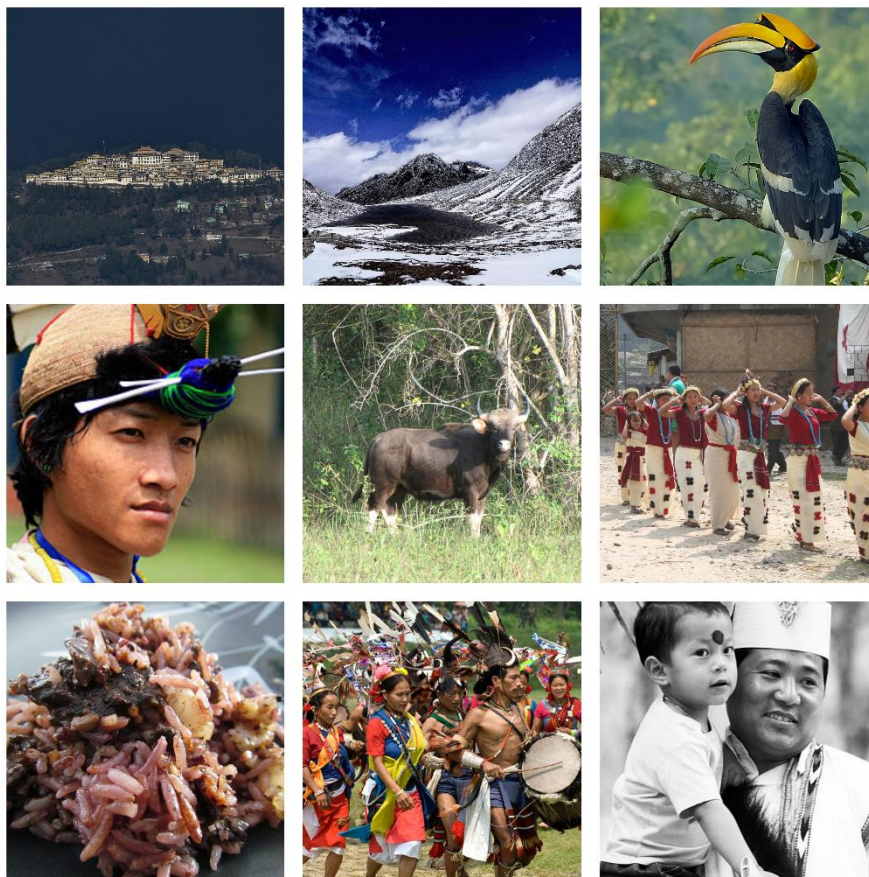




ARUNACHAL PRADESH



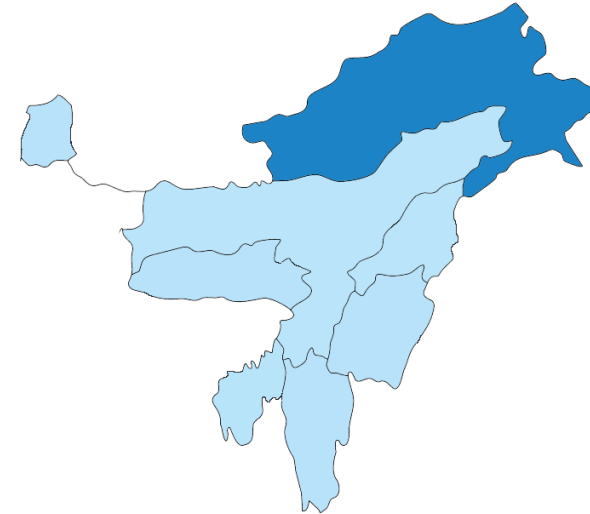


Chapter 2: Cancer and health status profile of Arunachal Pradesh

A. Health Status Profile

2.1 Socio-demographic profile [1]

Population (Total)	1383727
Number of males	713912
Number of females	669815
Sex Ratio	938
Major ethnic groups	Nyishi, Galo, Monpa, Adi, Nepalese, Mishing
Literacy rate (%)	
Total	65.4
Males	72.6
Females	57.7



The total population of the region is 1383727, with a sex ratio of 938. The total literacy rate is 65.4%, being 72.6 % in males and 57.7% in females. The major ethnic groups include Nyishi, Galo, Monpa, Adi, Nepalese and Mishing.



2.2. NCD related Risk factor profile

Behavioural and lifestyle-related							
Tobacco use ^[2]							
Current tobacco use-smoked and/or smokeless (age 15 years and above) (%)							
Total						45.5	
Males						61.1	
Females						28.7	
Current smoked tobacco use (age 15 or above) (%)							
Total						22.7	
Males						38.7	
Females						5.4	
Current smokeless tobacco use (age 15 or above) (%)							
Total						39.3	
Males						50.1	
Females						27.7	
Alcohol consumption ^[4]							
	Urban		Rural		Total		
	Men	Women	Men	Women	Men	Women	
Age 15 years or above (%)	55.3	22.3	60.5	27.8	59.0	26.3	
Metabolic risk factors ^[4]							
Overweight/Obese BMI >25 (age 15-49 years) (%)	26.0	25.8	18.4	16.3	20.6	18.8	
Raised blood pressure age (15 -49 years) (%)	5.0	3.0	3.5	2.7	3.9	2.8	
Raised blood glucose (random) age (15-49 years) (%)	6.2	4.8	8.1	4.8	7.6	4.8	
Air Pollution, DALYs per 100,000 ^[3]	1663.81						

The prevalence of current tobacco use is 45.5%, higher for the smokeless form (39.3%) than the smoked form (22.7%). The DALYs' due to air pollution is reported to be 1663.81 per 100,000. Over half, (59.0%) of males over the age of 15 years consumed alcohol, while the proportion of alcohol use in females was 26.3%. 20.6% of the men in the age group of 15-49 years are obese, slightly higher than female prevalence (18.8%). A somewhat higher proportion of males (3.9%) have raised blood pressure than females (2.8%). The prevalence of raised blood glucose is 4.8% in women and 7.6% in men.



2.3 Mortality related statistics

Life expectancy (2016) ^[5]	
Males	68.2 years
Females	72.7 years
Leading causes of death (MCCD 2018) ^[6]	
Major Cause Group	Percentage
Certain infections & Parasitic Diseases	25.4
Circulatory System	13.5
Neoplasms	6.5
Other Groups	6.1
Certain Conditions originating in Perinatal Period	4.9
Status of Medical certification of cause of death ^[6]	
Percentage of Medically Certified Deaths to Total Registered Deaths (%)	32.9
Medical Institutions covered under MCCD	188
Medical Institutions Reported MCCD Data as per the National List	41
Ranking of States/UTs in the medical certification of cause of death 2018	16

The life expectancy is marginally higher in females (72.7 years) than males (68.2 years). Infections and parasitic infestations (25.4%) and circulatory system causes (13.5%) comprise death's leading causes. The percentage of medically certified deaths to total registered deaths is 32.9%. The state ranks sixteenth in the medical certification of cause of death.



2.4 Health seeking behaviour and health practices^[4]

	Urban	Rural	Total
History of cancer screening			
Women aged 15-49 ever undergone a breast examination for breast cancer (%)	7.2	5.4	5.9
Women aged 15-49 ever undergone an oral cavity examination for oral cancer (%)	24.8	14.9	17.5
Women aged 15-49 ever undergone screening for cervical cancer (%)	10.4	7.9	8.5
Immunization history			
Children aged 12-23 months who have received 3 doses of hepatitis B vaccine (%)	50.1	38.1	40.9
Household profile			
Population living in households that use an improved sanitation facility (%)	73.3	57.1	61.3
Households using clean fuel for cooking (%)	87.4	30.0	45.0
Households with any usual member covered under a health insurance/financing scheme (%)	54.4	59.7	58.3

The proportion of women who have undergone screening is 5.9% for breast cancer, 17.5 % for oral cancer and 8.5% for cervical cancer. Only 40.9% of children in 12 to 23 months had received immunization with hepatitis B vaccine. About 61.3% of the population is living in households that use an improved sanitation facility—nearly half (45.0%) of the population are using clean fuel for cooking. The coverage with a health insurance scheme or financing scheme is 58.3%.



2.5 Status of the health system

A. Public sector health facilities^{[7],[8]}	Number
Sub centres (SC)	307
Health and Wellness Centre - Sub Centre (HWC-SC)	78
Primary Health Centres (PHC)	105
Health and Wellness Centre - Primary Health Centre (HWC-PHC)	42
Community Health Centres (CHC)	63
Sub-district Hospitals (SDH)	00
District Hospitals (DH)	17
Number of government allopathic doctors and dental surgeons	322
B. Tertiary health care facilities	
Medical Colleges ^[9]	01
State cancer institute ^[10]	00
Tertiary cancer care centre ^[10]	00
Regional cancer care centre ^[11]	00
C. State government health scheme ^[12]	Chief Minister's Arogya Arunachal Yojna (CMAAY)

The state has 307 SCs, 78 HWC-SCs, 105 PHCs, 42 HWC-PHCs, 63 CHCs and 17 DHs. There is only one medical college. The state implements government health scheme known as Chief Minister's Arogya Arunachal Yojna (CMAAY).



A. Profile of Cancer

2.6 Details of Cancer Registries in the State

Population Based Cancer Registry	West Arunachal - PBCR	Pasighat - PBCR
Location	Tomo Riba Institute of Health & Medical Science, Naharlagun	General Hospital, Pasighat
Established Year	2011	2011
Coverage Area	Tawang, West Kameng, East Kameng, Upper Subansiri, Lower Subansiri, Kurung Kumey, Papumpare & West Siang	East Siang and Upper Siang
Sources of registration	23	31
Area (in Sq.km)	42095	10193
Urban & Rural (%)	25.8 & 74.2	25.4 & 74.6

The two Population-Based Cancer Registries are located at Tomo Riba Institute of Health & Medical Science in Naharlagun and General Hospital in Pasighat. The PBCR at Naharlagun covers Tawang, West Kameng, East Kameng, Upper Subansiri, Lower Subansiri, Kurung Kumey, Papumpare & West Siang through 23 sources of registration for the year 2012-2016. The PBCR which is situated at Pasighat covers East Siang and Upper Siang through 31 sources of registration.

2.7 Number of cancer cases and Age Adjusted Incidence Rate (AAR) per 1,00,000 population

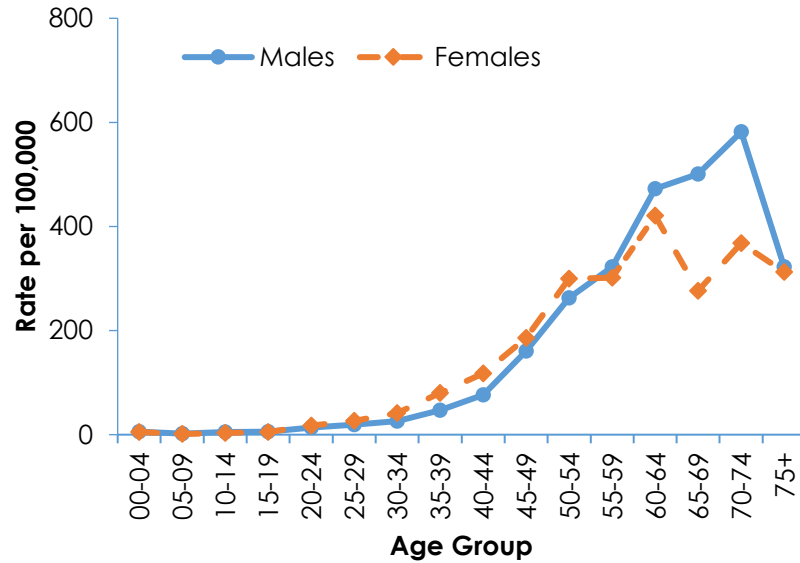
Gender	West Arunachal		Pasighat	
	Number of New Cancer Cases	AAR	Number of New Cancer Cases	AAR
Males	1222	101.1	321	120.4
Females	1171	96.3	303	116.2

The AAR is higher in males (101.1 per 100,000 males) than females (96.3 per 100,000 females) in West Arunachal. Similarly, in Pasighat, the AAR is higher in males (120.4 per 100,000 males) than females (116.2 per 100,000 females).



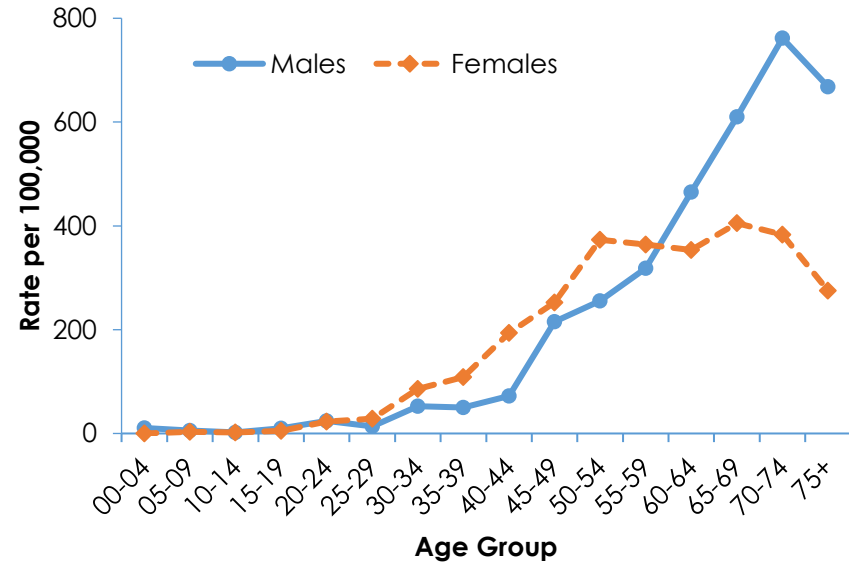
2.8 Age Specific Incidence Rate (ASPr) per 100,000 population

2.8.1 West Arunachal



The Age-Specific Incidence Rates in both the genders show a rise from 25-29 years age-group onwards. In males, the highest Age-Specific Incidence Rate is seen in the 70-74 years age-group while in females, the highest Age-Specific Incidence Rate is in the 60-64 years age-group.

2.8.2 Pasighat



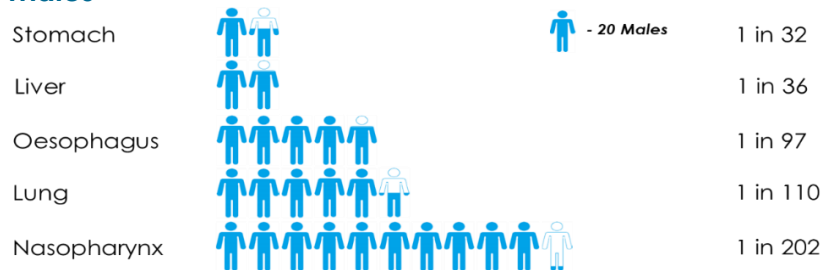
The Age-Specific Incidence Rates in both the genders show a rise from 25-29 years age-group onwards. In males, the highest Age-Specific Incidence Rate is seen in the 70-74 years age-group while in females, the highest Age-Specific Incidence Rate is in the 65-69 years age-group.



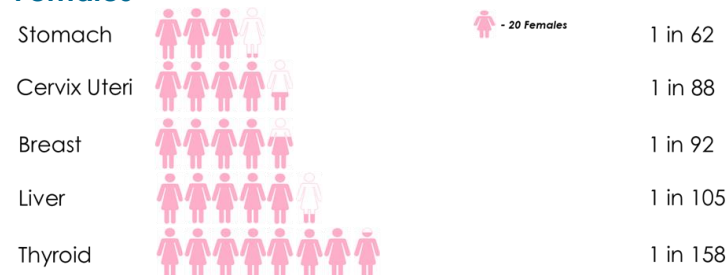
2.9 Probability of One in number of Persons developing cancer in 0-74 years age

West Arunachal

Males



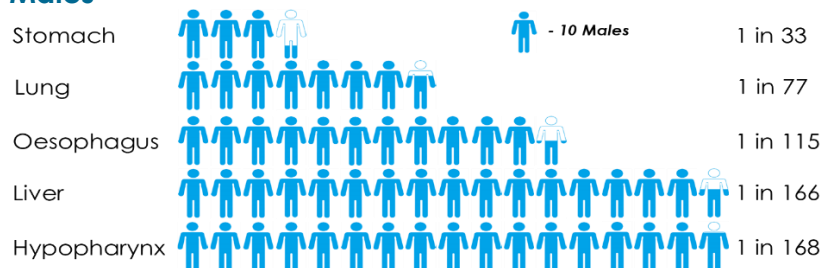
Females



In West Arunachal, the probability of developing stomach cancer is the highest in both the genders (1 in every 32 males and 1 in every 62 females), followed by liver cancer in males (1 in every 36 males) and cervical cancer in females (1 in every 88 females).

Pasighat

Males



Females

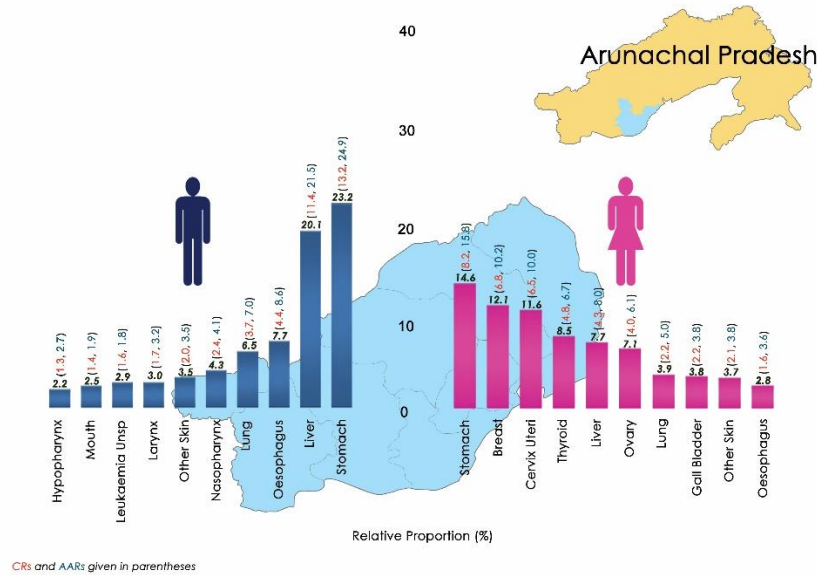


In Pasighat, the probability of developing stomach cancer is the highest in males (1 in every 33 males) followed by lung cancer (1 in every 77 males). In females, the probability of developing cancer of cervix uteri is highest (1 in every 51 females) followed by breast cancer (1 in every 55 females).



2.10 Leading Anatomical Sites of Cancer

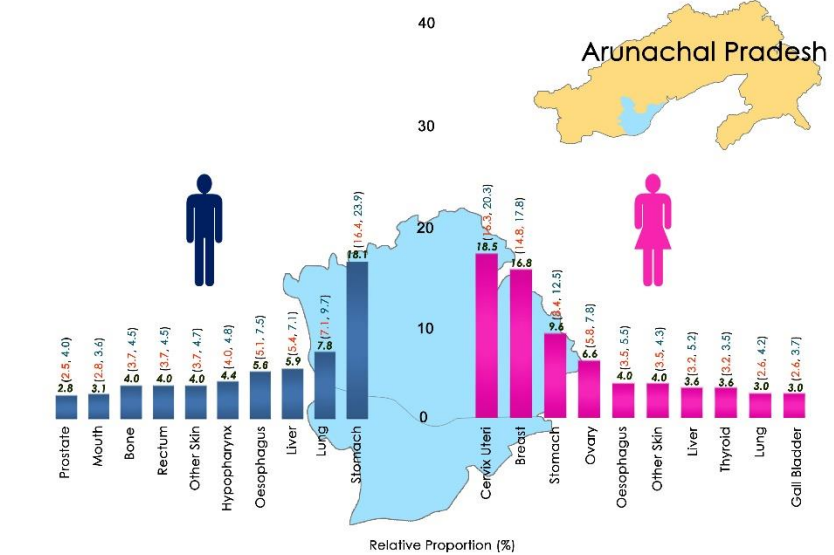
2.10.1 West Arunachal



CRs and AARs given in parentheses

In West Arunachal, the proportion of stomach cancer (23.2%) is highest among males, followed by liver cancer (20.1%) and cancer of oesophagus (7.7%). In females, the stomach is a leading cancer site (14.6%) followed by breast (12.1%) and cervix uteri (11.6%).

2.10.2 Pasighat



CRs and AARs given in parentheses

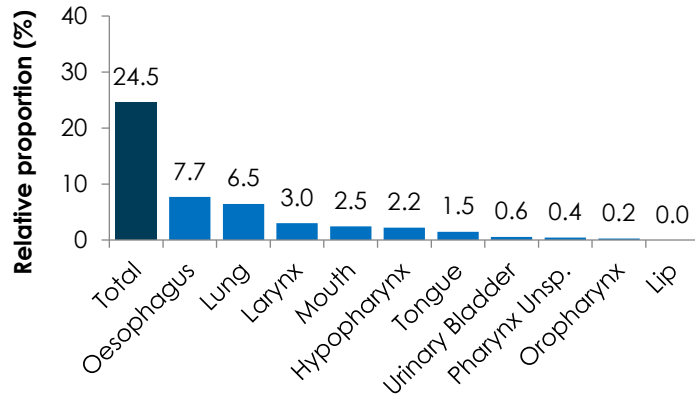
In Pasighat, the proportion of stomach cancer (18.1%) is highest among males, followed by the lung cancer (7.8%) and cancer of liver (5.9%). In females, the cervix uteri is a leading cancer site (18.5%) followed by breast (16.8%) and stomach (9.6%).



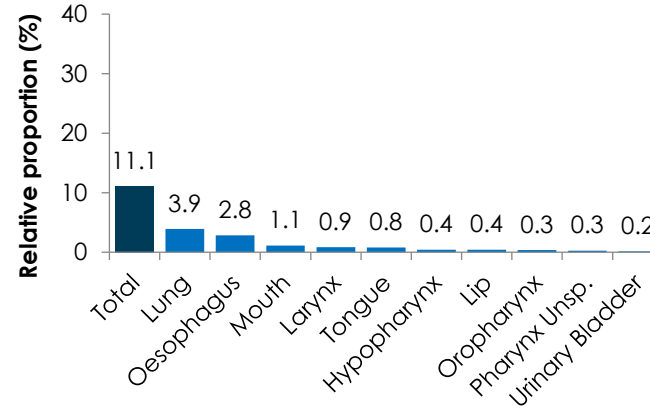
2.11 Relative Proportion (%) of Cancer Sites Associated with the Use of Tobacco

2.11.1 West Arunachal

Males



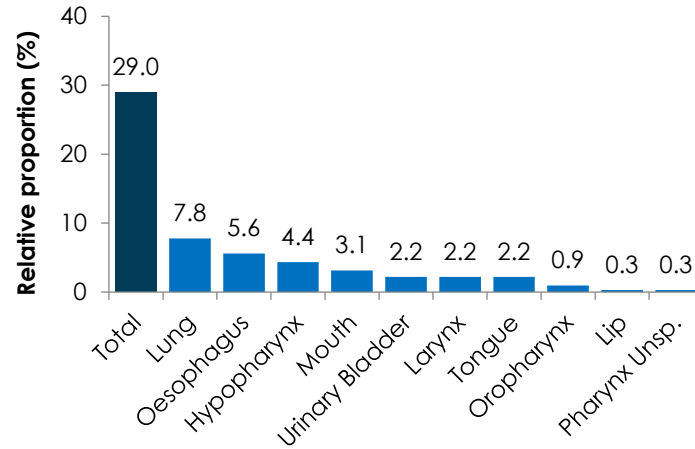
Females



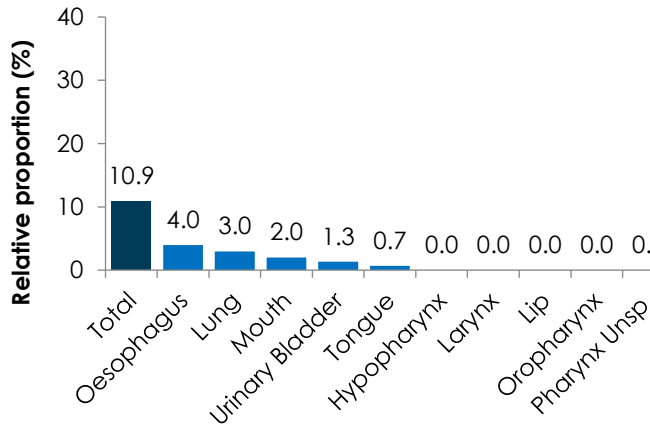
Nearly one-fourth (24.5%) cancers in males and close to one-tenth (11.1%) in females are tobacco use related cancer sites. Among these, oesophagus (7.7% in males; 2.8% in females) followed by lung (6.5% in males; 3.9% in females) constitute the leading sites in both the genders.

2.11.2 Pasighat

Males



Females



About 29.0% of the cancers in males and 10.9% in females are tobacco use related cancer sites. Among these, cancers of the oesophagus (5.6% in males; 4.0% in females) and lung (7.8% in males, 3.0% in females) are the top two leading sites.



2.12 Distribution of cancers according to ethnicity

2.12.1 West Arunachal

Name of Ethnic Group	Number	%
Nyishi	797	33.3
Galo	326	13.6
Apatani	172	7.2
Tagin	161	6.7
Monpa	134	5.6
Adi	109	4.6
Nepalese	106	4.4
Ahom	46	1.9
Others	248	10.4

Total may not be 100%, because unspecified/unknown ethnic group cases are excluded.

Among all the ethnic groups, half of cancer cases are recorded in the Nyishi and Galo ethnic group.

2.12.2 Pasighat

Name of Ethnic Group	Number	%
Adi	398	63.8
Nepalese	59	9.5
Mishing	29	4.6
Galo	20	3.2
Boro	7	1.1
Others	65	10.4

Total may not be 100%, because unspecified/unknown ethnic group cases are excluded.

Among the ethnic groups, close to two thirds (63.8%) of cancer cases are reported in the Adi ethnic group



2.13 Case-Fatality Ratio

2.13.1 West Arunachal

Case Fatality Ratio (CFR)			
West Arunachal	Incidence	Death	CFR%
Males	1222	321	26.3
Females	1171	202	17.3
Total	2393	523	21.9

The total case fatality ratio is 21.9% in West Arunachal, higher in males (26.3%) than females (17.3%).

2.13.2 Pasighat

Case Fatality Ratio (CFR)			
Pasighat	Incidence	Death	CFR%
Males	321	74	23.1
Females	303	52	17.2
Total	624	126	20.2

The total case fatality ratio is 20.2% in Pasighat, higher in males (23.1%) than females (17.2%).

Key Observations:

- Cancer ranks among the top five leading causes of death in the state.
- Cancer of the stomach and liver are among the top leading sites in both genders.
- In women, stomach cancer is the leading site in West Arunachal.
- Nearly two third of the male and one third of female population are current tobacco users.
- Alcohol consumption is reported in more than half of the males and quarter of the females.
- Immunization coverage with hepatitis B vaccine is less than 50.0%.
- The cause of death is medically certified in close to one third of the deaths.
- The state has a scarcity of tertiary cancer care services.