

Chapter 7

COMPARISON OF CANCER INCIDENCE AND PATTERNS OF ALL POPULATION BASED CANCER REGISTRIES

This chapter compares the cancer incidence and its pattern among all the PBCRs.

All Sites (ICD-10: C00-C97)

Figure 7.1 compares the Age Adjusted Rates (AARs) of all sites in males and females respectively. Among males, six North East registry areas show a higher AAR compared to Thiruvananthapuram which has the highest AAR (132.6 per 100,000) among other PBCRs. Thus, Aizawl District (273.4 per 100,000) has the highest AAR and has approximately twice the AAR of Thiruvananthapuram. East Khasi Hills District in Meghalaya has the second highest AAR (216.0) followed by Mizoram State (189.5) and Kamrup Urban District (185.2). Among the new registries Meghalaya had higher AAR (157.3) compared to Nagaland State (126.1) and Tripura State (78.8). Among females, three registry areas of North East registries showed higher AAR (Aizawl District 227.8, Kamrup Urban District 156.3 and Mizoram State 153.7) compared to Bangalore which had the highest AAR (137.2) among other PBCRs.

Male-Female Ratio (M:F Ratio)

Cancer incidence rates have shown variation between the sexes, especially for certain sites of cancer. Both Bangalore and Chennai have since inception shown, for all sites of cancer, a consistently higher AAR in women compared to men. The M:F ratio of AARs for all sites varied from 0.77 in Barshi to 1.88 in the newer registry of Meghalaya. Except cancers of the thyroid and gallbladder all the leading sites of cancer show a higher AAR in men compared to women. In all PBCRs, females with cancer of the thyroid show a higher AAR. Wide variations in the M:F ratios are seen for the leading sites of cancer among different PBCRs being most pronounced in cancers of the liver, mouth, gallbladder, larynx and non-Hodgkin's lymphoma.

Figures 7.2 to 7.22 give the AAR comparison of selected leading sites of cancer.

Tongue (ICD-10: C01-C02)

Males: Ahmedabad Urban had the highest AAR (12.2) among all the PBCRs. Kamrup Urban District showed highest AAR (9.4) among the North East registries.

Females: The North Eastern registry areas of Kamrup Urban District and East Khasi Hills of Meghalaya shared the top place with Ahmedabad Urban for the highest AAR of 3.2 per 100,000 among all the PBCRs.

Mouth (ICD-10: C03-C06)

Males: Ahmedabad Urban District showed the highest AAR (17.1) followed by Bhopal (12.5).

Females: Kamrup Urban District and East Khasi Hills of Meghalaya had high AARs of 7.6 and 7.3 respectively followed by Bangalore (6.2).

Nasopharynx (ICD-10: C11)

Males: Ten North Eastern registry areas had higher AARs with Nagaland State having the highest (21.0). Chennai had higher AAR of 1.1 among older registries.

Females: Aizawl District had higher AARs (5.2) among North East registries. Thiruvananthapuram had higher AAR of 0.4 among other registries.

Hypopharynx (ICD-10: C12-13)

Males: The AARs of East Khasi Hills District of Meghalaya (21.5) and the state of Meghalaya as a whole (17.4) were higher followed by Aizawl District (15.4).

Females: Kamrup Urban District showed the highest AAR (3.6) followed by Cachar District (2.6).

Oesophagus (ICD-10: C15)

Males: East Khasi Hills showed the highest AAR (71.4) followed by the state of Meghalaya (46.2).

Females: East Khasi Hills showed the highest AAR (30.2) followed by the state of Meghalaya (19.8).

Stomach (ICD-10: C16)

Males: Aizawl District (64.2), Mizoram State (47.6), Mizoram excluding Aizawl District (38.9) and Nagaland State (26.2) were in the lead among all the PBCRs. Chennai had the highest AAR (12.2) among all the older PBCRs.

Females: All the three areas in Mizoram i.e. Aizawl District (31.2), Mizoram State (22.7) and Mizoram State excluding Aizawl District (18.1) had higher AARs followed by Nagaland State (12.5). Bangalore had the highest AAR (5.5) among all the older PBCRs.

Colon (ICD-10: C18)

Males: Thiruvananthapuram (4.1) had the highest AAR followed by Bangalore (3.9) and Mumbai (3.7).

Females: Nagaland PBCR had the highest AAR (5.2) followed by Aizawl District in Mizoram State (4.5).

Liver (ICD-10: C22)

Males: Aizawl District (11.6), Mizoram State (8.0), Sikkim State (7.6), Mizoram excluding Aizawl District (6.0) had higher AARs among all the PBCRs.

Gallbladder (ICD-10: C23-C24)

Males: Kamrup Urban District showed the highest AAR (7.4) followed by Cachar District (5.1).

Females: Kamrup Urban District showed the highest AAR (14.0) followed by Cachar District (10.1) and Delhi (9.2).

Larynx (ICD-10: C32)

Males: East Khasi Hills District (11.1) had the highest AAR followed by Aizawl District (9.5) and Kamrup Urban District (8.2).

Lung (ICD-10: C33-C34)

Males: All the three areas of Mizoram namely, Aizawl District (45.7), Mizoram State (28.3) and Mizoram excluding Aizawl District (19.5) had higher AARs among all the PBCRs.

Females: All the three areas of Mizoram namely, Aizawl District (44.6), Mizoram State (28.7) and Mizoram excluding Aizawl District (19.9) had higher AARs followed by all the three areas of Manipur.

Breast (ICD-10: C50)

Females: Bangalore (36.6), Thiruvananthapuram (35.1), Chennai (32.6) and Nagpur (32.5) had higher AARs among all the PBCRs.

Cervix Uteri (ICD-10: C53)

Females: Aizawl District (24.3) registered the highest AAR followed by Barshi Expanded (19.5), Bangalore (18.9) and Barshi Rural (18.0).

Corpus Uteri (ICD-10: C54)

Females: Bangalore showed the highest AAR (6.2) followed by Thiruvananthapuram (5.7).

Ovary (ICD-10: C56)

Females: Kamrup Urban District (10.7) had the highest AAR followed by Chennai (8.2) and Delhi PBCR (8.2).

Prostate (ICD-10: C61)

Males: Kamrup Urban District showed highest AAR (11.2) followed by Delhi (10.7).

Kidney (ICD-10: C64)

Males: Thiruvananthapuram showed the highest AAR (2.9) followed by Delhi PBCR (2.7).

Urinary Bladder (ICD-10: C67)

Males: Delhi had the highest AAR (6.8) followed by Imphal West District (4.1).

Brain, Nervous System (ICD-10: C70-72)

Males: Delhi showed the highest AAR (3.7) followed by Bangalore (3.4).

Females: Sikkim State (3.6) had the highest AAR followed by Bangalore PBCR (2.8).

Thyroid (ICD-10: C73)

Females: The two registries in Kerala namely, Thiruvananthapuram (10.0) and Kollam (7.3) showed higher AARs followed by Manipur Excluding Imphal West District (4.4).

NHL (ICD-10: C82-C85, C96)

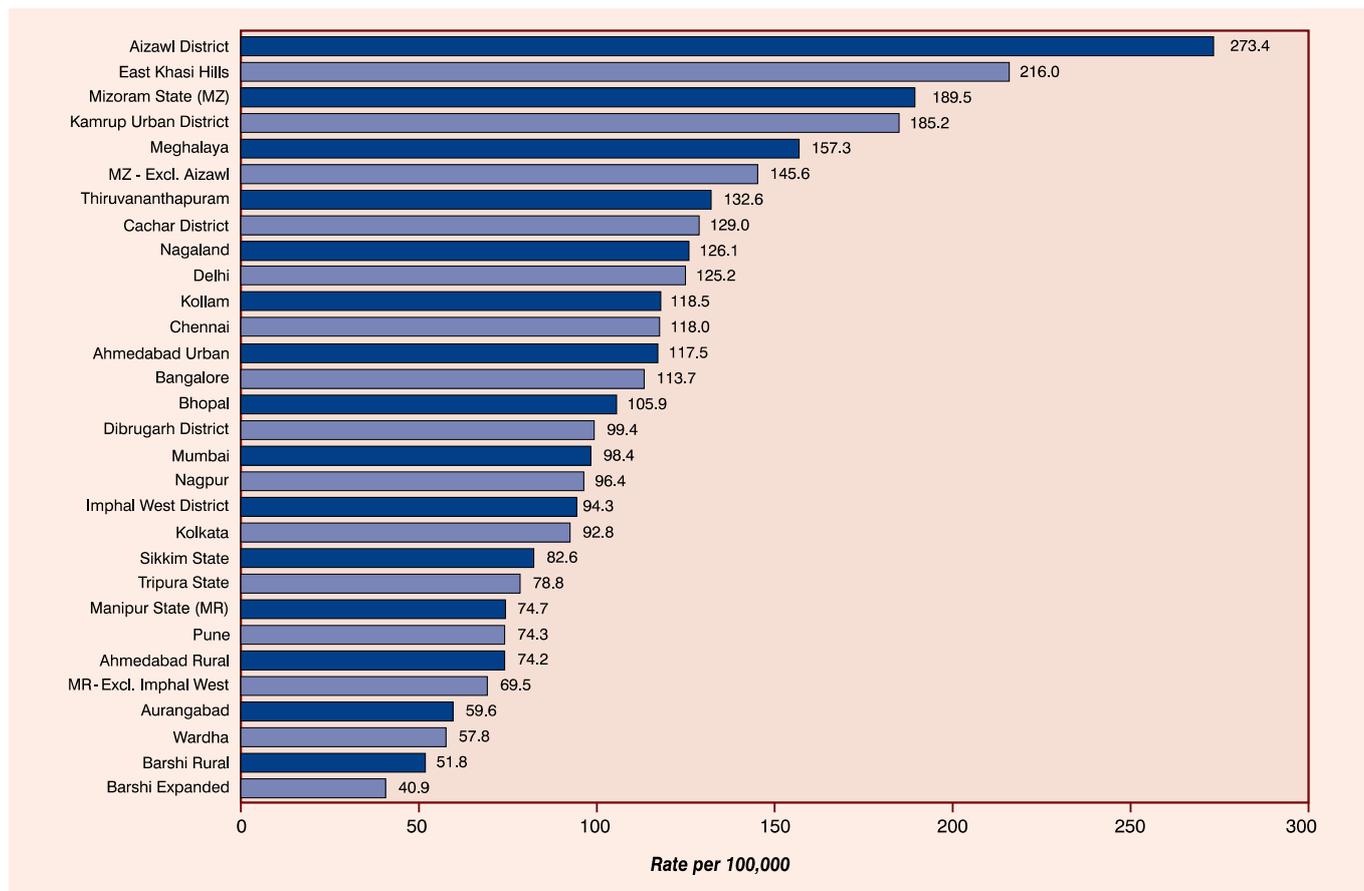
Males: Imphal West District showed the highest AAR (6.3) followed by Thiruvananthapuram (5.6).

Females: Thiruvananthapuram (3.7) had higher AAR followed by Bangalore (3.5).

Fig. 7.1: Comparison of Age Adjusted Incidence Rates (AARs) of all PBCRs

ALL SITES (ICD-10: C00-C97)

Males



Females

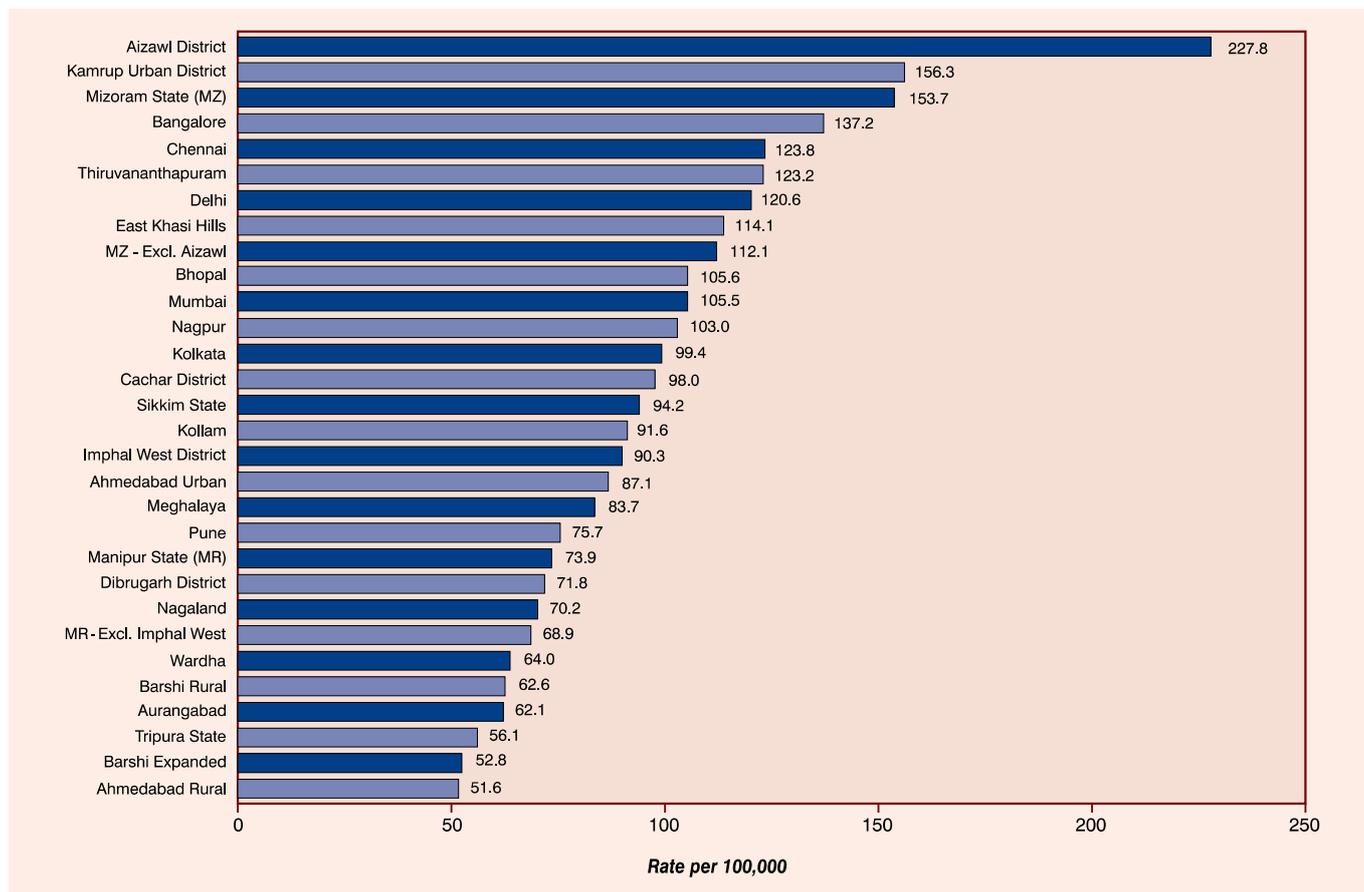
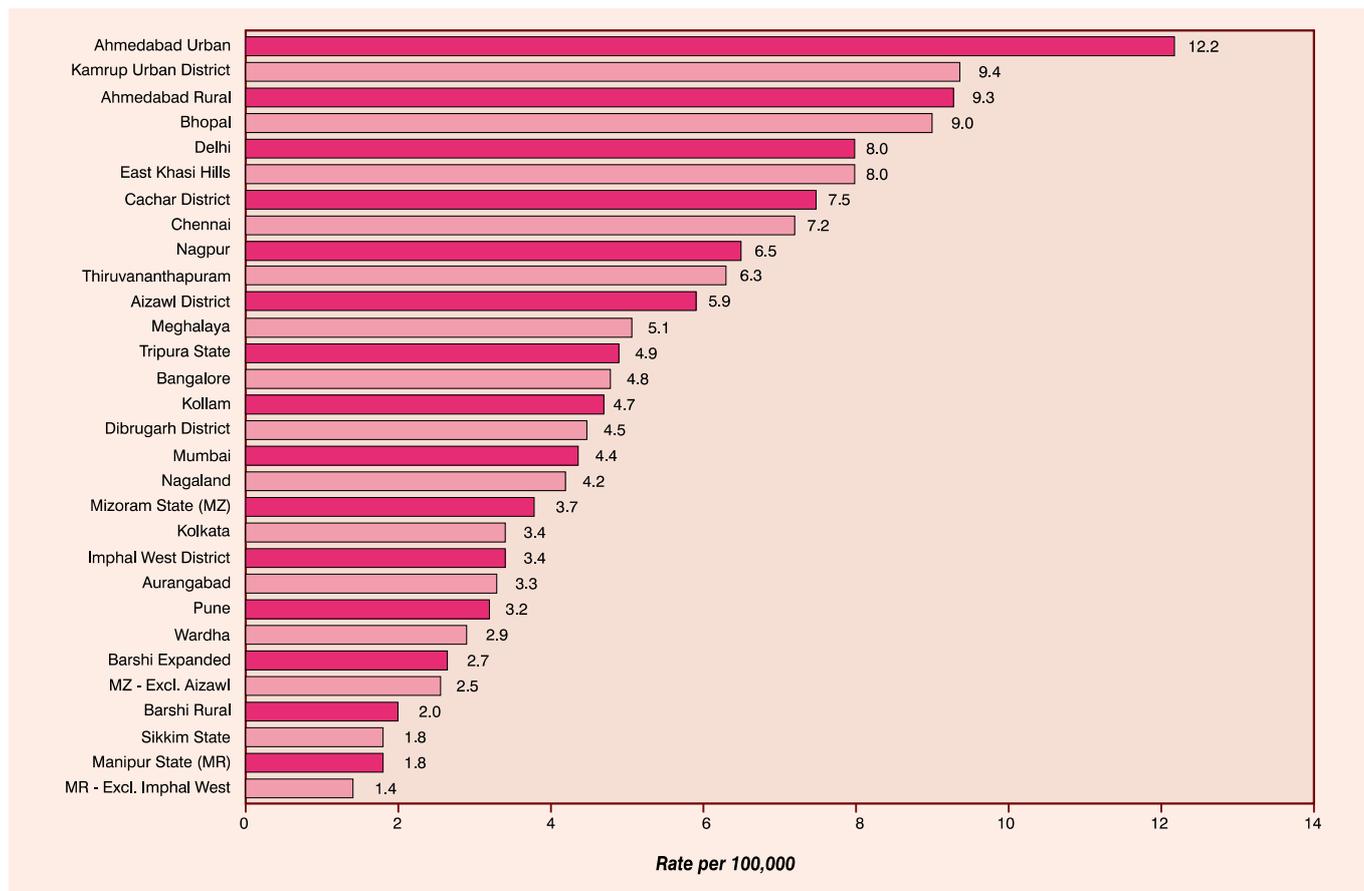


Fig. 7.2: Comparison of Age Adjusted Incidence Rates (AARs) of all PBCRs

TONGUE (ICD-10: C01-C02)

Males



Females

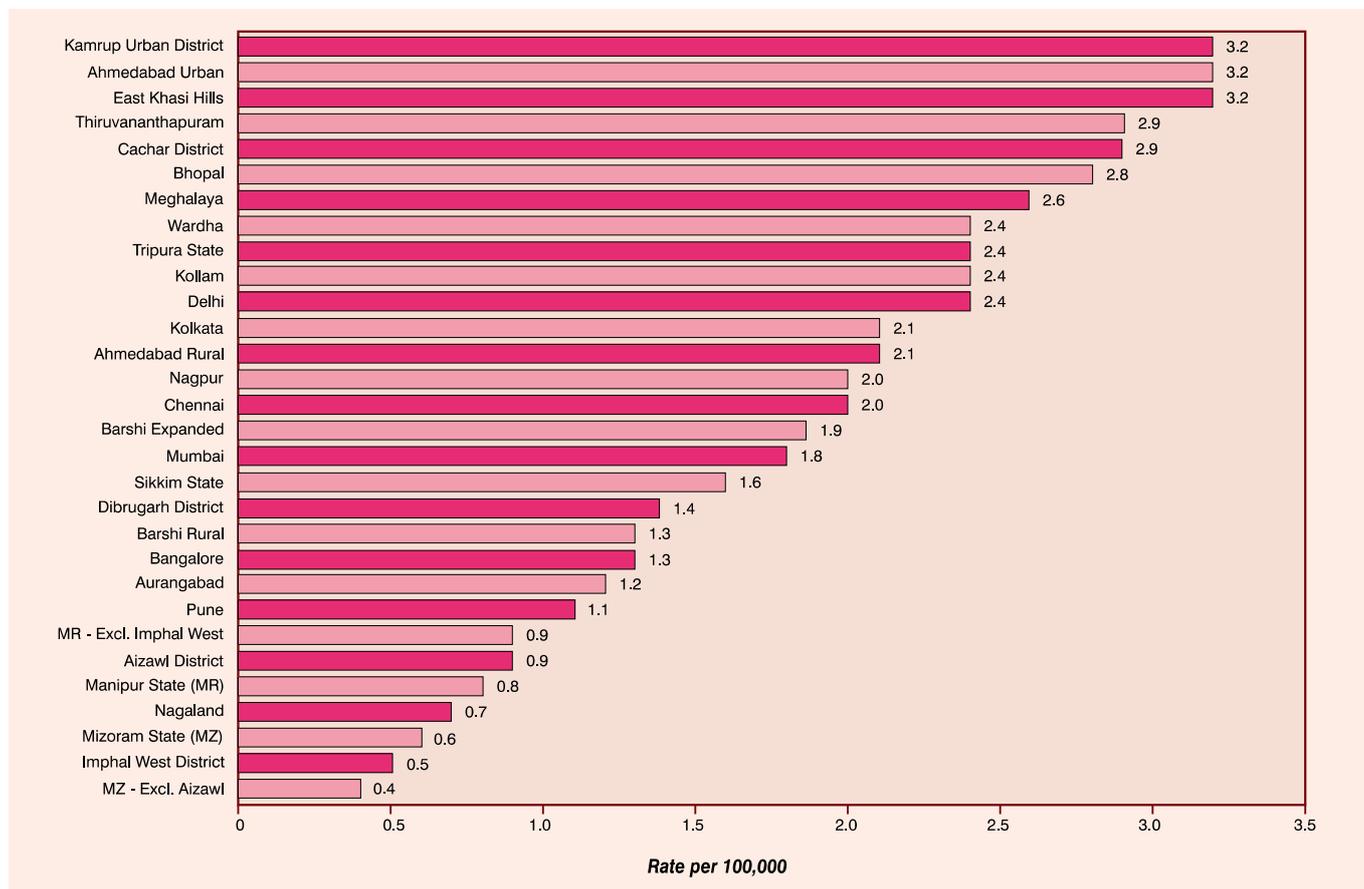
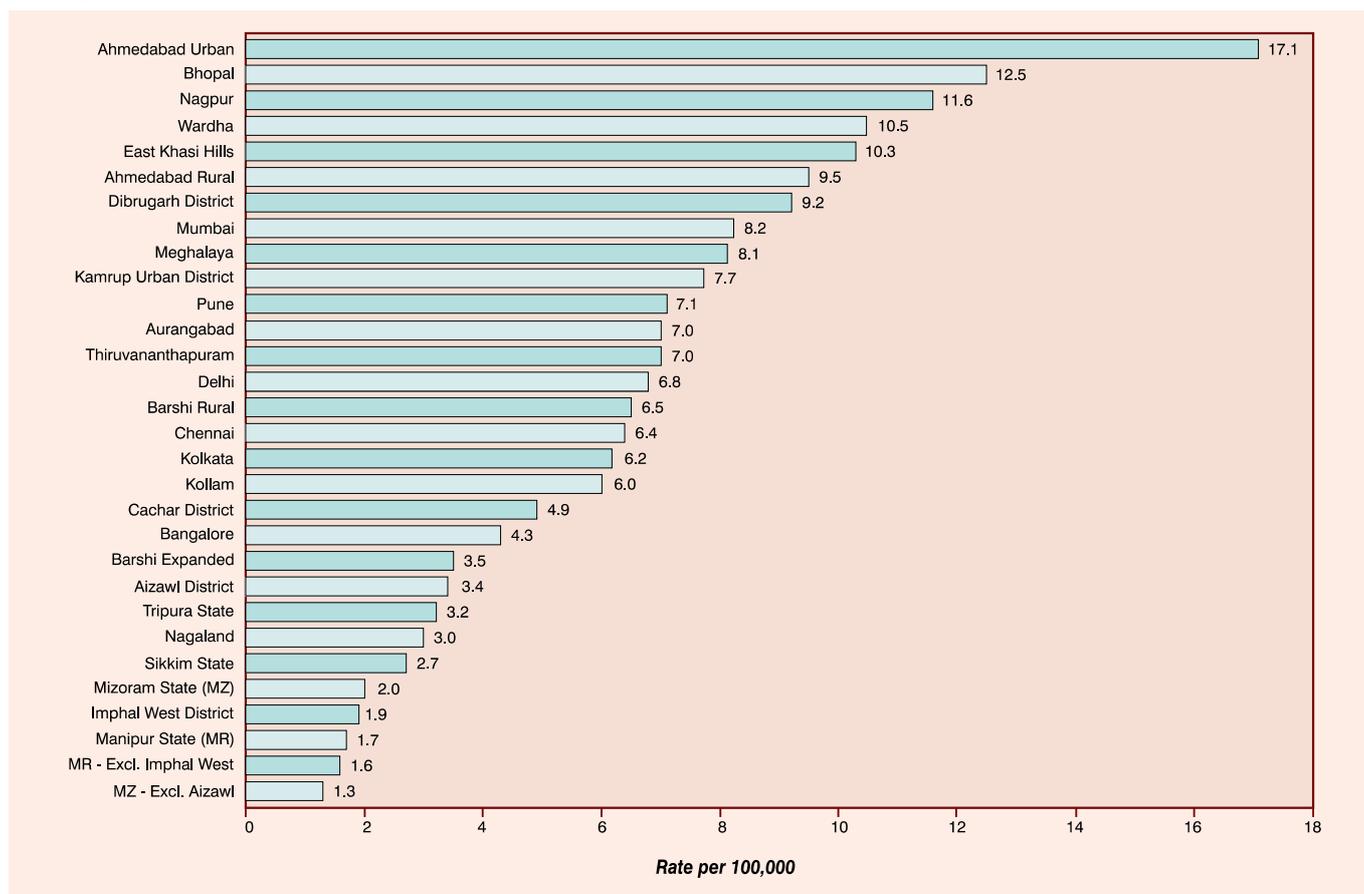


Fig. 7.3: Comparison of Age Adjusted Incidence Rates (AARs) of all PBCRs

MOUTH (ICD-10: C03-C06)

Males



Females

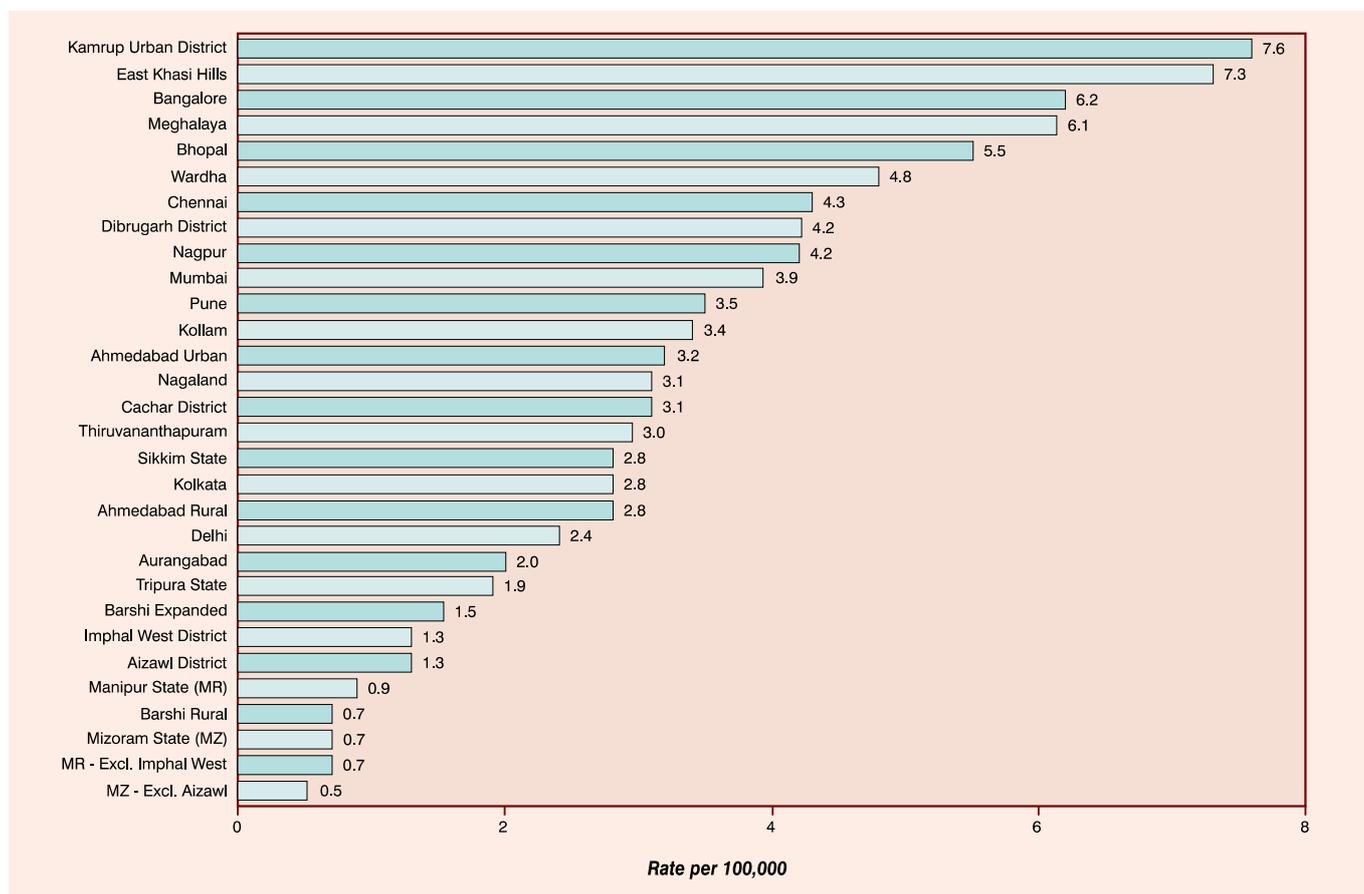
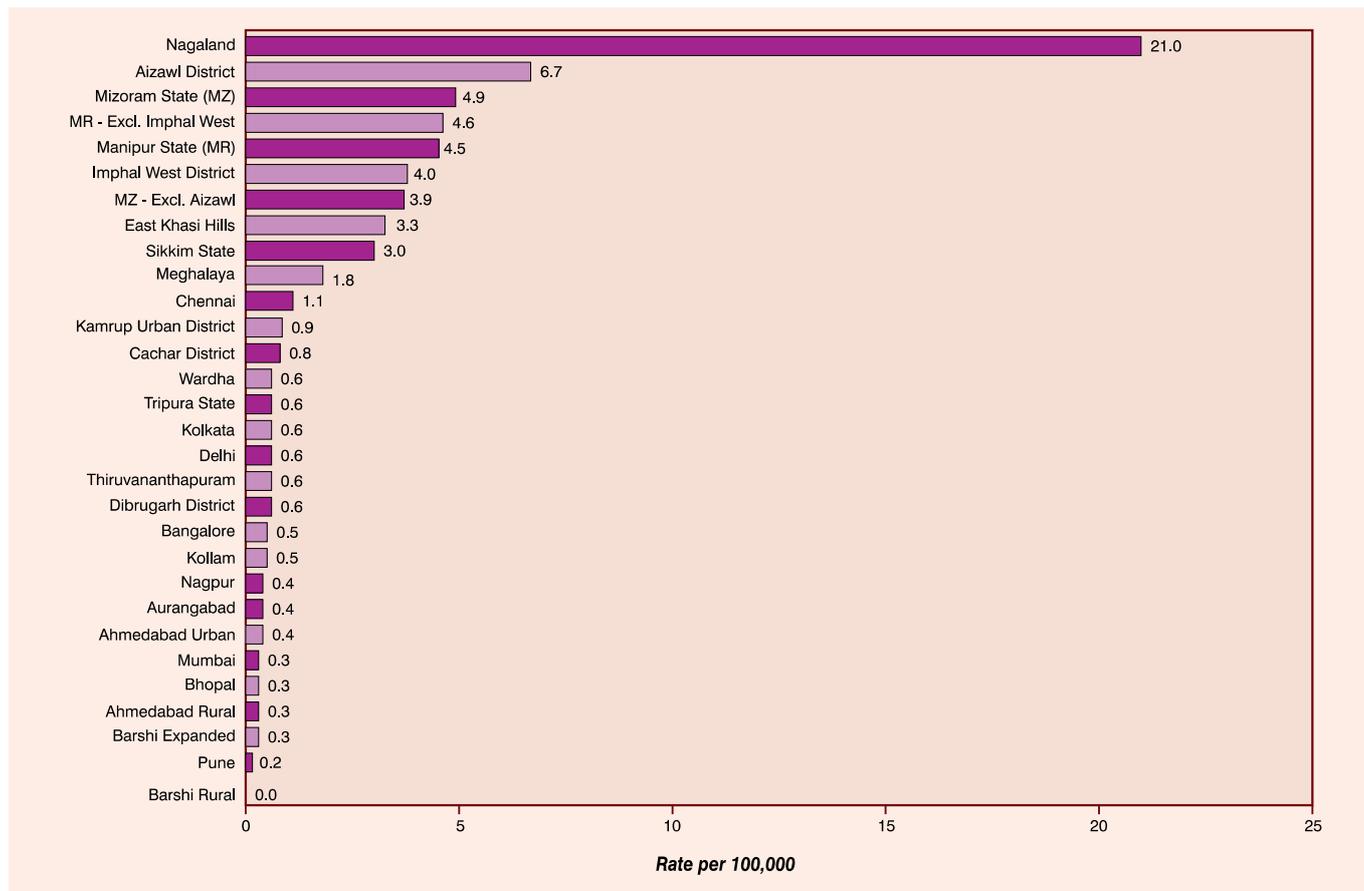
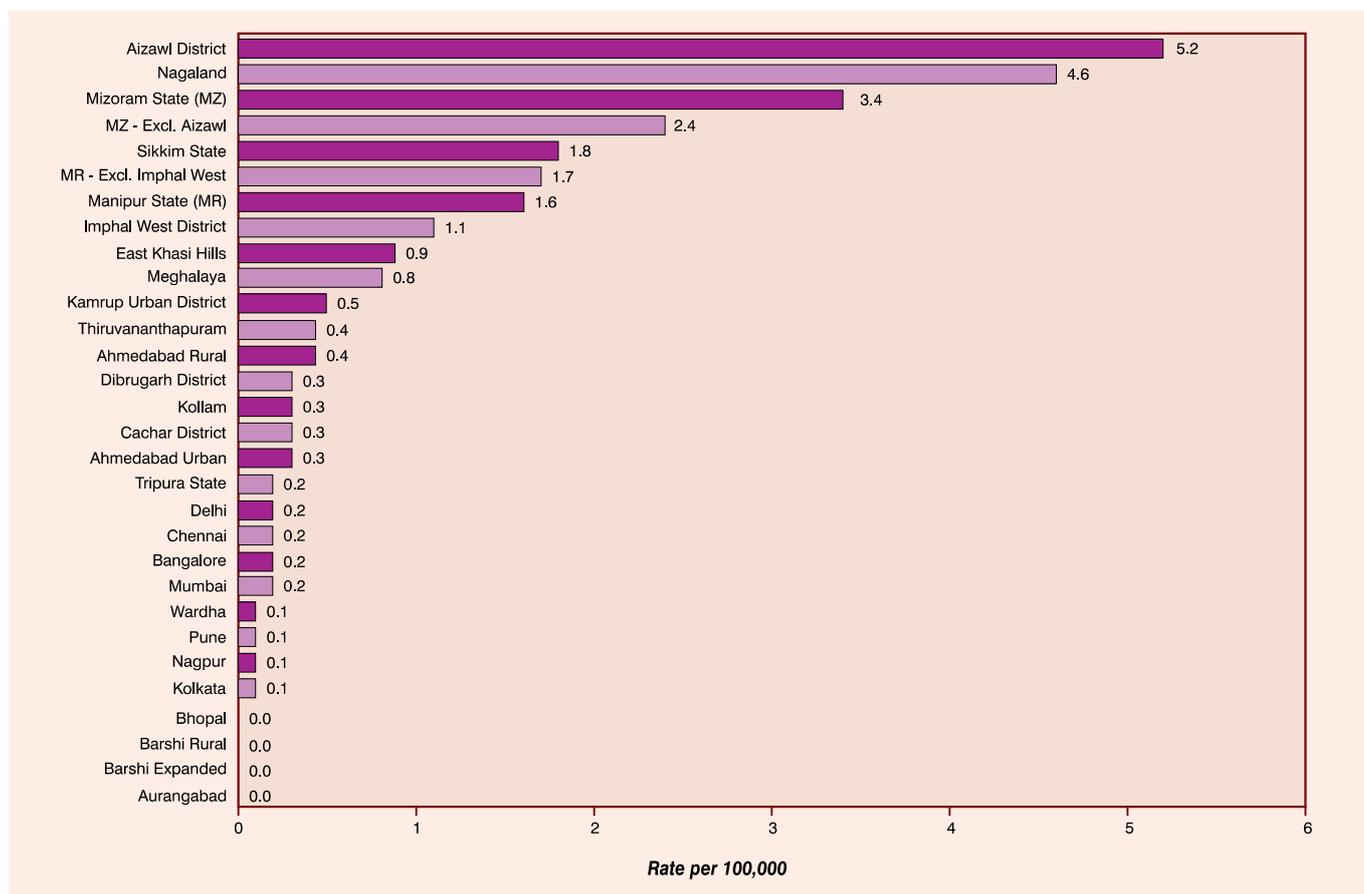


Fig. 7.4: Comparison of Age Adjusted Incidence Rates (AARs) of all PBCRs NASOPHARYNX (ICD-10: C11)

Males

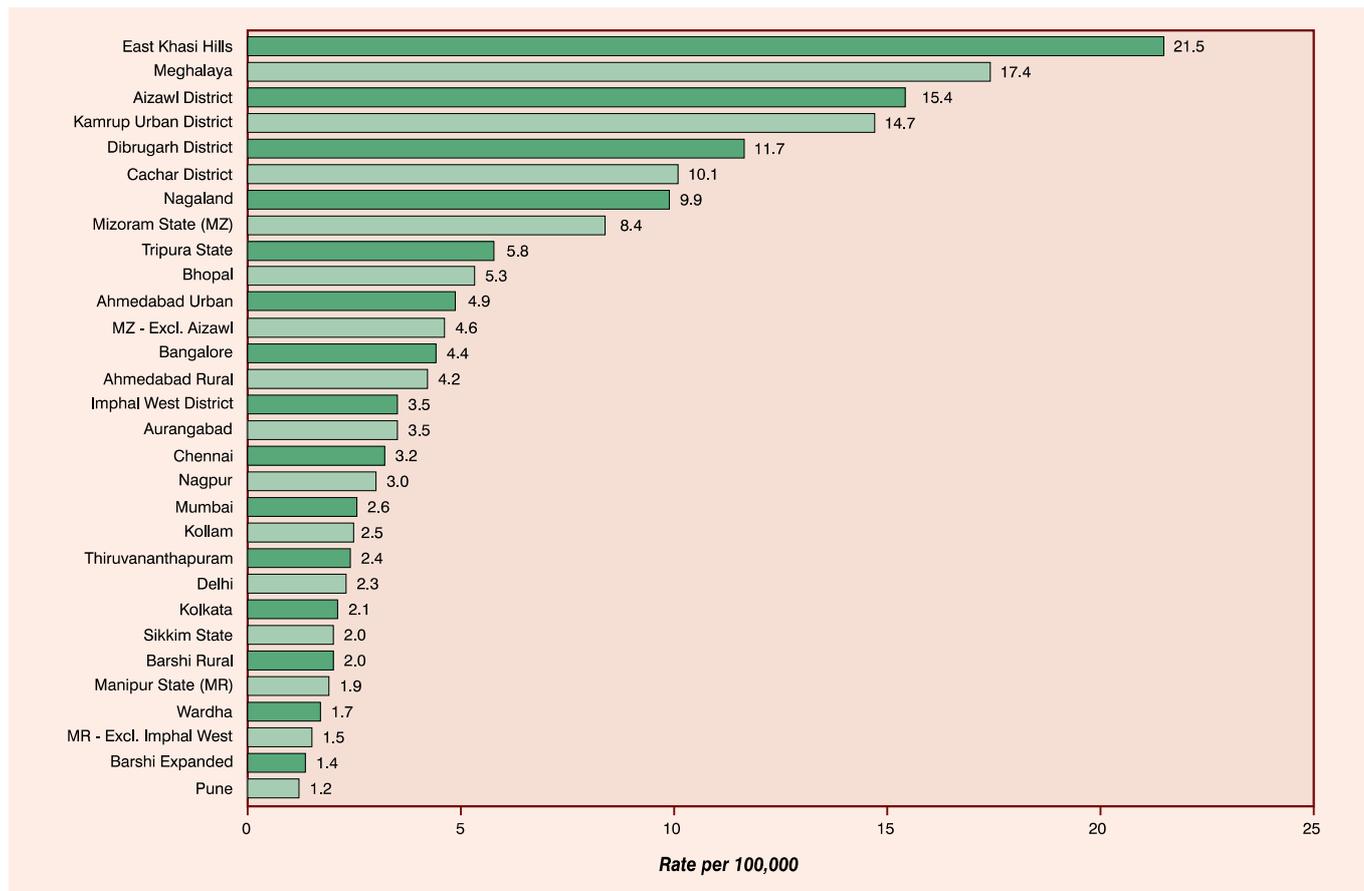


Females

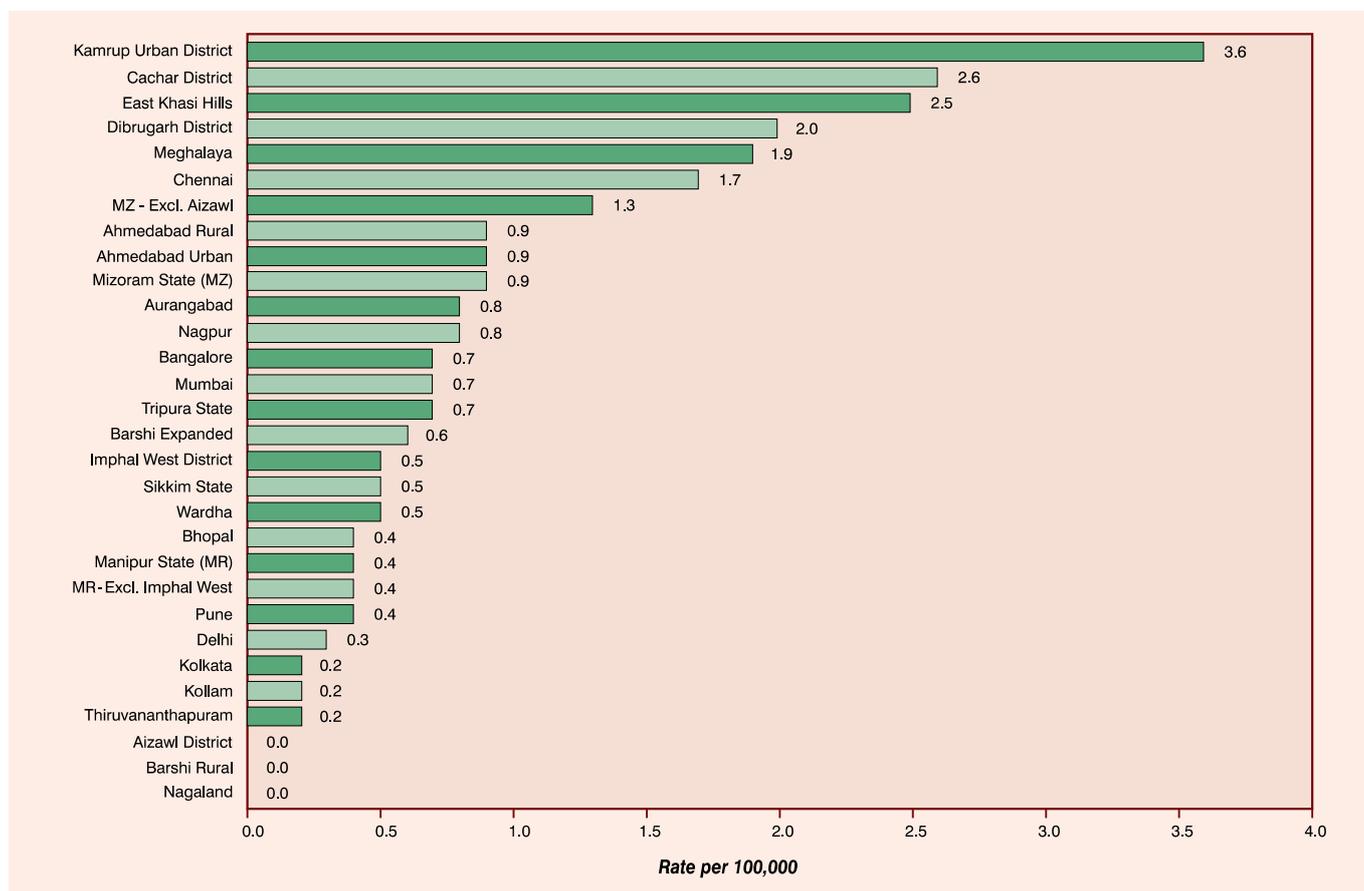


**Fig. 7.5: Comparison of Age Adjusted Incidence Rates (AARs) of all PBCRs
HYPOPHARYNX (ICD-10: C12-C13)**

Males

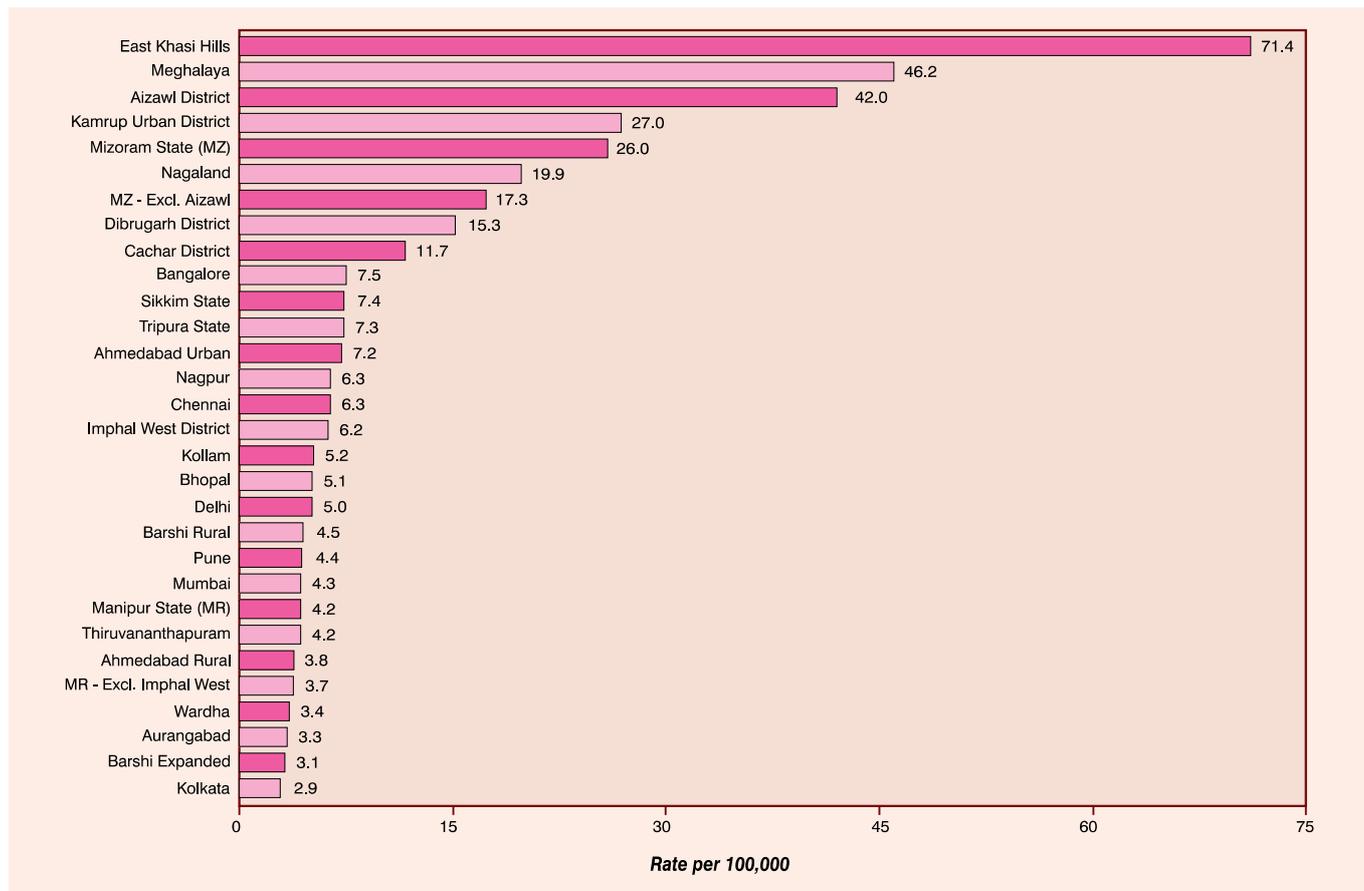


Females

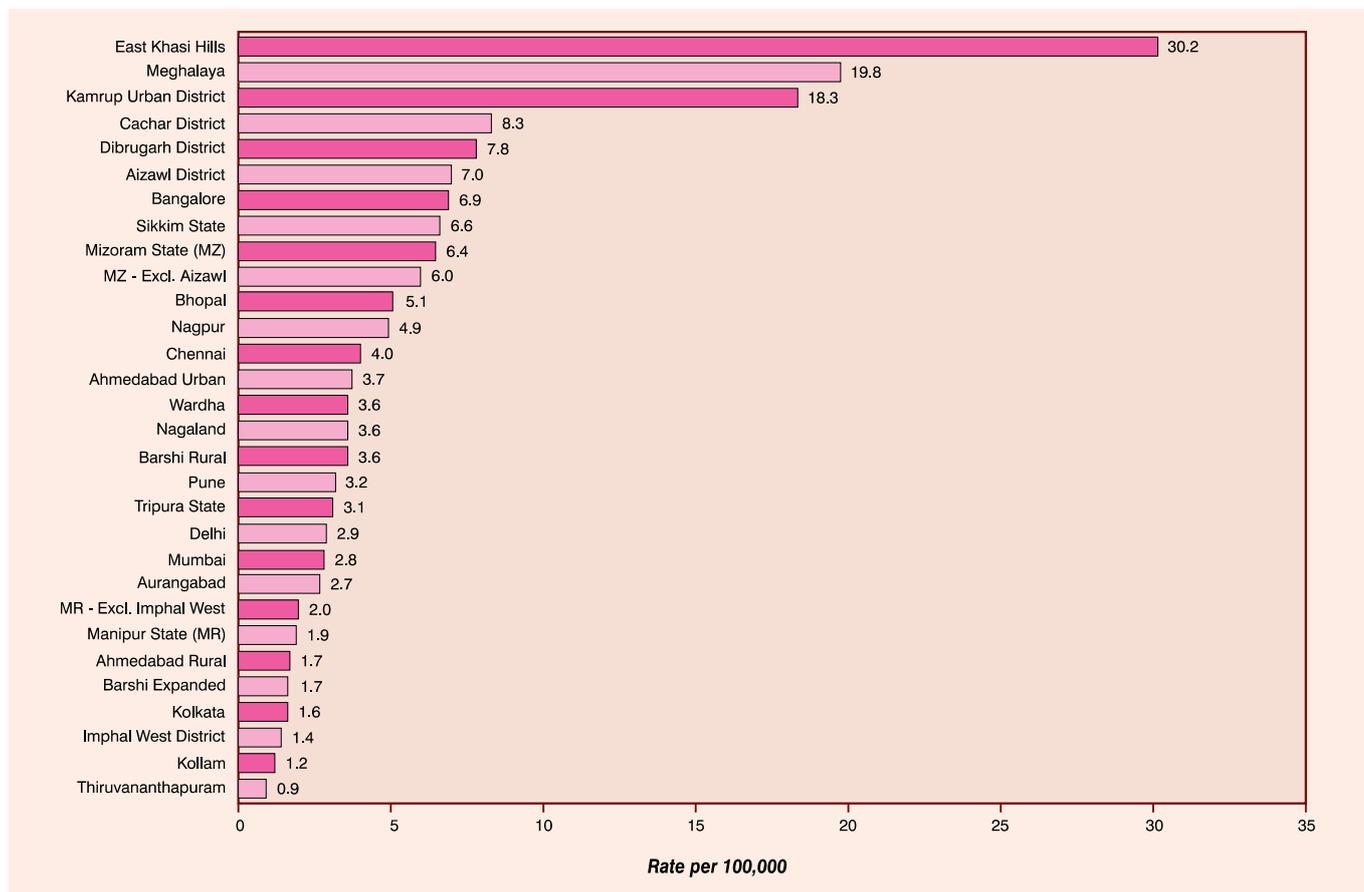


**Fig. 7.6: Comparison of Age Adjusted Incidence Rates (AARs) of all PBCRs
OESOPHAGUS (ICD-10: C15)**

Males

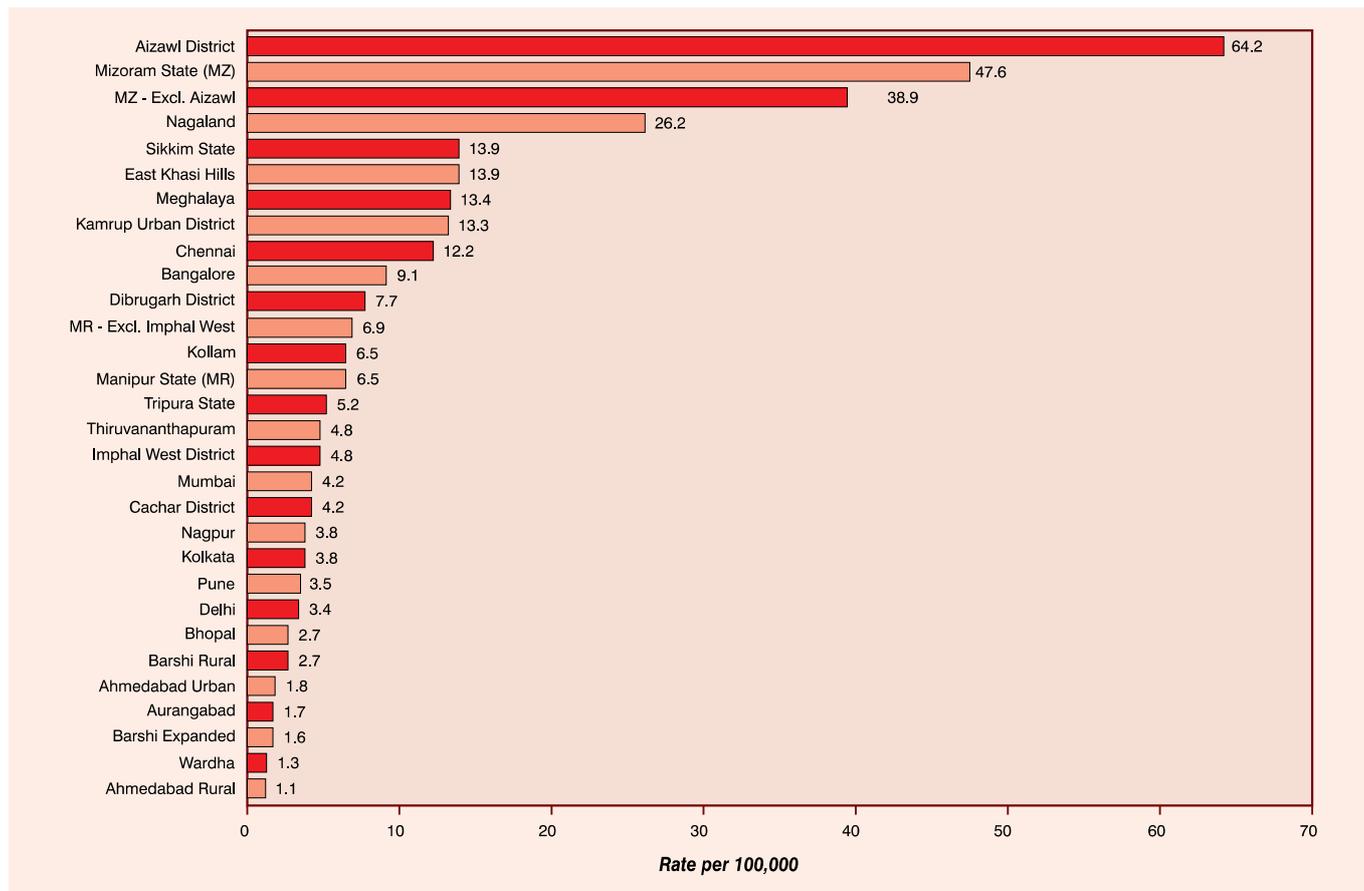


Females



**Fig. 7.7: Comparison of Age Adjusted Incidence Rates (AARs) of all PBCRs
STOMACH (ICD-10: C16)**

Males



Females

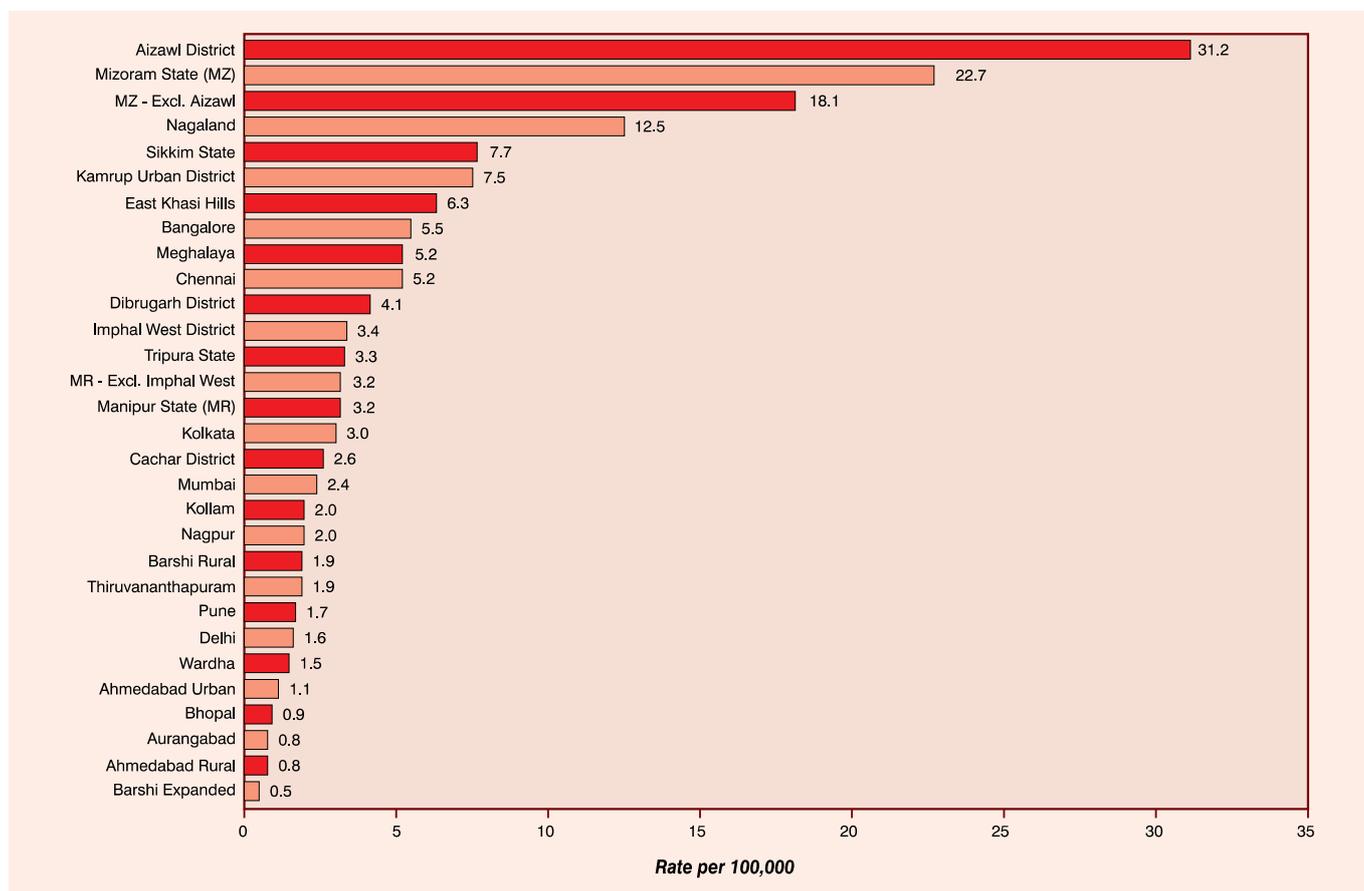
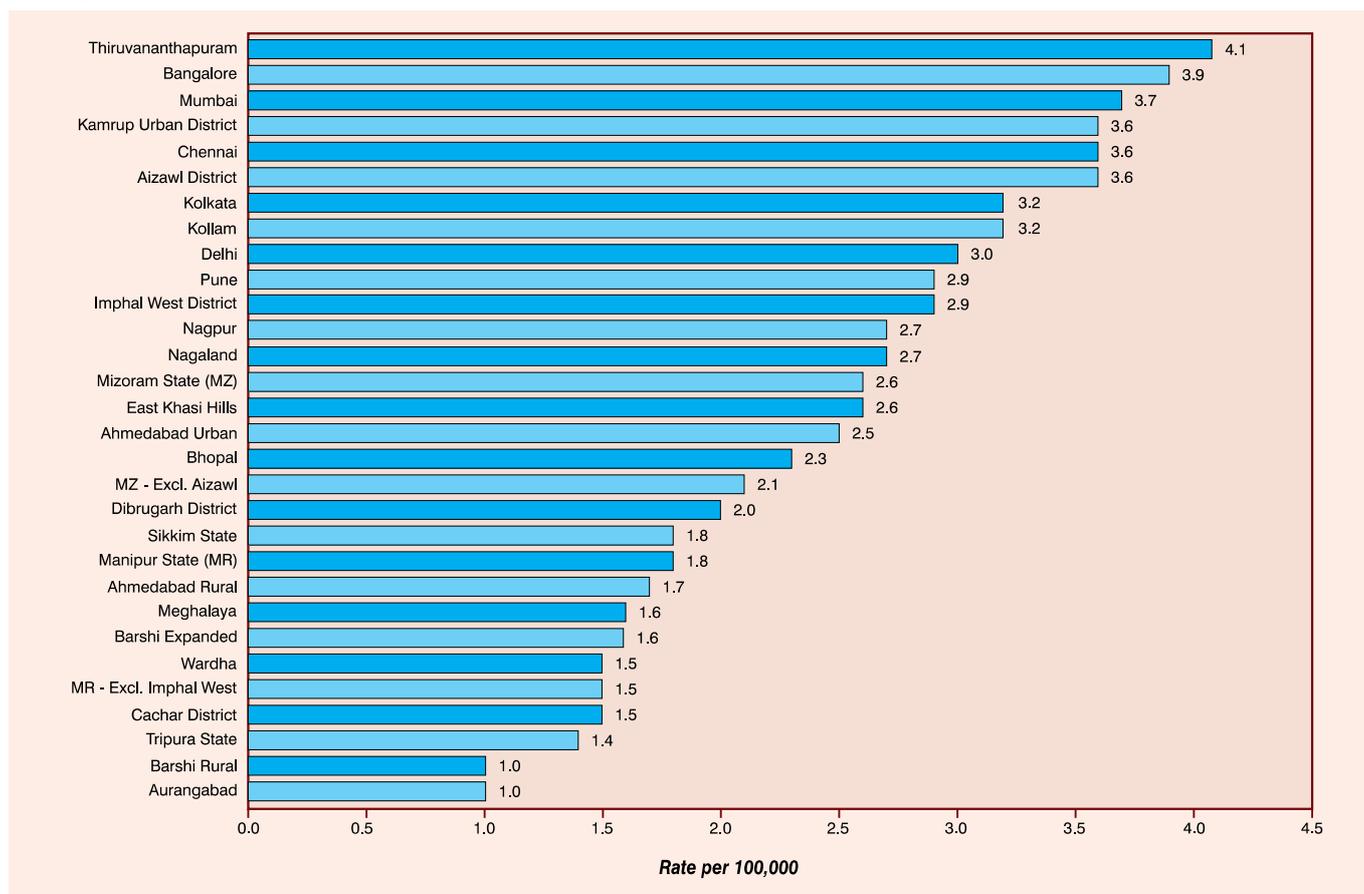


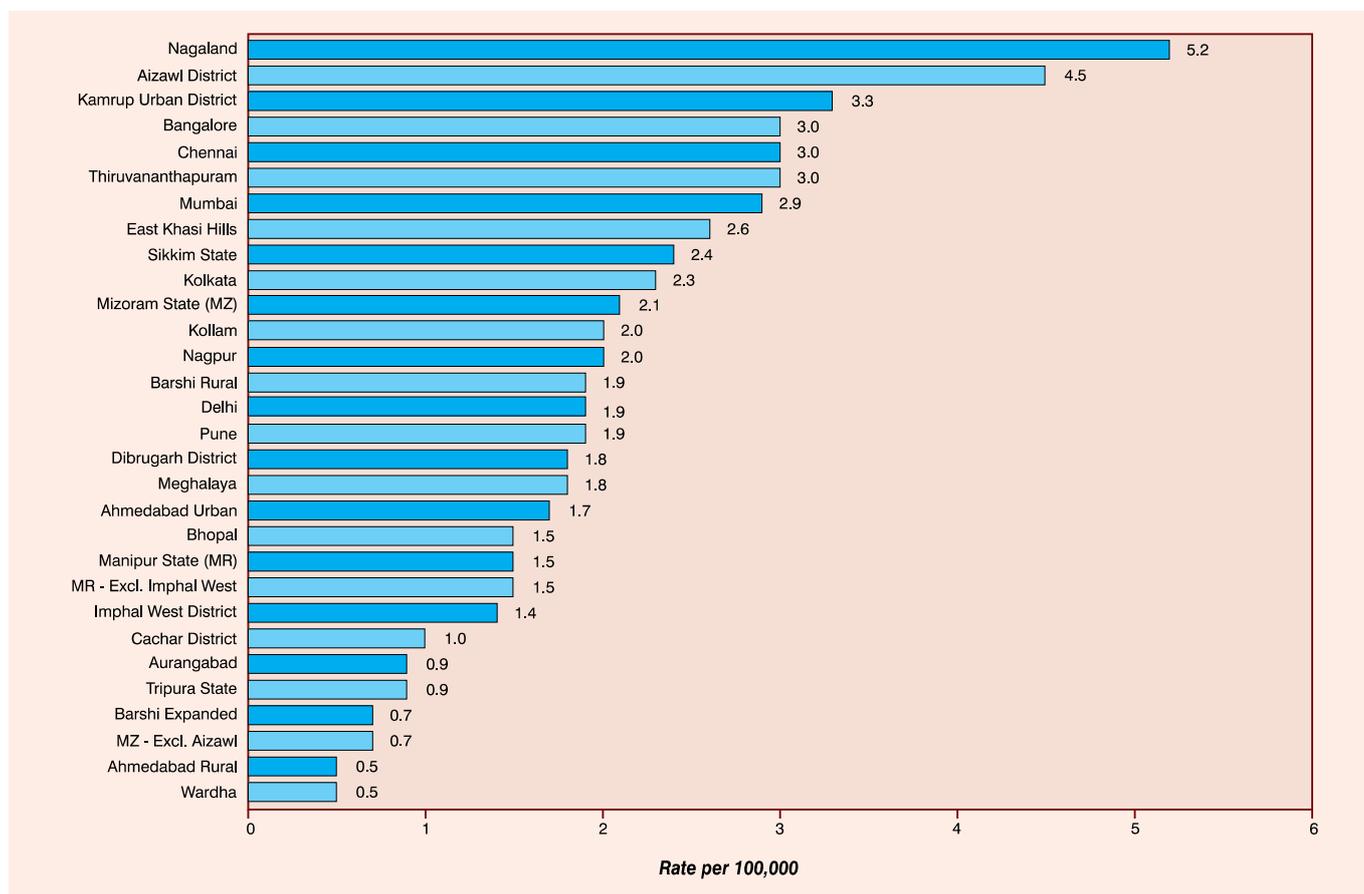
Fig. 7.8: Comparison of Age Adjusted Incidence Rates (AARs) of all PBCRs

COLON (ICD-10: C18)

Males

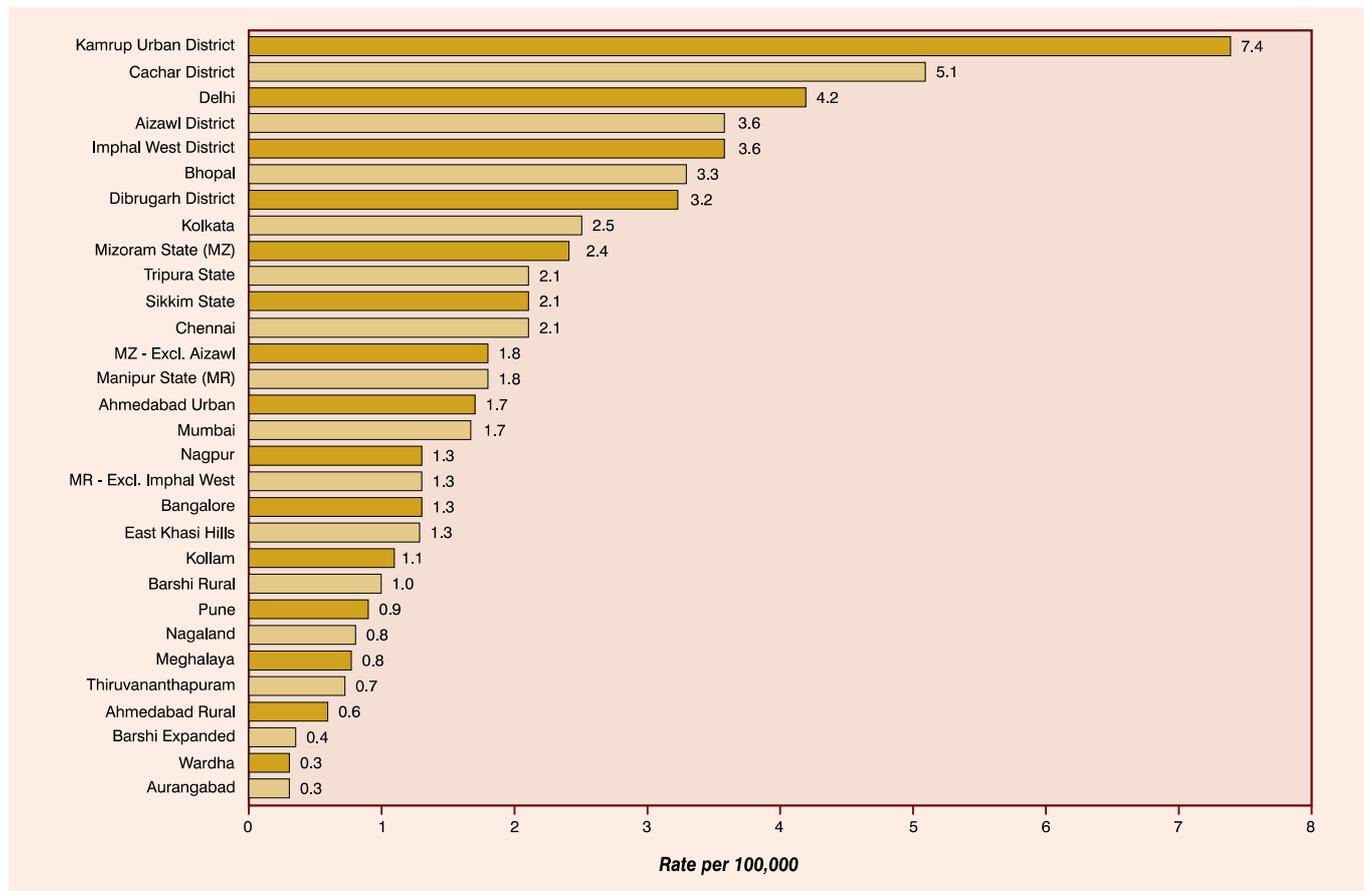


Females



**Fig. 7.9: Comparison of Age Adjusted Incidence Rates (AARs) of all PBCRs
GALLBLADDER (ICD-10: C23-C24)**

Males



Females

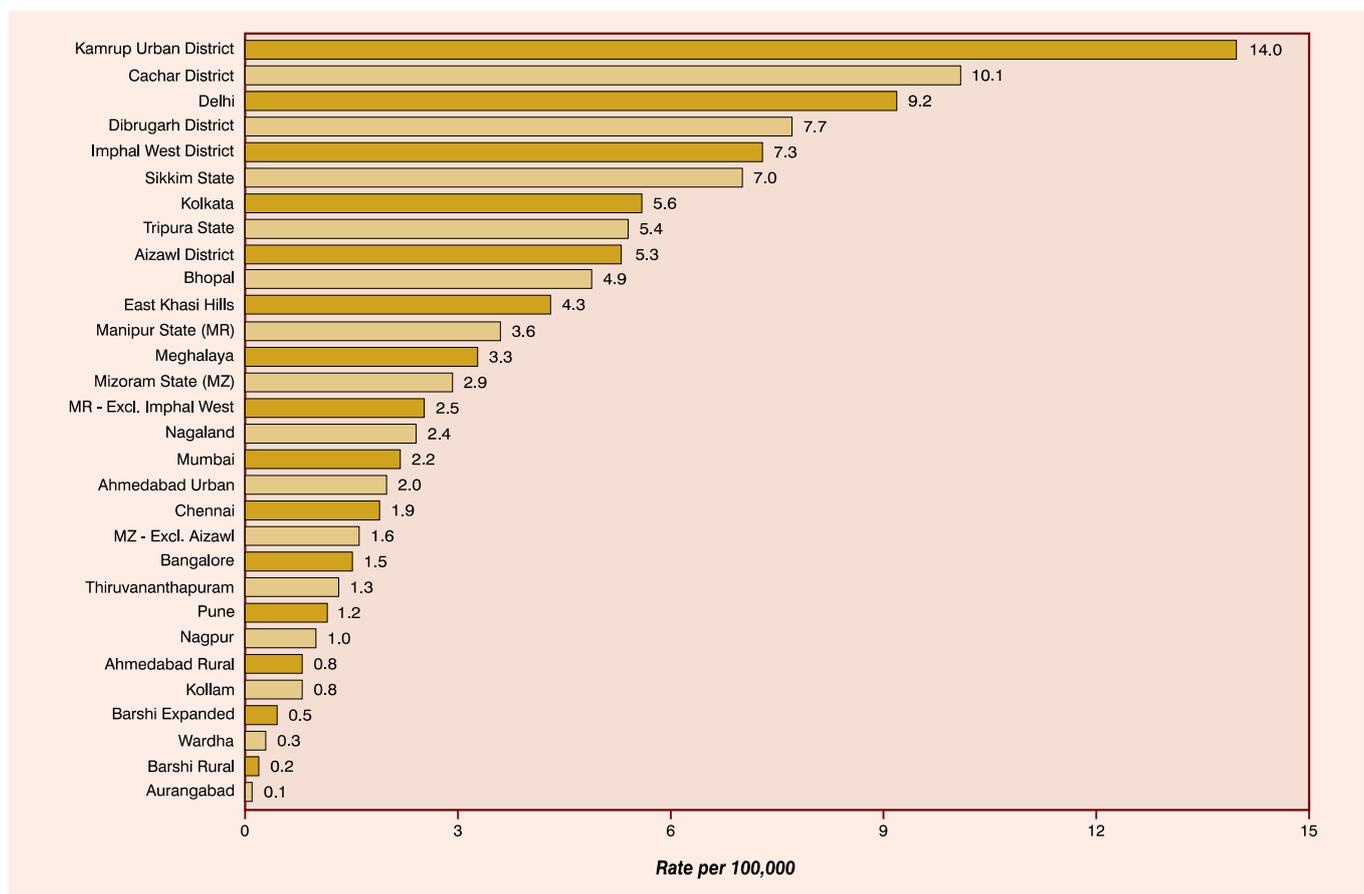


Fig. 7.10: Comparison of Age Adjusted Incidence Rates (AARs) of all PBCRs LIVER (ICD-10: C22) - Males

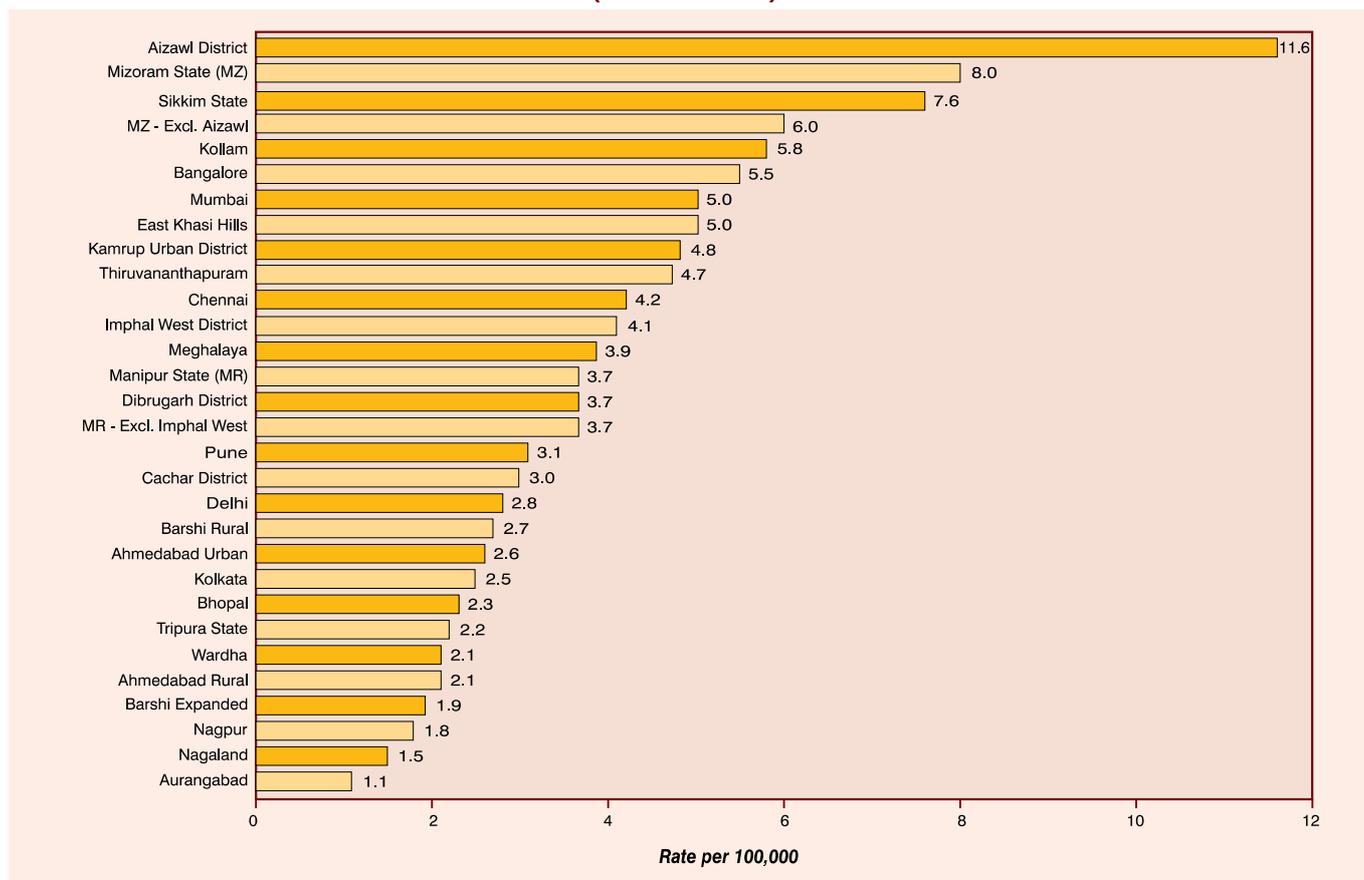


Fig. 7.11: Comparison of Age Adjusted Incidence Rates (AARs) of all PBCRs LARYNX (ICD-10: C32) - Males

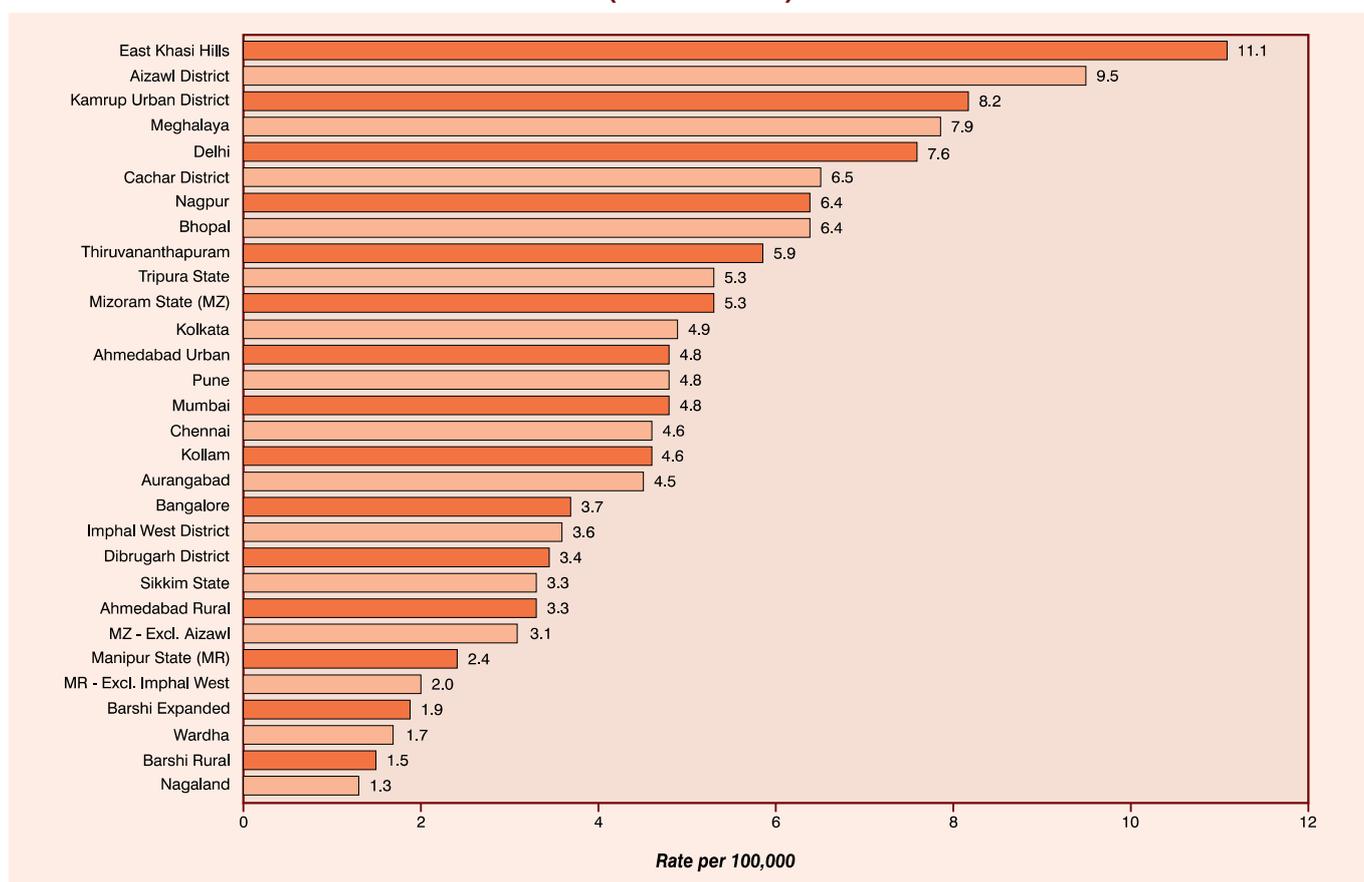
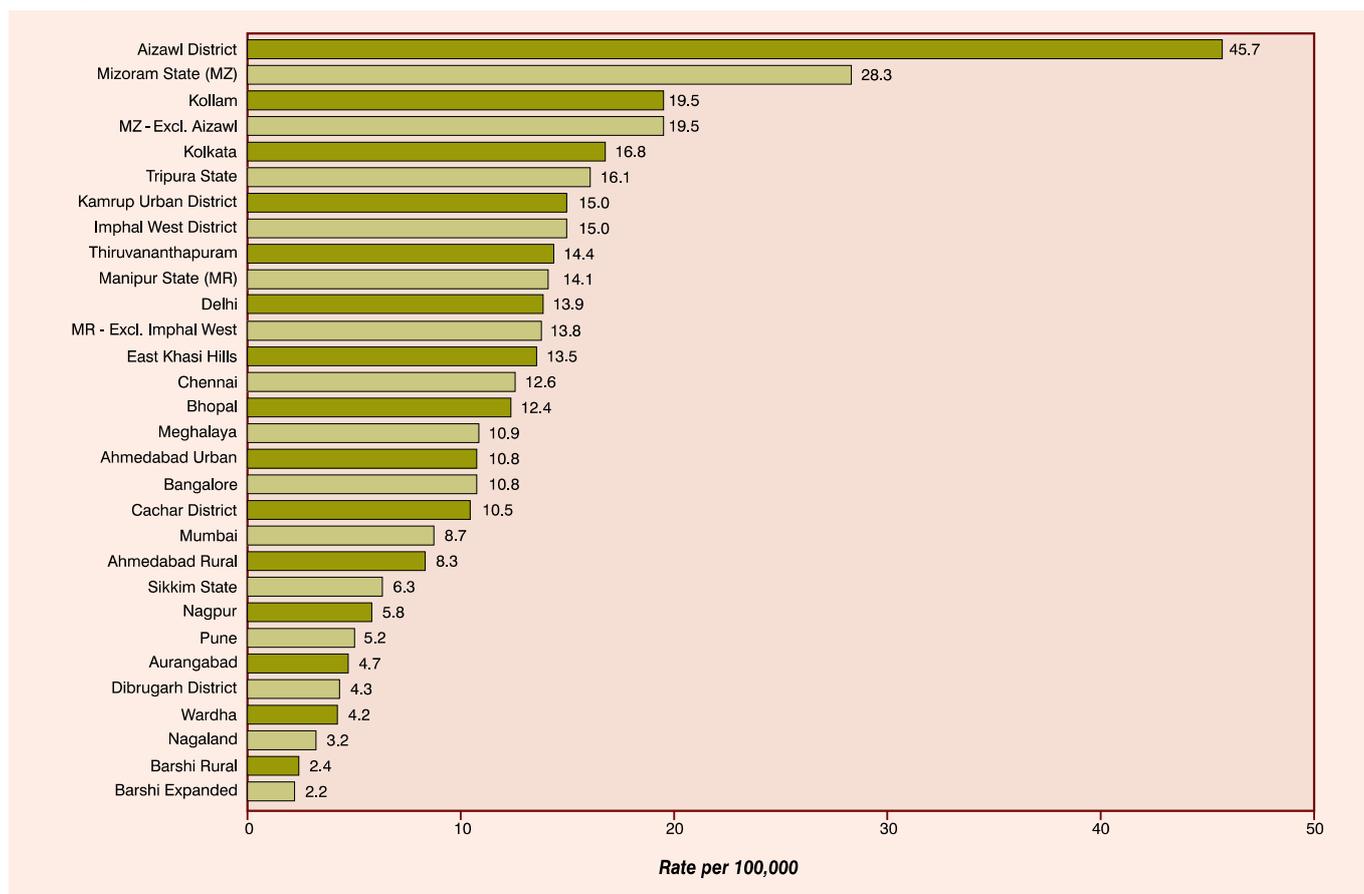


Fig. 7.12: Comparison of Age Adjusted Incidence Rates (AARs) of all PBCRs LUNG (ICD-10: C33-C34)

Males



Females

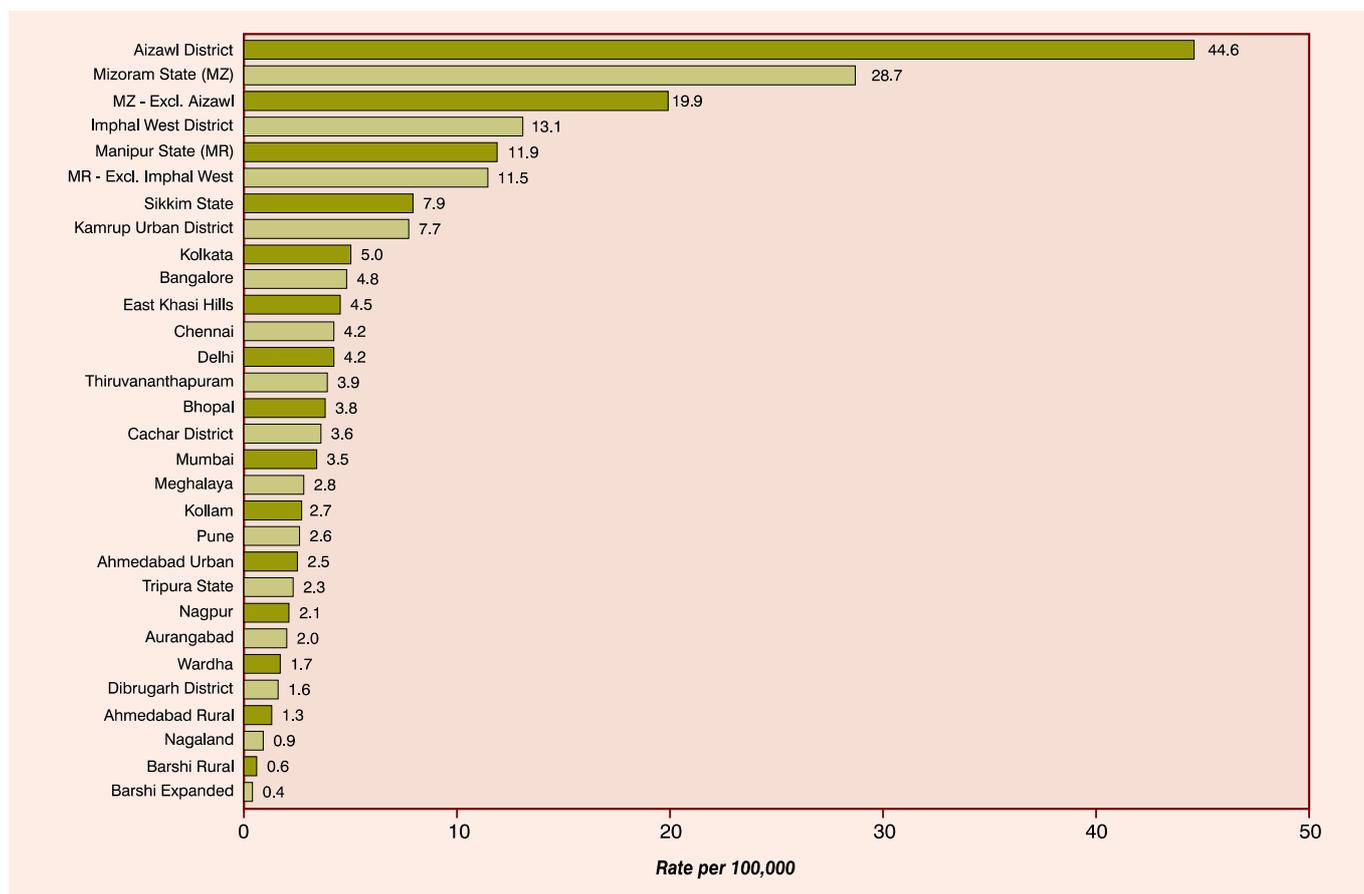


Fig. 7.13: Comparison of Age Adjusted Incidence Rates (AARs) of all PBCRs BREAST (ICD-10: C50) - Females

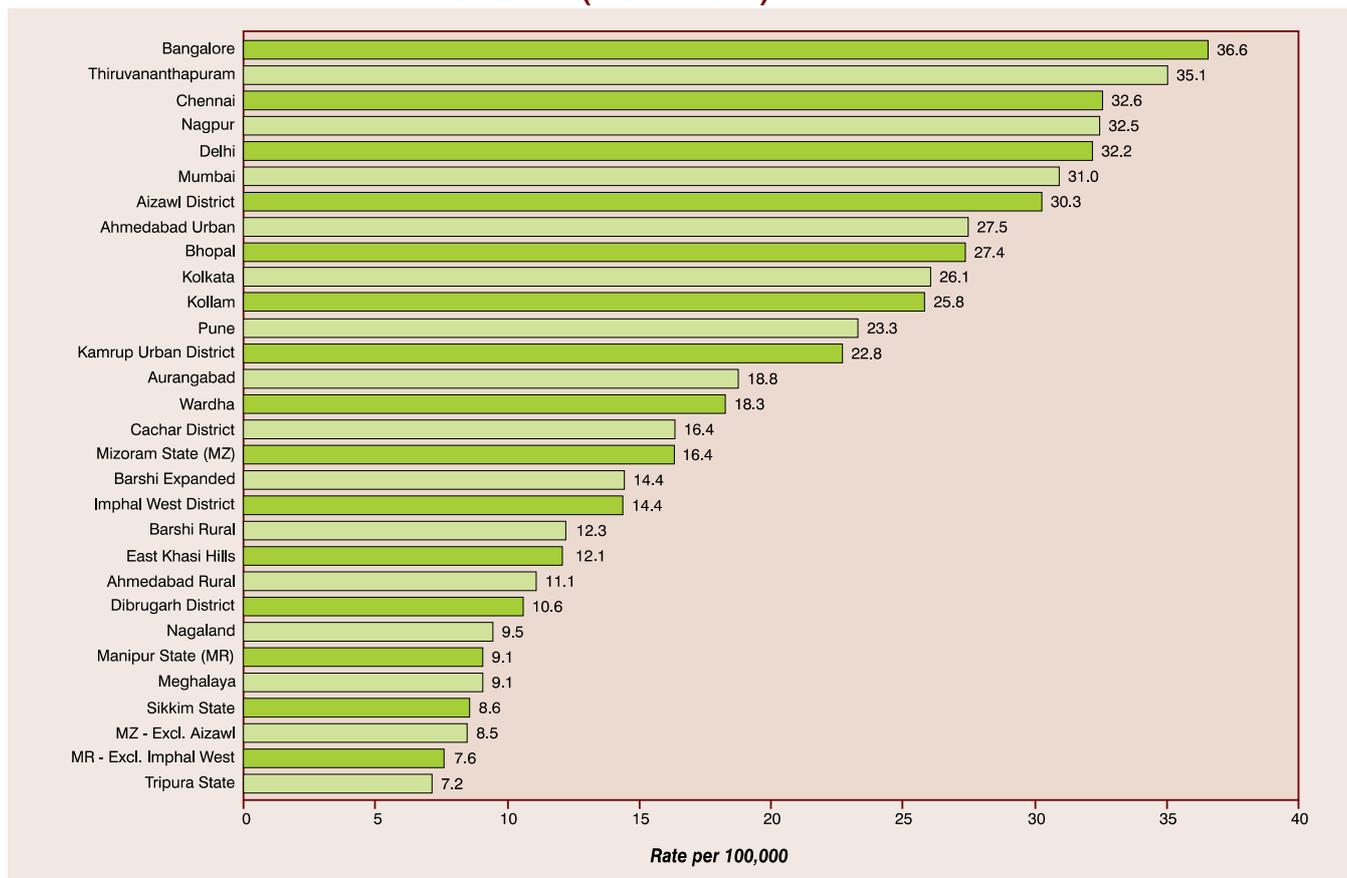
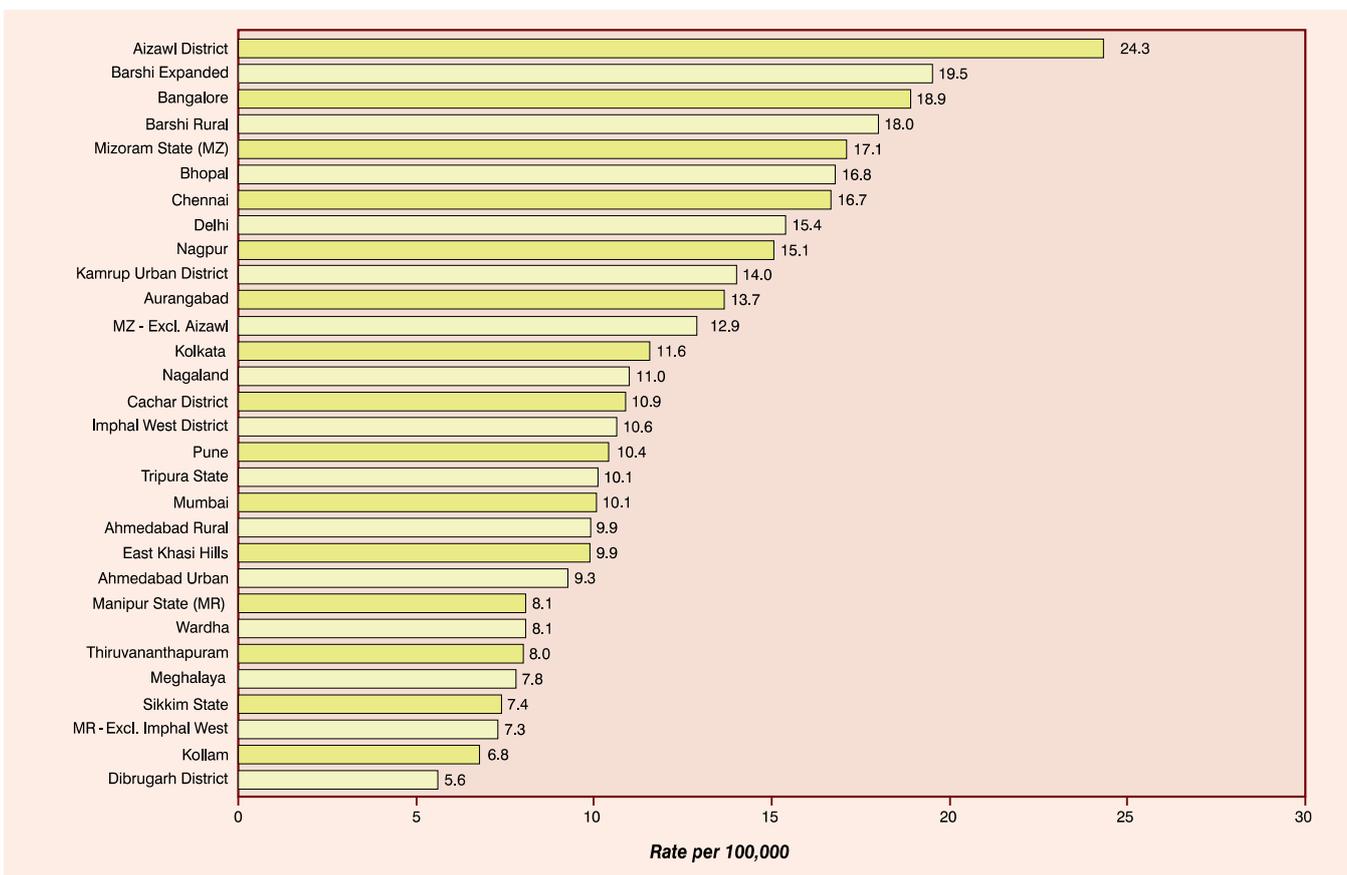
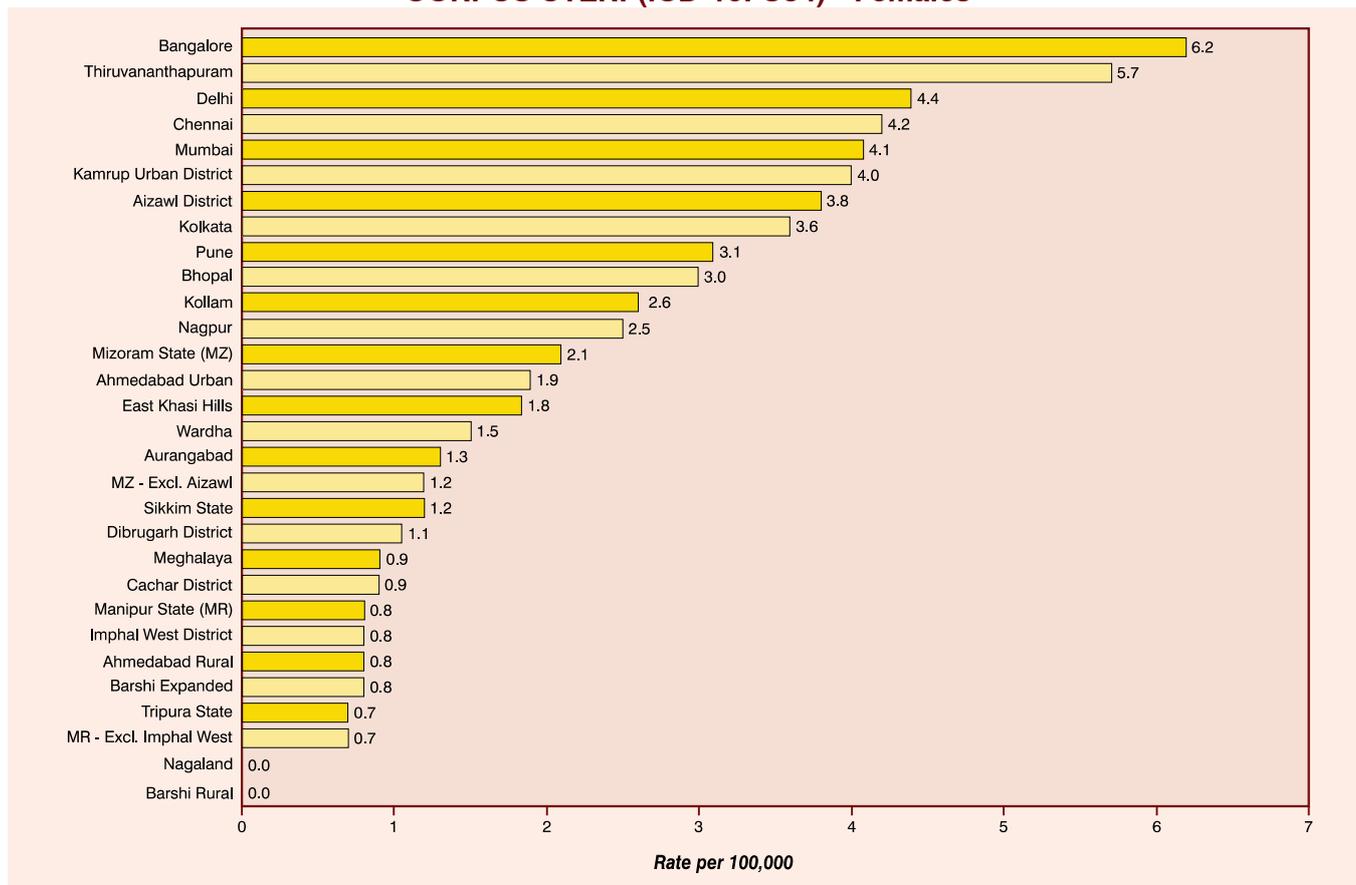


Fig. 7.14: Comparison of Age Adjusted Incidence Rates (AARs) of all PBCRs CERVIX UTERI (ICD-10: C53) - Females



**Fig. 7.15: Comparison of Age Adjusted Incidence Rates (AARs) of all PBCRs
CORPUS UTERI (ICD-10: C54) - Females**



**Fig. 7.16: Comparison of Age Adjusted Incidence Rates (AARs) of all PBCRs
OVARY (ICD-10: C56) - Females**

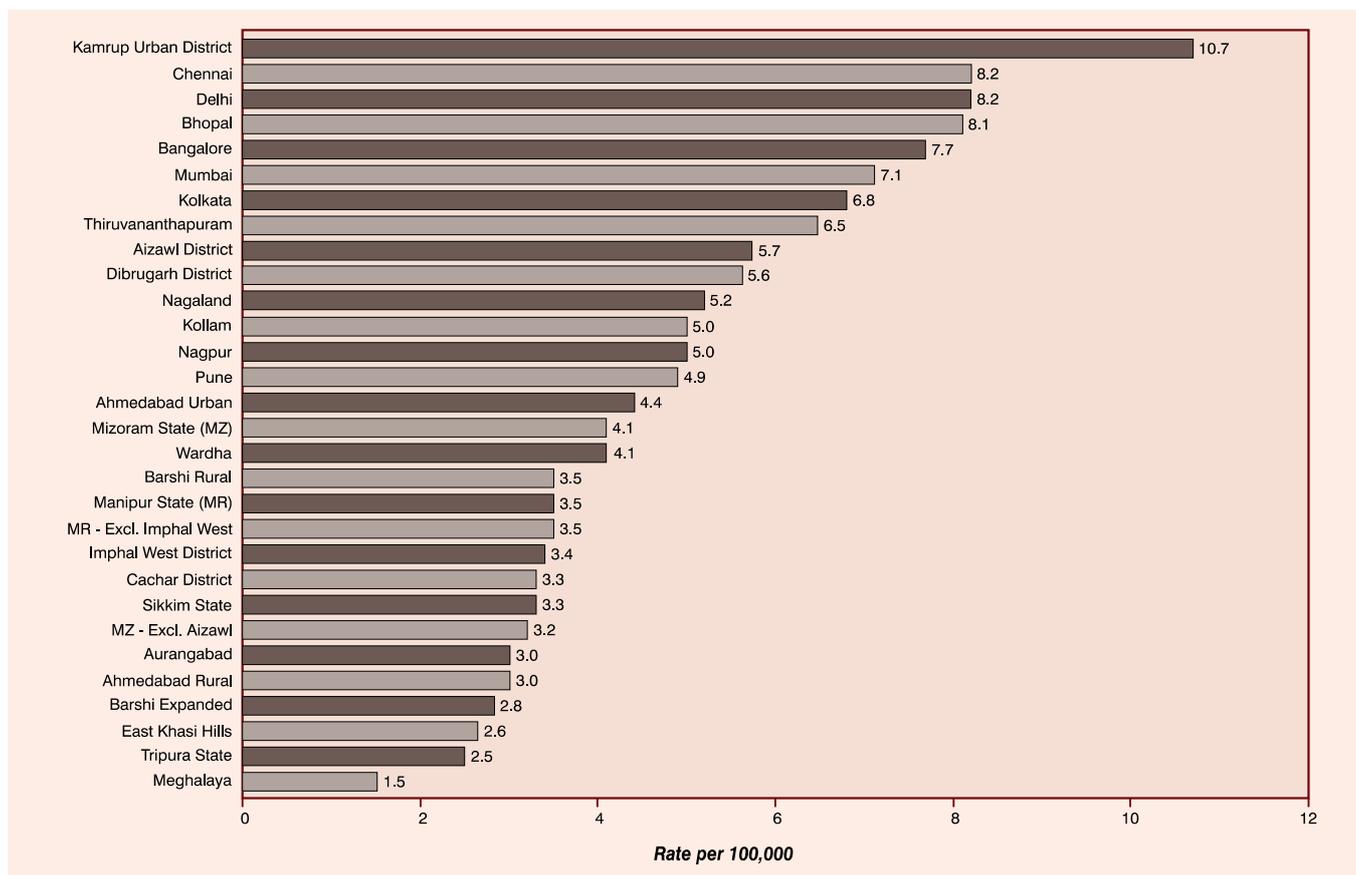


Fig. 7.17: Comparison of Age Adjusted Incidence Rates (AARs) of all PBCRs PROSTATE (ICD-10: C61) - Males

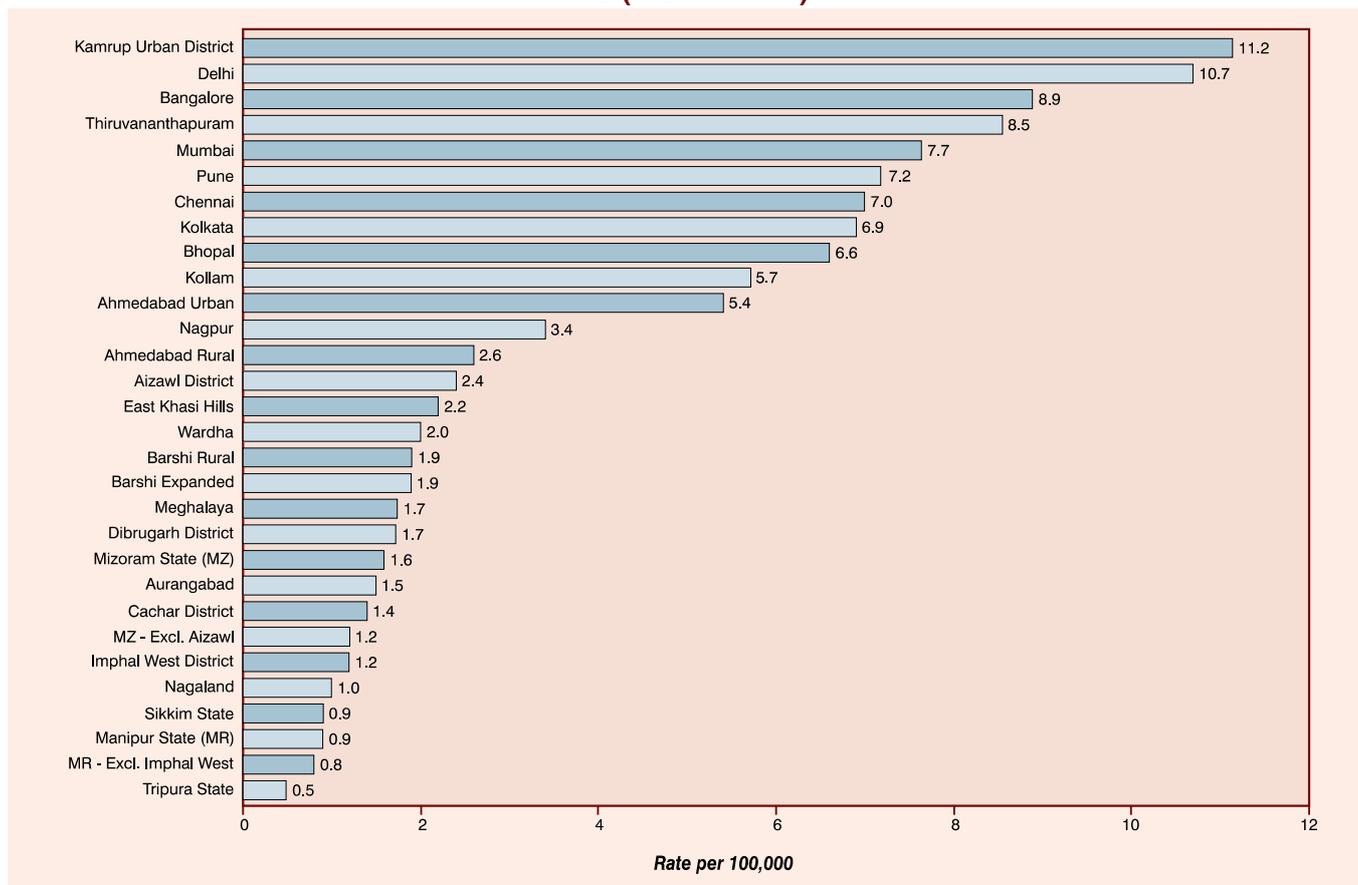
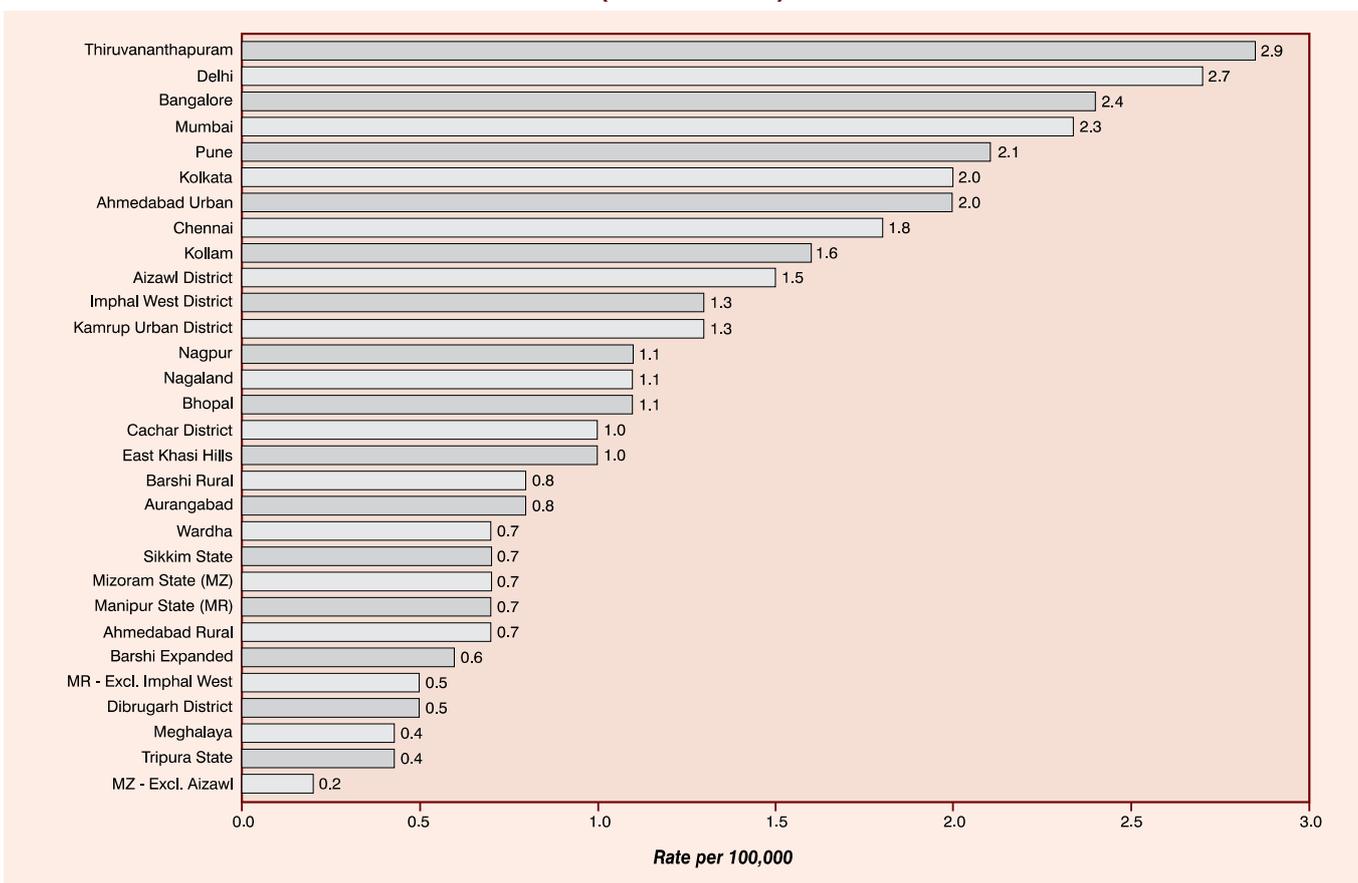
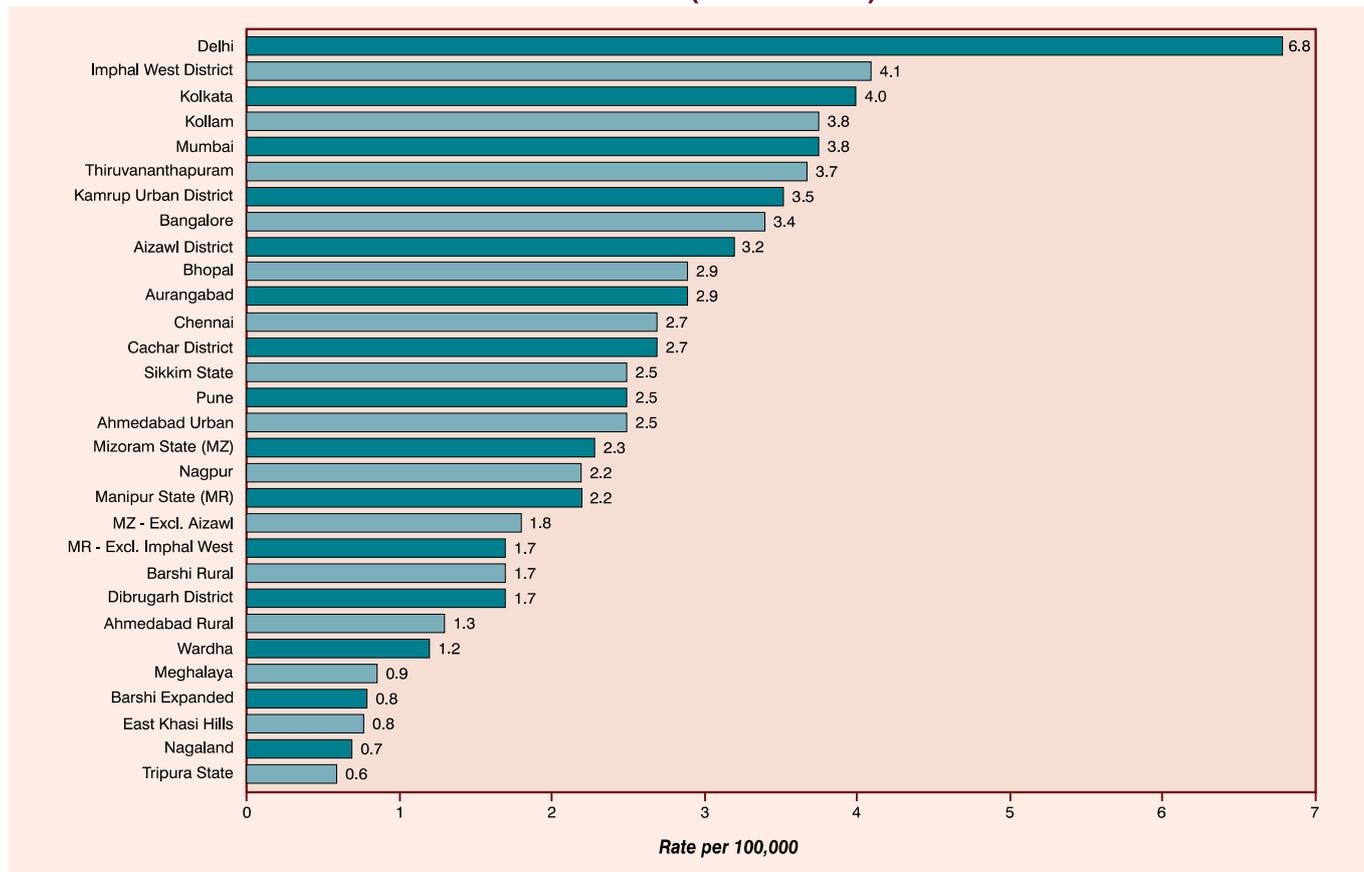


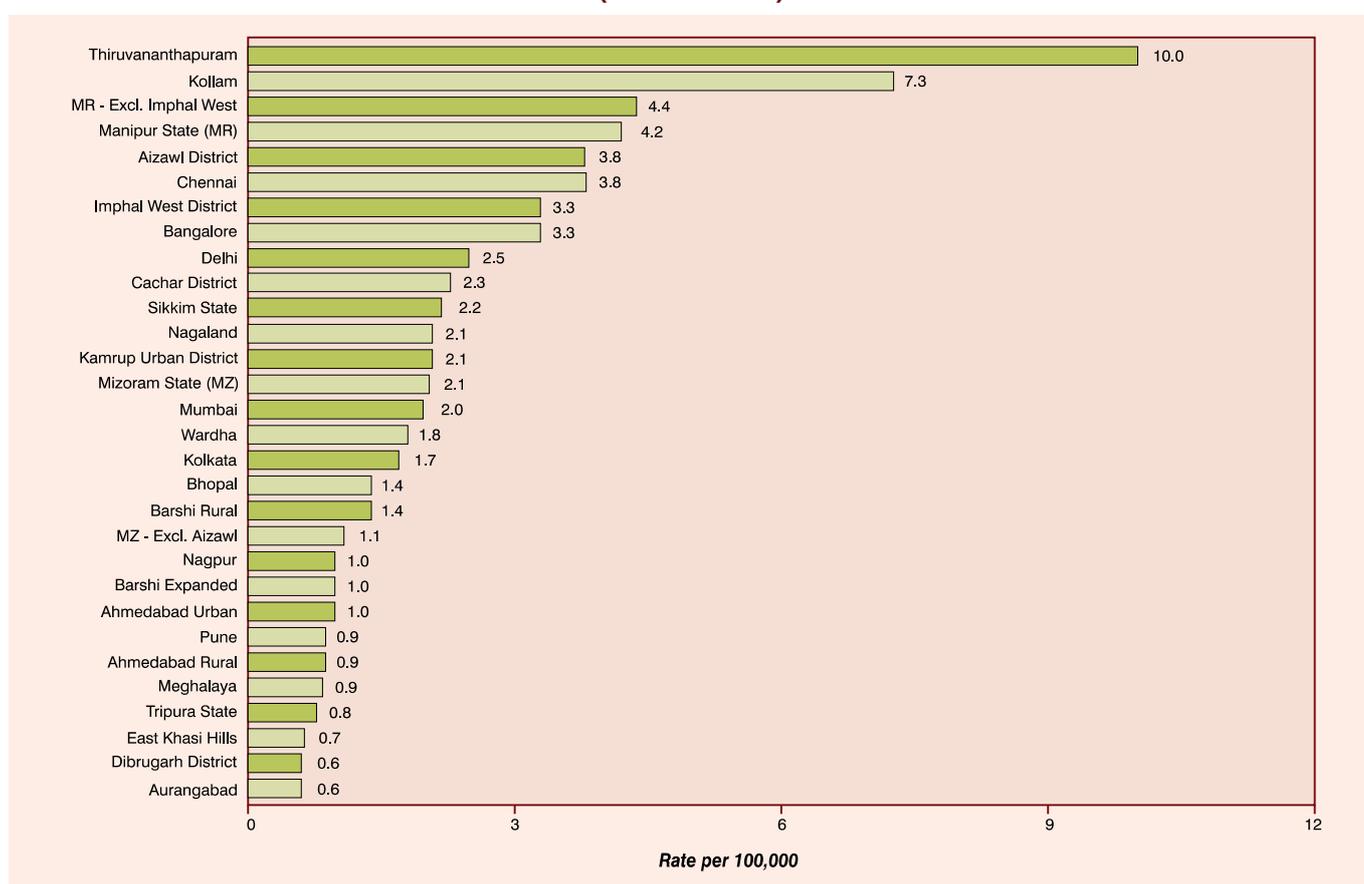
Fig. 7.18: Comparison of Age Adjusted Incidence Rates (AARs) of all PBCRs KIDNEY (ICD-10: C64) - Males



**Fig. 7.19: Comparison of Age Adjusted Incidence Rates (AARs) of all PBCRs
URINARY BLADDER (ICD-10: C67) - Males**

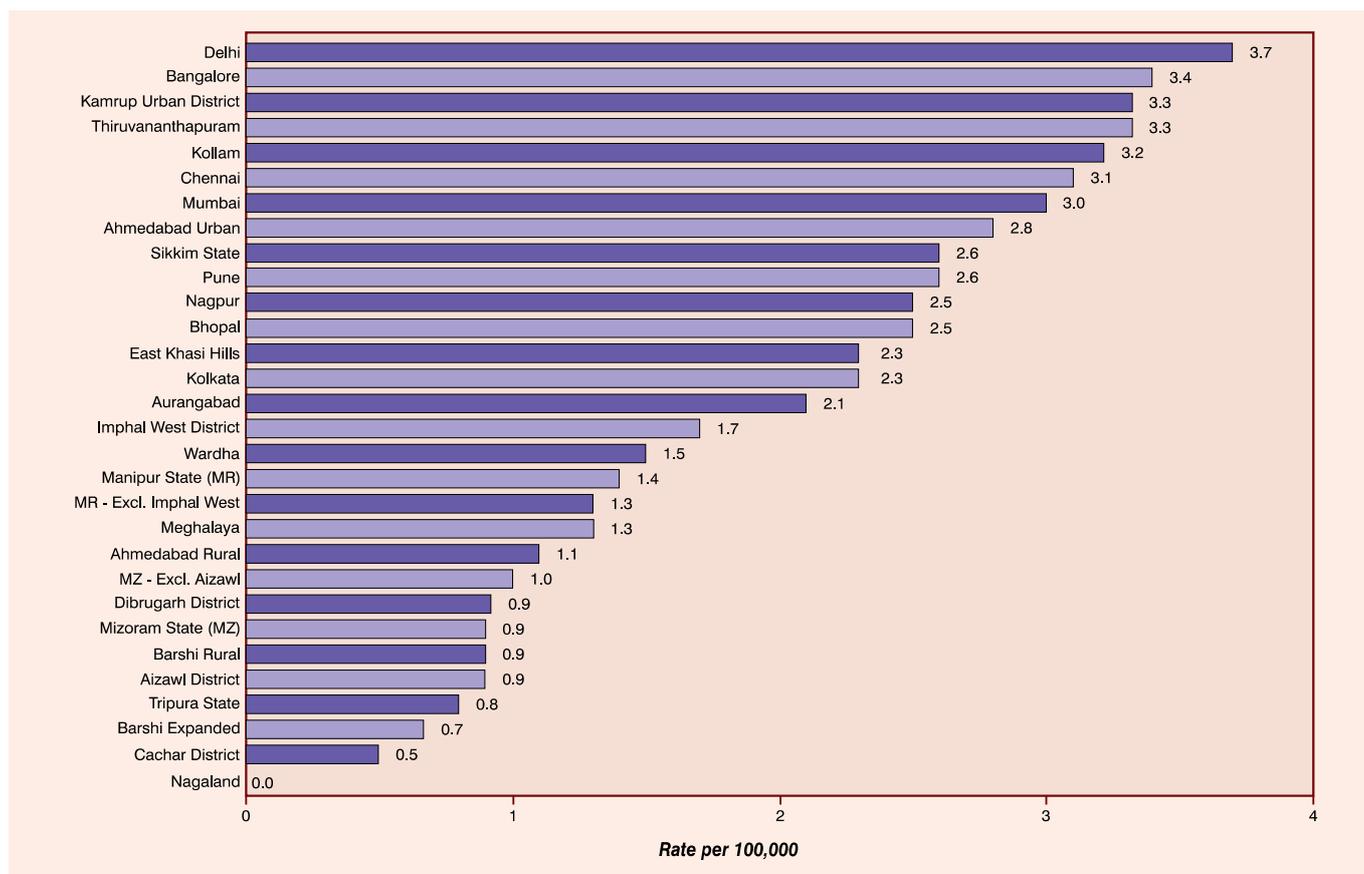


**Fig. 7.20: Comparison of Age Adjusted Incidence Rates (AARs) of all PBCRs
THYROID (ICD-10: C73) - Females**



**Fig. 7.21: Comparison of Age Adjusted Incidence Rates (AARs) of all PBCRs
BRAIN, NS (ICD-10: C70-C72)**

Males



Females

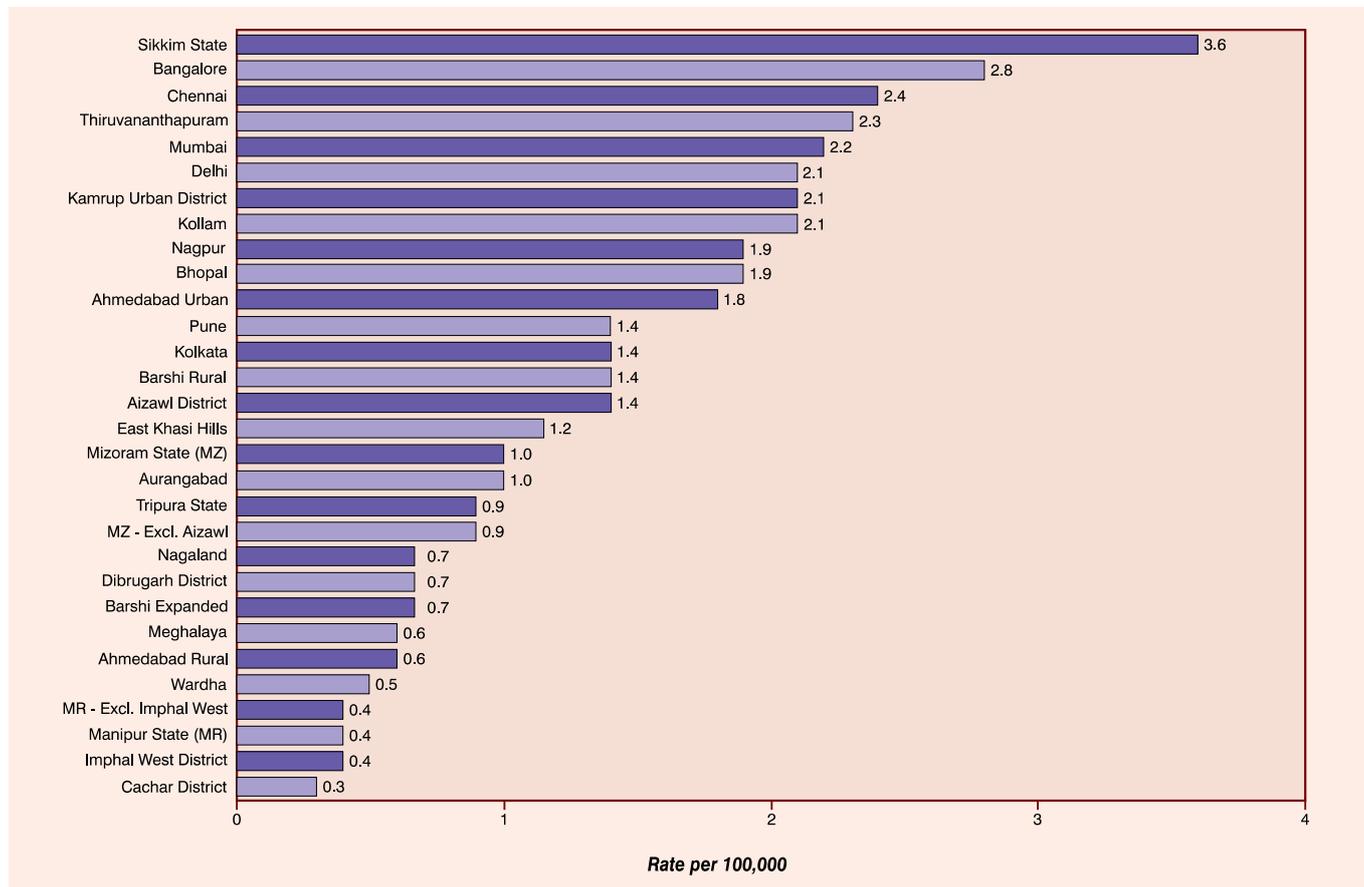
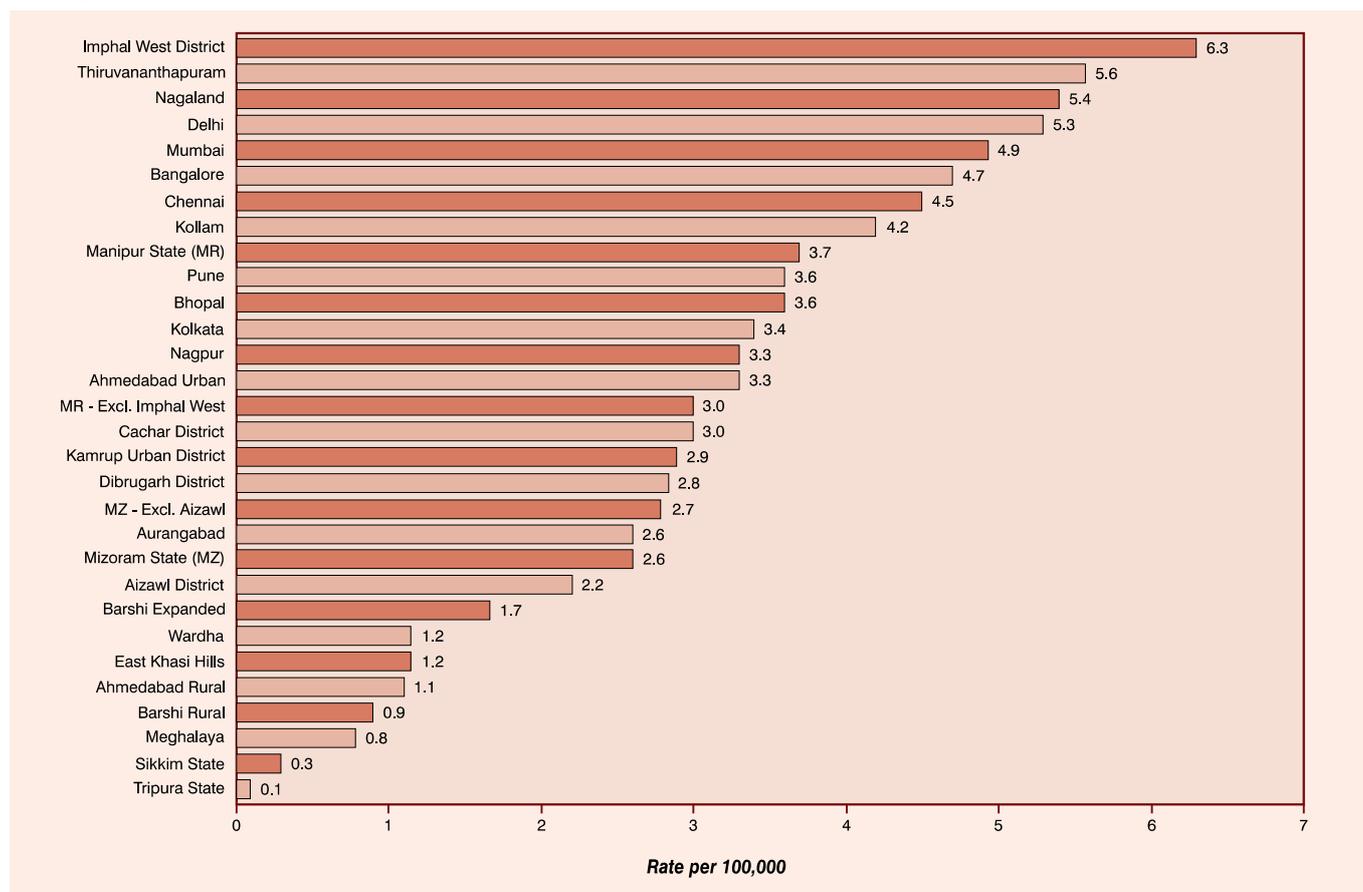


Fig. 7.22: Comparison of Age Adjusted Incidence Rates (AARs) of all PBCRs NHL (ICD-10: C82-C85, C96)

Males



Females

