HEALTH AND NUTRITION



Health And Nutrition

Chapter 5

5.1 Introduction

Health is a prerequisite for shaping both the length and the quality of people's lives. It is central to the well-being of human beings. Health is also the most fundamental constituent of the capability as, without health, none of the other components has any value. The World Health Organization (WHO) defines health as "a state of complete physical, mental and social well-being and not merely absence of disease or infirmity." The health care embraces a multitude of "services provided to individuals or communities by agents of the health services or professions, for the purpose of promoting, maintaining, monitoring and restoring health". The ability to lead a longer and socially and economically productive life, thus, depends on good health. A healthy community is an asset upon which an economically viable and vibrant society can be built. The enjoyment of long and healthy life has been declared by the WHO as one of the fundamental rights and the state has a responsibility for health of the people. Health is, therefore, considered as the second most important core dimension of the Human Development Index.

The measurable indicators of health status mainly centered around mortality and morbidity. They include life expectancy at birth (LEB), the infant mortality (IMR), maternal mortality rate (MMR), the crude death rate (CDR) and crude birth rate (CBR). Life expectancy is a measure of longevity. Long and healthy life, as the dimension of human development is measured as life expectancy at birth. All other indicators are functionally linked to the LEB. The LEB is, therefore, considered as a comprehensive summary measure of good health and therefore, included as the sole indicator of health dimension in HDI.

Recognizing the critical importance of health for human development, under the Constitution of India, the provision of healthcare is made a responsibility shared by central, state and local governments. The Government of India and the State Government launched several programs for comprehensive health care since independence. National Rural Health Mission (NRHM) was most recently launched program to improve health care in the rural areas, where the bulk of population lives. The NRHM seeks to provide accessible, affordable and quality health care to all rural population. The UN Millennium Development Goals include inter alia reduction of infant and under 5 mortality rates by two-thirds, reduction

[7]According to Charaka, the renowned Ayurvedic Physician, health is vital for ethical, artistic, material and spiritual development of man. Budha also said that of all the gains, the gains of health are the highest and the best for well-being of people.

of maternal mortality by three-quarters, halt and begin to reverse the spread of HIV/AIDS and halt and begin to reverse the incidence of malaria and other major diseases by 2015.

This chapter makes an attempt to analyze empirically the health profile of the district from human development perspective. The emphasis in the chapter is on disaggregated analysis in terms of various health indicators and availability, adequacy, accessibility and affordability of health care services in the district. Depending on the data availability, an attempt is also made to carry out cross-section analysis of various health parameters by taluk, rural-urban, gender and social groups.

Though the district has favorable sex ratio compared to the state average of 1000:973, the ratio has declined from 1130 in 2001 to 1094 in 2011. The sex ratio of children of the age group 0-6 years is 958.

5.2 Demographic Profile

The total Population of Udupi District as per 2011 censes is 11.77 lackh, out of which males are 5.62 lackh and females 6.15 lackhs (Table 5.1). During 2001-2011 the district witness decadal growth of 5.8 percent in total population. The comparative decadal population growth of the Karnataka State is 15.7 percent. The proportion of male population works out to 47.7 percent and female 52.3 percent. The sex ratio works out to 1000:1094. Though the district has favorable sex ratio compared to the state average of 1000:973, the ratio has declined from 1130 in 2001 to 1094 in 2011. The sex ratio of children of the age group 0-6 years is 955. The comparative state level child sex ratio is 948. Out of 1, 03,160 children of 0-6 age group, 50,471 are female, which constitutes 48.9 percent. The decline in sex ratio is a worrisome feature.

Taluk-wise, Udupi taluk has a population of 5.63 lakh, Kundapura 3.98 lakh and Karkala 2.16 lakh. Kundapura has the highest sex ratio of 1124, followed by Karkala, 1086. Udupi has the lowest, 1077. The decadal growth rate in population is 6.4 percent in Udupi taluk, 5.6 percent in Kundapura and 5.4 percent in Karkala. The rural population constitutes 8.43 lakh (71.6 percent) and urban 3.34 lakh (28.4 percent) (Table 2.5). The district, in fact, witnessed change in the rural-urban composition of population since

Table 5.1
Gender Composition of Population in Udupi District (2011)

Taluk	Male		Female		Sex Ratio
	Number	Percent	Number	Percent	
Karkala	103591	47.94	112500	52.06	1086
Kundapura	187586	47.08	210885	52.92	1124
Udupi	270954	48.14	291845	51.86	1077
District	**562131**	**47.74**	**615230**	**52.26**	**1094**

Source Census 2011

last census. While rural population declined by seven percent, urban population increased by 62 percent. As a result, the proportion of rural population in the total population declined from 81.5 percent in 2001 to 71.6 percent in 2011. As against this, the share of urban population increased from 18.5 percent to 28.4 percent during this period. Despite this increase in urban population, the district still lags behind significantly the average urban population share of 38.7 percent in the state. Out of 8.43 lakh rural people, 3.99 lakh are males and 4.44 lakh, females. In Urban areas, out of 3.34 lakh people, 1.63 lakh are males and 1.71 lakh, females. The sex ratio in rural areas is 1114 compared to 1046 in urban area. Taluk-wise, it varies from 1132 in Kundapura to 1092 in Karkala taluk.

As regards religious composition of population, Hindus constitute about 84 percent of the population, followed by Muslims, 11 percent and Christians, four percent. Jains and other religions account for less than one percent of the district population. The district has the lowest percentage of Schedule Caste (SC) and Schedule Tribe population in the state. Out of 11.77 lakh population, SCs are 75,449, accounting for 6.4 percent as against the state percentage of 17.2 percent (Table 2.6). STs are 52,897, which account for 4.5 percent as compared to state's 7 percent (Table 2.6). The decadal growth is, however, significantly higher in the case of SCs which works out to 11.4 percent and for STs, it is 27.1 percent as against decadal growth of 5.9 percent of total population during 2001-11. As regards gender composition, 49 percent of SC population is women and in the case of ST population, they are 50 percent. The sex ratios for SC (1039) and ST (1017) population are lower than the district average of 1094 but significantly higher than the state level sex ratio 989 for SC and 990 for ST population. Udupi taluk has the largest number of both SC and ST population. Out of 75,429 SCs in the district, Udupi taluk has 32,843, which accounts for 43.5 percent. Similarly, 26,087 out of 52,897 ST populations are in Udupi taluk. It is found that 74 percent of SCs and 79 percent of STs live in rural areas.

5.3 Health Status: LEB, IMR AND MMR

The long and healthy life measured by life expectancy at birth (LEB) is considered as a summary measure of good health and included as the indicator of health dimension in HDI. It not only reflects translation of health status into higher life expectancy, but also brings out significant change in the profile of population. Similarly, maternal and Child health care is regarded as the backbone of any health system. Infant mortality rate (IMR) and maternal mortality rate (MMR) are universally accepted as the most important indicators of overall health status of any community. Any system that fails to provide basic care for mother and child is deemed as a failure.



Mobile Health Service

Udupi district experienced a consistent improvement in LEB during the last two decades. In 1991, LEB in the district was 66.1 years, which was increased to 67.8 years in 2001. It is now estimated at 73 years

Box 5.1 Comprehensive health Care: Eleventh Plan Seven Measureable Targets

The Eleventh Five Year Plan set seven measureable targets, reflecting the health status to be achieved by the end of the plan period. The Twelfth Plan aims to re-strategize to achieve faster progress towards the seven goals set under the Eleventh Plan. These targets relate to:

1. Infant Mortality Rate (IMR)
2. Maternal Mortality Ratio (MMR)
3. Total Fertility Rate (TFR)
4. Under-nutrition among children
5. Anaemia among women and adolescent girls
6. Provision of clean drinking water for all

Raising child sex ratio for age group 0-6 years

The UN Millennium Development Goals aim at reduction of infant and under-5 mortality rates by 2/3rd and maternal mortality rates by three-quarters by 2015. IMR is measured as a mortality ratio of 1000 live birth. MMR measures a mortality ratio of 100000 live births. Complementary to IMR, the child mortality rate is also another indicator of overall health status. The child mortality rate is measured as a ratio of mortality of children up to age 5 to 1000 live births.

Udupi district experienced a consistent improvement in LEB during the last two decades. In 1991, LEB in the district was 66.1 years, which was increased to 67.8 years in 2001. It is now estimated at 73 years (Table 4.2). LEB of Udupi district is above the national average of 65.8 years and state average of 66.9 years. Udupi ranks first in LEB. Taluk-wise, it varies from 72 in Udupi taluk to 74 in Karkala taluk. The inter-taluk variation is only marginal. Gender-wise, female LEB is higher than male. The crude birth rate for the district is 13.3 and crude death rate, 6. Taluk-wise, while crude birth rate varies from 11.7 in Udupi taluk to 15.7 in Kundapura taluk, the death rate varies from 5.9 in Kundapura taluk to 7.2 in Karkala taluk. Even in crude birth rate and death rate, the district has

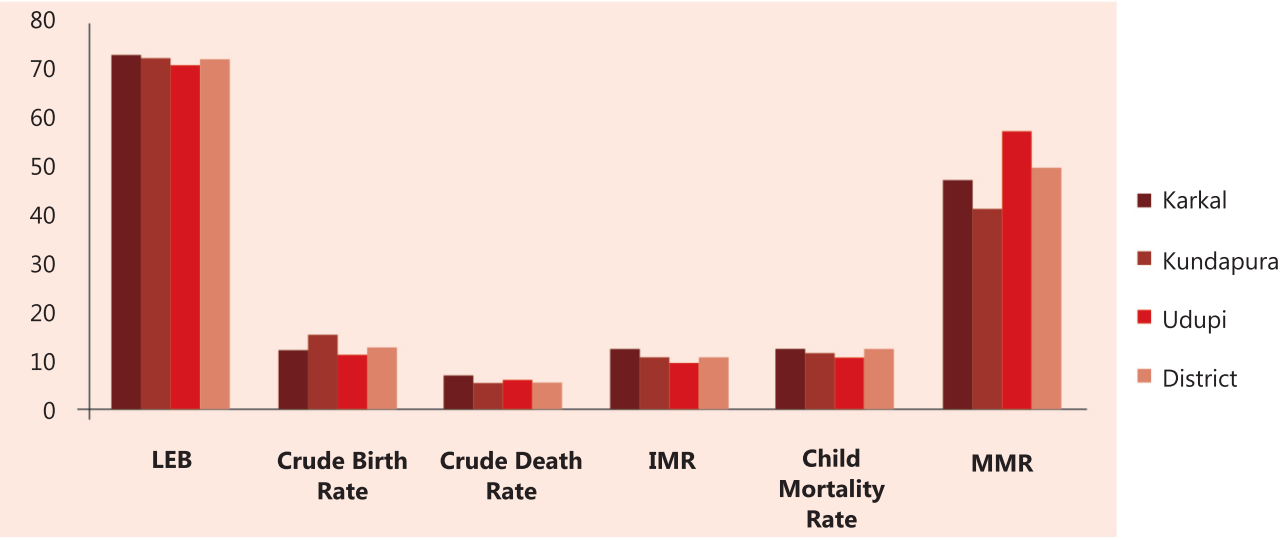
Table 5.2
Taluk-wise IMR and MMR and other Health Indicators
(2011-2012)

Taluk	LEB	Crude Birth Rate	Crude Death Rate	IMR	Child Mortality Rate	MMR
Karkala	73.7	12.7	7.2	13	13	48
Kundapura	73.3	15.7	5.9	11	12	42
Udupi	71.7	11.7	6.5	10	11	58
District	**72.9**	**13.3**	**6**	**11**	**13**	**50**

[10] IMR, CMR and MMR are computed for districts and sub-districts at the state level by using SRS (Sample Registration System) estimates and ratio method to avoid underestimation.. The ratio is obtained from the data gathered from the DHO.

the lowest rates in the country. The comparative birth and death rates, at the national level, are 22 and 7.2 and at the state level, they are 19.2 and 7.1 respectively. The infant mortality in the district, as shown in Table 5.2, are 11 per 1000 live births[10]. The district witnessed a significant decline in IMR during the last decade. In 1991-92, it was 59, which was reduced to 45 in 2001-02. Thereafter, there was a drastic decline to 6.86 in 2005-06. It has gone up slightly in 2011-12. Taluk-wise, it varies from 10 in Udupi taluk to 13 in Karkala. In Kundapura, it is 11. Inter-taluk differences are not significant. In the case of SCs and STs, the IMR is found to be significantly higher. IMR for SCs was 18 and for STs, it was 19. It is, however, important to note that the district has one of the lowest IMR in the country. The comparative IMR at the national

Chart 5.1
Taluk-wise IMR and MMR and other Health Indicators: 2011-2012



Box 5.2: Karnataka State Integrated Health Policy – 2004

The Government of Karnataka formulated a state Integrated Policy based on the recommendations of the Task Force on Health and Family Welfare (2001). The key focus areas of the policy are:

- Providing integrated and comprehensive primary healthcare.
- Providing a credible and sustainable referral system.
- Establishing equity in delivery of quality healthcare.
- Encouraging grater public-private partnership in the provision of quality health care in order to better serve the under-served areas.
- Addressing emerging issues in public health.
- Strengthening health infrastructure.
- Improving access to safe and quality drugs at affordable prices.
- Increasing access to alternative medicine systems.

level is 47 and in the state level, it is 35. The under-5 mortality rate in the district is also one of the lowest in the country. It is 13. Taluk-wise, the child death rate varies from 11 in Udupi to 13 in Karkala. In Kundapura, it is 12. SCs have CMR of 22 and STs, 19. The district has also recorded lowest MMR of 50 per 100000 live births in the state. The state level MMR is 144. Taluk-wise, it varies from 42 in Kundapura to 58 in Udupi. In Karkala, it is 42. In the case of SCs and STs, comparatively, it is found to be very high. It is 266 in the case of SCs and 123 in the case of STs. The district health services provide certain unique health facilities for maternal and child health under various health programs like: Janani Suraksha Scheme for safe motherhood, Madilu Kit child birth, Thayi Bhagya Plus and the Prasuthi Araike. All these programs contributed to reduction in IMR, CMR and MMR in the district.

5.4 Couple Protection Issues and Family Welfare

The family planning services implemented by the state government focuses on three areas: First is to ensure availability and access to a sufficient range of contraceptive options and relevant contraceptive in stock. Second is to make informed decisions, clients need to have adequate information about the available options, their side effects and advantages. Third is to provide a service in a manner that protects the individual's or couple's privacy.

Table 5.3 provides details of network of family welfare service centres in the district. All taluks have equitable distribution of family welfare service centres based on population.

The district has 68 family welfare centres, 325 sub-centres. 34 vasectomy clinics and 6,132 tubectomy clinics. The district has one of the lowest total fertility rates in the state. It is less than 1.5. Earlier two children was the couple's mantra and now most of the younger couples prefer one child. As shown in the Table 5.4, the women sterilization is the most common method of family planning in the district. The spacing between the births of two children, is also equally adopted.

Table 5.3
Family Welfare Service Centres

Taluk	Family Welfare Centres	Family Welfare Sub-centres	Vasectomy Clients	Tubectomy Clients
Karkala	18	70	6	1068
Kundapura	24	110	5	2396
Udupi	26	145	23	2668
District	**68**	**325**	**34**	**6132**

Source: Udupi District at a Glance 2011-12/DHO

Table 5.4
Udupi District: Performance of Family Planning Measures 2011-12

Family Planning Measures	Users	
	Number	Percent
Total eligible couples	177512	100
Vasectomy	188	0.11
Tubectomy	96360	54.28
IUD	15907	8.96
C.C. users	6675	3.76
O.P.Users	4541	2.56
Total Users	123701	69.69
Couple Protection Rate (percent)	-	69.68

Out of 1,77,512 eligible couples, 1,23,701 couples used family planning measures.

The couple protection rate works out to 69.69. It is slightly higher than the state average of 66.42. Among measures used, Tubectomy was used by most of the eligible couples (54 percent), followed by IUD. Inter-taluk differences are almost negligible. It is 69.73 percent in Kundapura, followed by 69.36 percent in Karkala. In Udupi Taluk, it is 68.05 percent. Mean marriage age is also another important indicator of women's power in fertility decision making. The average marriage age for female is 24 years and male 29 years. With the increasing enrolment of girls in higher education and professional courses, the average marriage age is preferred to be 24 years and above for female and 29 years and above for male.

In Kundapura, the mean marriage age for female is 18 years and for male, 23 years. The average marriage age for both female and male for SCs and STs are relatively lower than other community groups. The district has no prevalent practice of child marriage.

5.5 Infrastructure and Health Personnel Facility

Prior to independence, in the erstwhile Dakshina Kannada district, the government-run Wenlock Hospital at the district headquarter Mangalore and the taluk level hospitals at taluk headquarters were the main health infrastructure for provision of health services. Other hospitals were two missionary-run hospitals: Father Muller's Hospital at Mangalore and Mission Hospital at Udupi and one Government run hospital, Lady Goshen Hospital at Mangalore. All these

Both public and private sectors have played a dominant role in the overall development of the health sector in the district.



Kundapura Hospital (O.P.D.)

Table 5.5
Health Infrastructure in Udupi District

Taluk	Government Hospitals		Private Ayurvedic Hospitals		Private Hospitals /Nursing Homes		PHCs/CHCs*		Clinics
	No.	Beds	No.	Beds	No.	Beds	No.	Beds	No.
Karkala	1	100	0	0	10	420	17	150	44
Kundapura	1	100	2	35	13	699	23	162	115
Udupi	1	320	7	130	22	2206	25	222	306
District	**3**	**520**	**9**	**165**	**45**	**3325**	**65**	**534**	**465**

Source: Udupi District at a Glance – 2011-12 DHO.
*PHCs refers to Public Health Centres and CHCs, Community Health Centres



Kasturba Medical College, Manipal

hospitals were located in urban centres and there was no health service network in rural areas. The number of medical graduates was very less. In the absence of transport and communication facilities, rural population had no access to health facilities. The local medicines were the only source. After independence, with the introduction of public health services, establishment of Kasturba Medical College at Manipal and emergence of private hospitals, there

Box 5.3: Health Services and Manipal University

The contributions of Manipal University to Udupi district as a private initiative in the field of health services are unique and remarkable. As a reputed international University, Manipal University is serving the district through a tertiary level hospital at Manipal and a chain of other hospitals and field outreach units in the district.

Kasturba Medical College and Hospital have a distinct place in the health care delivery system in the district. KMC has completed more than 50 years and is the flagship of the University. The hospital at Manipal is backed by world class infrastructure and the expertise and experience of doctors and faculty members. There are various super specialties in the hospital. The main hospital in Manipal is Kasturba Hospital which is attached to Kasturba Medical College and has more than 1000 beds. Dr.T.M.A Pai hospital at Udupi with 120 beds provides secondary level care. Dr.TMA Pai Rotary Hospital is the first level rural hospital with 80 beds at Karkala.

Further, KMC has a good network of 7 Rural Maternity and Child Welfare (RMCW) Homes, providing primary health care to approximately 50000 population in 12 villages of Udupi taluk. The Kasturba Hospital with its outreach has become a model of health care delivery in the region. Students are trained in this setup. Apart from the above, the group of hospitals provides a variety of health services to the people of the district and outside the district. For weaker section of the community, KMC issues Manipal Arogya Card for providing health services at concessional rates..

Source: Manipal University Health Statistics..

was a revolutionary change in the health infrastructure in the district. Both public and private sectors have played a dominant role in the overall development of the health sector in the district.

Udupi has one District Hospital, which is the primal centre of health care followed by one MCH hospital (specialized in maternal and child health care); two taluk hospitals and six Community Health Centers (CHC's) interspersed in the entire district which overlooks the functioning of 59 Primary Health Centers (PHCs). Table 5.5 shows the taluk-wise network of health infrastructure in the district.

In the private sector, the district has one internationally reputed medical college and one dental college with teaching hospital. Kasturba Medical College (KMC) is now one of the largest in India. Kasturba hospital, dental hospital and Shirdi Sai Baba cancer hospital together have bed strength of more than 1,800. Manipal University has also a network of hospitals in the district; it includes a 120 bedded Dr. TMA Pai Hospital at Udupi, a 100 bedded hospital at Karkala and 7 Rural Maternity and Child Welfare Homes (RMCW) at different locations of Udupi taluk.

Besides network of Manipal University, there are two private ayurvedic colleges: Sri Dharmasthala Manjunatheshwara (SDM) Ayurveda College and Muniyal Ayurveda College and six nursing colleges in the district. The private health sector in Udupi district also includes 45 hospitals and nursing homes mainly in urban centres. The mission hospital in Udupi started in 1923 has now 150 beds and a nursing training unit. Goratti Hospital in Kalyanpur, Perpetual Hospital at Sasthan and Hospital at Trasi are other three hospitals run by Missionaries for serving rural people. Moreover, there are about 465 allopathic and ayurvedic private clinics, 21 homeopathic clinics, 96 dental clinics and about 288 medical shops spread all over the district catering to patients of various walks of life. The district also has two blood banks (one government and one private), two blood transfusion units and 13 VCTC/ICTC/ PPTCT centres. During the last decade, there was no change in the number of government health institutions. In the private sector, there was a mushrooming of nursing homes and clinics in the district.

At grass-root level, there are 4 ESI Dispensaries, 3 mobile tribal health units, 24/7 ambulatory services and an urban health center catering to the marginalized urban and rural communities in the district. For combating specific public health problems, the districts health system is equipped with a range of specialized facilities: the TB control unit (1), the district leprosy control unit (2), mother and child health care unit (1), family welfare unit (1), district HIV-AIDS prevention unit and so forth. All these specialized branches report under the overall District Surveillance Unit. The Indian health system has its unique system of including traditional medicine as means of treatment integrated with allopathic practices.

Udupi District health service is by no means resistant to such versatile inclusion. There are 14 governmental Ayurveda units in the district including one which practices Panchakarma. Moreover, homeopathic and unani services are also widely available in the district. Since 1979, two district run Mobile Girijan (Tribal) Health Units have been providing services to tribes by going into the tribal colonies. Health infrastructure and health services available in Udupi are, thus, adept with an organized collaboration of both private and government services, which mostly work in close coordination to provide comprehensive health care to all sections of the citizens in this district.

The quality of health care services depends on not only net work of health institutions but also availability of doctors, nurses and facilities in terms of population served. Though there is a more taluk-wise equitable distribution of network of health institutions, the quality of health care differs in different taluks. The government hospitals have 127 doctors and private hospitals and nursing homes, 398 doctors (Table 5.6). Besides there are 465 doctors having clinics. Most of the clinics are in Udupi city. Out of 990 doctors involved in health service, 636 are in Udupi taluk. Kundapura has 248 doctors and Karkala, 106. The doctor/population ratio 1.01 doctors per 1000 people.

Table 5.6
Taluk-wise Number of Doctors

Taluk	Government Hospitals	Private Hospitals /Nursing Home	Clinics	Total
Karkala	37	25	44	106
Kundapura	45	88	115	248
Udupi	45	285	306	636
District	**127**	**398**	**465**	**990**

Source: Udupi District at a Glance – 2011-12 DHO

Table 5.7
Taluk-wise Health Facilities: Some Indicators

Taluk	Population served by sub-centres	Population Served by PHC	Doctors per 1000 population	Nurses per 1000 population	Hospital Beds per 1000 population
Karkala	2960	10792	1.02	0.88	323
Kundapura	3625	15571	0.89	0.78	400
Udupi	3883	18518	1.1	3.21	196
District	**3591**	**17032**	**1.01**	**1.96**	**259**

Source: Udupi District at a Glance – 2011-12, DHO

Taluk-wise it varies from 0.089 in Kundapura to 1.10 in Udupi Taluk. The total number of hospital beds in the district, as shown in Table 5.5, is 4544, out of which 1054 are in the government hospitals and 3490 in private hospitals and nursing homes. Manipal Hospital alone has more than 2000 beds. Table 5.7 gives taluk-wise some key indicators of availability of basic health facilities to the people. Inter-taluk bed capacity varies from 2,878 in Udupi taluk to 670 in Karkala taluk. The population-bed ratio at the district level is 259 people per bed which is one of the lowest in the state. From the Table, it may be seen that the district has average nurse- population ratio of 1.96. However, it varies widely between taluks. In Udupi taluk, it is 3.21 while in other two taluks, it is below one. The population served by a sub-centre varies from 2,960 in Karkala taluk to 3,883 in Udupi taluk. Similarly, the population served by a PHC varies from 10,792 in Karkala to 18,518 in Udupi taluk. The analysis of indicators of health facilities clearly shows that Udupi has better infrastructure and health facilities than other two taluks.

During the last decade, the Health Department made efforts to improve the health infrastructure and health personnel as well as facilities in the government hospitals. Under NRHM, all primary health units have been upgraded to PHCs to provide quality health care to rural people. The Udupi district population has also benefited from three health insurance schemes: Yashashwini Insurance Scheme, Arogya Suraksha of SKDRDP and Manipal Arogya Card of Manipal health care group.

5.6 ANC Coverage and Anemia among Pregnant Women

Maternal health is the major component of reproductive health services provided through PHCs and sub-



Madilu Kit

Box No. 5.4. Best Health Practice adopted by PHC, Kukkehalli

Kukkehalli PHC set up in 1978 located 20 km away from Udupi, serves about 25,000 populations in surrounding villages. The PHC since its inception adopted an innovative system to provide regularly comprehensive health services to the people living in its command area. It prepared for every patient visiting the PHC a health card type register book wherein all health profile, health particulars and treatment details are recorded and kept in a library. Whenever the patient revisits or becomes sick, the document is updated by the doctor depending on the treatment. Based on the records of health data, the health workers in the PHC including doctors prepare the schedule for their visit to the patients as well as the visit of the patients to the PHC. The health books are properly preserved and looked after by a staff member. Whenever the patient visits the hospital; he has to first obtain his health book and show to the doctor. The doctor records whatever treatment given in the document and gives back to the patient. After obtaing the medicine, the patient returns the health book to the library. These health books facilitate effective delivery of health services to the people even when frequent change in the staff takes place.

Source: DHFW, Udupi.

centres in the rural areas. In urban areas, maternal health care facilities are easily available in government and private hospitals and clinics. With inadequacy of diet and nutritional imbalance, particularly iron deficiency is the main reasons for anemia among married women in the age group 18 - 49. In India about 42 percent of women in the reproductive age are found to be anemic. RCH program implemented by the government include provision of full ANC package, which includes supply of iron and folic acid tablets, tetanus (TT), and three ANC visits to all pregnant women registered. Table 5.8 shows the number of pregnant women receiving full ANC and also information on pregnant women affected with severe anemia. Anemia during pregnancy was observed in 30.01 percent of cases of pregnancy in the district during 2011-12. There were 83.8 percent of pregnant women covered under full ANC. The comparative figure at the state level is 39 percent for incidence of severe anemia and 92 percent for receiving full ANC. The relative poorer performance in the district is a matter of serious concern. In Kundapura, on the other hand, 94 percent of pregnant women received full ANC, whereas in Karkala and Udupi taluk, the respective percentages of pregnant women receiving full ANC are significantly lower, 73 percent and 80 percent. The incidence of severe anemia among pregnant women is the highest in Kundapura (31.11 percent), followed by Udupi (30.06). In Karkala taluk, it is the lowest, 29.46 percent. In spite of high coverage of pregnant women under full ANC, incidence of anemia of this magnitude is an area of concern.



Labour Ward

5.7 Institutional Delivery

The second most important focus of the RCH programme is to ensure 100 percent safe delivery through health institutions in hygienic conditions and under supervision of trained health professionals. Safe delivery is important for both the health of mother and new-born child. In order to ensure safe delivery, easy access to health institutional facilities and affordability are critical. In the past, due to absence

Table 5.8
Full ANC Coverage and Anemia among Pregnant Women (percent)

Taluk	Pregnant Women receiving Full ANC	Pregnant women with Anemia
Karkala	73.14	29.46
Kundapura	94.33	31.11
Udupi	79.76	30.06
District	83.85	30.01

Source: Udupi DH & FWO

Table 5.9
Taluk-wise Institutional Deliveries: 2011-12 (Percent)

Taluk	Institutional Delivery
Karkala	99.6
Kundapura	99.9
Udupi	99.76
District	99.7

Source: Udupi DH & FWO

of health institutional network and difficulties to access, deliveries were to take place in the district mostly at home under the supervision of untrained Aayas. The district has now very good, both private and public, health institutional network. With the improved education level particularly of women, the scenario also changed. There is now a 100 percent awareness of the need for safe institutional deliveries in the district among all communities.

From Table 5.9, it may be seen that the institutional delivery in the district was 99.7 percent during 2011-12. Even the balance 0.30 percent deliveries took place either in transit or delay in hospitalization. Even in such cases, most of the deliveries took place under the supervision of ANM/LHE or trained Aayas. There is no record of any delivery conducted by the untrained Aayas. The institutional delivery percentage in the district is slightly higher than state average of 97 percent. Inter-taluk differences in the proportion of institutional deliveries are almost negligible. The data in the Table clearly shows that there is a strong awareness among mothers about the necessity of safe delivery through health institutions.



Govt. Hospital, Udupi

5.8 Immunization of Children

Immunization of children is an important instrument of child survival. Immunization against six serious diseases viz. tuberculosis, diphtheria,

Table 5.10
Performance of Immunization Programme (Number)

Taluk	D.P.T.	Polio	BCG	Measles	TT	Hepatitis B
Karkala	2728	2728	2776	2680	3015	2775
Kundapura	6238	6238	6326	5951	7090	6384
Udupi	7088	7088	6929	6822	6794	6912
District	**16054**	**16054**	**16031**	**15453**	**16899**	**16071**

Source: Udupi DH & FWO

peruses, tetanus, poliomyelitis and measles is important for reducing the mortality and morbidity among infants and young children. The state government's universal immunization programme includes administration of nine doses of vitamin A, for prevention of night blindness, and iron folic acid solution for iron supplementation. The package includes immunization through D.P.T., Polio, BCG, Measles, TT and Hepatitis B injections.

Table 5.10 contains taluk-wise information on the children immunized during 2011-12. From the Table, it may be seen that in the year 2011-12, more than 16000 children were immunized.

The percentage of children fully immunized for the district works out to 98.6 percent. Taluk-wise, it is 123.2 percent in Karkala taluk, 91.3 percent in Kundapura and 81.29 percent in Udupi taluk. Compare to the state level figure of 125.9 percent, the performance of the Udupi and Kundapura taluks is somehow disappointing. The lower percentage of fully immunized children is mainly due to migration of population.

5.9 Under-weight Children and BMI Ratio

The weight of an infant at birth is an important measure of the nutritional status of the mother and an indicator of the child health and survival rate. An infant with birth weight lower than 2.5 Kg is considered at high risk. There is also functional relation between the mother's nutritional status and weight of children. As shown in the Table 5.11, the district has the lowest proportion of low birth weight children in the state. The proportion of underweight children at birth is found to be 7.35 percent as against the state average of 11.5 percent. Taluk-wise, RCH survey data shows that Karkala has the lowest percentage of underweight children born (6.2 percent) and Udupi has the highest (8.4 percent). The percentage of malnourished children in the district is also one of the lowest in the state. It is 0.62 percent. Taluk-wise, it varies from 0.51 percent in Udupi to 0.73 percent in Karkala. Suvarna Arogya Chaitanya Program (School health Program) is catered to 1,61,723 children for the year 2011-12, wherein 32,297 were

Table 5.11
Taluk-wise Status of Underweight Children and Malnutrition (Percentage)

Taluk	Percentage of Children born Underweight	Percentage of Children Malnourished
Karkala	6.23	0.7
Kundapura	8.11	0.73
Udupi	8.4	0.51
District	**7.35**	**0.62**

Source: Udupi DH & FWO

Table 5.12
Leprosy Control Programme: 2011-12 (Number)

Taluk	Newly Identified Patients			Patients cured		
	Male	Female	Total	Male	Female	Total
Karkala	9	3	12	9	5	14
Kundapura	13	7	20	22	13	35
Udupi	30	8	38	10	5	15
District	**52**	**18**	**70**	**41**	**23**	**64**

Source: Udupi DH & FWO

diagnosed of which 596 children were found to be malnourished. Most of them belong to SC and ST communities. These data clearly demonstrates that the committed surveillance mechanism held by the district and Akshara Dasoha mid-day meals programme for school children substantially enhance children's nutrition levels.

5.10 Communicable and Non-Communicable Diseases

The common communicable diseases in Udupi district are malaria, leprosy and tuberculosis. Udupi district health system had the national program of vector borne diseases integrated with the NRHM. Malaria was, once, completely eradicated in Udupi district. However, in recent years, the incidence of malaria is increasing particularly in urban areas. The Annual Parasite Incidence (API) in the year 2003 -04 was found to be 0.97 per 1000 population which came down to 0.62 in 2005-06. The total number of malaria cases diagnosed in the district in 2011-12 was 2,217 (PF-88) of which deaths occurred in two of the patients. In 2012, six new cases of Chikungunya, one new case of Japanese encephalitis, and 804 new cases of filariasis were diagnosed. Similarly, about 70 new cases of



Blood Bank
Govt. Hospital Udupi

Table 5.13
Status of Tuberculosis in Udupi district (2011 -12)

Taluk	Newly Identified Patients			PatientsCured		
	Male	Female	Total	Male	Female	Total
Karkala	164	99	263	78	49	127
Kundapura	223	88	311	109	55	164
Udupi	351	160	511	274	138	412
District	**738**	**347**	**1085**	**461**	**242**	**703**

Source: Udupi -Department of Health and Family Welfare,

Udupi district is one among the eight districts, where the prevalence of HIV/AIDS is the highest.



Blood Storage
Govt. Hospital Udupi

Leprosy were diagnosed during 2011-12 (Table 5.12). Most of them are from Udupi taluk. Karkala has the lowest incidence of leprosy. Gender-wise, males are more affected by leprosy. 64 patients were cured during the year. Compared with other districts, the incidence of malaria and leprosy in Udupi district is one of the lowest.

The RNTCP program running in the district reported around 1085 cases of TB during the year 2011-12. The number of male TB patients was 738 and female patients 347 (Table 5.13). The percentage of people affected by TB in the district is 0.09 percent, male 0.13 percent and female 0.05 percent. All the TB patients diagnosed are put on DOTS which has a comparatively decent compliance rate than other districts in Karnataka. The total number of TB patients cured during the year 2011-12 was 703 out of which 461 were male and 242 were female.

AIDS caused by the HIV virus adversely affects the body's immune system and leads to death through secondary infections. The incidence of HIV cases in the district has been increasing during the last ten years. During the period 1987-98, only 135 HIV cases and one AIDS were recorded. Since then, the prevalence of HIV and AIDS has been rising. During 1987-2003, additional

Box 5.5: Selfless Service saved Life of a TB Patient

Uma, an Accridited Social Health Activist (Asha) of Gangolli PHC had to undergo mental trauma and social abuse to save a life of TB patient. Sattar Saheb was suffering from TB. First, he was taken to Bhatkal private hospital where he was advised to go to Government Hospital as he was unable to afford the cost of the treatment in the private hospital. His brother had sought the advice of Uma- an Asha worker. After convincing her brother, she took the patient to the Government Hospital, Kundapura. After carrying out all the tests required, the doctor advised the patient six months treatment. She herself accompanied the patient to his home back and visited his house regularly to give him the required medicine personally. After 3 days, the patient refused the medicine saying it caused stomach burning sensation, sleepless nights and food eating problems. He blamed her for his condition. It took a hell of her time and her superior to convince him the need for taking the medicine. He hesitantly agreed to take medicine with water. His wife and other relatives had also abused her for forcing him medicine, which he did not want. They warned her that if anything happened to his life, they would make her accountable for it and not leave her. They insisted that she should show the prsecription of the doctor so that they could consult other doctor. Considering the patient's disease and hope of his survival by regular trearment, she decided to face whatever consequences patiently and continued to visit his house and insisted him to take medicine. Many times, as soon as she came, he deliberately tried to avoid her by going out. She waited patiently till his coming back.to give him medicine. After six months of persistent and forceful treatment in spite of all humilations from the the patient and his family, the patient was fully recovered. Now, he is very grateful to her and whenever he meets her, he thanks her for saving his life. His family is also grateful to her for saving his life. For Uma, this is an unforgettable experience. Her commitment and selfless service saved the life of a TB patient for which she is proud.

Source DHFW, Udupi

1,316 HIV and 305 AIDS cases were recorded. In 2006, a total of 9,518 patients were tested for HIV infection and 775 cases were tested seropositive which included 506 males and 269 females. The incidence is high in the age group of 30 – 39 years, which is the most productive period of human life. Udupi district is one among the eight districts, where the prevalence of HIV/AIDS is the highest. Other districts are Bengaluru Urban, Ballari, Dharwad, Gadag, Bagalkot, Vijayapura and Raichur. Surprisingly, the neighboring Dakshina Kannada and Uttara Kannada districts have relatively lower HIV incidence.

The prevalence of HIV in the district during 2012-13 was 3.37 percent of all the totally examined ICTC entries. The total number of pre-ART patients diagnosed with HIV in the district is 793, male are 514 and female 279 (Table 5.14). In total population, the percentage of people affected by HIV is 0.07 percent, male 0.09 percent and female, 0.04 percent. Though the percentage of people affected by HIV is small, compared with other neighboring districts, it is still significantly higher. Taluk-wise, Udupi has the highest number of HIV/AIDS infected patients (601), followed by Kundapura (127). Karkala taluk has the lowest HIV infected patients (65). The number of TB/HIV co-infection was 235. Social support for HIV positive patients and high risk groups is provided by NGOs: Deepajyothi, Jeevan Sangharsh and GUARD. The rising prevalence of HIV and AIDS in Udupi district is, still, a major area calling for attention in the health sector.

Major non-communicable diseases include hypertension, diabetes mellitus, asthma, bronchitis and accidental injuries. As a natural corollary of modern life style and development, Udupi district has witnessed an overall increasing trend in the occurrence of non-communicable diseases. Statistics based on government hospitals shows that the cases of hypertension, cancer, diabetes and asthma have increased over the years. With the changing composition of population and aging process, this trend is likely to continue in the future. This has serious

As a natural corollary of modern life style and development, Udupi district has witnessed an overall increasing trend in the occurrence of non-communicable diseases.



Panchakarma Therapy
Govt. Hospital Udupi

Table 5.14
Aids Control Programme: 2011-12 (Number)

Taluk	Newly Identified Patients			Death of Patients		
	Male	Female	Total	Male	Female	Total
Karkala	38	27	65	12	3	15
Kundapura	77	50	127	22	13	35
Udupi	399	202	601	29	16	45
District	**514**	**279**	**793**	**63**	**32**	**95**

Source: Udupi DH & FWO

Box No. 5.6: A Helping Hand saved a Life of HIV Patient

A young lady in Mudabettu , Guddeangadi, Udupi taluk was infected with HIV and suffering from TB. She was bed-ridden with CD4-55 reached the lowest level. There was no hope of survival. She was from a poor family. Her parents were too old and helpless. She was the only earning member of the family. She could not afford treatment from private cilinics. With the HIV infection, nobody from the village came to her help. She was almost abandoned. Her parents did not know what to do. Jayalaxmi, Kiriya Mahila Asha health worker of PHC sub-centre, Mudabettu, came to know of the suffering of the HIV patient. With compasion and the pride in what she was doing, she took a challenge to help her by visiting everyday to give medicine personally. With the financial support from NRHM Muktanidhi, she provided the patient nutritious food including egg every day. In spite of her other responsibilities; she acted as guide and friend in need to the patient. By talking to her, promising that she will recover from this deadly disease, telling her not to lose hope and develop self-confidence, she made the patient to hope for the better. With IEC and six months regular treatment and nursing, she survived from the deadly HIV. Now she is going for work regularly and supporting her old parents. Jayalaxmi now proudly says that "she saved the life of three persons and got thier blessings. If we respect whatever job that we do and work sincerely, good results will follow and we will have life-long satisfaction."

Source DHFW, Udupi.

implications on the burden of treatment as the cost involved for these treatments is significantly high. In the same vein, there is an increasing trend in unnatural deaths such as suicidal and accidental deaths.

5.11 Performance of Various Health Schemes

The Government of India and the State Government launched several programs for improving availability, accessibility and affordability of provision of good health care services since independence. National Rural Health Mission (NRHM) was most important program launched by the Government of India in 2005 to improve provision of health care to the rural population, particularly poor and vulnerable section of the rural community. Other important national and state health programs of public health importance in the provision of comprehensive healthcare services to the people are: Janani Suraksha Yojane for RCH services to BPL, SC and ST families, Madilu to provide post natal care for mother and child, Bhagyalakshmi Scheme for girl children and School Health Program focusing on health care of school age children. All these programs are implemented by the Department of Health and Family Welfare (DHFW). The district also provides for various health insurances for poor and vulnerable citizens to support them financially for their medical concerns, like the: Vajapayee Arogyashree Scheme, Yashaswini Health Insurance Scheme, Sampoorna Suraksha Scheme, Manipal Health Card, Rashtriya Swastya Bima Yojane and Udupi Town Municipality Chief Minister Health Scheme for SCs and STs.

Udupi district is in the forefront in accomplishing the UNMDGs in the health sector in the state.

Under various health programs initiated by the Government of India and the Government of Karnataka, the district has made remarkable overall progress in the health status. The DHFW has achieved targets set under the various National Health Programmes which include inter alia RCH programme, Malaria Eradication Program, Filaria Control Programme, Tuberculousis Control Programme, Leprosy Control Programme, Blindness Control Programme, Programme for Control of all Communicable Diseases and School Health Programme. Interestingly, one of the most successfully running health programmes in Udupi is the RCH programmes under



Nitte Rural Psychiatric Centre

Box No.5.7: Nitte Rural Psychiatric Centre

Nitte Rural Psychiatric Center started in 2007 is being financially supported by the Nitte Education Trust. The Center moved to the new building in November 2013 constructed at a cost of Rs 70 lakhs by the Trust. So far the psychiatric centre has the credit of successfully treating 1500 mentally retarded patients. It is getting the honorary services of a world famous psychiatrist Dr. Naveen Chandra Shetty, originally hailing from Karkala town and the son of the late Shambha Shetty, in whose name, the hospital is named. He is being ably assisted by his wife Sharitha Chandra, a lawyer by profession.

Dr. Naveen Chandra usually spends six months in a year in Australia as a Consultant Psychiatrist in private practice as well as visiting consultant psychiatrist. For the remaining six months, he and his wife dedicate themselves to the cause of poor patients at Nitte. Consultations and medications are free for the patients approaching the Nitte Center. Sharitha Chandra manages 'Thudar' psychiatric rehabilitation centre at Nitte itself from where the husband and wife have placed few patients in the open work force. They are trained in handicrafts and tailoring. Whatever 'Thudar' earns by way of revenue is disbursed among the concerned poor families in 'Thudar'. Considering the meritorious service of the Nitte Rural Psychiatric Center, the Asian Federation of Psychiatric Association gave a coveted award to it in 2011.

Source: An article by Dr. G V Joshi, published in one of the Karavali supplements of Prajavani in 2013.

NRHM. The outcome of the performance is clearly reflected in significant improvement in all RCH and health indicators such as IMR, MMR, institutional delivery, extent of full immunization, full antenatal care etc. It may be noted that Udupi district is in the forefront in accomplishing the UNMDGs in the health sector in the state. Udupi is also ranked number one in most of the health indicators and in the overall health index in the Karnataka HDR 1999 and 2005.

Non-communicable diseases are currently on the rise throughout the country and Udupi is no exception. However, the district health service implements the National Elderly Health Program and the National Cancer, Diabetes, Heart Diseases and Stroke Control Program. The number of cancer patients diagnosed during 2011-12 was 2,689 out of which 1,345 were female. During the same year 2,695 cancer patients were cured. In 2012, about 3, 10,962 blood samples were tested from Diabetes Mellitus of which 14.47 percent were currently diagnosed to be diabetic. The prevalence of hypertension in the district is 6.98 percent. The district administration also runs the Blindness Control Program (9969 cataract surgeries done and for 462 visual corrections were done using spectacles for school children); the National Mental Health Program for schizophrenia, neurosis, epilepsy etc. and the National Road Safety Program to prevent accidents. Janani Suraksha Yojane benefitted additional 8,960 families during 2011-12.

The District Health Action Plan was prepared in accordance with the national guidelines to achieve NRHM and RCH goals and objectives during the Twelfth Plan. With a view to achieve universal health care services, a holistic approach is adopted, which includes: (i) new interventions under NRHM, (ii) RCH programs to achieve the relevant goals, (iii) strengthening routine full immunization, (iv) disease control and surveillance program and (v) inter-sectoral convergence of activities such as nutrition, safe drinking water, and sanitation. Under NRHM, the focus of intervention would be to strengthen PHCs and improve delivery of health care services in the rural areas. Improvement of rural health infrastructure and rural family welfare would be also the main focus under state sponsored health programs.

5.12 Per Capita Expenditure Analysis on Health sector

The total public expenditure on health in India by centre and states during the Eleventh Plan period was less than one percent of GDP. The Third Five Year Plan, therefore, aimed at increasing the total public expenditure on health to 2.5 percent of GDP. In health sector, in Udupi district, the government is a major player in rural areas, while in urban areas, the private sector is the dominant player. With the implementation of NRHM and other

Box 5.8 Healthy and Unhealthy Practices in Udupi District

Udupi district population has some remarkably good as well as some bad health practices which affect their health. The information on these health practices is compiled based on the perception and experience of medical officers at PHC level.

Healthy practices are:

- Availing health services from government hospitals.
- Receiving regular immunization from PHCs.
- Seeking timely treatment for communicable diseases.
- Practice of family planning / small family norms.
- Generally most of the people are aware of importance of education, health and hygiene.
- Majority of the people are opting for institutional deliveries.
- Female education, higher proportion of females among primary school teachers.
- Good food habits
- Keeping the environment clean.

Unhealthy practices are:

- Preference to have a male child.
- The motivation to participate in pulse polio and mass drug administration is diminishing.
- The services of Anganwadi are not fully utilized.
- People have still irrational faith and go to traditional healers for treatment of jaundice.
- Preference for sweet and starchy diets.
- Smoking and alcoholism
- Gutka chewing
- Superstitious about snake bite and herpes, taking suggestions and treatment from local healers/pundits.

Among the unhealthy practices, the area of concern is the growing level of alcohol consumption particularly among youth and labour class and also owing to changes in lifestyle of middle class and its implications for health, domestic harmony and increasing road accidents.

Source: Udupi DH & FWO

state sponsored health programs, there was steady increase in public expenditure on health during the Eleventh Plan. Emphasis on health care services in rural areas for the welfare of family along with easily accessible medicare services is increasing. Table 5.15 shows the development expenditure incurred by the DHFW in health services during the Eleventh Plan period.

The year-wise increase in public expenditure during the Eleventh Plan period is only marginal. The total public expenditure incurred during the year 2011-12 was Rs. 953.66 lakh. As a share

Table 5.15
Udupi DHFW: Development Expenditure on Health (Rs in Lakh)

Programs	2009-10	2010-11	2011-12
RCH Activities	321.47	415.81	359.58
NRHM activities	455.48	416.28	354.62
Blindness Control	11.73	10.57	12.65
Leprosy control	3.48	3.71	3.1
TB control	25.88	24.97	25.42
National vector borne disease	12.47	13.29	19.83
IDSP	1.07	4.57	4.73
NPCDCS	-	0.27	0.27
NPHCE	-	0.31	0.31
Maternity Homes	10.47	58.86	59.43
Others	98.5	106.43	113.72
Total	**940.55**	**1055.07**	**953.66**

Source: Udupi DH & FWO

of district GDP, it works out to only 0.10 percent as compared to state level ratio of one percent. Despite the importance of public healthcare services in rural areas, expenditure on health and family welfare is apparently very low. The major portion of expenditure was in the case of RCH and NRHM activities followed by rural family welfare initiatives through PHCs and sub-centres. Among disease control programs, communicable disease control programs such as TB, leprosy and vector borne disease control programs received higher allocation.

Table 5.16
Taluk-wise Public Expenditure on Health: 2011-12

Taluk	Total Expenditure (Rs. in Lakh)	Per Capita Expenditure (Rs.)
Karkala	174.38	80.7
Kundapura	323.56	81.2
Udupi	454.74	80.8
District	**953.66**	**81**

Source: Udupi DH & FWO

Taluk-wise information on public expenditure incurred on health services and percapita public health expenditure is given in Table 5.16. From the Table, it may be seen that though total expenditure incurred on health in different taluks varies significantly, the data on percapita expenditure evidently demonstrates equitable distribution of public expenditure on health among taluks.

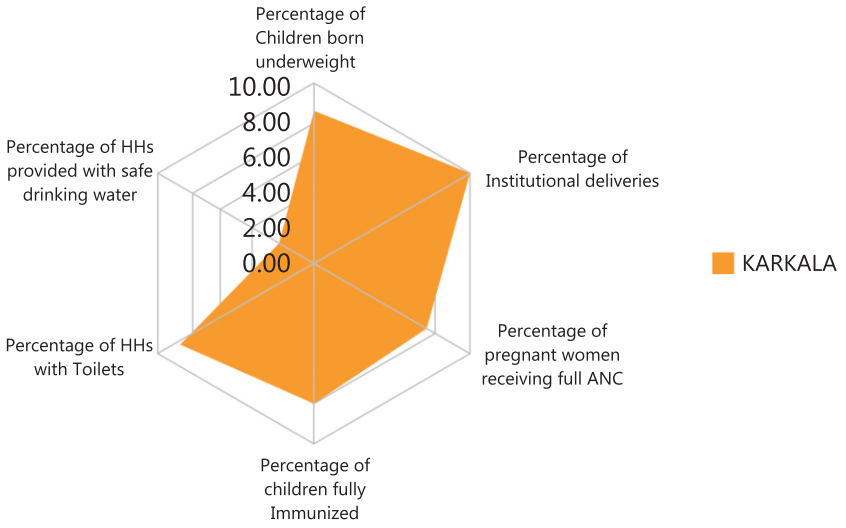
5.13 Radar Analysis for Health

An attempt is made in this section to apply the radar method to graphically portray intra and inter taluk disparities

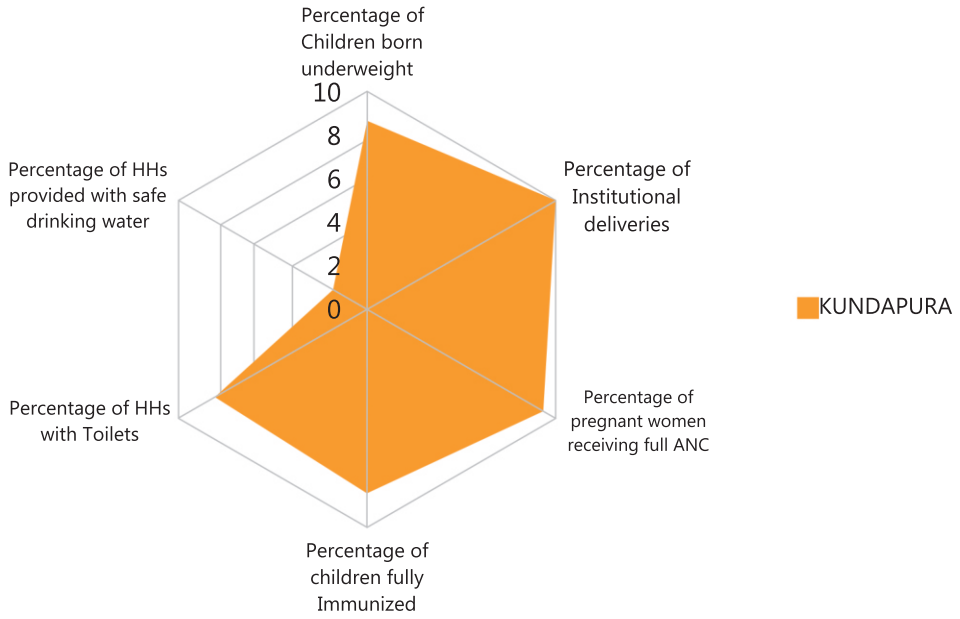
Table 5.17
Health Indicators: Values and Indices: 2011-12

Indicators	Karkala		Kundapura		Udupi		District	
	Actual Value	Index	Actual Value	Index	Actual value	Index	Actual Value	Index
Percentage of children born underweight	14.39	8.561	14.56	8.544	16.39	8.361	15.11	8.489
Percentage of Institutional deliveries	99.6	9.96	99.9	9.99	99.76	9.98	99.7	9.97
Percentage of pregnant women receive full ANC	73.14	7.314	94.33	9.433	79.76	7.976	83.85	8.385
Percentage of children fully immunized	80.44	8.044	84.53	8.453	79.16	7.916	81.28	8.128
Percentage of Households with toilets	88.02	8.8	79.94	7.99	91.55	9.16	87.21	8.72
Percentage of Hhs provided with safe drinking water	22.58	2.26	16.66	1.67	34.07	3.41	26.4	2.64

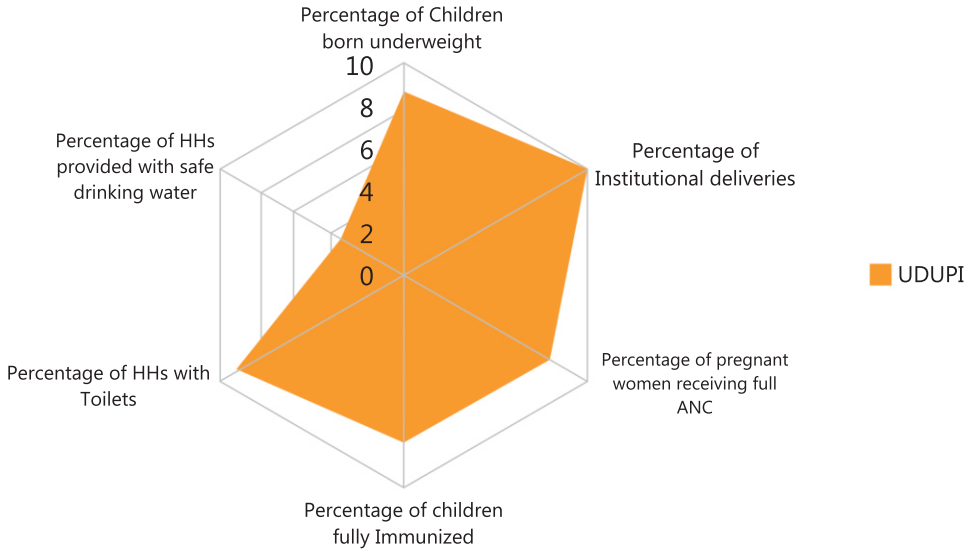
Radar No. 5.1: Karkala Taluk – Health Indicators: 2011-12



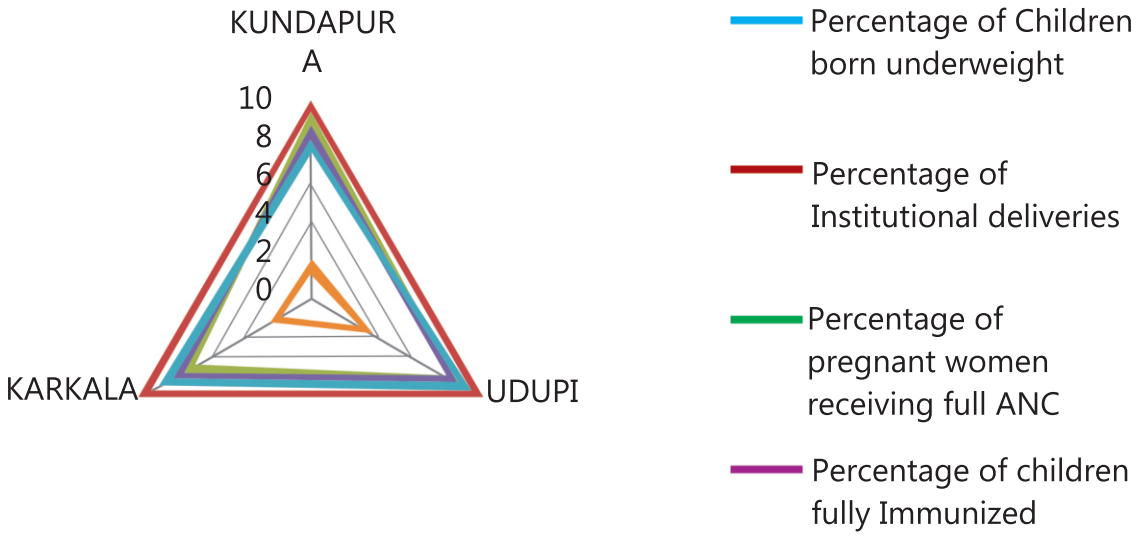
Radar No. 5.2: Kundapura Taluk – Health Indicators: 2011-12



Radar No. 5.3: Udupi Taluk – Health Indicators: 2011-12



Radar No 5.4 Udupi District – Health Indicators: 2011-12



in various health indicators. Six health indicators selected for radar analysis are: percentage of children born underweight, percentage of institutional deliveries, percentage of women using full ANC, percentage of children fully immunized, percentage of households with toilets and percentage of households provided with safe drinking water facility. Table 5.17 contains the actual values of these indicators and indices constructed for these indicators for radar based on Census data and the data collected from various government departments on 10-point scale.

The radar charts evidently show marginal the intra and inter taluk disparities in the health status in respect of the identified six health indicators. The performance metrics of all indicators are nearer to maximum values. As a result the health status of all taluks is relatively at higher radar scale.

5.14 Micro-Studies relating to Health Problems in the District

5.14.1 Poor Health Facilities and Manpower in Urban Slums[11]

5.14.1.2 Rationale and Objective of the Study

A slum is a compact settlement of at least 20 households with a collection of poorly build tenements, mostly of temporary nature, crowded together usually with inadequate sanitary and drinking water facilities in unhygienic conditions. Udupi district, with the low growth of population and high out-migration of local people witnessed, in recent years, an increasing flow of migrant workers in and around Udupi city. They are mainly from other districts of Karnataka. About 66 percent of



Nittoor Slums

[11]Micro-study was undertaken by Department of Public Health, Manipal University in collaboration with DH&FW, Udupi.

migrant workers are from a single district, Bijapur. There are also migrants from other states such as Tamil Nadu, Chattisgarh, Bihar and UP. They are poor, illiterates or semi-literate and mainly employed as casual laborers in agriculture, brick-klins, quarries, construction sites and fish processing and also in the informal sector. With the acute shortage of low-cost houses, the migrant population mostly lives in slums in the outskirts of the city.

The slums are often characterized by deteriorated or poorly structured temerity houses crowded together without access to safe drinking water and sanitation. As a result of the unhygienic conditions, these slums are increasingly becoming a breeding ground for communicable diseases.

The growing urban slums in the outskirts of the city have no basic amenities. The slums are often characterized by deteriorated or poorly structured temerity houses crowded together without access to safe drinking water and sanitation. As a result of the unhygienic conditions, these slums are increasingly becoming a breeding ground for communicable diseases. The incidence of communicable diseases such as malaria, tuberculosis, filarial, leptosperofin, HIV etc. has become a serious problem in recent years. There was an urgent need to carry out a diagnostic study to understand the health problems of the migrant settlers and how they can be resolved together with the provision of basic amenities. Accordingly, a micro study was undertaken with following specific objectives:

- To assess the dimensions of health problems of migrant population in urban slums
- To find out health seeking behavior among migrant population settled in urban slums
- To examine the present availability of health care facilities to the manpower in urban slums
- Based on the findings of the study, to make recommendations to improve health care services to this hitherto neglected section of the society.

5.14.1.2: Methodology

The study mainly focused on urban slum dwellers in and around Udupi city, Karkala town and Kundapura town. The slums were identified from the polio surveillance list furnished by the District Health Department. Out of 22 migrant slums settlements in the district, 7 were selected randomly for the study. They are: Beedinagudde, Indrali, Karavali Junction, MIT 10th Block and Pragathi Nagar in Udupi taluk, Maravanthe in Kundapura taluk and Mallikatte in Karkala taluk. Each slum was treated as a cluster and every third house in each cluster were selected for interview. A total of 201 households members were interviewed through structured questionnaires. Majority of the respondents were from Beedina Gudde (30 percent) and Pragathi Nagar (28 percent).

5.14.1.3: Findings and Implications

The findings of the study are summarized below:

1) Profile of Respondents:

The majority of the household-members are in the age group of 21 -40 years; mean age of the respondents work out to 30 years. Males constitute 70 percent of the respondents. The size of the family

varies from single member family to 10 members; the average family size being 4. More than half (51 percent) slum dwellers are found migrants from Bagalkot district followed by Bijapur district (17 percent). Nearly 14 percent are from other states like AP, West Bengal and Bihar. As regards duration of stay, 35 percent are staying since one year, 43 percent since 5 years and the balance 22 percent above 5 years. The education status of the respondents revealed that 53 percent are illiterate, 26 percent having primary education and 13 percent up to the secondary level education. Among illiterates, women are more. The occupation pattern showed that the majority of the respondents are working as workers in construction, small industries, and informal sectors. Their average monthly family income was found to be in the range of Rs 2,500 - 5,000. Only 22 percent have reported monthly income varying in the range of Rs 5,000 - 10,000.

2) Living Condition and Basic Amenities:

The survey findings show that all respondents are dwelling in Kaccha (temporary) houses. The houses are basically small huts made by tins. There are no proper ventilations. It was found that 77 percent of the respondents have no access to water. They have to fetch water from common well nearby. The remaining household members depend on tanker water. In Pragathi Nagar, Karavali Junction and MIT 10th Block slums, there are common toilets and in Beedinagudde, Mallikatte and Maravanthe slums, there are no toilet facilities. The study found that 55 percent of the respondents have no toilet facilities and they all go for open defecation. The remaining 45 percent said that though they have common toilets, they prefer defecating in open places. Solid waste disposal is found another major area of concern in all the slums. They are dumping all waste materials in the surrounding area, obviously resulting in filth and unhygienic conditions. Children play in these areas and are exposed to this unhealthy environment. Though smoking, chewing tobacco or Gutka and consumption of alcohol common among men, they were hesitant to give correct reply. Out of 201 respondents, only 160 (79.6 percent) responded. Among them, 29 percent have reported a habit of smoking, 21 percent, consumption of alcohol and 31 percent, chewing of tobacco/gutka.

3) Knowledge about Health Care Facilities:

Surprisingly, the knowledge on the availability of health care facilities among migrant population was found very good. Probably, this may be due to their proness to become ill frequently due to unhealthy living conditions; 91 percent of the respondents have reported that they were aware of health facilities.

Among them, 51 percent are aware about both government and private health facilities; 28 percent have mentioned their awareness of only government health facilities. For government health facility, they call it as "Ajjarakadu Aasptre or Sarkari Dawakani". The remaining respondents are aware of nearby private health care facilities.

4) Morbidity History and Access to Health Care Services:

The study revealed that 43 percent of the migrant slum dwellers periodically seek health services. As regards common diseases usually they suffer from, the majority of respondents (58 percent) have indicated fever, 11 percent said malaria, 18 percent, cold and cough, 11 percent, diarrhea and remaining 3 percent, other diseases. As regards access to health care, it was observed that 61 percent of the respondents have accessed private clinic facilities and 39 percent, from government. To the question why they are visiting private clinics/ hospitals more and not government hospitals, more than half (51 percent) have indicated that it is convenient for them to visit private clinics. 23 percent of the respondents have expressed that doctor at the private clinics treats them well and the doctor is available in the evening time, when they are free. In MIT 10th block, almost all respondents shared that they access health facilities from private clinics.

5) Reasons for and against Visiting Government Hospitals:

Those who said they do not visit government health facilities stated following reasons:

- The timing of government hospital is not convenient for them because during the day time, they have to go for work (46 percent reported this),
- The services provided in government hospital are of poor quality (23 percent reported this)
- The government health facilities are far from residence (31percent reported this)

The study also revealed that about 39 percent of the respondents are availing health services from government hospitals. Among them, 61 percent have indicated that they go to government hospitals because they get good services and 49 percent expressed that they are accessing health services from government hospitals because it is free of cost and it is meant for poor people like them.

6) Coverage of Various Government Health Programs:

Nearly 69 percent of the respondents have reported that the government health workers visit the slum areas regularly; among them 90 percent said the ANMS visits them regularly at least once in three months. They give them information on prevention of malaria, some times, they do take their blood samples and sometimes, they

distribute tablets. The health workers also visit every house during pulse polio program and give polio drops for children. As regards the coverage of ICDS (Integrated Child Development Services) for slum children, it was found that 85 percent of the respondents are aware about ICDS program through the anganwadis. Among them 90 percent said that they came to know about these services from health workers. 65 percent of them are sending their children to anganwadi. More than 50 percent reported that their children get nutritious food and also get some kind of education. The remaining 20 percent, though aware of anganwadi services, are not sending their children to anganwadi because no one is there to take care of their younger children at home when they go for work. More than 62 percent of the respondents have reported that though their BPL cards are left in their native villages while migrating to the places covered by this study. Due to the same reason, they cannot avail any anthyodaya food security benefits and insurance cover under Bhagyalaxmi yojana either.

5.14.1.4 Conclusion and Recommendations

To sum up, the study evidently revealed that the living condition of migrant people in the urban slum is very poor and pathetic. They live in kuccha Houses in a concentrated area nearby roads/drainage without basic amenities such as safe drinking water supply, electricity and sanitation facility. Without basic civic services for collection of solid waste, the surrounding areas are unhygienic and increasingly becoming a breeding ground for communicable diseases. Though health workers visit their areas regularly, they are helpless to address their health problems on preventive basis. Habit of smoking, chewing tobacco/gutka and consumption of alcohol is common among men which also contributing to their health status. Morbidity among slum dwellers is found very high. Being migrant people, most pouf them left their BPL cards in native place and as a result, they cannot avail any benefit from the Government's poverty alleviation programs. All these have serious implications as regards human development are concerned in the district.

With the problem of acute shortage of unskilled labor, the increasing flow of migrant population from outside is an inevitable process and going to be the mainstay for the economic development of the district. Most of the migrant populations are illiterates or semi-literate belonging to poor SC/ST and OBC communities. They are the integral part of the society and need to bring them to the mainstream development. Providing decent housing and basic civic amenities together with health and medi-care facilities to this growing section of the poorest migrant

community is, however, going to pose the real challenge for the urban authorities and the district health authorities in the near future. In order to bring them mainstream development and improve their health profile to enable them live with dignity, the following are urgently required:

- Compile data on demographic, social and livelihood condition of migrant population.
- Provide identification house number to their kutcha houses till such time they are provided with low cost houses to enable them to get BPL cards and their rightful entitlement.
- Provide on community basis safe drinking tap water facility and toilets.
- Establish anganawadis near the slums exclusively for slum children and women.
- Migrant population should be made eligible for Bhagyalaxmi Yojane and other health insurance schemes.

In long term perspective, the migrant workers who permanently settled in the district should be provided with low cost houses with basic civic amenities.

In spite of proximity, free accessibility and availability of health and medical care facilities at their door step, rural people have no confidence and are unwilling to visit PHCs.



Primary Health Sub Center, Ampar

5.14.2 Reasons for Unwillingness of Rural folks to visit Government PHCs

5.14.2.1: Rationale and Objectives of the Study

The Alma-Ata International declaration has called each and every person at grass root level should get quality health care services and PHCs plays key role in this. The Government of India was a signatory to Alma-Ata's declaration and committed to providing quality primary health care services to achieve Health-for-All by the year 2000. National Rural Health Mission launched in the year 2005 aimed at strengthening PHCs to provide easily accessible, affordable and quality health care to the rural population. Twelfth Plan aims at universal comprehensive health care.

Udupi district has 59 Primary Health Centres (PHCs) and 6 community health Centres. Under NRHM and RCH II, the Government embarked upon strengthening PHCs for delivery of quality health and medical care facilities in rural areas. Most of the PHCs have now necessary infrastructure and maternity facilities. In spite of proximity, free accessibility and availability of health and medical care facilities at their door step, rural people have no confidence and are unwilling to visit PHCs. Private health care facilities are mainly in urban areas and increasingly becoming costly. Even then, rural people prefer to go for private medi-care facilities rather than the Government one. As a result, PHCs are underutilized and not benefitting the rural areas. Information about community perception with a thorough understanding of the needs and expectations of the community about the health care services can help in

[12]The Study was undertaken the Department of Public Health, Manipal Uiversity in collaboration with Department of Health and Family Welfare, Udupi.

formulating better strategy for improving delivery of health care services to rural people through PHCs.

The objective of the micro study is, therefore, to find out the reasons for unwillingness of rural people to visit government PHCs and based on findings formulate appropriate strategies for improving quality and access of health and medical care facilities in Government's PHCs in rural areas. The specific objectives set out for the study are as follows:

1) To identify the reasons for unwillingness of local people to avail the medical services from PHCs
2) To find out availability of medical facilities in relation to the local demand
3) To explore how PHCs can ensure effective reach of medical care facilities to the rural people.
4) To examine the present status in terms of physical facilities available, staffing pattern and service delivered
5) To evaluate quality, accessibility, availability level of staff at the PHCs

5.14.2.2: Methodology

The study was carried out in five PHCs randomly selected in five GP areas. They are: Shankaranarayana Hiriadka, Maravanthe, Byndoor and Kaup. A sample of 150 household members - 30 each was randomly selected for interview through structured schedule. The data required on infrastructure and Medicare facilities at PHCs were documented in each PHC selected.

5.14.2.3: Findings of the Field Study

Profile of Respondents: The average age of the respondents was worked out to 38 years. Out of 150 respondents, 54 percent were females and 46 percent males. Average size of the family was 5 members. As regards education level is concerned, majority (55 percent) have education level of secondary level , 19 percent, above PUC and 19 percent primary level of education. Only 12 out of 150 interviewed were illiterates.

Awareness of Medical Facilities at PHCs: It was found that majority of the respondents (70 percent) are aware of both Government and private health facilities. 17 percent of the respondents indicated that they are aware of only private clinics and remaining 13 percent about PHC only.

Preference for Health Services: The field study clearly shows that the majority (51 percent) prefer to go to private clinics/Hospitals for health care facilities. 35 percent of the respondent reported that they prefer to go to PHCs. Only 14 percent have reported their preference for both private and government PHCs/Hospital.

Access to MCH Services: The analysis of the data shows that 22 percent of the respondents have accessed MCH services from PHCs. 18 percent of the respondent have also reported that they have accessed PHCs for only ANC services. The respondent who have used PHCs services have stated that "now services has improved in Government hospital" As against this the respondents who have not accessed MCH services from PHCs,

expressed that "MCH services in the Government hospital is not good".

Access to Chronic Diseases: One third of respondents (33 percent) have reported that they have family members suffering from chronic diseases like hypertension, diabetes, kidney problem, joint pain and Asthma. Nearly 48 percent of the respondents were not aware about availability of medicines for diabetes, hypertension and other chronic diseases in CHCs and PHCs. Among 52 percent who were aware of the availability of these medicines in PHCs/ CHCs, only 34 percent of them used medicines for these diseases from government hospitals. From the response elicited, there is apparently a general belief that these diseases require specialists' treatment and they have no confidence with the doctors in PHCs and the medicine they offered.

Treatment Seeking Behavior: Out of 150 respondents, 81 (54 percent) of them reported their family members suffered from illness like fever, cough and cough and cold in the past one month. Among them, 64 percent have accessed treatment care from the private clinics and remaining 34 percent accessed treatment care from PHCs/CHCs and 2 percent said that they practiced self medication.

Reasons for Choice of Health Services: The respondents who accessed health services from private clinics have stated reasons why they preferred private clinics/hospitals as: (i) doctors are easily available, (ii) in private clinics doctors treats well with more care and compassionate (iii) it is more convenient for them, (iv) the drugs they prescribe acts fast, (v) they prefer specialists and (vi) PHCs have no medical facilities/ instruments/ machinery to properly diagnose diseases. As regards the reasons why they do not prefer the PHCs/CHCs, their responses are: (i) Timing of PHCs is not convenient and in the evening hours they are not available, (ii) the drugs they provide does not act fast, (iii) PHCs do not have all the essential facilities to diagnose and (iv) health services at PHCs is meant for poor people. Contrary to this, the responses of those who used the PHCs/CHCs services are: (i) PHCs are good and they treat patients' very well, (ii) quality medicines are available free of cost, (iii) Government doctor and staff are good and cooperative and they do not cheat.

Awareness of Health Insurance: The awareness on health insurance was found fairly good. It was found that 40 percent of the respondents are aware about health insurance schemes and have health insurance coverage. Out of 60 who reported availing insurance coverage, 22 (37 percent) have Manipal Arogya Card; 15 (25 percent) have Sampoorna Arogya, 7 (12 percent) have ESI and the remaining 16 (27 percent) have private insurance.

Awareness of Ambulance services: It was found that majority of respondents (87 percent) of them were aware about 108 ambulance services and the main source of their information was newspaper (63percent), followed by health workers (22 percent) and TV (15 percent).

Visit of Health Workers: Majority of respondents (86 percent) have indicated that the health workers ASHA/ANMs visit them regularly and among them 60 percent said they visited recently a month back. They also come and give tablets whenever required and disseminate information on health issues.

Suggestions and Improvements: Majority of the respondents expressed that the Government health care services has to improve in rural areas. The comments and suggestions made by the respondents are summarized below:

- Facilities in PHCs have now better equipped and medicines supply improved and affordable and cheaper compared to five years before.
- Most of the time the doctors are not available, Nurses are not qualified and cooperative.
- PHCs timings are not convenient; 24x7 services at PHCs should be made available. When people become sick in the night or early morning or evening, the medi-care facilities at PHCs are not available.
- There are no facilities or availability of specialist doctors to attend emergencies. There is a need to make available specialists' services on emergency to PHCs from Talk or District Government Hospitals.
- PHCs have at present no well equipped labor-rooms, operation theatres and diagnostic service equipments, which are increasingly becoming critical for health care services.

Infrastructure Facilities at PHCs: During the field survey, a detailed inventory of the four PHCs viz. Shankarnarayana, Hiriadka, Maravanthe and Byndoor was carried out to find out whether the infrastructure facilities available in these PHCs are as per the Indian Public Health Standard (IPHS). The findings of the study are quite revealing. All PHCs have waiting rooms, operation theatre, labor room, lab, pharmacy counter, in-patient 5-6 beds, waste disposal electricity, Telephone, computer and display boards regarding services available. All are located in the in easily accessible location and very clean. Only Maravanthe has no operation theatre, transport vehicle and residential facility for the staff. Regarding staff, a wide variation in staffing pattern was found in different PHCs. As against the recommended two doctors, Shankanarayana, Maravanthe and Byndoor have only one doctor each. Only Hiriadka has two doctors. The recommended number of nurses/mid-wife is 3, whereas Hiriadka PHC has only ne, Maravanthe 2, and Shankarnarayana and Byndooru have three each. Similarly, all have only one Accountant/ Clerk as against recommended staff of two. Only in the case of Male Health Assistant and Female Health Assistant, all have recommended staff of two. All PHCs have supporting staff of Lab Technician, Sanitary worker and Group-D worker. The overall, all PHCs studied have, if not recommended, adequate requisite staff in the PHCs to provide required health services.

Health Services Provided by PHCs: All PHCs provide anti-natal care, post-natal care, family planning, child immunization, nutrition services, school health programs and lab services. Shankarnarayana, Maravanthe and Byndoor PHCs provide emergency services and Hiriadka, Maravanthe and Byndoor intra-natal care. Shakarnarayana and Byndoor also provide Vasectomy and tubectomy services. The lab-services provided by the PHCs include routine blood, urine and stool tests, blood grouping, bleeding time, clotting time, diagnosis of RTI/STDs with wet mounting grams stains etc, sputum testing for TB, blood smear examination for malaria parasite, rapid test for pregnancy, RRR test for Syphilis/YAWS surveillance and rapid test for HIV. Only Shankarnarayana PHC has no lab facility for sputum testing for TB and diagnosis of RTI/STDs.

5.14.2.4: Conclusion and Recommen dations

The study clearly shows that though the majority of the rural households are aware of health care facilities available at PHCs, the proportion of the households using the PHC facilities is very low. Under the NRHM, the PHCs are well equipped infrastructure wise and facilities and they are as per the norms of IPHS. The PHCs studied are also found staffed adequately to enable them to provide required health services in rural areas. They can provide a number of health services to rural people. The study has also shown that those who availed the PHC services are well satisfied with the services rendered and expressed good opinion about the staff and quality of services. The challenge before the PHCs is how to ensure universal access to health services to all rural households on par with the health services available to urban people.

Based on the findings of the micro study, the following recommendations are made:

- PHCs to be effective in rural areas, it should provide 24x7 services. The present official timing for provision of health services would not be convenient to rural people.
- Most of the PHCs studied have only one doctor. There is also lack of qualified paramedic staff like nurses, mid-wives lab-technicians etc. Unless PHCs are equipped with the qualified medical staff, the confidence of rural households in PHCs for provision of health services cannot be restored.
- There are no facilities or availability of specialist doctors to attend emergencies. There is a need to make available specialists' services on emergency to PHCs from Taluk or District Government Hospitals.
- The labor-rooms, operation the atres and diagnostic service equipments are critical for effective health care service delivery. They require to be well equipped with the latest technology and qualified staff.
- With the increasing threat of non-communicable chronic diseases like cardiovascular diseases, diabetes, cancers and chronic respiratory diseases in rural areas, there is a need to consider comprehensive health care at primary level itself.

The PHCs in rural areas could be effective as a system only if they are inter-linked to taluk and district hospitals and other referral hospitals through mobile medical units, visit of specialists on call to PHCs as and when required and leveraging IT/Mobile technology for creating interfaces.

5.15 An Overview: Performance and Inadequacies of Health care System

Udupi district is blessed with adequately good health infrastructure and an enviable record of public-private initiatives in quality healthcare service delivery system. Internationally known Kasturba Medical College at Manipal, played a catalytic role in building up private initiatives to deliver high quality health care services in the district. Public sector health care infrastructure through PHCs, CMCs and taluk and district level hospitals renders health care services to weaker section of the community especially rural poor and vulnerable section of the community throughout the district. Good ambulatory facility, qualified and responsible health personnel, good road networks, the various existing support groups for people and finally, health conscious population - makes the district health system an example of laudable success when compared to other districts in the state. The district's successful functioning of the NRHM initiatives stands out as a beacon of motivation for many other districts in the state of Karnataka. Health indicators clearly demonstrate that Udupi district is on the top rank in health status in the state and comparable to any developed countries.

Despite these remarkable achievements, health problems in some areas are still remain unrelenting burden of the old and new threats of diseases. Some of them are institutional in nature and others emanate from the changing environment, aging population and modern life style. Institutional problems which adversely affect universal access to health care services are mainly scarcity of doctors in rural areas, unscientific distribution of PHCs, scarcity of paramedical staff and absence of networking between PHCs/CMCs and tertiary hospitals at taluk and district levels. The private sector health facilities and the public tertiary health facilities mainly concentrated in urban centres, while in rural areas, only available healthcare services are from primary public health facilities. They are unevenly spread across the district and lacking qualified doctors and nurses as well as timely supply of required medicines. They also do not provide health services to rural people round the clock. There is, thus, a growing rural-urban divide in the provision of healthcare services, which creates stumbling blocks towards achieving the dream of 'health for all' and universal comprehensive health coverage.

As regards health problems, the maternal and child health care and nutrition still continuing to be a problem particularly among weaker section. The unique tribal health problems, rising HIV/AIDS, revival of malaria, aging population, chronic non-

The private sector health facilities and the public tertiary health facilities mainly concentrated in urban centres, while in rural areas, only available healthcare services are from primary public health facilities.

communicable diseases such as diabetes, hypertension, heart ailments and mental diseases, alcoholism among the youth and increasing unnatural deaths such as road accidents and suicides are the main emerging new health problems in the district. Even though the public health programs in the district have succeeded in controlling communicable diseases such as malaria, tuberculosis, filaria, leptosperofin etc. their reappearance once again in recent years, particularly in urban areas has posed a challenge. The prevalence of higher IMR, CMR and MMR among SCs and STs in spite of various public health programmes is also a matter of serious concern. Morbidity and mortality rates among the marginalized SCs/STs, migrants and other vulnerable sections of the society are still unacceptably higher. They have a very poor health profile compared with the other communities. Implementation of any public health care packages has limited impact unless their problem of malnutrition and poverty are properly tackled.

Morbidity and mortality rates among the marginalized SCs/STs, migrants and other vulnerable sections of the society are still unacceptably higher.

Udupi district is still one among the top eight districts in the state with a high prevalence of HIV/AIDS. In spite of the surveillance and preventive measures, it is continuing to be a problem. The returning out-migrants contribute greatly to the rising threat of HIV/AIDS in the district. The infected people are mostly in their economically most productive year's age group of 25 – 45 belonging to weaker section of the community. HIV also vastly worsened the spread of other disease, especially TB. The situation is compounded by ignorance, prejudice and discrimination.

The current influx of massive number of floating migrant workers because of the rapidly growing urbanization and acute shortage of labor and resultant increase in urban slums without basic amenities is also breeding ground for communicable diseases.

The Twelfth Plan strategy envisages achievement of Universal Health Coverage (UHC) over two or three plan periods. The ultimate goal of UHC is to guarantee affordable easy access to a defined package of quality health services to all citizens. With a view to provide universally accessible quality health services at affordable costs and efficiently in Udupi district, there is a need to consider the following strategies:

- Considering the prevailing mixed institutional health system in the district, there is a need for public and private sectors to work in tandem to provide appropriate, equitable and affordable health care services at all levels. Besides regulating affordability of private medical services, there is a need to link the private medical colleges with Taluk and District Hospitals to ensure access to quality and super speciality health services in public sector system.
- The primary health care should be strengthened to provide comprehensively preventive, curative and rehabilitative health care services. This requires upgradation of PHCs and CMCs as per IPHS standards. Every PHC should have one doctor, a staff nurse, a pharmacist, a health inspector and other supporting

staff. The PHC should have a vehicle to provide mobility support to the doctor to do the field work. Every PHC sub-center should have its own building and one staff nurse.

- Tamil Nadu Model of mapping geographically and setting one Junction Hospital for a group of PHCs is worth considering. The Junction Hospital should have 3 doctors and 4 nurses and their services should be made available to the rural people round the clock.
- Every CMC should have three specialists: one gynecologist, one pediatric and one anesthetist to reduce the burden of Taluk Hospitals and ensure easy access to quality maternal and child health care services to rural people. The CMCs should be linked to Taluk Hospitals through 108 (Arogya Kawacha).
- There is a need for network linking through IT in all Government health services viz. PHCs, CMCs and Taluk and District Hospitals in order to ensure prompt referral system, close interface and robust surveillance.
- Medical insurance coverage of Vajpayee Arogyashree Scheme, Yashaswini Health Insurance Scheme, Sampoorna Suraksha Scheme, Manipal Health Card, Rastriya Swastya Bhima Yojane etc. should cover all BPL households as most of them are at present not aware of these schemes.
- Medicare facilities for Koraga community (PTGS) should be strengthened to ensure easy access and effective reach.
- Special Health services through Mobile Units to remote areas, forest areas and Naxsalite affected areas should be considered as they are at present deprived of health care services.
- Awareness campaigns and medicare camps should be organized periodically for chronic diseases like diabetes, hyper-tension, blood pressure etc. in rural areas to educate rural people about these diseases and also provide on the spot medical check-up and treatment.
- Urban health care comes under ULBs, which do not have, at present, Health Departments. With growing urbanization, there is an urgent need to set up Health Department in each ULB for taking care of urban health care needs.



Taluk Govt. Hospital Kundapura