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ANNUAL HEALTH SURVEY BULLETIN 2011-12

JHARKHAND

AHS-120

CENSUS OF INDIA

REGISTRAR GENERAL INDIA

Foreword

Availability of district-level vital rates has always been an impediment in health planning at the micro level. The Annual Health Survey was conceived to fill this gap by providing estimates at the District level. State-wise bulletins of the baseline were released last year. The present datasets relate to the first updation round of the Annual Health Survey (AHS). A comparative picture on nine vital parameters - Crude Birth Rate, Crude Death Rate, Infant Mortality Rate etc for each of the nine states at the district level would enable data users to effectively plan and implement health care interventions based on empirical data.

Implementing the Annual Health Survey, which is the largest sample survey in the world covering more than 40 lakh households and 20 million persons residing in 20,000 sampling units spread across 284 districts in 9 States of the country has indeed been a challenging task. That this exercise has been completed successfully and in time is commendable.

The Annual Health Survey is a collaborative effort cutting across the Ministries of the Central and State Governments on the one hand, and the public and private sector on the other. This pioneering approach opens up vast possibilities for similar ventures in the future. Congratulations are due to all the officers and agencies involved in this task.

I would like to place on record my appreciation to Dr. R.C. Sethi, and Dr. Vijay P. Goel, the former and present Project Directors who led the team. Similarly, the efforts of Shri. Bhaskar Mishra and Shri. Rohit Bhardwaj, the former and present Deputy Registrar Generals in charge of the AHS need special mention. Without their personal effort, it would not have been possible to accomplish this task.

I am sure this publication would be of tremendous value to all data users.

Dr. C. Chandramouli
Registrar General and
Census Commissioner, India

Preface

Annual Health Survey has been envisaged as a panel survey to provide benchmarks for health and vital indicators at district level of 9 States namely Bihar, Jharkhand, Odisha, Rajasthan, Madhya Pradesh, Chhattisgarh, Uttar Pradesh, Uttarakhand & Assam which have high fertility and mortality rates. AHS is to happen in three rounds starting with baseline survey and followed by two updation rounds. The data in AHS is to be disseminated in two stages. In the first stage, the state-wise bulletin covering nine parameters gets released followed by state-wise fact sheets with host of other indicators.

The data collection for 2nd round of AHS has been undertaken through interview of 4.28 million households spread in 284 districts of nine States where AHS has been operational. The vastness of these states along with different social/geographical conditions made the work difficult for enumerator and officers. Despite the above constraints, field work was completed successfully as per schedule. A lot of effort has gone in data entering and cleaning of 20 million records before the bulletin stage arrived.

The present bulletin is the second in the series of three bulletins to be released. The bulletin has information on each of the districts for important vital rates like crude birth rate, crude death rate, IMR etc. The booklet also contains 95% confidence interval for each of these important estimates along with district-wise sample population and sampling units. Lot of pictorial representation in terms of charts and graphs has been provided to give a better understanding of data to the user. In order to present instant comparative picture, the base line data of the corresponding estimate has also been provided side by side. The format of the bulletin has been changed to a booklet in order to make it user friendly.

I put on record my appreciation for all concerned involved in AHS from Office of the Registrar General, India, and specially to Shri Rohit Bhardwaj, DRG in-charge who despite being new to the job gave his personal attention to this survey. As a result, this highly informative bulletin has come out. I also thank the Registrar General, India, for continuous guidance provided to me and my team without which this task would not have been completed. I hope all the users will find the bulletin informative and useful for their purpose.

Dr. Vijay P. Goel
Deputy Director General &
Project Director

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Introduction

1.   Decentralized district-based health planning is essential in India because of the large inter-district variations. In the absence of vital data at the district level, the State level estimates are being used for formulating district level plans as well as setting the milestones thereof. In the process, the hotspots (districts requiring special attention) very often get masked by the State average. This statistical fallacy compounds the problems of the districts acutely, more so in the health sector. At present, none of the Surveys provides estimates of core vital indicators on fertility and mortality at district level. The District Level Household Survey (DLHS) conducted with periodicity of five years mainly focuses on indicators pertaining to maternal health and child welfare programmes. There has, therefore, been a surge in demand from various quarters, in recent years, to generate timely and reliable statistics at the district level for informed decision making in the health sector.

Genesis

2.   The Annual Health Survey (AHS) was conceived during a meeting of the National Commission of Population held in 2005 under the Chairmanship of the Prime Minister wherein it was decided that "there should be an Annual Health Survey of all districts which could be published / monitored and compared against benchmarks". The objective was to monitor the performance and outcome of various health interventions of the Government including those under National Rural Health Mission (NRHM) at closer intervals through these benchmark indicators. The AHS has been made an integral part of the NRHM, Ministry of Health & Family Welfare. The responsibility of the project has been entrusted to the Office of the Registrar General, India on behalf of the Ministry of Health & Family Welfare keeping in view its expertise in handling the Sample Registration System, one of the largest demographic surveys in the world.

Objective

3.   Realizing the need for preparing a comprehensive district health profile on key parameters based on a community set up, the AHS has been designed to yield benchmarks of core vital and health indicators at the district level on fertility and mortality; prevalence of disabilities, injuries, acute and chronic illness and access to health care for these morbidities; and access to maternal, child health and family planning services. By virtue of being a panel survey, it has the unique ability to map the rate of change in these indicators on a yearly basis. AHS would, thus, enable better capturing of the health seeking behaviour of the public as compared to other periodic cross-sectional surveys and also help needed corrections in the strategies.

Coverage

4.   The sample size at the district level has been derived taking Infant Mortality Rate as the decisive indicator and host of other practical issues related to execution of the survey. Keeping in view the mammoth size of the sample, it was a conscious decision of the Government to initially confine the survey to the 284 districts (as per 2001 Census) of the 8 Empowered Action Group States (Bihar, Jharkhand, Uttar Pradesh, Uttarakhand, Madhya Pradesh, Chhattisgarh, Odisha and Rajasthan) and Assam for a three year period starting from 2010-11. These 9 high focus States with relatively high fertility and mortality account for about 48 percent of the total population in the country. A representative sample of 20,694 statistically selected Primary Sample Units (PSUs - Census Enumeration Blocks in case of urban areas and villages or a segment thereof in case of larger villages in rural areas) based on 2001 Census has been drawn from these AHS States which would cover about 18 million population and 3.6 million households each year. However, during the Base-line Survey, a total of 20.1 million population and 4.14 million households have actually been covered. Subsequently during the first updation survey a total of 20.61 million population and 4.28 million households have been covered. Despite being restricted to 9 States, the AHS is the largest demographic survey in the world and covers two and a half times that of the Sample Registration System (SRS).

Fieldwork Strategy

5.   The project is being implemented as a hybrid model wherein the actual field work has been outsourced to seven selected Survey Agencies. For smooth and effective execution of the survey, the AHS States have been divided into 18 mutually exclusive and exhaustive zones, each having a group of contiguous districts. The co-ordination, supervision and monitoring of the fieldwork in the States are being carried out by dedicated staff posted at various levels in the respective Directorate of Census Operations (DCOs). The responsibility for overall co-ordination, supervision and monitoring across the nine AHS States rests with the concerned division of ORGI.

Technical Consultation

6.   The outline of the survey such as approach, periodicity, coverage, sampling strategy, sample size, permissible levels of relative standard errors, and levels of aggregation, was finalized after a series of deliberations with the representatives from Ministry of Health & Family Welfare ,National Sample Survey Office (NSSO), Central Statistics Office (CSO), Ministry of Woman & Child Development, Indian Council of Medical Research, Planning Commission, International Institute for Population Sciences and other subject experts. Based on these recommendations, various technical details including preparation of sample design, derivation of sample size etc. were worked out and vetted by the Technical Advisory Group (TAG) constituted for the purpose.

Sample Design

7.   The Sample design adopted for Annual Health Survey is a uni-stage stratified simple random sample without replacement except in case of larger villages in rural areas (population more than or equal to 2000 as per 2001 Census), wherein a two stage stratified sampling has been applied. The sample units are Census Enumeration Blocks (CEBs) in urban areas and villages in rural areas. In rural areas, the villages have been divided into two strata. Stratum I comprises villages with population less than 2000 and Stratum II contains villages with population 2000 or more. Smaller villages with population less than 200 were excluded from the sampling frame in such a manner that the total population of villages so excluded did not exceed 2 per cent of the total population of the district. In case of Stratum I, the entire village is the sample unit. In case of Stratum II, the village has been divided into mutually exclusive (non-overlapping) and geographically contiguous units comprising group of EBs called segments of more or less equal size and population not exceeding 2000 in any case. One segment from the frame of segments thus prepared was selected in a random manner to represent the selected village at the second stage of sampling.

8.   The number of sample villages in each district was allocated between the two strata proportionally to their size (population). The villages within each size stratum were further ordered by the female literacy rate based on the Census 2001 data, and three disjoint and equal size substrata were established. The sample villages within each substratum were selected by simple random sampling without replacement. Similarly, in urban areas, the Census Enumeration Blocks within a district were ordered by the female literacy rate based on the Census 2001 data, and three disjoint and equal size substrata were established. The sample Census Enumeration Blocks within each substratum were selected by simple random sampling without replacement. Thus, female literacy which has a direct bearing on the fertility behaviour was used for implicit stratification. Further, the process of selection ensured equal representation across three substrata both in rural as well as in urban areas of a district besides rendering the sample design as self-weighting.

Sample Size

9.   Generating robust estimates of Infant Mortality Rate at the district level has become an utmost necessity as reduction in Infant Mortality constitutes one of the key targets in the Reproductive & Child Health Programme (RCH) under the umbrella of NRHM. This would also facilitate effective tracking of the Millennium Development Goal 4 on Child Mortality. The Infant Mortality Rate has therefore been taken as the decisive

indicator for estimation of sample size at the district level. The permissible level of error has been taken as 10 percentage relative standard error (prse) at the district level. The sample size so worked out would yield relatively better estimates of Crude Birth Rate / Crude Death Rate and may also enable generation of rarer indicators like MMR (for a group of districts) with good precision. In the absence of district level estimates from any other reliable source, the district level derived estimates of IMR based on SRS pooled data have been used for estimation of sample size for each district.

Sample Identification Work

10.   One of the essential prerequisites for the commencement of the survey was to uniquely identify the sample units on ground. This was done in all the sample units across the nine AHS States by the regular staff of ORGI. The work involved firming up of the boundary of the selected villages / Enumeration Blocks; resorting to segmentation in case of villages exceeding the population 2000, random selection of segment thereof and drawing of appropriate notional maps of the sample units to serve as the base map for the survey work.

Survey Tools

11.   The baseline Survey and the first updation survey in all the nine AHS States was carried out during July 2010 to March 2011 and October 2011 to April 2012 respectively and four Schedules, in all, were administered. These are: (i) House-listing Schedule, (ii) Household Schedule, (iii) Woman Schedule and (iv) Mortality Schedule. In the House-listing Schedule, besides the mapping and listing of all the houses and households in a sample unit, some key particulars relating to the housing characteristics (type and ownership), basic amenities available to the household and assets possessed by them were collected during the baseline survey. In the first updation survey, these mapping and listing details were updated for the existing houses and households and recorded afresh for the new houses and households.

12.   In the Household Schedule, during the baseline survey, all the Usual Residents as on 01.01.2010 were listed and for each listed member, information on background characteristics like Name, Sex, Relationship to Head, Date of Birth, Age, Religion, Social Group, Marital Status, Date at first Marriage, Education and Occupation/Activity Status was captured. Besides, information in respect of Disability, Morbidity (Injuries, Acute Illness, and Chronic Illness) and Personal Habits (like Chewing, Smoking and Consumption of Alcohol) was also collected (wherever applicable) in the baseline survey. During the first updation survey, all the Usual Residents as on 01.01.2011 were listed in the Household Schedule wherein the information on a few back ground characteristics viz. Name, Sex, Identification Code, Date of Birth and Date at first Marriage were copied from the baseline Household Schedule for the Usual Residents of baseline survey. For the new Usual Residents, these details along with all the other information were recorded afresh except the personal habits, the details of which were not to be captured in the subsequent rounds. The information on access to health insurance/scheme is collected in the Household Schedule in the first updation survey.

13.   Woman Schedule comprised two sections. Section-I was administered to all Ever Married Women (EMW) aged 15-49 years and information relating to the outcome of pregnancy(s) (live birth/still birth/abortion); birth history; type of medical attention at delivery; details of maternal health care(ante-natal/natal/post-natal); immunization of children; breast feeding practices including supplements; occurrence of child diseases (Pneumonia, Diarrhoea and fever); registration of births, etc. taken place during the reference period (i.e. 01.01.2007 to 31.12.2009 for baseline and 01.01.2010 to 31.12.2010 for first updation survey) was collected. Section-II focused on information on pregnancy; use, sources and practices of family planning methods; details relating to future use of contraceptives and unmet need; awareness about RTI/STI, HIV/AIDS, administration of HAF/ORT/ORS during diarrhoea and danger signs of ARI/Pneumonia; and these details were collected from all Currently Married Women aged 15-49 years. During the first updation round, a few new information relating the Ever Married Women (EMW) was collected. These include the conception details, usage of NPT kit, registration of pregnancy, health problems and subsequent treatments during ante-natal/natal/post-natal period, cost incurred by the woman during delivery etc.

14.   Through the Mortality Schedule, details relating to death occurred to usual residents of sample household during the reference period (i.e. 01.01.2007 to 31.12.2009 for baseline and 01.01.2010 to 31.12.2010 for first updation survey) were captured and it included information on name & sex of deceased, date of death, age at death, registration of death and source of medical attention received before death. For infant deaths, a question on symptoms preceding death was also probed. In case of deaths associated with pregnancy, information on a variety of questions on factors leading/contributing to death, symptoms preceding death, time between onset of complications and death, etc. were asked to yield data on various determinants of maternal mortality.

Supervision and Third Party Audit

15.   In addition to the multilayer supervision mechanism adopted by the Survey Agencies, regular inspections were carried out by the officers/officials of respective DCOs and those from ORGI headquarters to ensure the data quality. The inspections were a judicious mix of concurrent as well as post survey audit. Over and above, a component of Third Party Audit (TPA) was included to verify and authenticate the surveyed data through an independent mechanism. In the first updation survey, the coverage of TPA has been extended to all the households in the 20 randomly selected AHS units in each of the districts in order to make effective comparison with the Survey Agency data and thereby ensuring the quality of data at the highest level.

Dissemination of Results

16.   In view of the large volume of data collected under AHS and significant time required for validation and processing, dissemination of AHS results is done in two phases. The first set of data in the form of State level bulletins contains the district level data on crude birth rate, crude death rate, natural growth rate, infant mortality rate, neo-natal and post neonatal mortality rates, under 5 mortality rate, sex ratio at birth, sex ratio (0-4 years) and overall sex ratio. In the second phase, the State level fact sheets containing the district level data on all parameters covered under AHS like Acute and Chronic illnesses, Family planning practices Ante-natal/natal/post-natal care for Ever married women, fertility, Janani Suraksha Yojana, Immunization particulars of children, Childhood diseases etc. are released.

17.   The baseline bulletins were released in August 2011 followed by the baseline fact sheets in July 2012. Though the sample size has been calculated for the district as a whole, the rural and urban estimates at the district level has been published as a by-product. Users are advised to keep the above fact into consideration while using the rural/urban estimates of a district. In addition, the Maternal Mortality Ratio (MMR), Maternal Mortality Rate and life time risk were released for a group of districts. In order to facilitate direct intervention, the maternal mortality indicators were combined and released for a group of districts on the basis of existing administrative divisions in the respective AHS States.

18.   This Bulletin of the first updation survey pertains to the State of Jharkhand. The field work for the AHS has been carried out by M/s. TNS India Pvt. Ltd., Gurgaon and M/s. Nielsen (India) Pvt. Ltd., New Delhi in the allotted zones. The third party audit work in the State has been done by M/s. Research and Development Initiative Pvt. Ltd., New Delhi. The district level fact sheets of the first updation survey with data on all the parameters would be released in the next phase.

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TABLES

Table-1 : Number of Sample Units & Sample Population

District		Number of Sample Units			Population (in '000')		
		Total	Rural	Urban	Total	Rural	Urban
JHARKHAND		2109	1514	595	1980 (1925)	1614 (1565)	366 (360)
01	Garhwa	79	74	5	104 (103)	99 (98)	5 (5)
02	Palamu	131	119	12	135 (132)	128 (125)	7 (7)
03	Chatra	72	66	6	68 (61)	62 (56)	6 (5)
04	Hazaribagh	98	67	31	121 (113)	103 (95)	18 (18)
05	Kodarma	72	54	18	72 (70)	63 (61)	9 (9)
06	Giridih	112	101	11	117 (113)	111 (107)	6 (6)
07	Deoghar	67	54	13	49 (48)	41 (41)	8 (7)
08	Godda	61	57	4	64 (60)	61 (57)	3 (3)
09	Sahibganj	271	229	42	254 (245)	232 (223)	22 (22)
10	Pakaur	33	30	3	31 (31)	29 (29)	2 (2)
11	Dumka	83	75	8	53 (51)	49 (47)	4 (4)
12	Dhanbad	121	45	76	118 (116)	61 (60)	57 (56)
13	Bokaro	106	47	59	108 (105)	65 (63)	43 (42)
14	Ranchi	137	75	62	130 (128)	88 (86)	42 (42)
15	Lohardaga	107	87	20	115 (116)	104 (104)	11 (12)
16	Gumla	154	141	13	168 (164)	158 (155)	10 (9)
17	Pashchimi Singhbhum	126	96	30	103 (103)	87 (87)	16 (16)
18	Purbi Singhbhum	279	97	182	170 (166)	73 (71)	97 (95)

NUMBER OF SAMPLE UNITS

229
42 Sahibganj
57
4
Godda
30
3 Pakaur
18
Kodarma
101
11
54
13
75
8 Dumka
Deoghar
74
5 Garhwa
119
12 Palamu
66
6 Chatra
67
31 Hazaribagh
45 76
Dhanbad
47 59
Bokaro
87
20 Lohardaga
75 62 Ranchi
141
13 Gumla
96
30 Pashchimi Singhbhum
182
97 Purbi Singhbhum
Giridih

RURAL
URBAN

Figure above the bar indicates number of units

Distribution of Sample Units

72 % Rural   28 % Urban

Distribution of Sample Population
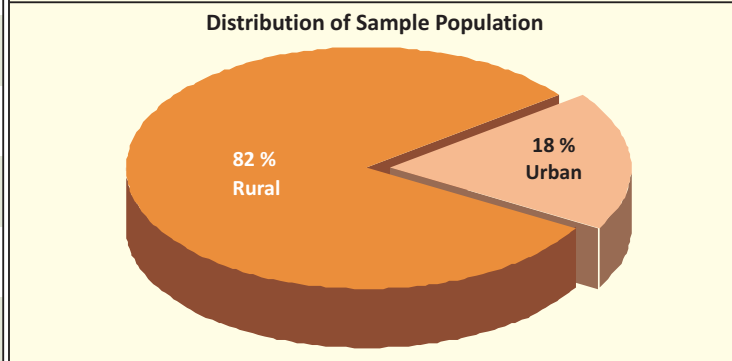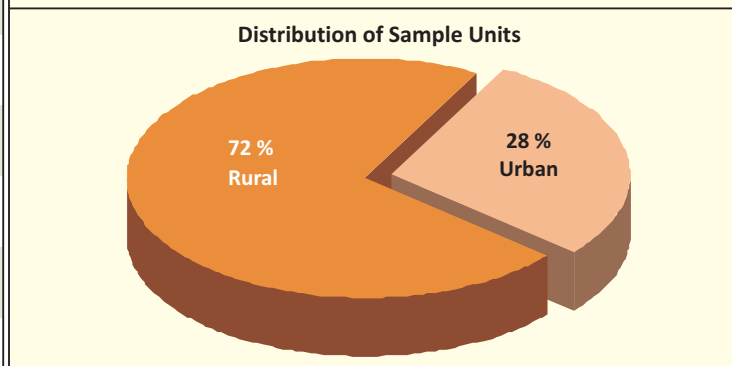

82 % Rural   18 % Urban
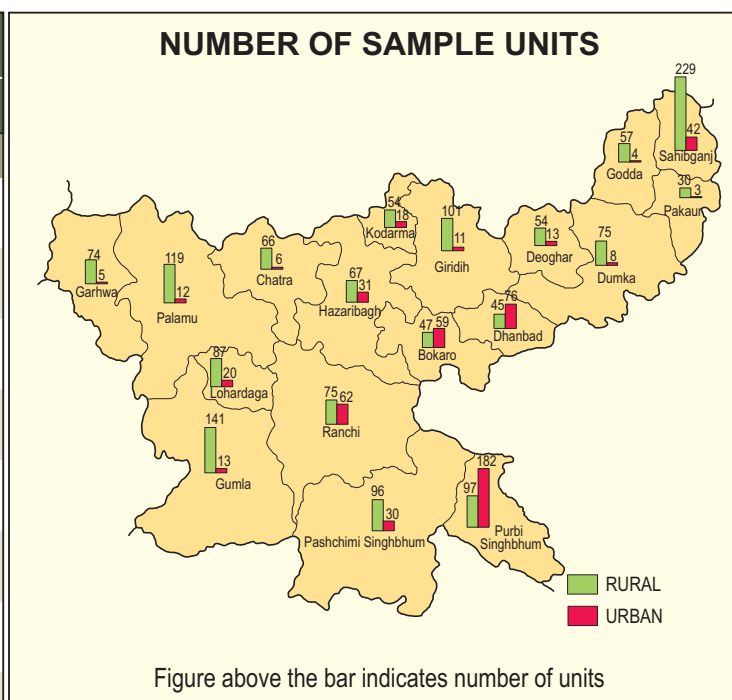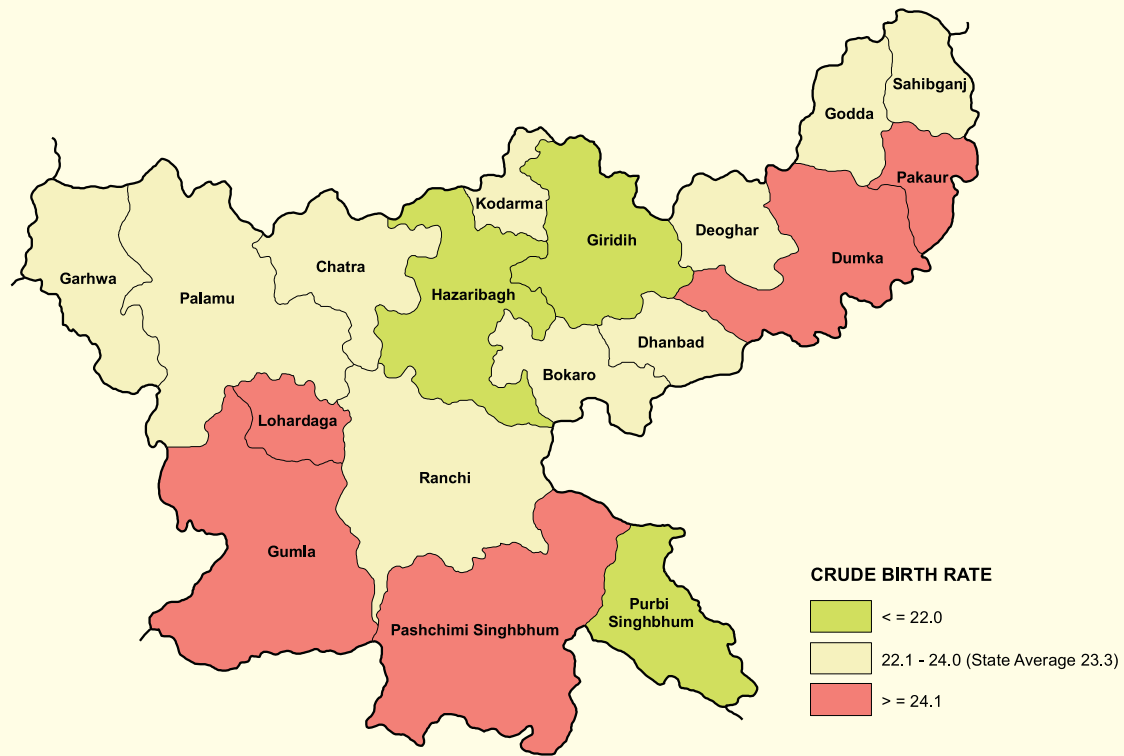
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Table-2 : Crude Birth Rate & 95% Confidence Interval for Crude Birth Rate

JHARKHAND

District		Crude Birth Rate			95% Confidence Interval for Crude Birth Rate					
					Total		Rural		Urban	
		Total	Rural	Urban	Lower Limit	Upper Limit	Lower Limit	Upper Limit	Lower Limit	Upper Limit
JHARKHAND		**23.3 (23.7)**	**24.6 (25.0)**	**19.7 (20.0)**	**23.0 (23.4)**	**23.6 (24.0)**	**24.2 (24.7)**	**24.9 (25.4)**	**19.0 (19.4)**	**20.3 (20.6)**
01	Garhwa	23.4 (23.8)	23.7 (24.0)	19.8 (20.3)	22.0 (22.6)	24.8 (24.9)	22.2 (22.8)	25.1 (25.2)	14.7 (16.3)	24.9 (24.3)
02	Palamu	22.3 (22.8)	22.4 (22.9)	20.3 (20.7)	21.1 (21.8)	23.4 (23.9)	21.2 (21.8)	23.6 (24.0)	16.5 (18.1)	24.0 (23.4)
03	Chatra	23.9 (24.3)	23.9 (24.4)	23.8 (23.7)	22.5 (22.8)	25.2 (25.8)	22.4 (22.9)	25.3 (25.9)	19.7 (17.8)	28.0 (29.6)
04	Hazaribagh	20.2 (20.5)	21.0 (21.4)	17.3 (17.6)	19.3 (19.6)	21.1 (21.5)	20.0 (20.4)	21.9 (22.4)	14.7 (15.3)	19.9 (20.0)
05	Kodarma	22.8 (23.2)	23.2 (23.6)	21.0 (21.1)	22.0 (22.4)	23.6 (24.0)	22.4 (22.8)	24.0 (24.5)	18.1 (19.1)	23.8 (23.2)
06	Giridih	22.0 (22.5)	22.2 (22.7)	18.6 (18.8)	21.1 (21.7)	22.8 (23.3)	21.4 (21.9)	23.0 (23.6)	15.2 (15.9)	21.9 (21.7)
07	Deoghar	22.2 (22.5)	22.8 (23.1)	19.0 (19.2)	20.9 (21.2)	23.5 (23.8)	21.4 (21.7)	24.2 (24.4)	14.9 (16.0)	23.1 (22.4)
08	Godda	23.3 (23.6)	23.5 (23.8)	19.6 (18.8)	21.9 (22.3)	24.7 (24.8)	22.1 (22.5)	24.9 (25.1)	14.2 (14.7)	25.0 (23.0)
09	Sahibganj	24.0 (24.4)	24.7 (25.2)	18.3 (18.7)	23.5 (23.9)	24.5 (24.9)	24.2 (24.6)	25.3 (25.8)	17.0 (17.3)	19.6 (20.0)
10	Pakaur	29.5 (29.7)	30.1 (30.3)	19.4 (19.8)	28.1 (27.5)	30.9 (32.0)	28.7 (28.0)	31.5 (32.6)	14.3 (15.2)	24.4 (24.3)
11	Dumka	25.3 (25.7)	25.8 (26.3)	18.9 (19.2)	24.2 (24.5)	26.4 (26.9)	24.8 (25.0)	26.9 (27.5)	14.4 (15.8)	23.5 (22.5)
12	Dhanbad	24.0 (24.3)	28.5 (28.8)	21.1 (21.4)	22.7 (23.0)	25.3 (25.7)	26.2 (26.4)	30.7 (31.2)	19.5 (19.9)	22.7 (23.0)
13	Bokaro	23.2 (23.6)	27.1 (27.5)	19.8 (20.1)	22.4 (22.7)	24.1 (24.6)	25.9 (26.4)	28.2 (28.6)	18.5 (18.8)	21.2 (21.5)
14	Ranchi	23.1 (23.5)	25.2 (25.8)	19.9 (20.1)	22.1 (22.5)	24.1 (24.5)	24.1 (24.5)	26.3 (27.0)	18.3 (18.9)	21.6 (21.4)
15	Lohardaga	27.5 (27.9)	28.4 (28.8)	20.7 (20.8)	26.8 (27.2)	28.1 (28.5)	27.7 (28.2)	29.1 (29.5)	18.8 (18.6)	22.7 (23.1)
16	Gumla	25.6 (26.0)	26.0 (26.5)	19.2 (19.6)	24.8 (25.3)	26.3 (26.8)	25.2 (25.7)	26.8 (27.2)	16.3 (17.4)	22.1 (21.9)
17	Pashchimi Singhbhum	25.5 (25.8)	26.7 (26.9)	20.0 (20.5)	24.6 (24.8)	26.5 (26.9)	25.7 (25.8)	27.8 (28.1)	18.0 (18.2)	21.9 (22.7)
18	Purbi Singhbhum	20.4 (21.0)	24.0 (24.6)	17.9 (18.4)	19.8 (20.3)	21.1 (21.7)	23.2 (23.6)	24.9 (25.6)	17.0 (17.5)	18.7 (19.3)

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CRUDE BIRTH RATE

Sahibganj

Godda

Pakaur

Kodarma

Deoghar

Giridih

Dumka

Garhwa

Chatra

Palamu

Hazaribagh

Dhanbad

Bokaro

Lohardaga

Ranchi

Gumla

Purbi Singhbhum

Pashchimi Singhbhum

CRUDE BIRTH RATE

< = 22.0

22.1 - 24.0 (State Average 23.3)

> = 24.1

Crude Birth Rate

	First Updation	Baseline
Total	23.3	23.7
Rural	24.6	25.0
Urban	19.7	20.0

■ First Updation ■ Baseline

Birth rate in rural areas is significantly higher than urban areas

Crude Birth Rate = (Number of Live Births in reference period / Mid-year population) × 1000

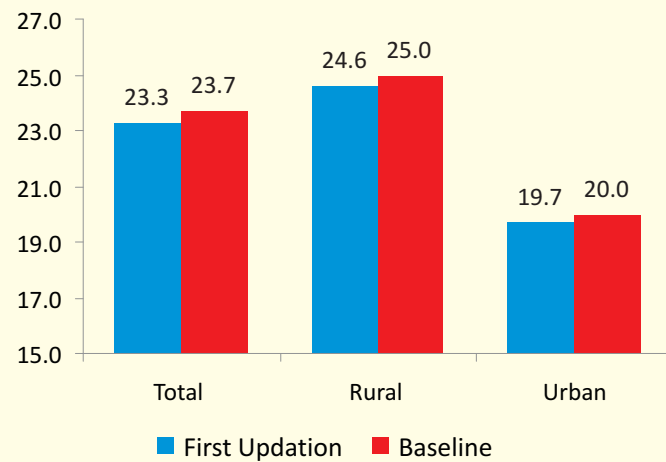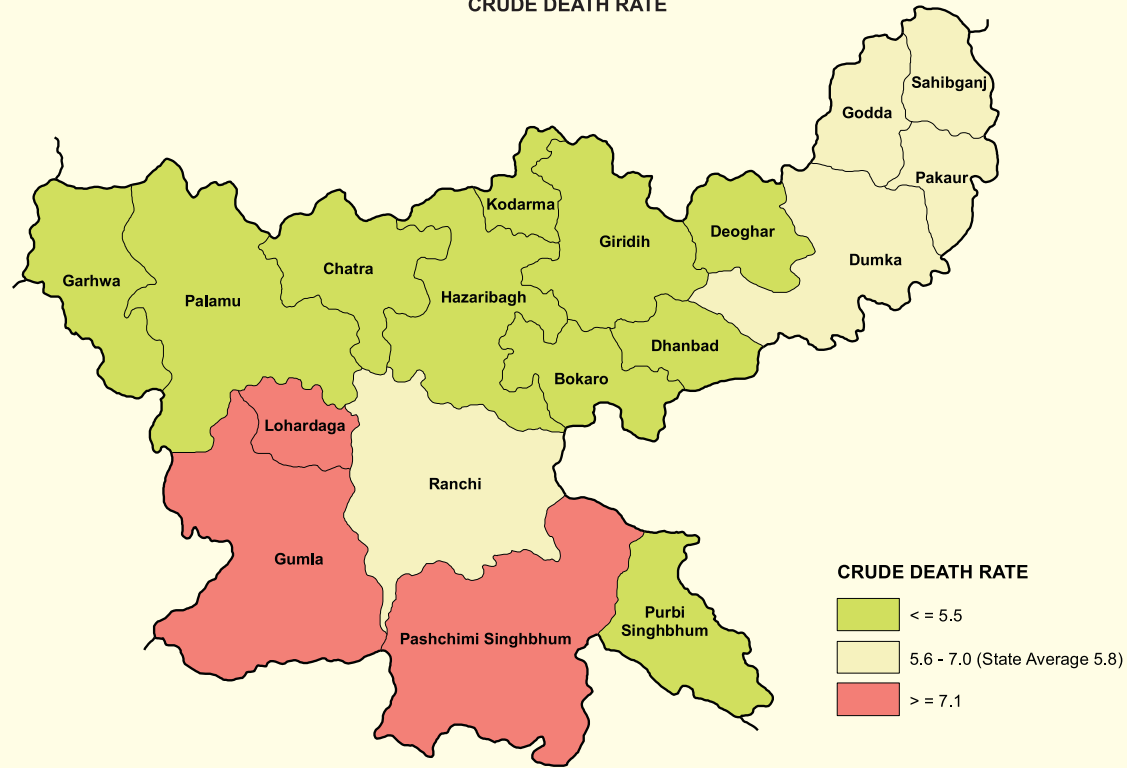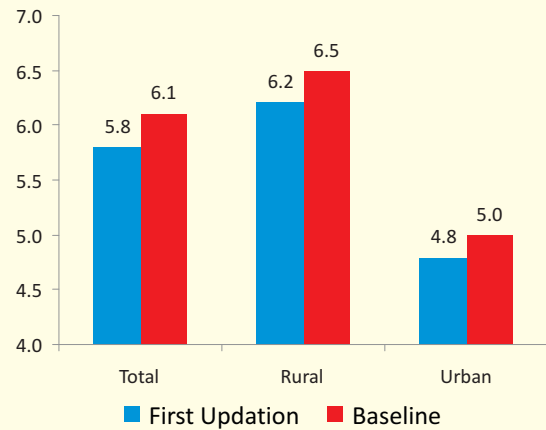## Table-3 : Crude Death Rate & 95% Confidence Interval for Crude Death Rate

District		Crude Death Rate									95% Confidence Interval for Crude Death Rate					
		Total			Rural			Urban			Total		Rural		Urban	
		Total	Male	Female	Total	Male	Female	Total	Male	Female	Lower Limit	Upper Limit	Lower Limit	Upper Limit	Lower Limit	Upper Limit
JHARKHAND		5.8 (6.1)	6.2 (6.5)	5.5 (5.7)	6.2 (6.5)	6.5 (6.8)	5.8 (6.0)	4.8 (5.0)	5.3 (5.4)	4.3 (4.5)	5.7 (5.9)	5.9 (6.2)	6.0 (6.3)	6.3 (6.6)	4.6 (4.7)	5.0 (5.2)
01	Garhwa	4.8 (5.1)	4.8 (5.1)	4.9 (5.2)	4.9 (5.2)	4.8 (5.1)	4.9 (5.2)	4.3 (4.7)	4.5 (4.7)	4.1 (4.7)	4.5 (4.7)	5.1 (5.6)	4.6 (4.7)	5.2 (5.7)	3.2 (3.7)	5.4 (5.7)
02	Palamu	5.4 (5.9)	5.3 (6.0)	5.5 (5.7)	5.4 (5.9)	5.2 (6.0)	5.5 (5.8)	5.4 (5.7)	5.7 (6.2)	5.0 (5.3)	5.1 (5.5)	5.6 (6.2)	5.1 (5.5)	5.6 (6.3)	4.3 (4.7)	6.5 (6.8)
03	Chatra	4.9 (5.4)	5.0 (5.7)	4.7 (5.1)	4.9 (5.5)	5.1 (5.9)	4.7 (5.1)	4.1 (4.8)	3.8 (4.2)	4.5 (5.5)	4.6 (4.8)	5.2 (6.1)	4.6 (4.8)	5.3 (6.2)	3.8 (3.8)	4.5 (5.9)
04	Hazaribagh	4.7 (5.0)	5.0 (5.3)	4.4 (4.7)	4.8 (5.1)	5.1 (5.4)	4.4 (4.7)	4.7 (4.8)	4.8 (5.0)	4.5 (4.6)	4.5 (4.5)	5.0 (5.5)	4.5 (4.5)	5.1 (5.6)	4.1 (4.1)	5.3 (5.5)
05	Kodarma	4.7 (5.0)	4.9 (5.5)	4.4 (4.5)	4.6 (5.0)	4.9 (5.5)	4.4 (4.5)	4.7 (4.8)	5.1 (5.6)	4.4 (4.1)	4.4 (4.4)	5.0 (5.6)	4.3 (4.3)	4.9 (5.7)	3.8 (3.7)	5.7 (6.0)
06	Giridih	4.4 (4.6)	4.7 (5.0)	4.1 (4.1)	4.4 (4.6)	4.7 (5.0)	4.1 (4.1)	4.4 (4.3)	4.5 (4.5)	4.2 (4.1)	4.1 (4.1)	4.7 (5.0)	4.1 (4.1)	4.7 (5.1)	3.0 (3.2)	5.7 (5.4)
07	Deoghar	4.7 (5.0)	5.0 (5.1)	4.4 (4.9)	4.9 (5.1)	5.2 (5.3)	4.5 (5.0)	4.1 (4.4)	4.1 (4.4)	4.0 (4.3)	4.1 (4.3)	5.3 (5.7)	4.2 (4.3)	5.6 (5.9)	3.4 (3.4)	4.7 (5.4)
08	Godda	6.8 (7.2)	6.6 (7.1)	6.9 (7.3)	6.9 (7.3)	6.8 (7.3)	7.0 (7.3)	4.9 (5.2)	4.0 (4.0)	5.9 (6.6)	6.3 (6.4)	7.2 (8.1)	6.4 (6.4)	7.3 (8.2)	3.9 (1.5)	5.8 (8.8)
09	Sahibganj	6.8 (7.3)	7.0 (7.5)	6.5 (7.1)	7.0 (7.5)	7.2 (7.7)	6.7 (7.3)	5.3 (5.6)	5.5 (5.9)	5.1 (5.3)	6.6 (7.0)	7.0 (7.6)	6.7 (7.2)	7.2 (7.8)	4.7 (4.9)	6.0 (6.3)
10	Pakaur	7.0 (7.3)	7.3 (7.7)	6.6 (6.9)	7.0 (7.4)	7.4 (7.9)	6.6 (7.0)	5.7 (6.0)	5.7 (5.8)	5.7 (6.3)	6.2 (6.5)	7.7 (8.2)	6.3 (6.5)	7.8 (8.3)	5.4 (5.6)	6.1 (6.5)
11	Dumka	6.7 (6.9)	7.1 (7.3)	6.3 (6.4)	6.8 (6.9)	7.2 (7.4)	6.4 (6.4)	6.1 (6.0)	6.4 (6.2)	5.8 (5.7)	6.2 (6.3)	7.3 (7.4)	6.2 (6.3)	7.4 (7.6)	4.4 (4.8)	7.8 (7.1)
12	Dhanbad	5.1 (5.2)	5.4 (5.5)	4.7 (4.9)	6.2 (6.3)	6.5 (6.5)	5.9 (6.0)	4.4 (4.6)	4.7 (4.9)	4.0 (4.2)	4.7 (4.8)	5.5 (5.7)	5.6 (5.5)	6.8 (7.1)	3.9 (4.0)	4.8 (5.2)
13	Bokaro	5.4 (5.6)	5.7 (5.8)	5.1 (5.3)	6.3 (6.5)	6.3 (6.5)	6.3 (6.4)	4.6 (4.8)	5.2 (5.2)	4.0 (4.2)	5.1 (5.2)	5.8 (6.0)	5.8 (5.8)	6.8 (7.1)	4.2 (4.2)	5.1 (5.3)
14	Ranchi	6.2 (6.3)	6.8 (6.9)	5.5 (5.6)	6.4 (6.6)	6.9 (7.1)	5.9 (6.1)	5.8 (5.8)	6.7 (6.7)	4.8 (4.8)	5.8 (5.8)	6.6 (6.8)	5.9 (5.9)	6.9 (7.3)	5.1 (5.1)	6.4 (6.4)
15	Lohardaga	8.1 (8.3)	8.3 (8.4)	7.9 (8.1)	8.3 (8.5)	8.6 (8.7)	8.1 (8.4)	6.6 (6.5)	6.7 (6.8)	6.5 (6.3)	7.8 (7.9)	8.5 (8.7)	8.0 (8.1)	8.7 (9.0)	5.6 (5.3)	7.6 (7.7)
16	Gumla	8.8 (9.1)	9.8 (10.3)	7.8 (7.9)	9.0 (9.3)	9.9 (10.4)	8.0 (8.1)	6.5 (6.9)	8.1 (8.7)	4.9 (5.1)	8.3 (8.5)	9.3 (9.7)	8.5 (8.7)	9.5 (9.9)	5.1 (5.8)	8.0 (8.1)
17	Pashchimi Singhbhum	7.8 (7.8)	8.5 (8.5)	7.0 (7.1)	8.4 (8.4)	9.2 (9.2)	7.6 (7.7)	4.7 (4.8)	5.4 (5.3)	4.0 (4.2)	7.2 (7.2)	8.3 (8.4)	7.8 (7.7)	9.1 (9.1)	3.4 (3.4)	6.0 (6.1)
18	Purbi Singhbhum	5.3 (5.6)	5.9 (6.2)	4.8 (5.0)	6.2 (6.6)	7.0 (7.5)	5.3 (5.6)	4.8 (4.9)	5.1 (5.2)	4.3 (4.5)	5.0 (5.2)	5.7 (5.9)	5.6 (6.0)	6.7 (7.2)	4.4 (4.5)	5.1 (5.3)

CRUDE DEATH RATE

Sahibganj

Godda

Pakaur

Kodarma

Giridih

Deoghar

Dumka

Chatra

Garhwa

Palamu

Hazaribagh

Dhanbad

Bokaro

Lohardaga

Ranchi

Gumla

Pashchimi Singhbhum

Purbi Singhbhum

CRUDE DEATH RATE

- ≤ 5.5
- 5.6 - 7.0 (State Average 5.8)
- ≥ 7.1

Crude Death Rate

	Total	Rural	Urban
First Updation	5.8	6.2	4.8
Baseline	6.1	6.5	5.0

First Updation   Baseline

Mortality rate in rural areas is 1.3 points higher than urban areas as per the First Updation round

Crude Death Rate

	Total		Rural		Urban	
	First Updation	Baseline	First Updation	Baseline	First Updation	Baseline
Male	6.2	6.5	6.5	6.8	5.3	5.4
Female	5.5	5.7	5.8	6.0	4.3	4.5

Male   Female
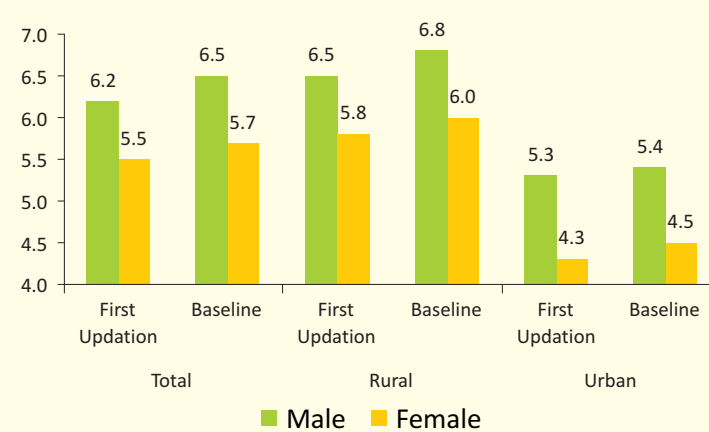
In both urban as well as rural areas death rates are higher among men than women

Crude Death Rate = (Number of Deaths in reference period / Mid-year population) $\times$ 1000

Table-4 : Natural Growth Rate

District		Natural Growth Rate		
		Total	Rural	Urban
JHARKHAND		**17.5 (17.6)**	**18.4 (18.6)**	**14.8 (15.0)**
01	Garhwa	18.5 (18.6)	18.8 (18.8)	15.5 (15.6)
02	Palamu	16.9 (16.9)	17.0 (17.1)	14.9 (15.0)
03	Chatra	19.0 (18.9)	18.9 (18.9)	19.7 (18.9)
04	Hazaribagh	15.4 (15.5)	16.2 (16.3)	12.6 (12.8)
05	Kodarma	18.2 (18.2)	18.6 (18.6)	16.2 (16.3)
06	Giridih	17.5 (17.9)	17.8 (18.2)	14.2 (14.5)
07	Deoghar	17.5 (17.5)	17.9 (17.9)	14.9 (14.8)
08	Godda	16.5 (16.3)	16.6 (16.5)	14.7 (13.6)
09	Sahibganj	17.2 (17.1)	17.8 (17.7)	13.0 (13.1)
10	Pakaur	22.5 (22.4)	23.1 (22.9)	13.6 (13.8)
11	Dumka	18.6 (18.9)	19.1 (19.3)	12.8 (13.2)
12	Dhanbad	18.9 (19.1)	22.3 (22.5)	16.7 (16.9)
13	Bokaro	17.8 (18.1)	20.7 (21.1)	15.2 (15.4)
14	Ranchi	17.0 (17.2)	18.8 (19.2)	14.2 (14.4)
15	Lohardaga	19.3 (19.6)	20.1 (20.3)	14.1 (14.3)
16	Gumla	16.7 (16.9)	17.0 (17.2)	12.7 (12.7)
17	Pashchimi Singhbhum	17.8 (18.0)	18.3 (18.5)	15.3 (15.7)
18	Purbi Singhbhum	15.1 (15.4)	17.8 (18.0)	13.1 (13.5)

Natural Growth Rate

First Updation ■ **Baseline**

Natural Growth Rate of Population in Rural areas is 3.6 points higher than Urban areas as per the First Updation round

Natural Growth Rate

Top 3 Districts
(First Updation Round)

Bottom 3 Districts
(First Updation Round)

Natural Growth Rate = Crude Birth Rate – Crude Death Rate
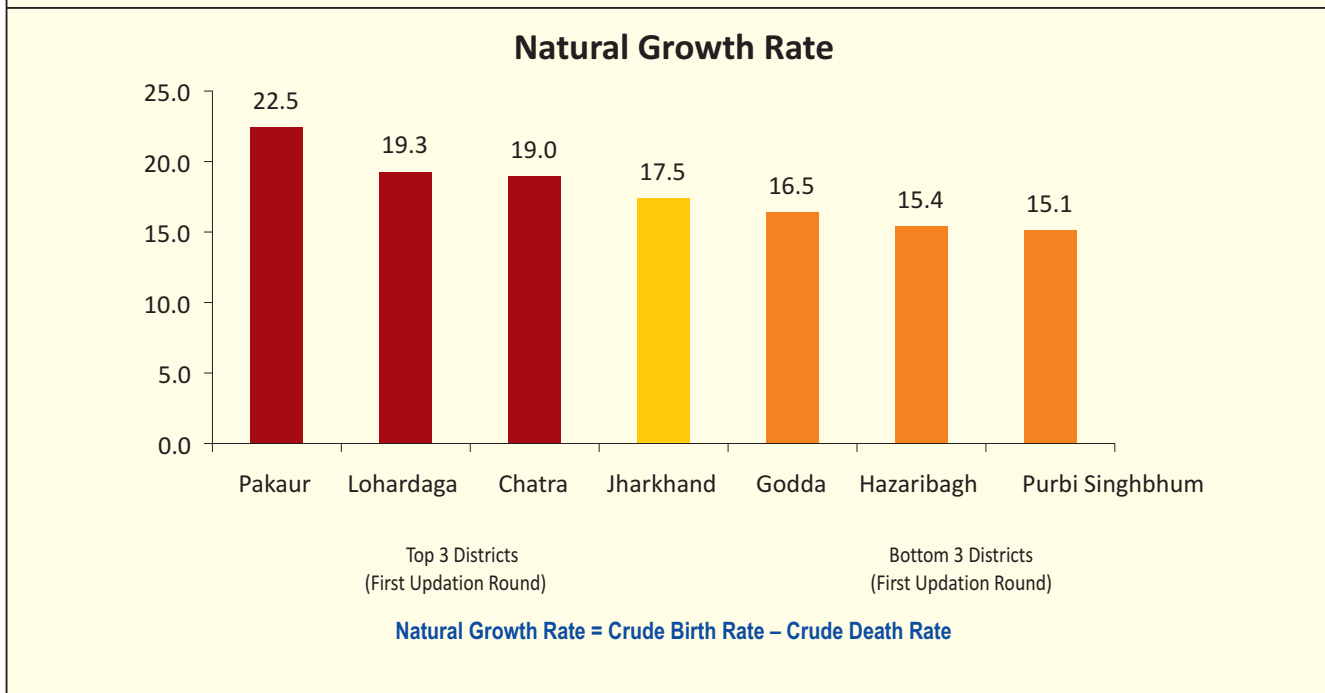
Table-5 : Infant Mortality Rate & 95% Confidence Interval for Infant Mortality Rate

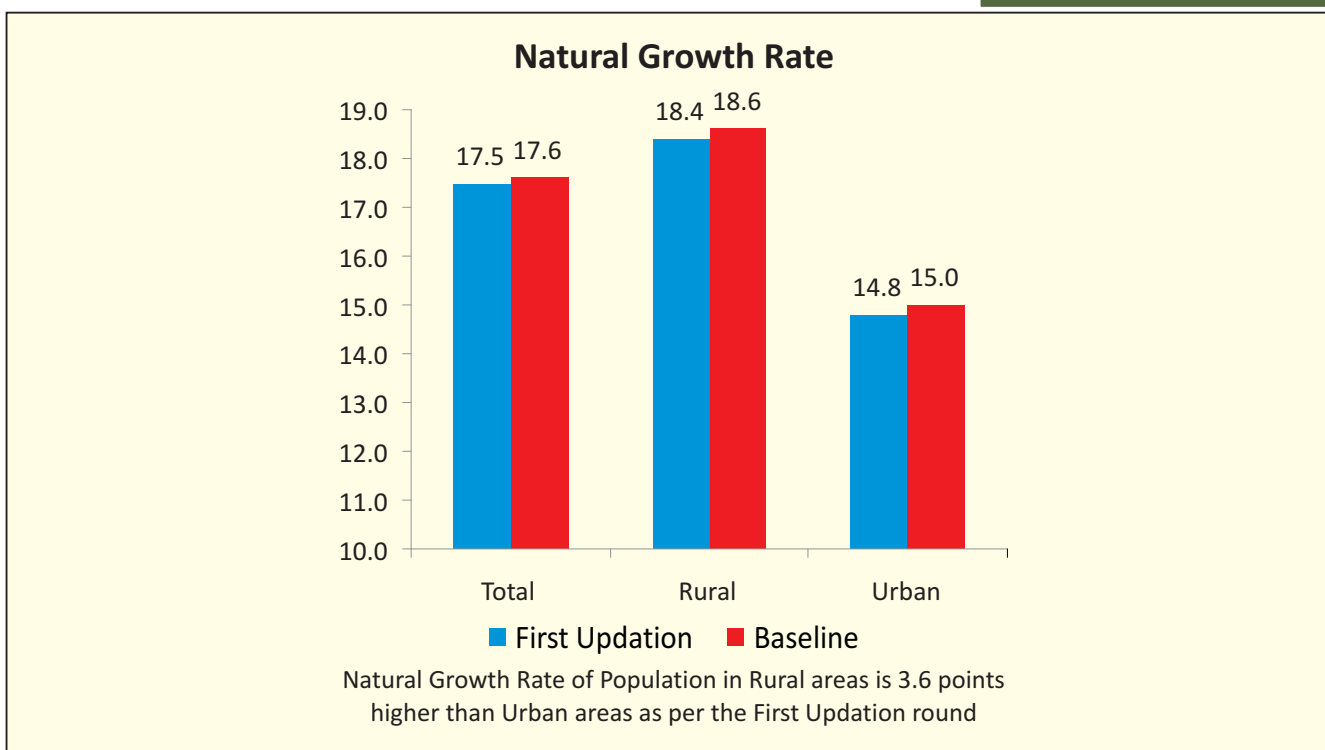| District		Infant Mortality Rate									95% Confidence Interval for Infant Mortality Rate					
		Total			Rural			Urban			Total		Rural		Urban	
		Total	Male	Female	Total	Male	Female	Total	Male	Female	Lower Limit	Upper Limit	Lower Limit	Upper Limit	Lower Limit	Upper Limit
JHARKHAND		**38 (41)**	**37 (40)**	**39 (42)**	**42 (45)**	**41 (45)**	**42 (46)**	**24 (26)**	**23 (25)**	**25 (27)**	**36 (39)**	**39 (43)**	**40 (43)**	**44 (47)**	**21 (23)**	**26 (29)**
01	Garhwa	36 (40)	36 (39)	37 (40)	36 (39)	36 (39)	37 (40)	36 (46)	32 (45)	40 (47)	30 (33)	42 (46)	30 (33)	42 (46)	21 (34)	52 (58)
02	Palamu	44 (49)	42 (47)	45 (50)	45 (50)	43 (48)	46 (51)	26 (-)	23 (-)	29 (-)	37 (41)	50 (56)	38 (42)	51 (58)	11 (-)	41 (-)
03	Chatra	46 (52)	46 (50)	46 (53)	47 (53)	47 (51)	47 (54)	39 (-)	36 (-)	42 (-)	38 (41)	54 (62)	38 (41)	56 (64)	17 (-)	60 (-)
04	Hazaribagh	31 (37)	30 (35)	32 (38)	32 (38)	31 (36)	32 (39)	29 (33)	26 (33)	33 (34)	27 (30)	36 (43)	27 (31)	36 (45)	15 (15)	44 (52)
05	Kodarma	30 (36)	30 (36)	30 (35)	31 (36)	32 (37)	30 (35)	27 (33)	24 (32)	31 (35)	24 (29)	36 (42)	25 (29)	37 (43)	11 (19)	43 (48)
06	Giridih	32 (36)	31 (34)	33 (37)	33 (36)	32 (35)	33 (38)	- (26)	- (21)	- (29)	25 (28)	39 (44)	26 (28)	40 (45)	- (17)	- (34)
07	Deoghar	34 (40)	33 (38)	35 (41)	33 (39)	33 (39)	34 (40)	35 (42)	31 (38)	38 (46)	23 (29)	44 (50)	22 (27)	45 (51)	20 (30)	50 (53)
08	Godda	58 (64)	58 (63)	58 (65)	59 (65)	60 (64)	58 (65)	- (-)	- (-)	- (-)	48 (53)	68 (76)	49 (53)	69 (77)	- (-)	- (-)
09	Sahibganj	56 (59)	56 (59)	56 (60)	58 (61)	58 (61)	58 (62)	36 (40)	36 (39)	36 (42)	52 (55)	60 (64)	54 (56)	62 (66)	21 (20)	51 (60)
10	Pakaur	54 (59)	52 (58)	56 (59)	54 (59)	53 (60)	55 (58)	- (-)	- (-)	- (-)	39 (45)	69 (72)	39 (45)	69 (73)	- (-)	- (-)
11	Dumka	44 (45)	43 (47)	44 (44)	44 (46)	43 (47)	45 (44)	- (-)	- (-)	- (-)	36 (37)	51 (54)	36 (37)	52 (54)	- (-)	- (-)
12	Dhanbad	26 (28)	26 (28)	26 (29)	35 (37)	37 (37)	33 (36)	19 (21)	16 (19)	21 (23)	22 (23)	30 (34)	28 (28)	42 (45)	15 (16)	23 (26)
13	Bokaro	28 (29)	27 (28)	30 (30)	33 (33)	31 (31)	34 (35)	23 (24)	21 (25)	24 (24)	24 (25)	32 (34)	28 (27)	37 (38)	16 (17)	30 (31)
14	Ranchi	32 (35)	32 (34)	32 (36)	37 (40)	34 (38)	40 (41)	22 (25)	27 (25)	17 (24)	27 (29)	37 (40)	31 (32)	43 (47)	16 (17)	29 (32)
15	Lohardaga	54 (54)	52 (52)	56 (57)	57 (57)	55 (54)	59 (60)	30 (29)	28 (27)	32 (31)	48 (49)	60 (60)	50 (51)	63 (63)	19 (16)	40 (41)
16	Gumla	45 (48)	46 (48)	43 (48)	46 (49)	48 (48)	44 (49)	24 (-)	22 (-)	26 (-)	40 (42)	50 (53)	41 (43)	51 (54)	10 (-)	39 (-)
17	Pashchimi Singhbhum	53 (55)	53 (54)	53 (57)	56 (59)	56 (58)	57 (61)	29 (30)	32 (32)	27 (28)	46 (49)	59 (62)	49 (52)	63 (66)	18 (13)	41 (47)
18	Purbi Singhbhum	25 (26)	25 (27)	25 (25)	29 (31)	31 (33)	27 (29)	21 (21)	19 (21)	22 (22)	21 (23)	28 (30)	23 (25)	35 (37)	17 (17)	25 (25)

INFANT MORTALITY RATE

Map labels: Godda, Sahibganj, Pakaur, Kodarma, Giridih, Deoghar, Dumka, Garhwa, Chatra, Palamu, Hazaribagh, Dhanbad, Bokaro, Lohardaga, Ranchi, Gumla, Pashchimi Singhbhum, Purbi Singhbhum

INFANT MORTALITY RATE

- ≤ 35
- 36 - 50 (State Average 38)
- ≥ 51

Infant Mortality Rate

	Total	Rural	Urban
First Updation	38	42	24
Baseline	41	45	26

First Updation ■ Baseline ■
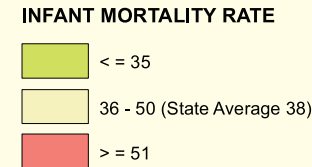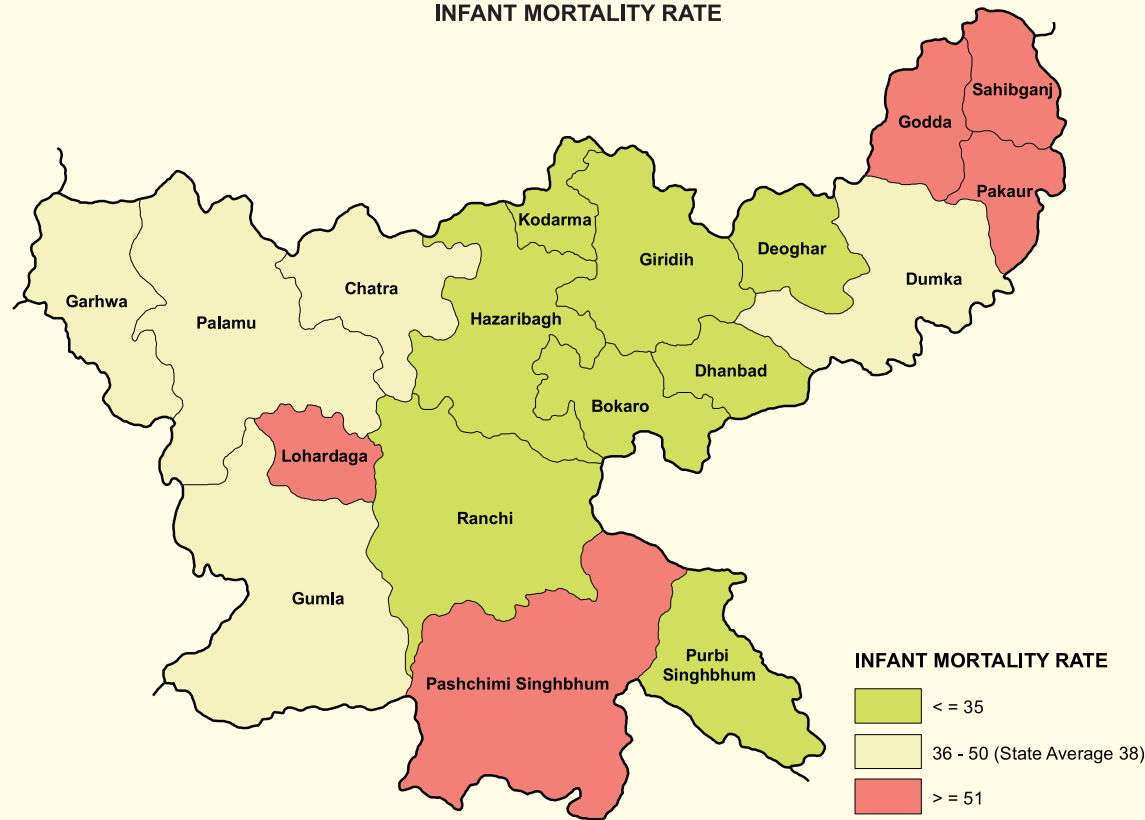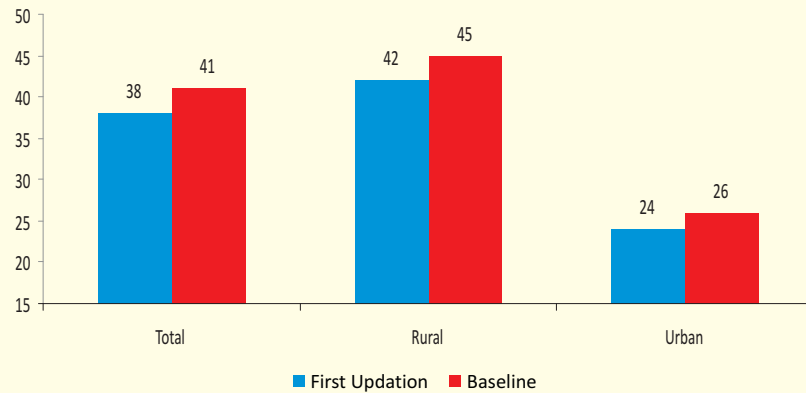
Infant Mortality rate in rural areas is 18 points higher than urban areas as per the First Updation round

Infant Mortality Rate

	Total		Rural		Urban	
	First Updation	Baseline	First Updation	Baseline	First Updation	Baseline
Male	37	40	41	45	23	25
Female	39	42	42	46	25	27

Male ■ Female ■
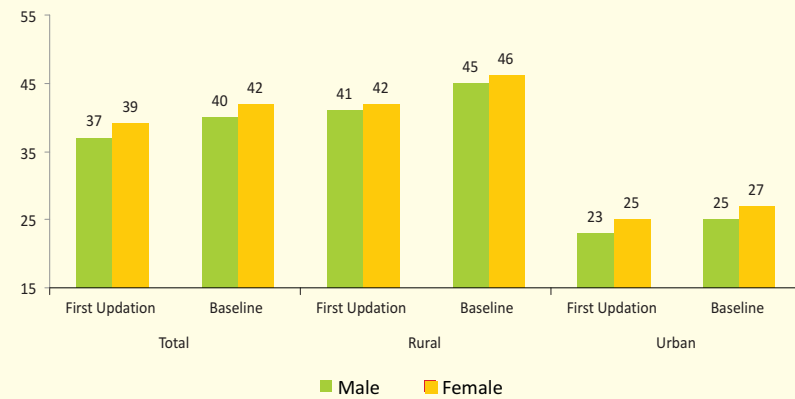
Female infants experience higher mortality than males in rural as well as urban areas

Infant Mortality Rate = (Number of Infant Deaths (less than 1 year of age) / Number of live births during reference period) $\times$ 1000

Table-6 : Neo-natal Mortality Rate & Post Neo-natal Mortality Rate

District		Neo-natal Mortality Rate			Post Neo-natal Mortality Rate		
		Total	Rural	Urban	Total	Rural	Urban
JHARKHAND		24 (26)	27 (29)	15 (17)	13 (15)	15 (16)	9 (9)
01	Garhwa	22 (24)	23 (25)	13 (20)	14 (16)	14 (15)	23 (26)
02	Palamu	25 (28)	26 (29)	10 (-)	18 (20)	18 (21)	16 (-)
03	Chatra	28 (31)	28 (32)	23 (-)	18 (21)	18 (21)	16 (-)
04	Hazaribagh	15 (18)	15 (19)	14 (15)	16 (18)	17 (18)	15 (18)
05	Kodarma	20 (23)	21 (24)	18 (22)	10 (12)	10 (13)	9 (11)
06	Giridih	20 (22)	20 (22)	- (19)	12 (14)	13 (14)	- (6)
07	Deoghar	19 (22)	20 (22)	16 (20)	14 (18)	14 (17)	19 (22)
08	Godda	32 (35)	33 (35)	- (-)	26 (29)	26 (29)	- (-)
09	Sahibganj	34 (37)	35 (37)	27 (29)	22 (23)	23 (24)	9 (11)
10	Pakaur	34 (36)	35 (37)	- (-)	20 (22)	19 (22)	- (-)
11	Dumka	32 (34)	32 (34)	- (-)	11 (11)	11 (12)	- (-)
12	Dhanbad	20 (21)	26 (27)	14 (16)	7 (7)	8 (9)	5 (5)
13	Bokaro	20 (21)	24 (25)	15 (16)	8 (8)	8 (8)	7 (8)
14	Ranchi	22 (24)	26 (28)	13 (16)	10 (11)	11 (12)	9 (9)
15	Lohardaga	41 (41)	43 (43)	21 (20)	13 (13)	14 (14)	9 (9)
16	Gumla	31 (33)	32 (33)	24 (-)	14 (15)	14 (15)	- (-)
17	Pashchimi Singhbhum	34 (36)	36 (38)	21 (21)	18 (19)	20 (21)	8 (9)
18	Purbi Singhbhum	16 (17)	21 (22)	11 (12)	9 (9)	8 (9)	9 (10)

Neo-natal Mortality Rate

■ First Updation   ■ Baseline

Out of every 10 infant deaths, 7 and 6 pertains to Neo-nates in rural and urban areas respectively as per the First Updation round

Neo-natal deaths : Infant dying before age of 29 days

Post Neo-natal Mortality Rate

■ First Updation   ■ Baseline

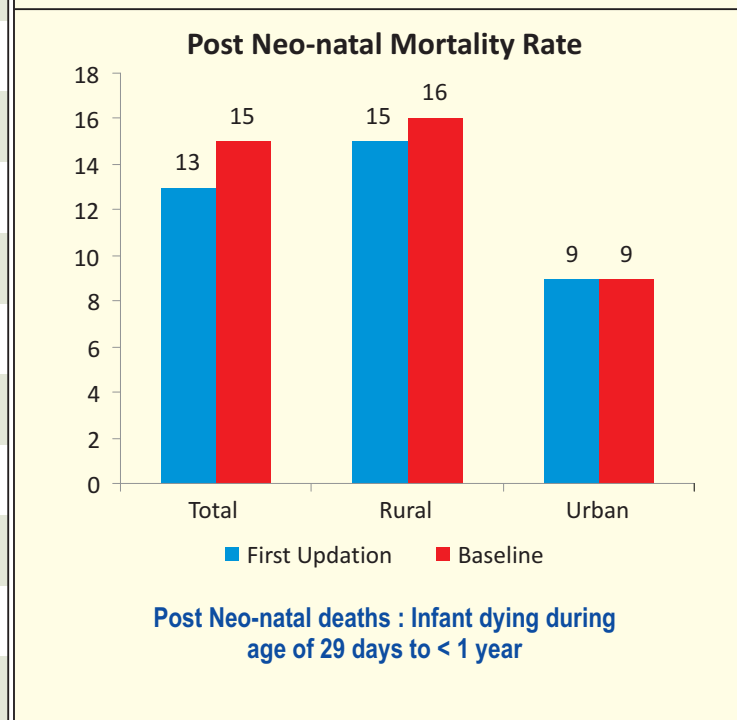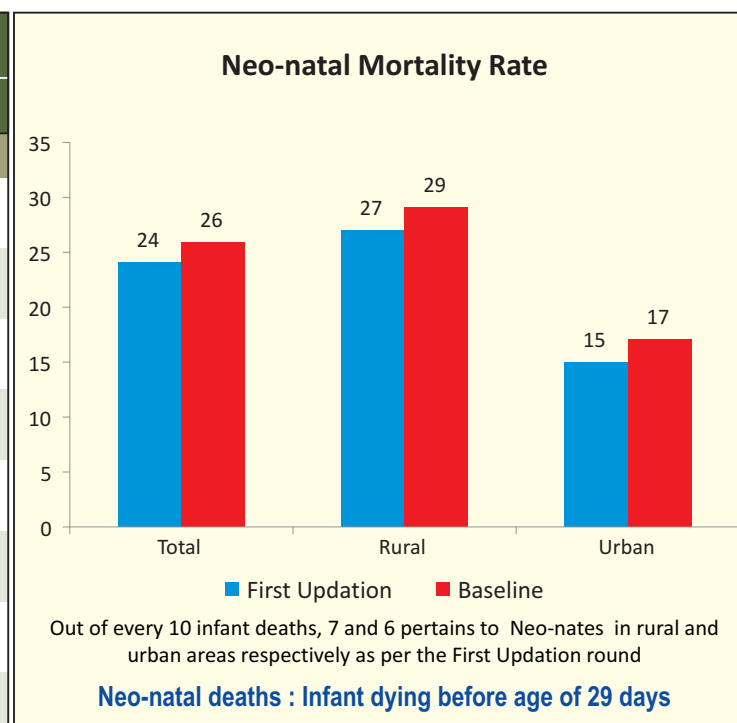**Post Neo-natal deaths : Infant dying during age of 29 days to < 1 year**

Table-7 : Under Five Mortality Rate (U5MR) & 95% Confidence Interval for Under Five Mortality Rate

| District | | Under Five Mortality Rate (U5MR) | | | | | | | | | 95% Confidence Interval for Under Five Mortality Rate | | | | | |
| | | Total | | | Rural | | | Urban | | | Total | | Rural | | Urban | |
		Total	Male	Female	Total	Male	Female	Total	Male	Female	Lower Limit	Upper Limit	Lower Limit	Upper Limit	Lower Limit	Upper Limit
JHARKHAND		55 (59)	53 (57)	57 (61)	61 (66)	60 (64)	63 (67)	32 (35)	30 (33)	35 (38)	54 (58)	56 (60)	60 (64)	63 (67)	30 (33)	35 (38)
01	Garhwa	52 (55)	51 (53)	53 (56)	52 (54)	51 (53)	52 (56)	51 (61)	42 (59)	61 (63)	47 (49)	57 (60)	46 (49)	57 (60)	27 (34)	76 (88)
02	Palamu	59 (64)	56 (60)	63 (68)	61 (66)	58 (62)	65 (70)	32 (-)	27 (-)	38 (-)	54 (59)	64 (69)	56 (60)	66 (71)	14 (-)	50 (-)
03	Chatra	59 (66)	57 (64)	61 (68)	61 (68)	59 (66)	63 (70)	41 (-)	36 (-)	46 (-)	52 (58)	66 (73)	54 (60)	68 (75)	21 (-)	61 (-)
04	Hazaribagh	40 (46)	39 (44)	41 (48)	41 (47)	40 (44)	42 (50)	35 (40)	34 (41)	37 (39)	35 (41)	44 (51)	36 (42)	46 (53)	23 (27)	47 (53)
05	Kodarma	38 (45)	37 (45)	38 (46)	38 (47)	38 (46)	38 (47)	35 (39)	33 (37)	37 (41)	32 (39)	43 (51)	32 (40)	44 (53)	19 (23)	50 (56)
06	Giridih	44 (49)	42 (45)	46 (52)	45 (50)	44 (47)	47 (53)	- (28)	- (21)	- (34)	40 (44)	49 (54)	41 (45)	50 (55)	- (10)	- (46)
07	Deoghar	46 (52)	44 (48)	48 (56)	47 (53)	45 (50)	49 (57)	38 (43)	35 (38)	42 (50)	38 (44)	53 (59)	39 (45)	55 (62)	20 (24)	56 (63)
08	Godda	85 (93)	82 (89)	87 (97)	86 (95)	84 (91)	88 (99)	- (-)	- (-)	- (-)	76 (84)	93 (102)	78 (86)	95 (104)	- (-)	- (-)
09	Sahibganj	83 (88)	80 (84)	87 (93)	88 (93)	85 (88)	91 (98)	44 (48)	39 (43)	49 (53)	79 (84)	87 (92)	83 (88)	92 (97)	32 (36)	56 (60)
10	Pakaur	81 (83)	79 (81)	84 (86)	83 (85)	82 (84)	84 (86)	- (-)	- (-)	- (-)	71 (73)	92 (94)	72 (74)	94 (95)	- (-)	- (-)
11	Dumka	57 (59)	54 (58)	59 (60)	57 (59)	54 (59)	59 (59)	- (-)	- (-)	- (-)	50 (52)	64 (67)	49 (51)	64 (66)	- (-)	- (-)
12	Dhanbad	40 (43)	37 (39)	43 (47)	57 (58)	58 (60)	55 (56)	27 (30)	21 (23)	34 (39)	36 (38)	44 (47)	51 (52)	63 (65)	21 (25)	32 (36)
13	Bokaro	41 (43)	40 (42)	43 (43)	52 (52)	49 (49)	55 (54)	30 (33)	30 (35)	30 (31)	37 (38)	46 (47)	46 (46)	58 (58)	24 (26)	37 (40)
14	Ranchi	50 (53)	49 (53)	51 (54)	56 (60)	54 (59)	59 (61)	38 (41)	40 (42)	35 (40)	45 (49)	54 (58)	51 (54)	62 (66)	30 (33)	45 (49)
15	Lohardaga	72 (72)	68 (69)	76 (76)	75 (77)	71 (73)	80 (80)	35 (35)	35 (33)	37 (38)	66 (67)	77 (78)	70 (71)	81 (82)	21 (22)	49 (49)
16	Gumla	72 (75)	75 (77)	68 (73)	74 (77)	78 (80)	70 (75)	34 (-)	25 (-)	43 (-)	67 (71)	76 (80)	69 (73)	78 (82)	19 (-)	49 (-)
17	Pashchimi Singhbhum	86 (92)	86 (90)	87 (94)	95 (101)	95 (99)	95 (102)	39 (42)	40 (44)	37 (40)	80 (86)	93 (98)	88 (94)	102 (108)	26 (29)	51 (55)
18	Purbi Singhbhum	35 (36)	35 (37)	35 (36)	45 (48)	49 (52)	40 (44)	26 (27)	23 (25)	30 (30)	31 (33)	38 (40)	39 (42)	50 (54)	22 (23)	31 (32)

Under Five Mortality Rate

■ First Updation   ■ Baseline
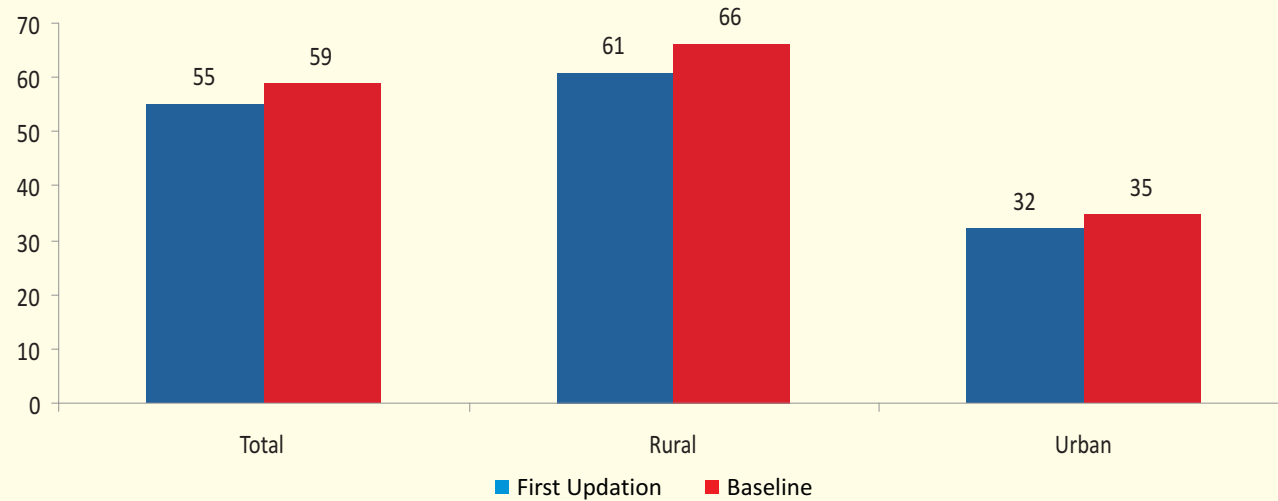
Under five Mortality rate in rural areas is 29 points higher
than urban areas as per the First Updation round

Under Five Mortality Rate

■ Male   ■ Female
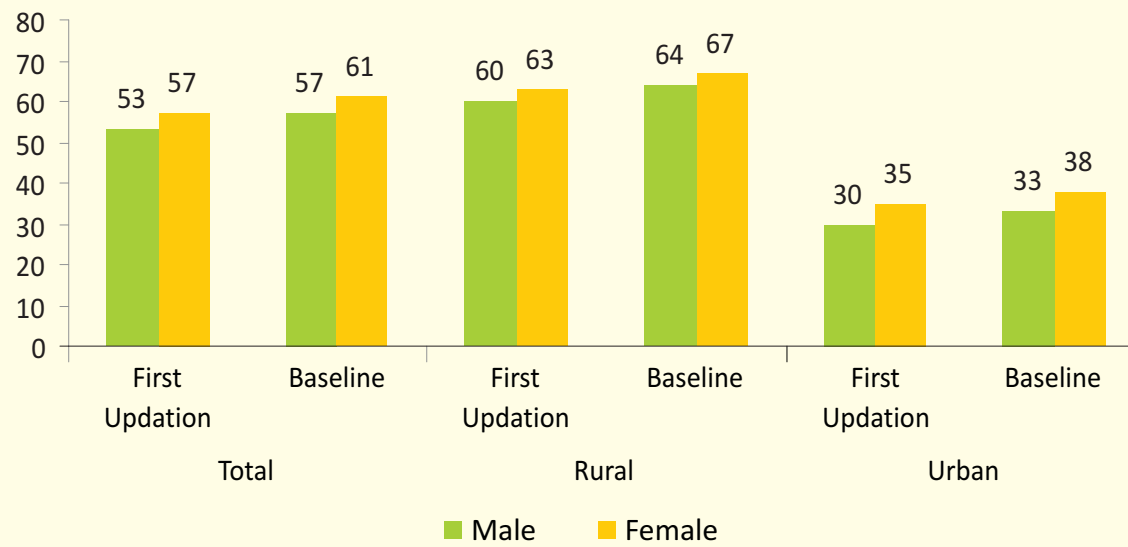
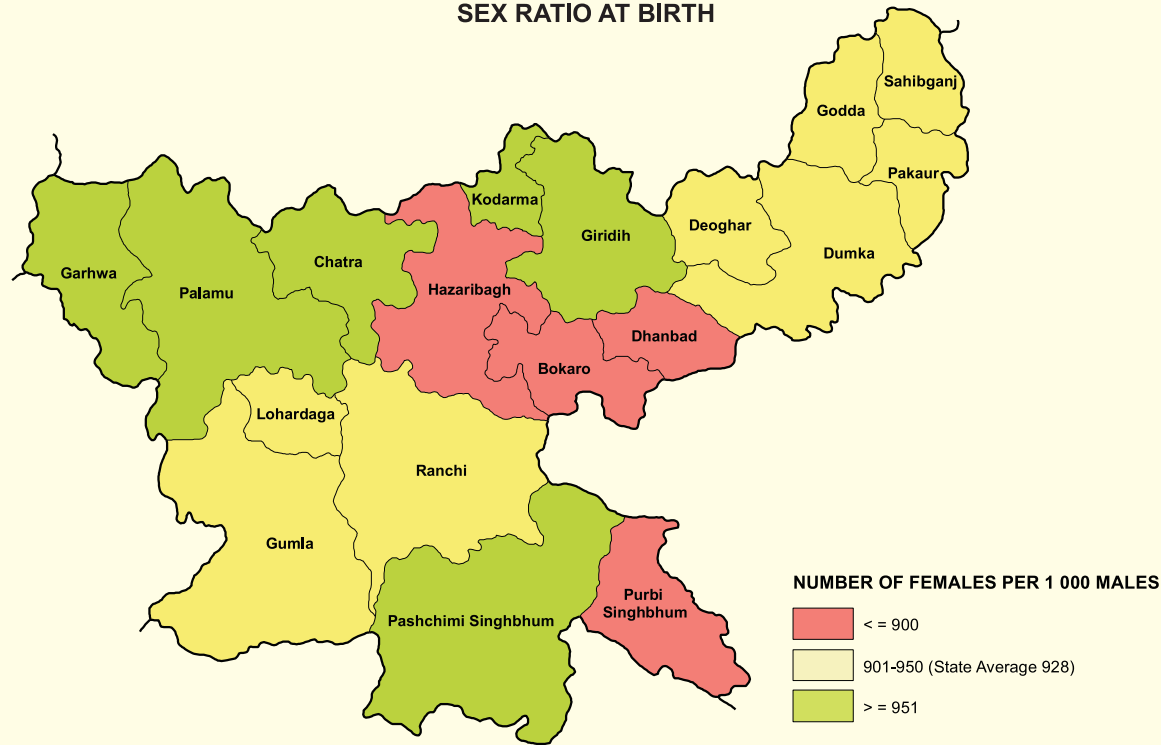More no. of females die before reaching age 5 years than males

The under-five mortality is the probability (5q0) that a child born in a specific year or time period will die before reaching the age of five,
subject to current age specific mortality rates. It is expressed as a rate per 1,000 live births.

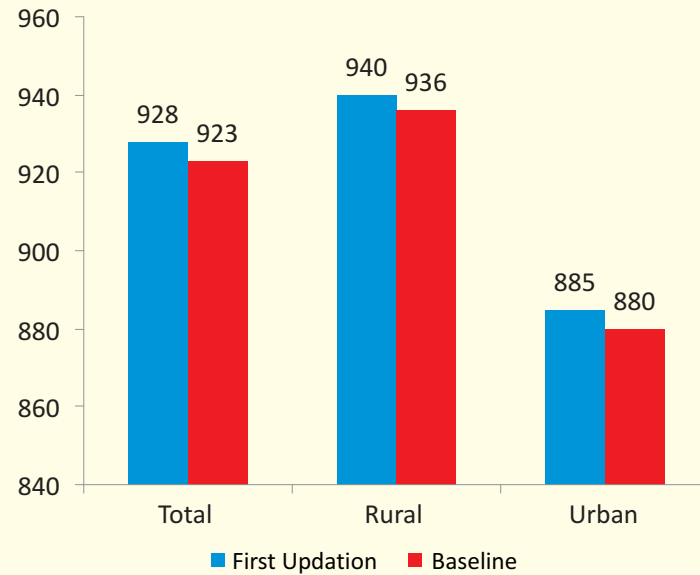## Table-8 : Sex Ratio at Birth & 95% Confidence Interval for Sex Ratio at Birth

District		Sex Ratio at Birth			95% Confidence Interval for Sex Ratio at Birth					
					Total		Rural		Urban	
		Total	Rural	Urban	Lower Limit	Upper Limit	Lower Limit	Upper Limit	Lower Limit	Upper Limit
JHARKHAND		928 (923)	940 (936)	885 (880)	918 (914)	938 (933)	929 (925)	951 (947)	861 (856)	909 (904)
01	Garhwa	962 (957)	962 (957)	968 (959)	918 (914)	1008 (1003)	917 (913)	1009 (1004)	771 (765)	1213 (1200)
02	Palamu	953 (944)	964 (955)	787 (785)	913 (905)	994 (985)	923 (914)	1006 (997)	642 (641)	961 (956)
03	Chatra	953 (949)	949 (946)	990 (983)	899 (894)	1009 (1008)	893 (888)	1007 (1006)	810 (798)	1209 (1210)
04	Hazaribagh	899 (894)	913 (908)	842 (840)	858 (853)	942 (938)	868 (863)	960 (956)	739 (736)	958 (957)
05	Kodarma	973 (969)	989 (984)	896 (894)	919 (915)	1031 (1026)	930 (927)	1051 (1046)	757 (754)	1059 (1058)
06	Giridih	989 (985)	978 (974)	1209 (1207)	945 (941)	1036 (1032)	933 (929)	1025 (1021)	974 (967)	1508 (1513)
07	Deoghar	933 (928)	933 (928)	933 (926)	870 (865)	1001 (995)	865 (861)	1007 (1000)	771 (761)	1127 (1124)
08	Godda	949 (947)	948 (941)	979 (1104)	895 (891)	1006 (1006)	893 (885)	1006 (1001)	736 (815)	1302 (1503)
09	Sahibganj	932 (928)	936 (932)	893 (890)	905 (901)	960 (956)	908 (904)	965 (961)	795 (793)	1001 (998)
10	Pakaur	913 (909)	929 (927)	575 (527)	847 (842)	985 (980)	860 (858)	1003 (1002)	384 (348)	829 (760)
11	Dumka	919 (914)	929 (925)	767 (759)	863 (858)	979 (974)	870 (866)	991 (987)	589 (585)	990 (977)
12	Dhanbad	898 (890)	902 (893)	894 (887)	860 (853)	937 (929)	854 (844)	954 (944)	836 (830)	956 (949)
13	Bokaro	893 (893)	916 (920)	865 (862)	854 (854)	934 (935)	867 (870)	968 (972)	799 (796)	937 (933)
14	Ranchi	905 (900)	925 (920)	867 (864)	868 (864)	943 (938)	881 (876)	971 (966)	800 (798)	939 (935)
15	Lohardaga	919 (915)	924 (921)	872 (864)	882 (879)	957 (953)	886 (883)	964 (960)	749 (744)	1014 (1002)
16	Gumla	944 (938)	940 (934)	1007 (1016)	911 (906)	977 (972)	907 (902)	975 (969)	851 (854)	1194 (1208)
17	Pashchimi Singhbhum	977 (977)	994 (995)	877 (871)	935 (934)	1022 (1021)	948 (949)	1043 (1043)	772 (766)	996 (991)
18	Purbi Singhbhum	889 (884)	874 (872)	904 (897)	855 (850)	925 (920)	827 (825)	923 (921)	855 (848)	955 (948)

SEX RATIO AT BIRTH

Sahibganj

Godda

Kodarma

Pakaur

Giridih

Deoghar

Chatra

Dumka

Garhwa

Hazaribagh

Palamu

Dhanbad

Bokaro

Lohardaga

Ranchi

Gumla

Purbi
Singhbhum

Pashchimi Singhbhum

NUMBER OF FEMALES PER 1 000 MALES

< = 900

901-950 (State Average 928)

> = 951

Sex Ratio at Birth

	Total	Rural	Urban
First Updation	928	940	885
Baseline	923	936	880

First Updation   Baseline

Sex Ratio at Birth = Number of female live births per 1,000 males live births

Table-9 : Sex Ratio (0-4 Years) & Sex Ratio (All Ages)

District		Sex Ratio (0-4 Years)			Sex Ratio (All Ages)		
		Total	Rural	Urban	Total	Rural	Urban
JHARKHAND		938 (937)	951 (951)	893 (889)	944 (942)	958 (957)	906 (901)
01	Garhwa	946 (943)	951 (947)	877 (886)	929 (922)	930 (923)	915 (918)
02	Palamu	988 (970)	989 (978)	960 (843)	939 (945)	940 (946)	921 (923)
03	Chatra	1031 (976)	1027 (968)	1077 (1064)	960 (980)	964 (984)	922 (943)
04	Hazaribagh	903 (924)	917 (936)	842 (875)	951 (950)	969 (968)	892 (894)
05	Kodarma	984 (962)	996 (973)	922 (905)	954 (951)	962 (957)	921 (919)
06	Giridih	959 (963)	952 (958)	1108 (1068)	964 (1002)	965 (1005)	946 (956)
07	Deoghar	980 (952)	988 (951)	922 (957)	914 (901)	917 (907)	893 (868)
08	Godda	1002 (973)	1001 (972)	1031 (978)	925 (923)	927 (926)	886 (864)
09	Sahibganj	942 (930)	948 (937)	886 (865)	936 (934)	944 (941)	881 (889)
10	Pakaur	884 (943)	893 (958)	622 (617)	943 (945)	946 (950)	883 (866)
11	Dumka	932 (922)	936 (928)	868 (833)	963 (955)	968 (959)	905 (901)
12	Dhanbad	895 (893)	891 (888)	898 (896)	904 (896)	926 (914)	890 (885)
13	Bokaro	898 (895)	929 (928)	862 (858)	908 (901)	933 (925)	887 (879)
14	Ranchi	919 (920)	931 (937)	894 (890)	960 (952)	977 (968)	933 (928)
15	Lohardaga	940 (942)	951 (954)	843 (838)	979 (973)	984 (977)	945 (941)
16	Gumla	950 (951)	949 (949)	980 (981)	988 (983)	991 (985)	953 (948)
17	Pashchimi Singhbhum	994 (998)	1016 (1020)	870 (866)	984 (976)	995 (987)	935 (928)
18	Purbi Singhbhum	900 (901)	902 (906)	899 (896)	939 (928)	973 (960)	915 (906)

Sex Ratio (0- 4 Years)

Sex Ratio (0-4 Years) = Number of female in the age group (0-4) years per 1,000 male in the age group (0-4) years

Sex Ratio (All Ages)

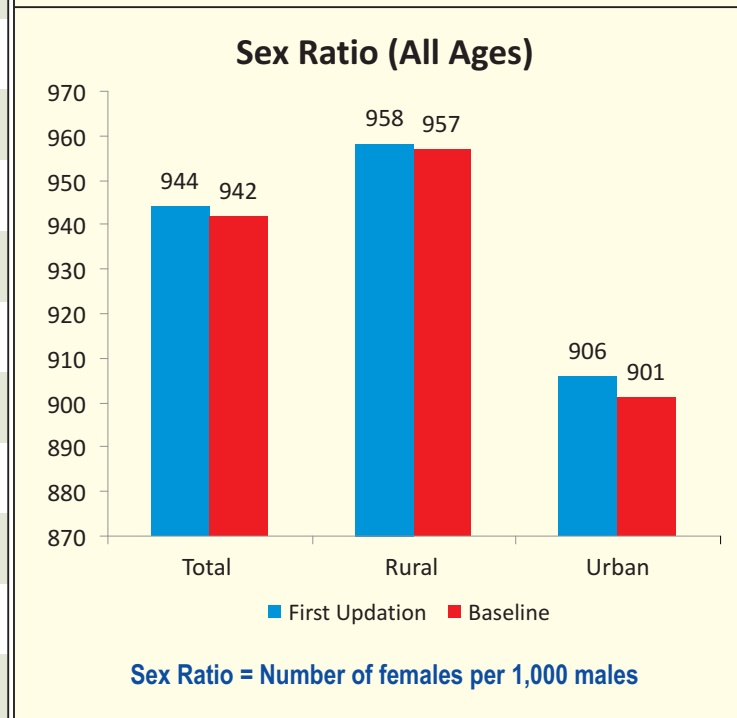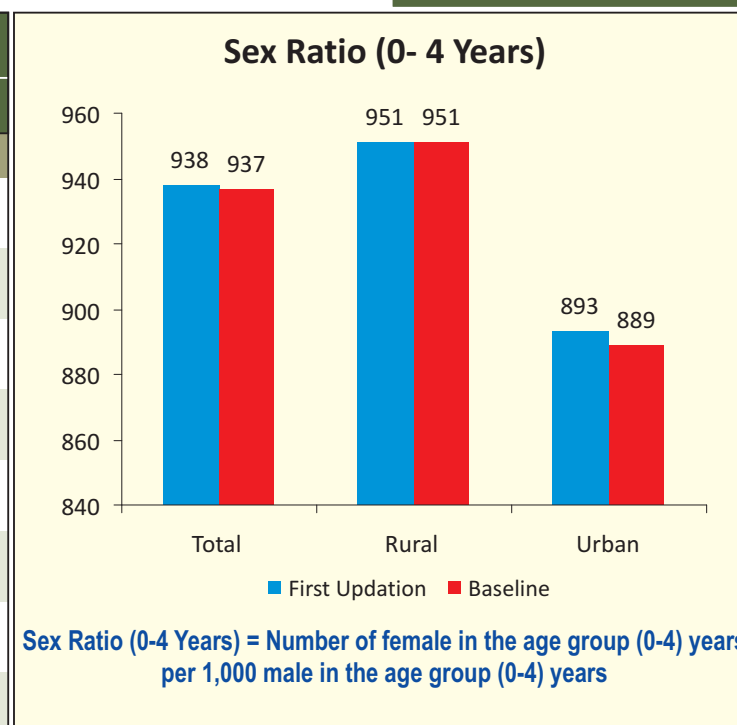**Sex Ratio = Number of females per 1,000 males**

Table-10 : Maternal Mortality Ratio (MMR)

State/Commissionary/(Districts)	Sample Female Population	Sample Live Births	Maternal Deaths	MMR	95% Confidence Interval		Maternal Mortality Rate	Life Time Risk
					Lower Limit	Upper Limit		
JHARKHAND	492584 (468637)	135730 (134956)	362 (375)	267 (278)	239 (250)	294 (306)	24 (27)	0.85% (0.93%)
DAKSHINI CHOTA NAGPUR (Ranchi, Lohardaga, Gumla)	104226 (102907)	30688 (30908)	83 (91)	270 (294)	212 (234)	329 (355)	27 (29)	0.92% (1.03%)
SANTHAL PARAGANA (Deoghar, Godda, Sahibganj, Pakaur, Dumka)	108473 (102481)	32046 (31420)	102 (102)	318 (325)	257 (262)	380 (388)	31 (33)	1.09% (1.15%)
KOLHAN (Pashchimi Singhbhum, Purbi Singhbhum)	73008 (69403)	17795 (17844)	49 (52)	275 (291)	198 (212)	352 (371)	22 (25)	0.78% (0.87%)
UTTARI CHOTA NAGPUR (Dhanbad, Bokaro, Chatra, Hazaribagh, Kodarma, Giridih)	150676 (141273)	39564 (39001)	78 (81)	197 (208)	153 (163)	241 (253)	17 (19)	0.60% (0.67%)
PALAMU (Garhwa, Palamu)	56201 (52573)	15637 (15783)	50 (49)	320 (310)	231 (224)	408 (397)	30 (31)	1.03% (1.08%)

MATERNAL MORTALITY RATIO (MMR)
(Administrative Division)

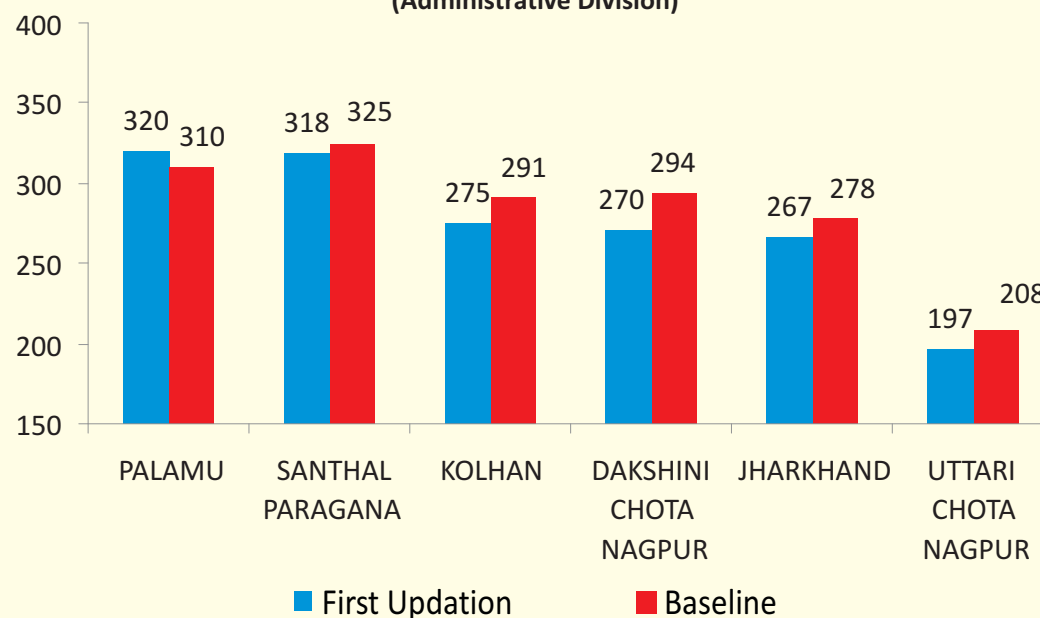|	PALAMU	SANTHAL PARAGANA	KOLHAN	DAKSHINI CHOTA NAGPUR	JHARKHAND	UTTARI CHOTA NAGPUR
First Updation	320	318	275	270	267	197
Baseline	310	325	291	294	278	208

■ First Updation   ■ Baseline

Table-11 : Age Distribution of Maternal & Non Maternal Deaths

Age Group	Sample Female Deaths	Maternal Deaths	Proportion	95% Confidence Interval		Non Maternal Deaths	Proportion	95% Confidence Interval	
				Lower Limit	Upper Limit			Lower Limit	Upper Limit
15-19	425 (355)	40 (40)	11 (11)	8 (8)	14 (14)	385 (315)	15 (14)	14 (13)	16 (15)
20-24	433 (379)	96 (90)	27 (24)	22 (20)	31 (28)	337 (289)	13 (13)	12 (11)	14 (14)
25-29	403 (359)	89 (90)	25 (24)	20 (20)	29 (28)	314 (269)	12 (12)	11 (11)	13 (13)
30-34	355 (307)	57 (59)	16 (16)	12 (12)	19 (19)	298 (248)	12 (11)	10 (10)	13 (12)
35-39	438 (404)	43 (51)	12 (14)	9 (10)	15 (17)	395 (353)	15 (16)	14 (14)	17 (17)
40-44	401 (378)	25 (29)	7 (8)	4 (5)	10 (10)	376 (349)	15 (16)	13 (14)	16 (17)
45-49	485 (441)	12 (16)	3 (4)	1 (2)	5 (6)	473 (425)	18 (19)	17 (17)	20 (21)
Total	2940 (2623)	362 (375)	100 (100)			2578 (2248)	100 (100)		

- **Maternal Mortality Ratio** = Proportion of maternal deaths per 1,00,000 live births
- **Maternal Mortality Rate** = Proportion of maternal deaths per 1,00,000 women in the ages 15-49 years

- *Life Time Risk* $= 1- \left(1- \dfrac{\textit{Maternal Mortality Rate}}{100000}\right)^{35}$

Note : In this Bulletin,

1. '-' denotes inadequate sample.
2. Data within brackets ( ) pertain to the corresponding estimates of baseline survey.

LIST OF OFFICERS ASSOCIATED WITH THE BULLETIN
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S. No.	Name	Designation
1	Dr. Vijay P. Goel	Deputy Director General & Project Director
2	Shri Rohit Bhardwaj	Deputy Registrar General
3	Shri Rajeev Kumar	Senior Research Officer
4	Shri Muhammed Yasir. F	Senior Research Officer
5	Shri Rajesh N. Malvia	Deputy Director
6	Shri Narendra Singh	Research Officer
7	Shri Mohan K. Tiwary	Assistant Director
8	Shri Harmeet Singh Maddh	Assistant Director
9	Shri Suresh Kumar	Assistant Director
10	Shri Brijesh Kumar	Statistical Investigator Gr. II
11	Shri Pankaj Shrivastava	Statistical Investigator Gr. II
12	Shri Ravinder Kumar	Statistical Investigator Gr. II
13	Shri Deepak Tyagi	Statistical Investigator Gr. II
14	Shri Sandeep Goel	Senior Compiler
15	Smt. Navita Bhatia	Compiler

AHS STATES IN INDIA
POSITION OF JHARKHAND

BOUNDARY, INTERNATIONAL ———— BOUNDARY, STATE/U.T. ————

KILOMETRES

100 0 100 200 300 400

AFGHANISTAN

JAMMU AND KASHMIR

HIMACHAL PRADESH

PUNJAB

CHANDIGARH

UTTARAKHAND

HARYANA

NCT OF DELHI

PAKISTAN

RAJASTHAN

UTTAR PEADESH

NEPAL

BIHAR

SIKKIM

BHUTAN

ARUNACHAL PRADESH

ASSAM

NAGALAND

MEGHALAYA

MANIPUR

JHARKHAND

WEST BENGAL

BANGLADESH

TRIPURA

MIZORAM

MYANMAR

GUJARAT

MADHYA PRADESH

CHHATTISGARH

ORISSA

New More I. (INDIA)

DAMAN & DIU

DADRA & NAGAR HAVELI

MAHARASHTRA

BAY OF BENGAL

ARABIAN SEA

ANDHRA PRADESH

P

GOA

KARNATAKA

LAKSHADWEEP SEA

PUDUCHERRY

TAMIL NADU

P

LAKSHADWEEP (INDIA)

KERALA

Coco Is. (MYANMAR)

Narcondam I. (INDIA)

Barren I. (INDIA)

ANDAMAN AND NICOBAR ISLANDS (INDIA)

ANDAMAN SEA

The administrative headquarters of Chandigarh, Haryana and Punjab are at Chandigarh.

P - PUDUCHERRY

SRI LANKA

INDIAN OCEAN

INDIRA POINT

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The responsibility for the correctness of internal details rests with the publisher.

The territorial waters of India extend into the sea to a distance of twelve nautical miles measured from the appropriate base line.

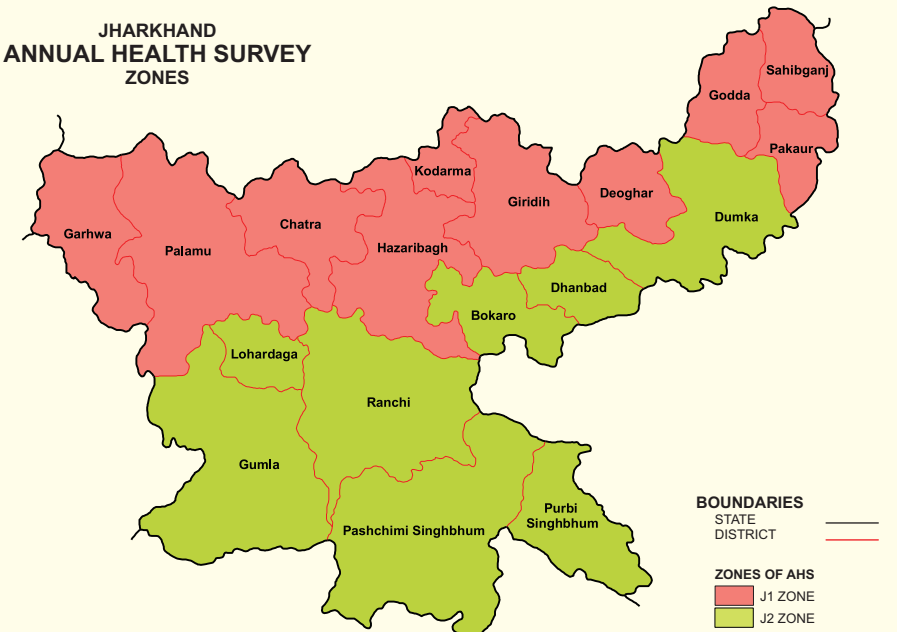The external boundaries and coastlines of India agree with the Record/Master Copy certified by Survey of India.

The state boundaries between Uttarakhand & Uttar Pradesh, Bihar & Jharkhand and Chattisgarh & Madhya Pradesh have not been verified by the Governments concerned.

The administrative headquarters of Chandigarh, Haryana and Punjab are at Chandigarh.

The interstate boundaries amongst Arunachal Pradesh, Assam and Meghalaya shown on the map are as interpreted from the North-Eastern Areas (Reorganisation) Act. 1971," but have yet to be verified.

JHARKHAND
ANNUAL HEALTH SURVEY
ZONES

Sahibganj

Godda

Pakaur

Kodarma

Giridih

Deoghar

Dumka

Garhwa

Chatra

Hazaribagh

Palamu

Dhanbad

Bokaro

Lohardaga

Ranchi

Gumla

Purbi Singhbhum

Pashchimi Singhbhum

BOUNDARIES
STATE ————
DISTRICT ————

ZONES OF AHS
J1 ZONE
J2 ZONE

Enquiries should be directed to:
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Ministry of Home Affairs
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