



SIKKIM



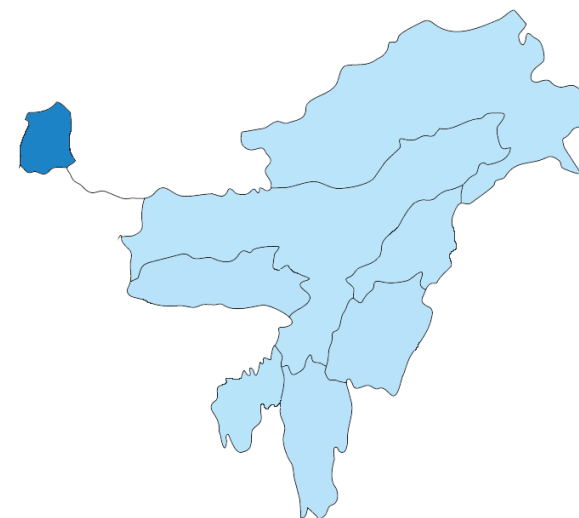


Chapter 8: Cancer and health status profile of Sikkim

A. Health Status Profile

8.1 Socio-demographic profile ^[1]

Population (Total)	610577
Number of males	323070
Number of females	287507
Sex Ratio	890
Major ethnic groups	Nepalese, Bhutias, Lepchas
Literacy rate (%)	
Total	81.4
Males	86.6
Females	75.6



The total population of the region is 610577, with a sex ratio of 890. The total literacy rate is 81.4%, being 86.6% in males and 75.6% in females. The major ethnic groups include Nepalese, Bhutias and Lepchas.



8.2. NCD related Risk factor profile

Behavioral and lifestyle-related							
Tobacco use ^[2]							
Current tobacco use-smoked and/or smokeless (age 15 years and above) (%)							
Total						17.9	
Males						26.4	
Females						8.4	
Current smoked tobacco use (age 15 or above) (%)							
Total						10.9	
Males						17.4	
Females						3.6	
Current smokeless tobacco use (age 15 or above) (%)							
Total						9.7	
Males						13.8	
Females						5.1	
Alcohol consumption							
	Urban		Rural		Total		
	Men	Women	Men	Women	Men	Women	
age 15 years or above (%) ^[13]	37.6	12.7	41.1	18.4	39.8	16.2	
Metabolic risk factors^[13]							
Overweight/Obese BMI >25 s (age 15-49 years) (%)	40.1	41.0	33.9	30.8	36.3	34.7	
Raised blood pressure (age 15 years or above) (%)	38.6	32.3	43.1	35.8	41.6	34.5	
Raised random blood glucose (age 15 years or above) (%)	16.2	14.6	15.5	10.9	15.7	12.2	
Air Pollution, DALYs per 100,000 ^[3]	2132.87						

The prevalence of current tobacco use is 17.9%, higher for the smoked form (10.9%) than the smokeless form (9.7%). The DALYs' due to air pollution is reported to be 2132.87 per 100,000. Over one-third, (39.8%) of males over the age of 15 years consumed alcohol, while the proportion of alcohol use in females is 16.2%. Over one-third of the women in the age group of 15-49 years are obese (34.7%), which is slightly lower than the prevalence in males (36.3%). A higher proportion of males (41.6%) have raised blood pressure than females (34.5%). The prevalence of raised blood glucose is 12.2% in women and 15.7% in men.





8.3 Mortality related statistics

Life expectancy (2016) ^[5]	
Males	70.5
Females	75.8
Leading causes of death (MCCD 2018) ^[6]	
Major Cause Group	Percentage
Circulatory System	28.8
Other Groups	25.0
Respiratory System	12.0
Certain Infectious & Parasitic Diseases	9.8
Neoplasms	7.5
Status of Medical certification of cause of death ^[6]	
Percentage of Medically Certified Deaths to Total Registered Deaths (%)	42.5
Medical Institutions covered under MCCD	32
Medical Institutions Reported MCCD Data as per the National List	29
Ranking of States/UTs in the medical certification of cause of death 2018	13

The life expectancy is marginally higher in females (75.8 years) than males (70.5 years). Circulatory system causes comprise the leading cause of death (28.8%). The percentage of medically certified deaths to total registered deaths is 42.5. The state ranks thirteenth in the medical certification of cause of death.



8.4 Health seeking behaviour and health practices [13]

	Urban	Rural	Total
History of cancer screening			
Women aged 30-49 ever undergone a breast examination for breast cancer (%)	0.0	0.2	0.1
Women aged 30-49 ever undergone an oral cavity examination for oral Cancer (%)	1.4	0.4	0.8
Women aged 30-49 ever undergone screening for cervical Cancer (%)	0.7	0.5	0.6
Men aged 30-49 ever undergone an oral cavity examination for oral cancer (%)	7.1	2.3	4.0
Immunization history			
Children aged 12-23 months who have received 3 doses of penta or hepatitis B vaccine (%)	-	86.8	89.1
Household profile			
Population living in households that use an improved sanitation facility (%)	84.0	89.3	87.3
Households using clean fuel for cooking (%)	97.5	64.4	78.4
Households with any usual member covered under a health insurance/financing scheme (%)	31.2	21.6	25.7

The proportion of women who have undergone screening is 0.1% for breast cancer, 0.8% for oral cancer and 0.6% for cervical cancer. Only 4% of men had a history of screening for oral cancer. As many as 89% of children in 12 to 23 months had received immunization with Penta and hepatitis B vaccine. About 87.3% of the population is living in households that use an improved sanitation facility—over two-thirds (78.4%) of the population are using clean fuel for cooking. The coverage with a health insurance scheme or financing scheme is low at a figure of 25.7%.



8.5 Status of the health system

A. Public sector health facilities ^{[7],[8]}	Number
Sub centres (SC)	148
Health and Wellness Centre - Sub Centre (HWC-HC)	28
Primary Health Centres (PHC)	25
Health and Wellness Centre - Primary Health Centre (HWC-PHC)	05
Community Health Centres (CHC)	2
Sub-district Hospitals (SDH)	00
District Hospitals (DH)	04
Number of government allopathic doctors and dental surgeons	84
B. Tertiary health care facilities	
Medical Colleges ^[9]	01
State cancer institute ^[10]	00
Tertiary cancer care centre ^[10]	01
Regional cancer care centre ^[11]	00
C. State government health scheme ^[19]	<ol style="list-style-type: none"> 1. Comprehensive annual and total health checkup (CATCH) Program 2. Mukhya Mantri Jeevan Raksha Kosh 3. Sikkim State Illness Assistance Fund (SSI AF)

The state has 148 SCs, 28 HWC– SCs', 25 PHCs', 05 HWC – PHCs', 2 CHCs' and 4 DHs. There is only one medical college and one Tertiary Cancer Centre. The state implements health schemes known as Comprehensive annual and total health checkup (CATCH) Program, Mukhya Mantri Jeevan Raksha Kosh and Sikkim State Illness Assistance Fund (SSI AF).



B. Profile of Cancer

8.6 Details of Cancer registries in the State

Population Based Cancer Registry	
Location	Sir Thutob Namgyal Memorial (STNM) Multispecialty Hospital, Gangtok
Established Year	2003
Coverage Area	Sikkim state
Sources of Registration	36
Area (in Sq.km)	7096
Urban & Rural (%)	25.2 & 74.8

The population based cancer registry is situated at the STNM Multispecialty Hospital, Gangtok, covering the entire state through 36 sources of registration.

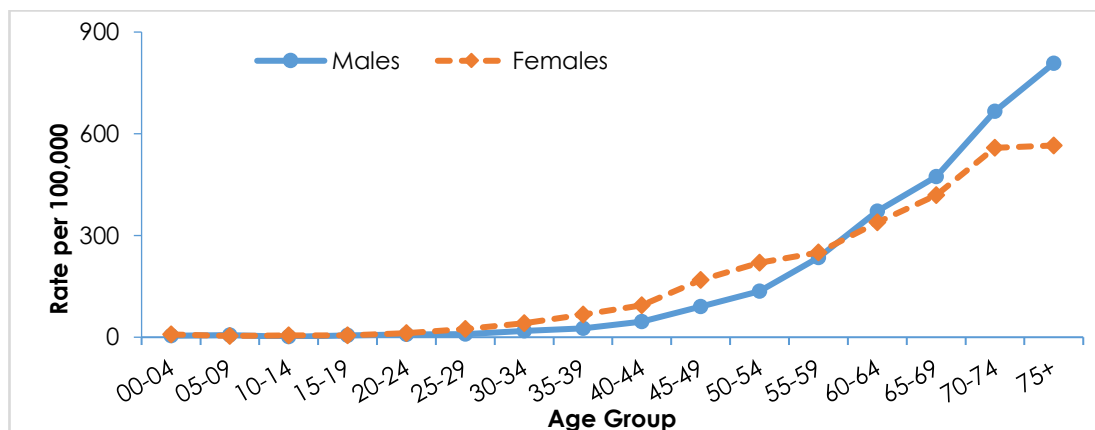
8.7 Number of cancer cases and Age Adjusted Incidence Rate (AAR) per 100,000 population

Gender	Number of New Cancer Cases	AAR
Males	1172	88.7
Females	1131	97.0

The AAR is higher in females (97.0 per 100,000 females) than males (88.7 per 100,000 males).



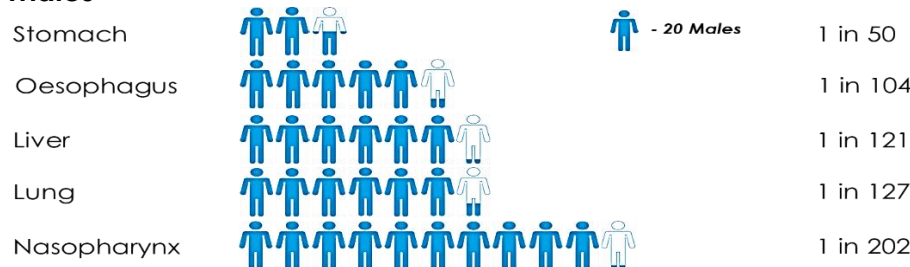
8.8 Age Specific Incidence Rate (ASpR)



The Age-Specific Incidence Rates in both the genders shows a rise from 30-34 years age-group onwards. The highest Age-Specific Incidence Rate is seen in at 75+ years in males and females.

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

Males



Females

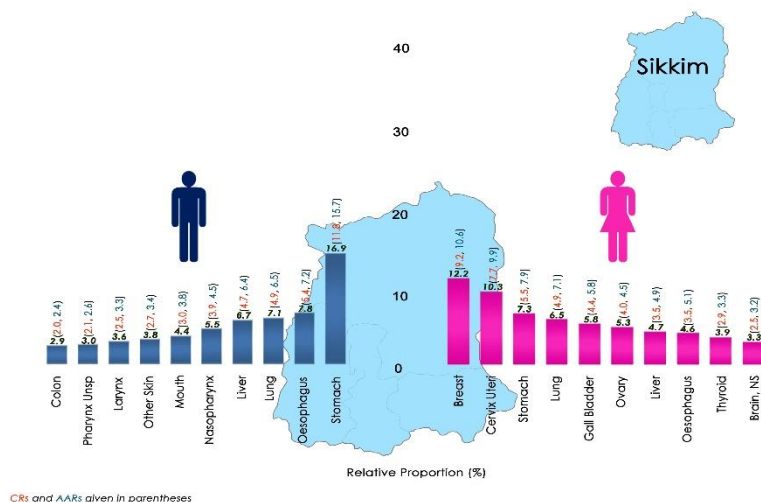


The probability of developing stomach cancer is the highest in males (1 in every 50 males), followed by oesophageal cancer (1 in every 104 males) and cancer of liver (1 in every 121 males). In females, the probability of developing breast cancer is found to be highest (1 in every 87 females) followed by cancer of cervix-uteri (1 in every 89 females) and cancer of stomach (1 in every 97 females).





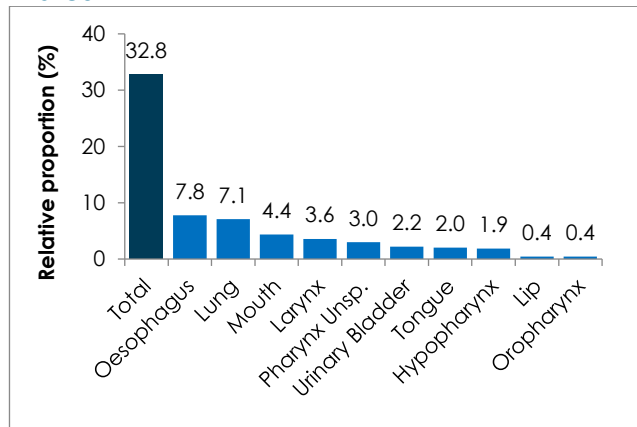
8.10 Leading Anatomical Sites of Cancer



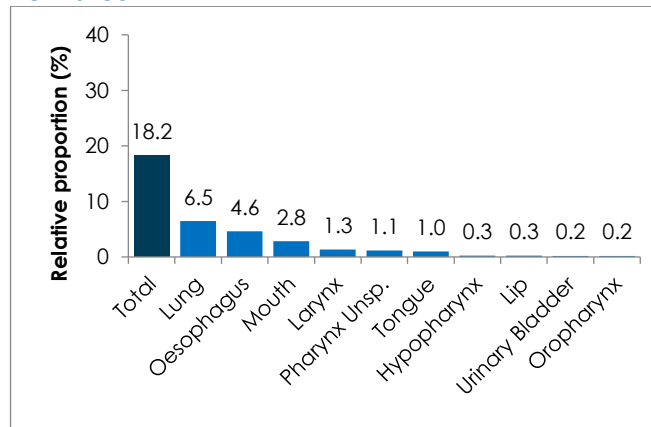
The proportion of stomach cancer (16.9 %) is highest among males, followed by oesophagus (7.8%) and lung (7.1 %). In females, the breast is a leading cancer site (12.2%) followed by cervix-uteri (10.3 %) and stomach (7.3%).

8.11 Relative Proportion (%) of Cancer sites Associated with the Use of Tobacco

Males



Females



Approximately one-third (32.8%) of cancers in males and (18.2%) in females are tobacco use related cancer sites. Among these, lung (7.1% in males; 6.5% in females) and oesophagus (7.8% in males; 4.6% in females) are the leading sites in both the genders.





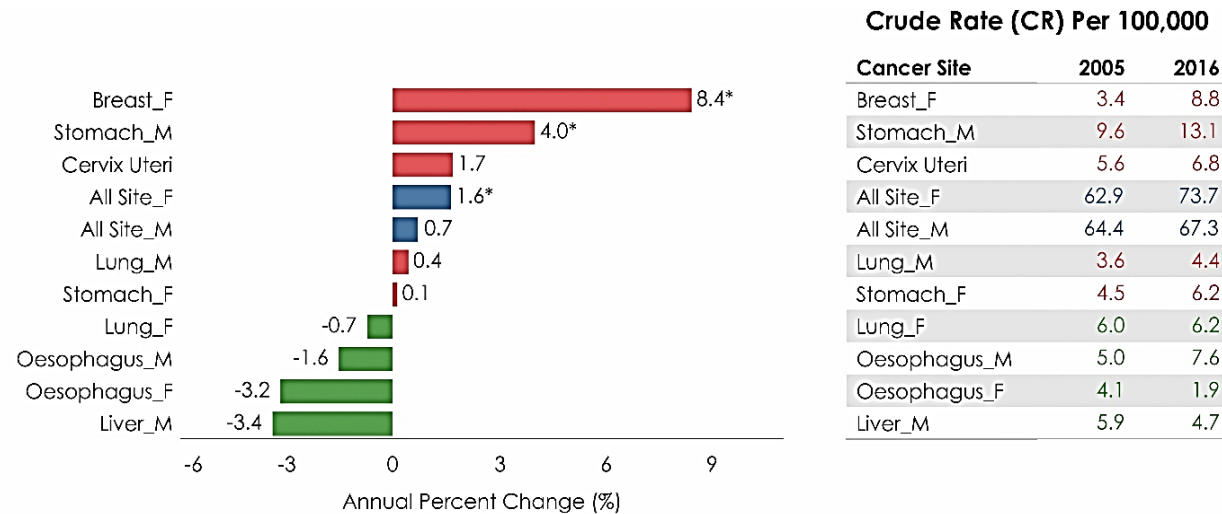
8.12 Distribution of cancers according to ethnicity

Name of Ethnic Group	Number	%
Nepalese	1468	63.7
Bhutias	451	19.6
Lepchas	184	8.0
Others	50	2.2

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

Among all the ethnic groups, over half (63.7%) of cancer cases are reported in the Nepalese ethnic group.

8.13 Trends over time in cancer incidence



Increase in APC, Decrease in APC, Increase or Decrease in APC for All Sites; * Significant Increase or Decrease at 95% Confidence Level

The annual percent change (APC) in cancer incidence for all cancer sites is 1.6% in females and 0.7% in males, from 2005 to 2016. In females, breast, cervix-uteri and stomach cancer show an increasing trend, whereas cancer of the oesophagus and lung decreases. Cancer of the stomach and lung shows a rising trend in males, whereas cancer of oesophagus and liver have declined.





8.14 Case Fatality Ratio (CFR)

Case Fatality Ratio (CFR)			
Sikkim State	Incident cancer cases	Deaths	CFR%
Males	1172	603	51.5
Females	1131	513	45.4
Total	2303	1116	48.5

The total case fatality ratio is 48.5%, higher in males (51.5%) than females (45.4%).

Key observations

- Cancer ranks among the top five leading causes of death in the state.
- The incidence of cancer and the rise in incidence is higher in females.
- Breast is the leading cancer site in females, and the rise in its incidence is significant.
- The stomach and oesophagus are leading cancer sites in males.
- The incidence of oesophageal cancer has declined in both genders.
- Over one-third of the men and, close to one-fifth of women consume alcohol.
- More than one-third of the population is overweight/obese and hypertensive.
- The cause of less than half of the deaths is medically certified.
- A health insurance scheme covers only a quarter of the population.