

Chapter - 1

**Cancers of the Head and Neck
(C01-C14, C32 except C07-C08)**

CHAPTER 1

CANCERS OF THE HEAD AND NECK

Table 1.0: Site classification according to ICD-10

Site of Cancer	ICD-10 Code
Tongue	C02
Mouth	C03 - C04 & C06
Oropharynx	C01, C05, C09, C10 & C14
Nasopharynx	C11
Hypopharynx	C12-C13
Larynx	C32

The sites included here are Tongue (C02), Mouth (C03-C04 & C06), Oropharynx (C01, C05, C09, C10 & C14), Nasopharynx (C11), Hypopharynx (C12-C13) and Larynx (C32).

The grouping has been done for the following reasons:

1. Oropharynx has been regrouped for analysis of HBCR data as this data focusses more on the treatment patterns followed in hospitals.
2. Also, the regrouping follows embryological development pattern where cancers of anterior two thirds of tongue (2/3) are grouped as tongue (C02). Cancers of posterior one third (1/3) of tongue (C01) while anatomically being part of tongue, histologically resemble cancers of oropharynx and hence are grouped along with them.

1.1 Number (n) and relative proportion (%) by sites of cancers of the head and neck

Table 1.1: Number (n) and relative proportion (%) of sites of cancers of head and neck relative to all sites of cancer

Site of Cancer (ICD-10 code)	Males		Females		Total	
	n	% (all sites)	n	% (all sites)	n	% (all sites)
Tongue (C02)	18420	5.8	6065	2.1	24485	4.0
Mouth (C03, C04, C06)	34547	10.8	11761	4.1	46308	7.6
<i>Gum (C03)</i>	7799	2.4	3282	1.1	11081	1.8
<i>Floor of mouth (C04)</i>	1599	0.5	201	0.1	1800	0.3
<i>Other and unspecified parts of mouth (C06)</i>	25149	7.9	8278	2.9	33427	5.5
Oropharynx (C01, C05, C09, C10, C14)	20627	6.5	3327	1.1	23954	3.9
<i>Base of tongue (C01)</i>	7039	2.2	993	0.3	8032	1.3
<i>Palate (C05)</i>	3017	0.9	731	0.3	3748	0.6
<i>Tonsil (C09)</i>	4503	1.4	722	0.2	5225	0.9
<i>Oropharynx (C10)</i>	5062	1.6	645	0.2	5707	0.9
<i>Other and ill-defined sites in lip, oral cavity and pharynx (C14)</i>	1006	0.3	236	0.1	1242	0.2
Nasopharynx (C11)	2494	0.8	983	0.3	3477	0.6
Hypopharynx (C12-C13)	12765	4.0	3072	1.1	15837	2.6
<i>Pyriform sinus (C12)</i>	8551	2.7	1075	0.4	9626	1.6
<i>Hypopharynx (C13)</i>	4214	1.3	1997	0.7	6211	1.0
Larynx (C32)	14377	4.5	1484	0.5	15861	2.6
Cancers of Head and Neck	103230	32.4	26692	9.2	129922	21.3

1.2 Distribution of Head and Neck Cancers according to Five-year Age Groups

Table 1.2.1: Number (n) and proportion (%) of cancers of head and neck according to five-year age group: Males

Age group	Tongue			Mouth			Oropharynx			Nasopharynx			Hypopharynx			Larynx			Cancers of Head and Neck		
	n	Row %	Col %	n	Row %	Col %	n	Row %	Col %	n	Row %	Col %	n	Row %	Col %	n	Row %	Col %	n	Row %	Col %
< 20	26	5.6	0.1	41	8.9	0.1	28	6.1	0.1	339	73.3	13.6	11	2.4	0.1	17	3.7	0.1	462	100.0	0.5
20-24	131	24.4	0.7	190	35.5	0.5	42	7.8	0.2	135	25.2	5.4	18	3.4	0.1	20	3.7	0.1	536	100.0	0.5
25-29	654	37.7	3.6	834	48.0	2.4	85	4.9	0.4	87	5.0	3.5	39	2.2	0.3	38	2.2	0.3	1737	100.0	1.7
30-34	1445	32.7	7.9	2357	53.3	6.8	285	6.5	1.4	120	2.7	4.8	101	2.3	0.8	110	2.5	0.8	4418	100.0	4.3
35-39	2230	30.3	12.1	3753	51.0	10.9	699	9.5	3.4	159	2.2	6.4	281	3.8	2.2	240	3.2	1.7	7362	100.0	7.1
40-44	2451	25.7	13.3	4410	46.2	12.8	1278	13.4	6.2	221	2.3	8.9	609	6.4	4.8	573	6.0	4.0	9542	100.0	9.2
45-49	2551	21.0	13.9	4916	40.4	14.2	2152	17.7	10.4	270	2.2	10.8	1141	9.4	8.9	1126	9.3	7.8	12156	100.0	11.8
50-54	2268	16.2	12.3	4703	33.6	13.6	3049	21.8	14.8	290	2.1	11.6	1763	12.6	13.8	1919	13.7	13.4	13992	100.0	13.6
55-59	2049	14.2	11.1	4079	28.2	11.8	3463	23.9	16.8	279	1.9	11.2	2179	15.0	17.1	2429	16.8	16.9	14478	100.0	14.0
60-64	1864	12.6	10.1	3790	25.6	11.0	3757	25.4	18.2	248	1.7	9.9	2266	15.3	17.8	2867	19.4	19.9	14792	100.0	14.3
65-69	1384	12.6	7.5	2597	23.6	7.5	2738	24.9	13.3	164	1.5	6.6	1860	16.9	14.6	2272	20.5	15.8	11015	100.0	10.7
70-74	738	10.5	4.0	1584	22.4	4.6	1757	24.9	8.5	104	1.5	4.2	1359	19.3	10.7	1511	21.4	10.5	7053	100.0	6.8
75-79	356	10.5	1.9	749	22.1	2.2	759	22.4	3.7	46	1.4	1.8	707	20.9	5.5	765	22.6	5.3	3382	100.0	3.3
80-84	176	11.2	1.0	351	22.4	1.0	369	23.5	1.8	17	1.1	0.7	295	18.8	2.3	360	23.0	2.5	1568	100.0	1.5
85+	97	13.3	0.5	189	26.0	0.6	163	22.4	0.8	15	2.1	0.6	134	18.4	1.0	129	17.8	0.9	727	100.0	0.7
All ages*	18420	17.8	100.0	34547	33.5	100.0	20627	20.0	100.0	2494	2.4	100.0	12765	12.4	100.0	14377	13.9	100.0	103230	100.0	100.0
Mean (SD) Years	50 (13)			51 (13)			57 (11)			45(18)			59(11)			60 (11)			54 (13)		

* Includes cases with unknown age

Table 1.2.2: Number (n) and proportion (%) of cancers of head and neck according to five-year age group: Females

Age group	Tongue			Mouth			Oropharynx			Nasopharynx			Hypopharynx			Larynx			Cancers of Head and Neck		
	n	Row %	Col %	n	Row %	Col %	n	Row %	Col %	n	Row %	Col %	n	Row %	Col %	n	Row %	Col %	N	Row %	Col %
< 20	14	8.4	0.2	30	18.1	0.3	14	8.4	0.4	94	56.6	9.6	8	4.8	0.3	6	3.7	0.4	166	100.0	0.6
20-24	38	17.4	0.6	45	20.6	0.4	21	9.6	0.6	75	34.4	7.6	24	11.0	0.8	15	7.0	1.0	218	100.0	0.8
25-29	119	28.5	2.0	135	32.4	1.2	32	7.7	1.0	49	11.8	5.0	61	14.6	2.0	21	5.0	1.4	417	100.0	1.6
30-34	208	24.7	3.4	339	40.3	2.9	68	8.1	2.0	66	7.9	6.7	127	15.1	4.1	33	3.9	2.2	841	100.0	3.2
35-39	435	26.3	7.2	708	42.8	6.0	148	8.9	4.5	78	4.7	7.9	230	14.0	7.5	55	3.3	3.7	1654	100.0	6.2
40-44	558	24.3	9.2	1001	43.7	8.5	233	10.2	7.0	97	4.2	9.9	322	14.1	10.5	81	3.5	5.5	2292	100.0	8.6
45-49	841	24.2	13.9	1503	43.3	12.8	395	11.4	11.9	117	3.4	11.9	459	13.2	14.9	158	4.5	10.7	3473	100.0	13.0
50-54	911	25.2	15.0	1531	42.4	13.0	414	11.5	12.4	119	3.3	12.1	461	12.7	15.0	177	4.9	11.9	3613	100.0	13.5
55-59	797	22.5	13.1	1527	43.1	13.0	474	13.4	14.3	95	2.7	9.7	395	11.2	12.8	252	7.1	17.0	3540	100.0	13.3
60-64	775	20.4	12.8	1721	45.3	14.6	559	14.7	16.8	94	2.5	9.6	389	10.3	12.7	258	6.8	17.4	3796	100.0	14.2
65-69	653	22.0	10.8	1359	45.9	11.6	420	14.2	12.6	45	1.5	4.6	290	9.8	9.4	195	6.6	13.1	2961	100.0	11.1
70-74	378	19.9	6.2	911	47.8	7.7	307	16.1	9.2	27	1.4	2.7	162	8.5	5.3	119	6.3	8.0	1904	100.0	7.1
75-79	187	18.7	3.1	521	52.2	4.4	132	13.2	4.0	15	1.5	1.5	77	7.7	2.5	67	6.7	4.5	999	100.0	3.8
80-84	96	18.6	1.6	259	50.3	2.2	73	14.2	2.2	6	1.2	0.6	49	9.5	1.6	32	6.2	2.2	515	100.0	1.9
85+	55	18.3	0.9	169	56.1	1.4	37	12.3	1.1	6	2.0	0.6	19	6.3	0.6	15	5.0	1.0	301	100.0	1.1
All ages*	6065	22.7	100.0	11761	44.1	100.0	3327	12.5	100.0	983	3.7	100.0	3072	11.5	100.0	1484	5.5	100.0	26692	100.0	100.0
Mean (SD) Years	54 (13)			55 (13)			56 (13)			44(17)			52(13)			57 (13)			54 (13)		

* Includes cases with unknown age

1.3 Broad methods of diagnosis

Table 1.3: Number (n) and proportion (%) of head and neck cancers by most valid method of diagnosis

Method of diagnosis	Tongue		Mouth		Oropharynx		Nasopharynx		Hypopharynx		Larynx		Cancers of Head and Neck	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Males														
Microscopic	18351	99.6	34377	99.5	20540	99.6	2465	98.9	12701	99.5	14297	99.4	102731	99.5
Imaging Techniques	25	0.1	65	0.2	38	0.2	25	1.0	30	0.2	39	0.3	222	0.2
Clinical Only	29	0.2	90	0.3	32	0.2	4	0.1	23	0.2	27	0.2	205	0.2
Total*	18420	100.0	34547	100.0	20627	100.0	2494	100.0	12765	100.0	14377	100.0	103230	100.0
Females														
Microscopic	6031	99.4	11678	99.3	3314	99.6	966	98.3	3061	99.6	1471	99.1	26521	99.4
Imaging Techniques	8	0.1	28	0.2	5	0.1	14	1.4	3	0.1	8	0.5	66	0.2
Clinical Only	24	0.4	48	0.4	8	0.2	0	0.0	7	0.2	2	0.1	89	0.3
Total*	6065	100.0	11761	100.0	3327	100.0	983	100.0	3072	100.0	1484	100.0	26692	100.0

*Cases with unknown and other methods of diagnosis are included.

1.4 Types of microscopic diagnosis

Table 1.4: Number (n) and proportion (%) of head and neck cancers according to specific type of microscopic diagnosis

Type of microscopic diagnosis	Tongue		Mouth		Oropharynx		Nasopharynx		Hypopharynx		Larynx		Cancers of Head and Neck	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Males														
Primary Histology	17714	96.5	33097	96.3	18523	90.2	2121	86.0	11581	91.2	13398	93.7	96434	93.9
Histology of metastasis	76	0.4	132	0.4	271	1.3	141	5.7	167	1.3	124	0.9	911	0.9
Cytology of Primary	432	2.4	974	2.8	838	4.1	90	3.7	380	3.0	397	2.8	3111	3.0
Cytology of Metastasis	129	0.7	174	0.5	908	4.4	113	4.6	573	4.5	378	2.6	2275	2.2
All microscopic	18351	100.0	34377	100.0	20540	100.0	2465	100.0	12701	100.0	14297	100.0	102731	100.0
Females														
Primary Histology	5842	96.9	11246	96.3	3006	90.7	814	84.2	2910	95.1	1380	93.8	25198	95.0
Histology of metastasis	14	0.2	29	0.2	34	1.0	48	5.0	25	0.8	10	0.7	160	0.6
Cytology of Primary	141	2.3	317	2.7	153	4.6	48	5.0	57	1.9	43	2.9	759	2.9
Cytology of Metastasis	34	0.6	86	0.8	121	3.7	56	5.8	69	2.2	38	2.6	404	1.5
All microscopic	6031	100.0	11678	100.0	3314	100.0	966	100.0	3061	100.0	1471	100.0	26521	100.0

1.5 Major histological types

1.5.1 Tongue (C02)

Table 1.5.1: Number (n) and proportion (%) according to broad histological classification- Cancer of Tongue

Broad histological classification	Males		Females		Total	
	n	%	n	%	n	%
Epithelial cell tumours						
Squamous Cell Carcinoma, NOS	17018	92.7	5593	92.7	22611	92.7
Squamous Cell Carcinoma, Keratinizing	705	3.8	227	3.8	932	3.8
Squamous Cell Carcinoma, Non-Keratinizing	82	0.4	16	0.3	98	0.4
Verrucous carcinoma	100	0.5	33	0.5	133	0.5
All other Squamous Cell Carcinomas	75	0.4	30	0.5	105	0.4
Adenocarcinoma	41	0.2	20	0.3	61	0.3
Carcinoma, NOS	229	1.2	82	1.4	311	1.3
Mesenchymal tumours						
Sarcoma	4	<0.1	1	<0.1	5	<0.1
Others	97	0.5	29	0.5	126	0.5
Total	18351	100.0	6031	100.0	24382	100.0

1.5.2 Mouth (C03 - C04 & C06)

Table 1.5.2: Number (n) and proportion (%) according to broad histological classification- Cancer of Mouth

Broad histological classification	Males		Females		Total	
	n	%	n	%	n	%
Epithelial cell tumours						
Squamous Cell Carcinoma, NOS	30840	89.7	10602	90.8	41442	90.0
Squamous Cell Carcinoma, Keratinizing	1837	5.3	423	3.6	2260	4.9
Squamous Cell Carcinoma, Non -Keratinizing	164	0.5	37	0.3	201	0.4
Verrucous carcinoma	614	1.8	235	2.0	849	1.8
All other Squamous Cell Carcinomas	165	0.5	79	0.7	244	0.5
Adenocarcinoma	138	0.4	77	0.7	215	0.5
Carcinoma, NOS	424	1.2	144	1.2	568	1.2
Mesenchymal tumours						
Sarcoma	34	0.1	17	0.1	51	0.1
Others	161	0.5	64	0.5	225	0.5
Total	34377	100.0	11678	100.0	46055	100.0

1.5.3 Oropharynx (C01, C05, C09, C10 & C14)

Table 1.5.3: Number (n) and proportion (%) according to broad histological classification- Cancer of Oropharynx

Broad histological classification	Males		Females		Total	
	n	%	n	%	n	%
Epithelial cell tumours						
Squamous Cell Carcinoma, NOS	17941	87.3	2711	81.8	20652	86.6
Squamous Cell Carcinoma, Keratinizing	582	2.8	115	3.5	697	2.9
Squamous Cell Carcinoma, Non-Keratinizing	268	1.3	80	2.4	348	1.5
Verrucous carcinoma	47	0.2	14	0.4	61	0.3
All other Squamous Cell Carcinomas	81	0.4	14	0.4	95	0.4
Adenocarcinoma	181	0.9	116	3.5	297	1.2
Carcinoma, NOS	737	3.6	152	4.6	889	3.7
Mesenchymal tumours						
Sarcoma	21	0.1	9	0.3	30	0.1
Others	682	3.3	103	3.1	785	3.3
Total	20540	100.0	3314	100.0	23854	100.0

1.5.4 Nasopharynx (C11)

Table 1.5.4: Number (n) and proportion (%) according to broad histological classification- Cancer of Nasopharynx

Broad histological classification	Males		Females		Total	
	n	%	n	%	n	%
Epithelial cell tumours						
Squamous Cell Carcinoma, NOS	784	31.8	296	30.6	1080	31.5
Squamous Cell Carcinoma, Keratinizing	43	1.7	17	1.8	60	1.7
Squamous Cell Carcinoma, Non-Keratinizing	229	9.3	92	9.5	321	9.4
Undifferentiated	1112	45.1	426	44.1	1538	44.8
All other Squamous Cell Carcinomas	23	0.9	8	0.8	31	0.9
Adenocarcinoma	47	1.9	27	2.8	74	2.2
Mesenchymal tumours						
Sarcoma	29	1.2	18	1.9	47	1.4
Others	198	8.0	82	8.5	280	8.2
Total	2465	100.0	966	100.0	3431	100.0

1.5.5 Hypopharynx (C12-C13)

Table 1.5.5: Number (n) and proportion (%) according to broad histological classification- Cancer of Hypopharynx

Broad histological classification	Males		Females		Total	
	n	%	n	%	n	%
Epithelial cell tumours						
Squamous Cell Carcinoma, NOS	11189	88.1	2767	90.4	13956	88.5
Squamous Cell Carcinoma, Keratinizing	240	1.9	88	2.9	328	2.1
Squamous Cell Carcinoma, Non-Keratinizing	263	2.1	40	1.3	303	1.9
Verrucous carcinoma	0	0.0	2	0.1	2	0.0
All other Squamous Cell Carcinomas	37	0.3	5	0.2	42	0.3
Adenocarcinoma	62	0.5	17	0.6	79	0.5
Carcinoma, NOS	374	2.9	78	2.5	452	2.9
Mesenchymal tumours						
Sarcoma	6	<0.1	1	<0.1	7	<0.1
Others	530	4.2	63	2.1	593	3.8
Total	12701	100.0	3061	100.0	15762	100.0

1.5.6 Larynx (C32)

Table 1.5.6: Number (n) and proportion (%) according to broad histological classification- Cancer of Larynx

Broad histological classification	Males		Females		Total	
	n	%	n	%	n	%
Epithelial cell tumours						
Squamous Cell Carcinoma, NOS	12644	88.4	1271	86.4	13915	88.2
Squamous Cell Carcinoma, Keratinizing	466	3.3	50	3.4	516	3.3
Squamous Cell Carcinoma, Non-Keratinizing	194	1.4	33	2.2	227	1.4
Verrucous carcinoma	10	0.1	1	0.1	11	0.1
All other Squamous Cell Carcinomas	166	1.2	19	1.3	185	1.2
Adenocarcinoma	85	0.6	16	1.1	101	0.6
Carcinoma, NOS	453	3.2	61	4.1	514	3.3
Mesenchymal tumours						
Sarcoma	10	0.1	1	0.1	11	0.1
Others	269	1.9	19	1.3	288	1.8
Total	14297	100.0	1471	100.0	15768	100.0

1.6 Clinical extent of disease

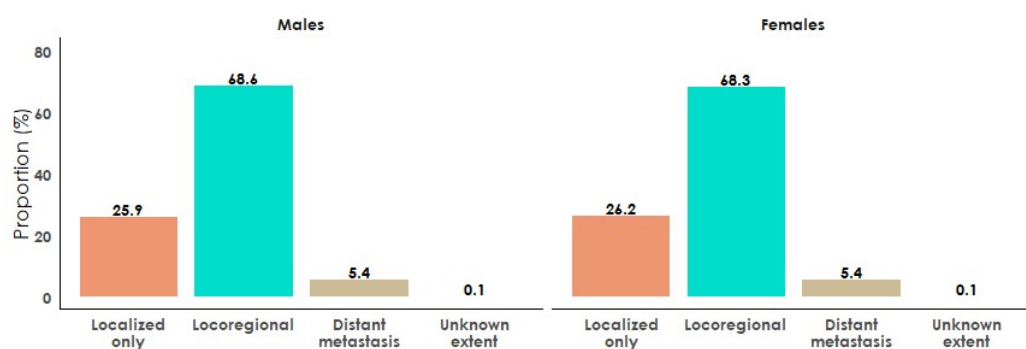


Figure 1.6.1 - Clinical extent of disease (%) – all sites of cancers of the head and neck in males and females

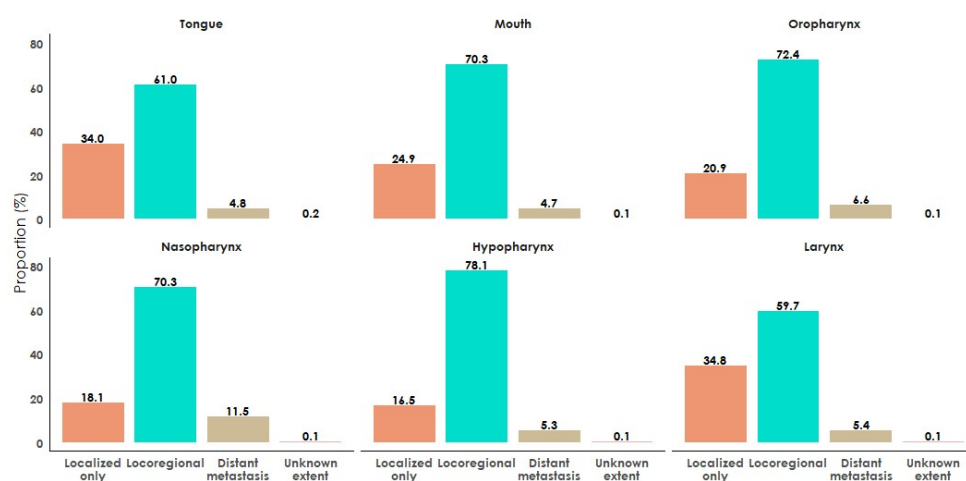


Figure 1.6.2 - Clinical extent of disease (%) – Site wise cancers of head and neck– Males

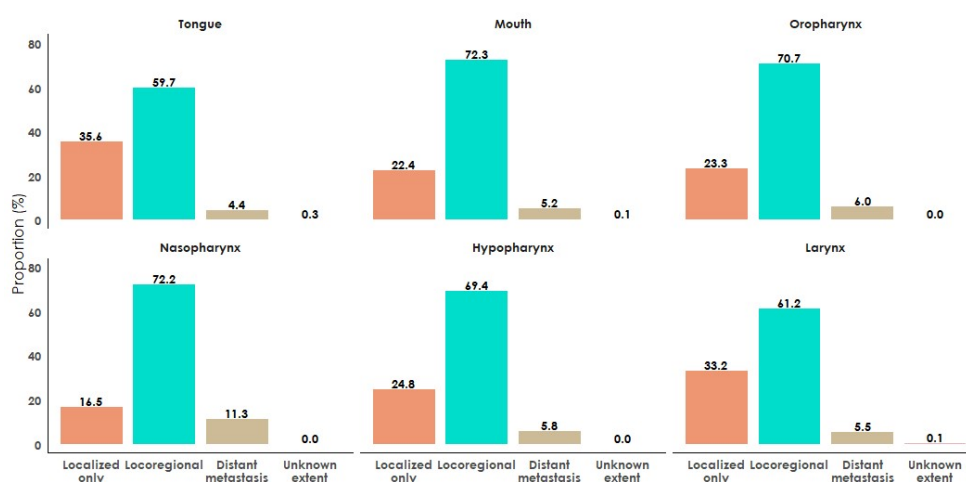


Figure 1.6.3 - Clinical extent of disease (%) – Site wise cancers of head and neck – Females

1.7 Intention to treat

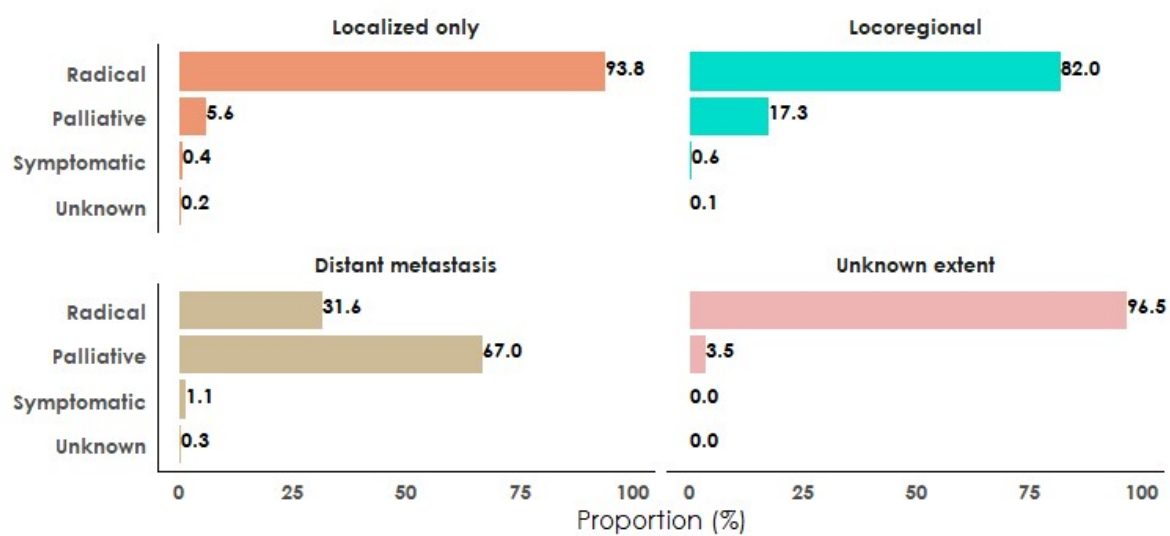
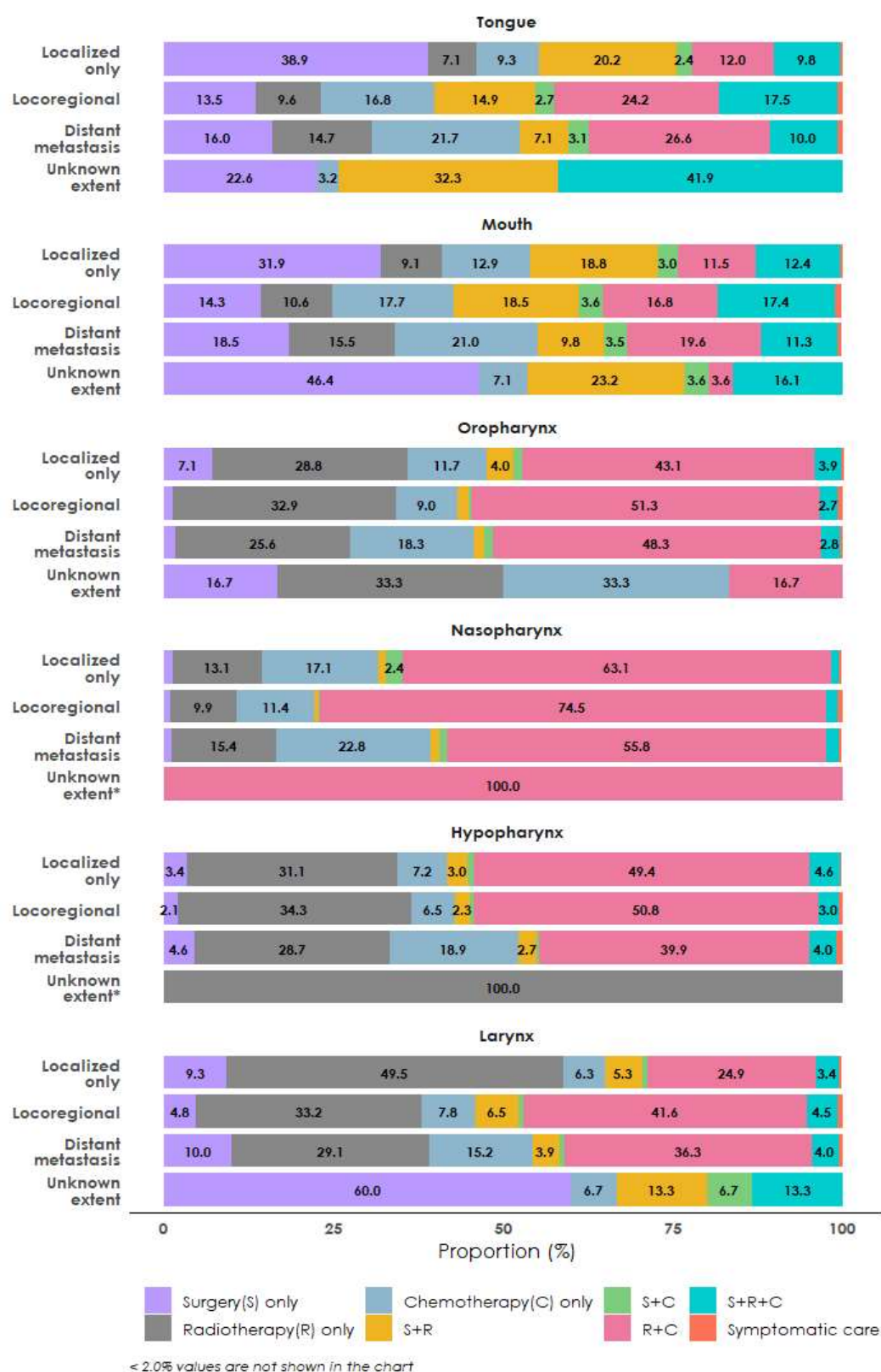


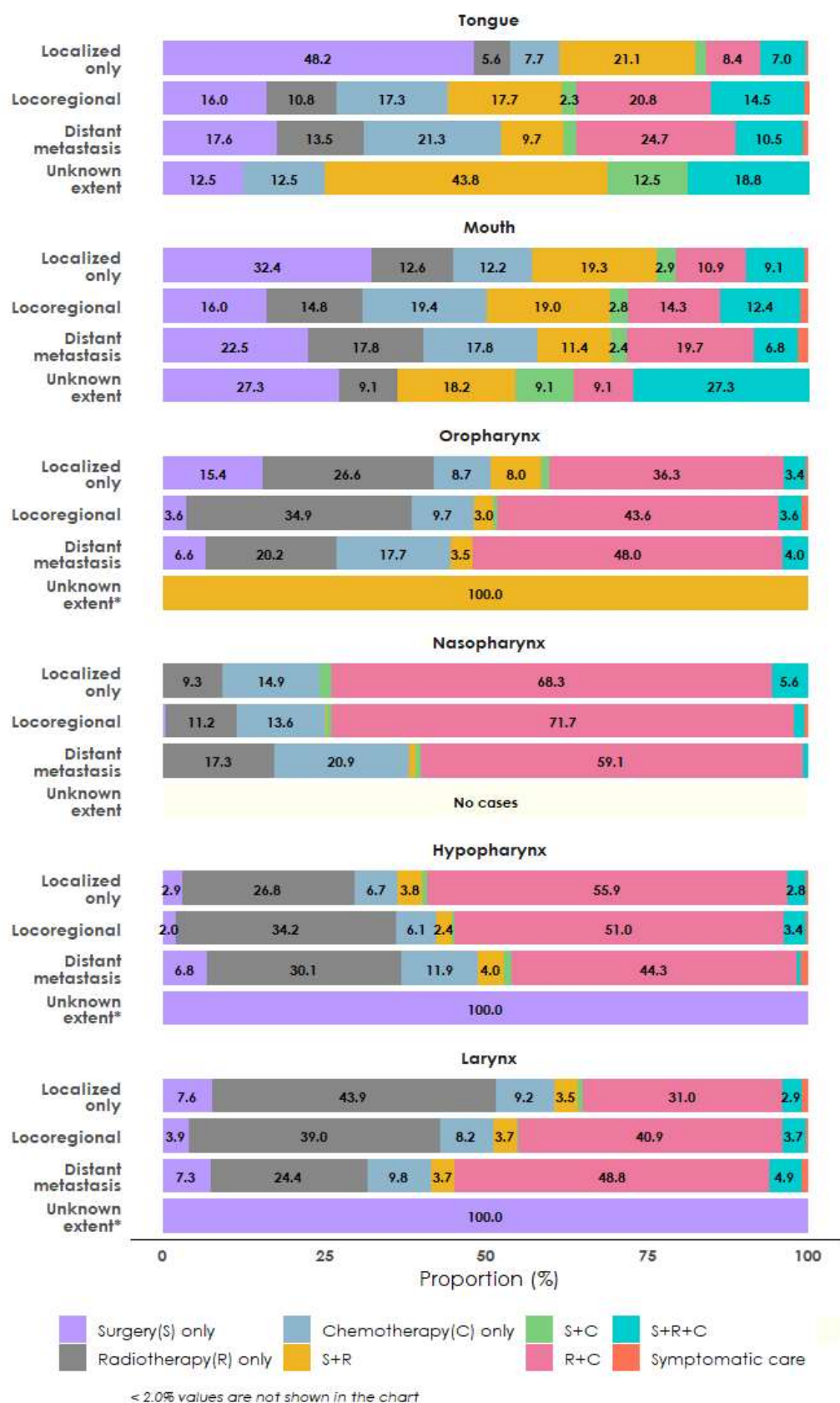
Figure 1.7 - Intention to treat according to clinical extent of disease – cancers of head and neck in both sexes

1.8 Treatment modalities according to clinical extent of disease



*no. of cases ≤15

Figure 1.8.1: Type of treatment according to clinical extent of disease – cancers of head and neck - Males



*no. of cases ≤1

Figure 1.8.2: Type of treatment according to clinical extent of disease – cancers of head and neck – Females

1.9 Waiting time between registration and commencement of cancer directed treatment

1.9.1 Patients of head and neck cancers earlier diagnosed at another health facility and referred for cancer directed treatment to the reporting institution

(a) Time between diagnosis and first attendance at the reporting institution

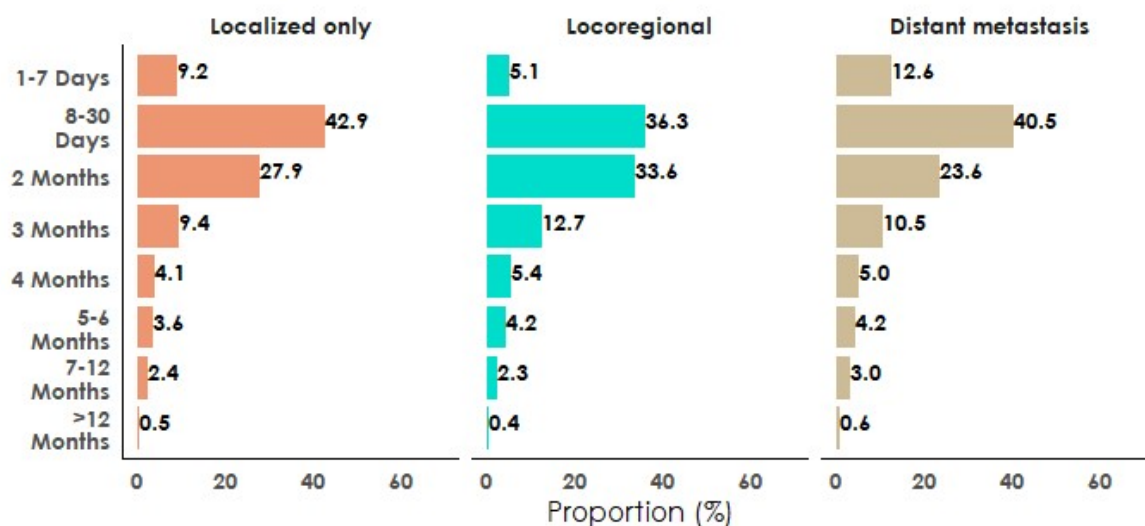


Figure 1.9.1a: Time between diagnosis and first attendance at reporting institution

(b) Time between first attendance and commencement of cancer directed treatment at reporting institution

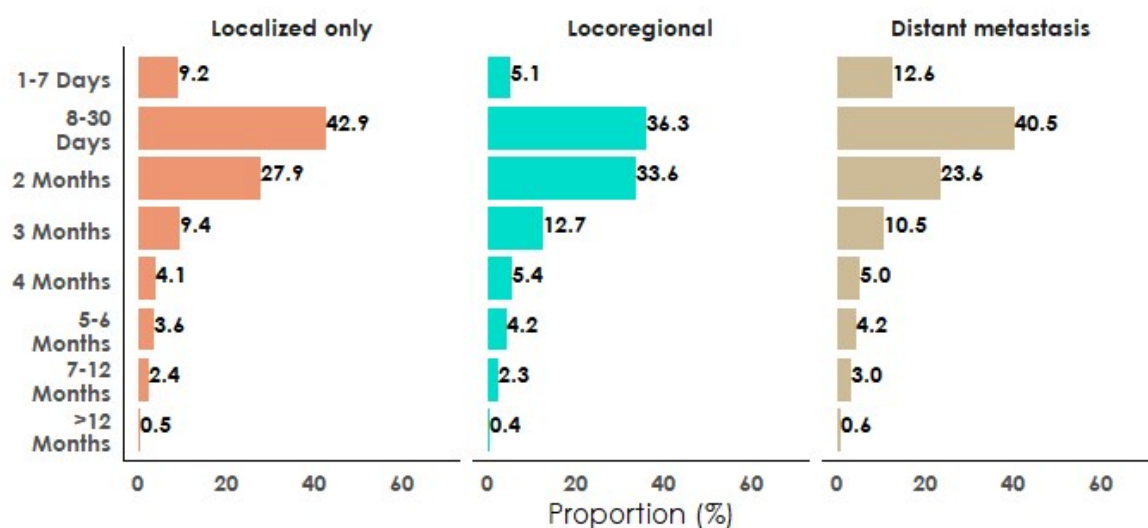


Figure 1.9.1b: Time between first attendance and commencement of cancer directed treatment at reporting institution

(c) Time between first diagnosis and commencement of cancer directed treatment at reporting institution

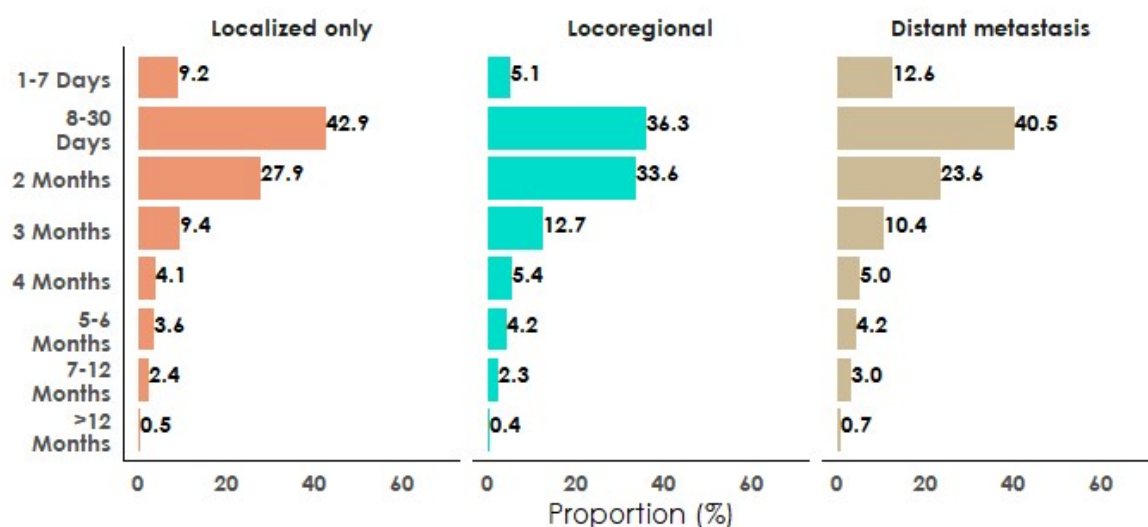


Figure 1.9.1c: Time between first diagnosis and commencement of cancer directed treatment at Reporting Institution

1.9.2 Patients of head and neck cancers diagnosed and treated for cancer at the reporting institution

Time between first diagnosis and commencement of cancer directed treatment at reporting institution

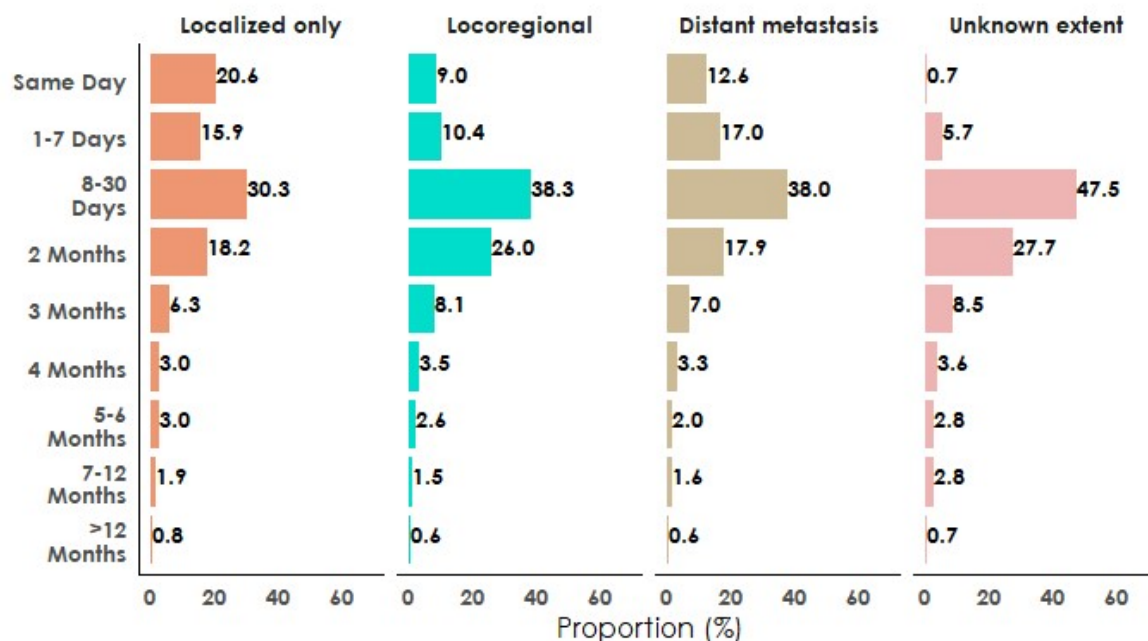


Figure 1.9.2: Time between first diagnosis and commencement of cancer directed treatment at reporting institution

Key Findings

- Cancers of the head and neck accounted for nearly one-fifth (21.3%) of cancers in all the anatomic sites, constituting almost a third (32.4%) of all cancers in males.
- Over half of the cancers were reported in the 45-64 years age group in males (53.7%) and females (54%).
- Squamous cell carcinoma, NOS was the major histological type for all head and neck cancer sites, except for cancer of the nasopharynx, where undifferentiated epithelial cell cancer comprised close to half of the histological type.
- A higher proportion of patients with nasopharyngeal cancer had distal metastasis at the time of presentation, compared to cancer in other head and neck sites.
- A combination of radiotherapy and chemotherapy was the mainstay of treatment for most cancers of the oropharynx, nasopharynx and hypopharynx.
- The time between first diagnosis and commencement of cancer directed treatment at reporting institution for over one third of the patients with different stages disease extent ranged from 8 days to 30 days.