

CHAPTER – 4

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 7.0 during 1991 to 2012. 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 42 in 2012. 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 11.5 in 2012. In 2012, about 34.6 percent of the deaths were institutional and 65.5 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, 2012.

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.

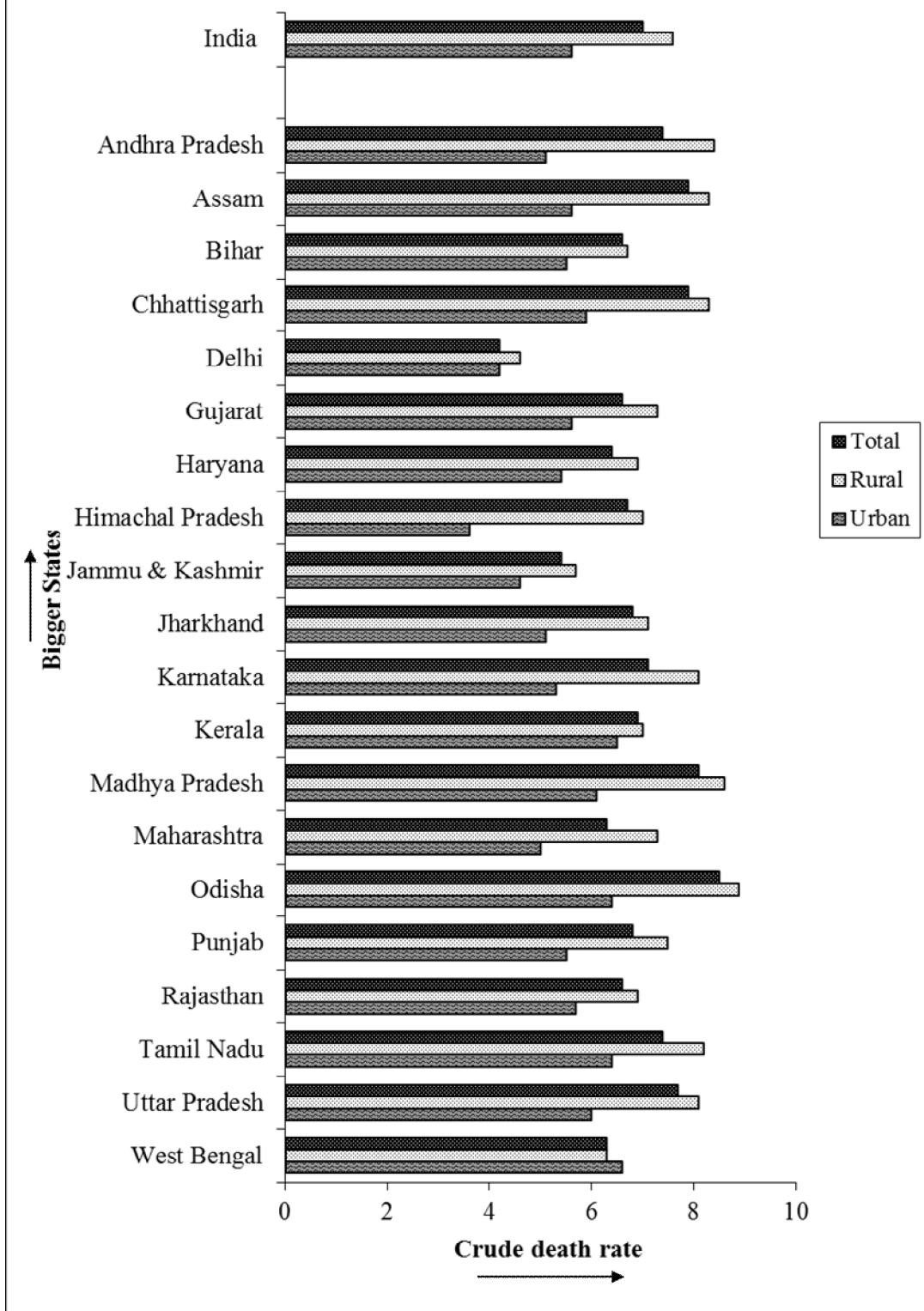
4.5 Crude Death Rate (Statement 41) at the National level for 2012 is 7.0 per thousand population and it varies from 7.6 in rural areas to 5.6 in urban areas. Among the bigger States, it varies from 4.2 in Delhi to 8.5 in Odisha. The States having death rate higher than or equal to the National level are Andhra Pradesh (7.4), Assam (7.9), Chhattisgarh (7.9), Karnataka (7.1), Madhya Pradesh (8.1), Odisha (8.5), Uttar Pradesh (7.7) 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, 2012

India and bigger States	Total	Rural	Urban
India	7.0	7.6	5.6
Andhra Pradesh	7.4	8.4	5.1
Assam	7.9	8.3	5.6
Bihar	6.6	6.7	5.5
Chhattisgarh	7.9	8.3	5.9
Delhi	4.2	4.6	4.2
Gujarat	6.6	7.3	5.6
Haryana	6.4	6.9	5.4
Himachal Pradesh	6.7	7.0	3.6
Jammu & Kashmir	5.4	5.7	4.6
Jharkhand	6.8	7.1	5.1
Karnataka	7.1	8.1	5.3
Kerala	6.9	7.0	6.5
Madhya Pradesh	8.1	8.6	6.1
Maharashtra	6.3	7.3	5.0
Odisha	8.5	8.9	6.4
Punjab	6.8	7.5	5.5
Rajasthan	6.6	6.9	5.7
Tamil Nadu	7.4	8.2	6.4
Uttar Pradesh	7.7	8.1	6.0
West Bengal	6.3	6.3	6.6

Chart 18: Crude death rate by residence, India and bigger States, 2012



4.6 Statement 42 given below shows the percentage change in the level of Crude Death Rate between the period 2000-02 and 2010-12 for India and bigger States. During this period CDR in India has declined by 14.6 per cent. Among the bigger States, decline in CDR varies from 22.2 per cent in Uttar Pradesh to 3.8 per cent in Tamil Nadu. In Kerala, average CDR have shown marginal increase during 2000-02 to 2010-12 period, which could be possibly due to the changes in age structure of the population.

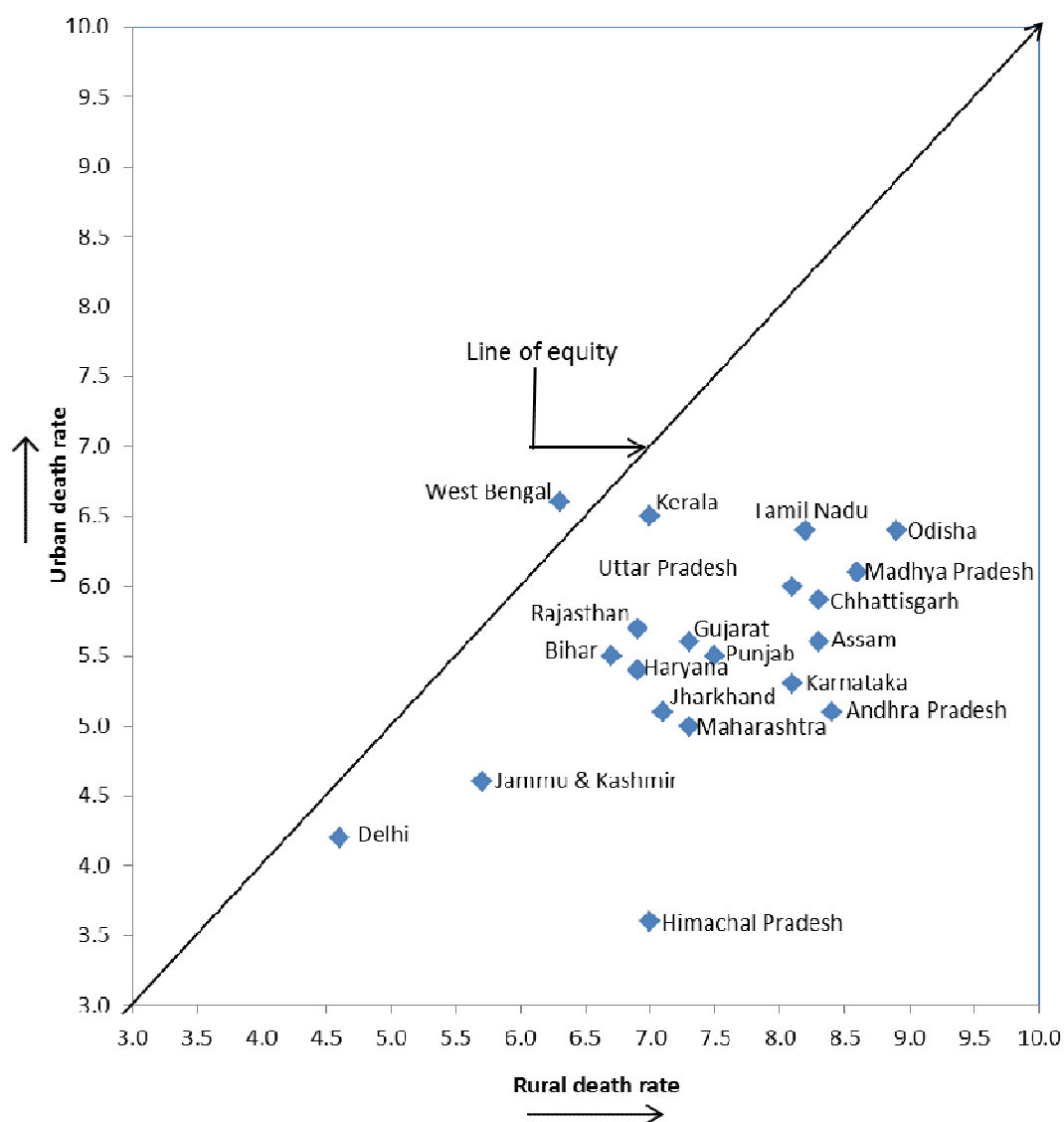
Statement 42

**Percent change in average Crude Death Rate between 2000-02 and 2010-2012,
by residence, India and bigger States**

India and bigger States	Total			Rural			Urban		
	2000- 02	2010- 12	% Change	2000- 02	2010- 12	% Change	2000- 02	2010- 12	% Change
India	8.3	7.1	-14.6	9.0	7.6	-15.4	6.2	5.7	-8.9
Andhra Pradesh	8.2	7.5	-7.9	9.0	8.5	-5.2	5.6	5.2	-6.9
Assam	9.5	8.0	-15.0	9.8	8.4	-15.0	6.2	5.7	-9.1
Bihar*	8.3	6.8	-18.5	8.6	7.0	-19.1	6.5	5.4	-16.9
Gujarat	7.7	6.7	-12.9	8.5	7.4	-13.3	5.9	5.6	-5.9
Haryana	7.4	6.5	-12.2	7.6	7.0	-8.4	6.7	5.4	-18.4
Himachal Pradesh	7.3	6.8	-6.9	7.4	7.1	-4.5	5.3	3.8	-28.3
Karnataka	7.5	7.1	-5.8	8.2	8.0	-2.3	6.0	5.4	-9.6
Kerala	6.5	7.0	7.8	6.6	7.1	7.9	6.2	6.6	6.8
Madhya Pradesh*	10.1	8.1	-19.3	10.8	8.7	-19.8	7.3	6.1	-16.8
Maharashtra	7.4	6.4	-14.0	8.5	7.3	-13.3	5.8	5.1	-11.5
Odisha	10.2	8.6	-16.3	10.7	8.9	-16.8	6.7	6.5	-3.4
Punjab	7.2	6.8	-4.5	7.5	7.6	0.8	6.2	5.6	-8.4
Rajasthan	8.1	6.7	-17.5	8.4	6.9	-17.8	6.4	5.8	-8.8
Tamil Nadu	7.8	7.5	-3.8	8.6	8.2	-4.7	6.1	6.6	7.4
Uttar Pradesh*	10.0	7.8	-22.2	10.5	8.2	-22.0	7.7	6.0	-21.5
West Bengal	6.9	6.2	-10.1	7.1	6.1	-14.0	6.5	6.5	-0.7

* 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, 2012**



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, 2012

Residence	Total	Males	Females
Total	7.0	7.7	6.4
Rural	7.6	8.3	6.8
Urban	5.6	6.1	5.1

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, 2012

India and bigger States	Total	Males	Females
India	7.0	7.7	6.4
Andhra Pradesh	7.4	8.4	6.4
Assam	7.9	9.1	6.7
Bihar	6.6	6.7	6.5
Chhattisgarh	7.9	9.1	6.7
Delhi	4.2	4.6	3.7
Gujarat	6.6	7.3	5.9
Haryana	6.4	7.2	5.6
Himachal Pradesh	6.7	8.2	5.2
Jammu & Kashmir	5.4	6.0	4.8
Jharkhand	6.8	6.9	6.6
Karnataka	7.1	7.8	6.4
Kerala	6.9	8.2	5.7
Madhya Pradesh	8.1	8.7	7.4
Maharashtra	6.3	6.8	5.7
Odisha	8.5	9.2	7.9
Punjab	6.8	7.6	5.8
Rajasthan	6.6	7.2	5.9
Tamil Nadu	7.4	8.4	6.4
Uttar Pradesh	7.7	8.3	7.1
West Bengal	6.3	6.9	5.7

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, 13.0 per cent of the deaths are of infant deaths (<1 year) whereas 51.4 percent of the deaths pertain to persons aged 60 years and above. Toddlers (1-4 years) accounts for 2.8 per cent of the deaths. The percentage of infant deaths to total deaths varies from a low 2.5 per cent in Kerala to a high of 19.2 per cent in Rajasthan. Percentage contribution of deaths from person's 60 years and above varies from 39.9 in Assam to 74.2 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, 2012

India and bigger States	Broad age-groups					
	<1	1-4	0-4	5-14	15-59	60+
India	13.0	2.8	15.8	2.3	30.5	51.4
Andhra Pradesh	9.8	0.4	10.1	1.3	36.5	52.1
Assam	15.8	5.2	21.0	2.7	36.4	39.9
Bihar	18.1	5.3	23.4	3.1	24.6	49.0
Chhattisgarh	14.5	2.2	16.8	3.5	34.6	45.1
Delhi	10.2	1.5	11.7	2.1	34.2	52.1
Gujarat	12.0	2.8	14.8	1.9	34.1	49.2
Haryana	14.2	1.9	16.1	2.3	35.2	46.5
Himachal Pradesh	10.2	1.7	11.9	0.9	24.4	62.9
Jammu & Kashmir	12.6	1.4	14.0	1.8	29.6	54.6
Jharkhand	13.8	4.0	17.8	6.3	34.0	42.0
Karnataka	8.4	1.3	9.7	1.2	35.5	53.6
Kerala	2.5	0.2	2.7	0.4	22.6	74.2
Madhya Pradesh	18.6	4.6	23.2	3.0	28.8	45.0
Maharashtra	6.6	0.7	7.3	1.4	28.1	63.2
Odisha	12.4	3.4	15.7	2.8	30.9	50.6
Punjab	6.6	1.3	7.9	1.1	34.3	56.7
Rajasthan	19.2	3.5	22.7	3.3	27.0	47.0
Tamil Nadu	4.5	0.6	5.1	1.1	33.5	60.2
Uttar Pradesh	18.8	4.4	23.2	2.9	28.2	45.7
West Bengal	8.1	1.6	9.7	1.5	30.4	58.3

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

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 2012 is 13.0 per cent and varies from 14.2 per cent in rural areas to 8.6 per cent in urban areas. In rural areas, Kerala registered 2.7, the lowest per cent share of infant deaths as compared to 21.1 in Rajasthan. In urban areas, the variation is from 2.0 per cent in Kerala to 15.3 per cent in Uttar Pradesh.

Statement 46

**Percentage of Infant deaths to total deaths by residence
India and bigger States, 2012**

India and bigger States	Total	Rural	Urban
India	13.0	14.2	8.6
Andhra Pradesh	9.8	9.8	9.6
Assam	15.8	16.6	9.1
Bihar	18.1	18.5	13.5
Chhattisgarh	14.5	14.9	11.8
Delhi	10.2	14.9	9.3
Gujarat	12.0	14.0	8.1
Haryana	14.2	15.0	11.8
Himachal Pradesh	10.2	10.3	8.9
Jammu & Kashmir	12.6	13.6	7.9
Jharkhand	13.8	14.4	9.9
Karnataka	8.4	8.5	7.9
Kerala	2.5	2.7	2.0
Madhya Pradesh	18.6	19.9	12.0
Maharashtra	6.6	7.2	5.4
Odisha	12.4	12.8	8.8
Punjab	6.6	6.6	6.5
Rajasthan	19.2	21.1	12.0
Tamil Nadu	4.5	4.7	4.3
Uttar Pradesh	18.8	19.4	15.3
West Bengal	8.1	9.5	4.5

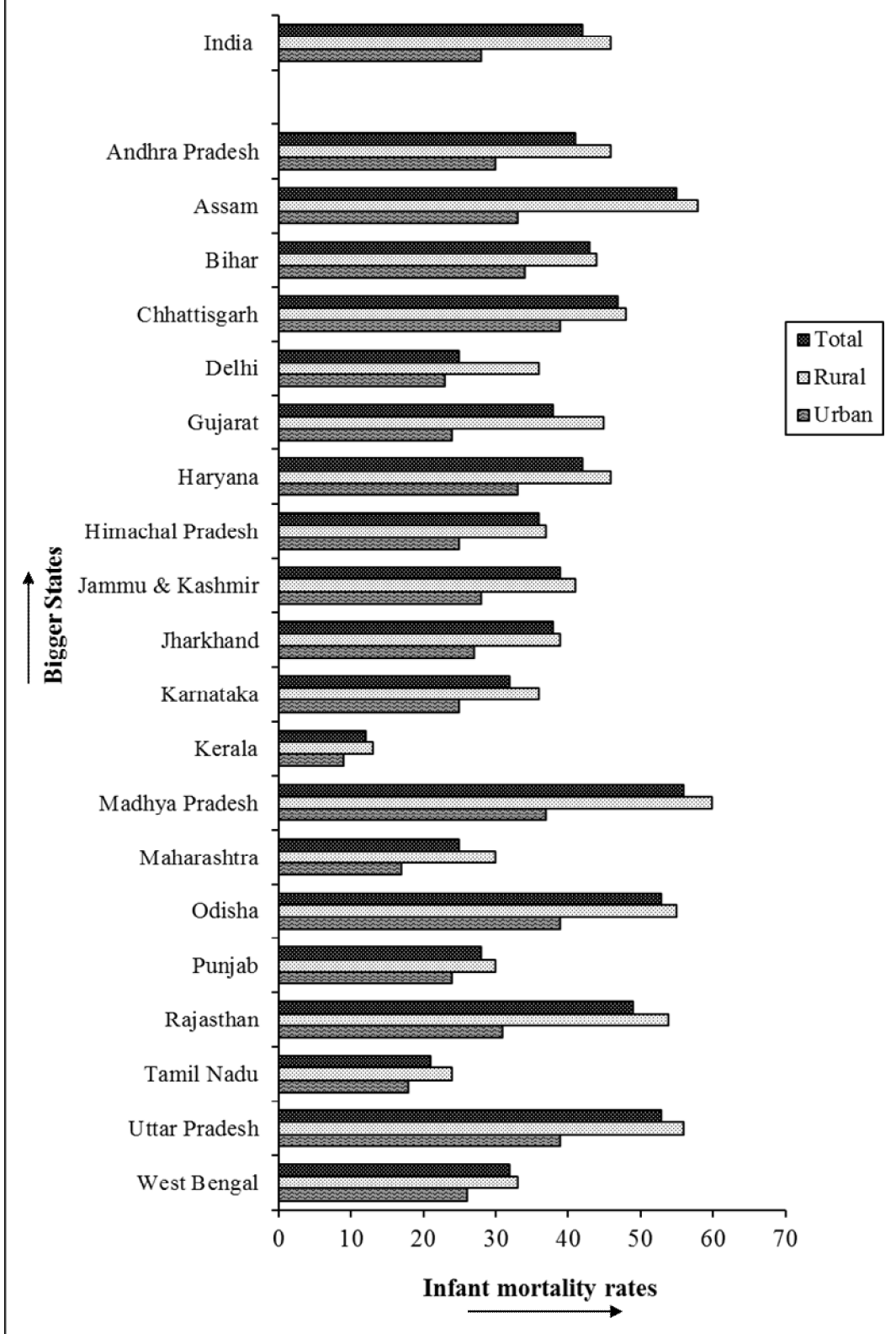
4.11 Statement 47 given below presents Infant Mortality Rate (IMR) by sex and residence for the year 2012 for India and bigger States. Infant Mortality Rate is defined as the infant deaths (less than one year) per thousand live births. At the National level, IMR is reported to be 42 and varies from 46 in rural areas to 28 in urban areas. Among the bigger States, it varies from 12 in Kerala to 56 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

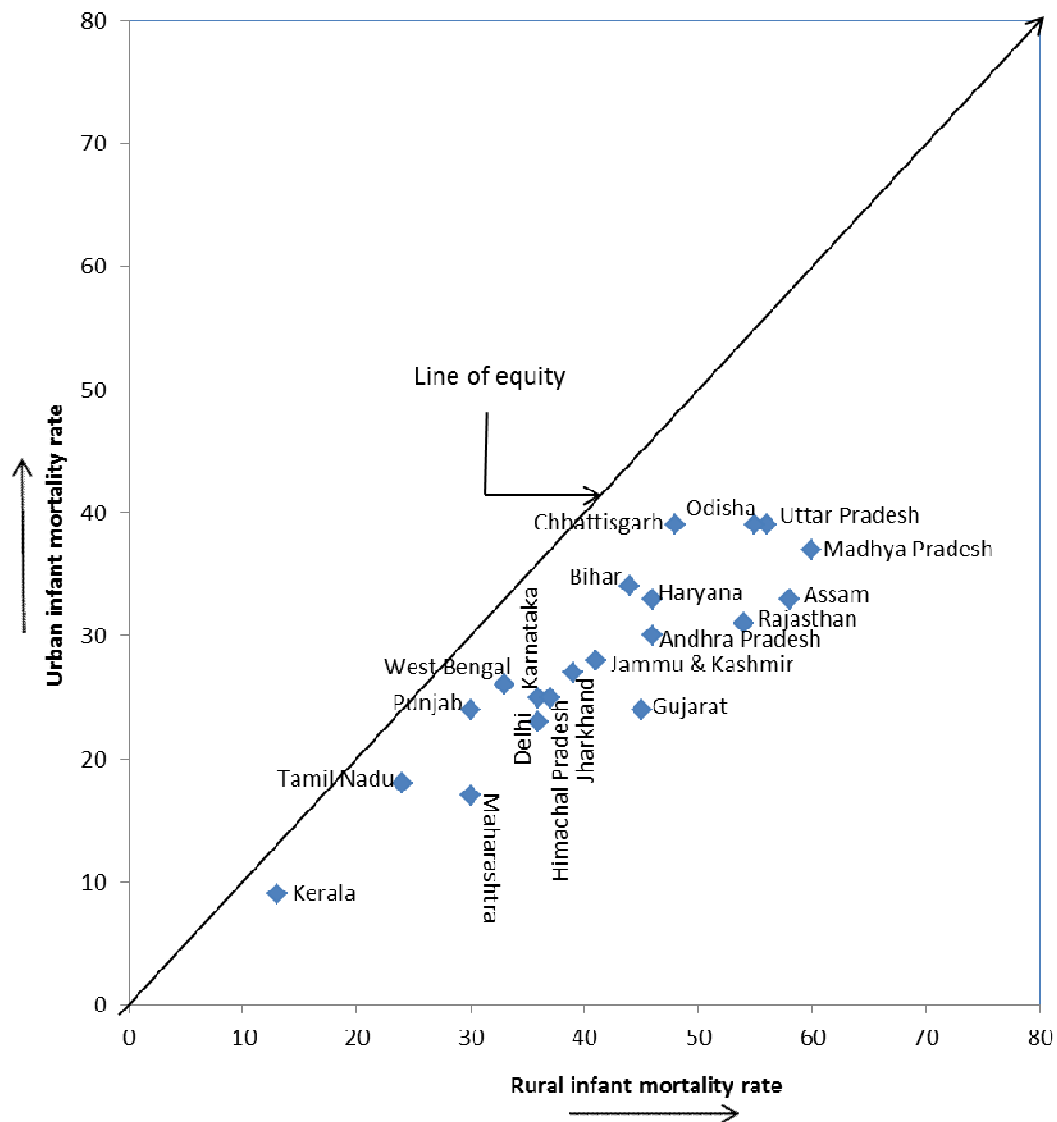
Infant mortality rates by sex and residence, India and bigger States, 2012

India and bigger States	Total			Rural			Urban		
	Total	Males	Females	Total	Males	Females	Total	Males	Females
India	42	41	44	46	45	48	28	26	29
Andhra Pradesh	41	40	43	46	45	47	30	27	33
Assam	55	54	57	58	57	60	33	31	35
Bihar	43	42	45	44	43	46	34	33	36
Chhattisgarh	47	46	47	48	47	49	39	38	39
Delhi	25	24	26	36	35	37	23	22	23
Gujarat	38	36	39	45	44	47	24	23	25
Haryana	42	41	44	46	44	48	33	32	34
Himachal Pradesh	36	35	38	37	36	38	25	22	27
Jammu & Kashmir	39	38	40	41	40	42	28	27	30
Jharkhand	38	36	39	39	38	41	27	24	30
Karnataka	32	30	34	36	35	37	25	22	28
Kerala	12	10	13	13	11	14	9	8	10
Madhya Pradesh	56	54	59	60	58	62	37	35	39
Maharashtra	25	24	26	30	30	31	17	16	19
Odisha	53	52	54	55	53	56	39	38	40
Punjab	28	27	29	30	29	31	24	22	26
Rajasthan	49	47	51	54	52	56	31	29	33
Tamil Nadu	21	21	22	24	23	25	18	17	19
Uttar Pradesh	53	52	55	56	54	57	39	37	41
West Bengal	32	31	33	33	32	35	26	25	27

Chart 20: Infant mortality rate by residence, India and bigger States, 2012



**Chart 21: Distribution of bigger states by
Infant mortality rate for rural and urban areas, 2012**



4.12 The percentage change in the average level of infant mortality between 2000-02 and 2010-12 is given below in Statement 48. During this period, IMR, at the National level, declined by 32.2 per cent. Among the bigger States, the decline varies from 53.4 per cent in Tamil Nadu to 22.9 per cent in Assam. In the rural areas, decline in IMR varies from 54.3 per cent in Tamil Nadu to 22.7 per cent in Assam. The decline in IMR varies from 44.9 per cent in Rajasthan to 3.8 per cent in urban areas of Assam. IMR in rural area of Kerala and urban areas of Karnataka have shown an increase, which may be attributed to sampling fluctuation.

Statement 48

Per cent change in average Infant mortality rates between 2000-02 and 2010-2012 by residence, India and bigger States

India and Bigger States	Total			Rural			Urban		
	2000-02	2010-12	% Change	2000-02	2010-12	% Change	2000-02	2010-12	% Change
India	65.7	44.5	-32.2	71.7	48.8	-31.9	42.0	29.3	-30.3
Andhra Pradesh	64.3	43.2	-32.8	73.0	48.0	-34.2	37.0	31.1	-15.8
Assam	73.0	56.3	-22.9	76.0	58.7	-22.7	35.7	34.3	-3.8
Bihar*	61.7	43.7	-29.2	62.7	44.8	-28.5	51.7	32.9	-36.3
Gujarat	60.7	40.7	-32.9	68.3	48.0	-29.8	41.3	26.9	-35.0
Haryana	65.0	44.7	-31.2	67.0	48.3	-27.8	54.3	35.1	-35.3
Himachal Pradesh	55.3	36.2	-34.6	57.0	37.0	-35.2	32.3	24.7	-23.5
Karnataka	56.7	34.9	-38.4	67.3	39.1	-42.0	25.0	26.3	5.1
Kerala	11.7	12.4	6.3	12.3	13.2	7.4	10.3	9.7	-6.1
Madhya Pradesh*	86.0	56.7	-34.1	91.3	59.8	-34.5	54.3	39.7	-27.0
Maharashtra	46.0	25.9	-43.6	54.3	31.2	-42.6	31.7	18.2	-42.6
Odisha	91.0	56.7	-37.7	94.3	58.6	-37.9	61.0	40.6	-33.5
Punjab	51.7	30.7	-40.6	55.3	33.5	-39.5	36.7	25.6	-30.2
Rajasthan	79.0	51.7	-34.5	82.3	57.0	-30.8	56.7	31.2	-44.9
Tamil Nadu	48.0	22.4	-53.4	53.7	24.5	-54.3	35.0	19.5	-44.3
Uttar Pradesh*	82.0	55.8	-32.0	85.3	58.7	-31.3	61.7	40.8	-33.8
West Bengal	50.3	31.5	-37.4	53.3	32.9	-38.4	36.7	25.7	-29.8

* 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 2012 both at the National and State levels. At the National level, the neo-natal mortality rate is 29 and ranges from 16 in urban areas to 33 in rural areas. Among the bigger States, neo-natal mortality ranges from 39 in Madhya Pradesh and Odisha to 7 in Kerala. The percentage of neo-natal deaths to total infant deaths is 68.5 per cent at the National level and varies from 56.8 per cent in urban areas to 70.4 per cent in rural areas. Among the bigger States, Jammu & Kashmir (77.2) registered the highest percentage of neo-natal deaths to infant deaths and the lowest in Assam (52.1).

Statement 49

Neo-natal mortality rates and percentage share of Neo-natal deaths to Infant deaths by residence, India and bigger States, 2012

India and Bigger States	Neo-natal mortality rate			Percentage of Neo-natal death to Infant deaths		
	Total	Rural	Urban	Total	Rural	Urban
India	29	33	16	68.5	70.4	56.8
Andhra Pradesh	27	33	12	65.4	71.8	40.6
Assam	29	31	10	52.1	53.5	30.3
Bihar	28	29	12	64.0	66.0	35.0
Chhattisgarh	31	32	28	67.4	66.7	72.4
Delhi	16	25	14	64.9	70.1	63.3
Gujarat	28	33	17	72.7	73.2	71.0
Haryana	28	31	20	66.3	67.7	60.9
Himachal Pradesh	26	27	15	72.2	72.7	60.8
Jammu & Kashmir	30	32	19	77.2	78.5	66.7
Jharkhand	27	30	12	72.4	75.5	44.4
Karnataka	23	29	12	73.0	81.5	48.2
Kerala	7	8	3	58.4	63.8	34.4
Madhya Pradesh	39	42	23	69.2	70.0	62.3
Maharashtra	18	22	12	71.3	73.0	66.8
Odisha	39	41	27	74.4	74.8	69.2
Punjab	17	16	18	60.4	53.7	75.6
Rajasthan	35	39	18	71.0	72.8	58.2
Tamil Nadu	15	18	11	71.3	76.6	61.5
Uttar Pradesh	37	40	21	69.8	71.9	54.0
West Bengal	22	23	16	67.6	68.7	62.1

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 2012 has been estimated at 23 and ranges from 25 in rural areas to 12 in urban areas. Among the bigger States, Kerala (4) and Madhya Pradesh & Odisha with 29 are the two extremes. The percentage of early neo-natal deaths to the total infant deaths during the year 2012, at the National level, has been 53.3 and it varies from 55.0 in rural area to 42.9 in urban areas. In most of the States, rural proportion is relatively higher than the urban proportion except for Himachal Pradesh, Punjab, Delhi, Gujarat and Chhattisgarh. Among the bigger States the percentage for total, varies from 38.0 in Kerala to 62.5 in Karnataka.

Statement 50

Early neo-natal mortality rates and percentage share of Early neo-natal deaths to Infant deaths by residence, India and bigger States, 2012

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	23	25	12	53.3	55.0	42.9
Andhra Pradesh	22	28	9	54.4	60.6	30.0
Assam	23	25	6	42.3	43.8	18.7
Bihar	23	25	8	54.3	56.4	23.3
Chhattisgarh	25	25	23	53.7	53.1	58.7
Delhi	11	14	10	44.4	39.2	46.0
Gujarat	21	24	15	55.3	53.2	62.6
Haryana	21	24	13	50.3	53.3	39.3
Himachal Pradesh	20	20	14	55.2	55.2	56.4
Jammu & Kashmir	24	27	10	62.2	65.4	35.6
Jharkhand	23	25	9	59.7	62.6	33.7
Karnataka	20	24	11	62.5	68.8	44.1
Kerala	4	5	2	38.0	42.1	19.8
Madhya Pradesh	29	31	18	51.7	51.9	49.4
Maharashtra	14	17	9	54.1	55.6	50.0
Odisha	29	30	21	54.8	54.9	54.0
Punjab	13	12	14	45.9	40.2	58.9
Rajasthan	27	31	13	55.6	57.6	42.0
Tamil Nadu	11	13	8	50.7	54.0	44.7
Uttar Pradesh	28	31	15	53.1	55.1	38.5
West Bengal	17	18	12	51.8	52.5	48.1

4.15 Statement 51 given below presents the peri-natal mortality rate and still birth rate for the year 2012, 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 28 and ranges from 31 in rural areas to 17 in urban areas. Among the bigger States, Kerala (10) and Odisha (37) are the two extremes. The estimate of still birth rate for the year 2012, at the National level is 5. Among the bigger States, the highest level of still birth rate has been estimated for Karnataka (14) and the lowest for Bihar and 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, 2012

India and Bigger States	Peri-natal mortality rate			Still birth rate		
	Total	Rural	Urban	Total	Rural	Urban
India	28	31	17	5	5	5
Andhra Pradesh	28	35	12	6	7	3
Assam	31	33	14	8	8	8
Bihar	25	26	12	1	1	4
Chhattisgarh	36	36	33	11	11	10
Delhi	16	20	16	6	6	5
Gujarat	28	30	23	7	6	8
Haryana	30	34	19	9	10	6
Himachal Pradesh	31	32	22	12	12	9
Jammu & Kashmir	32	35	15	8	9	5
Jharkhand	23	25	9	1	1	0
Karnataka	33	40	20	14	16	9
Kerala	10	11	7	6	6	5
Madhya Pradesh	35	37	27	6	6	9
Maharashtra	19	22	15	6	5	6
Odisha	37	38	26	8	8	5
Punjab	20	18	23	7	6	9
Rajasthan	33	36	20	6	5	7
Tamil Nadu	19	24	13	8	11	5
Uttar Pradesh	31	34	17	3	3	2
West Bengal	22	23	17	5	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 15.8 and it varies from 17.4 in rural areas to 10.0 in urban areas. Among the bigger States, the variation is from 2.7 in Kerala to 23.4 in Bihar. In rural areas, it varies from 2.9 in Kerala to 25.1 in Rajasthan, and in urban areas, it is 2.2 in Kerala to 18.2 in Uttar Pradesh.

Statement 52

**Percentage of deaths in the age group 0-4 years to total deaths
by residence, India and bigger States, 2012**

India and bigger States	Total	Rural	Urban
India	15.8	17.4	10.0
Andhra Pradesh	10.1	10.2	10.1
Assam	21.0	22.2	10.1
Bihar	23.4	24.1	15.1
Chhattisgarh	16.8	17.4	12.3
Delhi	11.7	16.2	10.8
Gujarat	14.8	16.9	10.4
Haryana	16.1	16.9	13.6
Himachal Pradesh	11.9	11.9	12.8
Jammu & Kashmir	14.0	15.2	8.3
Jharkhand	17.8	18.8	11.3
Karnataka	9.7	9.6	9.9
Kerala	2.7	2.9	2.2
Madhya Pradesh	23.2	24.8	14.9
Maharashtra	7.3	7.9	6.2
Odisha	15.7	16.5	9.5
Punjab	7.9	8.3	7.0
Rajasthan	22.7	25.1	13.6
Tamil Nadu	5.1	5.4	4.7
Uttar Pradesh	23.2	24.0	18.2
West Bengal	9.7	11.6	5.0

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 11.5 and it varies from 12.8 in rural areas to 7.0 in urban areas. Among the bigger States, this varies from 2.5 in Kerala to 17.8 in Madhya Pradesh. The female children have higher death rates than male children in all States except in West Bengal.

Statement 53

Estimated death rates for children aged 0-4 years by sex and residence India and bigger States, 2012

India and bigger States	Total			Rural			Urban		
	Total	Male	Female	Total	Male	Female	Total	Male	Female
India	11.5	10.9	12.1	12.8	12.1	13.5	7.0	6.7	7.2
Andhra Pradesh	8.8	8.4	9.2	10.0	9.9	10.1	6.0	5.1	7.0
Assam	16.5	16.0	17.0	17.6	17.0	18.2	7.5	7.7	7.4
Bihar	11.5	11.2	11.8	11.8	11.4	12.2	7.9	8.2	7.6
Chhattisgarh	12.4	11.9	13.0	13.2	12.4	14.0	8.2	8.7	7.7
Delhi	5.7	5.5	5.9	7.3	6.1	8.7	5.3	5.4	5.3
Gujarat	10.9	10.5	11.3	12.9	12.7	13.1	7.1	6.4	7.9
Haryana	10.7	10.0	11.5	11.6	10.8	12.6	8.4	8.2	8.7
Himachal Pradesh	10.0	9.6	10.5	10.2	9.9	10.4	8.5	4.9	12.5
Jammu & Kashmir	9.7	9.6	9.8	10.2	10.2	10.3	6.4	6.0	6.9
Jharkhand	10.9	10.6	11.2	11.7	11.5	11.9	6.5	5.8	7.2
Karnataka	8.0	7.7	8.4	8.9	8.5	9.3	6.4	6.1	6.7
Kerala	2.5	2.3	2.6	2.6	2.4	2.8	1.9	1.9	2.0
Madhya Pradesh	17.8	16.9	18.7	19.5	18.5	20.7	10.0	9.9	10.1
Maharashtra	5.2	5.1	5.4	5.9	5.8	6.0	4.1	3.8	4.4
Odisha	14.7	14.4	15.0	15.5	15.3	15.8	8.2	7.6	8.9
Punjab	7.4	6.4	8.5	8.3	7.0	9.9	5.7	5.4	6.0
Rajasthan	14.3	12.4	16.4	15.6	13.5	18.1	8.8	8.1	9.7
Tamil Nadu	4.9	4.7	5.2	5.5	5.2	5.8	4.1	4.0	4.2
Uttar Pradesh	16.8	15.6	18.2	17.6	16.2	19.1	12.7	12.7	12.7
West Bengal	7.6	7.7	7.5	8.2	8.3	8.0	5.4	5.3	5.5

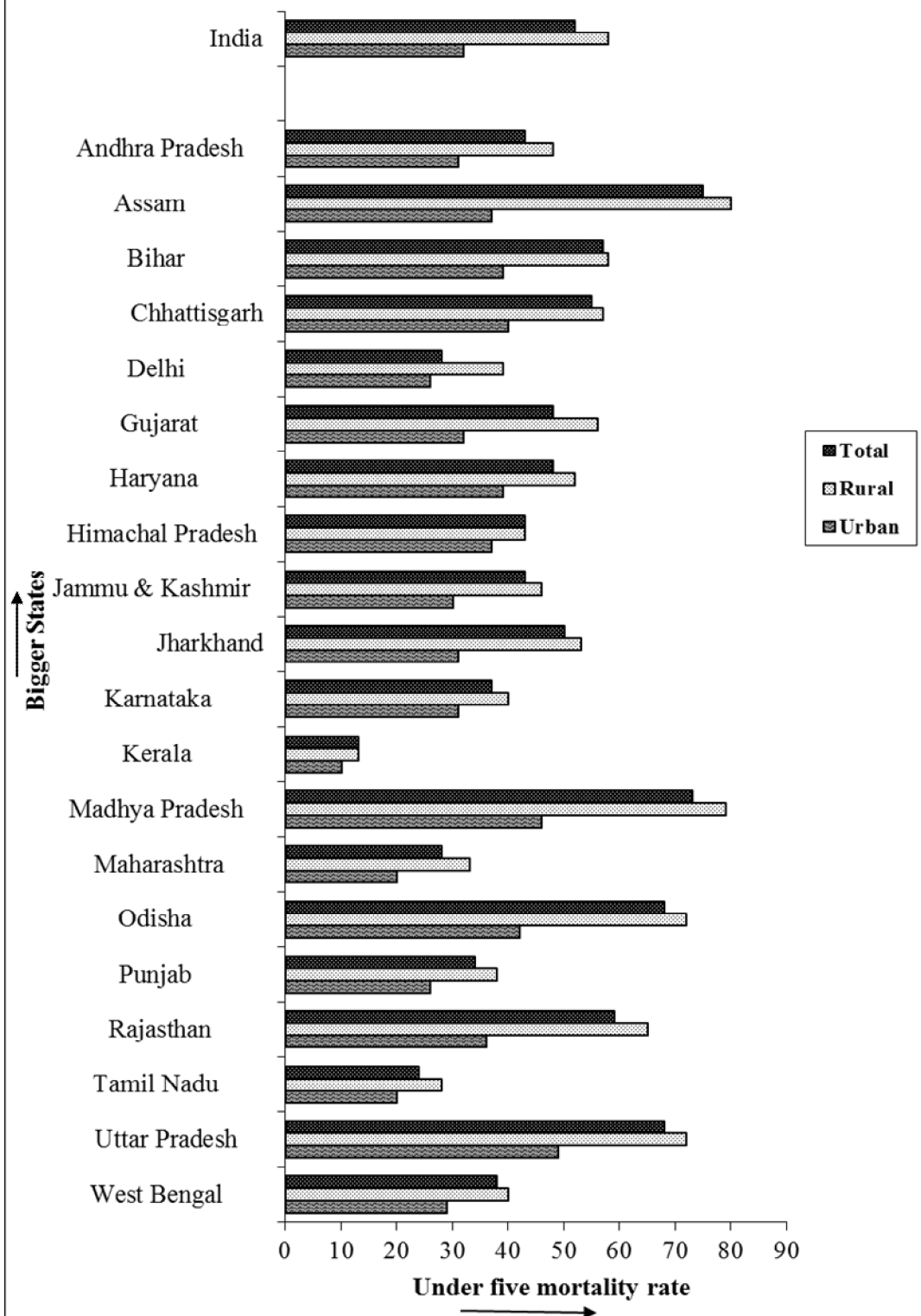
4.18 The Under-five mortality rates by residence are given below in Statement 54 separately for males and females. At the National level, under-five mortality rate is estimated at 52 and it varies from 58 in rural areas to 32 in urban areas. Among the bigger States, it varies from 13 in Kerala to 75 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, 2012**

India & bigger States	Total			Rural			Urban		
	Total	Male	Female	Total	Male	Female	Total	Male	Female
India	52	49	56	58	54	62	32	31	34
Andhra Pradesh	43	40	46	48	46	50	31	27	35
Assam	75	71	80	80	75	85	37	36	37
Bihar	57	54	60	58	55	62	39	40	37
Chhattisgarh	55	48	62	57	50	65	40	40	41
Delhi	28	27	30	39	35	42	26	26	27
Gujarat	48	46	50	56	55	56	32	28	37
Haryana	48	45	52	52	47	57	39	37	40
Himachal Pradesh	43	40	46	43	41	46	37	34	39
Jammu & Kashmir	43	42	45	46	45	46	30	27	33
Jharkhand	50	47	54	53	50	57	31	28	35
Karnataka	37	35	39	40	39	42	31	29	34
Kerala	13	12	14	13	12	15	10	10	10
Madhya Pradesh	73	69	78	79	73	84	46	46	47
Maharashtra	28	27	28	33	32	33	20	19	21
Odisha	68	67	70	72	70	73	42	40	44
Punjab	34	29	40	38	32	46	26	24	28
Rajasthan	59	52	67	65	57	74	36	33	40
Tamil Nadu	24	23	26	28	26	30	20	19	20
Uttar Pradesh	68	62	75	72	65	80	49	48	50
West Bengal	38	37	39	40	40	41	29	28	30

**Chart 22: Under five mortality rate,
India and bigger States, 2012**



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 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 Jharkhand (1.9).

Statement 55

**Death rates for children age 5-14 years by sex and residence
India and bigger States, 2012**

India and bigger States	Total			Rural			Urban		
	Total	Male	Female	Total	Male	Female	Total	Male	Female
India	0.8	0.9	0.8	1.0	1.0	0.9	0.5	0.5	0.5
Andhra Pradesh	0.6	0.6	0.5	0.7	0.8	0.5	0.4	0.4	0.4
Assam	1.1	1.2	1.0	1.1	1.2	1.0	1.1	1.4	0.9
Bihar	0.9	0.9	0.8	0.9	0.9	0.8	0.6	0.8	0.4
Chhattisgarh	1.4	1.7	1.0	1.4	1.8	1.0	1.0	0.9	1.1
Delhi	0.5	0.3	0.6	0.0	0.0	0.0	0.6	0.4	0.7
Gujarat	0.7	0.8	0.5	0.6	0.7	0.5	0.7	0.9	0.5
Haryana	0.8	0.5	1.2	0.9	0.6	1.4	0.4	0.1	0.8
Himachal Pradesh	0.3	0.2	0.5	0.4	0.2	0.5	0.0	0.0	0.0
Jammu & Kashmir	0.6	0.8	0.3	0.6	0.9	0.4	0.3	0.6	0.0
Jharkhand	1.9	2.0	1.8	2.2	2.4	2.0	0.6	0.4	0.8
Karnataka	0.5	0.6	0.4	0.5	0.7	0.3	0.5	0.4	0.6
Kerala	0.2	0.2	0.2	0.2	0.2	0.3	0.1	0.2	0.0
Madhya Pradesh	1.2	0.9	1.4	1.3	0.9	1.7	0.7	1.0	0.3
Maharashtra	0.5	0.5	0.5	0.6	0.6	0.5	0.4	0.3	0.4
Odisha	1.3	1.4	1.2	1.4	1.6	1.3	0.5	0.3	0.7
Punjab	0.5	0.6	0.3	0.6	0.8	0.3	0.3	0.2	0.4
Rajasthan	1.0	1.1	0.9	1.1	1.2	1.0	0.7	0.9	0.4
Tamil Nadu	0.5	0.6	0.5	0.7	0.8	0.6	0.3	0.2	0.4
Uttar Pradesh	1.0	1.0	0.9	1.1	1.1	1.0	0.6	0.6	0.5
West Bengal	0.6	0.6	0.6	0.6	0.6	0.7	0.3	0.4	0.3

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 3.7 in rural areas to 2.8 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, 2012**

India and bigger States	Total			Rural			Urban		
	Total	Male	Female	Total	Male	Female	Total	Male	Female
India	3.4	4.3	2.6	3.7	4.6	2.8	2.8	3.5	2.1
Andhra Pradesh	4.2	5.4	2.9	4.6	6.3	3.0	3.0	3.4	2.6
Assam	4.5	5.8	3.2	4.7	6.0	3.4	3.5	4.6	2.4
Bihar	2.9	3.2	2.6	3.0	3.3	2.6	2.5	3.0	1.9
Chhattisgarh	4.4	5.4	3.5	4.6	5.5	3.7	3.9	5.2	2.6
Delhi	2.2	2.7	1.6	2.4	3.2	1.4	2.1	2.6	1.6
Gujarat	3.5	4.5	2.5	4.1	5.4	2.6	2.8	3.2	2.3
Haryana	3.5	4.6	2.4	3.8	4.9	2.6	3.0	3.8	2.1
Himachal Pradesh	2.5	3.5	1.6	2.7	3.7	1.8	1.2	1.9	0.4
Jammu & Kashmir	2.4	2.8	2.0	2.6	2.8	2.3	1.9	2.8	0.9
Jharkhand	3.8	4.0	3.6	3.9	3.9	3.9	3.6	4.4	2.7
Karnataka	3.8	4.7	2.9	4.4	5.3	3.5	2.8	3.7	1.8
Kerala	2.4	3.8	1.2	2.6	4.0	1.2	2.1	3.1	1.1
Madhya Pradesh	3.8	4.5	3.0	3.9	4.5	3.3	3.3	4.6	1.9
Maharashtra	2.8	3.6	1.9	3.1	4.0	2.2	2.4	3.2	1.4
Odisha	4.2	5.0	3.4	4.4	5.2	3.6	3.1	3.9	2.2
Punjab	3.5	4.6	2.3	4.0	5.1	2.8	2.7	3.7	1.6
Rajasthan	2.9	3.8	2.0	3.0	4.0	1.9	2.8	3.3	2.2
Tamil Nadu	3.8	5.0	2.5	4.4	5.7	3.0	3.0	4.1	1.9
Uttar Pradesh	3.6	4.4	2.8	3.8	4.6	2.9	3.0	3.5	2.5
West Bengal	2.9	3.5	2.3	2.9	3.6	2.2	2.9	3.3	2.6

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 43.7 and males have higher mortality rate (47.6) than females (40.0). This difference exists in both rural and urban areas. The death rate for this age group, among the bigger States varies from 34.9 in Jammu & Kashmir to 50.0 in Madhya Pradesh.

Statement 57

**Death rates for persons age 60 years and above by
Sex and residence, India and bigger States, 2012**

India and bigger States	Total			Rural			Urban		
	Total	Male	Female	Total	Male	Female	Total	Male	Female
India	43.7	47.6	40.0	45.9	50.7	41.3	37.6	39.0	36.2
Andhra Pradesh	40.0	44.5	36.1	43.6	48.7	39.2	30.1	33.2	27.2
Assam	48.1	53.3	42.5	50.5	56.0	44.5	34.9	38.5	30.9
Bihar	45.7	42.9	49.0	46.2	43.8	49.0	41.5	34.7	48.8
Chhattisgarh	48.8	60.0	38.8	51.1	64.0	39.6	37.1	39.9	34.5
Delhi	35.7	40.8	30.7	40.6	49.2	32.3	34.9	39.4	30.5
Gujarat	38.4	42.4	34.8	38.4	42.3	35.0	38.4	42.6	34.5
Haryana	40.9	47.0	35.0	42.3	49.4	35.4	37.8	41.5	34.0
Himachal Pradesh	39.9	49.2	31.0	41.2	51.2	31.7	25.5	28.2	22.7
Jammu & Kashmir	34.9	37.3	32.2	36.9	39.4	34.2	28.5	30.7	26.2
Jharkhand	42.4	43.3	41.5	45.5	45.2	45.9	29.5	35.7	22.5
Karnataka	43.8	48.4	39.8	47.4	53.2	42.4	36.4	38.8	34.2
Kerala	39.6	45.8	34.6	39.8	45.7	34.9	39.2	45.8	33.8
Madhya Pradesh	50.0	56.2	43.9	52.2	59.2	45.3	41.6	44.5	38.7
Maharashtra	41.7	43.6	39.8	45.3	49.3	41.6	35.7	34.6	36.7
Odisha	46.3	48.6	44.1	46.5	49.5	43.7	45.0	42.4	47.5
Punjab	38.7	43.0	34.6	41.0	46.2	35.9	34.7	37.2	32.2
Rajasthan	41.5	48.2	35.3	41.7	49.8	34.1	40.9	42.7	39.3
Tamil Nadu	41.9	45.5	38.6	43.7	48.9	38.9	39.4	40.7	38.2
Uttar Pradesh	49.9	54.9	44.8	51.7	58.3	45.1	41.5	39.7	43.4
West Bengal	44.3	46.9	41.7	46.4	49.8	43.1	40.3	41.4	39.1

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 2012. At the National level, 22.0 per cent of the deaths occurred at Government Hospital and varies from 19.8 per cent in rural areas to 29.9 per cent in urban areas. Among the bigger States, Himachal Pradesh (48.3) has the highest percentage of deaths in Government Hospital and Jharkhand (12.9) the lowest. Deaths in private hospitals account for 12.6 per cent and it varies from 3.9 per cent in Odisha to 33.9 per cent in Kerala. About 27.8 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, 2012

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	22.0	19.8	29.9	12.6	10.6	19.7	37.7	38.4	35.0	27.8	31.2	15.3
Andhra Pradesh	17.2	15.7	22.8	16.2	15.4	19.4	32.9	32.5	34.6	33.7	36.4	23.2
Assam	15.6	14.7	23.2	10.9	10.7	12.2	55.7	56.0	53.4	17.8	18.6	11.2
Bihar	15.1	14.5	21.7	7.9	7.0	18.0	43.9	43.7	46.5	33.0	34.8	13.8
Chhattisgarh	17.2	14.3	36.1	9.3	8.4	15.2	29.7	28.3	38.9	43.7	49.0	9.8
Delhi	42.4	21.0	46.5	11.7	6.7	12.6	28.8	49.0	24.9	17.2	23.3	16.0
Gujarat	21.3	17.2	29.8	14.8	12.6	19.2	49.6	52.7	43.3	14.3	17.5	7.7
Haryana	15.3	14.7	17.1	11.6	11.1	12.9	55.9	57.0	52.7	17.2	17.2	17.3
Himachal Pradesh	48.3	48.9	36.9	11.0	10.3	23.5	33.2	33.7	24.4	7.5	7.1	15.2
Jammu & Kashmir	37.4	32.9	58.5	8.5	8.0	10.9	37.0	38.4	30.3	17.1	20.7	0.3
Jharkhand	12.9	10.1	30.1	10.0	8.2	21.3	36.1	35.7	38.6	40.9	46.0	10.0
Karnataka	25.5	21.9	35.2	15.1	12.0	23.3	18.9	21.5	11.8	40.6	44.6	29.7
Kerala	40.0	41.5	34.9	33.9	35.9	27.3	12.2	7.4	27.9	14.0	15.2	9.9
Madhya Pradesh	30.7	28.8	40.8	14.2	12.9	20.9	30.3	30.5	29.2	24.8	27.8	9.1
Maharashtra	25.8	22.4	32.5	15.7	12.7	21.6	42.2	44.9	36.9	16.3	20.0	9.0
Odisha	21.7	20.9	28.4	3.9	3.5	7.0	22.3	22.0	24.9	52.1	53.6	39.7
Punjab	15.2	14.8	16.1	30.5	26.0	40.8	53.0	57.4	42.9	1.3	1.8	0.2
Rajasthan	25.5	23.7	32.5	8.7	7.5	13.2	40.7	40.4	42.1	25.1	28.4	12.2
Tamil Nadu	19.4	15.9	25.3	15.6	11.0	23.3	22.0	20.0	25.4	43.0	53.1	26.0
Uttar Pradesh	18.8	18.3	21.5	11.4	9.4	23.2	46.3	47.3	40.4	23.5	25.0	14.9
West Bengal	25.5	21.2	36.5	6.8	4.2	13.5	45.9	46.7	43.8	21.8	27.9	6.2