

Chapter 6

CANCER MORTALITY

Part of the data collection of the PBCRs involves visits to the municipal corporation units to collect information on reported cancer deaths. This includes visits to the vital statistics division as well.

All death certificates with cancer mentioned are matched with the incident / morbidity data. This matching is done with all cases registered as incidence during that year as well as during previous years. Some registries have been providing the all cause death data in electronic form to improve mortality registration. Registries have tried to trace back the cases for the date of diagnosis for cancer deaths. In the absence of such date of diagnosis, these cases have been included as Death Certificates Only (DCOs) in the calculation of incidence rates.

There are certain limitations in the collection of cancer mortality data. These include the system of registration of death and certification of the cause of death. Though, in the urban centres all deaths are generally registered, many times the required information is not completely available. This pertains to cause of death and when cancer is mentioned as a cause, the anatomical site of cancer is not mentioned and when that is mentioned the morphologic type is not stated. Because of this, it appears difficult to have a clear and complete picture of cancer mortality as opposed to cancer morbidity. **Accordingly no projection of cancer mortality should be made based on this data.**

Further in the North East in general and places like Nagaland, Manipur in particular have a considerable proportion of tribal population in hilly areas where reporting of deaths to the concerned authorities could be even less. However, traditionally Mumbai has developed a relatively better system mainly because of the earlier Coroner's Act.

This chapter gives the number of mortality cases contributed by each registry, their mortality rates and Mortality to Incidence ratios (M/I%).

Table 6.1 shows the number of incidence cases, number of mortality cases and Mortality to Incidence Ratio (M/I%) of all sites of cancers in different registry areas. Among males, the highest M/I% was in Mumbai (69.6%), followed by Barshi Rural (68.9%) and Wardha (62.4%). Among females, Barshi Rural showed highest M/I% (66.3%) followed by Mumbai (57.9%) and Wardha (50.6%). Delhi PBCR had the lowest M/I% in both males (10.1%) and females (8.0%).

Table 6.2 gives the crude, age adjusted and truncated mortality rates among different PBCRs. This showed a variation of crude mortality rate among different registry areas. In males it varied from 8.8 per 100,000 in Aurangabad to 103.8 per 100,000 in Aizawl District of Mizoram State. Among females it varied from 5.3 per 100,000 in Nagaland PBCR to 67.8 per 100,000 in Mumbai.

Table 6.3 gives the number of matched deaths, number of death certificates only (DCOs) and total deaths.

Table 6.1: Number of Incident and Mortality Cases and Mortality-Incidence Percent (M/I%)

Registry	Male			Female		
	Incidence	Mortality	M/I%	Incidence	Mortality	M/I%
Bangalore (2012)	3824	1578	41.3	4547	1572	34.6
Barshi Rural (2012-2014)	454	313	68.9	475	315	66.3
Barshi Expanded (2012)	901	272	30.2	1131	264	23.3
Bhopal (2012-2013)	1718	717	41.7	1746	543	31.1
Chennai (2012-2013)	5447	1398	25.7	6212	1164	18.7
Delhi (2012)	10148	1027	10.1	9598	769	8.0
Mumbai (2012)	6598	4591	69.6	6759	3915	57.9
Cachar District (2012-2014)	2666	412	15.5	2100	275	13.1
Dibrugarh District (2012-2014)	1498	433	28.9	1345	252	18.7
Kamrup Urban District (2012-2014)	3071	1011	32.9	2392	523	21.9
Manipur State (MR) (2012-2014)	2081	560	26.9	2542	495	19.5
<i>Imphal West District</i> (2012-2014)	640	160	25.0	823	148	18.0
<i>MR - Excl. Imphal West</i> (2012-2014)	1441	400	27.8	1719	347	20.2
Mizoram State (MZ) (2012-2014)	2567	1346	52.4	2089	830	39.7
<i>Aizawl District</i> (2012-2014)	1275	647	50.7	1066	410	38.5
<i>MZ - Excl. Aizawl</i> (2012-2014)	1292	699	54.1	1023	420	41.1
Sikkim State (2012-2014)	707	365	51.6	678	311	45.9
Ahmedabad Urban (2012-2013)	5477	1937	35.4	4117	1141	27.7
Aurangabad (2012-2014)	1123	175	15.6	1118	117	10.5
Kolkata (2012)	2777	1077	38.8	2596	916	35.3
Kollam District (2012-2014)	5534	2985	53.9	5478	2158	39.4
Nagpur (2012-2013)	2236	313	14.0	2417	251	10.4
Pune (2012-2013)	3417	1379	40.4	3686	1353	36.7
Thi'puram District (2012-2014)	7638	2989	39.1	8002	2378	29.7
Meghalaya (2012-2014)	2632	1027	39.0	1616	591	36.6
<i>East Khasi Hills District</i> (2012-2014)	1624	661	40.7	988	389	39.4
Tripura State (2012-2014)	3628	1778	49.0	2702	1082	40.0
Nagaland (2012-2014)	815	153	18.8	546	55	10.1
Wardha District (2012-2014)	1306	815	62.4	1424	720	50.6
Naharlagun (NH) (2012-2014)	735	212	28.8	704	127	18.0
<i>Papumpare District</i> (2012-2014)	299	75	25.1	333	50	15.0
<i>NH - Excl. Papumpare</i> (2012-2014)	436	137	31.4	371	77	20.8
Pasighat (2012-2014)	175	39	22.3	159	28	17.6
Patiala District (2012-2014)	2853	962	33.7	3158	815	25.8

Table 6.2: Crude (CMR), Age Adjusted (AAMR) and Truncated (TMR) Mortality Rate per 100,000

Registry	Male			Female		
	CMR	AAMR	TMR	CMR	AAMR	TMR
Bangalore (2012)	34.2	45.0	61.2	36.8	45.0	75.8
Barshi Rural (2012-2014)	39.2	35.9	49.7	43.8	38.2	63.9
Barshi Expanded (2012)	12.0	12.1	20.3	12.7	12.0	24.2
Bhopal (2012-2013)	34.3	43.5	80.2	28.1	34.0	69.8
Chennai (2012-2013)	29.6	29.7	44.5	24.8	23.8	39.2
Delhi (2012)	11.4	15.5	22.6	9.8	11.9	22.1
Mumbai (2012)	68.2	79.5	106.4	67.8	69.3	107.3
Cachar District (2012-2014)	14.9	19.9	32.3	10.3	13.4	26.5
Dibrugarh District (2012-2014)	20.9	26.8	44.4	12.5	15.5	33.4
Kamrup Urban District (2012-2014)	47.2	70.0	101.8	27.0	41.2	71.5
Manipur State (MR) (2012-2014)	12.2	17.0	21.3	10.9	14.4	21.9
<i>Imphal West District</i> (2012-2014)	20.2	22.9	24.8	18.0	19.1	28.3
<i>MR - Excl. Imphal West</i> (2012-2014)	10.5	15.3	20.5	9.3	13.1	20.2
Mizoram State (MZ) (2012-2014)	77.3	113.0	176.2	48.4	69.6	106.7
<i>Aizawl District</i> (2012-2014)	103.8	140.6	235.1	64.3	83.2	127.0
<i>MZ - Excl. Aizawl</i> (2012-2014)	62.5	95.9	140.1	38.9	60.1	92.6
Sikkim State (2012-2014)	36.7	47.7	64.0	35.0	48.5	80.9
Ahmedabad Urban (2012-2013)	30.9	35.2	65.1	20.2	21.4	43.5
Aurangabad (2012-2014)	8.8	12.6	15.0	6.3	7.8	10.1
Kolkata (2012)	46.1	39.0	51.4	42.6	36.4	65.1
Kollam District (2012-2014)	79.8	63.9	96.9	51.3	38.8	68.2
Nagpur (2012-2013)	11.9	12.7	22.1	9.9	9.8	17.5
Pune (2012-2013)	25.2	32.0	42.7	27.3	31.6	55.7
Thi'puram District (2012-2014)	62.9	51.2	78.9	45.7	34.9	61.6
Meghalaya (2012-2014)	34.6	67.3	148.7	19.9	34.9	76.3
<i>East Khasi Hills District</i> (2012-2014)	51.1	89.7	202.2	29.5	46.1	95.7
Tripura State (2012-2014)	30.7	37.8	63.5	19.4	22.3	45.9
Nagaland (2012-2014)	14.0	24.0	41.2	5.3	8.5	15.9
Wardha District (2012-2014)	40.2	37.3	65.6	37.5	33.9	69.9
Naharlagun (NH) (2012-2014)	16.9	30.0	57.8	10.6	20.0	41.5
<i>Papumpare District</i> (2012-2014)	26.0	60.6	95.5	17.3	35.4	89.9
<i>NH - Excl. Papumpare</i> (2012-2014)	14.2	23.6	48.3	8.4	16.1	29.9
Pasighat (2012-2014)	18.5	26.3	29.9	13.8	20.4	28.0
Patiala District (2012-2014)	30.7	32.9	54.8	29.1	29.0	56.7

Table 6.3: Number of Matched Deaths (MD), Number of Death Certificates Only (DCOs) and Total Deaths (TD)

Registry	Male			Female		
	MD	DCOs	TD	MD	DCOs	TD
Bangalore (2012)	1313	265	1578	1328	244	1572
Barshi Rural (2012-2014)	309	4	313	309	6	315
Barshi Expanded (2012)	272	0	272	264	0	264
Bhopal (2012-2013)	692	25	717	517	26	543
Chennai (2012-2013)	1054	344	1398	837	327	1164
Delhi (2012)	319	708	1027	271	498	769
Mumbai (2012)	3800	791	4591	3289	626	3915
Cachar District (2012-2014)	340	72	412	241	34	275
Dibrugarh District (2012-2014)	244	189	433	148	104	252
Kamrup Urban District (2012-2014)	681	330	1011	364	159	523
Manipur State (MR) (2012-2014)	543	17	560	478	17	495
<i>Imphal West District</i> (2012-2014)	157	3	160	143	5	148
<i>MR - Excl. Imphal West</i> (2012-2014)	386	14	400	335	12	347
Mizoram State (MZ) (2012-2014)	1239	107	1346	735	95	830
<i>Aizawl District</i> (2012-2014)	619	28	647	379	31	410
<i>MZ - Excl. Aizawl</i> (2012-2014)	620	79	699	356	64	420
Sikkim State (2012-2014)	331	34	365	282	29	311
Ahmedabad Urban (2012-2013)	1914	23	1937	1128	13	1141
Aurangabad (2012-2014)	115	60	175	66	51	117
Kolkata (2012)	364	713	1077	330	586	916
Kollam District (2012-2014)	2738	247	2985	1917	241	2158
Nagpur (2012-2013)	274	39	313	212	39	251
Pune (2012-2013)	1229	150	1379	1222	131	1353
Thi'puram District (2012-2014)	2323	666	2989	1820	558	2378
Meghalaya (2012-2014)	788	239	1027	436	155	591
<i>East Khasi Hills District</i> (2012-2014)	522	139	661	286	103	389
Tripura State (2012-2014)	1777	1	1778	1077	5	1082
Nagaland (2012-2014)	143	10	153	52	3	55
Wardha District (2012-2014)	714	101	815	596	124	720
Naharlagun (NH) (2012-2014)	211	1	212	126	1	127
<i>Papumpare District</i> (2012-2014)	75	0	75	50	0	50
<i>NH - Excl. Papumpare</i> (2012-2014)	136	1	137	76	1	77
Pasighat (2012-2014)	34	5	39	28	0	28
Patiala District (2012-2014)	355	607	962	291	524	815