



2020 Annual Overview of Healthcare in the GCC Growth opportunities for 2021 and beyond

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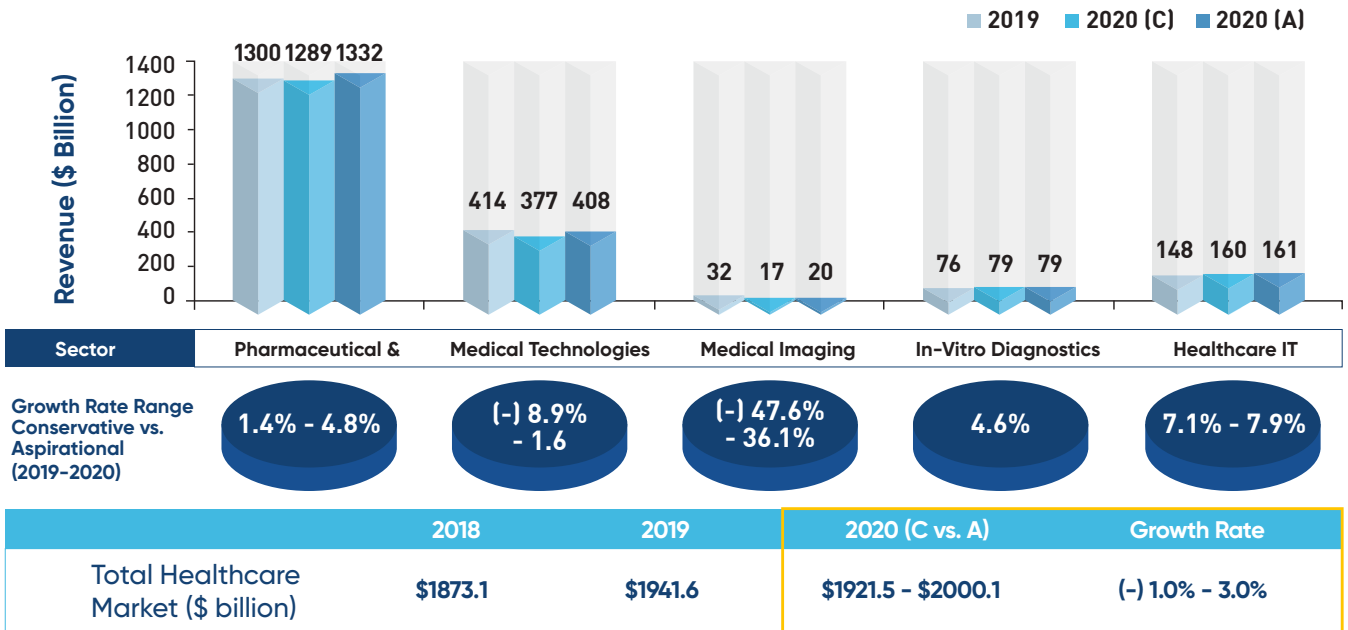
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OVERVIEW OF HEALTHCARE INDUSTRY GLOBAL



Source: Frost & Sullivan Analysis

The global healthcare was steadily growing at an average of 4 percent annually until the onset of pandemic COVID-19. The market until 2019 was driven by the North American and European countries. China, Japan and Australia were the next biggest geographies contributing to revenue and opportunities globally.

In the last decade, the investment in healthcare from the emerging markets including public investment from government, private sector investments and out of stock expenditure on healthcare has seen a huge rise. This has now shifted focus of most multinational companies to revisit their emerging market strategies.

In most established markets, growth is driven by collaboration and long term service driven partnerships, unlike in emerging markets where growth is currently driven only by volume sales of products.

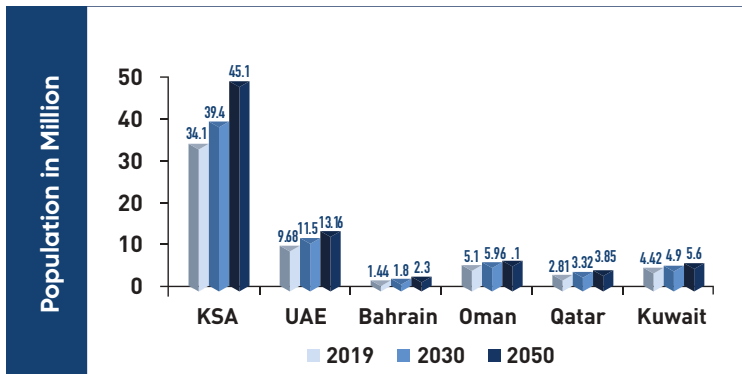
In established, public driven health system even tenders includes service component and support the drive for operational and clinical efficiency.

The shift from product to service driven business is likely to transform healthcare globally in the current decade. This has also created the differentiation between multinational and domestic market participants in the ability to offer services, scalability and sustainability. This is likely to impact the market globally in terms of competition driving mergers, acquisitions and consolidation in the industry.

GCC COUNTRY SUMMARY

A. Demographics

Population of GCC Countries, 2019, 2030, 2050



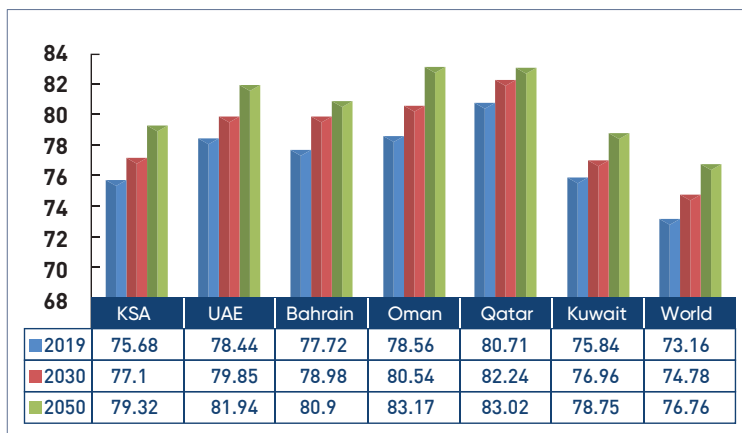
Source: <https://www.populationpyramid.net/>

Population in the GCC Region, 2019, 2030 and 2050

	2019	2030	2050
GCC Population in Million	57.55	66.82	76.11
World Population in Billion	77.0	85.0	96.0

Source: <https://www.populationpyramid.net/>

Life Expectancy by GCC Country, 2019, 2030, 2050



Source: WHO

GCC countries account for around 1% of the global population. Whilst population growth is expected to be similar across countries, population density is expected to increase. The population density per square kilometre of land area in Bahrain is 1,936; while in Saudi Arabia, Whilst population growth is expected to be similar across countries, population density is expected to change.

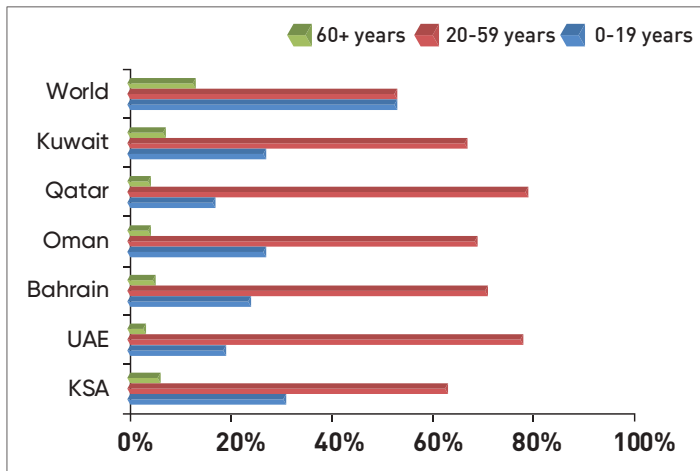
The population density per square is 15; UAE is 112, Kuwait is 232; and Qatar is 237.

The countries are growing economically and population is largely urbanized: 85 to 90% of the population in GCC countries currently reside in urban areas, compared with 57% globally. By 2050, 92 to 100% of the GCC population are likely to reside in urban areas, compared with 68.5% globally.

With improved economy, spending capacity, and access to care, the average life expectancy in GCC countries is to increase by 4 to 4.5 years. All GCC countries have a life expectancy above the global average in 2020, and that is expected to be true in 2050.

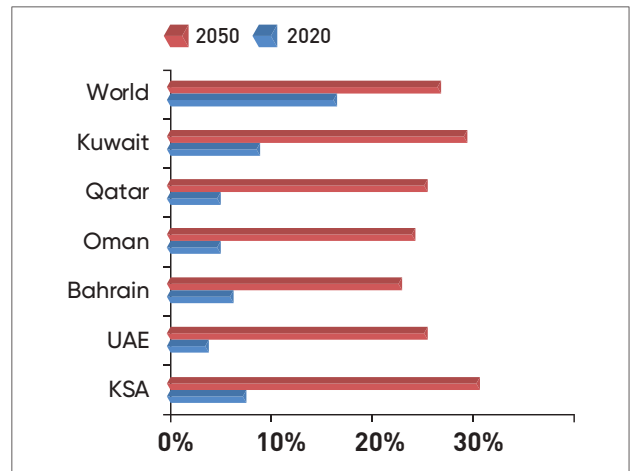
B. Health Status

Age Profile of GCC Countries, 2020



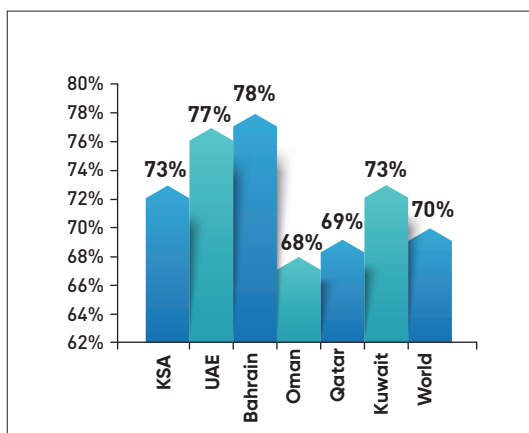
Source: <https://www.populationpyramid.net/>

Elderly % in GCC, 2020 and 2050



Source: <https://www.populationpyramid.net/>

Percentage of Death from NCDs, 2020



Source: WHO

GCC countries have a relatively young population: 63 to 79% of the national population are working age, primarily because of the high (60 to 70%) expatriate population. The average age of GCC nationals is less than 40 years.

With population growth, by 2050 all GCC countries will witness a change in age profile at a much faster rate than the global population. At least 20% of the population is likely to be 60 or older. About 70% of all deaths in the region are related to NCDs. As the population ages and the burden of NCDs increases, the elderly population is likely to account for the highest proportion of healthcare expenditure by 2050.

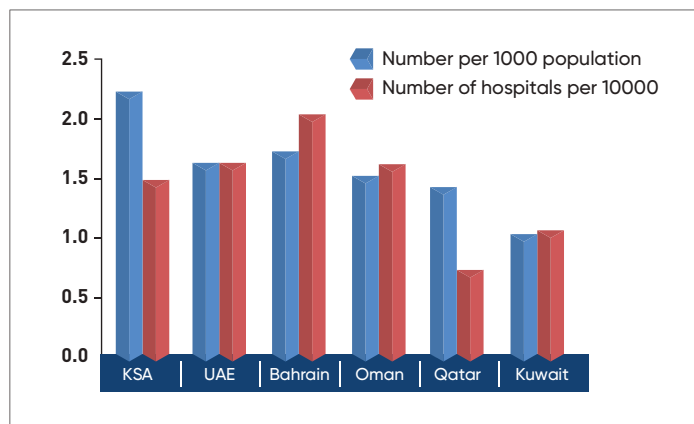
C. Healthcare Expenditure and Infrastructure

Healthcare Expenditure, Average of 2015–2019

Country	GDP per capita on health in \$	Government contribution to total healthcare expenditure
KSA	1,095	66%
UAE	1,358	71%
Bahrain	1,120	58%
Oman	590	88%
Qatar	1,650	80%
Kuwait	1,530	88%
World	1,061	60%

Source: <https://countryeconomy.com/government/expenditure/health/>

Healthcare Infrastructure, 2019



Source: MOH KSA, MOH Bahrain, <https://data.gov.om>

GCC countries spend about 2 to 4% of their GDP on healthcare. The US, in comparison, spends 17 to 18% of its GDP on healthcare. The global average as a percentage of GDP is 9.88%. In countries supported largely by expatriate populations, the lack of health insurance is a major concern. Only a few countries have mandatory, employer-driven health insurance coverage, particularly for private sector employees. Government sector contributions to healthcare expenditure are high, with most of the expenditure incurred on salaries and allowances.

Healthcare resources are scarce in the region, and at least 60% of doctors and nurses are expatriates. Across the GCC, almost 60% of resources are utilized in the capitals and adjacent regions, thus creating a regional care provision imbalance.

The current number of beds per 1,000 persons remains low and highlights the fact that the demand for new beds is high. The number of hospitals across the GCC is expected to triple by 2030.

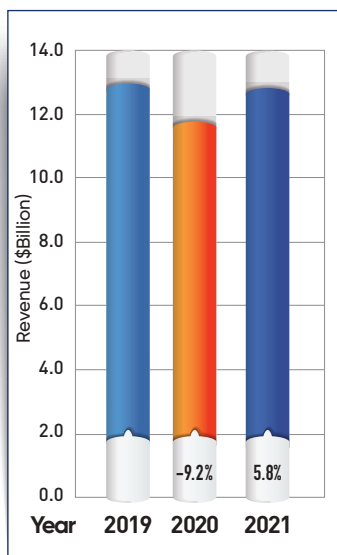
D. Challenges in the Healthcare System in the GCC

- Spending 5% of GDP on healthcare is the recommended standard for most emerging economies. Over the last decade, all GCC countries spent less than 4% of their GDP on healthcare annually. Oman's Ministry of Health recommends in its Health Vision 2050 that the country spend at least 8% of its GDP on healthcare by 2050; a figure that stands currently at around 3%.
- With expatriates comprising more than 50% of the GCC's total population, the lack of mandatory health insurance coverage has been a huge burden on the system.
- The primary care system is the backbone of healthcare in the new age of care delivery. Most countries in the region have poor public primary care systems. The GCC is dependent on expatriate doctors for medical services. Limited resources and infrastructure have impacted the overall system because of a lack of access, delayed diagnosis, and mismanagement. Thus, in most countries, satisfaction with primary care services has been low.

- With poor access to primary care facilities and a lack of gatekeeping, hospital utilization has been very high. At least 30% of emergency room service utilization could have been avoided with better and earlier diagnosis at the primary care level. Some 50 to 70% of inpatient admissions are for disease treatment rather than for surgical procedures, impacting overall utilization of resources. This has increased the overall average length of stay at hospitals across the GCC by 2 to 3 days.
- At least 60% of the healthcare expenditure in the GCC is spent on hospitals, thereby aggravating and leaving unaddressed issues related to primary care, extended care, home care, and other clinical services. At least 30% of healthcare expenditure was on infrastructure development and expansion. This has further dampened prospects for any immediate improvements in care delivery.
- Non-communicable diseases (NCDs) account for 70% of all deaths in the GCC. The average age of disease diagnosis is 50+ years, thus increasing the complexities and associated expenditure. One in six patients admitted to hospitals across the GCC region is being treated for NCDs, with at least 50-60% having some form of diabetes related complications.
- Dependency on imports has significantly hampered healthcare spending. Countries have had to pay premium prices for branded products at a time when generic drugs and value medical devices are widely used in established markets. In the US, for example, 70% of drugs in use are generics, while it is only 30% in the GCC.
- Digitization of healthcare is limited and at a pilot stage across most countries and applications. A much needed digital transformation in the healthcare industry has yet to occur.
- Private sector expenditure has been less than 12-30% across GCC countries, thus placing a significant burden on the public healthcare system. Such expenditure is also limited to urban locations in key cities, thus negatively impacting access.

E. Revenue Trends and Future Potential

Hospitals: Revenue Forecast, GCC, 2019-2021



Source: Frost & Sullivan Analysis

I. Healthcare Delivery

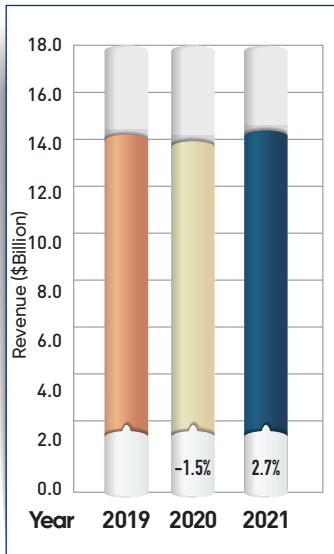
Current Trends: The GCC region had the highest healthcare infrastructure investments over 2010-2020. The region witnessed a huge increase in the number of hospitals and beds. The number of hospitals almost doubled in most countries. At least 80% of the hospitals and primary care clinics built in the GCC were driven by government initiatives and expansion plans.

Private sector investments in the healthcare industry grew by 20 to 30% over the last decade, with 90% flowing towards hospital infrastructure.

New construction was mostly in the form of large hospitals, including medical cities. The focus has been on improving services by adding oncology, stroke, and neonatal care departments.

Hospital revenues were impacted by COVID-19 related declines in outpatient visits and elective surgery volumes. Revenues are anticipated to bounce back by Q1/Q2 2021 in most countries in the region.

Pharmaceuticals: Revenue Forecast, GCC, 2019-2021



Source: Frost & Sullivan Analysis

II. Pharmaceutical Market

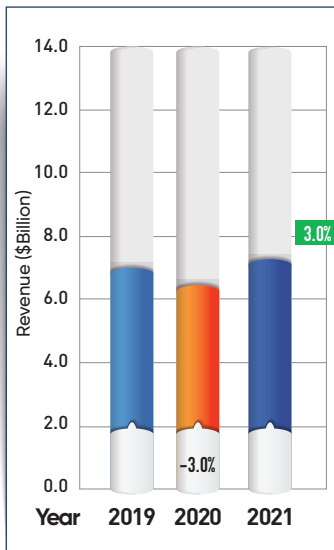
Current Trends: The GCC region contributes 1.1% to global pharmaceutical industry revenues. The market is dominated by patented drugs, unlike the US and Europe where at least 30% of revenues are generated by generics.

The market is currently driven by the high price of drugs. Market penetration is still considered to be low at 40-50%, although it is likely to increase to 60-65% by 2030 as a result of the development of the primary care system, long-term care institutions and the home healthcare market.

Over the next decade, the market is projected to be led by geriatric medicine, including diabetes and cancer drugs.

Currently, more than 90% of the market is driven by imported drugs. This is set to change over the next five years, spurred by collaborations between multinational companies and domestic players to manufacture select drugs.

Medical Technologies: Revenue Forecast, GCC, 2019-2021



Source: Frost & Sullivan Analysis

III. Medical Device Market

Current Trends: The GCC medical technologies market accounts for 2.7 % of global market revenues.

It is driven by medical devices, followed by in vitro diagnostic (IVD) devices, and medical imaging equipment. Globally, medical devices account for 79% of market revenues, with IVD at 15%, and medical imaging at 6%. In the GCC market, because of infrastructure investments, medical devices account for 70% of revenues, IVD for 19%, and medical imaging for 11%.

This trend is likely to change over the end of this decade as investments in capital equipment slow and implants, consumables and replacement devices generate revenues.

Capital equipment providers are likely to shift to servicization to maintain growth in the market.

The market is dominated by imports and primarily by capital equipment, implants, and devices. Domestic manufacturing is still in its early stages and accounts for less than 20% of market revenues.

F. Growth Opportunities

Healthcare Providers

1. Public-private partnership opportunities will support growth across the region. At least 40% of private sector healthcare growth will be driven by such partnerships.
2. Primary care clinics, e-clinics and micro hospitals will represent new areas of investment focus over the next decade.
3. Digital infrastructure will be important in both public and private sectors. Virtual care, remote patient monitoring, and artificial intelligence (AI) are likely to account for 30% of hospital investments from 2023 to 2030.
4. Investment in cancer treatment technologies will surge as early diagnosis of cancer is likely to increase by 10% by 2030.
5. Long-term care institutions to cater to elderly and chronic disease patients will emerge post 2025. Within the next five years, 4-5 established hospitals will move to expand their long term care facilities.
6. Home healthcare will be the new focus area for logistics companies with the development of at-home labs, e-pharmacies, and rehabilitation services. About 45% of logistics companies have already initiated discussions with pharmacy chains, hospitals and industry players to benefit from the telehealth boom in the market and expand into the e-pharmacy segment.
7. Hospitals will collaborate with companies to develop corporate wellness programs, resulting in a \$2 billion market in the region by 2030.

Pharmaceutical and Medical Device Market

1. Pharmaceutical manufacturing will become an \$8 billion to \$10 billion market in the next few years. About 25% of multinational manufacturers have already initiated discussions with local companies to collaborate and develop drugs in the region.
2. Medical consumables manufacturing is likely to boom in the second half of the decade and emerge as a \$30 billion market. Saudi Arabia is poised to become a regional hub for medical consumables by 2023.
3. Logistics providers have the highest opportunity in the GCC region. The opportunity potential is four-fold now with needs in active pharmaceutical ingredients (APIs), raw materials, and finished goods delivery as well as home deliveries of drug and devices. Warehousing, temperature maintenance, and tracking solutions are the adjacencies that are likely to grow along with the logistics companies.
4. Soaring demand for e-commerce services will result in a doubling of e-commerce providers by 2030.
5. Monoclonal antibodies and next generation sequencing solutions are emerging growth areas in the life sciences industry. They are expected to create a \$7-10 billion market in the Middle East & North Africa (MENA) region in the next two years.
6. Clinical trials are the new area of focus for governments in most GCC countries. Frameworks to support effective clinical trials have been developed, with the GCC region anticipated to become a global hub for clinical trials by 2030.
7. Electronic health records (EHR), AI for radiology, and patient engagement platforms for pharmaceutical companies offer promise of becoming a \$2 billion market by 2030.
8. Extensive investments in robotic surgery are set to position the GCC as a global hub for robotic surgeries by 2030.



SAUDI ARABIA



COUNTRY CHAPTER: SAUDI ARABIA

A. Overview of Healthcare in Saudi Arabia

Demographics	Population 2030: 39.4 million 2050: 45.1 million	70% of population older than 40 years	Life expectancy projected to increase from 76.4 to 81.8 years by 2050
	Infrastructure and Spending	12% of primary clinics to be privatized by 2030	Health spending to increase \$45.9 billion \$160 billion by 2050
Diseases and Intervention		NCD deaths to decline from 73% to 60% by 2030	Surgical procedure volumes to increase by 20% annually



Saudi Vision 2030 for Healthcare

Major Vision 2030 goals for the healthcare sector include:

1. Investment of around SAR 250 billion to develop infrastructure
2. Privatization of healthcare; the government aims to increase private sector contribution from the current 40% to 65% by 2030 across industries
3. Additional development and utilization of local resources in healthcare
4. Development of healthcare education
5. Better medical insurance standards
6. Use of information technology to drive efficiency
7. Better utilization of infrastructure and resources

In line with the Saudi Vision 2030, the National Transformation Program 2020 aimed at accelerating privatization to improve the health care continuum. The program has fast-tracked many transformations. These include:



Healthcare Providers

1. A new smartphone app, Seha, which was launched to provide health advice via specialized physicians. It was downloaded 650,000 times in 2019 compared to 500,000 in 2018.
2. Mawid, an e-service provided by the Saudi MoH in cooperation with hospitals, primary health care centers, and specialized centers, resulted in 26 million appointments being booked in 2019. This marked a significant increase from the eight million appointments in 2018.
3. A Saudi Centre for Appointments and Medical Referrals was launched.
4. The Saudi Patient Safety Center was introduced with a focus on developing healthcare policies and procedures based on scientifically proven principles; preparing patient safety programs to make health practitioners more efficient; and, reducing the damage caused by medical errors in the Saudi health system. The number of hospitals that achieved patient safety standards increased from 30% in 2018 to 60% in 2019.

National Transformation Program 2020 Targets and Frost & Sullivan Views	
Target	Probability of Achievement
Increase private healthcare expenditure from 25% to 35% of total healthcare expenditure	Medium
Increase number of licensed medical facilities from 40 to 100	Medium
Increase number of internationally accredited hospitals	Medium
Double primary healthcare visits per capita from 2 to 4	High
Decrease smoking and obesity incidence by 2% and 1% from baseline, respectively	High
Double the percent of patients receiving healthcare post critical care and long term hospitalizations, within four weeks from 25% to 50%	Medium
Improve quality of preventative and therapeutic healthcare services	Medium
Increase focus on digital innovations	Medium

B. Challenges in the Healthcare System

The current burden of the healthcare system in Saudi Arabia:

Healthcare Delivery

- I. The country has 2.25 beds per 1,000 population, more than 50% lower than the WHO recommended standard of 5 beds per 1,000 population.
- II. The primary healthcare system is not well developed, with fewer than 2,261 MoH facilities and 2,980 polyclinics in the private sector. The country has an average of 1.53 PHC facilities (private and public) per 100,000 population. The PHCs are underutilized with around 53 million visits annually and low levels of patient satisfaction.
- III. Private infrastructure of less than 35% increases the burden on the public system and on public expenditure.
- IV. The country spends only 4.7% of its GDP on healthcare, including investments in infrastructure.



- V. The average length of stay in medical cities is more than 10 days, while in smaller hospitals it is only 4 to 5 days. This impacts access to tertiary care services and prolongs wait times.
- VI. Private hospitals conduct almost 1.5 times the volume of procedures of MoH hospitals. Surgical procedure utilization is low in MoH hospitals.
- VII. 73% of deaths in the country are caused by NCDs. About 25% of the population has diabetes, hypertension or a chronic condition and at least 50% of them suffer from more than two chronic diseases.

Industry

- VIII. Almost 98% of medical devices are imported, with more than 21% of the imports being from the US.
- IX. Domestic manufacturing by multinational pharmaceutical companies started as early as 2021 but the pace of expansion has been slow, continuing the country's reliance on imports. Pharma imports account for 60% of the market.
- X. Healthcare IT initiatives are in pilot stages and only have a \$0.5 billion budget, thus slowing the pace of digitization.

Health Insurance

- XI. The government covers healthcare for all Saudi nationals. In 2016, a regulation to amend health insurance for the private sector was launched. By 2019, about 10.8 million people were covered by private insurance. This included expatriates and Saudi nationals working in the private sector. With around 13.1 million expatriates living in the country, the demand for private insurance to support expatriates has to be enhanced.

C. Current Status of the Healthcare System

I. Healthcare Expenditure



Saudi Arabia has witnessed economic slowdowns in the past caused by plunging oil prices and other endemic diseases such as MERS and SARS. However, the deep and wide-reaching effects that COVID-19 has had on the health of the nation and economy are unprecedented. This increased uncertainty has led to the Saudi Arabian economy contracting to 2.3% in 2020, compared to an average of 1.9% since 2014. The economy is now expected to rebound only in 2021. The impact of the pandemic must be considered not only in terms of the incidence of



COVID-19 cases in Saudi Arabia but also in terms of its negative impact on the economy and on the healthcare industry which has experienced reductions in surgery volumes, visits to hospitals and PHCs, and decreases in the prescription of drugs.

Healthcare GDP in Saudi Arabia grew at a CAGR of around 11% from 2010 to 2019, while the nominal GDP grew at 3% during the same period. Currently, the private sector accounts for only 33% of healthcare expenditure.

Healthcare Expenditure

Public Expenditure: 67% **Private Expenditure: 33%**

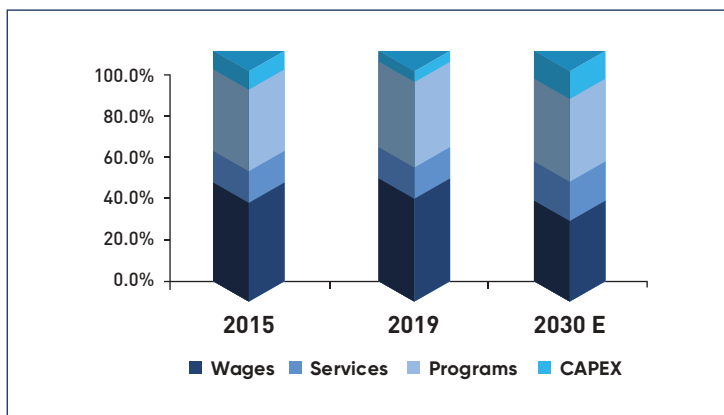
\$46 billion

Total Healthcare Expenditure 2019

MoH-owned hospitals, comprising 60% of all hospitals in the country, increased capital expenditure from 2.5% in 2017 to 4.3% in 2019. The expenditures were on new equipment to drive greater efficiencies and reduce spending on wages. This trend is likely to continue and stabilize after 2025 at an average of 5 to 6% of the budget on capital expenditure.

Current Status of the Healthcare System

Ministry of Health Expenditure Budget Split, Saudi Arabia



Private healthcare expenditure is likely to increase from 30% in 2019 to 65% in 2030. An estimated 40 to 50% of this investment is likely to be on infrastructure until 2025 and on digital solutions and medical consumables and implants beyond 2025. Frost & Sullivan expects the number of public-private partnerships to increase, driving the growth of long-term care institutions, clinical laboratories, and e-clinics. Saudi Arabia currently accounts for 60% of GCC's healthcare expenditure. Spending is likely to rise from \$46 billion in 2020 to \$160 billion in 2030. The government is working to have the private sector invest 40% on infrastructure and about 20% on capital expenditure before 2025.

Source: <https://countryeconomy.com/government/expenditure/health/saudi-arabia>



II. Demographics

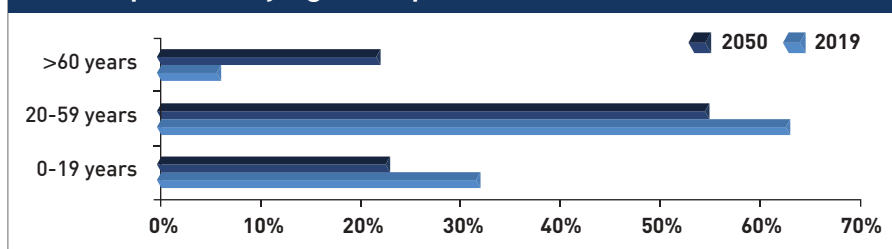


Saudi Arabia's population of 34.1 million is growing at a CAGR of 2.4% and is likely to reach 39.4 million by 2030. The country is projected to reach its peak by 2060 at 45.35 million and witness a slow decline from 2061 onwards. Saudi nationals currently comprise 63% of the population and expatriates the remaining 37%. Expatriates also account for 50% of the working age population. Thus, they contribute to the development of the economy.

Only 6% of the population today is older than 60 years of age. This is expected to quadruple to 24% by 2050, higher than the 21% expected globally.

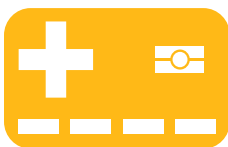
The country currently has a very poor system for managing chronic diseases and elderly care. Investments to strengthen long-term care, home care, and palliative care will be imperative for the successful management of the healthcare needs of the elderly by 2050.

Population by Age Group in Saudi Arabia, 2019 and 2050

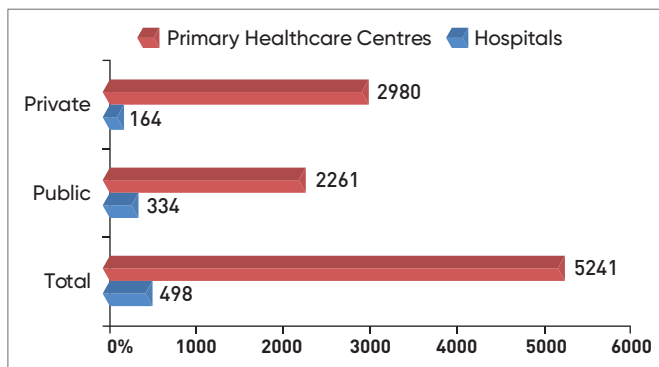


Source: <https://www.populationpyramid.net/saudi-arabia/2019/>

III. Access to Care



Saudi Arabia is divided into 20 regions; 10 have populations of more than one million. There are 493 hospitals, 2,261 public sector primary clinics, and 2,980 private clinics in the country. Even in the most populated region of Riyadh, access to care is inadequate. The region has around 49 MoH hospitals and around 415 primary care clinics run by MoH or that are part of the public system. But at least 60 districts in the Riyadh region lack access to public health facilities. With fewer facilities for a proportionately larger land area and population, quality care is limited.



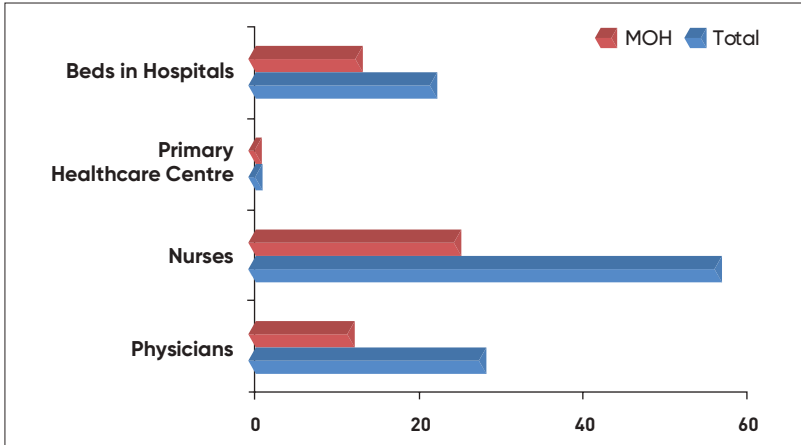
Source: <https://www.moh.gov.sa/en/Ministry/Statistics/book/Pages/default.aspx>

Key Healthcare Indicators for Public and Private Split, 2019

There are around 286 MoH hospitals, accounting for the largest share of hospitals in the country. Of these, 220 have fewer than 100 beds and 118 have fewer than 50 beds. Even in Riyadh, 18 of the 49 hospitals have fewer than 50 beds. This highlights the need for establishing tertiary care with multispecialty hospitals. At least nine of the 20 regions in the country have fewer than 100 ICU beds across their hospitals. Patients often must travel to other regions to get critical care support.



Key Healthcare Indicators, Saudi Arabia, 2019



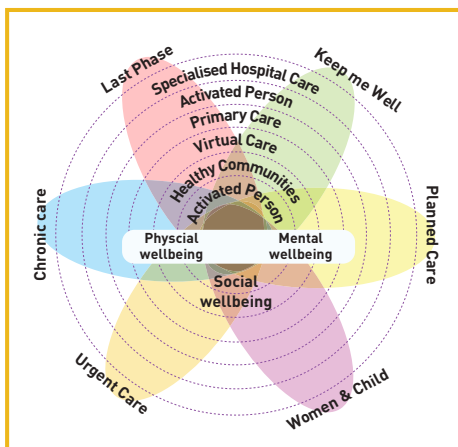
Based on the country's current bed density of 2.2 per 1,000 population, Saudi Arabia requires an additional 20,000 hospital beds by 2025 in order to provide quality care. The global average is 2.7 beds per 1,000 population. Despite high levels of government spending on healthcare, the utilization of facilities is proportionally low due to demand-supply gaps. This increases the need to invest in infrastructure, upgrade facilities, and leverage technology and training to boost utilization.

IV. Primary Care System



The primary care system is the backbone of all established healthcare systems. There are around 5,241 clinics, including polyclinics, most of which are part of the public health system. The government has envisioned the transformation of the primary care system on the basis of new models of care. The new models of care are designed to support people with their physical, mental, and social well-being. Virtual care will be an integral part of these new models. The new models are designed to deliver 42 coordinated interventions across six systems with established key performance indicators. The government is likely to define 20 geographical clusters that would be integrated as accountable care organizations.

New Models of Care Vision



The primary healthcare system in the country is underutilized: 65% of patients accessed emergency departments in hospitals directly instead of leveraging a primary care facility for referral to a hospital or a specialist. Studies conducted by independent researcher Alyasin et al reveal that the most common reasons for visiting an emergency department include not having a regular healthcare provider in the vicinity (in 63% of all cases) and the need to receive care on the same day (in 62% of all cases). This makes enhancing and equipping primary care centers crucial. It is unfortunate that 90% of infrastructure budgets are for hospitals, thereby pushing PHCs to function from rental facilities. Such rental facilities have always had poor infrastructure and poorer hygiene standards,



and often suffer from a lack of space. Patient satisfaction surveys found that at least 40% of patients were dissatisfied with wait times and drug availability, amongst many other factors. Access was an area of concern for most people living in rural and remote regions. Overall, utilization of primary care is low and is intensifying the burden of hospitals with non-interventional care management. In most Western countries, gatekeeping has increased the utilization of primary care clinics, decreased the burden of hospitals, and saved money. It offers the potential of reducing unnecessary hospital admissions by 10 to 20% in the medium-term. With subsequent strengthening of new models of care, Frost & Sullivan anticipates Saudi Arabia’s primary health system to become more robust and better manage the health of the country’s population.

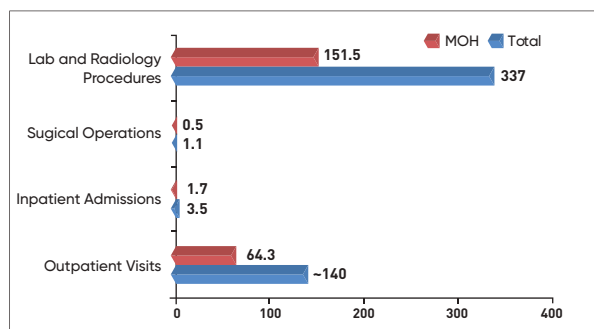
V. Resource Shortages and Utilization



Total Resources in Healthcare & Percentage of Saudi Nationals, 2019		
Resources	Total	Per cent of Saudi Nationals
Physicians	94,335	33.0%
Nurses	199,013	40.2%
Dentists	18,811	40.4%
Pharmacists	31,872	24.6%

Source: <https://www.moh.gov.sa/en/Ministry/Statistics/book/Pages/default.aspx>

Physician density per population is on par with the US and the UK. However, there is a dearth of specialized physicians in the country, not to mention the density of nursing personnel being well below the global average. Saudi Arabia is dependent on expatriate healthcare personnel to support the resource gap. According to a report by the National Center for Biotechnology Information (NCBI), about 70,000 doctors will be required in Saudi Arabia by 2035, which creates a clear need for medical education centers. According to the MIG report, there are an estimated 600,000 healthcare related professionals in the country, with 58% of them being healthcare professionals and around 42% healthcare management resources. It is estimated that overall the country needs 710,000 healthcare professionals to cater to the growing population by 2025, highlighting the significant shortage of resources. This shortage is further aggravated by a mismatch in resource allocation between regions.



Source: <https://www.moh.gov.sa/en/Ministry/Statistics/book/Pages/default.aspx>

Key Healthcare Indicators for Total and MoH Facilities in Saudi Arabia, 2019

The above table clearly indicates that the utilization of resources is low in the public health system, despite infrastructure and capabilities accounting for more than 60% of the total at the country level. Efficiency surveys conducted across different types of hospitals revealed that 61.5% of hospitals were performing at suboptimal levels of efficiency.

Smaller hospitals with fewer than 100 beds were short-staffed but efficient, while mid-sized hospitals with 100 to 300 beds and large hospitals with more than 300 beds were performing at suboptimal efficiency, indicating that a reallocation of resources from larger hospitals could improve efficiencies of care. Thus, investments in training and development of new skills, supported by digital tools has the potential to transform care delivery in the country.

VI. Long-term Care for the Elderly and Chronically Diseased



The population segment aged 65 years and over is projected to increase as a percentage of the total population from current levels of 3.2% to 7.5% by 2030. This population cohort reveals the highest demand for healthcare, accounting for around 20% of hospital admissions. The most common disorders amongst this population were diabetes (32%), hypertension (30%), joint disorders (25%), digestive disorders (10%), and metabolic disorders (8%), with the average length of their hospital stays exceeding eight days. A significant proportion of these admissions could have been prevented and better managed in a non-hospital facility. The lack of established long-term care institutions and geriatric care support has doubled the burden on hospitals with inpatient admissions and emergency visits.

VII. Chronic Disease Management



NCDs account for 73% of the deaths in the country. Cardiovascular-related diseases account for 37% of the deaths, while percentages for cancer and diabetes are much lower. In a country with 40% of the population older than 40, the risks of the onset of major chronic diseases is very high. It is estimated that new cases of common cancers are likely to increase to 150,000 by 2025 with 30,000 annual deaths by 2025. Breast, colorectal, and thyroid cancers account for 40% of all new cases. The average age of diagnosis ranges from 52 to 56 years, increasing the risks of co-morbidities. Late diagnosis increases associated risks and decreases survival rates. The weak primary care system has impacted regular screening trends amongst patients. Hence, the MoH has taken initiatives to conduct region or country wide screening programs to support early diagnosis. With cancer rates likely grow at double digits, the development of primary clinics to assist with diagnosis is key to successful diagnosis and treatment.

Around 4.2 million people in the country suffer from diabetes. Their average age is 56 years, and the earliest onset of the disease ranges from 36 to 37 years. Almost 25% of hospital admissions for heart attacks, heart failures, and strokes are related to diabetes. It is unfortunate that only 50% of the population adheres to treatment protocols and achieves the required glycemic levels. This has resulted in more emergency visits and hospital admissions. Only 40% of patients leveraged primary care centers for diabetes management, while 45% leveraged the hospital sector. Efficiency in disease management using primary care centres and specialized outpatient clinics will be key for transformation in chronic disease management. With more than 25 specialized centers for diabetes

and more than 260 diabetes units in hospitals, the infrastructure is in place to manage patient volumes. People diagnosed with diabetes spent about 10 times more than non-diabetics on their healthcare needs. At the current rate, the diabetes burden is likely to increase from \$21.3 billion in 2019 to \$35.5 billion in 2040. Mhealth with a robust primary care centre-driven disease management program can improve glycemic control and reduce expenditure for the country.

VIII. Health Insurance



Saudi Arabia has a well-established insurance system. All Saudi nationals are insured and are covered by the government. They have access to all public facilities.

With 38.3% of the population being expatriates, the government issued a law in 2016 to develop mandatory health insurance to cover all private sector employees. This law has been effective: 27 insurance companies now cover around 10.8 million people. This includes all employees in the private sector and, in most cases, their dependents. This coverage has been extended to Saudi nationals working in the private sector.

Frost & Sullivan anticipates the system to expand to provide universal health coverage for all expatriates at premium rates and free coverage for all Saudi nationals with access to the private sector as well. One of the advantages of the private sector are shorter waiting times compared to the public sector.

IX. Pharmaceutical Market



The pharmaceutical market in the country is estimated to be worth \$8.84 billion, driven mainly by imported drugs. Patented drugs account for 55% of the market, generics for 31%, and over-the-counter drugs for around 14%. The domestic manufacturing market for drugs accounts for 40% of the total market currently. Almost 70% of imports are from Europe, 13% from the US, and 12% from the GCC and other countries.

The government has taken steps to support localization of pharmaceutical manufacturing, with policies and incentives in place to support local manufacturing of oral solids, APIs, plasma products, vaccines, and biosimilars. The generics market has increased by 3% and regional companies have grown by 7% in the last five years. Therapeutic drug categories like anti-diabetic, anti-hypertension, and obesity drugs contribute to 40% of overall revenues. Domestic manufacturers bring in 15% to 20% of pharmaceutical market revenues in the country.

The country also has initiatives in place to support safe and ethical manufacturing, with drug traceability policies for all imported and locally manufactured drugs. This initiative is the first of its kind in the GCC.

Saudi Arabia accounts for 54% of the total GCC pharmaceutical market, and has been investing to retain its leadership position.

X. Medical Device Market



The medical device, medical imaging, IVD, and digital health market is worth an estimated \$2.87 billion, growing at a CAGR of less than 9% in 2019. The market was expected to have a positive growth rate in 2020. However, COVID-19 has created uncertainties associated with the procurement of devices and equipment outside the critical care environment.

The pandemic has had the biggest impact on the medical imaging equipment market as elective imaging procedures are likely to have declined by 85% in the first half of 2020. The market is expected to shift from investing in equipment to services. This is set to drive efficiencies and generate savings for providers, thus offering revenue opportunities for equipment manufacturers.

The diagnostic testing market has undergone a transformation. The massive volume of tests conducted for COVID-19 has supported revenue growth in the market. This has been paralleled by a decline in the volume of other tests which are likely to pick up in 2021.

The government has invested heavily in the logistics industry to support domestic manufacturing and overcome pandemic-related global supply chain disruptions.

The patient monitoring industry has witnessed double digit growth in 2020 because of spending to equip ICUs and procure ventilators and other patient monitoring machines in response to the pandemic. Frost & Sullivan anticipates a decline in procurement and replacement of patient monitoring devices from 2021 to 2023.

Companies want to focus on home monitoring solutions and long-term institutions for the elderly and those with chronic diseases to drive the growth of new revenue streams.

Imports account for 98% of the medtech market. Currently, around 40-50 domestic manufacturers account for 6% of market revenues. They are expected to increase their share to an estimated 16% by 2025. Some 40% of the products manufactured today are single-use devices made of plastic. Other products include reusable surgical instruments, infection prevention detergents and solutions, general IVD, hospital furniture, and dental and ophthalmic products.

D. Growth Opportunities in Healthcare

I. Healthcare Delivery

Saudi Vision 2030 envisions the increase of foreign direct investments from 3.8% to 5.8% of the GDP by 2030. Private sector investments in Saudi Arabia have been focused solely on hospital infrastructure. Changes in regulations, which restricted private ownership only to hospitals, have now opened interests of the private sector to polyclinics, specialized polyclinics, radiology centers, clinical laboratories, day surgery centers, physiotherapy centers, and ambulance support services.

Opportunities



1. Around six ongoing MoH projects and the construction of four medical cities in the country will lead to huge opportunity for realtors, medical device companies, and ancillary companies.
2. The government aims to privatize 290 hospitals and 2,300 primary health centers by 2030, thus increasing private sector involvement and revenue potential. Private sector contribution to GDP is expected to increase to 65% of the infrastructure spend by 2030, spurring huge investments in the short-term.
3. Public-private partnerships for radiology services, laboratories, and specialized primary health center units are projected to have double digit growth in the next 10 years. This increases opportunities for imaging equipment providers and underlines the need for more long-term partnerships with providers.
4. The average annual spend on e-health digital infrastructure is expected to increase from \$0.5 billion annually to \$1.5 billion by 2030. This is likely to promote the growth of domestic companies and collaborations, along with providing opportunities for global digital health giants.
5. Mobile clinics will be a new focus to reduce the urban-rural divide, creating opportunities for digital and infrastructure companies.
6. Investments of \$16-23 million are set to be pumped in to achieve the Saudi Vision 2030 target of optimizing people to beds ratio, creating opportunities for infrastructure, medical device, and ancillary companies.

II. Pharmaceutical Market

1. Branded generics are likely to account for 50% of market revenues by 2025.
2. Domestic manufacturing is expected to account for 40 to 50% of pharmaceutical market revenues by 2025.
3. E-tracking of drugs is a Saudi Vision 2030 initiative to support improved drug safety and availability.
4. The market for diabetes drugs, antibiotics, and branded generics is poised to double by 2030.

III. Medical Device Market

1. Frost & Sullivan expects domestic manufacturer revenues to reach \$3 billion by 2030.
2. With enhanced focus on upgrades and the move towards driving efficiencies, the market potential for capital equipment, digital tools, and operating room solutions are likely to experience a CAGR of 7-10% by 2030.
3. Saudi Arabia is likely to become a hub for medical consumable manufacturing in the Middle East by 2030.
4. The capital equipment market is expected to be replaced by a servicization market by 2027.
5. Multinationals are on track to collaborate to manufacture locally across product segments.



UNITED ARAB EMIRATES

COUNTRY CHAPTER: UNITED ARAB EMIRATES

A. Overview of Healthcare in the United Arab Emirates

Demographics	Population 2030: 11.05 million 2050: 13.16 million	20% of the population to be older than 60 by 2050	Life expectancy projected to increase from 78.44 to 81.94 years by 2050
Infrastructure and Spending	97% of primary care clinics supported by private sector	65% of clinicians and healthcare resources are employed by the private sector	Number of hospital beds per 1,000 population in 2019: 1.3
Diseases and Intervention	NCDs to account for 77% deaths	Robotic surgery volume to increase by 40% annually by 2030	Cancer and cardiac disease to be the most prevalent NCDs by 2030

UAE 2030 for Healthcare

The United Arab Emirates has invested in sustainable development for decades. The UAE Vision 2030, Abu Dhabi Economic Vision 2030, and UAE Vision 2021 have initiatives for sustainable growth, with healthcare being one of the main areas of focus. The mission to develop a world-class healthcare ecosystem has been driven by the following pillars:

- Well-networked infrastructure
- Enhanced patient management
- Growth as a global hub for surgery
- Digital transformation
- Localization in manufacturing
- Innovation hubs

B. Challenges in the Healthcare System

The current burden of the healthcare system in the United Arab Emirates:

Healthcare Delivery

- I. 85% of the facilities are private sector, with very high dependence on medical tourism.
- II. Early diagnosis of chronic diseases is lower than 20% across cases, increasing associated complications and expenditure.
- III. Geographical mismatch is highlighted with 85% of the facilities located in Dubai, Abu Dhabi and Sharjah.

- IV. 60% of private hospitals had high volumes of medical tourists and were severely impacted by COVID-19. Procedure volumes declined 80 to 90% in most facilities because of travel restrictions and fear of infection.
- V. At least 30% of elderly citizens suffer from more than three chronic conditions.
- VI. Investment in new technologies has been high and utilization has been low, delaying scalability of new technologies.

C. Current Status of the Healthcare System

I. Healthcare Expenditure



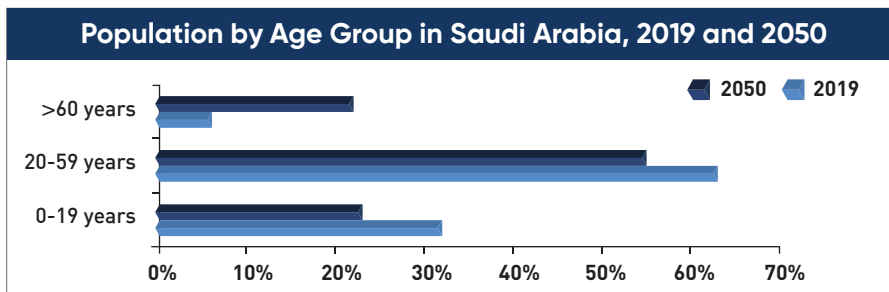
The United Arab Emirates spends about 3.5% of its GDP on healthcare. Interestingly, around 70% of it is from public spending and only 30% from the private sector. The government healthcare budget has been increasing year-on-year and has been growing at a CAGR of 7% from 2015.

Around 60–70% of the healthcare budget is spent on hospitals and only 30% on other sectors. Private sector hospitals have been performing strongly and supporting growth. Infrastructure investment has been declining by 4 to 5% over the last decade. However, there have been investments to increase capacity in specialty hospitals to cater to local demand. Government hospital bed occupancy is at least 10 to 15% higher than in private sector hospitals.

II. Demographics

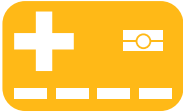


The population of the United Arab Emirates, which now stands at 9.6 million, is expected to reach 11 million by 2030 and 13 million by 2050. Expatriates comprise nearly 88.5% of the population, with India, Pakistan, and Bangladesh accounting for 80% of the expat population. Expats make up 60% of the working age population. They mostly live in the Dubai, Abu Dhabi, or Sharjah regions. At 64%, men make up a disproportionate share of the population. This increases the demand for gender-specific care services.



Source: <https://www.populationpyramid.net/united-arab-emirates/2019/>

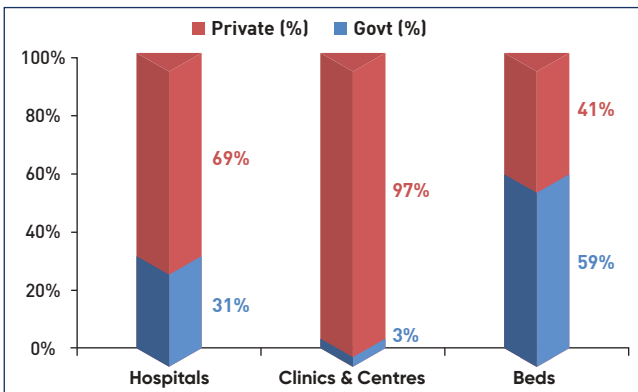
III. Access to Care



There are 143 hospitals and about 4,970 primary care clinics and centers in the country. Almost 70% of the hospitals and 93% of the primary care clinics and centers are private sector facilities.

The country is divided into seven regions. Dubai and Abu Dhabi account for 70% of the population and are home to 48% of the government hospitals and 77% of the private hospitals. Thus, the density of public hospitals is much lower than that of the private sector across the country.

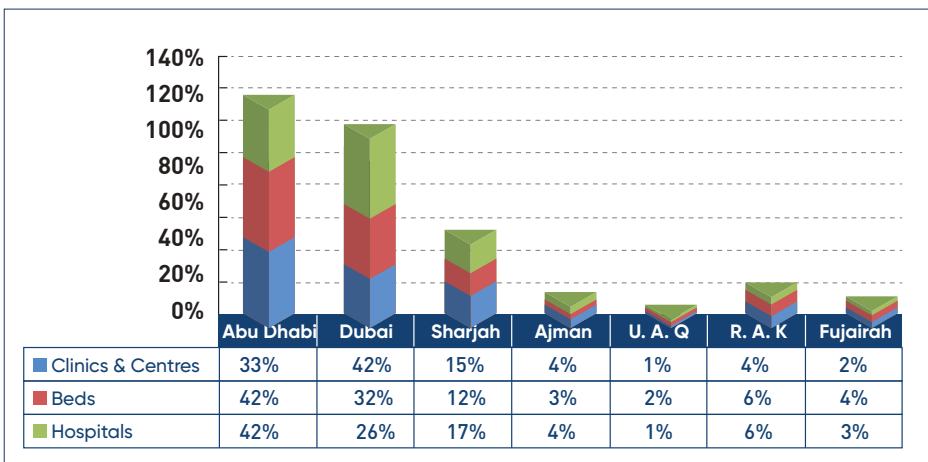
The number of non-Emiratis and non-nationals leveraging public and private health facilities in Dubai and Abu Dhabi is significantly higher compared to the number of locals using these facilities. The current access to care for non-Emiratis in other regions is a major area of concern.



UAE Infrastructure Indicators, 2019E

This clearly shows private sector integration in care delivery is very high; it is the highest in the GCC region. Government hospitals in the country account for 59% of the beds. Investments are always in large multispeciality hospitals, while private sector hospitals are mostly medium sized, single speciality or, in a few cases, speciality hospitals.

Source: Federal Competitiveness and statistics authority



Infrastructure Indicators in UAE, 2019E

Source: Federal Competitiveness and statistics authority

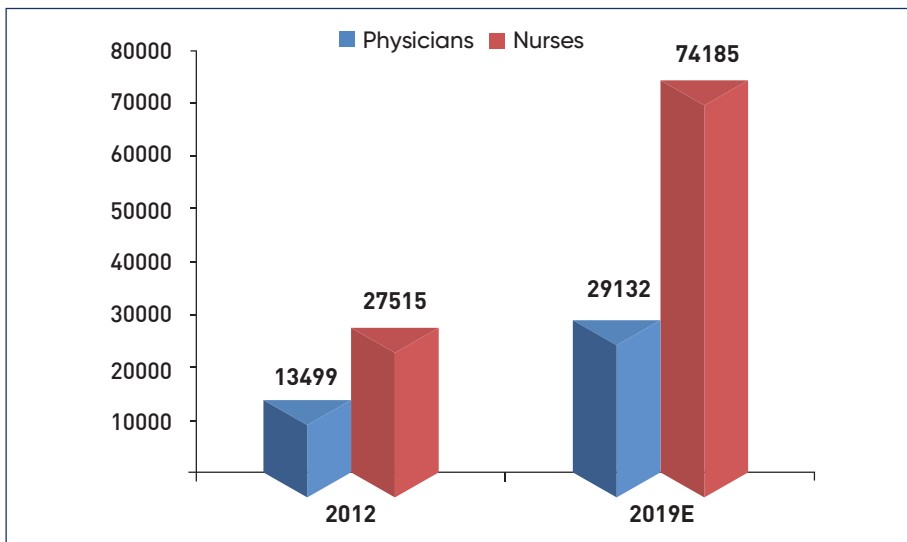
IV. Resource Shortages and Utilization



The Department of Health of Abu Dhabi estimates that the number of physicians in the Emirate will have to increase by 50% by 2035 to support the projected population growth and rising rates of chronic diseases. About 96% of the healthcare workers in the Abu Dhabi Emirate are expatriates, and at least 90% of the healthcare workers in Dubai are expatriates. With licensing regulations made stricter, the resource shortage is likely to spike in the next 5 to 7 years.

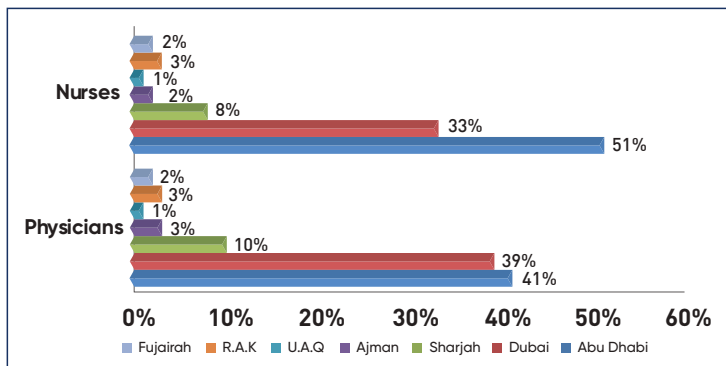
The departments of health across different Emirates have developed capacity building plans with associated investment strategies for family medicine and primary care centers in order to support the needs of the population.

Some 80 to 85% of all clinicians in the country are based in Abi Dhabi and Dubai.



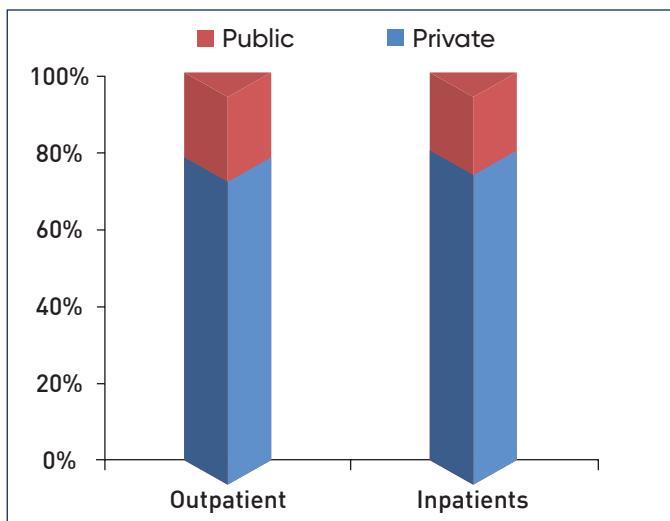
Key Healthcare Resources in the Country, 2012 and 2019

Source: Federal Competitiveness and statistics authority



Key Healthcare Resources by Region, 2019E

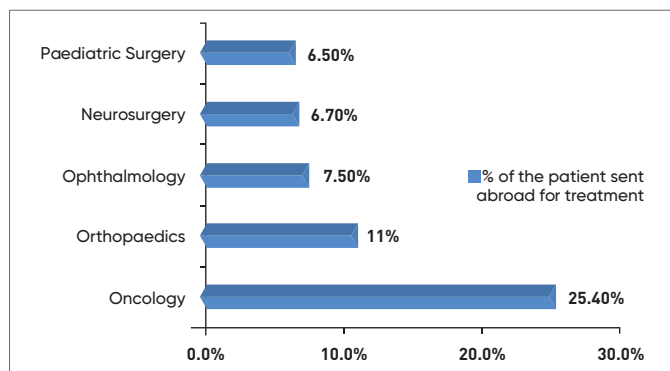
Source: Federal Competitiveness and statistics authority



Source: Annual Health statistics report 2018

Inpatient and Outpatient Visits between Public and Private Facilities, 2019E

The above table clearly indicates the difference in infrastructure utilization between public and private sectors in the country. There is a dearth of treatment by few clinical specialties.



Source: Annual Health statistics report 2018

Key Surgeries for Emiratis to Visit Abroad for Treatment, 2019E

VII. Chronic Disease Management



NCDs are responsible for 77% of deaths in the country. At least 3% of the UAE’s population is older than 60 years, and at least 70-80% of the elderly have more than one chronic disease.

The country has developed the chronic care model (CCM) as an integral part of UAE Vision 2021. CCM aims for population-based daily care for all patients with chronic diseases with structured and planned care interventions.

Chronic Care Model, UAE	
Model Elements	Strategies
Self-Management Support	<ul style="list-style-type: none"> - Emphasize patients' central role in managing their health - Use effective self-management support strategies that include assessment, goal setting, action planning, problem solving, and follow-up - Organize internal and community resources to provide ongoing self-management support to patients
Community	<ul style="list-style-type: none"> - Encourage patients to participate in effective community programs - Form partnerships with community organizations to support and develop interventions that fill gaps in needed services - Advocate policies that improve patient care
Health System	<ul style="list-style-type: none"> - Visibly support improvements at all levels of the organization, beginning with senior leaders - Promote effective improvement strategies aimed at comprehensive system change - Encourage open and systematic handling of errors and quality problems to improve care - Provide incentives based on quality of care - Develop agreements that facilitate care coordination within and across organizations
Delivery System Design	<ul style="list-style-type: none"> - Define roles and distribute tasks among team members - Use planned interactions to support evidence-based care - Provide clinical case management services for complex patients - Ensure regular follow-up by the care team - Give care that patients understand and that fits with their cultural background
Decision Support	<ul style="list-style-type: none"> - Embed evidence-based guidelines into daily clinical practice - Share evidence-based guidelines and information with patients to encourage their participation - Use proven provider education methods - Integrate specialist expertise and primary care
Clinical Information System	<ul style="list-style-type: none"> - Provide timely reminders to providers and patients - Identify relevant subpopulations for proactive care - Facilitate individual patient care planning - Share information with patients and providers to coordinate care - Monitor performance of practice team and care system

The CCM increases access to patients, providing a structured approach to manage conditions. An estimated 17.3% of the population has diabetes, while 12.7 patients per 1,000 population suffers from some form of cardiac disease and about 35 per 1,000 population suffers from some form cancer.

There are huge gaps in the system, impacting early diagnosis. Gap analysis in CCM suggests a major barrier for successful implementation is patient compliance, which is as low as 36.8% currently.

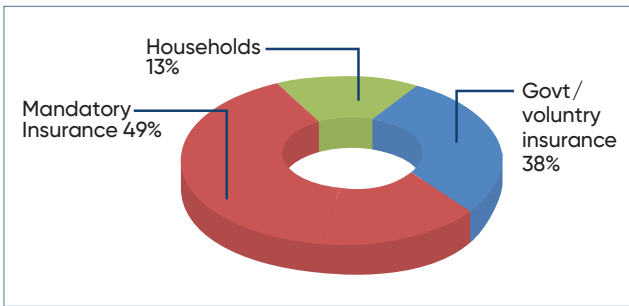
The gaps in self-management are also profound; hence, the top priority is to increase the number of health educators to teach patients how to better manage their conditions.

VI. Health Insurance



There is no comprehensive health insurance in the country, and no national regulations that mandate employers to provide health insurance. Dubai and Abu Dhabi Emirates, however, mandate employer-provided health insurance.

Sharjah is the next Emirate discussing the feasibility of mandatory health insurance. With expatriates accounting for 89% of the total population, it is difficult to access affordable care with employer insurance coverage. The insurance coverage from households is very minimal, thus impacting service utilization by expatriates in the country. In Abu Dhabi, almost 98% of the population is covered by some form of health insurance.



Health Insurance Contribution in Dubai, 2019E

The nation's health insurance market is highly competitive, with about 30 listed local insurers and 30 subsidiaries of foreign insurers.

Source: <https://ia.gov.ae/en/Documents/EN%20-%202018-V5%20-%20The%20Annual%20Report%20on%20the%20UAE%20Insurance%20Sector.pdf>

VII. Pharmaceutical Market



The pharmaceutical market in the country is estimated to be worth \$3.2 billion, driven mainly by imported drugs. Local pharma manufacturing is minimal but has been growing steadily for the past few years. By 2025, pharmaceutical manufacturing will contribute 0.85% of the GDP, up from 0.7% in 2015.

In 2018, a new regulation for prescribing generics was introduced in Abu Dhabi. This mandated all pharmacies to dispense generic medicines as a first choice; those who preferred branded counterparts would have to pay the difference, which could be up to 70% more. This ensured that generics usage increased and health insurance companies benefitted. It also supported domestic manufacturing of generics. The nation imports products from about 72 countries, but 10 countries account for 80% of the supply. There were around 18 companies in 2017, with this number expected to increase to 30 by 2021. Similarly, the number of international scientific offices is expected to grow from 30 in 2013 to 75 by 2021.

The United Arab Emirates is the first country to develop an effective fast-track system for registration of innovative drugs. Fast Track Innovator allows both UAE patients and patients from neighbouring countries seeking treatment in the UAE quick access to innovator drugs.

VIII. Medical Device Market



The medical devices market is growing at a CAGR of 7-8 % and generates around \$1.2 billion. The market is driven by the adoption of advanced implants, imaging equipment, and medical equipment. Diagnostic imaging equipment is likely to account for 40 to 50% of the total medical devices market in 2019. Digital health penetration in the country has been high since the adoption of the Wareed project to establish a 'one patient, one record' by the UAE Ministry of Health as early as 2008. The use of smart technology for remote care, patient engagement, and telemedicine has been growing steadily over the last two years.

With better insurance support, this market is likely to be worth \$0.7 billion by 2023.

D. Growth Opportunities in Healthcare

I. Healthcare Delivery

- The supply gap of hospitals beds in UAE is enormous. The demand for hospital beds in Dubai is high, with 1590 new beds projected to be added by 2030.
- The demand for day-care (same day place) beds in Dubai is expected to be almost 2,661 by 2030, an increase of 1,575 from 2018 levels.
- The demand for outpatient clinic beds is likely to be 7,226 in 2030, an increase of 2,016 from 2018 levels.
- There is increasing demand for ICUs, especially neonatal and pediatric ICUs.
- Frost & Sullivan also expects the emergence of telehealth regulations supporting the increased penetration of the technology. At least 40% of hospitals and clinics in Dubai are likely to adopt telehealth solutions by 2022.
- The adoption of enterprise information systems is likely to be high.

II. Pharmaceutical Market

- Domestic manufacturing is likely to increase by 20% by the end of 2030. The pharmaceutical industry is likely to look beyond generics to manufacture in the latter half of this decade.
- Currently, growth in the clinical trials market is high due to surging demand for localized trials. Thus, the country is likely to leverage these capabilities and become a clinical trials technology hub in the GCC region.

III. Medical Device Market

- The medical devices market is likely to be worth \$5 billion by 2030.
- The country is likely to become the regional hub for robotic surgery and cancer therapies by 2030. In consonance, investments in surgical robots and modern cancer treatment technologies are projected to triple in the upcoming decade.
- Medical device manufacturing is likely to increase to accommodate 30-40 new medical consumables manufacturers by 2025. They would supply to the MENA region and replace imports of medical consumables from established markets.



OMAN

COUNTRY CHAPTER: OMAN

A. Overview of Healthcare in Oman

Demographics	Population 2030: 5.9 million 2050: 7 million	76.6% of population younger than 40	Life expectancy projected to increase from 77.95 to 81.53 years by 2050
Infrastructure and Spending	Increase in MoH hospital beds to 8,600 by 2030 and 14,500 by 2050	Government healthcare expenditure at about 4% of GDP	Number of hospital beds per 1,000 population in 2019: 1.4
Diseases and Intervention	NCD deaths to decline from 68% in 2019 (lowest in GCC)	80% of the elderly require support for daily activities	60% of the elderly suffer from some form of chronic disease

Health Vision 2050



Launched in 2014, Oman's Health Vision 2050 is an effort to support the transformation of healthcare in the country. It is an attempt to visualize the country's health system until the year 2050. Predicting the future of healthcare delivery can be fraught with uncertainty and risk, especially with the number of demographic, political, economic, social, technological, environmental and legal determinants that affect it. Health Vision 2050 focuses on the following:

A. Leadership and Governance

1. Updated policies and strategies based on needs and priorities
2. An accountable and transparent health system
3. A structured and accountable decentralized health system
4. A health system responsive to people's health and non-health needs

B. Finance

1. Total health expenditure of 8 to 10% of GDP by 2030
2. Sustained health system financing for universal health coverage
3. Rationalized expenditure in the health system

4. Establishment of a well-functioning system of National Health Account (NHA)
5. Healthcare facilities budgets based on outcome
6. Enhanced private health sector

C. Health Services

1. A strong, responsive, and sustainable primary healthcare system as the main entry point and backbone of healthcare services
2. Establishment of state-of-the-art tertiary care services provided through medical cities
3. Construction plans for health services redefined according to new roles for health facilities
4. Expansion and renovation of an umbrella of health facilities to achieve universal coverage that runs parallel to population growth

D. Human Resources for Health (HRH)

1. Development and mix of HRH numbers to target fit-for-purpose and equitable distribution
2. Development of HRH to build a sustainable health system underpinned by medical colleges
3. HRH investments to develop clinical training centers
4. Enhancement in staff motivation levels for better retention and HRH management

E. Medical Products and Technologies

1. Availability of pharmaceutical and medical products to ensure sustainable health services delivery
2. Sustained procurement, replacement, and maintenance of biomedical equipment
3. Establishment of evidence-based policies for procurement of emerging technologies
4. Effective connectivity among all healthcare facilities

F. Health Information and Research

1. Ensured availability and accessibility of reliable, relevant, up-to-date, and timely health and health-related information
2. Sustainable funding for health research and development
3. Channeling of health research to identified priorities

G. Inter-sectoral Collaboration

1. Support for inter-sectoral partnerships as a vehicle for health development
2. Institutionalization of an inter-sectoral and population health approach
3. Focus on health as a collective responsibility

B. Challenges in the Healthcare System

The current burden of the healthcare system in Oman:

Healthcare Delivery

- I. Oman has only about 1.23 beds per 1,000 population. This is the second lowest ratio in the GCC region, better only than Kuwait.
- II. According to 2018 data, there are around 56 public sector hospitals and 25 private hospitals, highlighting the poor penetration of the private sector.

- III. The country has around 63 government clinics and 1,258 private clinics, translating to fewer than 2.5 clinics per 100,000 population. Access to primary care is poor in comparison to established healthcare markets in the US and Europe.
- IV. The primary care sector is dependent on the private sector, accounting for 83% of the 1,500 facilities in the country in 2019.
- V. Expatriates account for 38% of the population but constitute only 6% of inpatient admissions, showcasing the lack of insurance coverage.
- VI. Salaries and allowances account for 83% of the healthcare expenditure in the country, with only 0.6% attributed to capital expenditure.
- VII. Only 10% of the resources in the country Omani nationals, thus increasing the dependency on expatriates is critical for success.

Industry

VIII. The pharmaceutical and medical device markets are not sufficiently regulated, and procurement is decentralized. Thus, all institutions follow their own quality standards to procure products.

Health Insurance

IX. Health insurance premiums in Oman increased by 21% from 2011 to 2019. Private insurance is expected to double its contribution due to the introduction of Dhamani.

C. Current Status of the Healthcare System

I. Healthcare Expenditure



Total Healthcare Expenditure: 2.7% of GDP

Salaries

83%

Procurement

10%

Others

7%

Over the years, Oman's healthcare industry has expanded rapidly to meet the evolving needs of a growing population. Healthcare is one of the pillars of investment in the country's ambition to diversify into a non-hydrocarbon economy. However, due to COVID-19's spread, Oman is facing a double impact brought about by lockdowns and severe oil market fluctuations. Oman's economy is dependent on its oil and gas industry, which accounts for more than 70% of annual government revenues. According to IMF projections in July 2020, real GDP

for Oman is now projected to fall by about 2.8%, a 3.3 percentage point drop from 2019. The overall healthcare expenditure is around 2.7% of the GDP; the government is responsible for 87% of the expenditure, and out-of-pocket expenditure stands at 11.6%. The per capita health expenditure in 2019 was estimated to be about \$780.

A large portion of the expenditure is on treatment of NCDs and preventive care measures. Consequently, spending on outpatient and inpatient services is projected to grow at an annualized average rate of approximately 9.5% to \$1.4 billion and \$2.2 billion, respectively, by 2022.

It is evident that the country's healthcare system is dominated by a national public healthcare model; thus, there is ample room for public-private partnerships as the Ministry seeks to transition to a regulator status over the long-term. Health Vision 2050, the government's strategic development plan for healthcare, outlines the need for the expansion of specialist services; reduction of costs; results-based project funding; further decentralization of management; greater transparency; and, improved collaboration among providers.

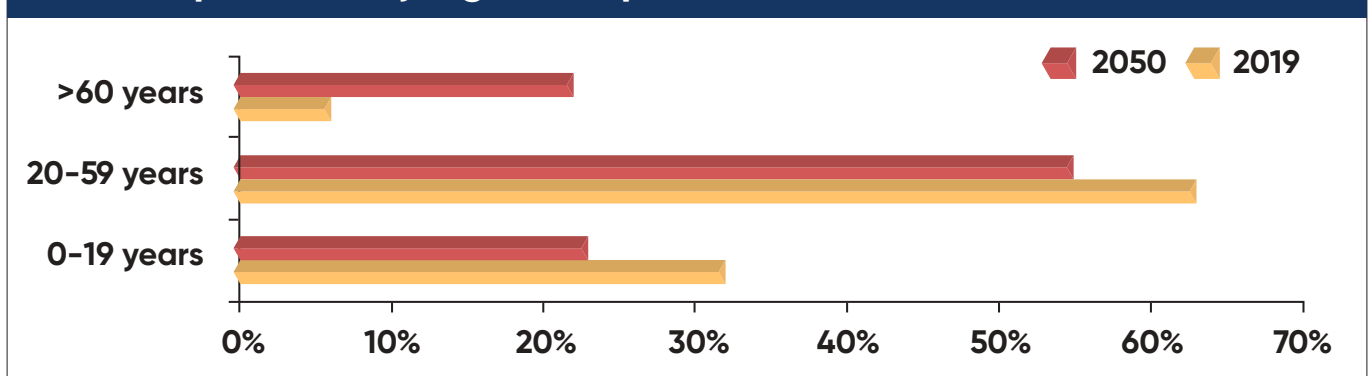
II. Demographics



For Oman's growing and aging population, an increase in life expectancy and low infant mortality rate are the key indicators driving the country's healthcare system. Oman's population was estimated to be around 5.1 million in 2019 and is expected to reach 7 million by 2050. In 2050, 13% of the population is expected to be older than 60 years, compared with 4% in 2019. Of the total population, 38% were expatriates in 2019, with their numbers expected to decrease to 32% by 2050.

While nearly the entire expat population and the majority of Omanis are concentrated in the capital city of Muscat, the coastline, and the area around the nearby northern Al Hajar Mountains, the remainder is scattered throughout the country in sparsely populated towns, villages, and hamlets. Such patterns of inhabitation and the changing demographics exert immense pressure on the healthcare system.

Population by Age Group in Oman, 2019 and 2050



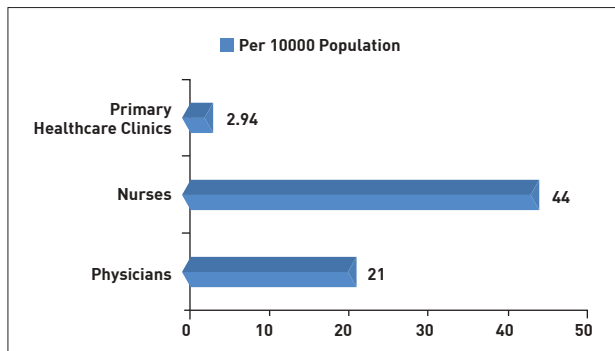
Source: <https://www.populationpyramid.net/oman/2019/>

III. Access to Primary Care



Primary healthcare centers (PHCs) along with diagnostic, dental, and Chinese and Indian medical clinics have played an enormous role in the development of healthcare throughout the country. Over the last four decades, PHCs have extended to all regions. About 243 PHCs and 1,258 private clinics are supported by the government. In 2019, about 9.5% of the health centers served fewer than 1,000 individuals and 21% served more than 15,000, showcasing a disparity in utilization. This is largely because of the fact that 43% of the private clinics are

in the Muscat region and another 14% are in the North Al Batinah region. There is a dearth of resources to cater effectively to the large population.



Key Healthcare Indicators for Facilities in Oman, 2019

Source: <https://hhbc.in/healthcare-scenario-of-oman/>

IV. Private Sector Participation



The cost of public healthcare in Oman is increasing steadily, and the notion of boosting public investments to meet higher demand could prove challenging in the years to come. The private sector's contribution under the umbrella of health services is small and focused mainly on non-specialized services. Private hospital beds represent only about 7.5% of the 6,800 bed total, and specialized clinics represent about 27% (around 1,258) of all private clinics. Oman has about 80 hospitals and 6,800 beds at a ratio of 1.5 beds per 1,000 people.

Although the country's hospital bed density remains in line with GCC averages, it compares unfavorably with global levels of 27 beds per 1,000 population and the average of 54 beds per 1,000 population found in high-income countries.

To accommodate the growing base of patients, bed requirements in Oman are anticipated to grow at a CAGR of around 3% through 2022, translating into a demand for more than 1,000 new beds to reach a capacity of about 7,900 beds. The private sector needs to take a more prominent role in supplying healthcare services because the public healthcare system has become more congested in recent years. Many wealthy Omanis are prompted to seek health services in private hospitals and clinics where the level of care is perceived to be better than

that of public hospitals. According to the latest MoH data, Omanis accounted for over 50% of all private sector hospital visits. About 25 private hospitals, 468 general clinics, and 232 specialized clinics and polyclinics operate in Oman, yet the opportunity for the private sector remains ripe since it only offers select secondary care but rarely the specialized equipment and expertise of tertiary hospitals or the procedures and specialized surgeries of quaternary centers.

V. Health Insurance



Oman's mandatory health insurance will boost private sector growth to cover about five million people over the next two years. In 2019, the health insurance segment spent a hefty \$441 million, accounting for 31% of all premiums. Recent data indicates that the health insurance segment has been growing significantly over the past few years, with a growth rate of more than 30% during the period 2011 to 2019. This share is projected to exceed \$900 million when Oman's much awaited Dhamani scheme is fully rolled out by 2020. The number of employees in the private sector now covered by health insurance is about 450,000. When mandatory health insurance is implemented after the end of this year, the number of employees covered is expected to reach more than two million, in addition to the Omanis working in the private sector and visitors to the country. An estimated five million people will be covered by Dhamani when it is fully rolled out across the country over the next couple of years.

VI. Chronic Disease Management



Oman has witnessed an epidemiological transition to NCDs because of a number of factors, including lifestyle changes and an aging population.

Nearly 68% of deaths are attributed to NCDs. Almost 12.3% of the population has some form of diabetes and 40.3% has hypertension. Recent government surveys determined that 20% of the elderly population needed 24/7 care, primarily because at least 68% had some form of hypertension and was at risk of having cardiac conditions.

At least 80% of the elderly population leverage some form of inpatient and outpatient support annually, and nearly 13% have been admitted to hospitals. The projected quadrupling of the elderly population by 2050, paralleled by the lack of intervention to manage chronic disease patients, will place a high burden on the healthcare system.

VII. Pharmaceutical Market



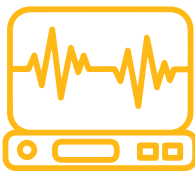
The Omani government spends nearly \$260 million a year on medicines and supplies, with more than 93% of supplies including laboratory and surgical equipment and pharmaceuticals, being imported. The MoH is striving to reduce the reliance on imported medicines by encouraging domestic production, which is still considered a small industry but has seen some growth recently. In 2018, Felix Pharmaceuticals began construction of a world-scale plant in Salalah Free Zone for the production of more than 100 types of pharmaceuticals.

Backed by an investment of \$360 million, the plant is expected to be completed in three phases by 2021. In 2019, the Thaiba Pharma Group was awarded a contract for the construction of its Menagene

Pharmaceutical Industries complex in the Rusayl Industrial City in Muscat for the production of “innovative speciality” medicines when it begins operations in 2021.

The pharmaceutical market in Oman is expected to be worth \$0.8 billion in 2020 and \$1.5 billion by 2030. Projected market growth, coupled with government initiatives for product localization, provide immense opportunities for pharmaceutical companies despite the government plan to reduce drug expenditure and leverage more generics over branded drugs.

VIII. Medical Device Market



The medical device, medical imaging, IVD, and digital health market is evaluated to be worth \$0.7 billion in 2020 and is currently growing at a CAGR of 5–6%. The market was expected to grow in 2020 but the COVID-19 pandemic has created uncertainties over the procurement of devices and equipment outside the critical care environment.

The medical imaging equipment market took the biggest hit as elective imaging procedures declined significantly in 2020, impacting capital equipment expenditure. With the capital equipment expenditure of MoH hospitals declining from 0.6% to 0.2%, medical imaging manufacturers are likely to experience a slow rebound after Q3 2021.

The number of private diagnostic imaging clinics and laboratories is insufficient to cater to Oman’s large population. With the drop in elective imaging procedures, utilization rates have dropped to 20% across these facilities.

Initiatives to improve access by expanding infrastructure by 2030 will drive long-term growth, while Greenfield facilities will support growth in the short term.

The medical technologies market is driven by imports which account for 90 to 95% of the total market. Currently, there are fewer than three domestic manufacturers who collectively account for 5% of the total market share. Health Vision 2050 aims to increase domestic manufacturing of consumables such as gloves. Thus, the estimated 80% decline in medical device imports by 2050 is likely to be driven by higher local production of medical consumables, while medical implants and capital equipment are set to receive a boost from private investments.

C. Current Status of the Healthcare System

I. Healthcare Expenditure

I. Healthcare Delivery

- According to Health Vision 2050, Oman should establish as many as 10,000 health centers to meet the demands of its growing and increasingly urban population. We anticipate around 60% of these health centers to be private and the remaining 40% to be public.
- The Vision also aims to increase annual healthcare expenditure to equal 8 to 10% of the country’s GDP. Accordingly, investments in robotic surgery, radiology equipment, operating rooms, and critical care units are likely to increase. We expect hospital procurement budgets to rise from 11% to 25% by 2050.

- The MoH has worked with the WHO to develop and launch guidelines for hospitals to improve patient safety standards with the objective of reducing adverse events and increasing trust in the health system.
- Demand for geriatric care facilities will increase through 2050 as Oman's population ages. The number of elderly people living in the country is expected to increase five-fold by 2050.
- Tertiary care services are one of the weakest links in the healthcare system. Strengthening it with new facilities before 2050 will be crucial to improving healthcare provision within the country and reducing the need for medical tourism.
- There will be demand for an additional 7,000 doctors in the country by 2050. This presents an opportunity for a progressive increase in the number of Omani physicians.

II. Medical Device Market

- Domestic manufacturing of medical consumables is set to increase. Investments in manufacturing are likely to be the highest over 2020-2025.
- Investments in robotic surgery and cancer therapies are expected to surge, accounting for 10% of medical devices revenues in 2020 and 30% of revenues by 2050.

III. Pharmaceutical Market

- Domestic manufacturing of pharmaceutical products is poised to increase. Investments in manufacturing are likely to be the highest over 2020-2025.
- The market is expected to move from branded products towards generics, which are likely to account for 60% of the total pharmaceutical market by 2025.



BAHRAIN

COUNTRY CHAPTER: BAHRAIN

A. Overview of Healthcare in Bahrain

Demographics	Population 2030: 1.8 million 2050: 2.3 million	75.6% of population younger than 40 years in 2019	Life expectancy projected to increase from 77.03 to 80.1 years by 2050
Infrastructure and Spending	5% increase in private primary care facilities by 2021	Aims to increase healthcare spending from 2% of GDP in 2019 to 5% of GDP by 2030	Number of hospital beds per 1,000 population in 2019: 1.79
Diseases and Intervention	NCD deaths to decline from 77% in 2019 to 55% by 2030	60% of the elderly population required support for daily activities in 2019	80% of the elderly population suffered from some form of chronic disease in 2019

UAE 2030 for Healthcare



The Bahrain Economic Vision 2030 is a vision based on sustainability, fairness, and competitiveness. The comprehensive economic development plan launched in 2008 provides a clear direction for the continuous development of the country's economy and improvement of every Bahraini's life with the aim of doubling household incomes by 2030. It promises that Bahrain will be a leading center for modern medicine, offering high-quality and financially sustainable healthcare in the Middle East region. Highlights of the Economic Vision 2030 related to healthcare include:

- Promoting and encouraging a healthy lifestyle
- Providing quick, easy, and equitable access to high-quality healthcare
- Ensuring regulation of the healthcare system by an independent health regulator
- Developing, attracting, and retaining healthcare talent and fostering a high-performance ethic among all healthcare employees
- Developing electronic systems to enhance the performance of medical and nursing professionals
- Increasing the involvement of the private sector in the health field through Ministry of Health (MoH) donations and the provision of high-tech medical devices
- Establishing major health projects to strengthen partnerships between the public and private sectors

B. Challenges in the Healthcare System

The current burden of the healthcare system in Bahrain:

Healthcare Delivery

- I. The country has 1.79 beds available per 1,000 population, which is much lower than the global average of 2.5 per 1,000 and the WHO recommended guideline of 5 per 1,000.
- II. Limited private infrastructure for hospitals (less than 10%) increases the utilization and expenditure burden on the public system.
- III. Public health facilities account for 80 to 90% of inpatient admissions and outpatient services.
- IV. More than 50% of the country's population has diabetes. More than 30% of the population has two or more chronic diseases.
- V. Digitization will be an integral part of hospital expansion in 2030.

Industry

- VI. The industry is heavily import dependent. Over 90% of drugs and devices are imported and any supply chain disruption impacts the care continuum.
- VII. Any drug to be approved for commercialization in Bahrain has to have prior approval in a minimum of two GCC countries, one of which has to be Saudi Arabia.

Health Insurance

- VIII. The country moved from free healthcare to subsidized healthcare coverage in 2019. Healthcare is completely subsidized for citizens, and only partially subsidized for expatriates. Employers are expected to provide insurance for all employees.

C. Current Status of the Healthcare System

I. Healthcare Expenditure



Government Budget Split

Primary Care

30%

Procurement

59%

Others

11%

Fluctuating oil prices over the past decade have affected the country's economy. Supported by the resilient performance of some industries, Bahrain's GDP grew 1.8% in 2019 to reach \$38.5 billion.

The COVID-19 pandemic, however, has upturned a largely positive outlook. Lockdowns, weakened consumer demand, and other disruptions are expected to cause a 3.6% GDP contraction in 2020. To counter the economic strain caused by the crisis, the government injected a \$1.5 billion stimulus package or roughly 4.2% of the country's GDP into Bahrain's financial system to support liquidity.

The pandemic has put additional strain on Bahrain's healthcare funding and delayed planned capital investments that were targeted to meet growing demand. It has also made the implementation of Economic Vision 2030 more challenging.

Healthcare expenditure increased steadily from 2006 to 2016. However, oil price fluctuations in 2017 resulted in expenditure as a percentage of overall government spending decreasing from 7.7% in 2016 to 6.7% in 2018, remaining at the same level in 2019. With the goal of providing world-class healthcare to its population, healthcare expenditures are projected to reach \$2.4 billion in 2022, up from the current \$1.9 billion. Spending on inpatient and outpatient care is forecast to increase at a 5.3% compound annual growth rate (CAGR) until 2022.

Today, less than 0.2% of Bahrain's annual healthcare budget is devoted to capital expenditure. This is much lower than Saudi Arabia's 4.5%.

Bahrain's overall contribution to healthcare costs is also lower than that of its GCC counterparts: 63% compared to a range of 67% to 88%. Beyond 2020, this percentage is expected to decline as government-mandated health insurance matures during its rollout phase. This move, although much slower than anticipated, will help Bahrain shift from offering free healthcare to all nationals and residents to a mandatory system of subsidized insurance for nationals and partially subsidized insurance for resident expatriates.

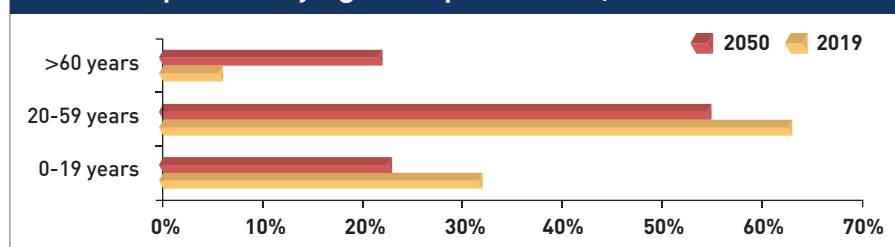
Bahrain's healthcare structure is governed by the National Health Regulatory Authority (NHRA) that was established in 2010, while the Ministry of Health (MoH) plays the role of the principal healthcare service provider that oversees seven public hospitals.

II. Demographics



Bahrain's population crossed 1.6 million in 2019, almost 52% of whom were immigrants. Similar to the GCC region, the 0-14 year age group accounts for 18.7% of the population, while the 15-64 year age group accounts for 78.0%. Only 3.3% of the population is aged 65 years or older, but this percentage is increasing steadily. The UN projects Bahrain's population to grow to 2.01 million by 2030, with average life expectancy set to rise from 77.03 years in 2019 to 80.1 years in 2050. Population growth and demographic shifts, in particular, are anticipated to intensify pressures on the healthcare system.

Population by Age Group in Bahrain, 2019 and 2050



About 80% of Bahrain's population lives in cities; the majority lives in the capital of Manama, which is home to 74% of the country's private hospitals and 66% of private beds. Bahrain is divided into five governorates, of which the Southern Governorate has the largest area.

Source: <https://www.populationpyramid.net/bahrain/2019/>

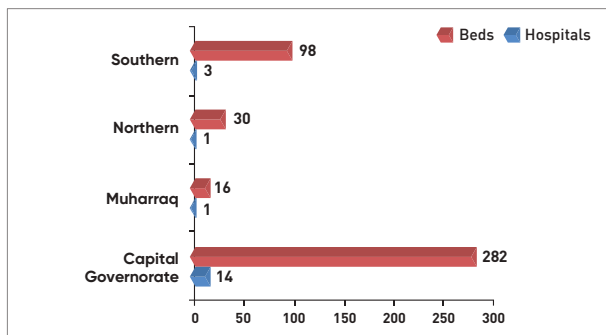
III. Access to Care

Key Healthcare Indicators for Public and Private Sector, 2019

	Private	Public
Hospitals	19	10
Medical Centers	257	27
Clinics	106	-
Allied Health Centers	364	-

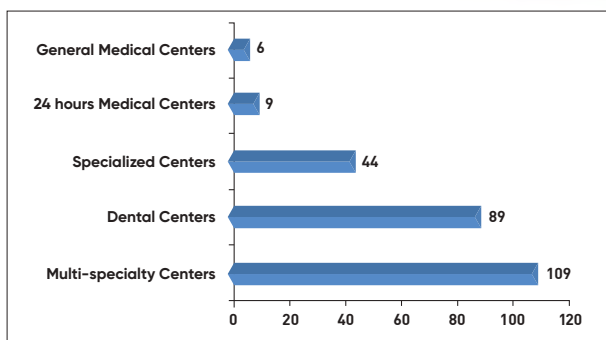
Source: https://www.nhra.bh/Departments/HCF/MediaHandler/GenericHandler/documents/departments/HCF/Statistics/HCF_Stactics%20_1st%20Quater%20_2020.pdf

The private healthcare sector, which includes 19 hospitals and 363 medical centers and clinics, caters to only 30% of inpatients and 22% of outpatients. As of 2019, 14 hospitals were based in the capital, three in the Southern Governorate, and one each in the Muharraq and Northern Governorates.



Private Sector Indicators by Region, 2019

Source: <https://www.nhra.bh/About/AnnualReport/MediaHandler/ImageHandler/documents/About/Annual%20Report/NHRA%20Annual%20Report%202019.pdf>



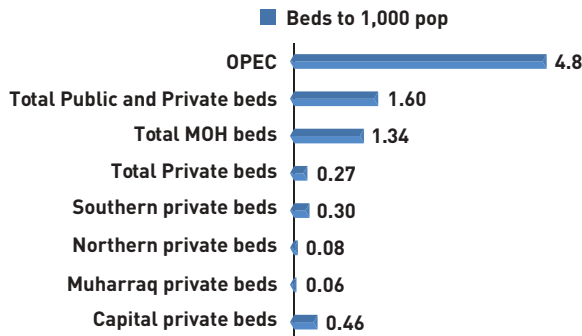
Private Medical Centers by Type, 2019

16 of the 44 specialized centers are for dermatology or aesthetics, with only one center each for cardiovascular and surgical procedures.

A disparity in the distribution of beds across Bahrain is quite evident. At 0.27, the ratio of private beds to population is quite low when compared with the public beds ratio of 1.34. Also, Bahrain's total beds to population ratio of 1.60 are far behind the OECD average of 4.8.

Source: <https://www.nhra.bh/About/AnnualReport/MediaHandler/ImageHandler/documents/About/Annual%20Report/NHRA%20Annual%20Report%202019.pdf>

Beds to 1,000 population, Bahrain, 2019



Key capacity metrics clearly indicate that substantial investment is required to expand the supply of private hospital beds by 40 to 50%, totaling to about 1,280 beds in the next five years to meet the needs of Bahrain’s growing population.

The undersupply is even more pronounced for tertiary care hospitals and specialized facilities.

For example, only 10 to 15% of private hospital beds are truly tertiary care in Bahrain, while in advanced markets, private hospital groups often become “centers of excellence” deeply focused on 2 or 3 specialties. Also, specialized long-term care facilities are lacking in Bahrain; patients who would be better off treated in long-term care facilities occupy an

estimated 20 to 30% of public hospital beds. Ongoing concerns include the excessive length of stay which averages five days at public hospitals, and poor efficiency in bed utilization. This is compounded by the fact that a considerable number of patients visiting secondary healthcare facilities can easily be treated at the primary healthcare level.

Source: OECD, National Health Regulatory, Bahrain

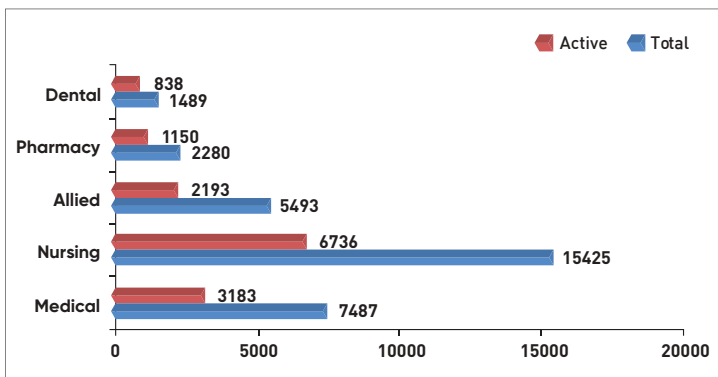
IV. Resource Shortages



Bahrain has a total of 31,994 registered healthcare professionals. Of this number, only 14,100 professionals are practicing and active, thus increasing the burden of care delivery.

In 2019, the health licensing department saw a significant increase in new license applications for health professionals, mostly in the field of nursing at 63%, followed by allied health professions at 26%. Although Bahrain has a physician-to-population ratio comparable with most Western countries, it is in particular need of nurses. Currently, the country has only

about 4.5 nurses for every 1,000 people, a figure much lower than the US and the UK.



Source: <https://www.nhra.bh/About/AnnualReport/MediaHandler/ImageHandler/documents/About/Annual%20Report/NHRA%20Annual%20Report%202019.pdf>

Active Healthcare Professionals by Type, 2019

Over the coming years, Bahrain will need an influx of medical personnel to meet its growing demand for high-quality medical services. The government can ensure stability through long-term visas and educational opportunities that will attract and retain healthcare talent.

V. Health Insurance



The Bahraini private sector has tremendous opportunity to grow, leveraging mandatory health insurance.

Although delayed, Bahrain’s National Health Insurance Scheme (Sehati) for expats is likely to be implemented in late 2020 or early 2021. Expats and, in some cases, their dependents will be covered by their employers through this compulsory health insurance scheme, while Bahraini nationals can either access any public hospital for free or use voluntary health insurance packages through the fund, which meets 60% of the costs of private sector hospitals. As was

witnessed in Dubai with the introduction of mandatory health insurance, the number of insurance policies in the country increased from fewer than 600,000 in 2013 to a staggering 5.1 million by 2018.

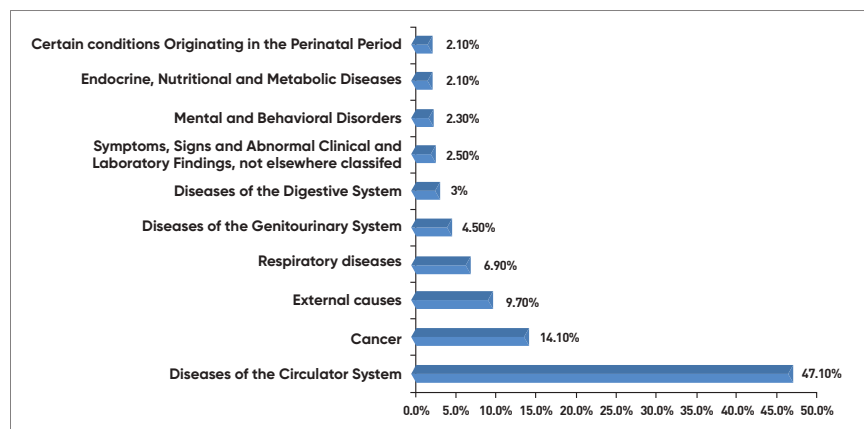
Assuming a similar scenario, the health insurance fund is poised to improve the standard of medical services throughout the country via increased utilization of private sector facilities, while also ensuring that the overall healthcare system is sustainable in the long-term.

VI. Chronic Disease Management



NCDs account for 78% of the deaths in the country, the highest percentage in the GCC region and much above the global average of 70%. Morbidity and mortality statistics indicate that major diseases include cardiovascular disease, cancer, respiratory infections, diabetes, and genetic diseases like sickle cell and thalassemia.

Key considerations impacting the disease burden in Bahrain are that more than 60% of the population is classified as overweight, with 40% of adults and 24% of youth considered to be obese. About 20% of the population is diabetic, and more than 20% of the population smokes regularly.



Source: <https://www.moh.gov.bh/Ministry/Statistics>

is pegged at approximately \$1,769.9. Such chronic diseases and their complications put an economic burden on Bahrain’s secondary healthcare industry that costs the MoH almost 60% of its treatment expenditure, implicated in prolonged periods of treatment. Considering the high cost and duration of treating lifestyle ailments, healthcare expenditure in Bahrain is set to inflate. The increase in chronic ailments indicates the need for specialized clinics and wellness centers.

Top 10 Leading Causes of Mortality, Bahrain, 2019

More sedentary lifestyles and changing dietary patterns are to blame for this trend. The growing prevalence of obesity is especially alarming, and has resulted in an increase of chronic NCDs that account for 78% of all deaths.

The International Diabetes Federation (IDF) estimates that diabetes-related healthcare expenditure in Bahrain is \$292 million; the cost per person with diabetes

VII. Pharmaceutical Market



Bahrain's pharmaceutical market is estimated to be worth \$0.95 billion by Frost & Sullivan. It is driven mainly by imported drugs. The NHRA regulates the drug industry in the country; in 2019, it approved 384 new medicines for commercialization.

The market is currently growing at an annual growth rate of 4.5%. Patented drugs account for 90% of market revenues, and generics the remainder. Domestic drug production contributes less than 5% of market revenues since almost 80% is imported from the US, Europe, and other GCC countries.

Domestic manufacturing is limited in Bahrain. Bahrain Pharma, the \$30 million speciality healthcare manufacturer founded as a pillar of Bahrain's pharmaceutical and healthcare strategy, has secured approval for production trials in 2020. Commercialization is expected by Q4 2020.

VIII. Medical Device Market



The medical devices, medical imaging, IVD, and digital health market was worth an estimated \$0.8 billion in 2019 and is currently growing at an annual growth rate of less than 6%.

Medical device consumption has slowed significantly during 2020 but is likely to increase by 25 to 30% in 2021 as the number of elective surgical procedures increases. Cardiac, orthopedic implants, and renal products and consumables are expected to spur growth in 2021.

Value-added products, rather than domestic manufacturing, will create growth opportunities over the next five years. As the government focuses on elder care, the adoption of related

home care products and solutions is likely to increase by 2025.

The NHRA oversees medical device quality and sales. It registered 2,513 medical devices in 2019 and rejected 2,160 or 24% of all submitted applications for import either because of false certificates or counterfeiting.

The NHRA identified 312 device violations in 2019; 253 had false certificates, 35 were counterfeit devices, and 24 were fake instruments. The authority also recalled 28 medical devices and issued a field safety notice to 20 others. Of the 159 authorized requests that it received for registration, 67 were approved, 82 were raised as defects, and 10 were rejected.

The NHRA has collaborated with various international bodies to develop a robust online review system to efficiently approve/reject products within 24 hours. It has issued 14 new guidelines applicable in the field and has taken the decision to create the first National Committee for Medical Device Standards to review global draft standards before being recognized at a GCC level, thereby supporting international collaboration.

Guidelines have been issued to regulate clinical trials in the country. Four applications to conduct clinical trials in the country were made in 2019. The requests were in the fields of diabetology, hematology, respiratory diseases, and obstetrics and gynecology. One trial has been approved, clinical trial procedures have been completed for the second, and the remaining two are still pending. Guidelines for stem cell clinical trials are also being developed.

D. Growth Opportunities in Healthcare

I. Healthcare Delivery

Bahrain Economic Vision 2030 is likely to increase the focus on healthcare. Private sector investments in healthcare are projected to increase by 10-12% over the next five to six years. Among the key growth opportunities include:

- The country has a dearth of tertiary care facilities in the private sector. Accordingly, private investments in hospitals can help develop a “center of excellence” in the capital governorate.
- Medical centers registered a growth of 10% from 2018 to 2019. Increasing demand will be accompanied by additional private investments in this area.
- Double digit growth – currently at 17% – in the pharmacy sector is set to continue. Pharma facilities – currently numbering around 307 – are projected to expand at an annual growth rate of 15-20% over the next three years.
- The Arabian Gulf University (AGU) which has been providing medical education since 1979, graduated 228 students in 2019. The University is expected to set up a medical school campus and a new, 228 bed teaching hospital in King Abdullah Medical City, thus expanding medical education in the country.
- The investment in stem cell clinical trial guidelines is expected to support the future of the Bahrain Genome Project. The country plans to expand into stem cell research and conduct clinical trials with the aim of developing new treatments for use across the GCC and Africa.
- Wellness is a key focus for Vision 2030 and mother and child care programs, including vaccinations and maternal/child care hospitals, offer growth opportunities.

II. Pharmaceutical Market

1. Generics will represent a larger percentage of the pharmaceutical market by 2030: revenues of generics will increase from \$0.09 billion in 2019 to at least \$0.3 billion by 2030.
2. Frost & Sullivan expects Bahrain to become a hub for clinical trials in the GCC region, developing into a \$0.5 billion segment by 2030.

III. Medical Device Market

1. The country has expanded its medical centers and is heavily focused on increasing utilization rates of existing hospitals. Thus, investments in capital equipment are likely to be much lower and market potential for medical implants and medical consumables much higher. The medical devices market is forecast to continue growing at 7-8% annually. The medical implants and consumables segments currently account for 30% of the \$0.8 billion medical device market in the country.
2. Bahrain is investing in digital transformation of healthcare services and delivery. A nationwide drive towards healthcare digitalization is likely to reach its peak within the next 2-3 years, attracting investments of around \$0.5 – \$0.6 billion by 2025.
3. Robotic surgery offers untapped growth potential, and is estimated to be a \$0.3 billion market by 2025.



QATAR

COUNTRY CHAPTER: QATAR

A. Overview of Healthcare in Qatar

Demographics	Population 2030: 3.5 million 2050: 3.9 million	79% of population aged between 20-59 years in 2020	Life expectancy projected to increase from 79 to 82.5 years by 2050
Infrastructure and Spending	Healthcare Spending 2013: \$4.4 billion 2017: ~\$4.5 billion	In 2017, 30,000 medical tourists were sent abroad	Number of hospital beds per 1000 population in 2018: 1.6
Diseases and Intervention	NCDs deaths to reduce from 69% in 2015 to 60% by 2022	25% increase in market share of private sector	Healthcare services to have greater focus on disease prevention

National Health Strategy 2018 - 2022



Qatar has made impressive progress in its healthcare system since the 1990s, with the country now performing amongst the top 20% globally in multiple areas, including life expectancy and burden of disease. Qatar's National Health Strategy 2018-2022 aims to further enhance the expansion of the country's health services with a focus on tackling healthcare challenges through a new approach aligned with a global shift towards population health and integrated care models. The strategy is set to battle the rise of NCDs, promote sharing of information among

providers, as well as explore care in new areas such as mental health. The healthcare targets for 2022 are as follows:

- Create an integrated model of high quality care and service delivery
- Enhance health promotion and disease prevention
- Enhance health protection plans
- Introduce health in all policies
- Implement an effective system of governance and leadership

B. Challenges in the Healthcare System

The current burden of the healthcare system in Qatar:

Healthcare Delivery

- I. Almost 50% of Qatari adults have low levels of physical activity and 70% are overweight, causing lifestyle-related disease burden for the country.
- II. 69% of mortalities occur from chronic conditions, particularly cardiovascular disease, cancer, and diabetes. This is estimated to cost the country approximately \$3,000 per capita.
- III. Around 73% of Qatar's budget is spent on hospitals, thus weakening the expansion and restructuring needs of the primary care system.
- IV. Expatriates comprise 88% of the population, while nationals make up only 12%. About 3% of the total population is aged above 60 years in the country, increasing the risk of healthcare expenditure for chronic diseases.
- V. The country has 1.3 beds per 1000 population, which is much lower than the OECD average of 4.8 beds, this lowering access to care in the country.
- VI. The country faces a shortage of locals in the health sector; expatriate nurses make more than 90% of all nurses, and expatriate doctors make up 69% of all doctors in the public and private sectors. This increases the dependency on foreign talent for care delivery.
- VII. 80% of total healthcare spending is driven by the public sector, which puts pressure on the government. The burden of secondary and tertiary care is almost completely borne by public hospitals.
- VIII. All Qatari citizens can choose to receive medical treatment abroad. Thus, there are high costs associated with overseas treatment.

Industry

- IX. Similar to other GCC countries, Qatar has only a few domestic manufacturers. It is, therefore, heavily reliant on imports of pharmaceuticals and medical devices.
- X. Branded medications make up 80% of all pharmaceutical sales, and generics account for the remaining 20%, thus increasing pharma expenditure in the country.

Health Insurance

- XI. Qatar offers free universal health coverage to all citizens and residents at public health facilities, incurring a significant financial cost for the Qatari government.

C. Current Status of the Healthcare System

I. Healthcare Expenditure



Qatar Healthcare Spending per capita

2014

\$2104

2017

\$1649

2024E

~\$3900

Over the past few decades, Qatar's government has been investing heavily in developing an integrated healthcare system that offers high-quality services. As a consequence, the healthcare industry has witnessed unprecedented growth and is estimated to reach \$8.8 billion in 2020 and \$12 billion by 2024, reflecting an incredible growth of 360% compared to 2010. Sustaining this pace, Qatar's healthcare system is likely to outperform its GCC neighbors within the next few years.

There has been a significant expansion of infrastructure and range of services in the Qatari healthcare system. The number of hospital beds reached 3535 in 2018, marking an additional 908 beds since 2016. Services such as mental health have also been focused on with a shift in provision of mental health services from secondary care to primary care as well as campaigns to raise awareness of mental health issues.

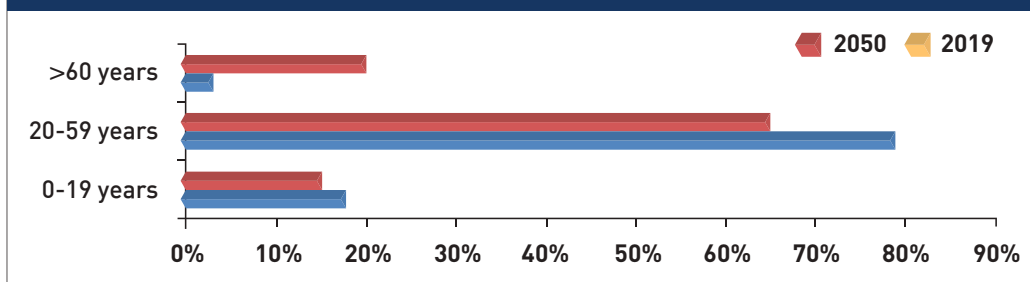
Qatar has strict implementing and monitoring strategies to help it achieve its goals in the healthcare sector. For example, under the Qatar Healthcare Facilities Master Plan, which is an ambitious 20 year policy launched in 2013, the government has set a target of completing 48 new projects by the end of 2020. These include primary clinics, diagnostics centers, general and specialist hospitals, long-term facilities and hospital expansions. As of early 2020, the plan was on track; however, the COVID-19 crisis caused some disruptions as resources were redirected to treating and preventing the spread of the virus.

II. Demographics



The low proportion of 60+ year olds stems from the fact that expats return to their home countries for retirement and, thus, the 3% are mainly Qatari nationals. However, the percentage of older people is expected to expand as the country experiences trends similar to the aging societies in developed countries. As a result, healthy aging is one of the seven priorities in the National Health Strategy which emphasizes initiatives taken to improve coordination and continuity of care across the healthcare continuum such as the National Dementia Plan.

Population by Age Group in Qatar, 2019 and 2050



Source: <https://www.populationpyramid.net/qatar/2019/>

III. Health Insurance



Qatar offers free universal health coverage to citizens and residents through its public healthcare system. The public healthcare system functions through the principal public provider Hamad Medical Corporation (HMC), which directs Qatar's public medical facilities. Public services at any hospital or clinic run by the HMC can be accessed through a government issued health card. Although this significantly reduces the cost of treatment for expats as well, they may still have to pay some medical costs, including a nominal fee for medication.

Driven by popular demand for faster service as well as the increase in Qatar's population, private healthcare has been growing rapidly in the past few years, especially amongst some large employers. Private healthcare provides additional options for specialized care and greater freedom in choosing a physician. In terms of quality of care, both private and public facilities are equally good, with the advantage of shorter wait times at private facilities.

A public national health insurance scheme named Seha was introduced in 2013 to share the burden of healthcare costs between the public and private sectors. Seha was set to be managed and operated by the government-owned National Health Insurance Company. Once fully rolled out in 2016, the scheme would have provided compulsory health coverage for all Qatari nationals and residents. Seha gave patients the option of choosing from a range of participating public or private providers with the payment for their treatment to be met by the insurance funding body. In 2015, however, Seha was discontinued due to mounting expenses and growing criticism about resource management. In the 15 months of its activity, Seha paid out US\$357 million for patient treatment as most people started seeking treatment in private hospitals and clinics and many believe that private hospitals saw this opportunity as a cash cow for health fraud and overbilling.

Since then, patients have relied on universal coverage and private insurance to fill the gap, while efforts to develop a new national insurance plan continue. As of 2019, the Ministry of Public Health announced that a draft law to create a new health insurance system would be launched shortly. Only a few details about the new health insurance system have been revealed to the public as of March 2020. It is expected to include a mandate of medical insurance for all visitors to Qatar in order to reduce the current burden on the healthcare system. Furthermore, the government was urged to reintroduce citizens' health insurance, and permit the private sector to participate in its implementation.

IV. Access to Care



The Ministry of Public Health is the main body responsible for regulating the healthcare sector and setting policies and strategies. Under MoPH, HMC and the Primary Health Care Corporation (PHCC) are two government entities that provide public healthcare in Qatar. Collectively, HMC and PHCC provide 90% of healthcare services for the Qatari population. Primary care which is a focus area in the National Health Strategy is covered through PHCC. HMC offers more specialized and inpatient care through 12 hospitals with a total of 2,500 beds, which accounts for about 70% of the total hospital beds in Qatar. Five new hospitals

opened their doors to patients during this period which added 500 beds to HMC's portfolio between 2016 and 2019. These facilities encompass the latest innovative medical technologies in order to further enhance quality of service. Furthermore, in 2016, HMC was the first health system in the world to have all of its hospitals accredited by the Joint Commission International under the Academic Medical Center program.

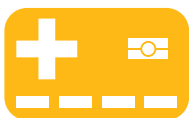
PHCC, the primary care provider, has 27 centers across the country, four of which were opened in 2018 and 2019. The rapid expansions in both PHCC and HMC are led by the growing needs of Qatar's expanding population. PHCC has launched its latest Integrated Mental Health Service across PHCC facilities to diagnose, treat and follow-up on patients who were previously seen at HMC's Psychiatry Hospital.

As part of the National Health Strategy, HMC and PHCC have started using a country-wide HER system since 2017. As a matter of fact, Qatar was the first country in the world to utilize clinical information systems across the entire public health sector. This has allowed the two entities to combine patient data and reinforce collaboration between them as well as improve clinical efficiencies and reduce redundancies.

The private sector continues to represent a significant opportunity area in Qatar and will be crucial to developing the healthcare sector in the future. As of 2019, there were only six private hospitals in the country contributing to 14% of inpatient beds, many of which referred patients to HMC facilities for specialist treatment. Thus, one of the targets of the National Health Strategy is to increase private sector market share by 25% by 2022 and enhance its involvement in meeting the health needs of the population. Key private providers in Qatar include American Hospital Clinics, the International Medical Centre, Al Ahli Hospital, Doha Clinic Hospital, and Sidra Medical and Research Center.

As of 2020, major projects and expansions have been ongoing in both the public and private sectors. These include an expansion of HMC facilities, the development of several new health centers, and the construction of new laboratories. However, the progress of some projects has been halted due to the drop in oil prices in early 2020 and the COVID-19 pandemic.

V. Chronic Disease Management



NCDs are responsible for 69% of all deaths in Qatar. Cardiovascular diseases, diabetes, and cancer account for 24%, 17%, and 9% of deaths, respectively. Based on data from HMC, almost 16% of patients with more than one chronic disease were readmitted at the emergency department within 28 days of discharge, 6% of emergency patients had more than one chronic condition, and patients over 65 years of age with more than one chronic condition were seven times more likely to have emergency admissions than 45-65 year olds.

In effort to reduce chronic conditions, improving the health of people with multiple chronic conditions has been set as one of the seven priority areas in the National Plan Strategy. A critical factor here is to empower people and provide them with the skills and knowledge as well as ensure they understand how maintaining healthy behaviors will help avoid negative complications. This will be done through improving the role of primary care and family medicine. Every patient with a chronic condition will be assigned a primary care physician as well as a primary team that will support the patient throughout their journey. This will build on the work of different initiatives under the Qatar National Diabetes Strategy 2016–2022 and the National Cancer Framework 2017–2022, focusing on prevention, screening, research, and education of patients and healthcare professionals.

To measure progress, the National Health Strategy set targets to be achieved by 2022, including:

- 25% decrease in the 30 day readmission rates for chronic conditions
- 5% decrease in obesity rates nationally
- 30% reduction in smoking prevalence
- 15% reduction in mortality from chronic diseases

VI. Pharmaceutical Market



Qatar has a low pharmaceutical production base and thus most of the drug requirements of the region are fulfilled through imports from developed countries. Even the only local manufacturer depends on imports for APIs and intermediates. The industry was valued at \$537 million in 2018, 80% of which were generated by branded drugs and 20% by generics. The decision of the Ministry of Public Health to eliminate government controls over drug pricing has resulted in the creation of an open market system. This has also contributed

to pharmaceutical prices being amongst the highest in the region. The Qatari government has been trying to promote generics, however branded pharmaceuticals remain the most used and prescribed as they are more trusted by patients and providers.

Even though Qatar allows 100% FDI in the pharmaceutical sector, the country has a long registration process of two years. As a result, there is only one manufacturer in the country, Qatar Pharma. Other pharmaceuticals are imported through air freight via Pharma Express, operated by Qatar Airways Cargo, and include products from leading global pharmaceutical companies like Roche, MSD (Merck), GSK, Novartis, Sanofi, and AstraZeneca.

Pharmaceutical Company	Distributors
Qatar Pharma	Ebn Sina Medical Company
	Qatar Pharmacy Est
	Tylos Pharmacy

The country shifted away from importing generics from neighbouring GCC countries such as Saudi Arabia, the United Arab Emirates, and Bahrain due to political tensions in 2017. Instead, it replaced those with branded pharmaceuticals, which have resulted in higher costs and further underlined the need to expand local production. Pressure on the government to cut healthcare budgets and share the burden with the private sector could result in branded generic products increasing in the next few years. The new health insurance system might push for cheaper drugs to be used which will also address the consumer preference for a familiar brand.

VII. Medtech and R&D



The Qatari government is constantly trying to upgrade the quality of its health services by using advanced technology and international expertise. Together, the medical device, medical imaging, and IVD markets are estimated to be worth \$0.35 billion in 2020.

The market for medical equipment, in particular, is expected to grow over the next five years. Currently, the market relies on imports led by the US, followed by Europe and Asia due to the current lack of local production capacity in the area.

Qatar is also pursuing various R&D initiatives and according high priority to scientific research in support of Qatar National Vision 2030 goals. Although Qatar's pharmaceuticals industry is still in its nascent stages, numerous start-ups and research projects are helping to establish the country as a center for academic excellence and medtech R&D.

As such, the Qatar Genome Program is a major population-based project that aims to position Qatar amongst the leading countries in the implementation of precision medicine and personalized care. The project is creating large databases to empower researchers to make breakthrough discoveries in the region and help policy makers better plan for the future. So far, 19,000 genomes have been sequenced and the target is to complete genomic characterization of 10% of the population by the end of 2020.

D. Growth Opportunities in Healthcare

Healthcare Delivery

The National Health Strategy and Qatar National Vision 2030 are likely to create huge opportunities in the following areas:

- Medical tourism is expected to gain prominence in the country and be a focal point for the government's strategy to diversify the economy away from oil. With the gradual emergence of top-notch tourism infrastructure and visa-free access to more than 80 countries, Qatar is on the right track to developing as a world-class medical tourism hub.
- The private sector will play a bigger role in healthcare infrastructure and delivery in the future, assuming some of the country's healthcare burden in the process. The establishment of new facilities is set to continue with a number of new hospitals and clinics under construction in order to meet the growing demand for specialized services. This is in line with the Ministry of Public Health's determined long-term target of reaching 5,700 hospital beds by 2033.
- Mental health is an unmet need that will gain attention in the coming years. With nearly 25% of adults having at least one type of mental disorder in the country, improving mental health and well-being is one of the priorities of the National Health Strategy. The country has set a target to improve access to mental health services, with 20% of care to be delivered at primary care levels by 2020.

- Public-private partnerships will be further explored to achieve several healthcare related goals. The private sector will be given a larger role in the government's ongoing plans to develop a national health insurance scheme as well as provide better healthcare services. As an example, the government invited bidders from the private sector to design, build and operate three hospitals on state-owned land in Qatar in 2019.

II. Pharmaceutical and Medical Devices Market

- Qatar is redrafting the public-private partnership framework to follow best practices. This will likely attract foreign investments into the country and support the development of the pharmaceuticals and medical devices markets.
- New ventures will have a positive impact on the ongoing self-sustainability efforts of the Qatari government that resulted from the blockade. As such, the first pharmaceutical factory, Doha Pharmaceutical Industries, is nearing completion. This first of its kind factory is expected to start production by mid-2021 with over 150 medicines in the first phase of production and 300 in the second phase.



KUWAIT

COUNTRY CHAPTER: KUWAIT

A. Overview of Healthcare in Kuwait

Demographics	Population 2030: 4.9 million 2050: 5.6 million	67% of population was 20–59 years old in 2019	Life expectancy projected to increase from 74.86 to 78.48 years by 2050
Infrastructure and Spending	Healthcare spending 2013: \$5.1 billion 2019: ~\$6.9 billion	In 2019, 12,000 medical tourists sent abroad at a cost of \$0.61 billion	Number of hospital beds per 1,000 population in 2019: 1.2
Diseases and Intervention	NCD deaths to decline from 72% in 2019 to 65% by 2030	MoH hospital utilization by expatriates to decline from 50% to 30% for outpatient visits (due to Dhamani hospitals)	Dhaman, private insurance, and better access to improve quality of life

New Kuwait 2035



New Kuwait 2035 aims to turn Kuwait into a regional financial, cultural, and institutional leader and reduce the country’s dependency on oil. The Kuwaiti government is building a smart city from scratch. South Saad Al Abdullah city will eventually be home to 400,000 people. The development of healthcare infrastructure is one of the pillars of New Kuwait Vision 2035. The healthcare targets for 2035 are as follows:

- Improving the quality of healthcare services
- Mitigating chronic NCDs
- Increasing bed capacity in hospitals

D. Growth Opportunities in Healthcare

The current burden of the healthcare system in Kuwait:

Healthcare Delivery

- I. Expatriates comprise 70% of the population and Kuwaiti nationals the remaining 30%. 7% of the population is aged 60 years or older, which is the highest in the GCC region.
- II. NCDs are responsible for 73% of deaths and co-morbidities in patients.
- III. 80% of healthcare services are provided and financed by the government.
- IV. The country has 1.2 beds per 1,000 population, which is one of the lowest in the region.
- V. The number of hospitals per 100,000 population is 1.04, which indicates reliance on primary care for diagnosis and post-acute management.
- VI. The number of multispecialty tertiary care hospitals is minimal at less than 10%, increasing the demand for overseas medical tourism for surgery and treatments.
- VII. 60% of the government's healthcare budget is reserved for healthcare worker salaries, thus reducing the availability of funds to invest in capital equipment, drugs, and devices.
- VIII. Private infrastructure growth has been limited and focused on general hospitals.
- IX. The high cost of care for expatriates in the public health system widens the gap in access to care.
- X. Medical treatment costs abroad have been increasing annually and reached \$615 million in 2019. Almost 65-70% of these treatments were financed by the government.
- XI. Nearly 50% of medical tourists travelled overseas two to three times for treatment that was not available within the country.

Industry

- XII. The country imports 90% of required drugs and devices. The US and other GCC countries provide the majority of the supply.
- XIII. Healthcare IT is in the pilot stages and has not become available across the entire country.

Health Insurance

- XIV. Health insurance for expatriates has been launched only recently. Expatriates have utilized health services minimally in the country because of the lack of coverage, depending instead on their home country for care. They have relied for care on private facilities which tend to have long wait times.

C. Current Status of the Healthcare System

I. Healthcare Expenditure



Kuwait Healthcare Spending per Capita

2016

\$1079

2017

\$1529

2020E

\$1600

Kuwait, like other GCC countries, relies on oil and follows an oil-based economic development model. The country has oil reserves of about 102 billion barrels (6% of the global reserves). Petroleum accounts for more than half of the GDP, where 92% of revenues are generated from exports. Declining oil prices caused the country's economic growth to slow to 0.7% in 2019, and it is likely to contract by -1.1% in 2020. Frost & Sullivan forecasts a rebound to growth of around 3.4% by 2021.

Kuwait spends nearly 4% of its GDP and 11% of the entire government budget on healthcare, estimated at \$8.23 billion in 2019. Compared to other GCC countries, Kuwait has one of the highest contributions to healthcare, followed by Saudi Arabia.

A deeper dive into Kuwait's healthcare spends reveals that nearly 54% of public sector healthcare expenditure was on labor in 2010, which is double the GCC average.

Despite huge government investments in ensuring the well-being of citizens and expatriates, limited efforts have been made to develop healthcare infrastructure. In 2019, nearly \$0.5 billion was spent on having Kuwaiti patients treated abroad for various complicated conditions.

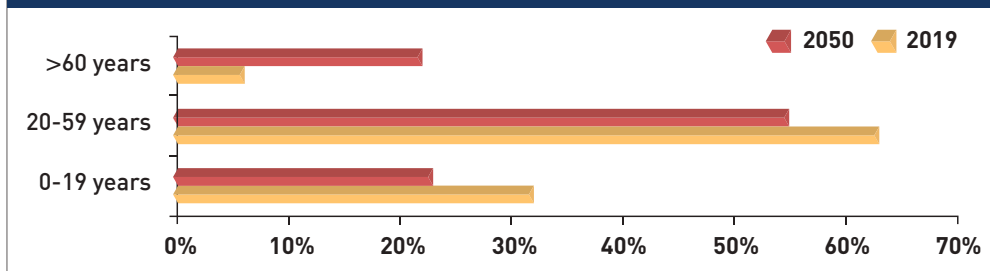
II. Demographics



Kuwait has a population of 4.4 million, 70% of whom are expatriates and the remaining 30% Kuwaiti nationals. The large expatriate segment has affected demographics; 67% of the population is clustered in the working age segment of 25 to 59 years and only 7% of the population is aged 60 years or older. This is likely to increase to nearly 8% by 2030 and 23% by 2050 due to changing expatriate regulations and also an expanding cohort of aging nationals.

Looking at the current status of the elderly population in Kuwait, nearly 70% are self-dependent and have minimal or no support for daily activities. It is important to note that at least 60% of them have more than two chronic diseases with nearly 10-15% having some form of mental illness.

Population by Age Group in Kuwait, 2019 and 2050



Source: <https://www.populationpyramid.net/kuwait/2019/>

III. Health Insurance

Hike in Fees for Expatriates in Kuwait

Service	Before Hike	2019
Polyclinic	Free	\$6.63
Hospital	\$6.63	\$16.58
Outpatient Clinic	Free	\$33.15
Intensive Care	\$33.15	\$99.45

Source: <https://www.internationalinvestment.net/news/4001897/kuwait-hikes-healthcare-fees-expats#:~:text=Expats%20in%20Kuwait%20will%20have,patients%2C%20Kuwait's%20health%20ministry%20said.>



All expatriates in Kuwait are expected to be covered under the new mandatory health insurance scheme. Dhaman is a shareholding company developed through a public-private partnership. It has partnered with the MoH to develop insurance coverage and serve the health needs of expatriates. The health strategy includes infrastructure and insurance support. The average premium for expatriates is around \$428 annually, with medical tests, admission, and treatments covered. Dhaman has planned to build two hospitals in Ahmadi and Jahra, along with 12 primary care centers to cater exclusively to expatriates. The hospitals will provide secondary healthcare support, while tertiary healthcare support will be provided by MoH hospitals. The insurance coverage is expected to support around two million people, and is expected to directly reduce expenditure on overseas medical travel and expenses on expatriates.

A fee hike for access to primary, secondary, and tertiary healthcare for expatriates in public hospitals was imposed in 2019, following a 500% increase in 2017. This fee hike was introduced to reduce the burden on the emergency departments of the public health system, which resulted in a 30% drop in foreign patients accessing the public health system.

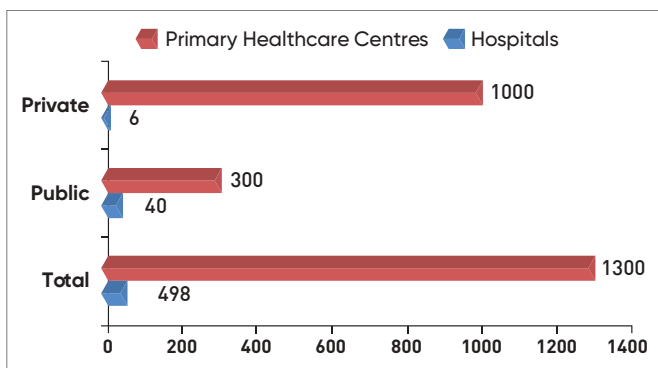
IV. Access to Care



The MoH has divided Kuwait into six health zones that cater to a minimum of 300,000 people each. Thus, there is a minimum of one general hospital, one specialized hospital, and health centres in each zone.

Key Healthcare Indicators for Public and Private Sector, 2019

	Total	Public	Private
Hospitals	46	40	6
Primary Healthcare Centers	1,300	300	1,000



The public health system accounts for 80% of patient admissions and management, despite the fact that only 67% of the population is covered by a public health plan. Similar to other GCC countries, the Central Medical Stores, that are part of the MoH, manage the centralized procurement of drugs and medical devices for the public health system. In general, the hospital supply chain accounts for 16 to 17% of total annual hospital expenditures.

There are nearly 21 million visits annually to healthcare centers across the country. About 64% of these visits are

by nationals, while only 36% are by expatriates. The Farwaniya Governorate caters to 24% of outpatients and also accounts for the highest volume of procedures conducted in the country.

The low utilization of hospitals and primary care services by Kuwait's expat population is a worrying trend: the health of the population is likely to deteriorate further due to lack of treatment. The introduction of Dhaman hospitals and healthcare centers that cater exclusively to the country's expat population is likely to improve access to medical facilities and also support better health.

In 2019, the MoH and the Ministry of Public Works announced a \$4.42 billion project to replace or expand nine operating hospitals (five general hospitals and four specialized hospitals) within the next 10 years. The goal is to add 5,400 beds, 150 operating rooms, and 500 outpatient clinics to the current 7,095 hospital beds countrywide. In addition, the \$1.1 billion Sheikh Jaber Al-Ahmed Al-Sabah Hospital, which is near completion, will add another 1,200 beds. Currently, Kuwait has 2 hospital beds per 1,000 people. This represents a stark undersupply in the face of population growth and the rising disease burden.

Source: <https://globalhealthi.com/2017/03/14/kuwait-healthcare-system/>

The private healthcare market is estimated to grow by 15 to 20% in the coming years. Currently, a total of 12 private hospitals (totalling 1,038 hospital beds) provide private medical services in Kuwait. Several new private hospitals are expected to open in the next three to five years, adding 1,800 hospital beds. The new hospital and expansion projects include the new branch of the Al Seef Hospital in the Slamiya area, the extension of the Dar Al Shifa Hospital and Tiba Hospital, and the new Royal Hayat Hospital, as well as new primary care clinics and polyclinics. The government is supporting public-private partnerships to expand tertiary and primary care services in the country. According to the Kuwait Vision 2035, one of the strategies for future growth will be the restructuring of the state's role and the encouragement of more private sector investments. Kuwait has continued in its quest to procure more public-private partnership projects.

V. Chronic Disease Management



Around 73% of deaths in Kuwait are caused by NCDs like heart disease, cancer, diabetes, and upper respiratory diseases. Cardiovascular diseases account for 40.8% of all deaths, cancer for 13.7%, respiratory diseases for 1.9%, and diabetes mellitus for 3.9%. About 12.0% of adults between the ages of 30 and 70 years are expected to die from one of the four main NCDs in the country.

Around 15% of Kuwait's population suffers from some form of diabetes. The Supreme Council for Planning and Development has listed fighting NCDs as a priority for Vision 2035.

Responsibility for this task has been allocated to the MoH, the Kuwait Institute for Scientific Research, the Public Authority for Food and Nutrition, and the Public Authority for Sports. Around 0.5% of the country's GDP is spent on diabetes management; this is expected to double by 2030. Interestingly, at least 41% of hospitalizations in Kuwait had diabetes as a primary or secondary reason, and diabetic patients were hospitalized 2 to 3 times more frequently than people without a history of diabetes. This highlights the need for early diagnosis and the enhanced role for primary care in managing glycemic control in diabetics.

Studies conducted by government bodies found that 77% of Kuwaitis are overweight and 40% suffer from obesity. In addition, at least 25% of the population has high blood pressure and 50% have raised levels of cholesterol. Taken together, a staggering 50% of young adults have three of the five major risk factors: smoking, inadequate fruit and vegetable intake, physical inactivity, excessive weight, and high blood pressure.

Cancer imposes a huge burden on the country. Kuwaitis accounted for around 40% of diagnosed cases annually, while expatriates accounted for the remaining 60%. The most common types are breast, colon, and lymph node cancers.

VI. Pharmaceutical Market



The pharmaceutical market in the country is estimated to be worth \$1.02 billion, driven mainly by imported drugs. It is growing at an annual growth rate of 6.5%. Patented drugs account for 85% of the market and generics the remaining 15%. In the last 10 years, generics have increased their share from 5-6% of the total market to current levels of almost 15%. Kuwait's small population does not support local pharmaceutical production. The domestic market for drugs accounts for less than 15% of the total market currently. Almost 85% of imports are from Europe, the US, and other GCC countries. Nearly 80% of pharmaceutical costs are fitted by the state, thus reducing the need to shift to generics.

Only 23% of drug sales are over the counter, the rest are through health facilities. Cardiovascular drugs, anti-infectives, insulin, and anti-TNFs account for 60% of market sales.

Initiatives to drive efficiency and reduce expenditure across the healthcare system are expected to increase the use of generic drugs. Studies reveal that 60% of the government's procurement spends are on pharmaceuticals. A 50% increase in generic drug prescriptions can generate annual savings of \$100 million for the country.

VII. Medical Device Market



The medical device, medical imaging, IVD, and digital health market is evaluated to be worth \$0.65 billion in 2020.

The healthcare system has been expanding and investments in capital equipment have been high, accounting for 45% of the total medical technologies market.

IVD tests were limited until 2019. However, due to COVID-19 testing, the market has increased significantly and experienced double digit growth rates. The country is investing in primary healthcare centers to promote preventative health programs. Frost & Sullivan expects this to support the continuation of double digit growth through 2022.

Medical devices are another important segment of the medical technologies market. While their consumption has slowed significantly during 2020, it is likely to increase by 50-75% in 2021 when elective surgery volumes increase. With travel restrictions, the country is likely to witness a sharp 80% decrease in the number of medical patients sent abroad for treatment in 2021 and 2022. This makes the case for investments in new technology for the treatment of major illnesses, including cancer and cardiovascular diseases by 2023.

The patient monitoring industry has been confined to hospital facilities, with limited adoption of remote patient monitoring in the country.

Frost & Sullivan does not expect an increase in domestic manufacturing in Kuwait because local demand does not support it. However, demand for value-added products such as connected devices is likely to increase during the next five years as a result of the government's enhanced focus on home care products and elder care solutions.

D. Growth Opportunities in Healthcare

I. Healthcare Delivery

Kuwait Vision 2035 is likely to boost investments in infrastructure development and upgrades. The public health system has huge opportunities in the following areas:

- The MoH aims to establish eight hospitals and hospital extensions at a cost of \$1 billion. The Ministry of Public Works has allocated \$4.2 billion to build nine more hospitals, generating employment opportunities. The new facilities will allow the government to provide more specialized in-country treatment and reduce the national healthcare bill by limiting the number of people going abroad for treatment.
- Around \$11 billion worth of new infrastructure projects in healthcare have been awarded.

- There are about 40 upcoming healthcare projects, including expansions and upgrades. Medical cities, specialized centres for cancer, and primary healthcare facilities are integral parts of this new infrastructure.
- Investments in digital solutions and state-of-the-art technology have been the new focus in developing Kuwait as a hub for medical tourism by 2030. Frost & Sullivan anticipates that the number of specialists and clinicians employed in the country will double by 2035.

II. Pharmaceutical and Medical Devices Market

Kuwait Vision 2035 is likely to boost investments in infrastructure development and upgrades. The public health system has huge opportunities in the following areas:

- By 2027, Frost & Sullivan expects generics to account for 60% of pharmaceutical market revenues, with domestic manufacturers capturing 20% of that revenue.
- Domestic manufacturing of pharmaceuticals is likely to gain momentum, increasing its contribution from current levels of 15% to 35% of the market by 2030.
- The medical devices market is likely to expand, driven by higher sales of capital equipment related to the steady increase in Greenfield tertiary care hospitals.
- The medical consumables and implants market is likely to experience double digit growth rates due to the extension of insurance coverage for expatriates. The insurance coverage will help promote treatments in Kuwait instead of expatriates travelling back to their home countries.

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