

Chapter 3 – ASSAM: Cancer & Health Indicator profile

3.1 Demography of the Population Based Cancer Registry

PBCR Name	Cachar District	Dibrugarh District	Kamrup Urban
PBCR situated in	Silchar Medical College, Silchar	Assam Medical College & Hospital, Dibrugarh	Dr B. Borooah Cancer Institute, Guwahati
Coverage Area	Cachar District	Dibrugarh District	Kamrup District Urban and Kamrup Metropolitan District Urban
PBCR Established Year	2007	2003	2003
Number of sources of registration	50	85	120
Area (in Sq.km)	3786	3381	336
Urban & Rural covered (%)	18.2 & 81.8	18.4 & 81.6	100.0 & 0.0
Population as per 2011 Census			
Males	886284	676434	608846
Females	850333	649901	570560
Total	1736617	1326335	1179406
Major Ethnic groups	Kayastha	Ahom, Tea-tribe, Kachari	Kalita, Brahmin, Koibarta
Cancer is made notifiable in Kamrup urban district from 9th December 2013			

3.2 Risk Factor & Health Practices

Risk Factor for Cancer	Urban		Rural		Total	
	Males	Females	Males	Females	Males	Females
Adults (age 15-49 years)						
Literacy (%)	93.2	87.0	80.7	69.2	82.8	71.8
Use of any kind of tobacco (%)	63.5	16.6	64.0	20.3	63.9	19.7
Consumption of alcohol (%)	29.7	2.9	36.8	7.7	35.6	6.9
Proportion attempted to stop smoking or using tobacco in any other form during the past 12 months	17.6	16.8	13.4	8.1	14.1	9.2
Overweight or obese (BMI \geq 25.0 kg/m ²) (%)	24.8	26.1	10.5	10.9	12.9	13.2
Children under age 6 months exclusively breastfed (%)		67.3		63.1		63.5

Source: NFHS-4 (2015 -16)

Health practices & Health seeking	Urban		Rural		Total	
	Males	Females	Males	Females	Males	Females
Adults (age 15-49 years)						
Comprehensive knowledge of HIV/AIDS (%)	30.2	16.0	20.9	8.0	22.4	9.4
Have Ever Undergone Examinations of Cervix (%)		5.9		5.1		5.2
Have Ever Undergone Examinations of Breast (%)		6.2		5.0		5.2
Institutional births (%)		92.9		68.2		70.6
Population and Household Profile						
Both Sex						
Households using improved sanitation facility (%)	62.2		45.1		47.7	
Households using clean fuel for cooking (%)	76.5		15.6		25.1	
Households with any usual member covered by a health scheme or health insurance (%)	12.6		10.0		10.4	

Source: NFHS-4 (2015 -16)

3.3 Health Systems at a Glance

Health Facilities	Number
Sub centre	4621
Primary Health Centres	1014
Community Health Centres	151
Sub Divisional Hospital	13
District Hospitals	25
Mobile Medical Unit	65
AYUSH	451
Cancer treating hospitals	6
Radiotherapy facilities	6
Cancer patient welfare schemes	9
Palliative care centres	8

Source: Rural Health Statistics report (2014 -15)

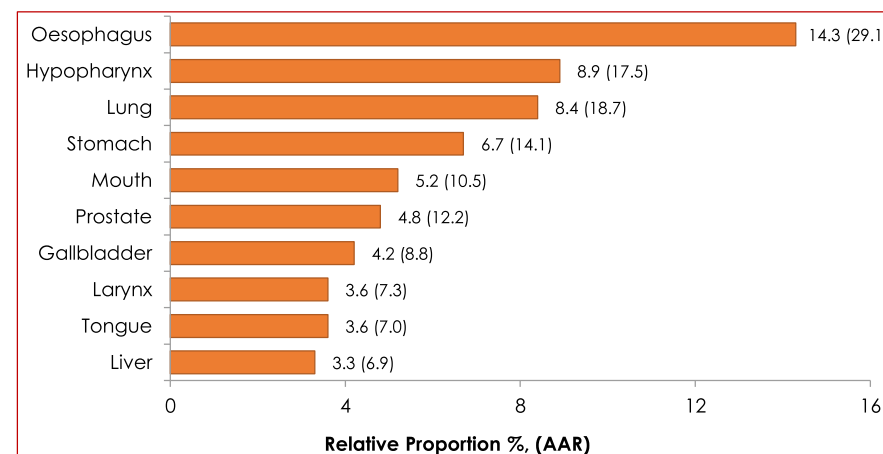
3.4 Number and Age Adjusted Incidence Rate (Reporting years: 2012-14)

Sex	Cachar District		Dibrugarh District		Kamrup Urban	
	Number of New Cancer cases	AAR	Number of New Cancer cases	AAR	Number of New Cancer cases	AAR
Males	2666	125.4	1498	92.8	3071	206.0
Females	2100	95.2	1345	78.6	2392	174.0

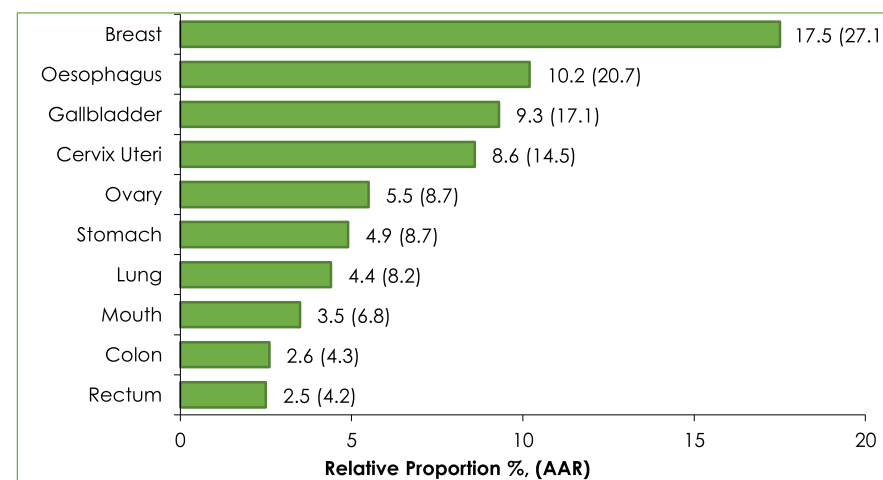
AAR - Age Adjusted Incidence Rate per 1,00,000 population

3.5 Leading Sites of Cancer

Leading Sites of Cancer in Males - Kamrup Urban



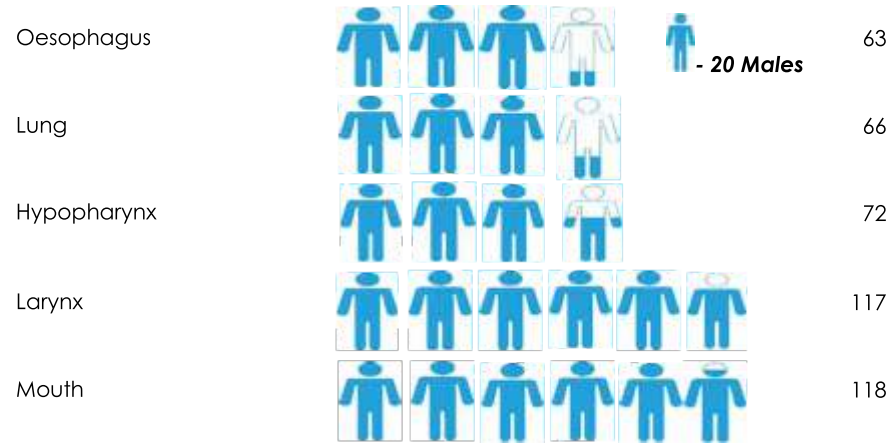
Leading Sites of Cancer in Females - Kamrup Urban



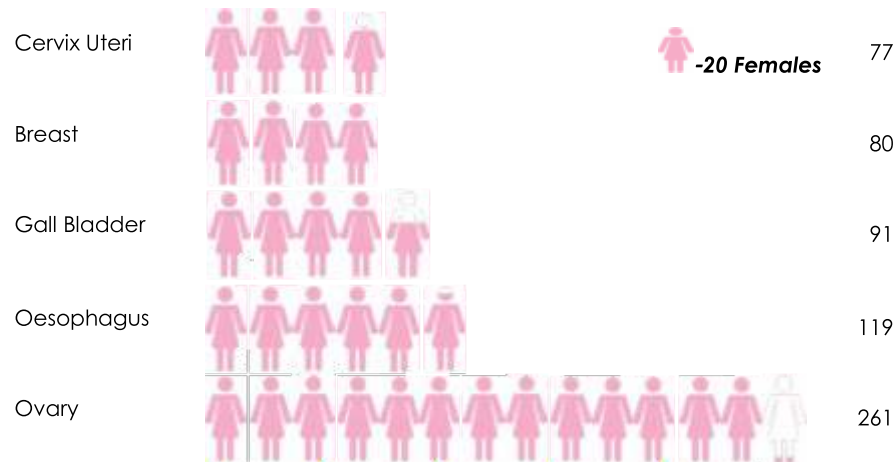
In males, proportion of Oesophagus cancer is the highest followed by Hypopharynx and Lung. These three sites contribute almost one third (32%) of all cancers. In females, Breast cancer is the commonest followed by Oesophagus and Gallbladder. These three sites contribute more than one third (37%) of all cancers.

3.6 Possibility of one in number of person developing cancer in (0-74) years of age – Cachar District

Males



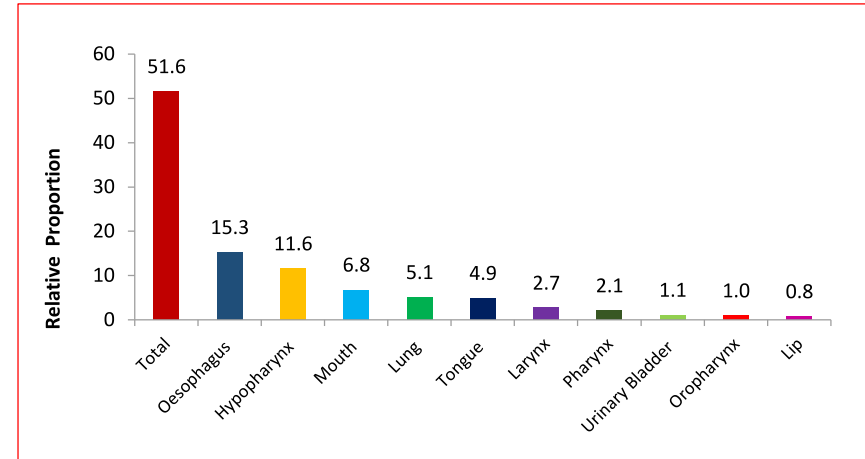
Females



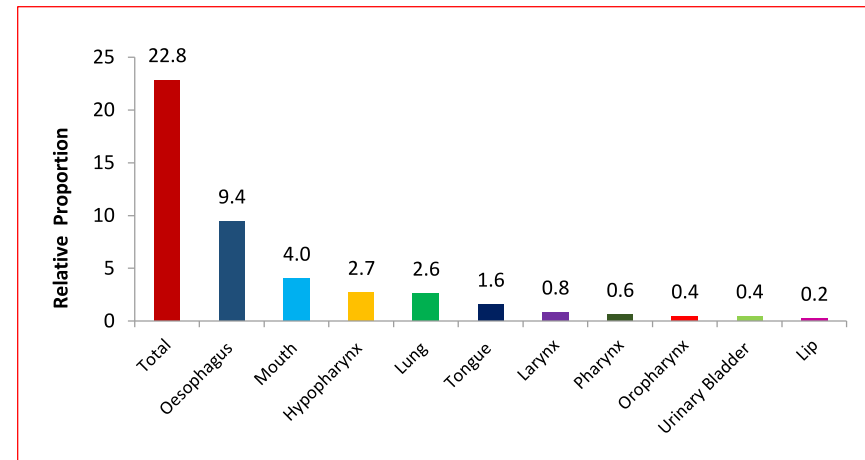
The average risk that a person will develop Oesophagus cancer in their lifetime (0-74 years) is about 1 in 63 for males. Similarly, 1 in 77 females will possibly develop Cervix Uteri cancer in their lifetime (0-74 years).

3.7 Proportion of Cancer in Sites known to be associated with use of tobacco

Males – Dibrugarh District

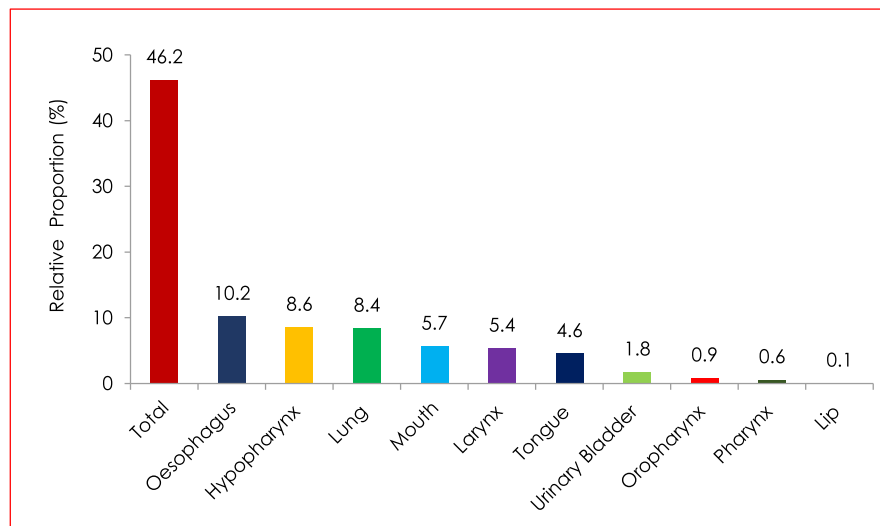


Females – Dibrugarh District

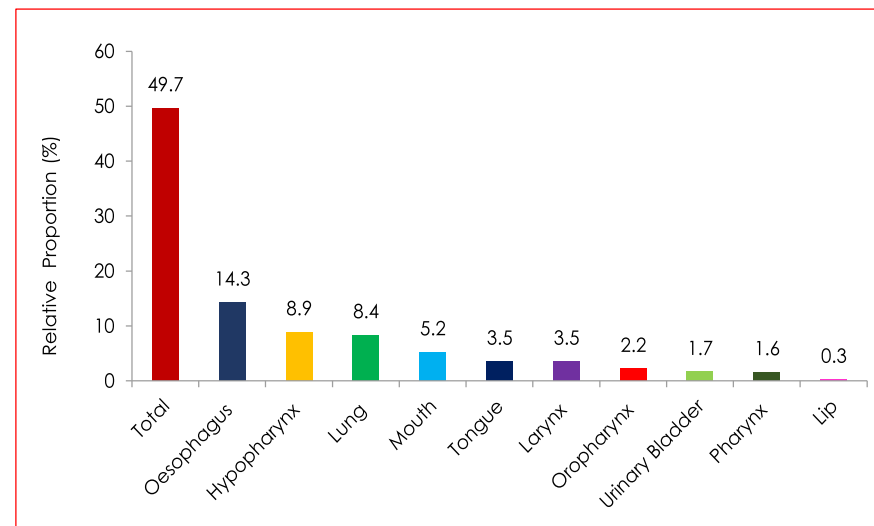


Around 52% and 23% of all cancers in males and females are respectively associated with the use of tobacco. Among these proportion of Oesophagus, Hypopharynx, and Mouth are leading in both sexes.

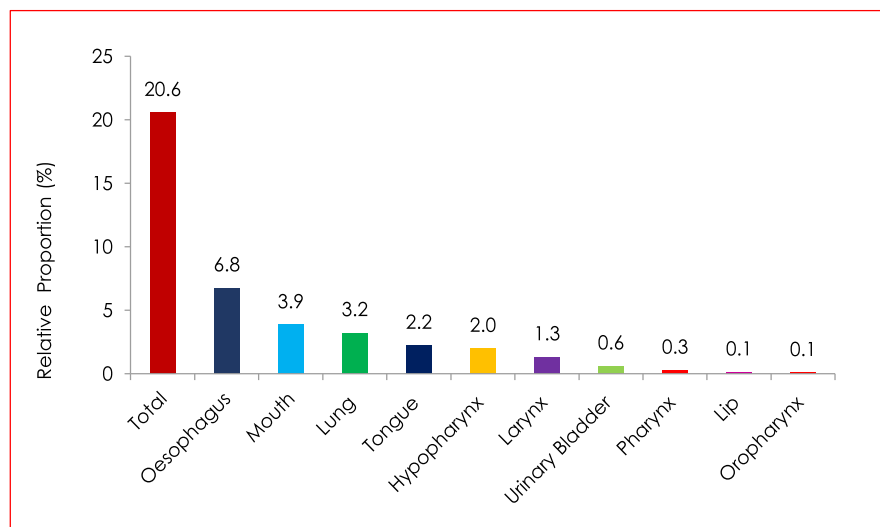
Males- Cachar District



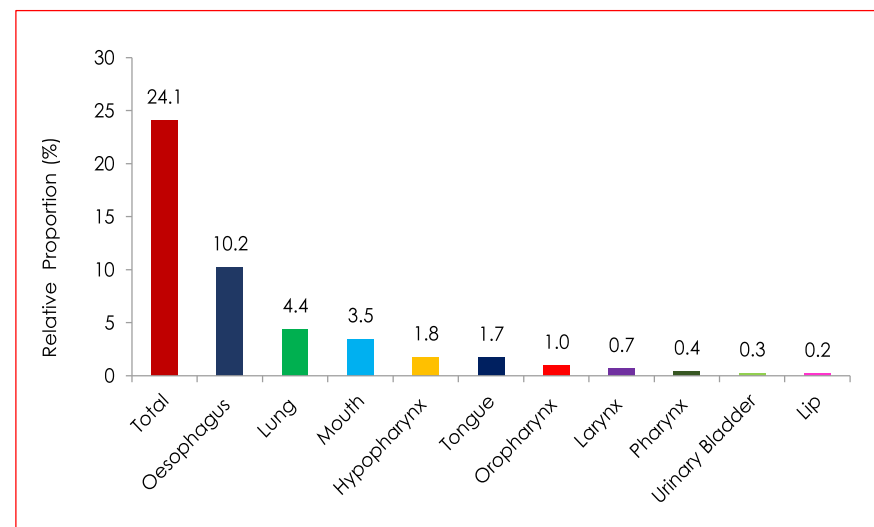
Males- Kamrup Urban



Females- Cachar District



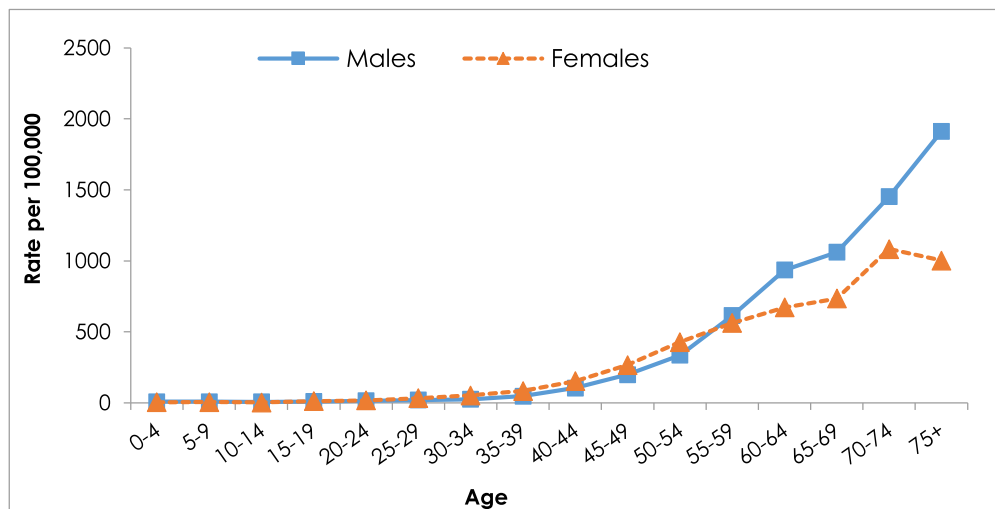
Females- Kamrup Urban



Around 46% and 20% of all cancers in males and females are respectively associated with the use of tobacco. Among these proportion of Oesophagus, Hypopharynx, and Mouth are leading in both sexes.

Around 50% and 24% of all cancers in males and females are respectively associated with the use of tobacco. Among these proportion of Oesophagus, Hypopharynx, and Lung are leading in both sexes.

3.8 Age Specific Rate (ASpR)



3.9 Ethnicity wise proportion of cancer cases

Cachar District

Cultural Group	Number	%
Kayastha	695	14.6
Meitei	202	4.2
Koibarta	180	3.8
Brahmin	168	3.5
Jogi	112	2.3
Bishnupriy	73	1.5
Others	2699	56.6
Missing/Unk	637	13.4
Total	4766	100.0

Dibrugarh District

Cultural Group	Number	%
Ahom	794	27.9
Tea-tribe	403	14.2
Kachari	208	7.3
Koibarta	94	3.3
Kalita	84	2.9
Brahmin	80	2.8
Kayastha	77	2.7
Nepalese	72	2.5
Muttock	42	1.5
Chutia	39	1.4
Others	561	19.7
Missing-Unk	389	13.7
Total	2843	100.0

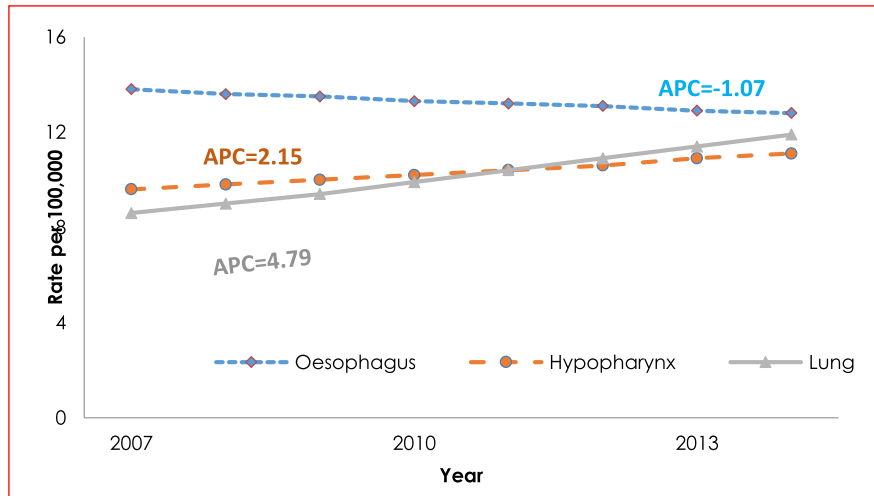
Kamrup Urban

Cultural Group	Number	%
Kalita	734	13.4
Brahmin	469	8.6
Koibarta	410	7.5
Kayastha	236	4.3
Koch	199	3.6
Boro	169	3.1
Ahom	148	2.7
Nepalese	140	2.6
Koet	136	2.5
Marwari	97	1.8
Jogi	83	1.5
Raj Bangsh	61	1.1
Others	1598	29.3
Missing-Unk	983	18.0
Total	5463	100.0

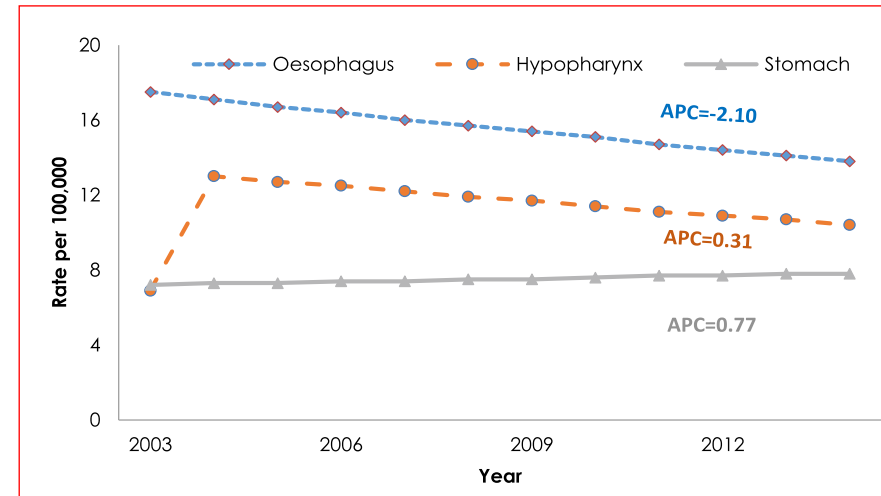
Approximately 15% of the cancer cases belong to Kayastha in Cachar District, 28% of the cancer cases belong to Ahom in Dibrugarh District and 13% of the cancer cases belong to Kalita in Kamrup Urban

3.10 Trends over time in Cancer Incidence

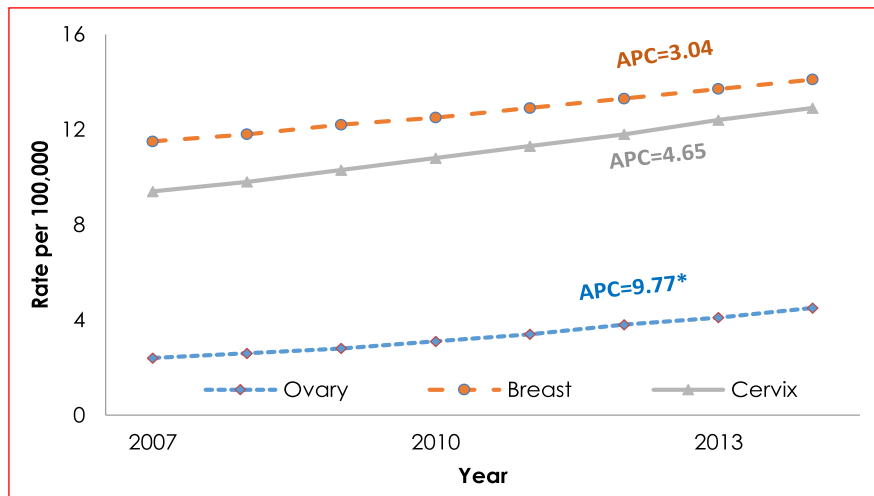
Males - Cachar District



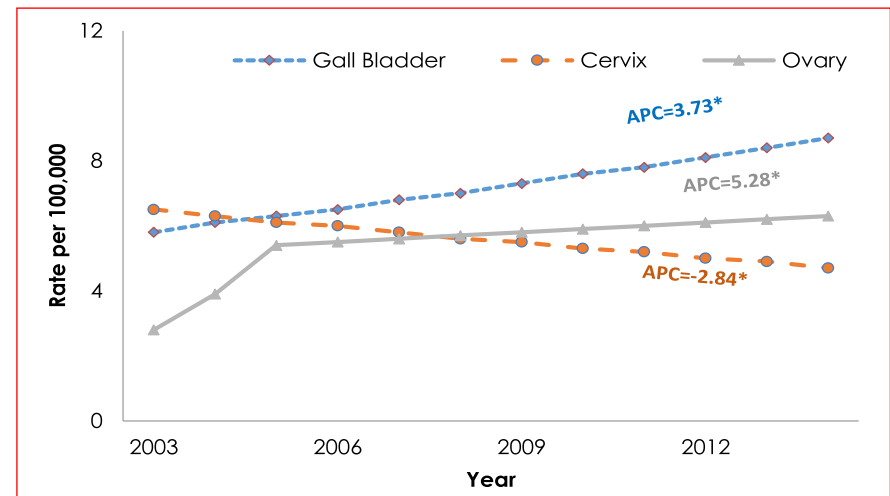
Males - Dibrugarh District



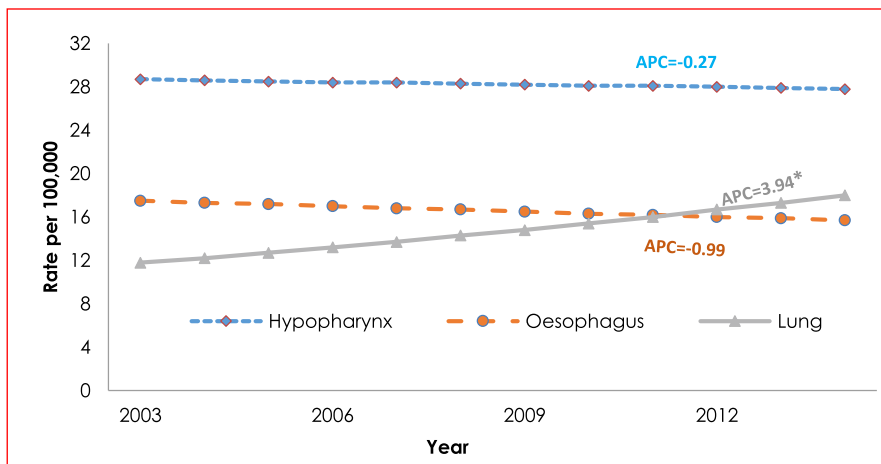
Females - Cachar District



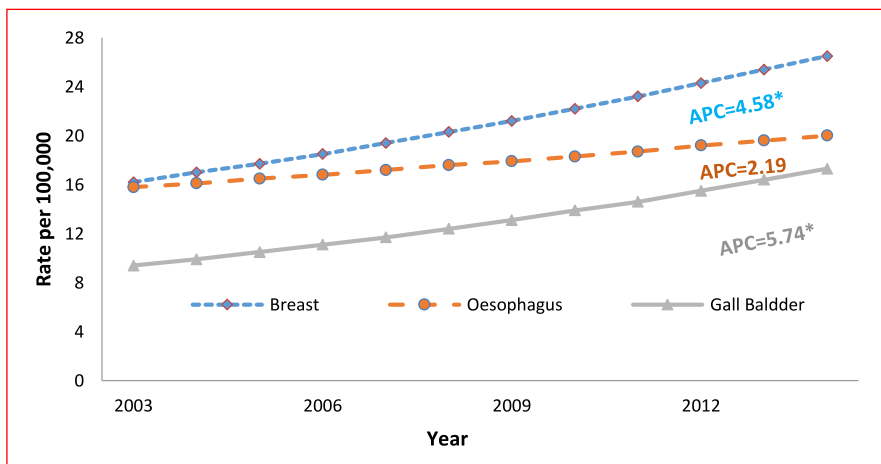
Females - Dibrugarh District



Males - Kamrup Urban



Females - Kamrup Urban



* Significant Joinpoint model & Annual Percent Change (APC) ($p < 0.05$)

Among males Lung cancer shows statistical significance increase in Kamrup Urban. In Cachar, Incidence rate of Ovarian cancer increased significantly from the year 2007 to 2014. In Dibrugarh, statistically significant increase in incidence rate observed in females for Ovary and Gallbladder cancer whereas Cervical cancer shows statistically significant decreases. In Kamrup urban, Incidence rate of Breast and Gallbladder cancer in females increased significantly from the year 2003 to 2014.

3.11 Cancer Deaths

Cachar District

Case Fatality Ratio (CFR)			
Sex	Incidence	Death	CFR (%)
Males	2666	412	15.5
Females	2100	275	13.1
Both Sexes	4766	687	14.4

Dibrugarh District

Case Fatality Ratio (CFR)			
Sex	Incidence	Death	CFR (%)
Males	1498	433	28.9
Females	1345	252	18.7
Both Sexes	2843	685	24.1

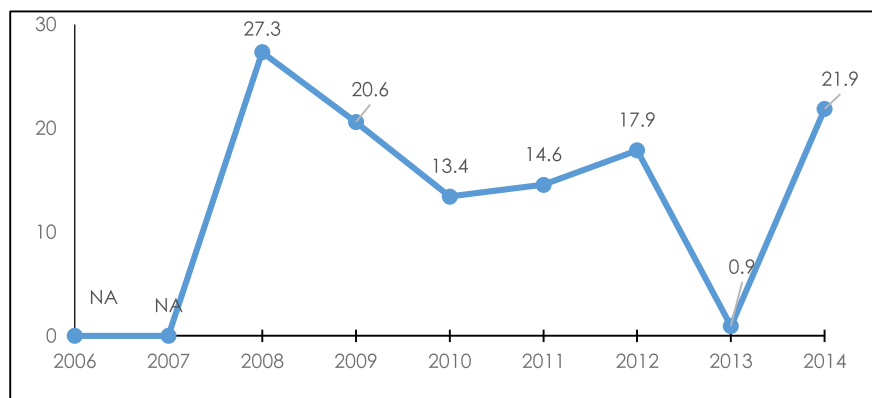
Kamrup Urban

Case Fatality Ratio (CFR)			
Sex	Incidence	Death	CFR (%)
Males	3071	1011	32.9
Females	2392	523	21.9
Both Sexes	5463	1534	28.1

Overall 14 - 28% cancer deaths are reported related to newly diagnosed case of cancer in three PBCRs of Assam.

3.12 Status of Medical Certification of Cause of Death *

Implementation status of MCCD	
Existing Allopathic Medical Institutions	5641
Medical Institutions Covered under MCCD	NA
Medical Institutions reported MCCD data as per the National list	NA
Ranking of States/UTs in the medical certification of cause of death, 2014	17



NA- Not Available Data

Trend in proportion of medically certified deaths to total registered deaths in Assam, 2006-14

Rank	Leading causes of death	Percentage
1	Neoplasms	22.4
2	Certain Infectious & Parasitic Diseases	21.4
3	Respiratory System	10.5
4	Digestive system	9.7
5	Circulatory System	7.2
6	Injury Poisoning	6.2
7	Certain Conditions Originating in Perinatal Period	2.0
8	Symptoms, Signs & Abnormal Findings	0.0
9	Other groups	20.6

* Report on Medical Certification of Cause of Death (MCCD), 2008 -14, Office of the Registrar General of India, Government of India.

Data on the coverage of institutions and reporting of MCCD is not available. Neoplasms is the first leading cause of death. Quality of cause of death information can be further improved.

Advocacy Points

- Cancer of Oesophagus, Hypopharynx and Lung are most common in men
- Cancer of Breast, Gallbladder and Oesophagus are most common in women
- Half of the cancers in men are associated with the use of tobacco in Assam PBCRs.
- In female, cancers of Ovary, Gall bladder and Breast are on the rise.
- High burden of risk factors such as tobacco, alcohol, obesity etc need to be addressed through appropriate prevention programme and health education.
- Use of clean fuel needs to be promoted in rural sectors to minimize indoor air pollution
- Coverage of screening for breast, cervix and oral cancer needs to be improved
- Cancer treatment facilities particularly radiotherapy, palliative care etc need to be established and strengthened
- Cancer patient welfare and other relevant health insurance scheme need to be in place to improve affordability and access to health care.
- Strengthening the reporting of cause of death is required to generate accurate mortality estimates.
- Notifiability of Cancer needs to be considered to ensure completeness of cancer reporting in the state (other than Kamrup district).

