White Paper

Oncology Market Trends in GCC Countries

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Introduction

Cancer and its management is a major health and economic burden globally. Cancer cases are on the rise across regions and countries. With over 19 million cases in 2020 worldwide, it is expected to grow with a CAGR of 3.2% by 2025.

High Unmet need in cancer also translates into an intense competitive environment in R&D activities and new drug launches. In recent years, large number of new innovative oncology drugs have been approved, providing new treatment options to patients. Treatment guidelines have also transformed to maximize the benefit of those treatments.

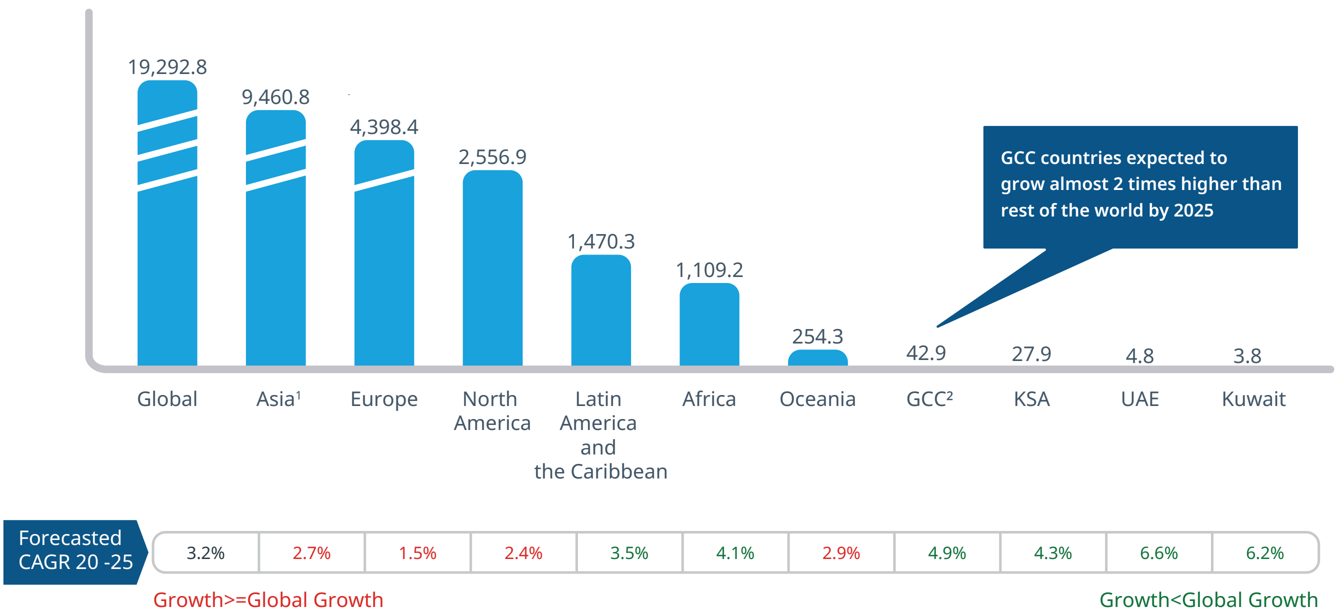
Oncology still remains the most challenging area for research and development, facing significant risk of failure and long duration. Barriers to adoption of new drugs remain, delaying patient benefit from treatment advances. As treatment options increase, the impact on spending levels has become a focus across most parts of the world – a trend that is expected to continue over the next five years as growth continues.

The GCC markets lags behind the developed world in terms of progress in cancer care. Access to new therapy in the GCC is a challenge despite increasing incidence of cancer and proactive measures taken by the governments.

The Covid pandemic has not only strained available resources but has also impacted early detection of cancer as screening activities have taken a back-seat. Globocan data suggests that the incidence of cancer will be ~2X time the global rates by 2025. The need for improving cancer care in the GCC is a key priority for all involved stakeholders in the region.

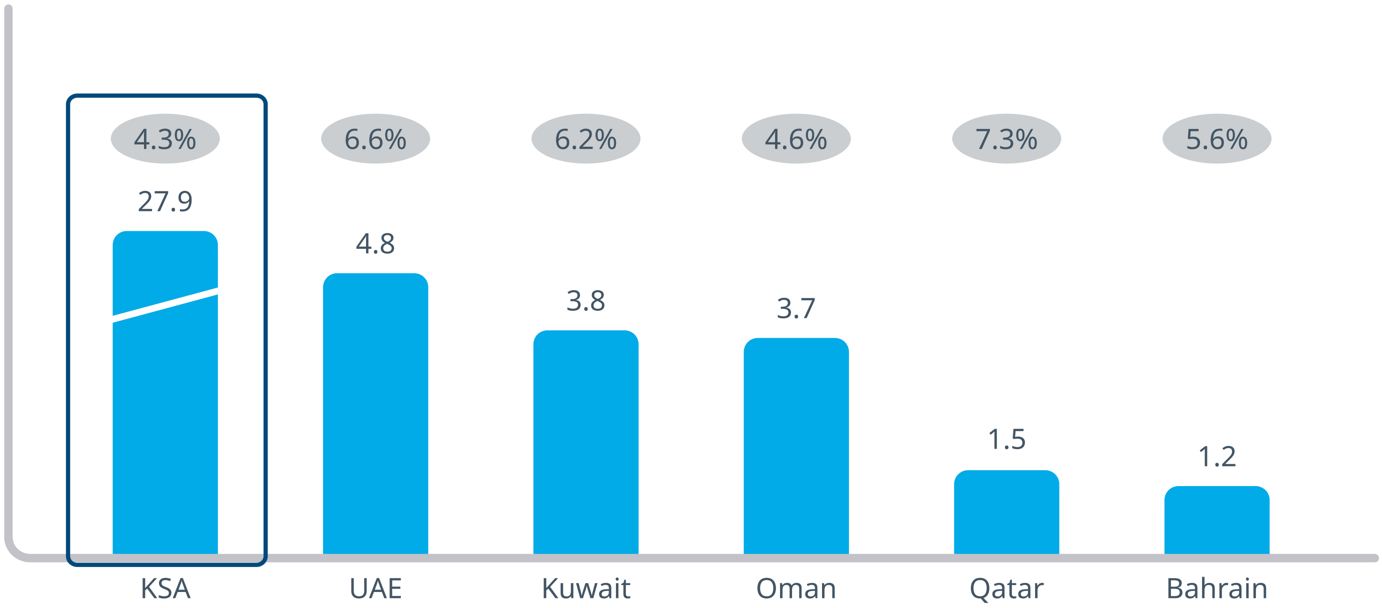
The purpose of this report is to understand the oncology market dynamics in the GCC market and some of the current trends driving cancer care in these markets. The report is based on independent research and analysis undertaken by IQVIA and draws on the analysis of trends from developed markets.

Global cancer incidence, 000s; CAGR (2020-2025)



Note: (1) Asia doesn't include GCC. (2) GCC includes KSA, Kuwait, UAE, Bahrain, Qatar and Oman Source: Globocan

GCC cancer incidence, 000s; CAGR (2020-2025)



Note: GCC includes KSA, Kuwait, UAE, Bahrain, Qatar and OmanSource: Globocan

GCC oncology landscape

KSA has the highest number of cancer patients. However, cancer incidence in KSA is expected to grow at a slower rate than Qatar, UAE and Kuwait in the period 2020-2025. The Covid pandemic is expected to have a negative impact on the early diagnosis of cancer through screening of patients.

85%

KSA, UAE and Kuwait represent ~85% of GCC incident cancer patients with an expected growth rate of ~5% during 2020-2025 in all the countries.

Rapid modernization and urbanization have led to changes in lifestyle with higher per capita consumption of meat and processed food. In addition to lifestyle changes the increased cancer incidence in GCC countries is also attributed to increased aged population, increased disease awareness, diagnosis and reporting of cancer cases. Government across GCC countries are investing and are engaged in dedicated efforts to increase awareness as well as improve screening of cancer patients across region.

Increased awareness, screening, and diagnosis in region through government efforts

GCC region has shown an increase focus on early screening and diagnosis as this would have better chance of successful treatment and better survival. Screening solutions have seen additional advancements such as use of liquid biopsies and focus on precise diagnosis with increased usage of biomarkers.

Increasing patient awareness and promoting screenings & early detection continues to be a priority for the global endeavor to detect early and manage cancer. Similarly, GCC is becoming home to multiple governmental efforts to raise patient awareness & promote early detection. One of the key example is Saudi Arabia market which has dedicated programs for NCDs under Vision 2030 goals.

Saudi Arabia has been **advancing screening programs, establishing new cancer centers & improving public health awareness** about cancer risk factors such as obesity & smoking.

Mobile Screening Units have also been set up in malls for easier access

Mobile mammography units in collaboration with medical diagnostic companies like GE

Screening programs for breast, cervical & colon cancers were initiated under the "Official Cancer Screening Initiative"

The "**Pink Caracan**" initiative has been organized by 'Friends of Cancer Patients" since 2011

Lung Cancer screening using low dose CT for history of smoking

Under the **BASMAH** initiative, the DHA covers the screening of breast, colorectal & cervical cancer

A **"National Awareness Calendar" for Cancer and established an "Early Detection of Cancer Program"** to nationally mandate country wide screening programs for Breast Cancer, Bowel Cancer & Cervical Cancer.

Mobile screening units have also been established to reach those in remote geographical regions

Palliative care in the GCC region has also received attention as high proportion of cancer cases are detected at an advanced stage when no other treatment options remain.

In the UAE, National Palliative Care Programs have been recommended as part of the National Cancer Plan and in KSA there is a push towards policy changes to incorporate palliative care facilities at secondary level hospitals

Predictive biomarker testing on increase, impacting focus on precision therapy

Biomarkers are extremely important in the field of personalized medicine. HCPs utilize biomarker levels to calculate disease risk and personalize an anti-cancer plan (i.e. diagnosis, prognosis and selection of targeted therapy). Predictive biomarkers accounted for 60% of new treatments, in the US, in recent years. Solid cancers which show high uptake of several different biomarker tests are breast cancer and Non-Small Cell Lung Cancer (NSCLC).

Biomarker's usage is increasing in GCC countries especially across key cancers like Breast cancer, Colon cancer and NSCLC. Breast cancer related biomarkers have probably seen the maximum application in treatment guidance in the GCC region with biomarkers being adopted in most premier cancer treatment and research centers.

Qatar, for instance, has created the "Qatar Precision Medicine Institute (QPMI)" to develop first models of precision medicine for those who have a predisposition or higher risk of cancer. Qatar is looking to revolutionize the clinical management of patients through genomic analysis and characterization of biomarkers.

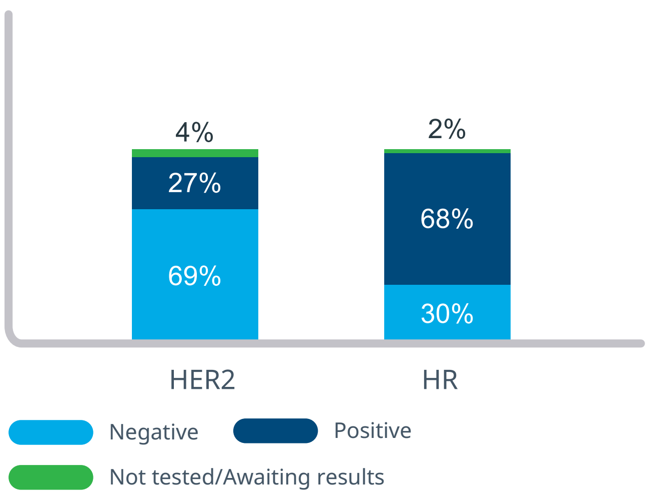
While the rising prevalence of cancer along with demand for early diagnosis and personalized treatment is expected to drive market growth, the high cost of such options can restrain market growth. The wealthy nations of the GCC are likely to be able to build biomarker testing into their reimbursement plans in order to improve accessibility.

In a recent study conducted by IQVIA, we have seen encouraging levels of biomarker testing in breast and lung cancer patients in KSA. The testing levels are a lot more than we have evidenced a few yrs. back (2017-2018).

Testing rates by key biomarkers

HER2 in breast cancer patients	97%
PD1/PDL-1 in NSCLC patients	58%
ALK in NSCLC patients	77%
KRAS in colorectal cancer	69%

KSA – breast cancer, HR vs. HER2 Status



Source: IQVIA Oncology Dynamics, MAT Q4 2020

In KSA, highest testing rate with biomarkers is currently for breast cancer and primarily for HER2 - 97% testing rate with 27% positive results.

In NSCLC, PD1 biomarker testing rate is being done in almost 60% patients and this is expected to grow quickly. KRAS testing is being done in almost 2/3rd of the patients.

New launches, shift towards targeted therapies, immuno-oncology therapies and next-generation biotherapeutics

With the advent of biomarkers, there is significant increase in targeted, small molecule and biologic therapies. Chemotherapy continues to be backbone of cancer treatment and is accessible to most patients.

Global IQVIA analysis indicates, a strong oncology pipeline in development with nearly 100 late stage next-generation Biotherapeutics and around 450 immuno-oncology therapies currently in development across all phases. GCC countries has opened up significantly with encouraging achievements in terms of cancer drugs approvals since 2015. An analysis of IQVIA data indicates between 2018 to 2020, 119 cancer drugs were launched in GCC region. Highest number of approvals were seen in Saudi Arabia and Lebanon.

2018-2020	EGYPT	KUWAIT	LEBANON	KSA	UAE
RECENT LAUNCHES	50	11	91	106	73
IMMUNO-ONCOLOGY PRODUCTS	9	5	8	10	16
TARGETED THERAPIES	23	6	39	45	50
CHECK-POINT INHIBITORS (PD-1/PDL-1)	2	-	2	3	4

New therapies like PD1/PD-L1 checkpoint inhibitors remain the most successful immuno-oncology therapies worldwide. The launches of checkpoint inhibitors in the GCC region has also witnessed a rapid uptake. In 2018, Larotrectinib became the second tissue-agnostic oncology therapy to be approved, following the first approval of pembrolizumab in 2017 reflecting the beginning of a paradigm shift occurring in oncology to treat tumors based on genetic profile rather than site-of-origin in the body. There are currently over 20 tissue-agnostic therapies in development across 28 unique indications and we expect some of these therapies to be available in the GCC markets soon.

UAE leads other GCC countries in adoption of new checkpoint inhibitors.

Kuwait has strict regulations for new product approvals, only durvalumab approved so far.

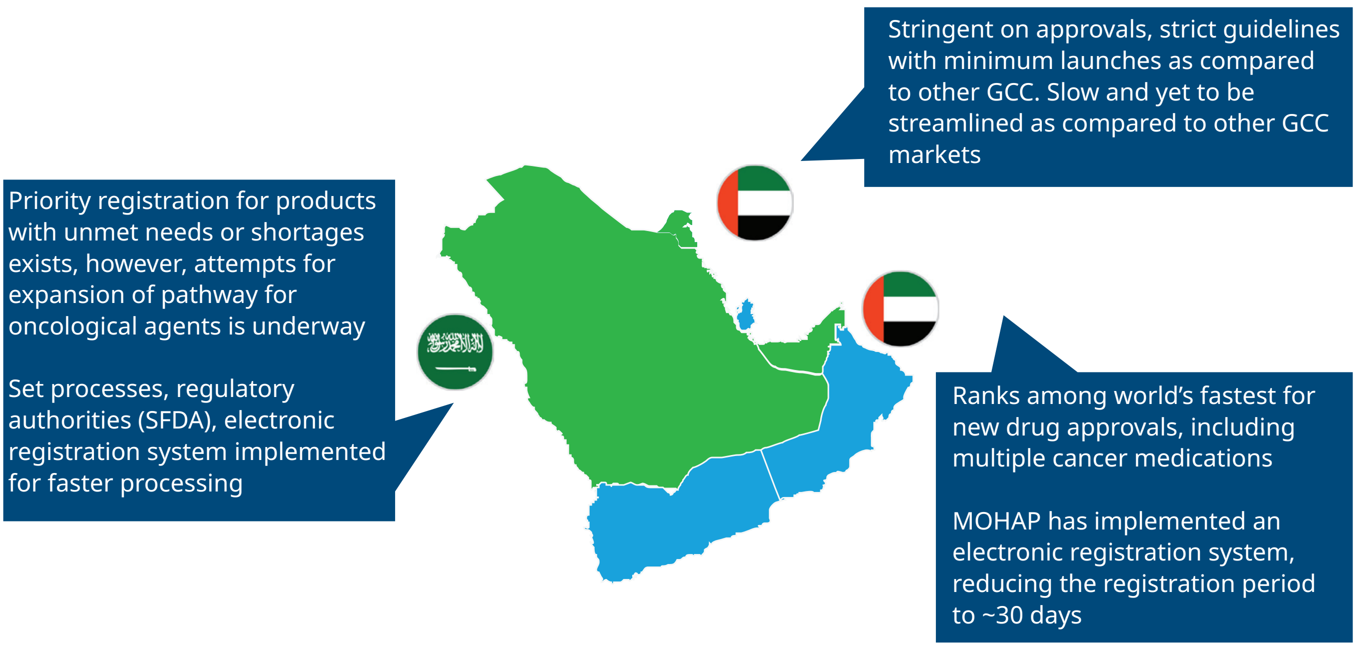
PD1/PD-L1 CHECKPOINT INHIBITORS – LAUNCH IN GCC

Avelumab	🇸🇦	🇦🇪		
Durvalumab	🇸🇦	🇦🇪	🇪🇬	🇱🇧
Pembrolizumab	🇪🇬			
Atezolizumab	🇦🇪			

Improved regulations, faster approvals impact early launch

Globally, registration timelines are shortening, however, amid criticism of weaker evidence. In 2018, the FDA median review time for standard applications was 10.1 months as compared to 2.8 years up till 1992. GCC countries have made significant progress with high number of cancer drugs approvals since 2015. Change in regulations, well defined registration processes, smoother approvals and shorter timelines are indicative of GCC region acceptance towards new therapies.

Highlights on Regulation for Product Approvals in KSA, UAE and Kuwait



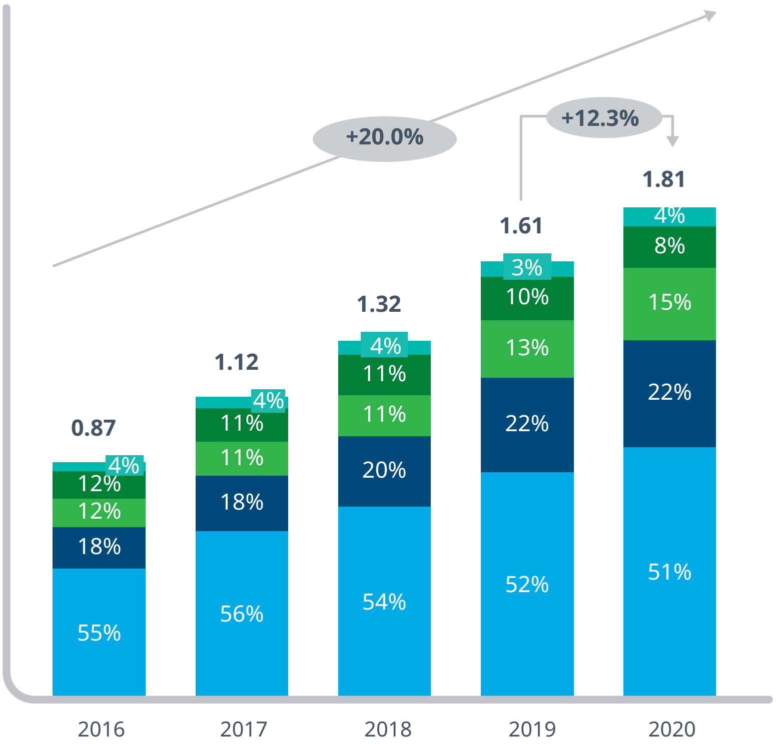
While in GCC countries, the market leaders have set up processes for faster processing of applications, some countries require a drug to be first approved by organizations with stringent procedures such as the FDA or EMA before the local authorities provide its approval.

Current Oncology Market Landscape

The GCC oncology market has been witnessing a robust growth in both value and volume terms over the last 5 years. Buoyed by major innovative product launches the value market has been growing at CAGR of 20% (2016-2020). However as discussed earlier Covid has impacted the market negatively and the Previous Period Value Growth (PPG) 2019-2020 shows a decline in growth with Kuwait being impacted the most.

GCC 5 regional performance by country (Sales value)

Value sales by country $ Bn (MAT Q4)



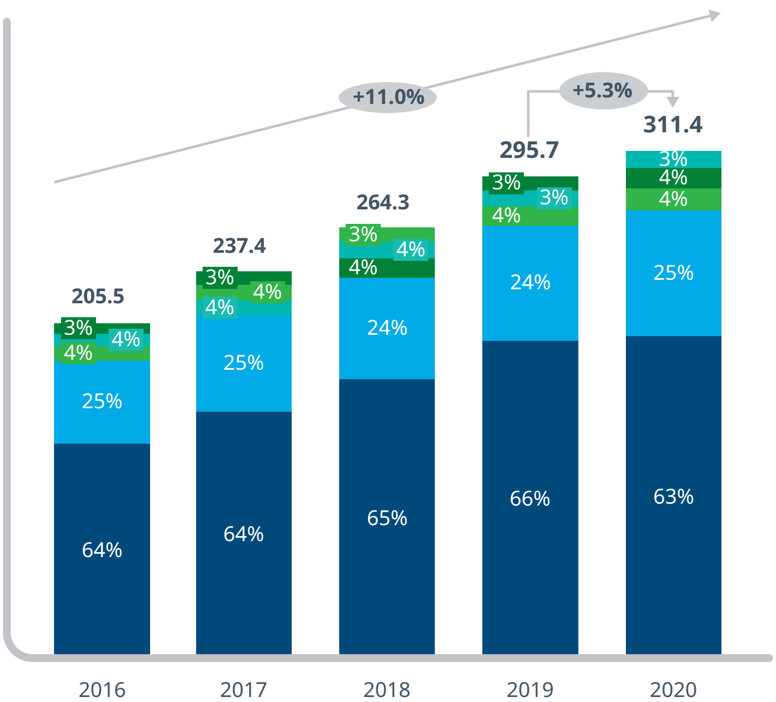
Growth summary

	CAGR '16 -'20	PPG '19-'20
KSA	17.9%	11.1%
EGYPT	26.5%	13.2%
UAE	26.4%	25.7%
KUWAIT	11.0%	-4.2%
LEBANON	21.4%	22.4%
GCC -5 Region	20.0%	12.3%

KSA EGYPT KUWAIT LEBANON UAE

GCC 5 regional performance by country (Sales volume SU)

Volume by country MAT 2016-20 (SU Mn)



Growth summary (Volume SU)

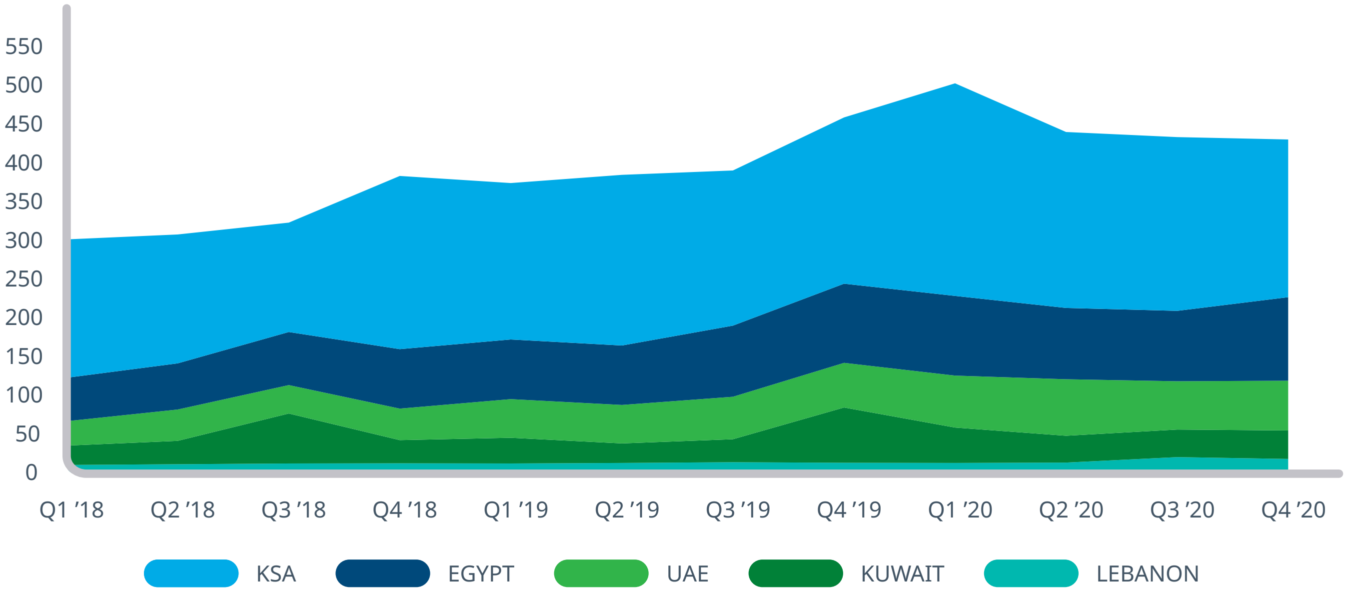
Country	CAGR '16 - '20	PPG '19 - '20
KSA	11.0%	8.8%
EGYPT	10.7%	1.5%
UAE	11.2%	18.3%
KUWAIT	19.0%	49.1%
LEBANON	7.7%	3.5%
GCC -5 Region	11.0%	5.3%

KSA EGYPT KUWAIT LEBANON UAE

A closer look at the market in 2020 shows the impact of Covid on the oncology market. The region witnessed a decline in Q2 2020 from a peak in Q1 2020 but then stabilized over Q3/Q4. All markets seem to have a similar trajectory with Egypt showing a slight recovery in Q4 2019.

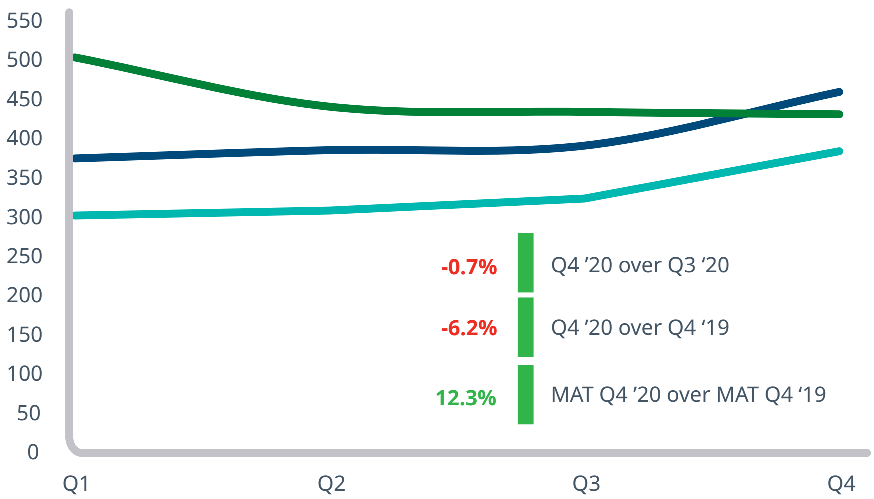
Quarterly sales performance by country for GCC-5

GCC-5 region (LC$, Mn)

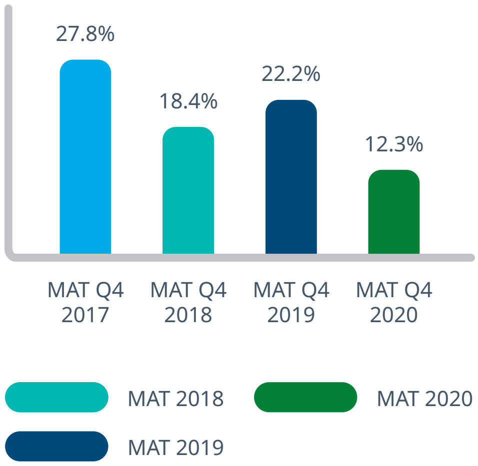


Quarterly sales for GCC-5 region to understand the impact due to COVID from 2019 to 2020

Quarterly wise sales progression, GCC Region (LC$, Mn)



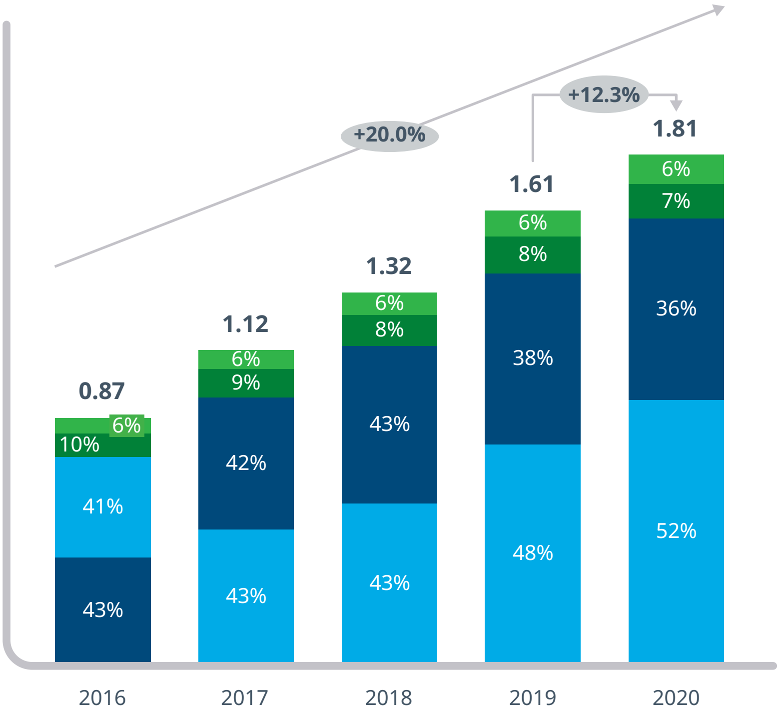
Growth summary



The targeted and immune-oncology drugs garnered close to 90% of the value of the oncology market in 2020. This is primarily driven by high-value innovative therapies. Cytotoxic therapies have also growth but have witnessed a sudden decline in 2020. This is of concern and is possibly indicative of decrease in the newly diagnosed patient groups. Typically, newly diagnosed patients of most cancer types receive a chemotherapy backbone in addition to other forms of more targeted therapies. Since the access to expert oncology treatment centers and hospitalization is a critical part of administering cytotoxic drugs the pandemic is likely to have posed a challenge for patients to reach to the target centers and medical oncologists.

GCC 5 regional performance by country by therapy area (Sales value)

Value sales by vountry $ Bn (MAT Q4)

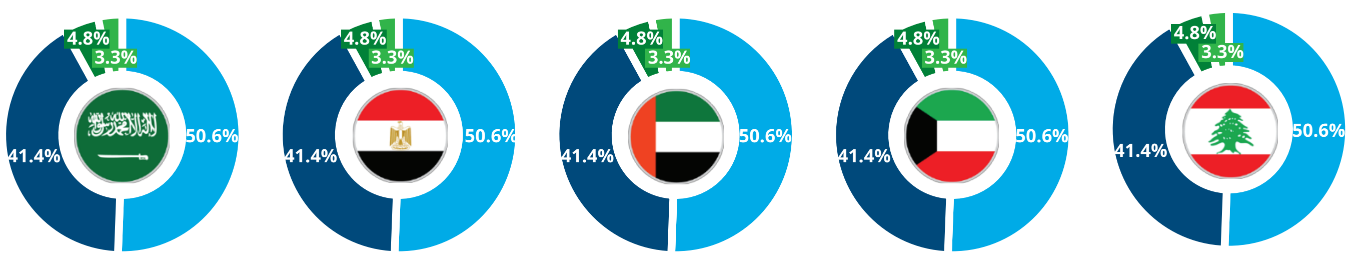


Growth summary

Country	CAGR '16 - '20	PPG '19 - '20
Oncology - Targeted	27.2%	20.3%
Immuno - Oncology	14.3%	6.0%
Oncology - Cytotoxics	10.1%	-7.2%
Oncology - Hormonals	18.5%	14.6%
Total Oncology Market	20.0%	12.3%

Oncologics -Targeted
Immuno -Oncologics
Oncologics -Cytotoxics
Oncologics -Hormonals

Sales value contribution by therapy area by country



Oncologics -Targeted
Immuno -Oncologics
Oncologics -Cytotoxics
Oncologics -Hormonals

KSA: 929.7 LC$ Mn	
CAGR '16 - '20	PPG '19 - '20
22.2%	16.3%
14.3%	7.1%
13.0%	-2.1%
13.5%	7.2%
17.9%	11.1%

EGYPT: 393.6 LC$ Mn	
CAGR '16 - '20	PPG '19 - '20
34.3%	25.9%
28.1%	7.2%
9.8%	-11.3%
24.6%	12.6%
26.5%	13.2%

UAE: 266.5 LC$ Mn	
CAGR '16 - '20	PPG '19 - '20
41.4%	35.4%
15.5%	15.8%
4.9%	-1.3%
16.6%	20.0%
26.4%	25.7%

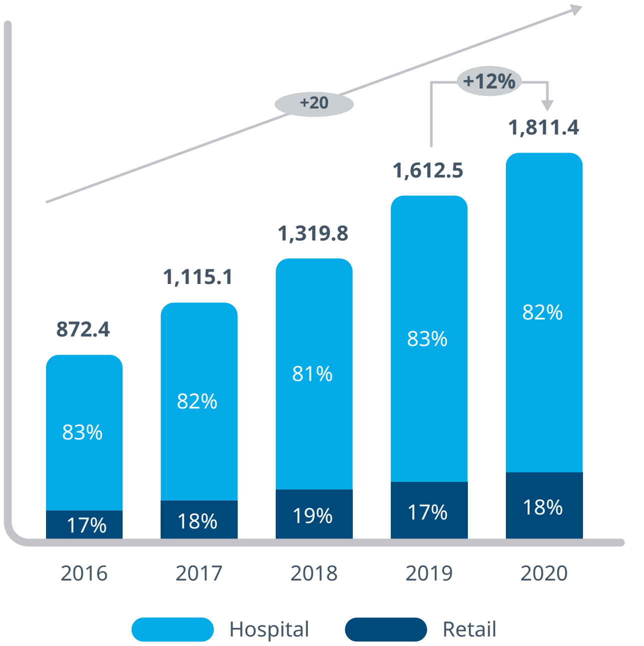
KUWAIT: 152.7 LC$ Mn	
CAGR '16 - '20	PPG '19 - '20
20.3%	0.5%
5.6%	-9.4%
-3.0%	-23.8%
20.7%	33.3%
11.0%	-4.2%

LEBANON: 68.9 LC$ Mn	
CAGR '16 - '20	PPG '19 - '20
31.2%	27.6%
10.7%	8.2%
14.1%	18.3%
13.5%	28.3%
21.4%	22.4%

Oncology market in the GCC is primarily driven through the public channel with most high value product consumption in the markets driven through tertiary care oncology centers. Procurement of drugs primarily done through large public GPOs like NUPCO in KSA. In value terms 80% of the market is public tender driven.

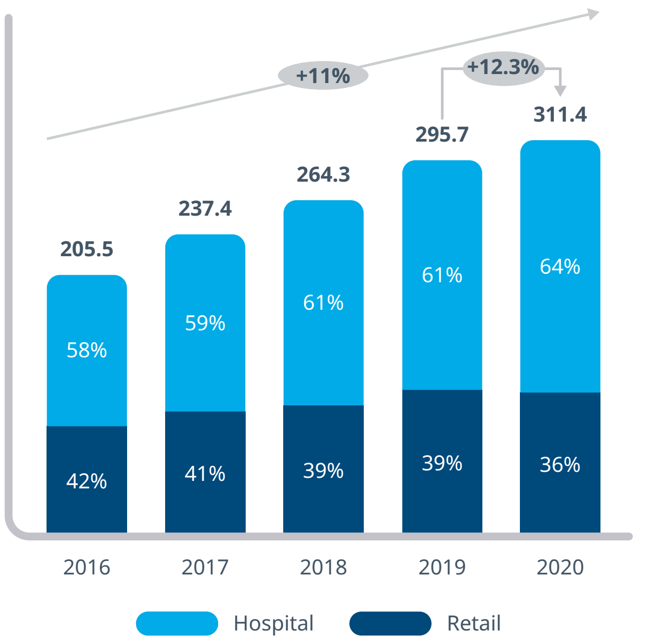
Sales by sector for GCC region

Chart 7A: Sales by channel from MAT 2016-20 (LC$ Mn)



	CAGR '16 - '20	PPG '19 - '20
Hospital	**19.7%**	**11.5%**
Retail	**21.8%**	**16.1%**

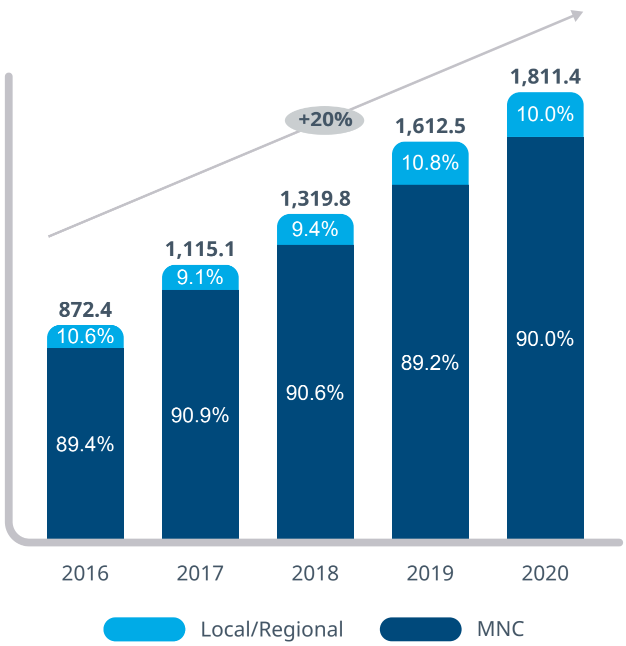
Chart 7B: Volume by channel from MAT 2016-20 (SU Mn)



	CAGR '16 - '20	PPG '19 - '20
Hospital	**13.6%**	**9.9%**
Retail	**6.9%**	**-1.9%**

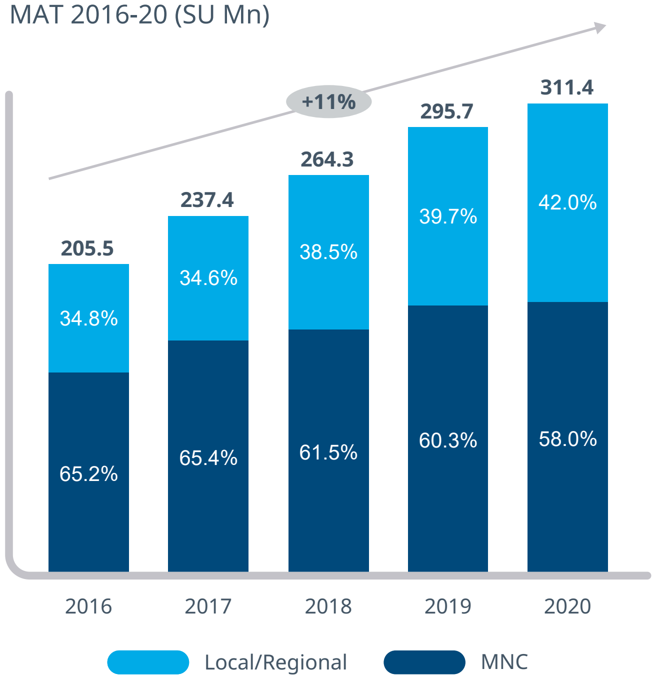
Sales by local Vs MNC for GCC region

Chart 9A: Sales by company type from MAT 2016-20 (LC$ Mn)



	CAGR '16 - '20	PPG '19 - '20
Local	**18.4%**	**4.3%**
MNC	**20.2%**	**13.3%**

Chart 9B: Volume by company type from MAT 2016-20 (SU Mn)



	CAGR '16 - '20	PPG '19 - '20
Local	**16.3%**	**11.4%**
MNC	**7.7%**	**1.3%**

Trastuzumab continues to be the highest selling product by value in the region. Palbociclib has demonstrated robust growth and signs of a successful launch of a product with high efficacy. Pembrolizumab and Nivolumab uptake in the GCC market has been impressive and both are already amongst the top selling products in the market.

High value molecule sales performance (Value)

GCC region pharma market in LC $ (MAT Q4 2016-2020)

Sales performance for GCC region -nivolumab

Chart 15A: Sales by channel from MAT 2016 - 20 (LC$ Mn) -OPDIVO

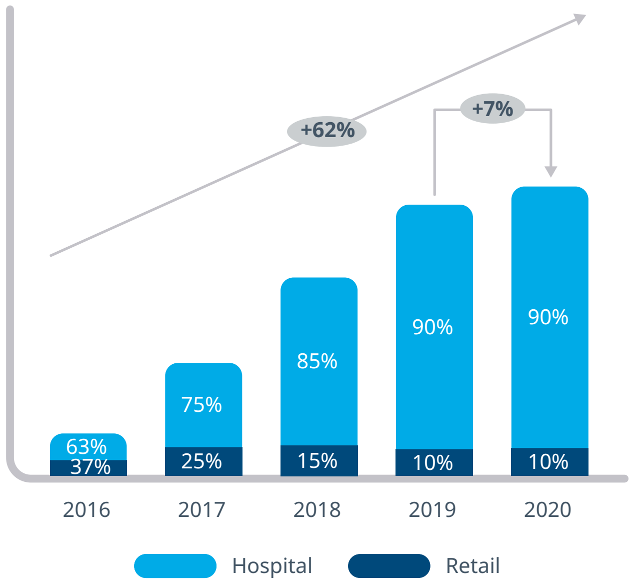
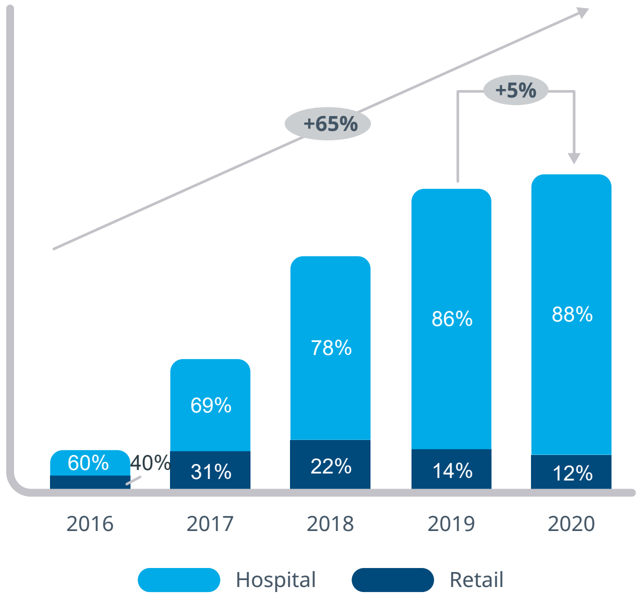


Chart 15B: Volume by channel from MAT 2016-20 (SU 000S) -OPDIVO



Sales performance for GCC region -pembroliumab

Chart 17A: Sales by channel from MAT 2016 - 20 (LC$ Mn) - pembroliumab

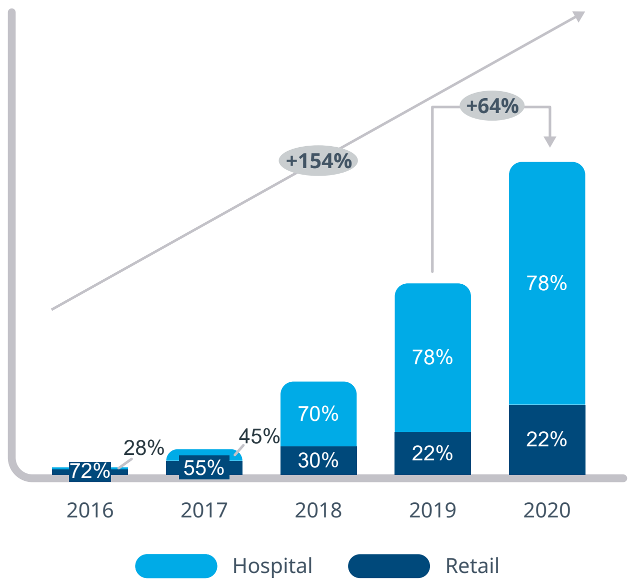
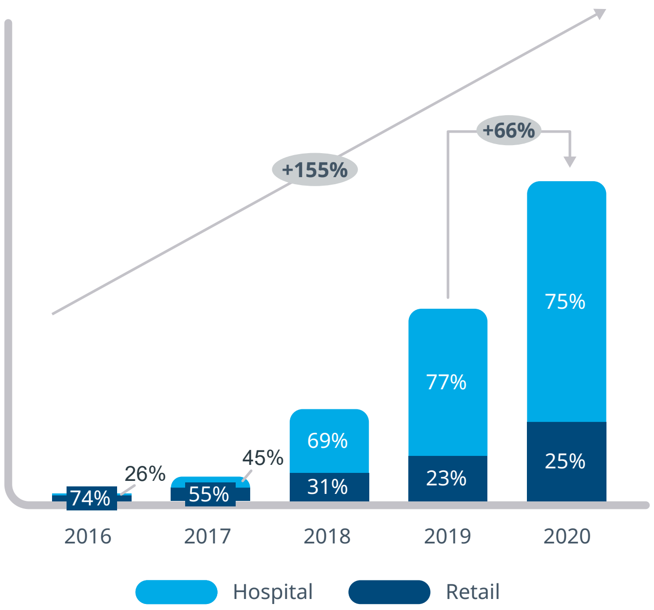
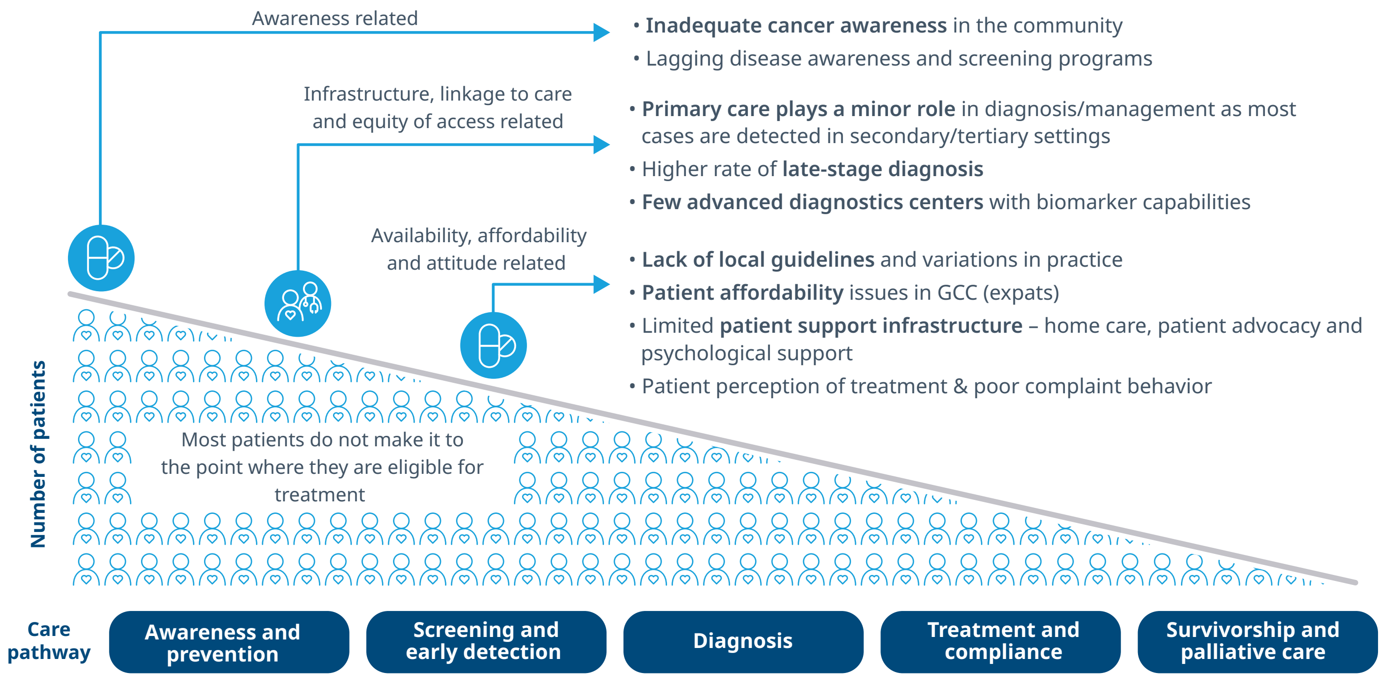


Chart 17B: Volume by channel from MAT 2016 - 20 (SU 000S) - pembroliumab



Gaps in cancer care

Despite multiple efforts, evident gaps in cancer care continuum will continue to impact the GCC markets and both pharma and governmental focus on these gaps can go a long way in improving patient care in GCC markets.



COVID, a roadblock to access care for oncology patients

COVID-19 outbreak has impacted the direct access to healthcare in general as well for cancer patients during 2020. Pandemic has directly impacted the supply of some medicines, interference in chemotherapy schedules and decreased patient's willingness for physician consultations due to potential exposure to Covid has resulted in efficient management of patients. Diagnostic delays and impact on timely management of cancer patients.

The delays in diagnosis is likely to impact survival statistics for some years to come.

Reduced patient visits and consultations, especially face to face with specialists

Reduced elective procedures impacting usage of medical diagnostics procedures that may be critical for early detection of cancer

Unfavorable environment impacting launch of new drugs and delaying clinical trials

Expected increase in digital consultations would emphasize use of digital health solutions but for cancer consultations digital may not be an optimum modality

Interruption to cancer care can have long term impact on the cancer patients diagnosis, their care management and subsequent outcomes. In addition, cancer patients are susceptible to infectious disease which can be life threatening. Healthcare systems around the world have taken different approaches to control COVID-19 and to ensure the continuity of other urgent health care such as cancer care. GCC countries have also initiated multiple steps to provide similar care and services to cancer patients as in Pre-Covid situation.

While health systems have been focused on dealing with the COVID-19 pandemic, there is increasing concern that longer-term, cancer will become a second pandemic, with patients presenting late with symptoms, treatment being delayed and requiring more intensive management, and outcomes being severely affected. Health systems will need to adjust to a different profile of patient going forward.

CONCLUSIONS

1. Incidence of cancer cases in the GCC region is expected to witness ~2X times the growth rates of the western world between 2020-2025
2. While KSA has the highest number of diagnosed cancer cases in the region it is expected to show a slower growth of cancer cases than rest of the GCC region
3. The unmet need of cancer care and available cancer treatment is high in the region
4. While many new innovative drugs have been launched in the region since 2015, with approval timelines greatly shortened, the region still lags behind developed countries in the number of new launches
5. The oncology markets have been growing at a robust rate of mid-20s for the last few years but this growth trajectory has been impacted by the pandemic
6. The targeted therapies and onco-immunology focused treatment options constitute about 80% of the value market reported in 2020
7. Checkpoint inhibitors have seen a rapid uptake in the region, they have already attained status as amongst the highest selling molecules in the region. Multiple cancer indications and ability to be combined with other agents augers well for widespread usage of checkpoint inhibitors in the years to come
8. Covid has significantly impacted cancer care in the GCC markets. Screening initiatives have suffered and access to treatment has become more challenging for patients especially during lockdown situations
9. Digital solutions could be a way forward for teleconsultations but given the complexity of cancer care more needs to be done to implement an ideal environment for teleconsultations for the oncologists and the cancer patients and their caregivers

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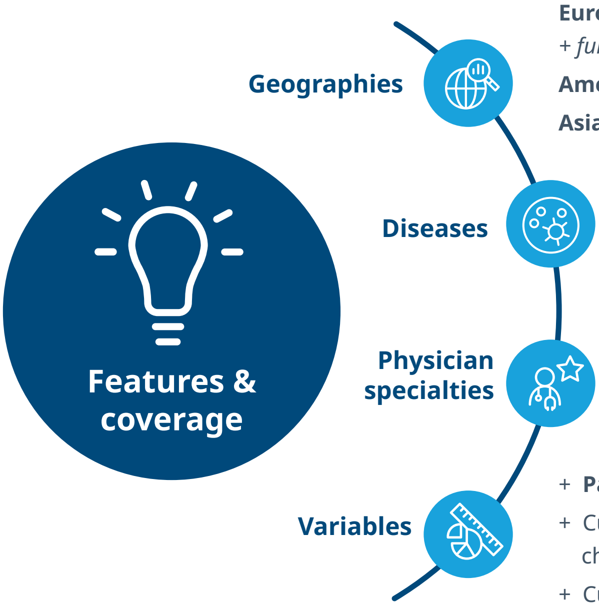
Oncology dynamics

Oncology dynamics is a cross-sectional survey that collects patient-level data from a representative panel of physicians

ALL PATIENT DATA ARE DE-IDENTIFIED AND COMPLY WITH RELEVANT RULES FOR PATIENT PRIVACY PROTECTION



Europe: France, Germany, Italy, Spain, UK, Romania
+ further countries coming in 2020

Americas: Mexico, Brazil

Asia: Japan, China, South Korea, Saudi Arabia

Drug-treated cases of all cancers are collected at natural fallout and projected to treated prevalence. A selection of key cancers are available in Romania, Mexico, Brazil, and Saudi Arabia.(BC, CRC, NSCLC, RCC & MM)

All drug-treating physician specialties working with oncology patients

+ **Patient and clinical characteristics,** including staging and biomarker status
+ Current and most recent previous **drug treatments,** including chemotherapy, immunotherapy, endocrine and targeted therapies
+ Current supportive therapy
+ Indication-specific parameters

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Oncology dynamics is a syndicated survey collecting comprehensive and clinically relevant oncology patient data

THE PRODUCT ENABLES HEALTHCARE STAKEHOLDERS TO...

Easily access rich, structured, multi-country, oncology anonymous patient-level data

Compare KPIs across tumour types, drugs, and countries through a consistent methodology

Make confident decisions based on data from a stable and representative source

Derive insights and understand trends in cancer care

- **150,000+ patient cases collected each year**
- **1,500+ specialists per year**
- **Statistically driven study design**
- **Consistent methodology applied across all countries**
- **Frequent updates**

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Oncology cross-sectional surveys can address many RWE questions—from strategy development to post-launch

EVALUATE Current Standard of Care	**UNDERSTAND** Patient profiles & sub-populations	**BENCHMARK** Adherence to Clinical Guidelines
EXAMINE Drug Utilization & Treatment Patterns	**INFORM** Study Protocols & Feasibility	**QUANTIFY** Cost of Drug Therapies

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Oncology dynamics can address key questions across the entire drug lifecycle

FROM COMMERCIAL STRATEGY DEVELOPMENT THROUGH LAUNCH IMPACT ASSESSMENT TO IN-MARKET MONITORING

PRE-LAUNCH

- Market opportunity assessment and sizing
- Treatment pathways
- Drug use:
  - » Versus competitor
  - » By line of therapy
  - » In different patient segments
- Patient profiling
- Drug dosing
- Therapy duration
- Biomarkers/chromosomal mutation testing use rate and uptake over time

LAUNCH

- Target population
- Launch performance tracking
- Dynamic patient shares
- Country-specific utilization patterns
- Physician drug satisfaction

IN-MARKET

- Drug usage by indication
- Performance tracking and market share by line of therapy, stage
- Drug profiling
- Reason for discontinuation or therapy
- Physician/Specialist drug satisfaction
- Off-label use
- Drug use by treatment funding

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CONTACT US

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