SUNDERGARH
MAYURBHANJ
JHARSUGUDA
KEONJHAR
DEOGARH
BALASORE
BARGARH
SAMBALPUR
BHADRAK
SUBARNAPUR
ANGUL
DHENKANAL
JAJPUR
BOUDH
KENDRAPARA
NUAPARA
BALANGIR
CUTTACK
KANDHMAL
NAYAGARH
JAGATSINGHPUR
KHURDA
KALAHANDI
PURI
NAWARANGPUR
GANJAM
RAYAGADA
GAJAPATI
KORAPUT
MALKANGIRI

Inequality & Inequity of
Health Services in Odisha

FOREWORD

Despite recognizing health and wellness an as inevitable right for a citizen and an important service offered by the state, inequality and inequity appears phenomenal in the unequal health status, unfair distribution of resources and several unrealized blind spots. The issue is a matter of concern for the policy makers, public health practitioners and researchers as how to deal with widespread disparity in the health services on the basis of geography, ethnic background and the socio-economic status.

The working paper is an attempt to capture the realities in accessing health care facilities and services. The public expenditure pattern of the Government of Odisha has been examined to identify the realities from the ground. The findings of this working paper seek to devise some key discussion aspects in the appropriate forums.

Jagadananda
Mentor and Co – Founder

Inequality & Inequity of
Health Services in Odisha

Research Conducted by:
Nabanita Das

Technical Inputs & Guidance:
Basanta Ku. Nayak

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Contents

Abbreviations

ANM:	Auxiliary Nurse Midwifery
BE:	Budget Estimate
CDR:	Crude Death Rate
CHC:	Community Health Center
EAG:	Empowered Action Group
IDH:	Infected Disease Hospital
IMR:	Infant Mortality Rate
IPHS:	Indian Public Health Standard
JSY:	Janani Suraksha Yojana
MMR:	Maternal Mortality Ratio
NFHS:	National Family & Health Survey
NMR:	Neo-natal Mortality Rate
NSS:	National Sample Survey
OOPE:	Out of Pocket Expenditure
PHC:	Primary Health Center
SDG:	Sustainable Development Goal
SRS:	Sample Registration System
TSP:	Tribal Sub Plan
U5 MR:	Under Five Mortality Rate
UHC:	Universal Health Coverage
WEF:	World Economic Forum
WHO:	World Health Organization

Summary

Health is a universally declared fundamental human right (WHO, 2008) that encompasses every human being irrespective of race, caste, age, gender, socio-economic and ethnic background. This right also entails equal opportunity to avail, access and accept public health and health care facilities without any discrimination. Despite this, significant differences exist amongst different age groups, gender, regions, social groups etc. in accessing health care. Again, striking disparities in health continue to exist amongst countries and states. Even within the State, dramatic differences are marked within and between the regions. It is observed that in India, 86 percent of people who hail from the lower socio-economic background are much more prone to mortality than those who are from the wealthiest sections of the society. Inequality in the context of health can be observed from different dimensions such as systematically, socially produced and unfair factors. All these inequalities come in to view because of varied social, economic and geographical factors. The geographically backward populations who need health care the most are having less access to it.

In the context of Odisha, ever since independence, the state of Odisha has taken up series of comprehensive plans, policies and programmes in spreading out proper health care services. Even in recent years, after the introduction of Sustainable Development Goals (SDG), a range of plans and programmes have been initiated to improve the health status of people in the state. Despite all these efforts, the state is at crossroads in addressing the health need of all people across class, caste, and regions. As per the NSS 71st report, in Odisha, the total estimated out of pocket spending (OOPS) on all types of medical care for rural and urban region stands at Rs. 12616 and Rs. 22713 respectively. Of the entire expenditure incurred, medical expenditure which includes expenditure on items like cost of medicines, bed charges for hospitalized treatment, charges for diagnostic tests, and doctor/surgeon's fees for rural and urban is Rs. 10240 and Rs. 19750 respectively. Besides this life expectancy (India: 67.9, Odisha: 65.8), crude death rate (India: 6.4, Odisha: 7.8), OOP expenditure per delivery in public health facility (India: Rs. 3,198, Odisha: 4,226) etc. are much above than the national average. As per the notion of Universal Health Coverage (UHC), everyone should have equal access to quality health care services including safe, effective, quality and affordable essential medicine. Even the clause for financial risk protection is also given equivalent importance. In this context, it is necessary to measure how fairly health care is distributed among the people of Odisha and what are the prevailing health inequalities that need urgent attention.

Chapter I

Backdrop and Methodology

1.1 Backdrop

Health is a universally declared fundamental human right (WHO, 2008) that encompasses every human being irrespective of race, caste, age, gender, socio-economic and ethnic background. This right also entails equal opportunity to avail, access and accept public health and health care facilities without any discrimination[1]. Despite this, significant differences exist amongst different age groups, gender, regions, social groups etc. in accessing health care. Again, striking disparity in health continues to exist amongst countries and states. Even within the State, dramatic differences are marked within and between the regions. It is observed that in India, 86 percent of people who hail from the lower socio-economic background are much more prone to mortality than those who are from the wealthiest sections of the society[2]. Even India's performance in health and well-being reflects huge disparities posting a low rank i.e. 108th as per the World Economic Forum (WEF)[3].

Inequality in the context of health can be observed from different dimensions such as systematically produced, unfair social, economic and geographical factors. Time and again, these factors manifest geographically in multi-dimensional structures of deprivation. While the geographically backward populations are having less access to health care, at the same time they need it the most[4]. In the context of Odisha, ever since independence, the state of Odisha has implemented several plans, policies and programmes with a view to widening the reach of proper health care services across the state. Even the state has developed an Integrated Health Policy to improve the health of people by providing health care in a socially equitable, accessible and affordable manner within a prescribed time frame.

In recent years, after the advent of the Sustainable Development Goals, a range of plans and programmes have been initiated to improve the health status of people in the state. Despite all these efforts, there is not much to write home about the situation of health in the State. As per the NSS 71st report, in Odisha, the total estimated out of pocket spending (OOPS) on all types of medical care for rural and urban region stand at Rs. 12616 and Rs. 22713 respectively.

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[1] The Human Rights Fact Sheet, Office of the United Nations High Commissioner for Human Rights, 2008.

[2] Mariana C. A, A. L. Arcaya and S. V. Subramanian, Inequalities in health: definitions, concepts, and theories, Global Health Action, 2015.

[3] India betters rank in World Economic Forum's Global Competitiveness Report 2018, The Statesman, 20th November, 2018.

[4] Nandi, Sulakshana, Helen Schneider and Samir Garg, Assessing geographical inequity in availability of hospital services under the state-funded universal health insurance scheme in Chhattisgarh state, India, using a composite vulnerability index, Global Health Action, Vol. 18, 2018.

Of the entire expenditure incurred, medical expenditure which includes expenditure on items like medicines, bed charges for hospitalized treatment, charges for diagnostic tests, and doctor/surgeon's fees for rural and urban is Rs. 10240 and Rs. 19750 respectively[5]. Besides this, the life expectancy (India: 67.9, Odisha: 65.8), crude death rate (India: 6.4, Odisha: 7.8)[6], OOP expenditure per delivery in public health facility in the State (India: Rs. 3,198, Odisha: 4,226)[7] etc. are much above than the national average. However some silver lining in the cloud is, some indicators such as the IMR (Odisha: 40; India: 41), U5 MR (Odisha: 48; India: 50), stunting (Odisha: 34.1; India: 38.4), Wasted (Odisha: 20.4; India: 21), underweight (Odisha: 34.4; India: 35.1) etc. of Odisha are marginally less in comparison to the national average.

Going by the notion of Universal Health Coverage (UHC), everyone should have equal access to quality health care services including safe, effective, quality and affordable essential medicine. Even the aspect of financial risk protection should also be given equivalent importance. In this context, it is important that steps be taken to measure how fairly or evenly health care is distributed among the people of Odisha and what are the prevailing health inequalities that need urgent attention.

Table 1.1 **Major Health Indicators of Odisha and India**

Major Health Indicators	Odisha	India
Areas where Odisha's average is marginally above national average		
Maternal Mortality Ratio (MMR)	180	130
Crude Death Rate (CDR)	7.8	6.4
OOPE per Delivery in Health Center	4226	3197
Anemia (Men)	28.4	22.7
Areas where Odisha's average is below national average		
Infant Mortality Rate (IMR)	40	41
Under Five Mortality (U5 MR)	48	50
Institutional Birth	85.3	78.9
Anemia (All Women)	51	53
Anemia (Children)	44.6	58.5
Stunted	34.1	38.4
Wasted	20.4	21.0
Underweight	34.4	35.7

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[5] National Sample Survey, Report No. 574: Health in India, January-June, 2014.
[6] http://www.censusindia.gov.in/vital_statistics/SRS_Report_2015/8.Chap%204-Mortality%20Indicators-2015.pdf
[7] National Family Health Survey–4, 2015-16.

1.2 Methodology

This section deals with the methodology that has been followed in the present study. Methodology is a procedure which guides the researcher to follow a systematic path to proceed, analyze and arrive at a certain conclusion. The current working paper is carried out by collecting secondary information from different sources. They are as follows:

Table 1.1 Major Health Indicators of Odisha and India

Sl	Particular	Source	Year of Publication
1	Population & Census	http://censusindia.gov.in	2011
2	Rural Health Statistics	https://nrhm-mis.nic.in/Pages/RHS2018.aspx	2018
3	NSS, 71st Round	http://mospi.nic.in (January – June)	2014
4	NHFS-4	http://rchiips.org/nfhs/	2015-16
5	SRS Statistical Report	http://www.censusindia.gov.in	2016 & 2018
6	Annual Health Survey	http://www.censusindia.gov.in/vital_statistics/AHSBulletins	2012-13
7	Directorate of Health Services, Odisha	http://www.dhsodisha.nic.in/	2018
8	HMIS, Govt. of India	https://nrhm-mis.nic.in/	2018
9	Odisha Treasury	https://www.odishatreasury.gov.in/webportal	2017-18
10	Demand for Grants, Odisha	http://finance.odisha.gov.in/Budget.asp	2017-18

1.3 Objectives

Against this background, the present paper focuses on achieving the following objectives:

- To understand the diversities in health inequalities of Odisha;
- To assess the extent of inequality in accessing health care facility and services;
- To understand the expenditure pattern in addressing the health need of the state.

1.4 Limitations of the study

The working paper has its own limitations too. As mentioned above, the working paper is confined only to secondary information gathered through various sources.

Chapter II

Analysis and Discussion

As observed by Mariana et al., 80 percent of Indian poor are victims of mortality because of their low socio-economic background. Henceforth, it raises a fundamental question: should inequalities in health be seen in relation to the socio-economic background of the population? Does inequality in health care services and facilities persist because different social groups have unequal access to resources? Can all these queries be answered well by determining the distribution of health care services and facilities across the state? In this regard, a comparative analysis is done by taking the following indicators in to account.

- Access to Health Care Facility

- Access to Health Care Services

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Section-1
Health Care Facility

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Health care facility refers to the basic infrastructure needed to deliver health care services. The public health infrastructure includes health institutions like sub-centers, primary health centers, community health centers, district health centers etc. and the required basic facilities like human resources in the form of doctors, pharmacists, paramedical staffs, laboratory technicians, beds, labour room etc.

2.1 Population vis-à-vis Health Institutions

An analysis is done by taking the population size of each district vis-à-vis the available health infrastructure i.e. the number of sub-centers, PHCs and CHCs. In this section, an analysis has been drawn between Odisha with other states and substantial focus has been given to analyze the inter-regional situation of the state i.e. costal and tribal regions. As already said, the analysis focuses on the current situation of health institutions with regard to population.

- Sub-center & Population Ratio
- PHC & Population Ratio
- CHC & Population Ratio

2.1.1 Sub-center and Population Ratio

As per IPHS norms, there should be one Sub-center established for every 5000 population in plain areas and one for every 3000 population in hilly/tribal/desert areas. At present, in Odisha the population ratio and availability of sub-center is a matter of concern. It is

observed that not a single of the nine tribal dominated districts is fulfilling the IPHS norm for establishment of sub-center. The situation in the costal and other plain districts is not any better; none of them are able to fulfill the prescribed norm of IPHS for establishment of sub centers.

Figure 2.1: **Sub Center & Population Ratio**

District	Value
Khordha	11147
Jharsuguda	8780
Bhadrak	8463
Baleswar	8438
Cuttack	7905
Anugul	7674
Ganjam	7672
Debagarh	7441
Balangir	7296
Bargarh	7261
Dhenkanal	7143
Puri	7049
Jajpur	7028
Sonepur	6856
Boudh	6585
Kalahandi	6516
Nuapada	6425
Kendrapara	6345
Odisha	6276
Sambalpur	6234
Jagatsinghpur	6016
Nayagarh	5800
Sundargarh	5368
Kendujhar	5133
Koraput	4494
Mayurbhanj	4278
Kandhamal	4262
Gajapati	4249
Nabarangapur	4225
Rayagada	4119
Malkangiri	3881

2.1.2 Primary Health Center (PHC) and Population Ratio

As per IPHS norms, there should be one PHC for 30,000 populations in plain areas, and one for 20,000 populations in tribal/hilly/desert areas. As per the present analysis, none of the nine tribal dominated districts (Koraput, Kalahandi, Balangir, Malkangiri, Sundargarh, Mayurbhanj, Kendujhar, Kandhamal & Nawarangpur) except Kandhamal are able to fulfill the IPHS norm. Even in the costal and plain pockets, except for Bhadrak district, no other district is fulfilling the IPHS norm for establishment of PHC.

Figure 2.2: **PHC & Population Ratio**

District	Ratio
Angul	41091
Cuttack	39765
Ganjam	39211
Deogarh	39065
Balangir	37477
Boudh	36764
jharsuguda	36219
Nuapada	35905
Kalahandi	35042
Sundargarh	34891
Khurda	34641
Puri	33975
Baleswar	33631
Sambalpur	33584
Dhenkanal	33134
Bargarh	32201
Odisha	32164
Kendrapara	31312
Jajapur	30969
Jagatsinghpur	30729
nabarangapur	30524
Sonepur	30509
Mayurbhanj	29299
Korapur	28743
Bhadrak	28421
Gajapati	27515
Kendujhar	27299
nayagarh	26021
Rayagada	25471
Malkangiri	21900
Kandhamal	18328

2.1.3 Community Health Centers (CHC) and Population Ratio

In India, health care is delivered through a three-tier system i.e. primary, secondary and tertiary health care centers both in rural and urban areas. As per IPHS guidelines, one CHC should cater to 80,000 populations 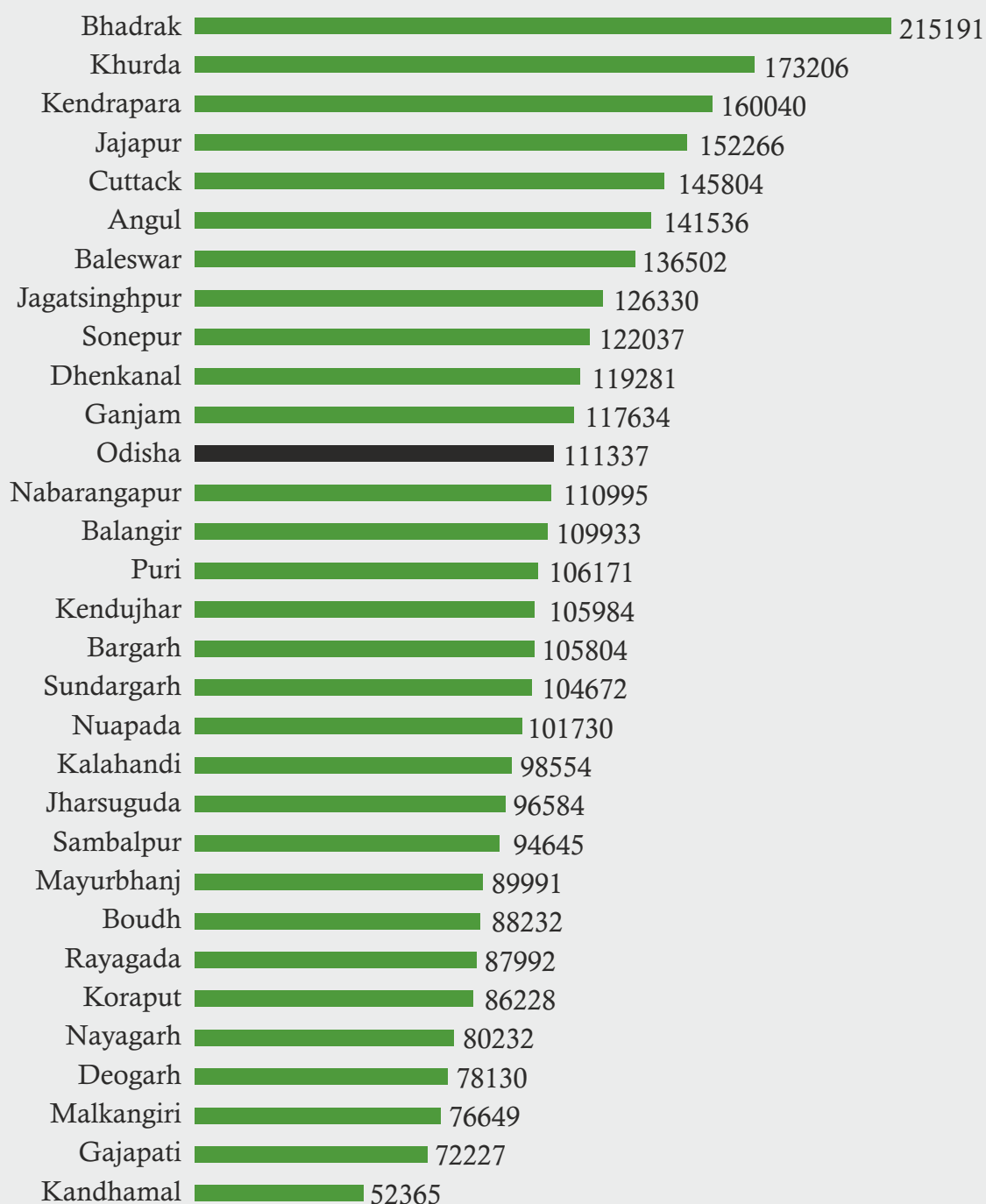in hilly/tribal/desert areas and 1,20,000 population in plain areas. It is observed that in Odisha only three tribal dominated districts i.e. Malkangiri, Gajapati and Kandhamal are fulfilling this norm of IPHS. In contrast to this, Anugul, Bhadrak, Cuttack, Jagatsinghpur, Khurda, Kendrapara and Baleswar districts are not able to fulfill the IPHS norm for the establishment of sub-center.

Figure 2.3: **CHC & Population Ratio**

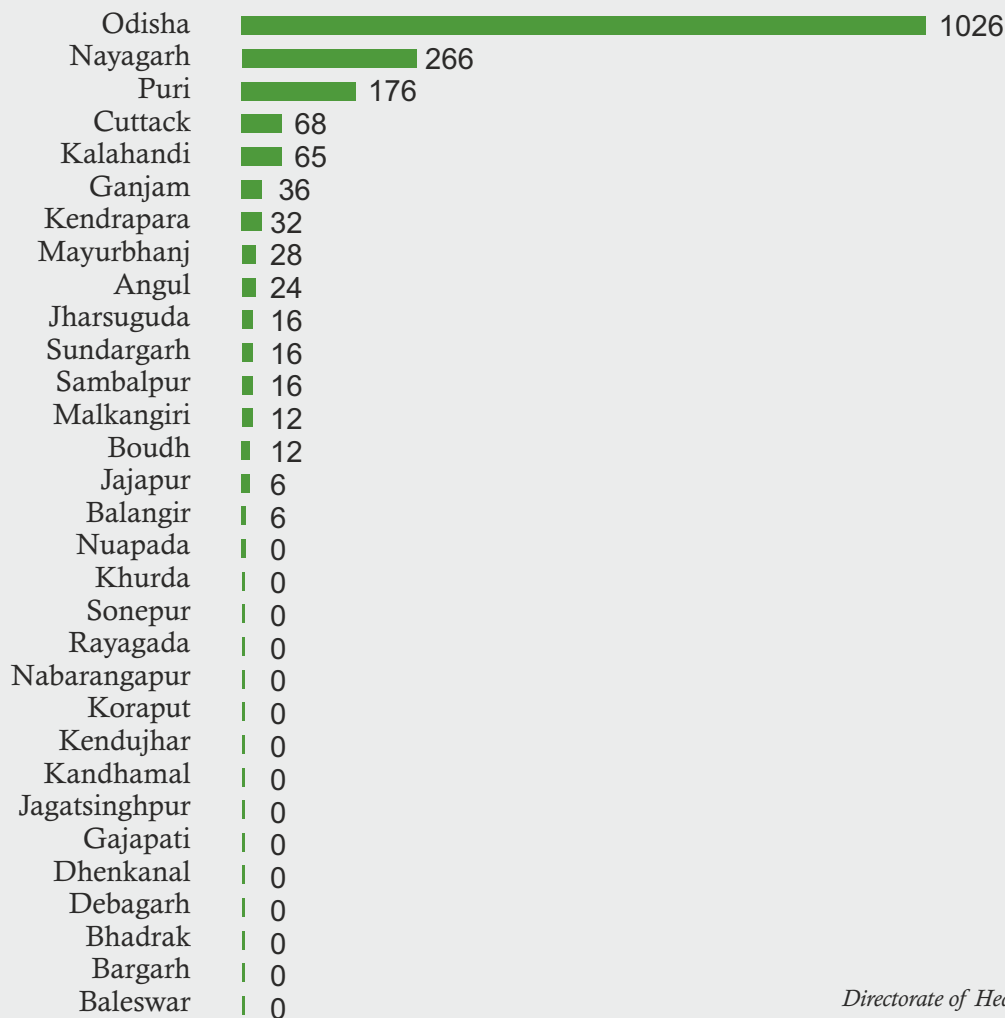| District	Value
Bhadrak	215191
Khurda	173206
Kendrapara	160040
Jajapur	152266
Cuttack	145804
Angul	141536
Baleswar	136502
Jagatsinghpur	126330
Sonepur	122037
Dhenkanal	119281
Ganjam	117634
Odisha	111337
Nabarangapur	110995
Balangir	109933
Puri	106171
Kendujhar	105984
Bargarh	105804
Sundargarh	104672
Nuapada	101730
Kalahandi	98554
Jharsuguda	96584
Sambalpur	94645
Mayurbhanj	89991
Boudh	88232
Rayagada	87992
Koraput	86228
Nayagarh	80232
Deogarh	78130
Malkangiri	76649
Gajapati	72227
Kandhamal	52365

2.2 Health Infrastructure

Infrastructure is the basic element for every sort of development activity. Health Infrastructure is critical in getting the crop of health output[8].

2.2.1 Primary Health Center and Bed Strength

Primary Health Centers (PHC) are the cornerstone of rural health services. They are also known as the units for curative, preventive and promotive health care[9]. As in May 2018 the total bed strength at PHCs of the state was 1026. Of them, 13 districts did not have a single bed in their respective PHC-New and IDH. As per IPHS guidelines every PHC should have at least 4-6 indoor beds.

> The total number of PHCs in the state is 1305 and the total bed strength in the PHCs are 1026. But as per present data, only 13.36% PHCs are having indoor beds.

Figure 2.4: **Bed Strength in PHC (New) & IDH**

| District	Beds
Odisha	1026
Nayagarh	266
Puri	176
Cuttack	68
Kalahandi	65
Ganjam	36
Kendrapara	32
Mayurbhanj	28
Angul	24
Jharsuguda	16
Sundargarh	16
Sambalpur	16
Malkangiri	12
Boudh	12
Jajapur	6
Balangir	6
Nuapada	0
Khurda	0
Sonepur	0
Rayagada	0
Nabarangapur	0
Koraput	0
Kendujhar	0
Kandhamal	0
Jagatsinghpur	0
Gajapati	0
Dhenkanal	0
Debagarh	0
Bhadrak	0
Bargarh	0
Baleswar	0

Directorate of Health Services, 2018

[8]Hota, A. K. and H. S. Rout, Health Infrastructure in Odisha with Special Reference to Cuttack and Bhubaneswar Cities, Journal of Infrastructure Development, Vol.7 (2), 2015.

[9]Indian Public Health Standards (IPHS) Guidelines for Primary Health Centres, Directorate General of Health Services, Ministry of Health & Family Welfare, 2012.

2.2.2 Community Health Center & Bed Strength

As per IPHS guidelines, the number of beds in the CHCs of Odisha should be 11, 310 as there are 377 numbers of CHCs. At present the availability of beds in the CHCs is 5817. This indicates that 5493 numbers of beds are still lacking. Within the state, as far as the number of beds in the CHCs of Odisha is concerned, it is being observed that, in the top five districts i.e. Mayurbhanj (200), Sundargarh (122), Kendujhar (106), Balangir (86) and Kendrapara (84) the shortfall of beds is more in comparision to other districts (Refer Appendix Table. 10).

Figure 2.5: **Community Health Center & Bed Strength**
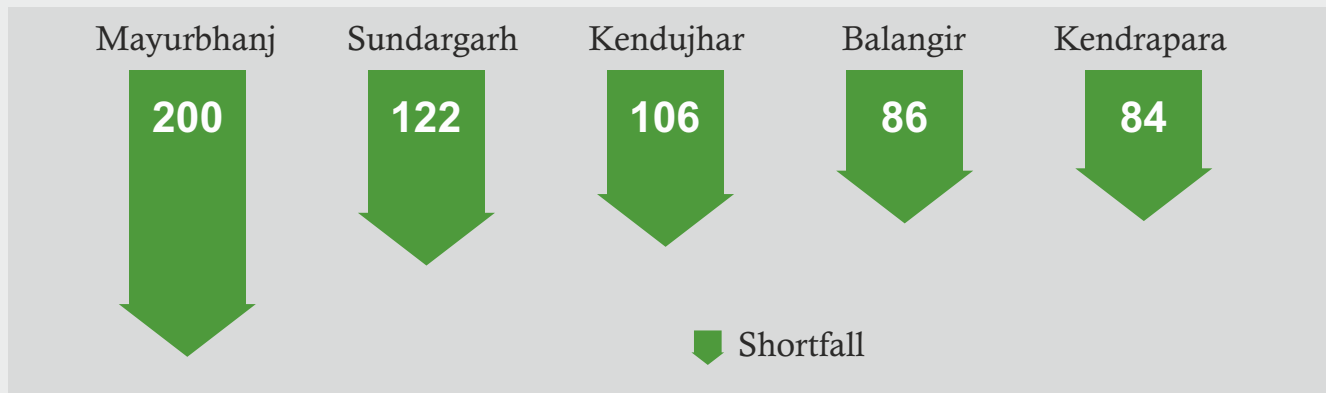
Source: Directorate of Health Services, 2018

Section-2
Situation of Health Care Services

As per a 1993 National Academy Report on "Access to Health Care in America" access is defined as "timely use of personal health services to achieve the best possible health outcomes[10]". It clearly indicates that access to healthcare facility is the most important aspect in achieving good health. It assumes that good health status necessitates the provision and availability of adequate health care infrastructure. To analyze this aspect, some components have been explored both at the state level and regional level as well.

2.3   Health Status of Odisha in Specific Reference to Inequality

This section attempts to make a review of some key health studies done at the national and regional level. It also includes some inter-state and regional comparisons to bring out the prevailing inequalities in terms of districts and in terms of ethnic groups. The parameters that have been used to analyze the current health status vis-à-vis the inequality are: nutritional status and anemia, death rate and mortality, maternal and child health care status etc.

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[10]Institute of Medicine, Committee on Monitoring Access to Personal Health Care Services. Access to Health Care in America. Millman M, editor. Washington, DC: National Academies Press; 1993.

2.3.1 Nutritional Status and Anemia

Appropriate and sufficient nutrition is critically important for the proper growth and development of a child. The present nutritional status and anemia of the districts is as follows:

Table 2.1: **District wise Nutritional Status**

Sl No	District	Stunted		Wasted		Underweight	
1	Anugul	31.8		21.6		35.3	
2	Balangir	44.4		26.1		44.7	
3	Baleswar	33.2		18		33.7	
4	Bargarh	39.1		24.2		39	
5	Boudh	42.2		22.5		43.5	
6	Bhadrak	34.9		15.3		28.2	
7	Cuttack	15.3		9.1		17.1	
8	Debagarh	33.4		19.9		37.5	
9	Dhenkanal	26.1		19		29.2	
10	Gajapati	32.5		18.4		32.1	
11	Ganjam	28.9		16.4		21.3	
12	Jagatsinghpur	19.5		12.6		16.5	
13	Jajapur	30.3		16.5		30	
14	Jharsuguda	34.9		24.8		36.5	
15	Kalahandi	36.6		24.8		39.7	
16	Kandhamal	38.4		23.1		43.1	
17	Kendrapara	26.9		12.3		24.1	
18	Kendujhar	44.6		19		44.3	
19	Khordha	24.7		13.8		20.3	
20	Koraput	40.3		28.5		44.4	
21	Malkangiri	45.7		32.5		51.8	
22	Mayurbhanj	43.5		17.2		43.8	
23	Nabarangapur	45.8		36		51	
24	Nayagarh	28		17.5		25.4	
25	Nuapada	37.6		26.4		40	
26	Puri	16.1		12.1		17.2	
27	Rayagada	43.5		23.1		42.4	
28	Sambalpur	40.2		28.6		45.3	
29	Sonepur	47.5		22.3		43	
30	Sundargarh	37.2		31.4		44.2	

Source: NFHS-4, 2015-16

It is observed that, malnourishment is very prominent in most of the tribal dominated districts such as Kendujhar, Koraput, Malkangiri, Mayurbhanj, Nabarangpur, Rayagada, Sambalpur, Sonepur, Sundargarh, Kandhamal, Bargarh, Balangir and Boudh. The costal and plain regions project a quite better scenario.

Figure 2.6: **Nutritional status of Odisha & India**
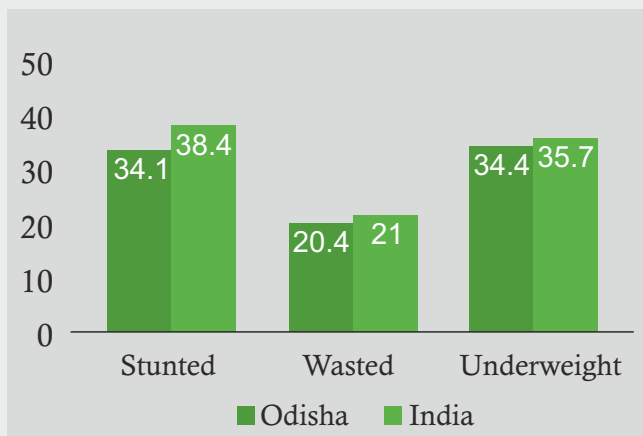
Source: NFHS-4, 2015-16

In the context of the stunted, in Odisha 34.1 percent children are stunted followed by 20.4 percent wasted and 34.4 percent children underweight. Though the situation of Odisha is better than the national average still regional differences are quite prominent within the state.

Figure 2.7: **Anemia among Women & Children**
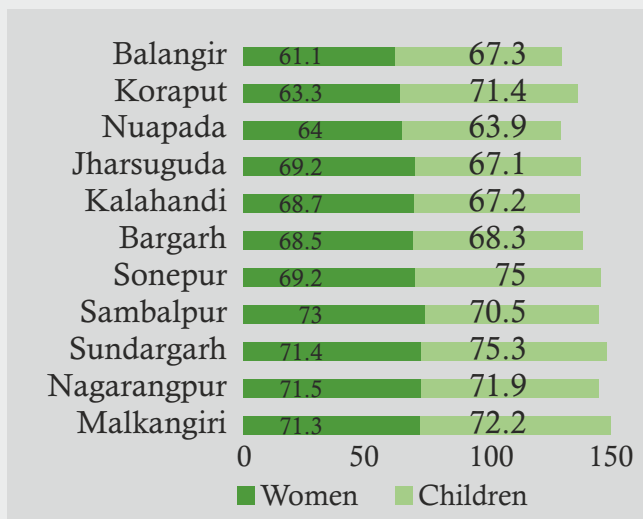
Source: NFHS-4, 2015-16

It is observed that, anemia is more prominent in women and children than male (Refer Appendix). Again, of the 30 districts, women and children in 11 districts of the state are more anemic. What is noteworthy here is that in the 4 districts of Sundargarh, Sambalpur, Malkangiri and Nabarangpur, more than 70 percent women are anemic. At the same time, more than 70 percent children of 6 districts such as Sundargarh, Sonepur, Malkangiri, Nabarangpur, Sambalpur and Koraput are anemic.

To sum it up, it shows that, majority of women and children in all the KBK Plus districts (Koraput, Malkangiri, Nabarangpur, Sonepur, Balangir, Kalahandi & Nuapada) except Rayagada are anemic.

2.3.2 Death Rate & Mortality

Whether it is Maternal Mortality, Infant Mortality, U5 Mortality or death rate, Odisha figures amongst the bottom five states in the country. As per the Sample Registration System (SRS), 2016, the Death Rate in Odisha is highest in the country which stands at 7.8 (Male: 8.5, Female: 7.1) as against 6.4 (Male: 6.8, Female: 5.9) of the country as a whole, a sharp 1.4 points above the national death rate.

The next table (2.2) shows that, even when compared to the adjoining states, Odisha posits itself amongst the lowest performing ones. States like Jharkhand, Chhattisgarh, West Bengal and Andhra Pradesh which are bordering Odisha on the north, west, east and south sides post the death rates of 5.5, 7.4, 5.8 and 6.8 respectively. In addition to this, it is also observed that the death status of rural Odisha (8.1) is more worrying as

Table 2.2: **State wise Death Rate**

	Odisha	Chhattisgarh	Andhra Pradesh	West Bengal	Jharkhand
URBAN					
Women	5.8	5.9	4.5	5.8	4.5
Men	6.4	6.4	5.2	6.5	5
Total	6.1	6.2	4.9	6.1	4.7
RURAL					
Women	7.3	7.3	6.8	5.3	6.4
Men	8.9	8.3	8.9	8.9	8.9
Total	8.1	7.8	8.1	8.1	8.1
TOTAL					
Women	7.1	7	7.1	7.1	7.1
Men	8.5	7.8	8.5	8.5	8.5
Total	7.8	7.4	6.8	5.8	5.5

■ Women ■ Men ■ Total
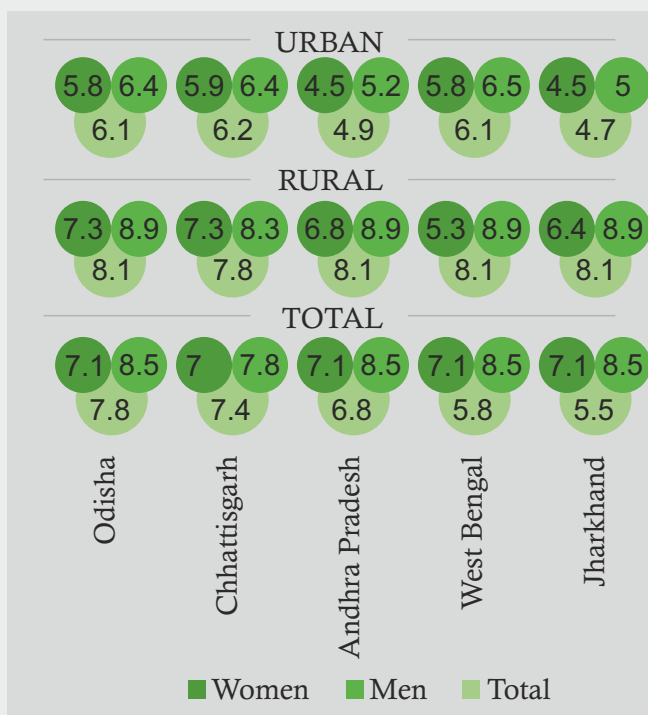
compared to the urban (6.1) Odisha. Even in the context of male and female death rates, the male segment reports higher death rates in comparison to their male counterparts. Again, a close observation from the socio-cultural perspective shows that, Odisha is covered with highest forest lands, inaccessible zones, large number of SC and ST population etc. which might be posing major challenges behind such high death rate.

2.3.3 Crude Death Rate

An attempt is made here to analyze the inter district Crude Death Rate (CDR). In the list of low performing five districts, Dhenkanal (10.5) district is having the highest CDR followed by Baudh (10.3), Balangir (9.9), Bargarh (9.8) and Kendujhar (9.2) respectively. Except Dhenkanal district, all other are tribal and hilly districts. In

comparison to this, in the list of better performing five districts, Kalahandi/ Baleswar (6.7) districts are at the top followed by Cuttack (6.8), Jagatsinghpur (7) Anugul/Malkangiri (7.1) and Sonepur (7.5) respectively.

Table 2.3: **CDR of Better Performing Districts**

Better Performing Five Districts	CDR
Kalahandi/Baleswar	6.7
Cuttack	6.8
Jagatsinghpur	7
Anugul/ Malkangiri	7.1
Sonepur	7.5

Source: Annual Health Survey, 2012-13

Table 2.4: **CDR of Low Performing Districts**

Low Performing Five Districts	CDR
Dhenkanal	10.5
Baudh	10.3
Balangir	9.9
Bargarh	9.8
Kendujhar	9.2

Source: Annual Health Survey, 2012-13

2.3.4 Maternal and Child Health

Maternal health covers the health of a woman during pregnancy, child birth and post-partum period. In India, poor access to health and nutrition services for mothers and child is the primary reason why the mortality rate in Odisha is high[11]. In India the states like Assam (237), Uttar Pradesh (201), Rajasthan (199), Odisha (180) and Madhya Pradesh/Chhattisgarh (173) are amongst the top five on the list of highest Maternal Mortality Ratio (MMR) states[12]. Odisha

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[11]World Health Organisation (WHO), 2014, Accessed on 2/01/2019, file:///C:/U-sers/n-abanita.CYSD/De-sktop/W-HO_RH-R_13.27_en-g.pdf

[12]Sample Registration System (SRS) Special Bulletin On Maternal Mortality In India 2014-16, Maternal Mortality Ratio (MMR), Maternal Mortality Rate and Life Time Risk; India, EAG & Assam, South and Other states, 2014-16.

being the 4th highest in country in MMR has manifold issues related to MMR such as anemia, absence of proper nutrition, absence of health infrastructure, sparse utilization of available healthcare services etc. Several measures have been taken both at the center and state level to improve the situation. Noticeable achievements have been made too. The state infant mortality rate has reduced from 60 per 1000 live births in 2005-06 (NFHS-3) to 40 in 2015-16 (NFHS-4). Likewise, the U5 Mortality rate has declined from 91 per 100,000 live births in 2005-06 (NFHS-3) to 49 in 2015-16 (NFHS-4). Slower progress has been achieved in reducing the maternal mortality ratio, which has declined from 222 per 100,000 live births in 2011-13 (SRS, 2013) to 180 in 2014-16 (SRS, 2016). Despite this progress, the current situation of both the state as a whole and the districts in particular needs serious attention if the target of SGD is to be achieved by 2030.

2.3.4.1 Infant Mortality Rate (IMR)

Even the situation of IMR is extremely worrisome. As per the NFHS-4 series published in 2016, the IMR of Odisha is lower than the national average, despite the fact that the State ranks 4th (Uttar Pradesh: 64; Madhya Pradesh: 51; Assam: 48) with 40 infant deaths per 1000 live births. Again, IMR is more in rural areas (29) than in urban (21) areas.

Table 2.5: **Infant Mortality Rate of Odisha & India**

State & Nation	Rural	Urban	Total
Odisha	43	21	40
India	46	29	41
Source: NFHS-4, 2015-16			

Table 2.6: **IMR of Better Performing Districts**

Better Performing Five Districts	IMR
Jharsuguda	42
Baleswar	45
Mayurbhanj	47
Koraput/Malkangiri	48
Jagatsinghpur/Jajapur	48
Source: Annual Health survey, 2012-13	

Table 2.7: **IMR of Low Performing Districts**

Low Performing Five Districts	IMR
Balangir	97
Kandhamal	82
Puri	75
Khurda	67
Dhenkanal	67
Source: Annual Health Survey, 2012-13	

As per Census 2011, around 83.81 percent population of Odisha live in the rural regions and a majority of them reside in the hilly and tribal terrains. Against this backdrop, the inter-district scenario of the state in the context of death rate and mortality depicts a highly contrasting scenario. It is observed that, Balangir (97) district occupies the highest position in IMR followed by Kandhamal (82).

2.3.4.2 Neo-natal Mortality Rate (NMR)

Here an attempt has been made to arrive at an inter-district analysis of the Neo-natal Mortality and Under Five Mortality Rates. The Neo natal death is defined as a death within first 28 days of life (0-27 days). This phase is also called the most vulnerable time for a child's survival as this is called as the

Table 2.8: **Neo-natal Mortality Rate**

State & Nation	Neo-natal Mortality Rate		
	Total	Rural	Urban
Odisha	37	39	26
India	28	31	15

Source: SRS Statistical Report, 2013

highest risk phase. The global scenario illustrates that, the average Neo-natal death is 18 per 1,000 live births in 2017[13]. As per SRS Statistical Report 2013, while the national average of NMR is 28, the NMR of Odisha is 37. Again, the rural NMR of both the nation and the state is higher than that of urban sector. This clearly shows that, in India, rural regions need more focus to minimize NMR.

Figure 2.8: **District wise Neo-natal Mortality Rate**
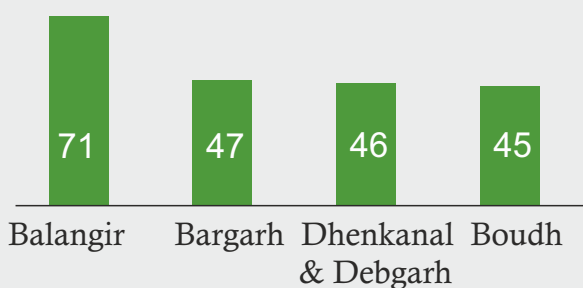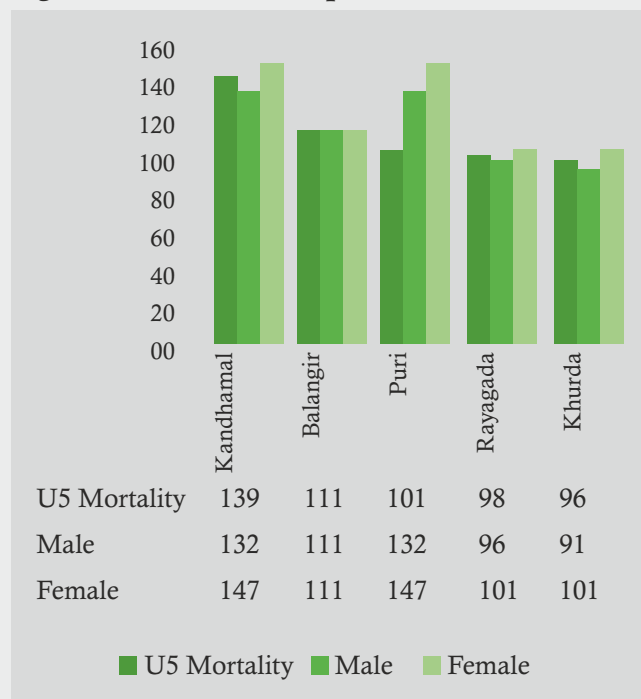

Source: Annual Health Survey, 2012-13

An attempt is also made to analyse the inter district scenario of NMR. In the lowest performing list of five districts, Balangir (71) is having the highest Neo-natal death followed by Bargarh (47), Dhenkanal and Debgarh (46) and Baudh (45) respectively. It indicates four tribal/hilly districts and one costal/plain district is there in the list. Again, Dhenkanal is an industrial district where approximately 5636 industrial units are

employing around 32808 daily workers in small scale industries[14] and it is also a hub where floating population is more. These could be the reasons why the death rate in this district is more.

2.3.4.3 Under Five Mortality Rate (U5 MR)

The Under Five Mortality Rate refers to the incidence of a child dying before completing five years of age. In Sustainable Development Goal-3, the global target is to reduce U5 MR to at least as low as 25 per 1,000 live births. As per the 4th series of NFHS 2016, the U5 mortality scenario of both the nation and the state is far behind the global target of SDG. While analyzing the same at the district level, the scenario presents a worrisome picture. In the low performing five districts of Odisha, the U5 MR is either 100 or more than 100.

Figure 2.9: **U5 MR of Top five Districts**

	Kandhamal	Balangir	Puri	Rayagada	Khurda
U5 Mortality	139	111	101	98	96
Male	132	111	132	96	91
Female	147	111	147	101	101

■ U5 Mortality ■ Male ■ Female

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[13]United Nations Children's Fund (UNICEF), Neonatal Mortality, Accessed on 3.01.2019, https://data.unicef.org/top-ic/ch-ild-surv-ival/ne-onat-al-mo-rtal-ity/

[14]Directorate of Industries, Cuttack, 2011.

Table 2.10: **U5 MR of Better Performing Five Districts**

Source: *Annual Health Survey, 2012-13*
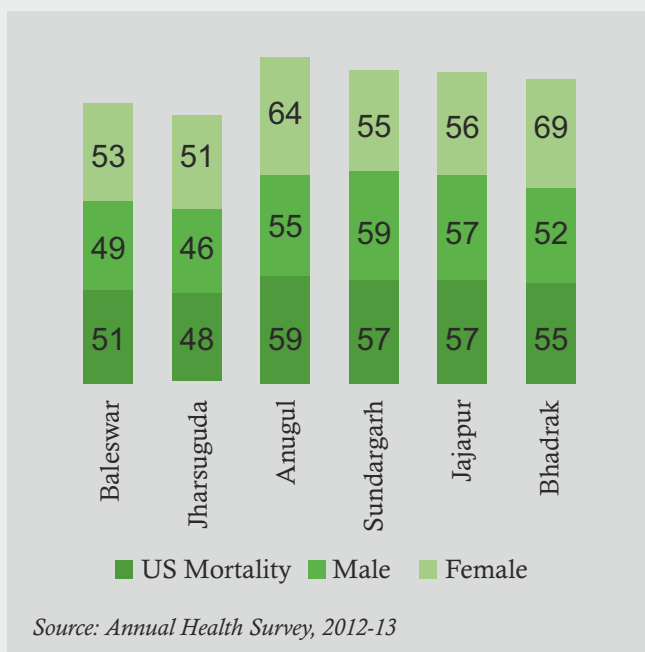
The list of five low performing districts includes three tribal dominated districts i.e. Kandhamal (139), Balangir (111) and Rayagada (98) and two costal districts i.e. Puri (101) and Khordha (96). Again, these districts are hubs of floating population. Puri being a tourist hub and Khordha being the state capital are entirely different than the tribal and hilly districts.

The better performing five districts where U5 MR is comparatively less include five costal and plain districts i.e. Baleswar (51), Jharsuguda (48), Anugul (59), Jajapur (57) and Bhadrak (55). A close examination shows that the U5 Mortality among females is more than that of their male counterparts. As can be seen from the graph, in all the districts, U5 Mortality of females is more than the males.

2.3.4.4 **Institutional Birth**

Institutional delivery entails giving birth to a child in a hospital or in a health center in the presence of skilled attendants to reduce the chances of illness and death[15]. To minimize the incidence of such situations, Janani Suraksha Yojana (JSY) was introduced by the Govt. of India under the National Rural Health Mission (NRHM) to promote institutional delivery among the poor pregnant women. The scheme provides financial assistance (Rs 1400 for rural & Rs 1200 for urban) to women opting for institutional delivery.

Table 2.11: **Scenario of Institutional Birth**

Source: *National Family Health Survey (NFHS), 2005-06 and 2015-16.*

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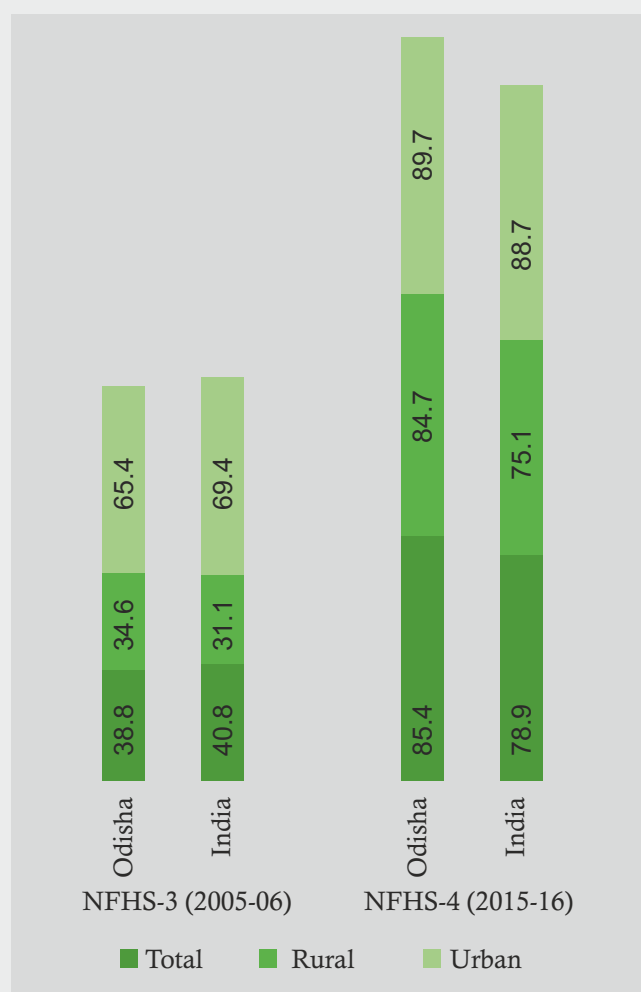
[15] Munjial, M., P. Kaushik and S. Agnihotri, A Comparative Analysis of Institutional and Non-institutional Deliveries in a Village of Punjab, Health and Population: Perspectives and Issues, Vol. 32 (3), 131-140, 2009.

As per the NFHS-3 findings, during 2005-06, the scenario of institutional birth was very poor with marginal difference between Odisha and India figures (Odisha: 38.8; India: 40.8). The same year, in 2005, JSY scheme was introduced and the fruit of this scheme is clearly visible in NFHS-4 (Odisha: 85.4; India: 78.9). In the context of Odisha, 34 percent increase has been witnessed in institutional birth. However, despite such perceptible difference between NFHS-3 and 4 series, an uneven difference is seen in the rural and urban pockets of the state. During 2005-06, institutional delivery in the rural region was it was 34.6 which has increased to 84.7 in 2015-16.

Table 2.9: **District wise Institutional Birth**

Top Seven Districts	Institutional Birth
Puri	97.8
Jagatsinghpur	97.6
Jharsuguda	95.2
Cuttack/Jajapur/Kendrapara	94
Subarnapur	93

Source: NFHS-4, 2015-16

The inter-district scenario of Odisha reflects gross disparity in the achievements. In 13 districts (Puri: 97.8; Jagatsinghpur: 97.6; Jharsuduga: 95.2; Cuttack/Jajapur /Kendrapara: 94; Subarnapur: 93; Nayagarh: 92.5; Bargarh: 92; Baleswar: 91.9; Sambalpur/Anugul: 90.3; Dhenkanal: 90.1), the institutional birth has gone beyond 90 percent. It indicates that, in list of top seven better performing districts includes 6 costal and plain districts with only one tribal/hilly district making it to the list.

2.3.4.5 Home Delivery

In Odisha, the overall incidence of home delivery is very less (3.3) in comparison to institutional delivery. However, the situation is a bit different when one observes the district level average data. As per the NFHS-4 series, home delivery is more in the tribal Malkangiri district and not a single home delivery is conducted in the coastal Jagatsinghpur district. The top five low performing districts are all tribal dominated districts.

Table 2.10: **Scenario of Home Delivery**

Top Seven Districts	Institutional Birth
Low Performing Five Districts	Home delivery conducted by skilled health personnel
Malkangiri	10.6
Rayagada	8.9
Gajapati/Kalahandi	6.4
Boudh/Koraput	5.4
Kandhamal	5.1
Odisha	3.3

Source: NFHS-4, 2015-16

2.3.4.5 Out of Pocket Expenditure (OOPE) for Delivery at Public Health Facility

The 'out of pocket expenditure' (OOPE) for delivery at public health facility means the expenditure incurred by women while availing delivery care at proper health care institutions. Further it includes payments made for services like transportation, laboratory tests, medicines etc. from private suppliers which are supposed to be available free of cost[16]. In India, the average out of

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[16]Issac, A., Susmita Chatterjee, Aradhana Srivastava and Sanghita Bhattacharyya, Out of pocket expenditure to deliver at public health facilities in India: a cross sectional analysis, Reproductive Health (2016) 13:99, DOI 10.1186/s12978-016-0221-1.

pocket expenditure per delivery in public health facility is Rs. 3179 and the same in Odisha is Rs. 4226.

Table 2.11: **Out of Pocket Expenditure (OOPE) for Delivery at Public Health Facility**

State	OOPE	Institutional Delivery	Home Delivery	IMR	MMR
Uttar Pradesh	1956	67.8	4.1	64	201
Assam	3821	70.6	3.9	48	237
Madhya Pradesh	1841	80.8	2.3	51	173
Rajasthan	3052	84	3.2	41	199
Odisha	4226	85.3	3.3	40	180

Source: NFHS-4, 2015-16

As discussed earlier, Odisha, despite ranking amongst the better performing states in terms of IMR and MMR, posts a high OOPE (Rs. 4226). It is deplorable that despite having better health seeking behavior and higher interest in institutional delivery, the women of Odisha have to spend more out of their pockets for giving birth to their children.

As per the NFHS-4 series published in 2015-16, the average OOPE of Puri (Rs. 6972) district is highest in the state and Malkangiri (Rs. 1454) is the lowest. This is against the backdrop of the fact that institutional birth in Puri district is the highest and home delivery in Malkangiri district is the highest. Ironically, OOPE is also at the peak in Puri and very modest in Malkangiri district. It can thus be assumed that while the residents prefer institutional delivery, for some reason

they are forced to bear exorbitant out of pocket expenditure.

Table 2.12: **The district wise OOPE per delivery at public health facility are as follows:**

District	Average out of pocket expenditure per delivery at public health facility
Malkangiri	1454
Nabarangapur	1787
Rayagada	1849
Koraput	2408
Gajapati	2828
Kandhamal	3026
Sundargarh	3248
Baleswar	3401
Anugul	3496
Boudh	3611
Nayagarh	3733
Mayurbhanj	3775
Sambalpur	3790
Kendujhar	3813
Bhadrak	4195
Debagarh	4263
Nuapada	4297
Dhenkanal	4457
Jharsuguda	4488
Khurda	4790
Kendrapara	4831
Jagatsinghpur	4870
Subarnapur	4878
Balangir	4989
Ganjam	5051
Kalahandi	5133
Bargarh	5137
Jajapur	5142
Cuttack	5590
Puri	6972

Source: NFHS-4, 2015-16

2.4 Human Resource

Infrastructure alone cannot ensure health care services; effective service delivery needs adequate and efficient human resources at the health institutions. In the state of Odisha, human resource has always been an issue which hinders in the provision of quality health care services. As discussed earlier, none of the districts except Malkangiri (1:3880) fulfils the IPHS norm in terms of establishment of Sub-centers. At the same time, no CHC meets the prescribed population norm of IPHS. In the context of human resources, an attempt is made here to analyze the same from the primary level health care delivery point i.e. sub-center.

2.4.1 Sub-center and Human Resource

As per available data, Odisha has 6688 sub-centers and as per IPHS guidelines, the number of ANMs in a sub-center should be determined by the case load of the facility.

Table 2.13: **Sub-Centers & Human Resources**

Category of HR	Required	Sanctioned	In-position	Vacant	Shortfall
Health Worker /ANM (Female)	6688	6688	7153	0	0
Health Worker /ANM (Male)	6688	5240	3344	1896	3344

Source: Rural Health Statistics, 2018

Again, one ANM (F) and one ANM (M) are essential to run a sub-center. As per the Rural Health Statistics 2018, the sanction of health worker/ANM (F) is as per the requirement. But, the sanction of health worker/ANM (M) is only around 79 percent i.e. 5240

against 6688. It may also be noted that out of these 5240 sanctioned posts, 1896 (around 36 percent of the sanctioned posts) are lying vacant. When one calculates the required and shortfall ratio, it is around 50 percent. This means the primary level delivery points in the state are not equipped with adequate staffs.

2.4.2 Primary Health Center and Human Resource

In the state of Odisha there is a requirement of at least one medical officer (MBBS), one AYUSH doctor, one accountant cum data entry operator, one pharmacist, one pharmacist (AYUSH), four nurses/ midwives, one health worker each (both male and female), one health assistant each (male and female), one health educator, one laboratory technician, one cold chain and vaccine logistic assistant, one multi-skilled group D worker and a sanitary worker cum watchman.

Table 2.14: **Primary Health Center and Human Resource**

Category of HR	Required	Sanctioned	In-position	Vacant	Shortfall
Health Assistants (Female)	1288	1162	528	634	760
Health Assistants (Male)	1288	0	0	0	1288
Doctors	1288	1326	917	409	371

Source: Rural Health Statistics, 2018

As per the RHS 2018, at present, the position of human resource is only 1445. Of them, 917 are doctors and 528 are female health assistants. Even the sanctioned posts are less

than the required posts. This indicates that there is a huge gap in the requirement and positioning of human resources at PHC level.

2.4.3 Community Health Centers and Human Resources

Community Health Center is considered to be the secondary level of health care delivery point which is supposed to provide optimal expert care to the community[17]. As per the IPHS guidelines, each CHC should have a work force of at least one Surgeon, one Medicine Specialist, one Obstetrician and Gynecologist and one Pediatrician. In addition to this there should be two specialists in form of an Anesthetist and a Public Health Specialist at every CHC. At present the state of Odisha has gross shortage of staffs at the CHCs.

Table 2.15: **Community Health Center and Human Resource**

Category of HR	Required	Sanctioned	In-position	Vacant	Shortfall
Total Specialists	1508	1529	253	1276	1255
Physicians	377	382	37	345	340
Paediatricians	377	382	53	329	324
Radiographer	377	57	55	4	322
Surgeons	377	382	39	343	338
Obstetricians/ Gynecologists	377	383	124	259	253
AYUSH Doctor	377	N.A.	276	N.A.	101

Source: Rural Health Statistics, 2018

The above table indicates that, neither the IPHS guidelines are fulfilled nor does the positioning of staffs fulfill the required number. At every layer of human resource at the CHCs, there is gross shortfall. When analyzed district wise, the shortfall of human resource at the CHCs is more noticeable in the tribal districts of Mayurbhanj, Kalahandi, Sonepur, Rayagada, Nabarangapur, Malkangiri, Kandhamal, Koraput, Balangir, and Gajapati (more than 50%).

Table 2.16: **District wise Human Resource at CHCs**

District	Sanctioned	In-position
Ganjam	399	152
Debagarh	86	36
Bhadrak	180	76
Bargarh	220	98
Kendrapara	171	77
Dhenkanal	193	88
Sundargarh	280	133
Anugul	197	91
Jagatsinghpur	157	75
Kendujhar	273	132
Jharsuguda	113	55
Puri	240	119
Baleswar	285	142
Boudh	95	48
Nuapada	116	59
Jajapur	207	106
Sambalpur	195	100
Mayurbhanj	407	209
Kalahandi	249	128
Sonepur	127	66
Rayagada	190	102
Nabarangapur	190	103
Malkangiri	141	79
Kandhamal	216	122
Koraput	258	150
Balangir	248	145
Gajapati	137	81
Khurda	211	129
Cuttack	308	208

Source: Directorate of Health Services, Govt. of Odisha, 2018

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[17] Indian Public Health Standards (IPHS) Revised Guidelines for Community Health Centres, 2012.

Section-3
Expenditure Pattern

3.1 Expenditure on Health by department of Health & Family Welfare, Odisha

The expenditure on health is defined as the absolute consumption of health goods and services[18]. In Odisha it is noticed that during financial year 2017-18, an amount of Rs. 2119.82 Cr was allocated for all 30 districts against which 1551.07 Cr was the expenditure.

Table 3.1: **District wise Allotment, Expenditure and Utilization Pattern**

District	Allotment (Cr)	Expenditure (Cr)	Utilization (%)
Boudh	20.62	13.73	66.59
Bolangir	100.75	67.42	66.92
Angul	56.07	38.5	68.66
Sonepur	30.43	21.14	69.47
Deogarh	17.54	12.38	70.58
Koraput	102.04	72.4	70.95
Baragarh	58.44	41.74	71.42
Rayagada	57.18	41.04	71.77
Kalahandi	85.15	61.22	71.90
Kandhamal	64.71	46.65	72.09
Nayagarh	49.66	36.06	72.61
Mayurbhanja	172.87	125.72	72.73
Ganjam	146.57	106.72	72.81
Gajapati	39.79	29.01	72.91
Nabarangpur	54.29	39.6	72.94
Balasore	104.77	76.58	73.09
Khurda	58.23	42.72	73.36
Puri	92.37	67.8	73.40
Sundargarh	111.41	81.84	73.46
Sambalpur	79.19	58.29	73.61
Jajpur	68.43	50.87	74.34
Nuapada	27.54	20.53	74.55
Dhenkanal	61.93	46.44	74.99
Bhadrak	49.55	37.26	75.20
Malkanagiri	42.52	31.99	75.24
Jagatsinghpur	51.58	38.97	75.55
Kendrapara	55.16	42.15	76.41
Cuttack	136.94	105.58	77.10
Jharasuguda	25.06	19.33	77.13
Keonjhar	99.01	77.39	78.16
Total	**2119.8**	**1551.07**	**73.17**

Source: Odisha Treasury, 2017-18

[18] https://www.oecd-ilibrary.org/docserver/health_glance-2015-59-en.pdf?expires

3.1.1 Utilization

When analyzed in terms of utilization, it can be seen from the table that there has been less utilization mostly in the tribal districts of Boudh, Bolangir, Sonepur, Deogarh, Koraput, Baragarh, Rayagada, Kalahandi, Kandhamal, Mayurbhanja, Gajapati and

Table 3.2 Per Capita Allotment

District	Per Capita Allotment (in Rupees)
Khurda	258.62
Bhadrak	328.97
Jajpur	374.51
Kendrapara	382.98
Baragarh	394.5
Ganjam	415.34
Jharasuguda	432.5
Angul	440.18
Nabarangpur	444.65
Nuapada	451.25
Balasore	451.51
Jagatsinghpur	453.64
Boudh	467.34
Sonepur	498.7
Nayagarh	515.79
Dhenkanal	519.22
Cuttack	521.79
Sundargarh	532.2
Kalahandi	539.98
Puri	543.75
Keojhar	549.52
Deogarh	561.33
Rayagada	590.8
Bolangir	610.97
Mayurbhanja	686.06
Gajapati	688.7
Malkanagiri	693.5
Koraput	739.62
Sambalpur	760.65
Kandhamal	882.67

Nabarangpur. This could be because of any of the factors amongst low health seeking behavior, non-availability of health care infrastructure or relevant human resources.

As can be seen from the adjacent table, Odisha has allocated higher per capita amounts to the tribal districts of Rayagada, Bolangir, Mayurbhanja, Gajapati, Malkanagiri, Sundargarh and Koraput. It is ironic that despite such higher allocations, the OOPE on health in these districts are higher. Further, these districts report higher IMR too.

Here it can be mentioned that, the analysis is done by segregating the allotment and expenditure of specialized hospitals and medical colleges and hospitals from the districts like Sambalpur, Ganjam and Cuttack. Similarly, the allotment and expenditure of Bhubaneswar has been excluded from Khurdha district. As Bhubaneswar is the state capital and the department of health and family welfare is at Bhubaneswar, the allotment and expenditure pattern including OLS has been segregated from the allotment of Khurda district.

3.2 Per Capita Expenditure

The per capita expenditure of Govt. of Odisha shows that the highest per capita expenditure is in Kandhamal district (Rs 636.28) followed by Sambalpur (Rs. 559.88), Koraput (Rs. 524.76), Malkanagiri (Rs. 521.63), Gajapati (Rs. 502.07) and Mayurbhanj (Rs. 498.93). Despite higher expenditure, the health indicators are low in terms of IMR, MMR, NMR, U5MR etc. It indicates that, the current expenditure is not sufficient especially for the tribal dominated districts.

Table 3.3: **District wise Per Capita Health Expenditure (in Rupees)**

Sl No	District Per Capita Health	Expenditure (in Rupees)
1	Angul	302.23
2	Balasore	330.01
3	Baragarh	281.79
4	Ganjam	302.40
5	Bolangiri	408.86
6	Kalahandi	388.27
7	Keonjhar	429.53
8	Koraput	524.76
9	Malkanagiri	521.63
10	Mayurbhanja	498.93
11	Rayagada	424.00
12	Sonepur	346.37
13	Sundargarh	390.91
14	Boudh	311.24
15	Bhadrak	247.34
16	Cuttack	402.31
17	Deogarh	396.26
18	Dhenkanal	389.29
19	Jajpur	278.41
20	Khurda	189.75
21	Puri	399.14
22	Nuapada	336.43
23	Kandhamal	636.28
24	Sambalpur	559.88
25	Nayagarh	374.54
26	Gajapati	502.07
27	Kendrapara	292.66
28	Nabarangpur	324.33
29	Jagatsinghpur	342.75
30	Jharasuguda	333.65

Chapter III

Key Discussion Areas

Health care should address the needs of all encompassing every cluster of society in a socially equitable, accessible and affordable manner. But the health care system in Odisha is lopsided as considerable amount of dissimilarity exists amongst different age groups, gender, region, social groups etc. Even within the state differences are marked within and between the regions. But no efforts have been made by the state to introduce region specific policies and planning and provide health care in an equitable manner. This perspective paper provides a vision to look into the aspect of inequality in a constructive manner.

Access to Healthcare Facility is the most important Aspect in Achieving Good Health

It assumes that in any society, the provision and availability of proper health care infrastructure results in good health status. As per the NFHS 4 series, in Odisha 34.1 percent children are stunted, 20.4 percent are wasted and 34.4 percent are underweight. Even the regional differences exist within and between the districts.

- Of the 30 districts, in 4 districts i.e. Sundargarh, Sambalpur, Malkangiri and Nabarangpur more than 70 percent women are anemic.
- More than 70 percent children of 5 districts such as Sundargarh, Sonepur, Malkangiri, Nabarangpur, Sambalpur and Koraput are anemic.

Region Specific Planning is an Important Aspect

As per Census 2011, around 83.81 percent population of Odisha is living in the rural regions and a majority of them are residing in the hilly and tribal terrains. The inter-district scenario of the state in the context of death rate and mortality is also depicting a worrisome picture.

- As per Annual Health Survey 2012-13, Balangir (97) district is occupies the lowest performing position in IMR followed by Kandhamal (82).
- In the context of Neo-natal Mortality Rate (NMR), Balangir (71) is having the highest Neo-natal death followed by Bargarh (46).
- Institutional delivery is more in Puri district (97.8) and home delivery is more in Malkangiri district (10.6).
- In India, the average out of pocket expenditure per delivery in public health facility is Rs. 3179 and the same in Odisha is Rs. 4226. Odisha stands in bottom 5th rank in IMR and 4th rank in MMR. But the states occupying the lowest four positions in IMR (UP: 64, MP: 51, Assam: 48 & Rajasthan: 41) and lowest three in MMR (Assam: 237, UP: 201 & Rajasthan: 199) report low OOPE (MP: 1841, UP: 1956, Rajasthan: 3052 & Assam: 3821) in comparison to Odisha.

Primary Health Care Institutes as Corner Stone of Public Health System

Ideally, the vision of the state primary health care institutes should be to ensure adequate, qualitative, preventive and curative health care to the people of the state. So far, Odisha state has been able to establish 6688 sub centers, 1305 PHCs and 377 CHCs. However, at the district level, the number of sub centers with regard to the population shows a worrisome picture.

- The district wise sub-center and population ratio shows that no district fulfills the prescribed IPHS guidelines in setting up sub center.
- In the context of Primary Health Centers (PHC), only two districts – one tribal

dominated district i.e. Kandhamal and one costal/plain district i.e. Bhadrak – are able to fulfil the IPHS norms.

- Of the nine tribal dominated districts, only three (Malkangiri, Gajapati and Kandhamal) are able to meet the IPHS norms as far as the establishment of CHC is concerned.
- Majority of the twenty-one coastal/plain districts (Anugul, Bhadrak, Cuttack, Jagatsinghpur, Khurda, Kendrapara and Baleswar) are not able to fulfill the IPHS norms.

Infrastructure is a basic necessity to provide health care

Infrastructure is the basic element of any development activity. Health Infrastructure is critical in getting the crop of health output. It is observed that, in Odisha physical infrastructure creates major hindrance in getting proper health care.

- As per the IPHS norms, every PHC should have at least 4-6 indoor beds. However, the total number of PHCs in the state is 1305 and the total bed strength in the PHCs is 1026.
- As per IPHS guidelines a CHC should have at least 30 beds. Odisha is having 377 CHCs across the 30 districts. As per the number of CHCs, there should be at least 11, 310 beds. However, at present there are only 5817 beds in the CHCs.
- As far as the number of beds in the CHCs of Odisha is concerned, it is being observed that the 5 districts of Mayurbhanj(40%), Balangir, (36%), Kendujhar (33%), Kendrapara, (32%) and Sundargarh (28%) report more shortfall of beds

Human Resource is an important aspect to provide quality health care services

Infrastructure alone cannot provide the health care services; effective service delivery needs adequate and efficient human resources at the health institutions. In the state of Odisha, human resource has always been an issue which poses hindrance in providing quality health care services.

- As per IPHS guideline, the number of ANMs in a sub-center should be determined by the case load of the facility. Again, one ANM (F) and one ANM (M) are essential to run a sub-center. As per the Rural Health Statistics 2018, the sanction of health workers/ANMs (F) is as per the requirement. Even the current position of ANMs (F) is more than the required number. However, the sanction of health workers/ANMs (M) is around 79 percent i.e. 5240 against 6688. Furthermore, around 36 percent of the sanctioned posts are lying vacant. To sum it up, the required and shortfall ratio is around 50 percent.

Per Capita Health Expenditure:

- The per capita expenditure of Govt. of Odisha shows that the highest per capita expenditure has been in Kandhamal district (Rs 636.28) followed by Sambalpur (Rs. 559.88), Koraput (Rs. 524.76), Malkanagiri (Rs. 521.63), Gajapati (Rs. 502.07) and Mayurbhanj (Rs. 498.93). Despite higher expenditure, the health indicators of these districts are low in terms of IMR, MMR, NMR, U5MR etc. It indicates that, the current expenditure is not sufficient, especially in the tribal dominated districts.

Appendix

1-Peripherals & Population

District	Sub-Center	PHCs	CHC	Population
Anugul	166	31	9	1273821
Balangir	226	44	15	1648997
Baleswar	275	69	17	2320529
Bargarh	204	46	14	1481255
Boudh	67	12	5	441162
Bhadrak	178	53	7	1506337
Cuttack	332	66	18	2624470
Deogarh	42	8	4	312520
Dhenkanal	167	36	10	1192811
Gajapati	136	21	8	577817
Ganjam	460	90	30	3529031
Jagatsinghpur	189	37	9	1136971
Jajapur	260	59	12	1827192
Jharsuguda	66	16	6	579505
Kalahandi	242	45	16	1576869
Kandhamal	172	40	14	733110
Kendrapara	227	46	9	1440361
Kendujhar	351	66	17	1801733
Khurda	202	65	13	2251673
Koraput	307	48	16	1379647
Malkangiri	158	28	8	613192
Mayurbhanj	589	86	28	2519738
Nabarangapur	289	40	11	1220946
Nayagarh	166	37	12	962789
Nuapada	95	17	6	610382
Puri	241	50	16	1698730
Rayagada	235	38	11	967911
Sambalpur	167	31	11	1041099
Sonepur	89	20	5	610183
Sundargarh	390	60	20	2093437
Odisha	**6688**	**1305**	**377**	**41974218**

Source: Health Management Information System (HMIS), 2012

2- Institution wise bed strength

District	PHC (N) & IDH	CHC	SDH	DHH	OH	Total
Anugul	32	136	132	92	0	392
Balangir	12	154	160	212	16	554
Baleswar	0	214	70	330	16	630
Bargarh	0	172	30	91	0	293
Boudh	16	60	0	93	0	169
Bhadrak	0	158	0	191	50	399
Cuttack	140	298	130	130	10	708
Debagarh	0	44	0	60	0	104
Dhenkanal	0	139	73	176	24	412
Gajapati	0	156	0	111	6	273
Ganjam	68	582	156	137	0	943
Jagatsinghpur	0	142	0	126	0	268
Jajapur	12	188	0	201	41	442
Jharsuguda	28	98	0	116	10	252
Kalahandi	107	226	55	165	12	565
Kandhamal	0	216	66	186	26	494
Kendrapara	65	186	0	195	0	446
Kendujhar	0	224	118	209	0	551
Khurda	6	226	0	158	18	408
Koraput	0	238	72	165	0	475
Malkangiri	16	150	0	125	35	326
Mayurbhanj	36	310	213	255	12	826
Nabarangapur	0	166	0	102	0	268
Nayagarh	266	230	0	149	0	645
Nuapada	6	76	0	120	0	202
Puri	176	308	0	280	0	764
Rayagada	0	130	70	99	10	309
Sambalpur	16	192	80	221	0	509
Sonepur	0	70	30	110	12	222
Sundargarh	24	328	72	197	14	635
Total	**1026**	**5817**	**1527**	**4802**	**312**	**13484**
Capital Hospital				557		557
RGH				209		209
SCB MCH				1707		1707
MKCG				1062		1062
VSS				982		982
Sishu Bhawan				354		354
Total				**4871**		**4871**

Source: Directorate of Health Services, Govt. of Odisha, 2018

3-District wise Nutritional Status

District	Stunted	Wasted	Underweight
Anugul	31.8	21.6	35.3
Balangir	44.4	26.1	44.7
Baleswar	33.2	18	33.7
Bargarh	39.1	24.2	39
Boudh	42.2	22.5	43.5
Bhadrak	34.9	15.3	28.2
Cuttack	15.3	9.1	17.1
Debagarh	33.4	19.9	37.5
Dhenkanal	26.1	19	29.2
Gajapati	32.5	18.4	32.1
Ganjam	28.9	16.4	21.3
Jagatsinghpur	19.5	12.6	16.5
Jajapur	30.3	16.5	30
Jharsuguda	34.9	24.8	36.5
Kalahandi	36.6	24.8	39.7
Kandhamal	38.4	23.1	43.1
Kendrapara	26.9	12.3	24.1
Kendujhar	44.6	19	44.3
Khordha	24.7	13.8	20.3
Koraput	40.3	28.5	44.4
Malkangiri	45.7	32.5	51.8
Mayurbhanj	43.5	17.2	43.8
Nabarangapur	45.8	36	51
Nayagarh	28	17.5	25.4
Nuapada	37.6	26.4	40
Puri	16.1	12.1	17.2
Rayagada	43.5	23.1	42.4
Sambalpur	40.2	28.6	45.3
Sonpur	47.5	22.3	43
Sundargarh	37.2	31.4	44.2
Odisha	**3401**	**20.4**	**34.4**
India	**38.4**	**21**	**35.7**

Source: NFHS-4, 2015-16

Note: *Children under 5 years who are stunted (height-for-age) (%)*
           Children under 5 years who are wasted (weight-for-height) (%)
           Children under 5 years who are underweight (weight-for-age) (%)

4-Infant Mortality Rate (IMR)

Districts	Total Total	Total Male	Female	Rural Total	Rural Male	Female	Urban Total	Urban Male	Female
Bargarh	62	57	69	64	58	72	-	-	-
Jharsuguda	47	46	49	47	51	43	47	38	58
Sambalpur	52	48	56	63	62	65	33	24	43
Debagarh	62	58	66	66	61	71	21	31	11
Sundargarh	49	49	49	56	57	56	31	30	31
Kendujhar	57	58	57	58	59	56	55	51	60
Mayurbhanj	50	49	51	51	51	51	-	-	-
Baleshwar	47	44	50	48	44	53	38	48	25
Bhadrak	51	50	53	53	48	58	-	-	-
Kendrapara	61	54	68	63	55	71	-	-	-
Jagatsinghapur	51	42	60	54	45	63	-	-	-
Cuttack	61	57	65	72	66	78	33	34	32
Jajapur	50	48	52	51	49	53	33	24	45
Dhenkanal	69	63	75	70	63	77	-	-	-
Anugul	48	46	52	51	46	58	33	45	18
Nayagarh	65	53	79	65	54	79	63	21	104
Khordha	72	70	74	79	76	81	64	62	65
Puri	78	72	84	83	79	86	52	35	71
Ganjam	59	55	65	66	60	73	-	-	-
Gajapati	61	52	72	62	52	74	50	57	44
Kandhamal	86	74	98	89	77	103	-	-	-
Baudh	60	52	70	62	54	70	-	-	-
Sonapur	52	48	57	54	48	60	-	-	-
Balangir	98	98	99	100	99	101			-
Nuapada	52	46	57	52	47	58	-	-	-
Kalahandi	56	51	60	59	54	64	-	-	-
Rayagada	61	56	66	64	60	69	40	31	51
Nabarangapur	51	56	45	51	57	44	-	-	-
Koraput	53	49	56	55	53	57	41	28	54
Malkangiri	52	51	53	53	53	53	42	21	66

Source: Annual Health Survey 2012 - 13

5- Anemia among Children and Adults

District	Men	Women	Children
Anugul	27	44	37.4
Balangir	37.1	61.1	67.3
Baleswar	21.4	41.1	28.6
Bargarh	35	68.5	68.3
Boudh	27.3	49.9	44.1
Bhadrak	22	43.5	22.7
Cuttack	18.4	37.8	18.9
Debagarh	28.4	42.6	30
Dhenkanal	31.3	39.4	39.4
Gajapati	33.6	58.5	57.9
Ganjam	34.5	41.3	37.4
Jagatsinghpur	10.4	35.8	23.4
Jajapur	18.8	43.3	30
Jharsuguda	34.1	69.2	67.1
Kalahandi	36.4	68.7	67.2
Kandhamal	27.9	52.7	42.7
Kendrapara	35.2	42.3	28.7
Kendujhar	18.8	40.5	32.7
Khurda	13.6	45.3	19
Koraput	40	63.3	71.4
Malkangiri	47.2	71.3	72.2
Mayurbhanj	23.4	42.4	34.5
Nabarangapur	41.4	71.5	71.9
Nayagarh	19.2	39.8	26.5
Nuapada	43.8	64	63.9
Puri	16.1	44.3	29.2
Rayagada	29.3	55.4	49.8
Sambalpur	45	73	70.5
Sonepur	34.4	69.2	75
Sundargarh	39.6	71.4	75.3

Source: NFHS-4, 2015-16

Note: All women age 15-49 years who are anaemic (%)
          Men age 15-49 years who are anaemic (<13.0 g/dl) (%)
          Children age 6-59 months who are anaemic (<11.0 g/dl) (%)

6- Under Five Mortality Rate (U5MR)

	Total			Rural			Urban		
	Total	Male	Female	Total	Male	Female	Total	Male	Female
Odisha	79	76	81	83	81	86	52	51	54
Bargarh	72	67	77	73	68	80	-	-	-
Jharsuguda	55	51	58	56	58	54	52	40	65
Sambalpur	67	60	75	82	76	88	44	34	55
Debagarh	78	66	90	82	68	97	26	40	11
Sundargarh	58	58	58	67	66	68	36	40	32
Kendujhar	81	82	79	82	86	79	73	64	82
Mayurbhanj	73	81	64	75	84	65	-	-	-
Baleshwar	53	50	56	54	51	58	43	48	36
Bhadrak	61	58	64	62	55	69	-	-	-
Kendrapara	66	58	75	68	59	77	-	-	-
Jagatsinghapur	64	59	70	68	63	74	-	-	-
Cuttack	88	82	94	105	95	115	43	47	39
Jajapur	59	56	62	60	57	62	33	24	45
Dhenkanal	80	73	87	81	73	90	-	-	-
Anugul	58	52	65	62	53	72	39	48	29
Nayagarh	83	72	96	84	74	96	63	21	104
Khordha	100	95	106	114	111	118	84	77	91
Puri	105	99	113	110	104	116	81	71	93
Ganjam	90	92	89	101	101	102	-	-	-
Gajapati	82	79	86	86	82	91	50	57	44
Kandhamal	142	134	150	149	142	158		-	-
Baudh	88	85	91	91	89	93	-	-	-
Sonapur	81	71	92	83	72	95	-	-	-
Balangir	110	110	111	113	112	114	-	-	-
Nuapada	74	76	72	76	78	73	-	-	-
Kalahandi	75	70	81	80	74	87	-	-	-
Rayagada	103	100	105	109	110	110	63	49	78
Nabarangapur	85	94	76	87	96	76	-	-	-
Koraput	69	66	72	72	72	72	52	37	68
Malkangiri	77	78	75	78	81	75	61	43	81

Source: Annual Health Survey 2012-13.

7- Crude Death Rate

District	Total			Rural			Urban		
	Total	Male	Female	Total	Male	Female	Total	Male	Female
Bargarh	9.9	10.3	9.5	10.3	10.6	9.9	5.9	6.8	5.1
Jharsuguda	8.1	8.7	7.4	9	9.7	8.3	6.6	7.1	6
Sambalpur	9.3	10.2	8.3	9.9	10.5	9.3	8.2	9.9	6.6
Debagarh	8.7	8.8	8.5	8.7	8.6	8.7	8.7	10.8	6.7
Sundargarh	7.2	8.2	6.1	8.5	9.4	7.6	4.5	5.8	3.1
Kendujhar	9.3	9.9	8.8	9.7	10.2	9.2	7.7	8.5	7
Mayurbhanj	8.7	9.9	7.5	8.7	9.8	7.6	8.6	11	6.2
Baleshwar	6.8	7.6	6	6.7	7.5	5.9	7.5	8.3	6.7
Bhadrak	8	8.6	7.5	8.2	8.8	7.6	6.7	6.7	6.7
Kendrapara	9	9.7	8.4	9.1	9.8	8.5	6.9	7	6.9
Jagatsinghapur	7.1	7.8	6.4	7.6	8.4	6.8	3.4	3.1	3.8
Cuttack	6.8	7.1	6.5	7.4	7.6	7.2	5.4	5.9	4.8
Jajapur	7.8	8.4	7.3	7.9	8.4	7.4	6.7	8.1	5.4
Dhenkanal	10.6	10.8	10.4	10.9	10.9	10.8	7.8	9	6.6
Anugul	6.9	7	6.9	7.3	7.2	7.3	5.4	5.9	4.9
Nayagarh	9.1	9.6	8.6	9.2	9.7	8.7	6.7	7.7	5.6
Khordha	8.4	8.6	8.2	9.5	9.9	9.1	7.2	7.2	7.1
Puri	8.9	9.2	8.5	9.2	9.5	8.8	7.3	7.8	6.8
Ganjam	8.5	9.2	7.7	8.7	9.5	7.9	7.5	7.9	7
Gajapati	7.8	7.9	7.6	7.9	8	7.8	7.1	7.7	6.5
Kandhamal	9	9.4	8.6	9.3	9.8	8.9	6.2	6.4	6
Baudh	10.5	10.8	10.2	10.8	11.1	10.4	5.9	6	5.8
Sonapur	7.7	7.7	7.7	7.8	7.8	7.7	6.2	6.1	6.3
Balangir	10.3	11	9.5	10.5	11.3	9.8	7.4	8.2	6.6
Nuapada	7.6	7.6	7.6	7.7	7.8	7.7	4.6	3.9	5.4
Kalahandi	6.7	7.4	6	7	7.9	6.1	4.2	3.8	4.7
Rayagada	8.5	9.2	7.8	8.6	9.3	7.9	7.9	8.5	7.3
Nabarangapur	7.7	8.9	6.4	7.8	9.1	6.5	5.3	6	4.6
Koraput	7.9	8.6	7.1	8.4	9.3	7.5	5.5	5.7	5.3
Malkangiri	7.1	7.9	6.3	7.3	8.2	6.5	4.1	4.6	3.6

Source: Sample Registration System, 2015

8- Maternal & Child Health

District	Institutional births (%)	Institutional births in public facility	Home delivery conducted by skilled health personnel	Average out of pocket expenditure per delivery at public health facility
Anugul	90.3	77.9	2.5	3496
Balangir	87.1	84.9	4.3	4989
Baleswar	91.9	81.9	3	3401
Bargarh	92	81.6	1.9	5137
Boudh	82.3	81.2	5.4	3611
Bhadrak	87.4	75.7	1.4	4195
Cuttack	94	71	0.7	5590
Debagarh	85.3	78.5	2.8	4263
Dhenkanal	90.1	78.9	3.8	4457
Gajapati	63.3	56.8	6.4	2828
Ganjam	91.5	78.6	2.9	5051
Jagatsinghpur	97.6	85.7	0	4870
Jajapur	94	80.3	1.2	5142
Jharsuguda	95.2	76.9	1.5	4488
Kalahandi	74.5	65.2	6.4	5133
Kandhamal	72.7	71.7	5.1	3026
Kendrapara	94	81.3	2.3	4831
Kendujhar	72.2	66.2	3.1	3813
Khurda	85.1	64.7	1.7	4790
Koraput	68.4	67.4	5.4	2408
Malkangiri	67.8	67.7	10.6	1454
Mayurbhanj	84.9	82.6	4.9	3775
Nabarangapur	64.3	62.5	4.8	1787
Nayagarh	92.5	78.9	1.4	3733
Nuapada	84.7	82.4	4	4297
Puri	97.8	84.2	1.3	6972
Rayagada	71.5	68.3	8.9	1849
Sambalpur	90.3	78.9	1.8	3790
Subarnapur	93	88.5	3.3	4878
Sundargarh	88.3	78.8	1.8	3248
Odisha	85.3	75.8	3.3	4226

Source: NFHS-4, 2015-16

9-Neo-natal Mortality Rate

		Total	Rural	Urban
	Odisha	37	39	23
1	Bargarh	47	48	26
2	Jharsuguda	34	39	27
3	Sambalpur	32	41	15
4	Debagarh	46	49	
5	Sundargarh	33	38	19
6	Kendujhar	41	42	37
7	Mayurbhanj	35	37	-
8	Baleshwar	33	34	24
9	Bhadrak	31	32	-
10	Kendrapara	43	44	-
11	Jagatsinghapur	27	29	-
12	Cuttack	35	43	13
13	Jajapur	37	37	27
14	Dhenkanal	46	47	-
15	Anugul	36	37	31
16	Nayagarh	36	36	35
17	Khordha	43	49	35
18	Puri	41	43	29
19	Ganjam	35	39	13
20	Gajapati	28	29	-
21	Kandhamal	39	39	-
22	Baudh	45	46	-
23	Sonapur	34	34	-
24	Balangir	71	73	54
25	Nuapada	31	31	-
26	Kalahandi	31	33	-
27	Rayagada	28	31	11
28	Nabarangapur	29	29	-
29	Koraput	32	33	23
30	Malkangiri	31	31	-

Source: Annual Health Survey 2012-13.

10. Availability of Bed in Community Health Center (CHC)

District	No of CHC	Bed in CHC as per IPHS Guideline	Available Bed in CHC	Shortfall
Anugul	4	120	136	-
Balangir	8	240	154	86
Baleswar	9	270	214	56
Bargarh	8	240	172	68
Boudh	1	30	60	-
Bhadrak	6	180	158	22
Cuttack	9	270	298	-
Debagarh	2	60	44	16
Dhenkanal	6	180	139	41
Gajapati	5	150	156	-
Ganjam	19	570	582	-
Jagatsinghpur	6	180	142	38
Jajapur	9	270	188	82
Jharsuguda	3	90	98	-
Kalahandi	10	300	226	74
Kandhamal	8	240	216	24
Kendrapara	9	270	186	84
Kendujhar	11	330	224	106
Khurda	7	210	226	-16
Koraput	9	270	238	32
Malkangiri	5	150	150	-
Mayurbhanj	17	510	310	200
Nabarangapur	7	210	166	44
Nayagarh	6	180	230	-
Nuapada	4	120	76	44
Puri	9	270	308	-
Rayagada	5	150	130	20
Sambalpur	9	270	192	78
Sonepur	5	150	70	80
Sundargarh	15	450	328	122
Total	231	6930	5817	1113

Source: Directorate of Health Services Odisha, 2018
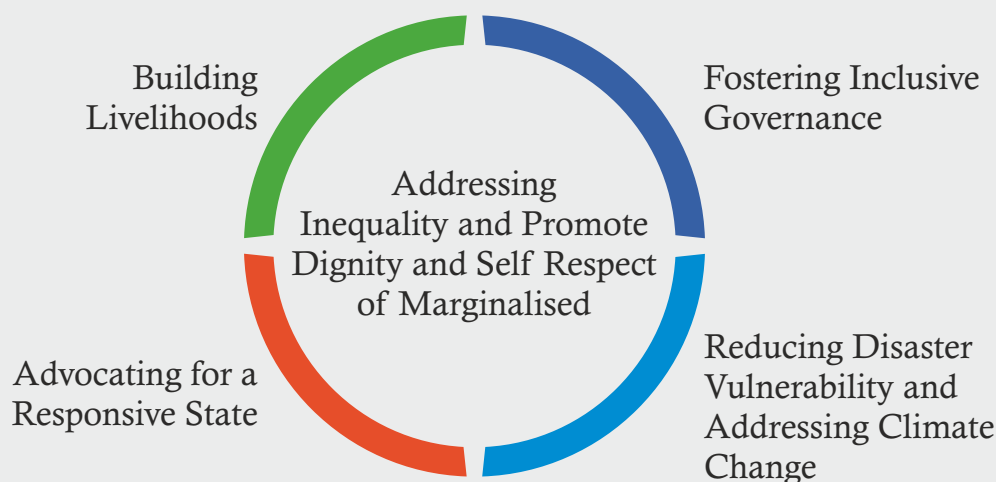
Centre for Youth and Social Development

CYSD has been working towards improving the quality of lives of tribal and rural poor in Odisha, with primary focus on eradicating extreme poverty and hunger, ensuring social inclusion and justice, good governance and citizen's right, helping communities identify and initiate development measures, providing training and other capacity-building support to pro-poor organizations and individuals, and carrying out research and advocacy in favour of the under privileged people especially the tribals. CYSD also joins hands with the special initiatives taken up by the government, civil society and communities to address inequality both in number and intensity.
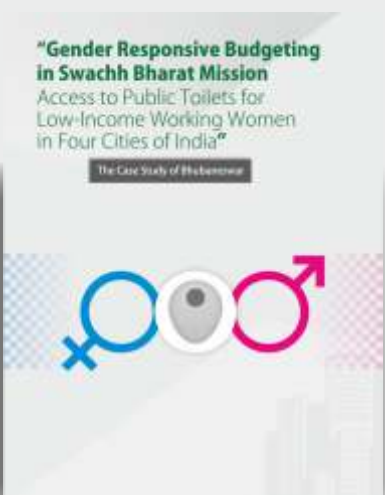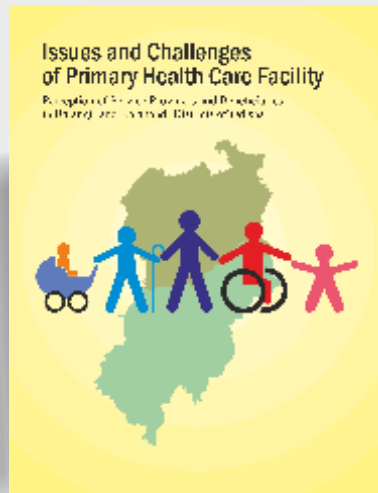
Vision

An equitable society where women and men can freely realize their full potential, fulfill their rights and responsibilities and lead their life with dignity and self respect.

Mission

To enable marginalized women, men and children to improve their quality of life. To this end, CYSD uses issue based research to influence policies from a pro-poor and rights based perspective. It also works to ensure transparent, gender sensitive, accountable and democratic governance by building the capacities of people and organizations in participatory planning.

Building Livelihoods

Fostering Inclusive Governance

Addressing Inequality and Promote Dignity and Self Respect of Marginalised

Advocating for a Responsive State

Reducing Disaster Vulnerability and Addressing Climate Change

Publications

WHAT DOES YOUR
**BUDGET
SAY**

Issues and Challenges
of Primary Health Care Facility

Issues and Challenges
in Maternal and Child Health Care

ODISHA STATE **OSTF**
TREATMENT FUND

CHALLENGES AND OPPORTUNITIES

**Democratising
Urban
Governance**

Health Inequality
and Inequity in Odisha

HEALTH FOR **ALL**
State of key Milestones
& Evidences in Odisha

**GENDER
RESPONSIVE
BUDGETING** OPPORTUNITIES &
CHALLENGES
IN ODISHA

"Gender Responsive Budgeting
in Swachh Bharat Mission"
Access to Public Toilets for
Low-Income Working Women
in Four Cities of India"

The Case Study of Bhubaneswar

Inequality & Inequity of
Health Services in Odisha

OBAC
Odisha Budget and
Accountability Centre

OBAC, working on budget research, budget literacy and its process, evidence based advocacy for pro-poor budgeting and policy practices, has been operating in the State since 2003 as a constituent unit of CYSD. The centre promotes accountability tools like Community Score Card, Citizen Report Card, Social Audit, Expenditure Tracking and community led monitoring for enhancing the effectiveness of public service delivery and encourages participation in decentralised planning and budgeting in Odisha. The centre has been holding Pre-Budget Consultation since 2007 on a sustained basis.

The key areas of the centre are:

* Macro State Budget Analysis

* Social Sector Budget Analysis (Health, Water & Sanitation, Food & Nutrition Security, Education, Social Security)

* Budget for Disadvantaged groups (Women, Children, STs & SCs)

* Agriculture and Livelihoods

* Decentralized Planning & Budgeting

* Citizen Led Accountability of basic services (PDS, ICDS, Maternal Health, Water & sanitation etc)

Prepared by:
Odisha Budget and Accountability Centre (OBAC)
www.obac.in

An initiative of:
Centre for Youth and Social Development
E-1, Institutional Area, Gangadhar Meher Marg,
PO. RRL, Bhubaneswar - 751 013, Odisha, India
Tel: +91 674 2300983, 2301725
e-mail: cysd@cysd.org / info@cysd.org
www.cysd.org

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