

Head and Neck Cancer landscape in Asia-Pacific

2021



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1. Epidemiology overview and Clinical activity

Head and neck cancer (HNC) is the sixth most common cancer globally, with the highest incidence being observed in the Asia region.

Over 4,000 people in Australia are diagnosed with a head and neck cancer (HNC) each year. This includes about 1,400 people diagnosed with cancer in the mouth and tongue; 935 with lip cancer; 1,000 with pharyngeal cancer; 600 with laryngeal cancer; 300 with salivary gland cancer; and 200 with nasal or paranasal sinus cancer. Men are about three times more likely than women to develop a head and neck cancer. The number of patients diagnosed with HNC in 2017 was double the number diagnosed in 1982 and is predicted to continue to rise. [1,2]

In New Zealand, over 500 new cases are diagnosed each year. In addition, there are an estimated 200 cases of metastatic non-melanoma skin cancer of the head and neck registered annually, as well as a smaller number of salivary malignancies. Head and neck cancers are more common in people over age 50 and three times more common in men than in women.[3]

According to the National Central Cancer Registry of China, cancer statistics of China 2015, the total incidence of oral cavity and pharyngolaryngeal cancer was estimated as 48 per 100,000 with a mortality of 22, and incidence of nasopharyngeal cancer (NPC) was estimated as 61 with a mortality of 34 in China, in 72 local population-based cancer registries. More common in southern parts of China than in western populations, nasopharyngeal cancer exhibits distinct epidemiological features including a particularly high incidence in Han Chinese and significant familial aggregation affecting first-degree relatives.[4]

A total of 1,692 new cancers arose in the head and neck region in Hong Kong in 2015 (approximately 5% of the total). Accounting for 876 of these cases, nasopharyngeal cancer was the most frequent (and the tenth commonest cancer overall). In young men aged between 20 and 44 years, it was the commonest malignancy (124 out of 740 cancers in this age range). [5]

Head and neck cancers (HNC) have become a burden in Taiwan especially with oral cancer becoming one of the highest incidences in the world. The age-standardized incidence rate (ASIR) of HNC increased by 5% per year among males and 3% among females between 1980-2014. The top three types of HNC in Taiwan are oral cancer (>5,000/yr.), nasal-pharyngeal cancer (1,000/yr.), and larynx cancer (500/yr.). [6]

In Thailand, the estimated incidence of head and neck cancers are 14 per 100,000 in males and 10 per 100,000 in females. [7] With at least 800 new cases every year, HNC is one of the most common cancers in Singapore. Nose cancer is more common in men, thyroid cancer is more common in women. There is about a 1 in 100 chance of developing one of these cancers by the age of 75.[10]

According to the 2015 Philippine Cancer Facts and Estimates by the Philippine Cancer Society and DOH, there are about 12,150 new cases, ranking head and neck cancer as number 3 next to lung and breast cancer. Annual incidence rates for laryngeal, oral cavity and oropharyngeal cancers are at 2, 2 and 1 per 100,000 population, respectively.[8]

The incidence of HNC in Peninsular Malaysia was reported as 9 per 100,000 population (National Cancer Registry, Malaysia, 2006) which is considerably higher than the average global incidence in both developed (7 per 100,000) and less developed regions (5 per 100,000). The diagnosis of locally advanced HNC confers a poor prognosis with 5-year survival rates of only about 10-40%.[9]

India's global contribution of head and neck cancer patients is 58%. Over the years, owing to increased use of tobacco, India now contributes to nearly 60% of head and neck cancer patients worldwide. The number is expected to double by 2030. HNC is the commonest malignancy encountered in Indian males. Also, oral cavity cancer is the most prevalent type amongst the males and one of the highest across the globe.

The five-year survival varies from 20-90% depending upon the sub-site of origin and the clinical extent of disease.[11]

Laryngeal cancer was the most frequent among HNCs (1–2/100,000 people) in South Korea. Increased ratios of HNCs for 10 years ranged from 1 (for laryngeal cancer) to 2 (for tonsil cancer). Male-to-female ratio was over 1 for all HNCs. Tonsil, hypopharynx, oropharynx, and larynx cancers had a ratio of >5, signifying a heavy predominance of these cancers in South Korean men. [12]

Estimated incidence, mortality in 2020 and 5-year prevalence, HNC, both sexes, all ages

Country	New Cases		Deaths		5-year Prevalence	
	Number	ASR*	Number	ASR	Number	Proportions**
Australia	6,570	14.9	2,393	4.6	18,298	71.8
Greater China	466,836	20.3	375,572	16.0	747,625	51.7
India	296,449	21.7	188,713	13.9	569,899	41.3
Malaysia	4,473	13.0	2,869	8.4	12,796	39.5
New Zealand	960	10.9	448	4.3	2,366	49.1
Philippines	8,488	8.9	5,582	6.0	20,655	18.8
Singapore	1,241	12.1	748	7.0	3,735	63.8
South Korea	7,808	7.9	3,370	2.9	19,906	38.8
Thailand	14,798	12.8	9,462	7.8	34,196	49.0
United States	77,173	13.2	22,947	4.5	213,515	64.5

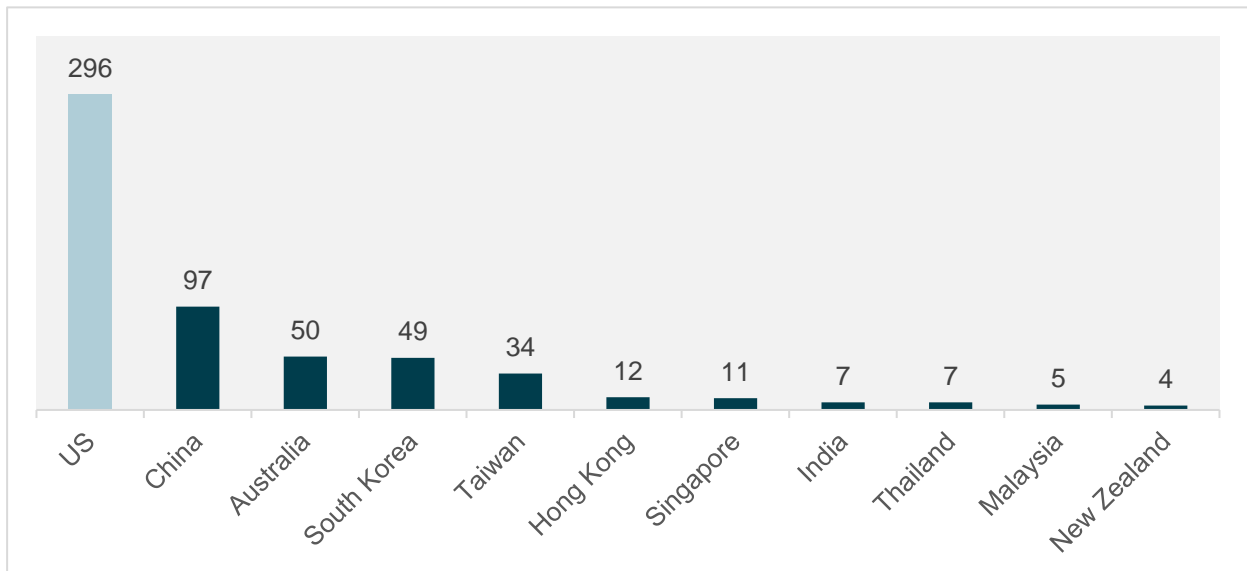
*Age standardized rate per 100,000

**Proportions per 100,000

Source - Cancer Today by WHO

Biopharma companies initiated over 500 trials in head and neck cancers since 2018, a third of which involved the Asia-Pacific region. China, Australia and South Korea were the most frequently involved countries with fewer competing trials compared to the US.

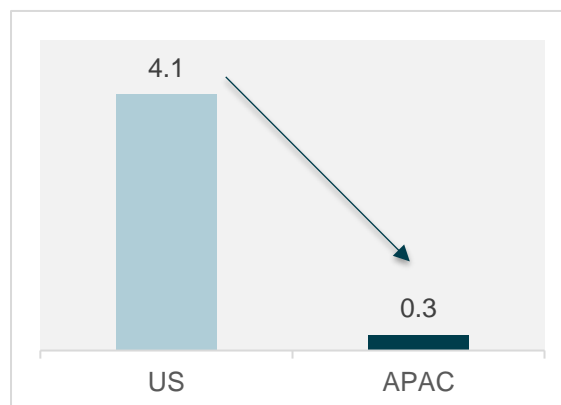
Top countries in Asia-Pacific in relation to the number of HNC studies initiated by Biopharma companies between 2018-2020.



Countries which Novotech directly operates
 Source – GlobalData [Accessed 19th January 2021]

Lower Trial density (US vs. APAC)

Number of recruiting sites for industry-initiated trials in head and neck cancers per million of urban population in selected Asia-Pacific countries, 2020-2021.



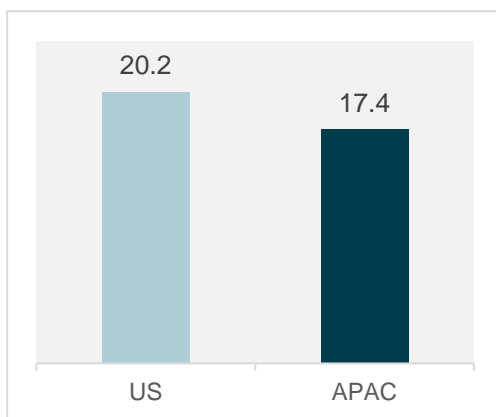
Source – ClinicalTrials.gov [Accessed 19th January 2021]

Recruitment Analysis

Asia-Pacific region shows faster enrolment periods and higher recruitment rates when compared to the US.

Faster Trial Enrolment

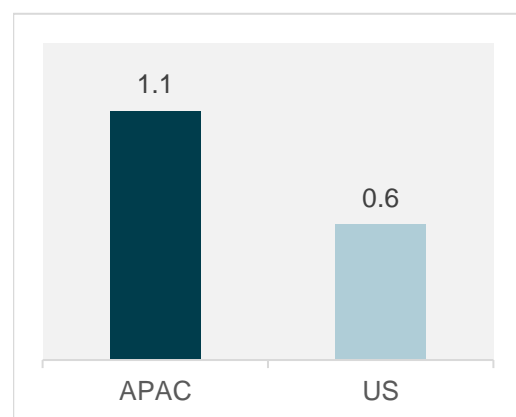
Enrolment duration (in months) for industry sponsored head and neck cancer trials in the Asia-Pacific and the US, initiated between 2018-2020.



Source – GlobalData [Accessed 19th January 2021]

Higher Recruitment Rate

Recruitment rate (subject/site/month) for industry sponsored head and neck cancer trials in the Asia-Pacific and the US, initiated between 2018-2020.



2. Standard of Care

Standard of care for head and neck cancers include:

Treatment Options	Types
Surgery	<ul style="list-style-type: none"> ▪ Sentinel Lymph Node Biopsy ▪ Neck Dissection
Systemic Therapy	<p>First Line regimens:</p> <p>Combination regimens –</p> <ul style="list-style-type: none"> ▪ Cisplatin and gemcitabine ▪ Cisplatin and 5-FU ▪ (Cisplatin or carboplatin) and docetaxel ▪ (Cisplatin or carboplatin) and paclitaxel ▪ Carboplatin and cetuximab <p>Single agents –</p> <ul style="list-style-type: none"> ▪ Cisplatin ▪ Carboplatin ▪ Paclitaxel ▪ Docetaxel ▪ 5-FU ▪ Methotrexate ▪ Gemcitabine ▪ Capecitabine <p>Second Line regimens:</p> <ul style="list-style-type: none"> ▪ Nivolumab for recurrent or metastatic non keratinizing cancer ▪ Pembrolizumab for recurrent or metastatic PD-L1 positive cancer ▪ Availability of newer therapies such as PDL1 therapy are limited in Asian patients due to lack of government funding. Countries such as Hong Kong, Singapore, Thailand, South Korea have access to large numbers of IO therapy naïve patients
Radiation Therapy	<ul style="list-style-type: none"> ▪ External beam radiation therapy (EBRT) ▪ Three-dimensional conformal radiation therapy (3D – CRT) ▪ Intensity-modulated radiation therapy (IMRT) ▪ Proton therapy

3. Key Opinion Leaders in Head and Neck Cancers

A/Prof. BHUMSUK KEAM

Seoul National University Hospital – SOUTH KOREA

Bhumsuk Keam is an Associate Professor at the Seoul National University. Lung cancer, head and neck cancer and urological cancer are the main interest fields of A/Prof. Keam. He is also interested in the development of new anticancer therapeutics, especially in immune-oncologic agents. Dr. Keam has co-authored more than 170 papers in SCI-indexed international journals and holds the membership of international academic societies including ASCO, AACR, ESMO, and IASLC.



Prof. MUH-HWA YANG

Taipei Veterans General Hospital – TAIWAN

Muh-Hwa Yang is the Vice President and the Chair Professor, Institute of Clinical Medicine, National Yang-Ming University, Taipei. He is the Director of Oncology Division at the Taipei Veterans General Hospital (TVGH) and Cancer Progression Research Centre, National Yang-Ming University. His major research interest is to study the pleiotropic effects of epithelial-mesenchymal transition (EMT) during cancer metastasis. He is a haematologist-oncologist by training and is an attending physician in the division of haematology-oncology at TVGH. His major experience is in the treatment of head and neck cancer, which is one of the most devastating male cancers in Taiwan.

Prof. LI ZHANG

Sun Yat-Sen University Cancer Centre – CHINA

Li Zhang is Professor of Medical Oncology, Deputy Director of Lung Cancer Research Centre of Sun Yat-sen University (SYSU), Chief of the Department of Clinical Research, Department of Medical Oncology and Phase I Unit of Sun Yat-sen University Cancer Centre (SYSUCC). His research interests include the development of molecular, prognostic and therapeutic approaches to improve the care for patients with lung cancer and head and neck cancer (including nasopharyngeal carcinoma). He was involved in over 150 clinical studies and co-authored over 130 clinical papers in peer-review journals. He is a member of ASCO, ESMO, IASLC, MASCC, CSCO.



Prof. DANNY RISCHIN

Peter MacCallum Cancer Centre – AUSTRALIA

Prof. Rischin is the Co-Director of the Division of Cancer Medicine and Director of the Department of Medical Oncology at the Peter MacCallum Cancer Centre and holds an academic appointment as Professor of Medicine at the University of Melbourne. He is also an Associate Editor of the Journal of Clinical Oncology. His major clinical and research interests are in gynaecologic and head and neck and cancers. He has been an executive member of Australia New Zealand Gynaecological Oncology Group since its inception and is a current member of the Board. He has co-authored over 200 publications and was involved in over 45 clinical studies.

4. Novotech Overview

Novotech is internationally recognized as a leading regional full-service contract research organization (CRO) in Asia-Pacific. Novotech has been instrumental in the success of over a thousand Phase I - IV clinical trials for biotechnology companies.

Novotech provides clinical development services across all clinical trial phases and therapeutic areas including: feasibility assessments; ethics committee and regulatory submissions, data management, statistical analysis, medical monitoring, safety services, central lab services, report write-up to ICH requirements, project and vendor management. Novotech obtained the ISO 27001 certification which is the best-known standard in the ISO family providing requirements for an Information Security Management System. Together with the ISO 9001 Quality Management system, Novotech aims at the highest IT security and quality standards for patients and biotechnology companies

<https://novotech-cro.com/>

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 10. *Gleneagles Hospital-Singapore*
 11. *Indian clinical practice consensus guidelines for the management of squamous cell carcinoma of head and neck*
 12. *Trends in Head and Neck Cancer in South Korea Between 1999 and 2012*
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