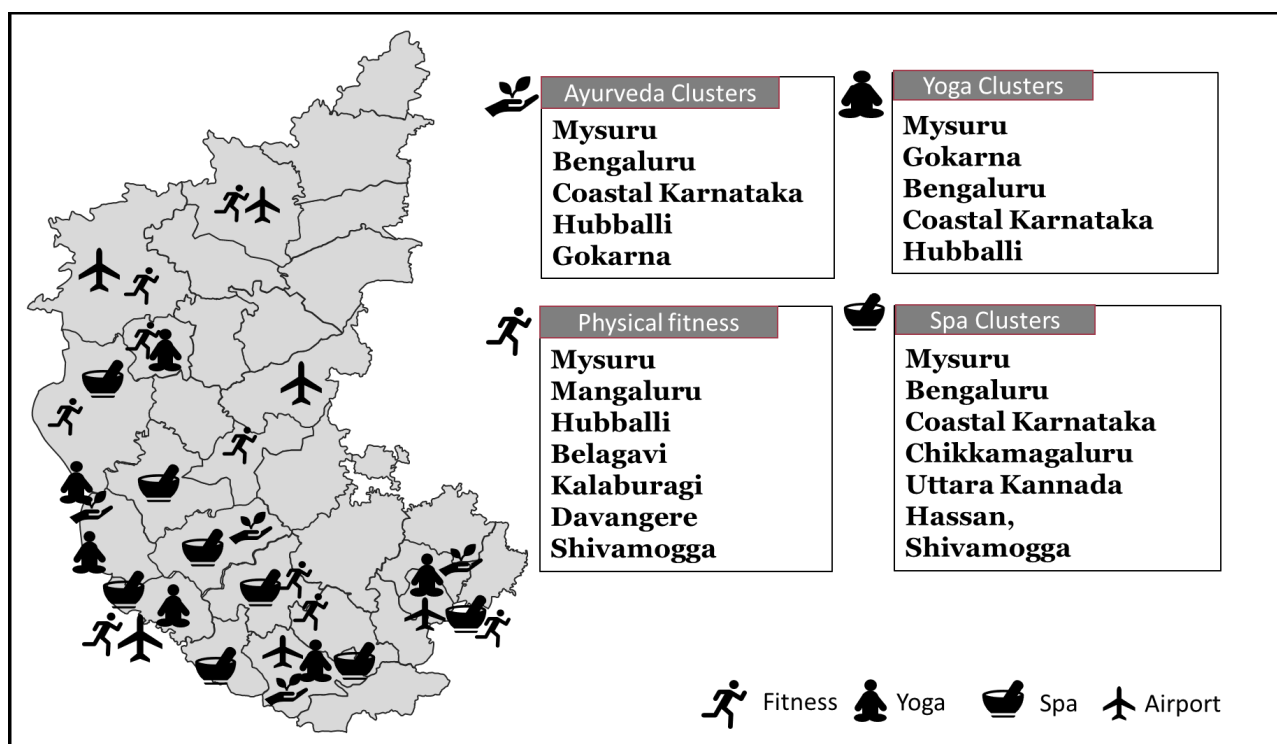
⁷¹ Times of India – One in Four Tourists in India Visits Tamil Nadu, 12/2019

⁷² Global Wellness Summit -Transformative Wellness Travel, 2018

⁷³ <https://www.bhutan.travel/>

in the state. Figure 31 depicts the Yoga, Ayurveda, Physical Fitness and Spa clusters that can be promoted across Karnataka.

Figure 31: Proposed Wellness clusters based on activity



The strategy to boost the wellness sector needs to be supported by skill development to cater to the sector. In the spa sector skill gaps exist in terms of understanding basic anatomy of the body and pressure points in professional massaging. Furthermore, trainers need to be evaluated using formal training and certifications and not just experience. At a more managerial level people management skills, soft skills and customer focussed training is imperative. The physical fitness industry also requires improvement in similar skills such as soft skills, people management and certifications. In addition, there also needs to be training on basic hygiene and cleanliness. Fitness executives need to be trained on dealing with clients with special needs and those that have medical conditions and require special care. Support staff in this industry require adequate training as well. There also exists a skill gap in front desk/receptionists in these sectors in terms of managing appointments, handling a variety of customers and soft skills ⁷⁴.

The participation rate in fitness for the country is 0.3% of the total population

There are great opportunities for the state to improve its fitness profile and thus boost the physical fitness sector statewide. In this regard the government can promote physical fitness by encouraging the public to lead an active outdoor lifestyle. Introducing fitness equipment in public spaces such as parks and lakes in urban centres can help make good quality fitness equipment accessible to all sections of society. Government operated fitness centres along with clean, well maintained swimming pools operated by the state in urban and rural centres can make fitness activities more affordable to the masses.

⁷⁴Ministry of Skill Development & Entrepreneurship/ NSDC/KPMG- Human Resource and skill Requirements in The Beauty and Wellness Sector (2013-17, 2017-22)

In addition to this, the government can promote events such as Marathons and half marathons in the state. Marathons are gaining popularity in some of the major cities in India. Bengaluru Marathon is a major event and draws in crowds from all over the country and abroad. The Government of Karnataka can play a proactive role in promoting fitness events in other districts in the state. A list of 7 cities can be identified as shown in Figure 31 to pilot the promotion of marathons in the state. There are whole economies built around hosting a marathon and a successful marathon can greatly boost local economies. Well organized, low waste and sustainably managed marathons that meet international standards can draw participants from all over the country and from abroad. These marathons can eventually be integrated into the various tourism packages around the state. A well-managed event with a specific theme such as nature, heritage, wilderness etc. will draw numerous participants who inject money into the local economy through fuel consumption, food consumption, lodging, sightseeing and shopping.

Case Study: The Lochness Marathon in Scotland is a scenic Marathon held at Inverness Scotland. The Marathon event attracts around 8000 participants and helps boost the local economy while also promoting tourism in the area⁷⁵. Runners coming to the cities or villages inject money into the local economy in terms of restaurants, hotel visits and entertainment.

In a study conducted on the Blue Ridge Marathon in Roanoke, Virginia, USA, it was determined that the 1844 Marathon runners who brought in visitors, family and friends contributed to about \$592,000 in direct, indirect and induced spending for the local economy⁷⁶.

Branding Karnataka as a popular Wellness destination

Various Indian states have developed their own brand in terms of wellness tourism. The neighboring state of Kerala has long promoted its ayurvedic treatments, backwaters and its landscape to establish itself as a top brand in Ayurveda for tourists. Uttarakhand has marketed itself as a destination for yoga and meditation, based on its proximity to the Himalayas while Rajasthan is selling itself on its heritage and history. To carve its niche in the wellness sector, Karnataka needs to highlight the state's uniqueness and market this effectively.

Karnataka has a rich landscape, history and culture. However, to differentiate itself as destination of choice for wellness tourism, the state's strengths need to be highlighted and a strategy put in place towards branding Karnataka as a high-quality wellness tourism destination. Furthermore, Karnataka will benefit from the creation of a dedicated portal to promote the state as a Wellness hub. This shall be in conjunction with the Healthcare portal as there can be many synergies that can be achieved between Health and Wellness tourism. The portal shall list all the Government approved wellness facilities in the state and the services they offer. The portal will be up to date with information such as approximate costs, certifications, location data and travel options and shall highlight the strengths of each facility. This will provide a level of confidence and credibility to potential customers researching Karnataka for the purpose of wellness tourism. Branding the state as a popular wellness destination will not be possible without robust data collection on wellness tourism within Karnataka and India. In this regard the state must enhance data collection efforts to enable targetted digital marketing to domestic and international tourists already considering Karnataka as a travel destination.

⁷⁵ <https://runabc.co.uk/baxters-loch-ness-marathon>

⁷⁶ Roanoke Regional Partnership - Economic Impact Analysis- Blue Ridge Marathon 2016

Case Study: Uttarakhand has long promoted itself as a tourist destination based on nature and wellness themes. The Government of Uttarakhand has a dedicated “Wellness & Spirituality” section as part of its Uttarakhand Tourism website. The portal is divided into “Ayurveda” and “Yoga” sections with centres and contact details located in 13 districts listed for each category⁷⁷. The Tourism website also provides opportunities for visitors to write blogs based on their experiences. Blogs provide an insight into the state’s tourism experience from a visitor’s perspective and hence strikes a chord with prospective visitors.

2. Coordination within the state’s Health and Wellness sector to create synergies in patient care.

Karnataka is one of the leading states in Medical Tourism. It houses some of the best healthcare centres in the country. Furthermore, Karnataka is blessed with natural beauty including about 300 km of coastline, the Western Ghats, numerous waterfalls and national parks. It is home to rich culture, including ancient and modern temples, rich cuisine and festivals and also has the presence of numerous AYUSH centres, yoga centres, spas and resorts. With better co-ordination between Healthcare and wellness facilities patients who have availed health facilities can be transferred to appropriate, recognized wellness centres after their stay at Hospitals. Here they can rest and recuperate as needed or advised. This allows wellness facilities to cater to the state’s medical tourists and thus help achieve a more robust ecosystem where all the stakeholders in the health tourist’s journey can come together to create a seamless patient experience. The Government of Karnataka can play a major role in facilitating such synergies.

Figure 32: Approach to promote the wellness sector in Karnataka



In conclusion, the wellness industry can benefit from visualizing a prospective tourist’s experience and an in depth understanding of where Karnataka stands in terms of Wellness to understand what can be done to promote the sector. This can be achieved by a combination of focussed wellness strategies and branding followed by enhanced data collection to improve services and achieve transparency in costs as displayed in Figure 32 .

⁷⁷ Ayurveda section is in the process of being updated- <https://uttarakhandtourism.gov.in/activity/ayurveda/>



Implementation and Funding Plan

6. Implementation and Funding Plan

The objective of the report was to prepare an Action Plan for Health & Wellness Sector for Karnataka under the Champion Services Sector Scheme. In the previous sections, the study team has analyzed the Global, National and Regional demand in the sector, the issues pertaining to the sector in the State and the sector development strategy with action points drawn.

In this section we have explored the implementation mechanism and funding requirement for each of the interventions under the proposed action plans. For each of the interventions, Table 9 summarizes the responsible agency for implementing the suggested intervention and the funding requirement for the same. The table also aligns each of the proposed interventions with the champion service pillars (i.e. new processes, new infrastructure, new sector, new mindset and new standards).

Table 9: Implementation and Funding Plan

S No	Action	Champion Services Pillar	Proposed Funding	Implementing Agency
1	Retaining Nurses	New standard		Department of Health & Family Welfare
2	Healthcare Digital Marketing	New sector	0.5 crores per year	Department of Health & Family Welfare
3	Task Force for Telemedicine & review of guidelines for training in Teleradiology	New Mindset	--	Department of Health & Family Welfare
4	Critical care Hospitals	New Infrastructure	INR 200 crores per unit *	Department of Health & Family Welfare
5	Guidelines for definition of wellness	New Processes	--	Department of Health & Family Welfare
6	Branding Karnataka as a Health and wellness destination	New Processes	INR 0.5 crores per year	Department of Health & Family Welfare Department of Tourism
7	Data collection efforts for targetted Health and wellness marketing	New Processes	--	Department of Tourism Department of Health & Family Welfare
8	Identifying wellness clusters and bridging the skill gap to develop these clusters	New Processes/New standards	--	Department of Tourism Department of Health & Family Welfare

*40 bed unit, Source: Study team analysis

Going forward, a proposal for the CSSS – Health & Wellness Sector needs to be formulated by the State Nodal Department in the prescribed format mentioned in the Champion Service Sector Guidelines issued by the Government of India. It is suggested that the Department of Health & Family Welfare, Government of Karnataka engage a Project Monitoring Unit (PMU) to provide support for executing the select proposed interventions. This will ensure that the strategic interventions proposed are implemented in a holistic, timely and orderly manner.

Based on feedback from the Commissionerate, Health and Family Welfare Services, post review of this document, it is suggested that the Department of AYUSH be the nodal department for the implementation of wellness strategies in the state.

7. Annexures

Details of Stakeholders Consulted

Table 10: List of stakeholders consulted

S. No	Date	Person Met	Designation & Department
1	05.08.2019	Dr. Girish	Director, Director of Medical Education (Member Convener)
2	06.08.2019	Dr. T S Prabhakar	Director, Directorate of Health & Family Welfare Services
3	06.08.2019	Ms. Meenakshi Negi, IAS	Commissioner, Department of AYUSH
4	08.08.2019	Dr Murali Krishna Dr. Ramchandra Nayak	Officers, Department of AYUSH
5	21 .08.2019	Ms. Vijayanthi	Superintendent of Medical Education (AYUSH)
6	11.09.2019	Dr. Devi Shetty	Chairman and Founder of Narayana Health
7	16.09.2019	Dr. Vivek Jawali	Chairman of Fortis Hospitals
8	3.10.2019	Mr. Karthik Rajagopal	Chief Operating Officer, Manipal Hospitals
9	9.10.2019	Dr. Sunita Maheshwari	President, Telemedicine Society of India, Karnataka Chapter Founder, Teleradiology Solutions
10	17.10.2019	Mr. Ashwani Sinha	Chief Impact Officer, Teleradiology Solutions
11	18.10.2019	Dr. Gangadhar	Director, NIMHANS
12	23.10.2019	Dr. Ramachandra	Director, Kidwai Hospital
13	07.01.2020	Dr. Rupa Chanda	Professor Economics & Social Sciences, IIM Bangalore
14	07.11.2020		Commissioner, Health & Family Welfare services ^{*78}

⁷⁸ Feedback and inputs on the Champion Services Sector Scheme - Health and Wellness Services

Major announcements/deals/ investments related to the sector

Table 11: Major deals in the sector

Company	Investment (USD) Million)	Sector	Investor
Radiant Life Care	200	Hospital	KKR
Condis Healthcare	200	Hospital	India value fund
Manipal Health Enterprises	171	Hospital	Temasek
Max Healthcare Institute	75	Hospital	IFC (International Finance Corp)
Paras Healthcare	43	Hospital	Creador Capital
Healthcare at Home	40	Home Healthcare Services	Quadria India
Portea Medical	26	Home Healthcare Services	IFC, Accel India, Sabre capital, Qualcomm venture, CDC-MEMG
Asian Institute of Medical Sciences	21	Hospital	CDC group
Nightingales Home Health Services	21	Home Healthcare Services	Eight roads ventures, Mahindra partners
iGenetic Diagnostics	20	Diagnostics	MEMG-CDC
ASG Eye Hospitals	11.7	Eye care	IDFC alternatives

Source: PwC: Financing and Funding Indian Healthcare: Navigating the Turbulent Tide 2018

Table 12: Alternate medicine systems in Karnataka

Medicine system	Hospitals	Dispensaries	Registered Practitioners	UG Colleges	PG Colleges	Licensed Pharmacies
Ayurveda	133	561	25,246	57	16	166
Unani	14	50	1,487	4	1	1
Siddha			4			
Yoga	3					
Naturopathy	6	5	335	3		
Homeopathy	21	43	6,546	12	5	10
Sowa-Rigpa		7				

Source: Ministry of Ayush-State Wise Statistics as of 2019

⁷⁹ Annual Report- 2018-19- Ministry of Ayurveda, Yoga & Naturopathy, Unani, Siddha, Sowa-Rigpa and Homeopathy (AYUSH)