

ESTIMATES OF MORTALITY INDICATORS

Mortality is one of the basic components of population change and related data is essential for demographic studies and public health administration. It is the principal ingredient for population projections and life tables. Information on death events recorded in SRS is used to estimate mortality indicators. The various measures of mortality published under SRS are Crude Death Rate (CDR), Under-five Mortality Rate (U5MR), Infant Mortality Rate (IMR) and its components, Age Specific Mortality Rates (ASMR), Still Birth Rate (SBR) and Peri-Natal Mortality Rate (PMR).

4.2 SRS has continued to provide data for estimating various mortality measures since its inception. The crude death rate at all India level has declined significantly from 14.9 to 12.5 during 1971 to 1981 and thereafter from 9.8 to 7.1 during 1991 to 2011. The decline has been steeper in rural areas as compared to urban areas. The infant mortality rate, which plays an important role in health planning, has shown a considerable decline from 129 per 1000 live births in 1971 to 110 in 1981 and from 80 in 1991 to 44 in 2011. The child mortality rate has depicted a perceptible decline from 51.9 in 1971 to 41.2 in 1981 and from 26.5 in 1991 to 12.2 in 2011. In 2011, about 34 percent of the deaths were institutional and 66 percent received medical attention other than institution.

4.3 Apart from the all India scenario, this chapter presents data on mortality indicators for bigger States by sex, residence and broad age groups. Besides Under-five mortality rate, it includes data on infant mortality and its component viz., neo-natal mortality and post neo-natal, peri-natal mortality and their changes over the last decade. It also includes data on medical attention before death. Chart 18 depicts crude death rate by residence, India and bigger States, 2011.

4.4 Apart from the mortality indicators at State and National levels, this report also includes estimates of death rates at sub-State, viz. NSS Natural Division Level in rural areas. The Table 11 in the annexure to this report contains data on death rate and infant mortality rate besides birth rate for 56 Natural Divisions of 16 bigger States. The Table 11 also contains data on death rate and infant mortality rate besides birth rate for four metro cities viz. Chennai, Delhi, Kolkata and Mumbai.

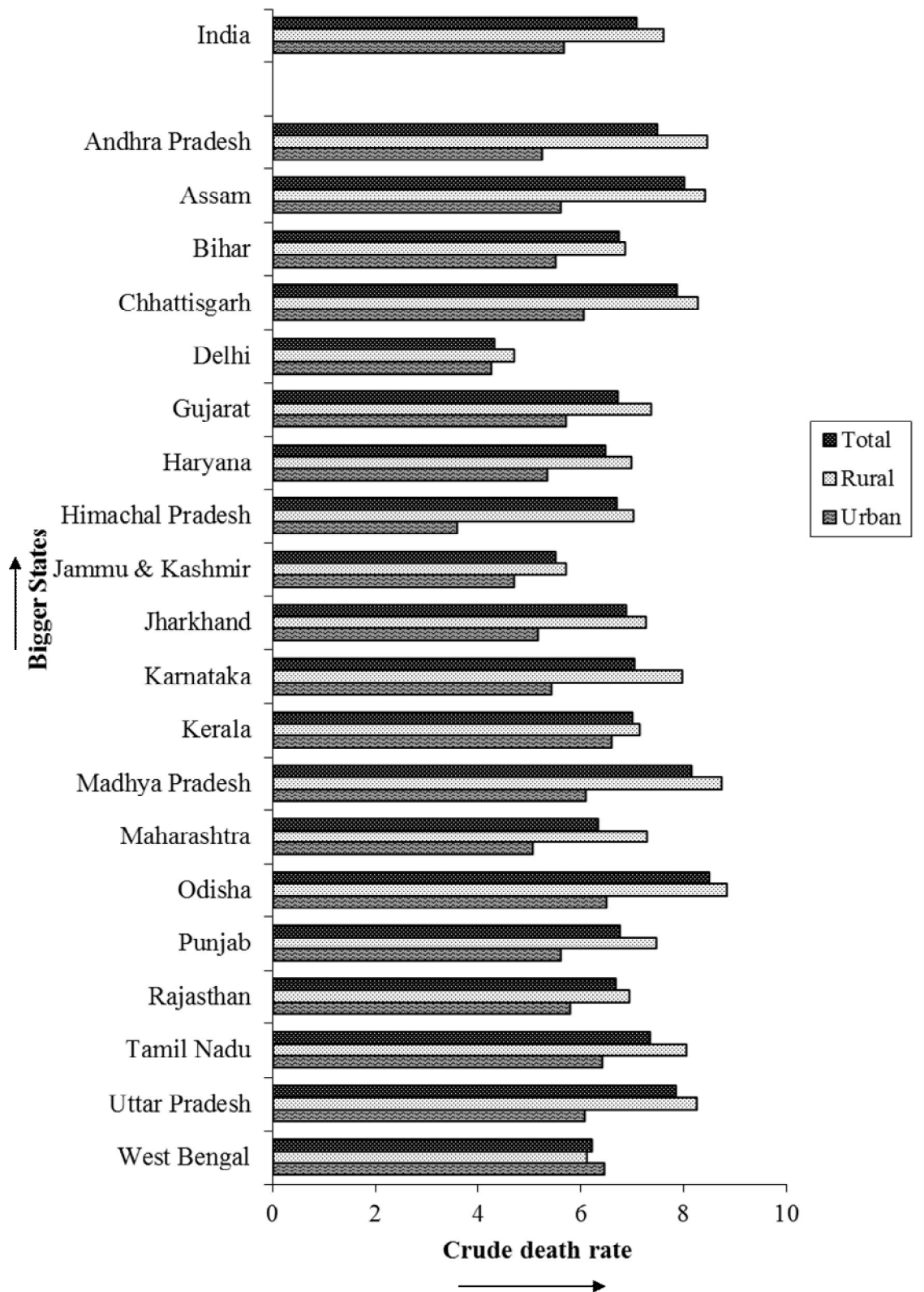
4.5 Crude Death Rate (Statement 41) at the National level for 2011 is 7.1 per thousand population and it varies from 7.6 in rural areas to 5.7 in urban areas. Among the bigger States, it varies from 4.3 in Delhi to 8.5 in Odisha. The States having death rate higher than or equal to the National level are Andhra Pradesh (7.5), Assam (8.0), Chhattisgarh (7.9), Karnataka (7.1), Madhya Pradesh (8.2), Odisha (8.5), Uttar Pradesh (7.9), and Tamil Nadu (7.4). Distribution of bigger States by level of CDR in rural and urban areas is shown in Chart 19. The estimated age-specific death rate by sex and residence for India and bigger States has been detailed in Table 8.

Statement 41

CDR (Crude death rates) by residence, India and bigger States, 2011

India and bigger States	Total	Rural	Urban
India	7.1	7.6	5.7
Andhra Pradesh	7.5	8.5	5.2
Assam	8.0	8.4	5.6
Bihar	6.7	6.9	5.5
Chhattisgarh	7.9	8.3	6.1
Delhi	4.3	4.7	4.3
Gujarat	6.7	7.4	5.7
Haryana	6.5	7.0	5.3
Himachal Pradesh	6.7	7.0	3.6
Jammu & Kashmir	5.5	5.7	4.7
Jharkhand	6.9	7.3	5.2
Karnataka	7.1	8.0	5.4
Kerala	7.0	7.1	6.6
Madhya Pradesh	8.2	8.7	6.1
Maharashtra	6.3	7.3	5.1
Odisha	8.5	8.8	6.5
Punjab	6.8	7.5	5.6
Rajasthan	6.7	7.0	5.8
Tamil Nadu	7.4	8.1	6.4
Uttar Pradesh	7.9	8.3	6.1
West Bengal	6.2	6.1	6.5

Chart 18: Crude death rate by residence, India and bigger States, 2011



4.6 Statement 42 given below shows the percentage change in the level of Crude Death Rate between the period 1999-01 and 2009-11 for India and bigger States. During this period CDR in India has declined by 15.3 per cent. Among the bigger States, decline in CDR varies from 22.3 per cent in Uttar Pradesh to 4.2 per cent in Himachal Pradesh. In Kerala, average CDR have shown marginal increase during 1999-01 to 2009-11 period, which could be possibly due to the changes in age structure of the population.

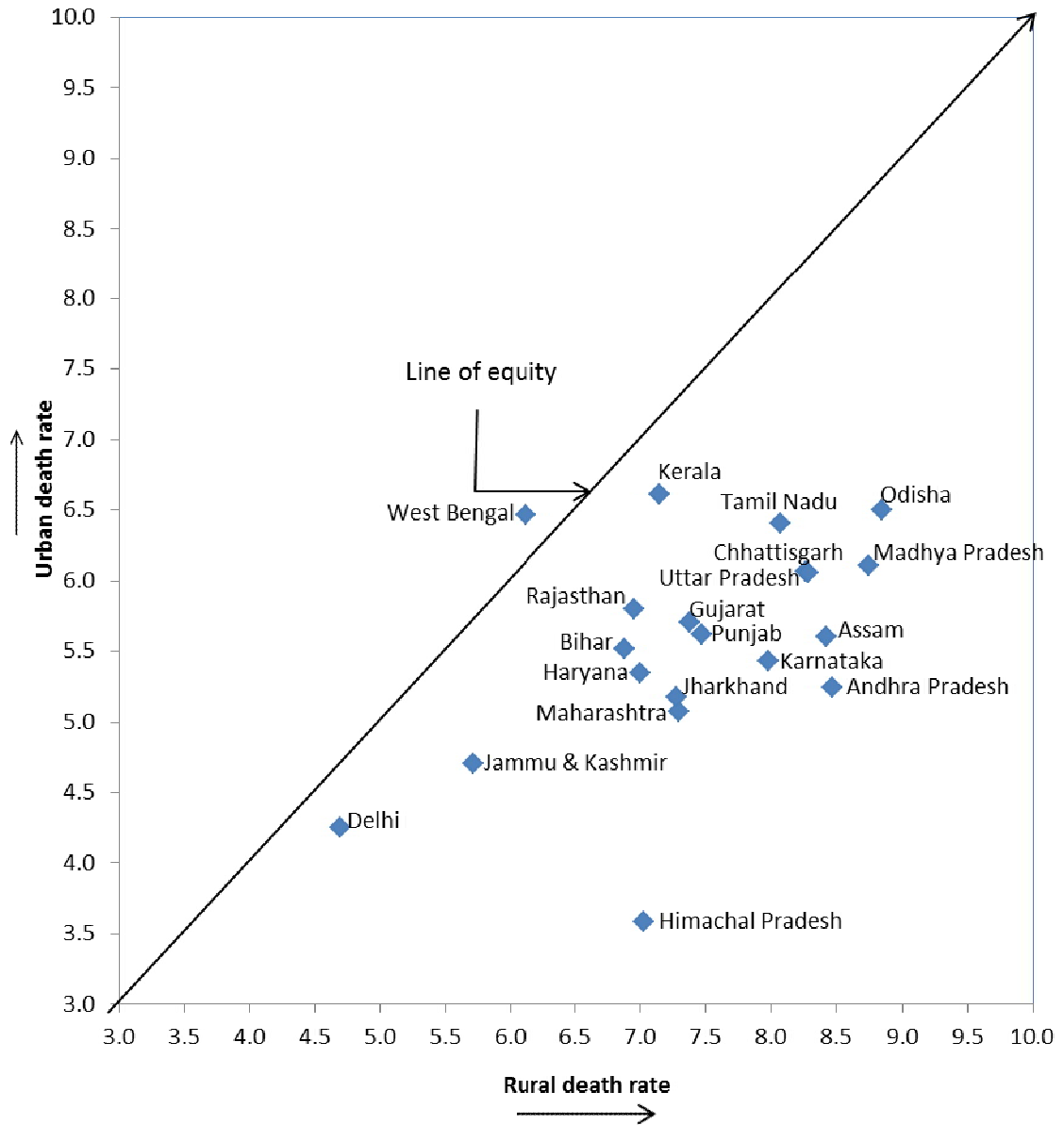
Statement 42

Percent change in average Crude Death Rate between 1999-01 and 2009-2011, by residence, India and bigger States

India and bigger States	Total			Rural			Urban		
	1999-01	2009-11	% Change	1999-01	2009-11	% Change	1999-01	2009-11	% Change
India	8.5	7.2	-15.3	9.3	7.7	-17.2	6.3	5.8	-7.9
Andhra Pradesh	8.2	7.6	-7.3	9.0	8.5	-5.6	5.7	5.4	-5.3
Assam	9.6	8.2	-14.6	10.0	8.6	-14.0	6.3	5.8	-7.9
Bihar*	8.6	6.9	-19.8	8.9	7.1	-20.2	6.8	5.6	-17.6
Gujarat	7.7	6.8	-11.7	8.7	7.5	-13.8	5.8	5.6	-3.4
Haryana	7.6	6.6	-13.2	7.9	7.0	-11.4	6.7	5.5	-17.9
Himachal Pradesh	7.2	6.9	-4.2	7.3	7.2	-1.4	5.3	4.2	-20.8
Karnataka	7.7	7.1	-7.8	8.5	8.1	-4.7	5.9	5.4	-8.5
Kerala	6.5	6.9	6.2	6.6	7.0	6.1	6.2	6.6	6.5
Madhya Pradesh*	10.3	8.3	-19.4	11.0	8.9	-19.1	7.4	6.1	-17.6
Maharashtra	7.5	6.5	-13.3	8.6	7.5	-12.8	5.8	5.3	-8.6
Odisha	10.5	8.6	-18.1	11.0	9.0	-18.2	7.0	6.6	-5.7
Punjab	7.3	6.9	-5.5	7.7	7.7	0.0	6.1	5.7	-6.6
Rajasthan	8.3	6.7	-19.3	8.7	6.9	-20.7	6.4	6.0	-6.3
Tamil Nadu	7.9	7.5	-5.1	8.6	8.3	-3.5	6.4	6.6	3.1
Uttar Pradesh*	10.3	8.0	-22.3	10.8	8.4	-22.2	8.0	6.3	-21.3
West Bengal	7.0	6.1	-12.9	7.2	6.1	-15.3	6.6	6.4	-3.0

* Bihar includes Jharkhand, Madhya Pradesh includes Chhattisgarh and Uttar Pradesh includes Uttarakhand.

**Chart 19: Distribution of bigger states
by values of death rate for rural and urban areas, 2011**



4.7 Statement 43 given below presents the estimated Crude Death Rate for India by residence separately for males and females. It is observed that female death rate is lower than male death rate both in rural and urban areas.

Statement 43

Crude death rate by sex and residence, India, 2011

Residence	Total	Males	Females
Total	7.1	7.8	6.3
Rural	7.6	8.4	6.9
Urban	5.7	6.3	5.0

4.8 Crude death rates for males and females in the bigger States are shown below in Statement 44. It is observed that male death rate exceeds female death rate in all bigger States.

Statement 44

Crude death rate by sex, India and bigger States, 2011

India and bigger States	Total	Males	Females
India	7.1	7.8	6.3
Andhra Pradesh	7.5	8.7	6.3
Assam	8.0	8.9	7.1
Bihar	6.7	7.0	6.5
Chhattisgarh	7.9	8.6	7.2
Delhi	4.3	4.7	3.9
Gujarat	6.7	7.4	6.0
Haryana	6.5	7.2	5.6
Himachal Pradesh	6.7	7.7	5.7
Jammu & Kashmir	5.5	6.0	5.0
Jharkhand	6.9	7.0	6.8
Karnataka	7.1	8.2	5.9
Kerala	7.0	8.3	5.8
Madhya Pradesh	8.2	8.8	7.5
Maharashtra	6.3	7.1	5.5
Odisha	8.5	8.8	8.2
Punjab	6.8	7.6	5.8
Rajasthan	6.7	7.3	6.0
Tamil Nadu	7.4	8.3	6.4
Uttar Pradesh	7.9	8.6	7.0
West Bengal	6.2	6.7	5.6

4.9 Statement 45 given below provides the per cent distribution of deaths by broad age groups for India and bigger States. At the National level, 13.6 per cent of the deaths are of infant deaths (<1 year) whereas 50.9 percent of the deaths pertain to persons aged 60 years and above. Toddlers (1-4 years) accounts for 3.1 per cent of the deaths. The percentage of infant deaths to total deaths varies from a low 2.6 per cent in Kerala to a high of 20.3 per cent in Rajasthan. Percentage contribution of deaths from person's 60 years and above varies from 43.6 in Assam to 73.4 in Kerala. The percentage distribution of deaths to total deaths, by residence, sex and age-group at the National level and for the bigger States are given in Table 10.

Statement 45

Per cent distribution of deaths by broad age groups, India and bigger States, 2011

India and bigger States	Broad age-groups					
	<1	1-4	0-4	5-14	15-59	60+
India	13.6	3.1	16.7	2.3	30.0	50.9
Andhra Pradesh	10.0	0.5	10.5	1.5	38.1	49.9
Assam	15.8	6.5	22.2	2.2	32.0	43.6
Bihar	18.1	6.0	24.1	4.6	23.9	47.4
Chhattisgarh	15.2	2.5	17.7	2.2	30.0	50.1
Delhi	11.2	1.7	13.0	2.2	40.7	44.2
Gujarat	12.9	3.1	16.0	2.1	32.7	49.3
Haryana	15.0	2.0	16.9	1.5	33.4	48.2
Himachal Pradesh	8.9	2.1	11.0	1.1	24.5	63.4
Jammu & Kashmir	13.1	1.2	14.4	1.8	26.9	56.9
Jharkhand	14.2	4.7	18.9	3.5	29.1	48.5
Karnataka	9.2	1.4	10.5	1.3	35.4	52.8
Kerala	2.6	0.2	2.8	0.4	23.4	73.4
Madhya Pradesh	19.5	4.8	24.4	2.9	26.2	46.5
Maharashtra	6.5	0.9	7.4	1.1	29.5	62.0
Odisha	13.3	3.6	16.9	2.7	29.2	51.1
Punjab	7.3	1.8	9.0	1.5	31.7	57.8
Rajasthan	20.3	4.2	24.5	3.0	26.6	45.9
Tamil Nadu	4.7	0.6	5.3	1.1	33.2	60.5
Uttar Pradesh	20.1	4.9	25.0	2.9	28.5	43.7
West Bengal	8.4	1.7	10.1	2.0	31.1	56.8

Note: Total may not add upto 100 due to rounding.

4.10 The percentage share of infant deaths to total deaths by residence is shown below in Statement 46 for India and bigger States. At the National level, such share in the year 2011 is 13.6 per cent and varies from 14.8 per cent in rural areas to 9.0 per cent in urban areas. In rural areas, Kerala registered 2.8, the lowest per cent share of infant deaths as compared to 22.4 in Rajasthan. In urban areas, the variation is from 2.1 per cent in Kerala to 16.0 per cent in Uttar Pradesh.

Statement 46

Percentage of Infant deaths to total deaths by residence India and bigger States, 2011

India and bigger States	Total	Rural	Urban
India	13.6	14.8	9.0
Andhra Pradesh	10.0	10.0	9.9
Assam	15.8	16.5	9.3
Bihar	18.1	18.5	13.5
Chhattisgarh	15.2	15.6	12.5
Delhi	11.2	14.9	10.6
Gujarat	12.9	14.8	8.9
Haryana	15.0	15.8	12.6
Himachal Pradesh	8.9	8.9	10.1
Jammu & Kashmir	13.1	14.3	7.9
Jharkhand	14.2	14.9	10.4
Karnataka	9.2	9.6	8.2
Kerala	2.6	2.8	2.1
Madhya Pradesh	19.5	20.8	12.9
Maharashtra	6.5	7.0	5.4
Odisha	13.3	13.9	9.1
Punjab	7.3	7.5	6.8
Rajasthan	20.3	22.4	12.3
Tamil Nadu	4.7	4.8	4.6
Uttar Pradesh	20.1	20.8	16.0
West Bengal	8.4	9.9	4.6

4.11 Statement 47 given below presents Infant Mortality Rate (IMR) by sex and residence for the year 2011 for India and bigger States. Infant Mortality Rate is defined as the infant deaths (less than one year) per thousand live births. At the National level, IMR is reported to be 44 and varies from 48 in rural areas to 29 in urban areas. Among the bigger States, it varies from 12 in Kerala to 59 in Madhya Pradesh. Female infants experienced a higher mortality than male infants in all States. Chart 20 provides the values of IMR by residence for India and bigger States. Distribution of bigger States by level of IMR in rural and urban areas is shown in Chart 21. The estimates on child and infant mortality indicators by residence have been detailed in Table 9.

Statement 47

Infant mortality rates by sex and residence, India and bigger States, 2011

India and bigger States	Total			Rural			Urban		
	Total	Males	Females	Total	Males	Females	Total	Males	Females
India	44	43	46	48	47	50	29	27	31
Andhra Pradesh	43	40	46	47	45	50	31	28	35
Assam	55	55	56	58	57	59	34	33	34
Bihar	44	44	45	45	44	45	34	34	35
Chhattisgarh	48	47	50	49	47	51	41	41	41
Delhi	28	25	31	36	21	53	26	26	27
Gujarat	41	39	42	48	47	49	27	23	30
Haryana	44	41	48	48	45	52	35	31	39
Himachal Pradesh	38	36	39	38	37	40	28	20	35
Jammu & Kashmir	41	40	41	43	42	44	28	28	29
Jharkhand	39	36	43	41	38	45	28	25	32
Karnataka	35	34	35	39	38	39	26	24	27
Kerala	12	11	13	13	12	14	9	8	12
Madhya Pradesh	59	57	62	63	61	66	39	38	41
Maharashtra	25	24	25	30	29	30	17	16	18
Odisha	57	55	58	58	57	60	40	40	41
Punjab	30	28	33	33	31	35	25	22	28
Rajasthan	52	50	53	57	56	58	32	29	35
Tamil Nadu	22	21	23	24	23	25	19	17	20
Uttar Pradesh	57	55	59	60	58	62	41	39	43
West Bengal	32	30	34	33	31	36	26	26	27

Chart 20: Infant mortality rate by residence, India and bigger States, 2011

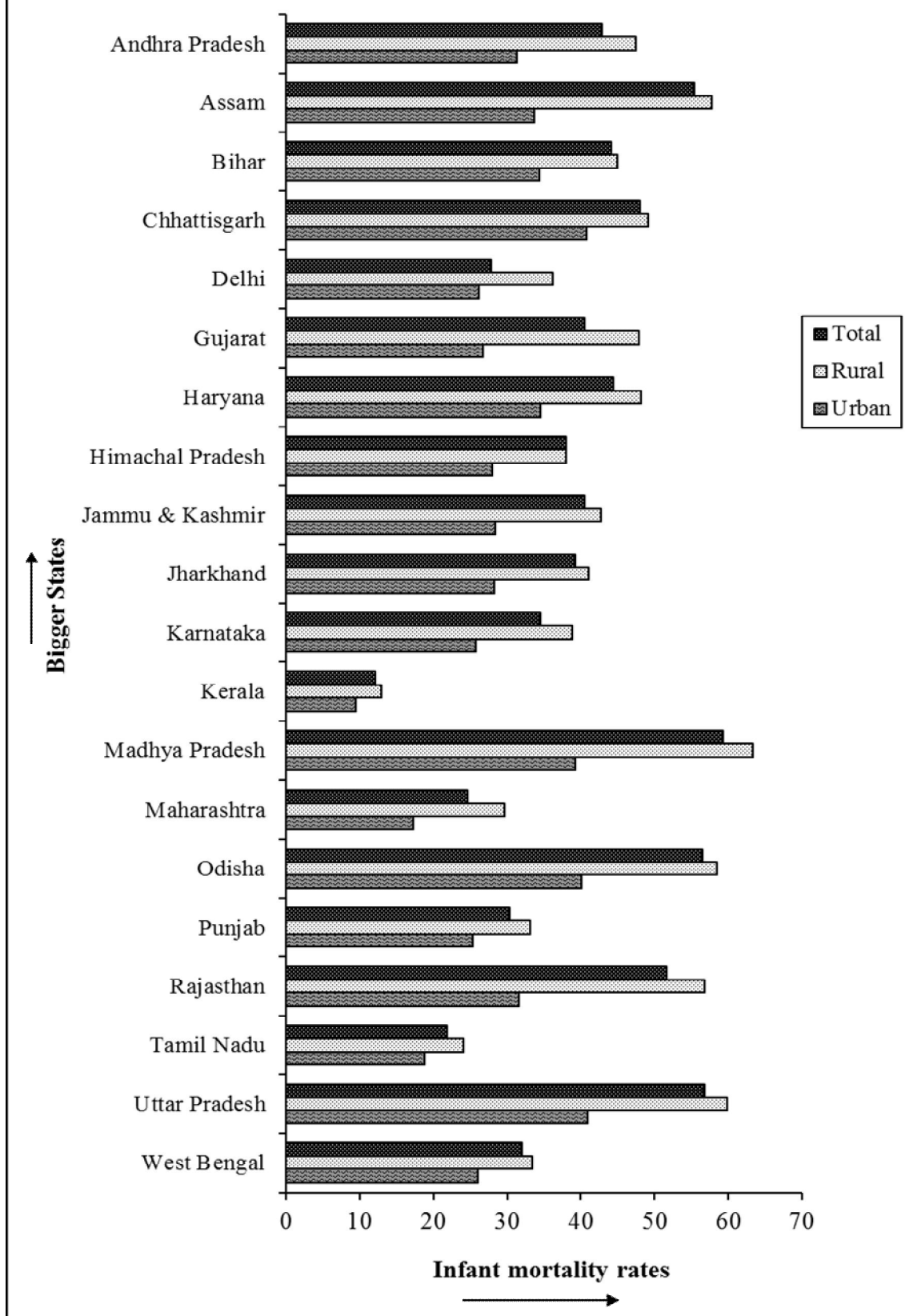
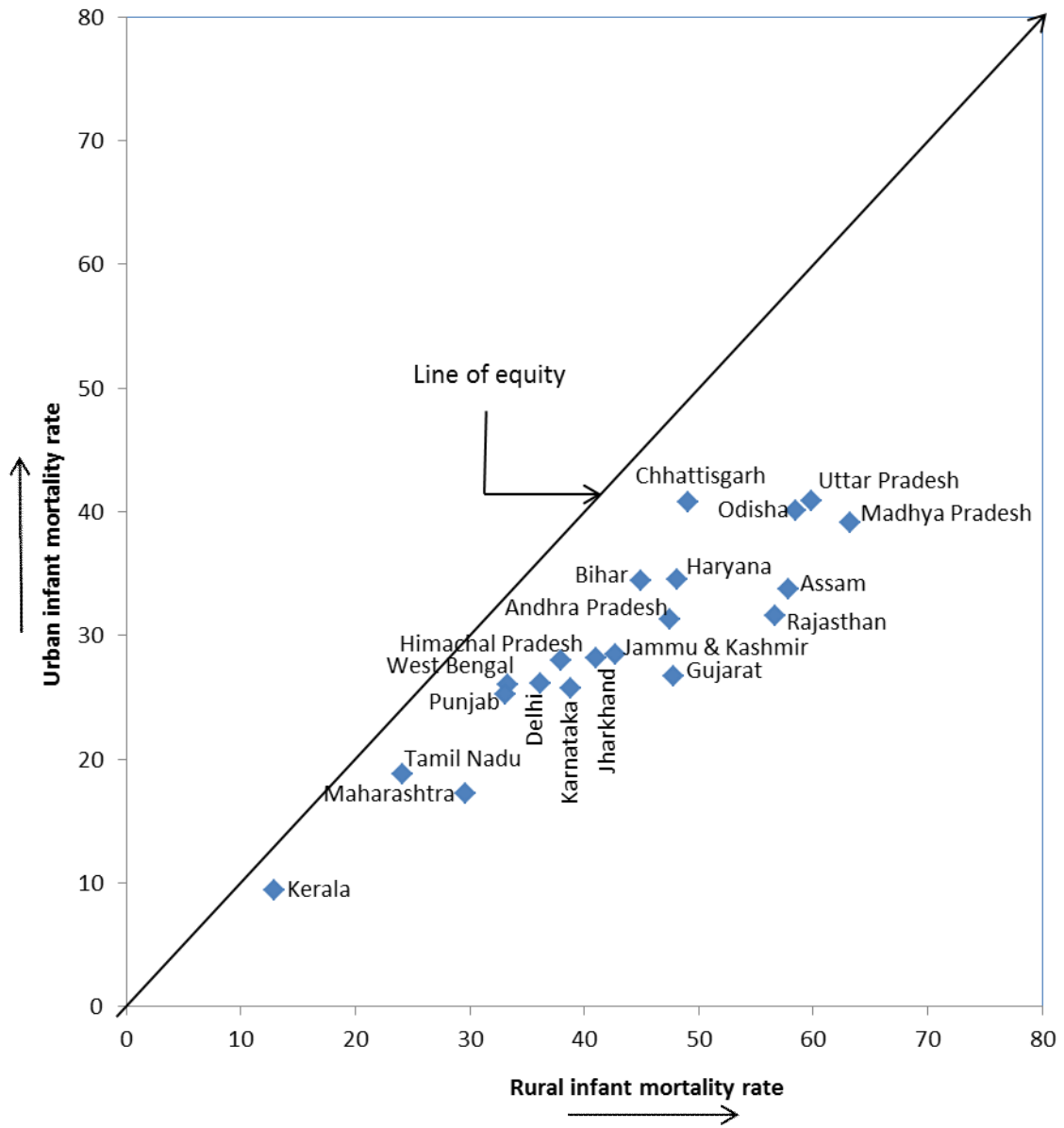


Chart 21: Distribution of bigger states by Infant mortality rate for rural and urban areas, 2011



4.12 The percentage change in the average level of infant mortality between 1999-01 and 2009-11 is given below in Statement 48. During this period, IMR, at the National level, declined by 30.9 per cent. Among the bigger States, the decline varies from 51.3 per cent in Tamil Nadu to 5.4 per cent in Kerala. In the rural areas, decline in IMR varies from 53.3 per cent in Tamil Nadu to 2.3 per cent in Kerala. The decline in IMR varies from 43.6 per cent in Rajasthan to 12.5 per cent in Andhra Pradesh in urban areas. IMR in urban areas of Assam & Karnataka have shown an increase, which may be attributed to sampling fluctuation.

Statement 48

Per cent change in average Infant mortality rates between 1999-01 and 2009-2011 by residence, India and bigger States

India and Bigger States	Total			Rural			Urban		
	1999-01	2009-11	% Change	1999-01	2009-11	% Change	1999-01	2009-11	% Change
India	68.0	47.0	-30.9	73.7	51.3	-30.4	43.3	31.3	-27.7
Andhra Pradesh	65.7	46.0	-30.0	74.3	50.7	-31.8	37.7	33.0	-12.5
Assam	75.0	58.0	-22.7	78.0	60.7	-22.2	35.0	35.7	2.0
Bihar*	62.3	47.7	-23.4	63.3	48.7	-23.1	53.3	36.7	-31.1
Gujarat	61.7	44.3	-28.2	69.0	51.3	-25.7	44.0	30.0	-31.8
Haryana	67.0	47.7	-28.8	69.0	51.0	-26.1	56.7	38.0	-33.0
Himachal Pradesh	58.7	41.0	-30.2	60.3	41.7	-30.8	35.7	28.3	-20.7
Karnataka	57.7	38.0	-34.1	68.7	43.0	-37.4	24.7	28.3	14.6
Kerala	13.0	12.3	-5.4	13.3	13.0	-2.3	13.0	10.0	-23.1
Madhya Pradesh*	87.7	62.0	-29.3	93.7	66.3	-29.2	54.0	42.3	-21.7
Maharashtra	47.0	28.0	-40.4	56.3	33.7	-40.1	30.7	19.7	-35.8
Odisha	94.3	61.0	-35.3	97.7	63.0	-35.5	64.0	43.0	-32.8
Punjab	52.3	34.0	-35.0	56.0	37.3	-33.4	38.0	28.0	-26.3
Rajasthan	80.0	55.3	-30.9	83.7	61.0	-27.1	58.0	32.7	-43.6
Tamil Nadu	50.7	24.7	-51.3	56.3	26.3	-53.3	37.3	22.3	-40.2
Uttar Pradesh*	83.3	60.0	-28.0	87.0	63.0	-27.6	64.3	43.7	-32.0
West Bengal	51.3	32.0	-37.6	54.3	33.0	-39.2	38.0	26.0	-31.6

* Bihar includes Jharkhand, Madhya Pradesh includes Chhattisgarh and Uttar Pradesh includes Uttarakhand.

4.13 Statement 49 given below presents the neo-natal (less than 29 days) mortality rate and the percentage of neo-natal deaths to infant deaths for the year 2011 both at the National and State levels. At the National level, the neo-natal mortality rate is 31 and ranges from 17 in urban areas to 34 in rural areas. Among the bigger States, neo-natal mortality ranges from 41 in Madhya Pradesh to 7 in Kerala. The percentage of neo-natal deaths to total infant deaths is 69.1 per cent at the National level and varies from 58.2 per cent in urban areas to 70.9 per cent in rural areas. Among the bigger States, Punjab (79.9) registered the highest percentage of neo-natal deaths to infant deaths and the lowest in Assam (53.9).

Statement 49

Neo-natal mortality rates and percentage share of Neo-natal deaths to Infant deaths by residence, India and bigger States, 2011

India and Bigger States	Neo-natal mortality rate			Percentage of Neo-natal death to Infant deaths		
	Total	Rural	Urban	Total	Rural	Urban
India	31	34	17	69.1	70.9	58.2
Andhra Pradesh	28	34	13	65.0	71.4	41.0
Assam	30	32	10	53.9	55.5	30.3
Bihar	29	31	12	66.2	68.2	35.4
Chhattisgarh	34	34	31	70.1	69.4	75.7
Delhi	18	25	17	65.7	69.2	64.8
Gujarat	30	35	19	72.9	73.5	70.9
Haryana	28	32	18	64.0	67.0	52.9
Himachal Pradesh	28	29	15	74.7	75.8	53.7
Jammu & Kashmir	32	34	19	77.7	79.0	66.6
Jharkhand	29	31	13	72.8	75.9	46.5
Karnataka	24	31	12	70.9	79.1	45.9
Kerala	7	8	3	55.1	59.8	33.9
Madhya Pradesh	41	44	24	68.6	69.4	62.1
Maharashtra	18	22	13	74.0	73.4	75.5
Odisha	40	42	27	71.6	71.9	67.5
Punjab	24	26	21	79.9	77.9	84.7
Rajasthan	37	41	19	71.4	73.1	59.5
Tamil Nadu	15	18	12	70.4	73.8	64.6
Uttar Pradesh	40	43	23	70.2	72.2	55.1
West Bengal	22	23	17	69.3	70.3	64.1

4.14 Early neo-natal mortality rate i.e. number of infant deaths less than seven days of life per thousand live births forms an important component of infant mortality rate and more specifically of the neo-natal mortality rate. Statement 50 given below presents the early neo-natal mortality rate along with the percentage of early neo-natal deaths to the total infant deaths. At the National level, the early neo-natal mortality rate for the year 2011 has been estimated at 24 and ranges from 27 in rural areas to 13 in urban areas. Among the bigger States, Kerala (5) and Madhya Pradesh (32) are the two extremes. The percentage of early neo-natal deaths to the total infant deaths during the year 2011, at the National level, has been 54.1 and it varies from 55.6 in rural area to 45.0 in urban areas. In most of the States, rural proportion is relatively higher than the urban proportion except Delhi, Odisha, Gujarat and Chhattisgarh. Among the bigger States the percentage for total, varies from 37.3 in Kerala to 64.5 in Jammu & Kashmir.

Statement 50

Early neo-natal mortality rates and percentage share of Early neo-natal deaths to Infant deaths by residence, India and bigger States, 2011

India and Bigger States	Early neo-natal mortality rate			Percentage of Early neo-natal deaths to Infant deaths		
	Total	Rural	Urban	Total	Rural	Urban
India	24	27	13	54.1	55.6	45.0
Andhra Pradesh	24	30	10	56.5	62.7	32.9
Assam	25	27	10	45.4	46.5	28.7
Bihar	25	26	8	56.3	58.5	23.6
Chhattisgarh	25	25	26	51.5	50.0	62.7
Delhi	12	14	12	43.9	38.5	45.3
Gujarat	22	25	15	53.9	53.3	55.8
Haryana	24	27	14	53.1	56.7	39.7
Himachal Pradesh	23	23	14	60.8	61.3	49.7
Jammu & Kashmir	26	29	12	64.5	67.2	42.3
Jharkhand	25	27	12	63.4	65.7	43.1
Karnataka	20	24	11	57.9	62.7	43.2
Kerala	5	6	1	37.3	43.1	11.3
Madhya Pradesh	32	34	19	53.4	54.0	48.2
Maharashtra	15	18	10	60.1	60.6	59.1
Odisha	30	31	22	53.7	53.6	55.0
Punjab	18	20	14	58.9	60.9	54.0
Rajasthan	29	32	14	55.3	57.0	43.3
Tamil Nadu	11	13	8	51.7	55.8	44.6
Uttar Pradesh	30	32	17	52.2	53.5	42.7
West Bengal	18	19	14	56.7	57.2	54.1

4.15 Statement 51 given below presents the peri-natal mortality rate and still birth rate for the year 2011, by residence, for India and bigger States. Peri-natal mortality rate (PMR) is defined as the number of still births and infant deaths of less than 7 days per one thousand live births (LB) and still births (SB) taken together during the year. The still birth rate (SBR) is estimated as the ratio of the number of still births per one thousand live births (LB) and still births (SB) during the year. At the National level, peri-natal mortality rate has been estimated to be 30 and ranges from 33 in rural areas to 19 in urban areas. Among the bigger States, Kerala (10) and Madhya Pradesh alongwith Odisha (38) are the two extremes. The estimate of still birth rate for the year 2011, at the National level is 6. Among the bigger States, the highest level of still birth rate has been estimated for Karnataka (14) and the lowest for Jharkhand (1). Still births are extremely difficult to capture and there is a room for considerable improvement in netting the events.

Statement 51

Peri-natal mortality rates and Still birth rates by residence, India and bigger States, 2011

India and Bigger States	Peri-natal mortality rate			Still birth rate		
	Total	Rural	Urban	Total	Rural	Urban
India	30	33	19	6	6	6
Andhra Pradesh	30	36	14	6	7	3
Assam	34	36	18	9	9	9
Bihar	28	29	14	3	3	6
Chhattisgarh	36	36	36	12	12	10
Delhi	19	22	19	7	8	7
Gujarat	29	32	24	7	6	9
Haryana	32	37	20	9	10	6
Himachal Pradesh	33	33	32	10	10	19
Jammu & Kashmir	34	37	17	8	8	5
Jharkhand	26	28	13	1	1	1
Karnataka	33	40	21	14	16	10
Kerala	10	12	6	6	6	5
Madhya Pradesh	38	40	27	7	6	8
Maharashtra	21	23	18	6	5	8
Odisha	38	39	27	8	8	5
Punjab	25	26	22	7	6	9
Rajasthan	34	38	19	5	6	5
Tamil Nadu	20	25	14	9	12	5
Uttar Pradesh	35	37	21	5	6	4
West Bengal	24	25	19	6	6	5

4.16 Percent share of deaths to children below age five to total deaths by residence for India and bigger States is shown below in Statement 52. At the National level, such percentage is 16.7 and it varies from 18.4 in rural areas to 10.7 in urban areas. Among the bigger States, the variation is from 2.8 in Kerala to 25.0 in Uttar Pradesh. In rural areas, it varies from 3.0 in Kerala to 27.2 in Rajasthan, and in urban areas, it is 2.3 in Kerala to 19.9 in Uttar Pradesh.

Statement 52

**Percentage of deaths in the age group 0-4 years to total deaths
by residence, India and bigger States, 2011**

India and bigger States	Total	Rural	Urban
India	16.7	18.4	10.7
Andhra Pradesh	10.5	10.4	10.8
Assam	22.2	23.5	10.8
Bihar	24.1	24.8	16.2
Chhattisgarh	17.7	18.3	14.0
Delhi	13.0	17.1	12.2
Gujarat	16.0	18.2	11.3
Haryana	16.9	17.5	15.5
Himachal Pradesh	11.0	10.9	13.1
Jammu & Kashmir	14.4	15.7	8.4
Jharkhand	18.9	20.1	11.7
Karnataka	10.5	10.6	10.4
Kerala	2.8	3.0	2.3
Madhya Pradesh	24.4	25.9	16.4
Maharashtra	7.4	8.0	6.1
Odisha	16.9	17.8	9.7
Punjab	9.0	9.7	7.6
Rajasthan	24.5	27.2	14.2
Tamil Nadu	5.3	5.5	5.0
Uttar Pradesh	25.0	25.8	19.9
West Bengal	10.1	12.1	5.2

4.17 The death rates for children below age 5 by residence are given below in Statement 53 separately for males and females. At the National level, child mortality rate is estimated at 12.2 and it varies from 13.6 in rural areas to 7.4 in urban areas. Among the bigger States, this varies from 2.6 in Kerala to 18.8 in Madhya Pradesh. The female children have higher death rates than male children in all States.

Statement 53

Estimated death rates for children aged 0-4 years by sex and residence India and bigger States, 2011

India and bigger States	Total			Rural			Urban		
	Total	Male	Female	Total	Male	Female	Total	Male	Female
India	12.2	11.5	13.0	13.6	12.7	14.5	7.4	7.1	7.8
Andhra Pradesh	9.7	9.1	10.3	10.7	10.2	11.2	7.1	6.3	8.1
Assam	17.0	16.5	17.5	18.1	17.5	18.7	7.9	8.0	7.9
Bihar	12.4	12.0	12.8	12.7	12.2	13.2	8.7	9.5	7.9
Chhattisgarh	13.1	11.8	14.4	13.6	12.3	15.0	9.9	9.1	10.7
Delhi	6.3	5.7	6.9	7.6	5.3	10.3	6.0	5.8	6.2
Gujarat	12.1	11.5	12.8	14.2	14.3	14.2	8.0	6.3	10.1
Haryana	11.3	10.3	12.5	12.2	11.3	13.3	9.1	7.9	10.5
Himachal Pradesh	9.3	8.9	9.7	9.4	9.2	9.5	8.1	4.8	11.5
Jammu & Kashmir	10.3	10.1	10.6	10.9	10.8	11.1	6.9	6.1	7.8
Jharkhand	12.2	10.8	13.8	13.1	11.5	14.8	7.2	6.7	7.7
Karnataka	8.6	8.2	9.1	9.6	9.3	9.9	6.9	6.2	7.7
Kerala	2.6	2.4	2.8	2.8	2.6	3.1	2.0	1.9	2.1
Madhya Pradesh	18.8	17.9	19.7	20.6	19.4	21.8	11.0	11.6	10.4
Maharashtra	5.1	5.0	5.2	6.0	6.0	6.0	3.7	3.5	3.8
Odisha	15.8	15.4	16.2	16.7	16.3	17.1	8.5	8.4	8.6
Punjab	7.4	6.3	8.5	8.8	7.3	10.6	5.0	4.6	5.4
Rajasthan	15.0	13.5	16.8	16.5	14.8	18.4	9.2	8.0	10.5
Tamil Nadu	5.0	4.7	5.4	5.6	5.2	6.1	4.2	4.0	4.5
Uttar Pradesh	17.9	16.4	19.5	18.6	16.9	20.6	13.8	13.7	13.8
West Bengal	7.8	7.5	8.1	8.4	8.0	8.7	5.5	5.4	5.6

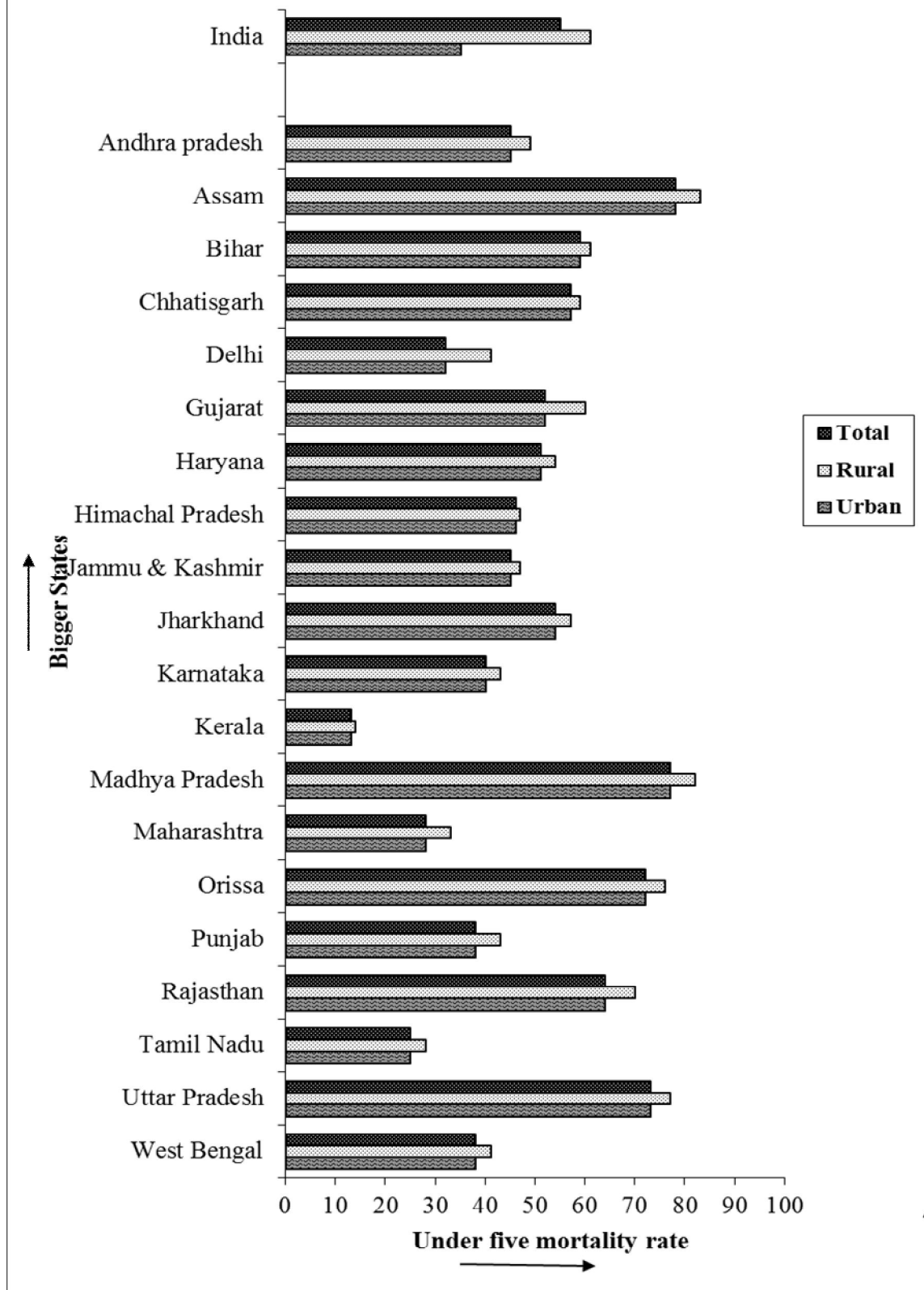
4.18 The Under-five mortality rates by residence are given below in Statement 54 separately for males and females. At the National level, under-five mortality rate is estimated at 55 and it varies from 61 in rural areas to 35 in urban areas. Among the bigger States, it varies from 13 in Kerala to 78 in Assam. All the bigger States have higher Under-five mortality rates of female than that of male.

Statement 54

**Under-five Mortality Rates (U5MR) by sex and residence,
India and bigger States, 2011**

India & bigger States	Total			Rural			Urban		
	Total	Male	Female	Total	Male	Female	Total	Male	Female
India	55	51	59	61	56	66	35	32	37
Andhra Pradesh	45	42	49	49	46	53	34	30	38
Assam	78	75	82	83	78	88	39	39	38
Bihar	59	56	62	61	57	64	41	42	41
Chhattisgarh	57	49	66	59	50	68	46	43	50
Delhi	32	29	35	41	29	55	30	29	32
Gujarat	52	49	54	60	60	60	35	27	42
Haryana	51	45	58	54	48	60	43	36	51
Himachal Pradesh	46	43	49	47	44	50	36	32	41
Jammu & Kashmir	45	45	45	47	48	47	30	28	33
Jharkhand	54	45	63	57	48	67	32	29	36
Karnataka	40	38	42	43	42	44	33	30	36
Kerala	13	12	14	14	13	15	10	9	12
Madhya Pradesh	77	72	82	82	77	89	50	48	48
Maharashtra	28	27	28	33	33	34	19	19	20
Odisha	72	70	74	76	74	77	43	41	45
Punjab	38	33	43	43	37	50	28	26	31
Rajasthan	64	57	72	70	63	79	38	32	44
Tamil Nadu	25	23	27	28	26	30	21	19	22
Uttar Pradesh	73	67	81	77	69	85	54	52	55
West Bengal	38	37	40	41	39	43	29	28	29

Chart 22: Under five mortality rate, India and bigger States, 2011



4.19 Death rates for children in the age group 5-14 are given below in Statement 55. As revealed by the data, at the National level, the death rate in this age group is estimated to be 0.8. Rural-urban differentials exist with the urban areas registering significantly lower death rates as compared to that in rural areas in majority of the States. Among the bigger States, the lowest death rate in this age group is registered in Kerala (0.2) and the highest in Bihar and Odisha (1.3).

Statement 55

Death rates for children age 5-14 years by sex and residence India and bigger States, 2011

India and bigger States	Total			Rural			Urban		
	Total	Male	Female	Total	Male	Female	Total	Male	Female
India	0.8	0.8	0.8	0.9	1.0	0.9	0.5	0.4	0.5
Andhra Pradesh	0.7	0.6	0.8	0.8	0.7	0.9	0.4	0.3	0.6
Assam	0.8	1.0	0.7	0.9	1.1	0.7	0.4	0.3	0.5
Bihar	1.3	1.3	1.2	1.3	1.4	1.2	1.2	0.9	1.6
Chhattisgarh	0.8	0.5	1.2	0.9	0.5	1.3	0.6	0.7	0.6
Delhi	0.5	0.2	0.8	0.3	0.0	0.6	0.5	0.3	0.8
Gujarat	0.7	0.8	0.7	0.9	1.0	0.8	0.4	0.5	0.3
Haryana	0.5	0.5	0.5	0.4	0.4	0.4	0.7	0.7	0.6
Himachal Pradesh	0.4	0.6	0.2	0.4	0.6	0.2	0.2	0.0	0.5
Jammu & Kashmir	0.6	0.9	0.2	0.7	1.0	0.3	0.0	0.0	0.0
Jharkhand	1.1	1.3	0.8	1.2	1.4	0.8	0.5	0.5	0.6
Karnataka	0.5	0.7	0.3	0.7	1.0	0.5	0.1	0.1	0.2
Kerala	0.2	0.2	0.1	0.2	0.3	0.2	0.0	0.0	0.0
Madhya Pradesh	1.1	1.3	0.8	1.1	1.4	0.9	0.9	1.2	0.6
Maharashtra	0.4	0.4	0.4	0.4	0.6	0.3	0.3	0.2	0.5
Odisha	1.3	1.3	1.2	1.3	1.4	1.2	0.7	0.7	0.7
Punjab	0.6	0.7	0.5	0.8	0.8	0.7	0.3	0.5	0.0
Rajasthan	0.9	0.9	0.9	1.0	1.0	1.0	0.5	0.6	0.4
Tamil Nadu	0.5	0.5	0.5	0.7	0.6	0.7	0.3	0.4	0.1
Uttar Pradesh	1.0	0.9	1.1	1.1	1.0	1.2	0.6	0.4	0.8
West Bengal	0.7	0.7	0.7	0.8	0.8	0.8	0.3	0.2	0.4

4.20 Death rates in the age group 15-59, by sex and residence, are given below in Statement 56. At the National level, death rate in this age group is estimated to be 3.4 and it varies from 3.6 in rural areas to 2.9 in urban areas. The female death rate is lower than that of males in all States.

Statement 56

Death rates for persons age 15-59 years by sex and residence India and bigger States, 2011

India and bigger States	Total			Rural			Urban		
	Total	Male	Female	Total	Male	Female	Total	Male	Female
India	3.4	4.2	2.6	3.6	4.4	2.8	2.9	3.7	2.1
Andhra Pradesh	4.3	5.6	2.9	4.9	6.4	3.4	3.0	4.0	2.0
Assam	4.1	4.6	3.5	4.2	4.6	3.8	3.4	4.4	2.3
Bihar	2.9	3.0	2.8	2.9	3.0	2.9	2.8	3.3	2.3
Chhattisgarh	3.8	4.3	3.3	3.9	4.3	3.5	3.6	4.6	2.5
Delhi	2.7	3.5	1.7	2.4	3.0	1.6	2.7	3.5	1.7
Gujarat	3.4	4.4	2.4	3.9	5.0	2.8	2.8	3.5	1.9
Haryana	3.4	4.4	2.3	3.7	4.8	2.5	2.8	3.6	1.8
Himachal Pradesh	2.6	3.3	1.8	2.6	3.4	1.9	2.0	2.5	1.5
Jammu & Kashmir	2.2	2.6	1.9	2.3	2.5	2.0	2.2	2.8	1.6
Jharkhand	3.3	3.8	2.9	3.5	4.1	3.0	2.5	2.8	2.3
Karnataka	3.8	5.1	2.5	4.1	5.6	2.7	3.2	4.3	2.1
Kerala	2.6	3.7	1.5	2.5	3.8	1.4	2.7	3.5	1.9
Madhya Pradesh	3.5	4.1	2.9	3.7	4.3	3.0	3.0	3.5	2.4
Maharashtra	2.9	3.8	2.0	3.3	4.4	2.3	2.5	3.2	1.8
Odisha	4.0	4.6	3.3	4.1	4.8	3.5	3.0	3.7	2.2
Punjab	3.3	4.6	1.9	3.5	4.9	2.0	3.0	4.1	1.7
Rajasthan	3.0	3.6	2.3	3.0	3.7	2.3	2.7	3.3	2.1
Tamil Nadu	3.7	4.7	2.7	4.0	5.0	3.0	3.3	4.4	2.2
Uttar Pradesh	3.8	4.5	3.0	3.8	4.6	3.0	3.5	4.0	2.9
West Bengal	2.9	3.5	2.3	2.9	3.3	2.4	3.0	4.0	2.1

4.21 Death rates for persons aged 60 years and above by sex and residence are given below in Statement 57. At the National level, death rate in this age group is estimated to be 44.9 and males have higher mortality rate (50.3) than females (39.6). This difference exists in both rural and urban areas. The death rate for this age group, among the bigger States varies from 32.3 in Delhi to 57.2 in Assam.

Statement 57

Death rates for persons age 60 years and above by Sex and residence, India and bigger States, 2011

India and bigger States	Total			Rural			Urban		
	Total	Male	Female	Total	Male	Female	Total	Male	Female
India	44.9	50.3	39.6	47.3	53.3	41.6	38.1	42.1	34.2
Andhra Pradesh	42.4	49.6	36.0	44.6	50.3	39.6	35.5	47.5	24.4
Assam	57.2	65.9	47.6	60.4	70.9	49.1	39.4	39.2	39.7
Bihar	45.8	47.6	43.8	46.8	48.1	45.4	37.1	42.7	31.2
Chhattisgarh	55.0	66.8	44.4	57.3	70.2	45.7	43.1	49.5	37.1
Delhi	32.3	31.9	32.6	43.2	45.5	40.8	30.6	29.8	31.4
Gujarat	40.0	45.3	35.2	39.8	44.2	35.9	40.4	47.2	34.0
Haryana	44.1	50.6	37.8	46.3	54.9	38.3	38.6	40.5	36.6
Himachal Pradesh	41.0	45.9	36.3	42.9	48.0	38.0	19.1	23.0	14.8
Jammu & Kashmir	37.2	39.2	34.9	40.1	43.2	36.6	28.1	26.2	30.0
Jharkhand	50.2	48.9	51.6	52.6	50.2	55.0	40.5	43.6	37.0
Karnataka	44.4	50.6	38.9	48.6	57.1	41.1	35.8	37.3	34.3
Kerala	41.0	48.8	34.7	42.0	51.2	34.5	38.0	41.5	35.1
Madhya Pradesh	53.4	59.7	47.2	56.3	63.4	49.3	42.8	46.0	39.7
Maharashtra	42.5	47.4	37.9	44.7	50.2	39.6	38.7	42.7	34.7
Odisha	46.8	46.5	47.0	46.8	46.3	47.3	46.2	47.6	44.9
Punjab	41.2	44.3	38.1	43.8	48.3	39.4	36.2	36.9	35.5
Rajasthan	42.3	51.4	34.0	42.2	50.7	34.5	42.6	53.6	32.7
Tamil Nadu	42.1	46.8	37.8	45.0	52.1	38.5	38.0	39.3	36.9
Uttar Pradesh	50.2	59.0	41.2	52.8	62.6	42.7	38.6	42.8	34.2
West Bengal	42.9	45.1	40.5	44.7	46.5	43.0	39.2	42.6	35.5

Medical attention before death

4.22 The type of medical attention received before death is also collected in the SRS. In the new sample from 2004, the options on types of medical attention received before death have been modified to capture the deaths occurred specifically at private hospital/nursing homes. The options include 'Government Hospital', 'Private Hospital', 'Qualified professional', 'Untrained functionary' and 'others'. The options for the sample based on 1991 sample were 'Institutional'; 'Medical attentions other than institution'; and 'No medical attention'. Statement 58 given below presents the percentage distribution of deaths by type of medical attention received before death for India and bigger States separately for rural and urban areas for the year 2011. At the National level, 21.7 per cent of the deaths occurred at Government Hospital and varies from 19.5 per cent in rural areas to 29.7 per cent in urban areas. Among the bigger States, Himachal Pradesh (48.1) has the highest percentage of deaths in Government Hospital and Jharkhand (12.6) the lowest. Deaths in private hospitals account for 12.5 per cent and it varies from 3.7 per cent in Odisha to 33.7 per cent in Kerala. About 28.1 per cent deaths were attended by untrained functionaries and others.

Statement 58

Percent distribution of deaths by type of medical attention received before death by residence, India and bigger States, 2011

India and bigger States	Government Hospital			Private Hospital			Qualified professional			Untrained functionary & others		
	Total	Rural	Urban	Total	Rural	Urban	Total	Rural	Urban	Total	Rural	Urban
India	21.7	19.5	29.7	12.5	10.5	19.6	37.8	38.6	35.1	28.1	31.5	15.6
Andhra Pradesh	16.9	15.4	22.6	16.0	15.2	19.2	33.1	32.6	34.8	34.0	36.8	23.4
Assam	15.3	14.4	22.9	10.6	10.5	11.9	55.8	56.1	53.6	18.3	19.0	11.6
Bihar	14.7	14.1	21.4	7.7	6.8	17.8	44.0	43.8	46.7	33.5	35.3	14.1
Chhattisgarh	17.1	14.1	35.9	9.1	8.1	15.0	30.0	28.5	39.0	43.9	49.3	10.1
Delhi	42.1	20.6	46.2	11.4	6.5	12.3	28.8	49.2	25.0	17.6	23.7	16.5
Gujarat	21.0	16.9	29.5	14.5	12.4	18.9	49.7	52.8	43.5	14.7	17.9	8.1
Haryana	15.0	14.3	16.9	11.3	10.9	12.6	56.0	57.1	52.9	17.7	17.7	17.6
Himachal Pradesh	48.1	48.7	36.6	10.7	10.0	23.2	33.3	33.8	24.6	7.9	7.5	15.6
Jammu & Kashmir	37.2	32.7	58.2	8.3	7.8	10.6	37.1	38.5	30.4	17.4	21.0	0.8
Jharkhand	12.6	9.7	29.9	9.8	7.9	21.1	36.2	35.8	38.7	41.4	46.6	10.3
Karnataka	25.2	21.5	34.9	14.8	11.7	23.0	18.9	21.6	12.0	41.0	45.2	30.1
Kerala	39.8	41.3	34.8	33.7	35.7	27.0	12.3	7.5	28.0	14.3	15.5	10.2
Madhya Pradesh	30.4	28.4	40.6	14.0	12.7	20.6	30.4	30.6	29.4	25.2	28.3	9.4
Maharashtra	25.5	22.0	32.2	15.5	12.5	21.3	42.3	45.0	37.1	16.7	20.5	9.4
Odisha	21.3	20.5	28.1	3.7	3.3	6.8	22.5	22.2	25.0	52.5	54.0	40.1
Punjab	14.9	14.5	15.9	30.4	25.8	40.5	53.0	57.5	43.0	1.7	2.2	0.6
Rajasthan	25.1	23.3	32.2	8.5	7.3	12.9	40.9	40.5	42.3	25.5	28.9	12.6
Tamil Nadu	19.1	15.5	25.0	15.4	10.8	23.0	22.2	20.1	25.6	43.3	53.6	26.4
Uttar Pradesh	18.5	18.0	21.5	11.2	9.2	22.9	46.5	47.5	40.6	23.8	25.3	15.0
West Bengal	25.2	20.9	36.3	6.6	4.0	13.3	46.1	46.9	44.0	22.0	28.2	6.4