



## GROWTH OF PUBLIC HEALTH SERVICES AND ITS LEVEL OF DEVELOPMENT IN KOLHAPUR DISTRICT

B. N. Gophane

Sachin Hudale

### *Abstract*

*Health is a public right and it is the responsibility of Government to provide health facilities to all the people in equal measures. This part of the study becomes the domain of health care management. It also includes health planning, which improved health services are to be planned and executed. In this paper, hence, an attempt has been made to examine growth and development of public health services. Kolhapur district an economically well-off district in the Maharashtra selected for this study. The entire paper based on secondary sources of data. As per the study is clearly found that, growth and development in the public health services are remain poor in the Kolhapur district and government and concerning authorities should pay attention on this problem as earliest.*

### **1.0 Introduction**

Nowadays, central and state governments with local self governments are trying to make healthcare affordable and accessible for all the population and they are planned to efficiently deliver the health care services. The entire community, therefore, meets its health needs and demands. Thus, it becomes important to study development and growth of public health services. Kolhapur district is one of the economically well-off districts not only in Maharashtra but in India also. It has also a rich topographic and climatic condition as concern to human health. Growth and development of public health services in the district is the key focus area in this paper.

### **2.0 Study Area**

The area undertaken for the present paper is Kolhapur district, which situated in the extreme southern part of Maharashtra state. It lies between 15° 43' and 17° 17' north latitude and 73° 40' and 74° 42' east longitude. It surrounded by Sangli district to the north, Belgaum district (Karnataka State) to the east and south and Ratnagiri and Sindhudurg districts to the west. The Sahyadri ranges to the west and zigzag Warana River to the north form the natural boundaries.

### **3.0 Objectives**

To study the growth of public health services and examine their level of development in the Kolhapur district is the main objective of the study.

### **4.0 Hypothesis**

The present paper urges growth and development of public health services in Kolhapur district. Accordingly, the hypothesis of the present paper is '**Low level of development in the public healthcare facilities prevail in Kolhapur district.**'

### **5.0 Database and Methodology**

The present paper is entirely based on secondary sources of data, which have been collected through Socio-Economic Reviews of Kolhapur district and official records of Kolhapur Zillah Parishad. The collected data has been processed by using appropriate statistical techniques. The growth in the public health services computed by using Compound Growth Rate (CGR), while level of development in healthcare facilities in Kolhapur district has been analysed through 'Standard Score' or 'Z Score' technique.

### **6.0 Discussion**

Growth in the public health services and social sector development goes hand in hand. with Quality of human life has also been improved with development of public health services. Hence, it is necessary to increase and improve the public health services for social welfare. In this paper the overall

B. N. Gophane, Sachin Hudale

growth in the public health services and their level of development has been studied.

### 6.1 Growth of Public Health Services in Kolhapur District

Kolhapur is a one of the prosperous districts in Maharashtra, but as per public health services are concerns its prosperity is not up to the mark. The following table (Table 1) illustrates temporal growth in the public health services maintained in Kolhapur district.

**Table 1**  
**Growth of Public Health Services in the Kolhapur District**

Sr. No.	Health Services	1961	1971	1981	1991	2001	2011	
1	Dispensaries	16	78 (17.16)	93 (1.77)	76 (-2.0)	68 (-1.11)	63 (-0.76)	2.78
2	Hospitals	4	7 (5.76)	8 (1.34)	22 (10.65)	22 (0.00)	25 (1.29)	3.73
3	PHCs	17	24 (3.51)	39 (4.97)	66 (5.40)	71 (0.73)	73 (0.28)	2.96
4	Sub-Centres	N. A.	N. A.	N. A.	N. A.	371	413 (1.08)	1.08*
5	Doctors and Vaidyas	94	272 (11.21)	351 (2.58)	400 (1.32)	388 (-0.30)	401 (0.33)	2.94
6	Nurses	174	517 (11.50)	674 (2.69)	762 (1.23)	1101 (3.75)	1173 (0.64)	3.89
7	No. of Beds	498	837 (5.33)	1046 (2.25)	1801 (5.58)	1825 (0.13)	2195 (1.86)	3.01
8	Beds (per 100000 Population)	31	41 (2.84)	41 (0.00)	60 (3.88)	52 (-1.42)	57 (0.92)	1.23

\*CGR of Sub-Centres is belongs to 10 years only. **Note** : Figures in brackets are CGR of past 10 years. **Source** : Office Records, Kolhapur Zillah Parishad      N. A. = Not Available

B. N. Gophane, Sachin Hudale

As for dispensaries the highest growth is found in the year 1971 (*i.e.* 17.16). Subsequently, it founds continuous decline trends after 1981. The growth rate of dispensaries during 1981-1991 was -2.0; during 1991-2001 it was -1.11, while in the last decade of investigation it founds -0.76. A growth rate of dispensaries for last 60 years (1961-2011) is 2.78. Number of public dispensaries decreases as days progresses because dispensaries became Primary Health Centres or Sub-Centres.

The growth in the public hospitals in the district till 1981 founds very meagre, during 1961-1971 it was 5.76, while during 1971-1981 it was only 1.34. Public hospitals are very rapidly grows during the decade of 1981 to 1991 with the rate of 10.65 but after next two decade (1991-2011) it was again minimised. Number of hospitals is increased with the rate of 3.73 and it is a highest growth rate among health infrastructure during last 60 years.

The table further shows the continuous growth in the Primary Health Centres in the district. Up to 1991, growth in the PHCs was continuous and almost similar. During the 1961-1971 the growth in the PHCs was 3.51, while in the 1971-1981 it was 4.97. Subsequently, during the 1981-1991 it was reached up to 5.40. However, in the last two decades it shows downwards trends with 0.73 and 0.28 respectively during the decades 1991-2001 and 2001-2011. Number of PHCs is increased with the rate of 2.96 during the investigation period. Although, number of Sub-Centres are increases in last two decades of investigation with large number but with very less growth rate *i.e.* only 1.08.

As health personals are concern, number of doctors and vaidyas is increased year by year but their growth rate is not satisfactory. More surprisingly, it shows negative trend (*i.e.* -0.30) during the decade 1991-2001. A very first decade of investigation (1961-1971) growth rate reached up to 11.21 but after that number of doctors and vaidyas is not much increased. It happens because last few decades doctors do not want to render their service in the public hospitals; they want to be private practitioners. During the last 60 years growth rate of doctors and vaidyas is 2.94.

Accordingly, number of nurses is also increasing decade by decade but their growth rate is not up to the mark. During the 1961-1971, the growth in number of nurses was 11.50, afterward it continuously decreased and reached to 0.64 during the decade 2001-2011. During the investigation period number of nurses is increased with the rate of 3.89. Numbers of nurses from India went to abroad in search for better opportunities and most of remaining prefer private sector than public for better earnings due to these reasons growth of number of nurses in the public sector is not match up to necessity. If want to health care services functioning and performing properly rational number of nurses should be there.

Number of beds is one of the important indicators to assess the health services rendering to the society, accordingly, it is important that beds are fulfil the necessity. In the Kolhapur district, number of beds is increasing but again growth rate shows ups and downs. As per population is concern, growth in the beds per one lakh population is so upsetting, during the decade 1961-1971 growth in the number of beds was 2.84, while the next decade there was not any growth in the beds per one lakh population. Apart from that in the year 2001, numbers of beds are decrease as population increases and shows negative growth (*i.e.* -1.42) as compare to the previous decade. On an average, number of Beds is increased with the rate of 3.01, while number of beds per one lakh population is increased with the rate of 1.23.

## **6.2 Level of Development in Health Care Facilities**

As per physiography and climate is concern level of development in the health care facilities shows very uneven phenomenon, it also differs spatially. Hence, it is important to understand level of development in the health care facilities.

**Level of Development in Healthcare Facilities in Kolhapur District (2013)**

Tahsil		No. of Dispensaries	No. of PHC	No. of Sub-Centres	No. of Doctors & Vaidyas	No. of Nurses	No. of Beds	Composite Score
Karveer	07 (2.76)	26 (2.67)	09 (1.44)	50 (1.56)	158 (3.07)	381 (3.03)	1021 (3.06)	2.52
Panhala	02 (-0.10)	01 (-0.55)	06 (-0.14)	40 (0.56)	27 (-0.13)	66 (-0.17)	116 (-0.25)	-0.10
Hatkanangale	04 (1.05)	16 (1.38)	09 (1.44)	46 (1.16)	46 (0.33)	134 (0.52)	139 (0.48)	0.82
Shirol	02 (-0.10)	03 (-0.29)	07 (0.45)	33 (-0.14)	24 (-0.20)	54 (-0.29)	277 (-0.30)	-0.03
Kagal	02 (-0.10)	04 (-0.16)	05 (-0.54)	34 (-0.04)	19 (-0.33)	54 (-0.29)	90 (-0.34)	-0.26
Gadhinglaj	02 (-0.10)	02 (-0.42)	06 (-0.04)	35 (0.06)	29 (-0.08)	80 (-0.03)	160 (-0.08)	-0.10
Chandgad	01 (-0.67)	00 (-0.68)	06 (-0.04)	33 (-0.14)	14 (-0.45)	44 (-0.39)	66 (-0.43)	-0.40
Ajara	01 (-0.67)	02 (-0.42)	04 (-1.03)	27 (-0.74)	06 (-0.64)	35 (-0.49)	54 (-0.47)	-0.64
Bhudargad	01 (-0.67)	02 (-0.42)	05 (-0.54)	30 (-0.44)	14 (-0.45)	32 (-0.52)	60 (-0.45)	-0.50
Radhanagari	02 (-0.10)	03 (-0.29)	06 (-0.04)	38 (0.36)	21 (-0.28)	54 (-0.29)	96 (-0.32)	-0.14
Gagan Bavada	01 (-0.67)	00 (-0.68)	02 (-2.02)	10 (-2.44)	10 (-0.55)	14 (-0.70)	42 (-0.52)	-1.08
Shahuwadi	01 (-0.67)	04 (-0.16)	08 (0.95)	37 (0.26)	20 (-0.30)	46 (-0.37)	78 (-0.39)	-0.10
<b>District Total</b>	<b>26</b>	<b>63</b>	<b>73</b>	<b>413</b>	<b>388</b>	<b>994</b>	<b>2199</b>	
<b>Mean</b>	<b>2.17</b>	<b>5.25</b>	<b>6.08</b>	<b>34.42</b>	<b>32.33</b>	<b>82.83</b>	<b>183.25</b>	
<b>SD</b>	<b>1.75</b>	<b>7.77</b>	<b>2.02</b>	<b>10.01</b>	<b>40.91</b>	<b>98.53</b>	<b>271.46</b>	

*Note : Figures in brackets are Z-Score or Standard Score*

**Source :** Calculations based on Kolhapur District Socio Economic Review, 2011

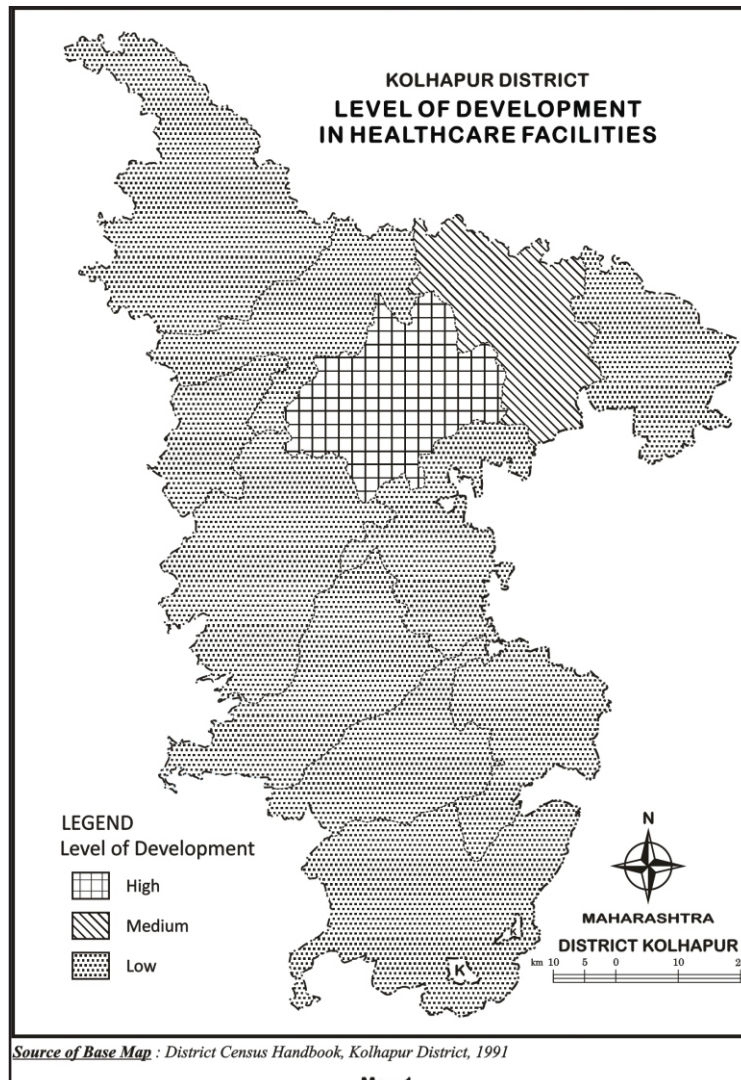
For analysing level of development in healthcare facilities, tahsil has been taken as a unit for analysis of level of development in the public health care facilities in Kolhapur district. The development of healthcare services has been determined on the basis of seven variables *viz.* number of hospitals, number of dispensaries, number of PHCs, number of Sub-Centres, number of Doctors and vaidyas, number of nurses and number of beds. Collectively, these seven variables have been taken into account for measuring of development in the level of public health care facilities in Kolhapur district. The Z score or standard score and composite score were calculated for each tahsil by using

B. N. Gophane, Sachin Hudale

data about all variables. On the basis of composite score, the development of public healthcare facilities in Kolhapur district is grouped into three strata *i.e.* low ( $\leq 0.00$ ), medium (0.01 to 1.00) and high ( $>1.00$ ).

The above table (Table 2) reveals that tahsil-wise level of development in health care facilities in Kolhapur district with the seven variables. According to the table Karveer and Hatkanangale tahsils shows high and medium development respectively in all the seven variables, whereas remaining all the tahsils are shows low development in public health services.

As per the composite score, Karveer tahsil shows high development with 2.52 composite score. While, Hatkanangale tahsil comes into the medium develop category with 0.82 composite score, remaining all the tahsils in the Kolhapur district shows low level of development in the health care facilities and their composite score is below zero (Map 1).



B. N. Gophane, Sachin Hudale

### 7.0 Hypothesis Testing

According to the composite 'Z Score' (Table 2) it is clear that, only Karveer tahsil (2.52) high level of development in the healthcare facilities, similarly, Hatkanangale tahsil (0.82) is only tahsil which has medium level of development. A composite 'Standard Score' or 'Z Score' of remaining all the 10 tahsils in Kolhapur district is below zero, means it shows negative trends in the level of development in the healthcare facilities. It is clearly indicated that, overall development in the health care facilities is indeed low in the Kolhapur district. Accordingly, the said hypothesis is proved and accepted.

### 8.0 Concluding Remark

According to the growth of the health services in the Kolhapur district in last sixty years, it is clear that the growth is not up to the mark. The average Compound Growth Rate of all the variables of health services such as numbers of dispensaries, hospitals, doctors and vaidyas and nurses, etc. is below 04, while numbers of PHCs, SCs and hospital beds are concern it is below 03. Hence, there is a wide scope of the development in health care services, especially in rural areas of Kolhapur district. Accordingly, government and concerning authorities of government should take lead in this regard. There is must increase in the primary health services, which are given to the rural areas.

Tahsil-wise level of development in the healthcare services shows very poorer scenario, which has been determined on the basis of seven variables viz. number of hospitals, number of dispensaries, number of PHCs, number of Sub-Centres, number of Doctors and vaidyas, number of nurses and number of beds. As per the composite score, Karveer tahsil shows high development with 2.52 composite score. While, Hatkanangale tahsil comes into the medium develop category with 0.82 composite score, remaining all the tahsils in the Kolhapur district shows low level of development in the health care facilities and their composite score is below zero. It is clearly indicated that, overall development in the health care facilities is indeed low in the Kolhapur district. Public health department should focus on this problem and try to deliver health services to every individual.

### References

1. Gatrell, Anthony C. (2002), *Geographies of Health – An Introduction*, U. K.: Blackwell Publishing Ltd.
2. Government of Maharashtra (2014), *District Socio-Economic Review, Kolhapur District – 2013*, Directorate of Economics and Statistics, Planning Department Maharashtra
3. Misra, R. P. (2007), *Geography of Health: A Treatise of Geography and Health in India*, New Delhi : Concept Publishing Company
4. Sekher, T. V. (2012), “Health Care Service delivery and Local Self-Governments : Experiences and Lessons from Karnataka, India”, In A. Ahmad and L. Narayan (Ed.), *Health Care Systems in Asia : Issues and Opportunities*, New Delhi : Academic Foundation

**\*Dr. B. N. Gophane**  
Director,  
Y. B. Chavan Institute of Competitive  
Examination and Venutai Chavan  
Research Centre, Karad

**\*\* Dr. Sachin Hudale**  
Assistant Professor  
Department of Geography  
Yashwantrao Chavan College  
Islampur, Dist. Sangli