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The Healthcare Sector in the United Arab Emirates

[Innovation Brief No. 4]



Global Healthcare Sector is Growing Rapidly

Healthcare is one of the most rapidly growing sectors of the global economy, with global expenditure totalling \$7,682 million in 2015.¹ According to estimates by the EIU, health spending will accelerate in most countries, rising to an average of 5.2% a year in 2014-18, equal to \$9.3 trillion.² This increase will be driven by the needs of aging and growing populations, the prevalence of chronic diseases, emerging market expansion, infrastructure improvements, and advances in treatment and technology.³ Yet there will also be increased pressure to reduce costs and maximise savings.

1

EIU (2016) Industries in 2016: A Special Report from the Economist Intelligence Unit.

2

World industry outlook: Healthcare and pharmaceuticals, The Economist Intelligence Unit, May 2014.

3

Deloitte, "2015 Global health care outlook: Common goals, competing priorities".

4

The Economist Intelligence Unit, WHO.

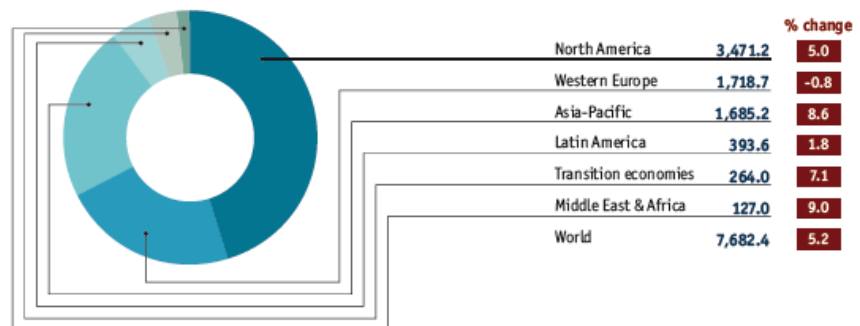


Figure 1: Health spending across the world⁴

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Healthcare on the Home Front



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World industry outlook:
Healthcare and pharmaceuticals,
The Economist Intelligence Unit,
May 2014.

6

Meed Insight (2014) Healthcare
Strategies in the Gulf.

7

World Bank Development
Indicators.

Healthcare in the GCC region

The most rapid growth in healthcare spending is expected to be in the Middle East and Africa (Figure 1). The region could see an annual average increase of around 9% over 2014-18, due in part to population growth and efforts to expand access to care.⁵

Currently, despite efforts by the private and public sectors, indicators such as the density of provision of beds, doctors and nurses in the region lag those in developed economies. The average number of beds per 1,000 people in the Gulf Cooperation Council (GCC) countries was 1.9 in 2012, compared to three beds in Singapore, the UK and the US, and more than eight in Germany.⁶ Average healthcare expenditure as a percentage of gross domestic product (GDP) in the GCC is estimated to be 2.3%, compared to 7.6% in the UK and 8.1% in the US in 2013.⁷

Healthcare in the UAE

In the United Arab Emirates, the healthcare sector has witnessed an extended period of high growth, which is forecast to continue, driven by the gap between supply and demand.

Healthcare has proven to be one of the most resilient sectors in the UAE despite the current economic downturn.

The UAE's 2021 Vision states that "the UAE [will] ...invest continually to build world-class healthcare infrastructure, expertise and services in order to fulfil citizens' growing needs and expectations."

The healthcare structure in the UAE is different to that of its neighbours in that Abu Dhabi and Dubai have their own healthcare regulators. There are four regulators in the UAE:

- The Ministry of Health
- Health Authority Abu Dhabi (HAAD)
- Dubai Health Authority (DHA)
- Dubai Healthcare City Free Zone

Each entity has responsibility for facilities, licensing of doctors and nurses and market regulation within its jurisdiction. The Ministry of Health continues to play a pivotal role in providing healthcare, but it is not the only actor in the UAE healthcare system.





Global Trends in Healthcare Innovation

Healthcare communities generate scientific, medical, and care delivery breakthroughs that can improve health worldwide. Innovation in healthcare has long been associated with new medicines, enhanced technology for healthcare devices and advances in surgical procedures. There is, however, more to healthcare innovation than new drugs and instruments.

The organisational aspect of healthcare is a source of some of the most radical innovations, particularly with the development of digital technologies which represent a huge opportunity to transform the healthcare sector in way that increases efficiency as well as quality. Industry experts point to three core domains driving innovation in the healthcare sector:

1) Data science innovation

Big data offers vast potential for the healthcare sector. Previous innovations have relied on limited datasets, largely from clinical research or research projects. Today, for the first time, the healthcare sector can collect life-long datasets. Sources including medical and insurance records, wearable sensors, genetic data and social media use can be used to personalize care, contain epidemics, and prevent chronic illnesses through predictive modelling techniques.

2) The genetic revolution

Thanks to data science and the human genome project, we now know the genetic traits of a population, and can identify genetic differences. The healthcare sector is moving towards 'precision medicine', an emerging approach to treatment and prevention that takes into account variations in genes, environment and lifestyle. Although it is not yet used in diagnosing most diseases, the trend is clearly shifting away from 'one size fits all' medicines.

3) Enhanced communication technologies, digital & video images

Delivery of healthcare services is changing; they can now be directly delivered by experts from a distance. It is now technically possible to prescribe a drug remotely, although the practice is still in its early days. The possibilities with this type of technologies are endless; prescribed medicines can be delivered to remote areas via drones, as happened in July 2015 in rural Virginia, USA.⁸ Cases of chronic disease can be monitored via data transfer without any effort from the patient.

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<http://www.wsj.com/articles/drone-delivers-medicine-to-rural-virginia-clinic-1437155114>



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Successful Healthcare Innovation in the UAE

The UAE has launched a number of initiatives to promote innovation in the health sector. Telemedicine – the use of digital technologies to provide healthcare services from a remote location – offers an illustration of what digital technology can do for healthcare in the UAE (see Figure 2).

Abu Dhabi Telemedicine Centre is a joint venture between Mubadala and Switzerland’s leading telemedicine provider, Medgate. By expanding the reach of UAE physicians, telemedicine helps relieve the shortage of high-quality healthcare practitioners, as well as reducing costs and giving greater access to general and specialist care for patients through various digital media.⁹

Big data analysis offers another opportunity for innovation in the healthcare industry. The majority of healthcare providers across the UAE have adopted advanced technologies and tools to manage patient data in an efficient manner. Compiling, accessing, sharing and applying big data analytics will drive more efficient, robust and effective business and clinical decision-making.

For example, SKMC has incorporated ‘iCare’ – an Electronic Medical Records (EMR) system – in all of its facilities.¹⁰ The system already holds almost half a million electronic medical records. It allows doctors to instantly access critical patient information, including their medical history, blood type and use of prescription drugs, regardless of which hospital or clinic holds their details.

Another example is ‘eclaim’, an electronic health insurance claim system introduced by HAAD aimed at cutting down time-consuming paperwork. The Dubai Health Authority has launched a number of smart apps to provide people with free and easy access to both general and personalised healthcare information.

Innovations make their way to UAE healthcare sector through various routes. Besides direct government support and partnerships with leading global players such as Cleveland Clinic, there have been a number of successful initiatives to forge partnerships between industry and academia. For example, the UAE’s first biotechnology incubation initiative was established in 2012 on the Abu Dhabi University’s campus in collaboration with AccuVis – the medical research and product development company financed by Khalifa Fund. In Ras Al-Khaimah, Julphar has emerged as one of the largest pharmaceutical manufacturers in the MENA region. Showcased during the UAE’s Innovation Week (22-28 November 2015), Julphar presented a giant leap in the fight against diabetes at its state-of-the-art recombinant diabetes plant.¹¹

In addition to its efforts to develop the pharmaceutical and biotechnology industries, the UAE promotes innovation in the delivery of health therapeutic services using advanced technologies such as robotic surgery. Dr. Mohammad Al-Olama, Undersecretary at the UAE Ministry of Health, says government ambitions are high. “The introduction of advanced technologies at our hospitals will contribute to greater efficiency in patient care and also contribute to the better health of the people. By assuring excellent service standards through deploying the latest technologies, we are bringing transformational change to our healthcare system”.¹²

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<http://www.tamimi.com/en/magazine/law-update/section-11/may-8/telemedicine-has-the-potential-to-revolutionise-the-uaes-healthcare-sector.html#sthash.SAauKqnV.dpuf>

10

<http://gulftimes.ae/uae-healthcare-sector-moving-towards-technology/>

11

http://www.healthmagazine.ae/press_release/julphar-presents-giant-leap-against-diabetes-at-uae-innovation-week/

12

<http://www3.gehealthcare.ae/~media/documents/uae/press%20kit/latest%20medical%20technology%20to%20transform%20uae%20healthcare%20pr%20english.pdf?Parent=%7B3D430C4C-4133-46E2-A5CF-6A10E792567C%7D>

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<http://www.thenational.ae/arts-lifestyle/well-being/abu-dhabi-telemedicine-centre-in-numbers>

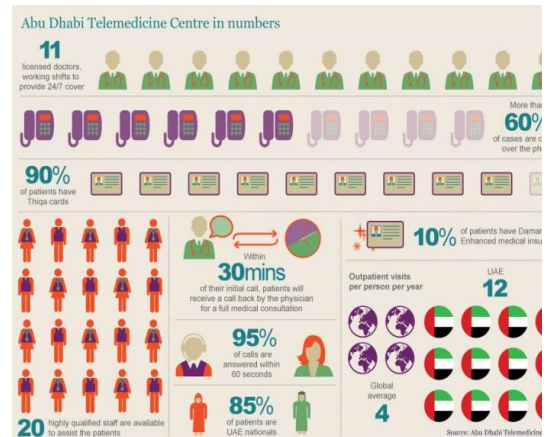


Figure 2: Abu Dhabi Telemedicine Centre in numbers¹³



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S.W.O.T. Analysis of the Healthcare Innovation System in the UAE

Strengths

The main strength of the UAE resides in its culture that is ready to adopt new ideas, and offers fertile ground for them to grow into tangible outcomes. As a country, it welcomes innovations and implements them rapidly.

With regard to harnessing the potential of healthcare innovation, the population is small enough to manage easily, but big enough to see results. This makes it possible to build very rich databases. As one industry expert put it, “This is a place where it is possible to close the loop – to capture detailed personal information from birth”.

Furthermore, individuals trust the government with their data. As the government sponsors the lifetime cost of healthcare, there is no fear of exclusion. This willingness to share data is a key advantage when implementing innovative health projects.

Weaknesses

The main weakness of the Arab region as a whole is its resources, both in terms of tangible and intangible capital. However, it is worth noting that – in 2014 – the UAE spent 0.7% of GDP on R&D.¹⁴ This rate is considerably more than the 0.2% average that Arab countries spend on scientific research and discovery.¹⁵ Looking ahead, the UAE National Agenda has a goal to increase R&D spending to 1.5% of GDP by 2021.¹⁶

The human capital required for healthcare innovation is also relatively limited. The vast majority of healthcare workers are sourced from East Asia. There is not enough time nor incentives for research among healthcare professionals. A shortage of locally trained human capital is cause for concern.¹⁷

There are not enough trained healthcare professionals, and some recruits view working in the GCC simply as a stepping stone in the process of emigrating to Canada, the UK or other Western nations.

Attracting and retaining qualified medical staff increases the burden on healthcare operators.¹⁸ The associated costs are not only financial, but also social, as it takes time for foreign medical professionals to understand and adapt to the local culture. The diversity of the population makes it challenging to address their various healthcare requirements. With more than 200 nationalities, effective communications is challenging. Additionally, it is estimated that the population keeps changing every 6-7 years, making it difficult to follow up on outcomes.

Entrepreneurial activity around research is also low in the UAE. One industry expert has pointed out that whereas the amount spent on clinical research activities by pharmaceuticals is equal to 7% of sales in USA, in the MENA region it's less than 1%. The public sector dominates the healthcare provision industry in the UAE; 60% of patient care in UAE is delivered by SEHA. Some private companies have made major investments and improved their market share, but the market remains fragmented and small businesses struggle to break into it. Start-up activities in healthcare and related innovations are limited because commercial enterprises such as real estate are perceived to be more lucrative.

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IMD, World Competitiveness Yearbook 2016.

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<http://gulfnews.com/news/uae/education/uae-urged-to-invest-more-in-scientific-research-1.1155562>

16

<https://www.vision2021.ae/en/national-priority-areas/competitive-knowledge-economy>

17

White, Nicholas (2016) Arab Health Magazine, 2016- Issue I.

18

US-UAE Business Council (2014) “The UAE Healthcare Sector”.



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Opportunities

Leadership is a main source of opportunity in the healthcare sector in the UAE. It has a visionary and supportive government, whose objectives and concerns are aligned. Innovation is clearly defined as an objective, and the government is striving to set common objectives across different departments. This creates further opportunities for alignment and for capitalising on existing efforts between different entities. The entire strategy for healthcare in Abu Dhabi, for example, has been approved by the government, which opens up the opportunity to make changes and make them fast.

A core initiative by the government is to boost private sector involvement in healthcare provision. The New Medical Centre and Al Noor Hospital, both non-government run, provide specialty and full-spectrum care that are crucial to the UAE's overall and long-term healthcare development.

With regard to human capital, in INSEAD's Global Talent Competitiveness Index 2016 the UAE tops the Middle East in attracting and retaining talent (23rd), ahead of Qatar (24th) and Saudi Arabia (42nd). The study, which measures a nation's competitiveness based on the quality of talent it produces, attracts and retains, ranks UAE particularly high on the 'Attract' pillar which aims to measure both external and internal openness.

As part of the drive towards a 'knowledge economy', the government has taken steps to attract foreign talent and expertise, and it certainly has done so in the medical sector. The next step is to attract more young Emiratis to embark on medical careers.

Overall, the UAE has massive resources, modern infrastructure, and a small and young population living in peace. As an expert pointed out, there is no better atmosphere for public health!

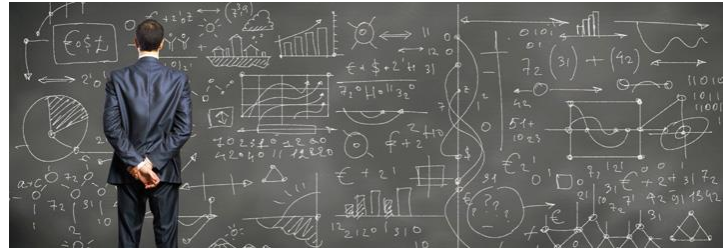
Threats

The UAE is situated in a region known for instability as well as its economic dependence on oil and gas resources. While it compares favourably with neighbouring economies, these issues make finance one of the main challenges for the regional healthcare system. Funding is crucial as costs are rising every year. If funding is reduced or withdrawn, drive for innovation will be abandoned.

Access for the entire population to the right level of care at the right time is one of the main challenges for the UAE. Currently, there is over-utilisation of certain types of services, and quality gaps across specialities, which increases costs and reduces efficiency. There are a number of reasons for this. Individuals do not always trust the doctors; they make 13 outpatient claims a year (in developed world the figure is 5-6 claims, despite an older population). This corresponds to more than one doctor per month per Emirati on aggregate. As there are no questions asked about insurance, no gate keeper mechanism in the form of family doctors, people 'shop around' for the right doctor, which is costly and time-consuming.



The Way Forward for the UAE Healthcare Sector



Tapping the Potential of Medical Tourism in the UAE

19 <http://www.imtj.com/resources/medical-tourism-research-facts-and-figures-2015/>

20 <http://gulfnews.com/business/sectors/tourism/500-000-medical-tourists-to-dubai-in-2015-1.1597133>

Six million people travel for medical treatment from one country to another, and if you add in those who travel some distance within a country it exceeds 10 million a year.¹⁹ Indeed, globalisation and the development of logistic and communication services has radically changed the dynamics of healthcare. In today's world, a trend is apparent among patients in the developed world who travel to emerging countries in search of economical medical treatment.

Medical tourism is a key domain for developing the healthcare sector in the UAE, as well as an important source of revenue for the country. The benefits of medical tourism to the overall health sector are numerous. Among others, they include:

- Development of healthcare services in the private sector.
- Higher quality of healthcare service provision due to the need for international competitiveness.
- Improving the customer experience and the overall perception of healthcare.
- Attracting highly-skilled healthcare professionals.
- Strengthening the healthcare investment climate.
- Generating more revenue.



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The country's improved healthcare infrastructure, alongside its existing profile as a tourism hub, has led to the development of medical tourism within the GCC. Dubai, in particular, is becoming a popular medical tourism destination as patients look to combine leisure time with affordable yet high-quality medical services.

Dubai attracted 260,000 medical tourists in the first half of 2015, up 12% from the same period a year ago, generating Dh1 billion in revenues. The Dubai Health Authority aims to grow the number of medical tourists by around 12% annually and to generate Dh2.6 billion in revenue by 2020, according to Linda Abdullah Ali, Head of the Medical Tourism Office at the Health Regulation Department of the DHA.²⁰



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The Dubai government is taking a proactive approach towards developing this as a regional industry and it has developed a number of strategic initiatives. The introduction of a three-month medical tourist visa, for example, has been a major incentive for foreign patients to seek treatment in Dubai and other Emirates. Another important step has been achieved with the introduction of short-stay visas for specialist doctors, making it easier for hospitals to bring in experts for consultations and special procedures. A specialised free-zone named Dubai Health Care City, including over 120 medical healthcare centres and around 4,000 medical professionals, is another important development.

Dubai is not the only Emirate to attract medical tourists. The opening of Cleveland Clinic in Abu Dhabi has come as a boon for medical tourists – resulting in a 15% to 20% increase in inbound medical tourists to Abu Dhabi since the world-renowned brand launched in 2015.²¹ Managed by Mubadala Healthcare, the multi-specialty hospital is one of the biggest healthcare facilities in the city.

Alongside these considerable infrastructure investments, the UAE Ministry of Health ensures that stringent safety regulations are in place and an increased number of measures are being taken to ensure clinics, hospitals and medical professionals provide the highest standards of care.

Taken together, these strategies suggest that the UAE will soon be one of the top destinations in medical tourism. But one hurdle that remains is the high percentage of UAE nationals that seek medical care overseas.

Regional dynamics play a crucial role in the trends of medical tourism, as a large volume of travellers prefer regional locations over long distance travel. In Dubai, for example, Asian tourists accounted for 33% of the total, followed by 27% from Europe, and 23% from GCC and other Arab countries in the first half of 2015.²²

There is stiff competition among countries to attract medical travellers (see Figure 3). Various regional centres of excellence have emerged in the recent past such as Jordan in MENA; India, Singapore and Thailand in Asia; Brazil, Cuba and Mexico in Latin America; and Turkey, Poland and the Scandinavian countries in Europe.

Facilities in these countries are of a high standard, and often feature collaborations with international brands and accreditation from international regulatory organisations. They cater for medical tourists by providing English-speaking staff, multiple specialisations and workers to help with post-operative recovery. Most importantly, they offer cost-saving benefits to medical tourists.

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<http://gulfnews.com/xpress/abu-dhabi/news/abu-dhabi-new-destination-for-medical-tourists-1.1649372>

22

<http://gulfnews.com/business/sectors/tourism/500-000-medical-tourists-to-dubai-in-2015-1.1597133>

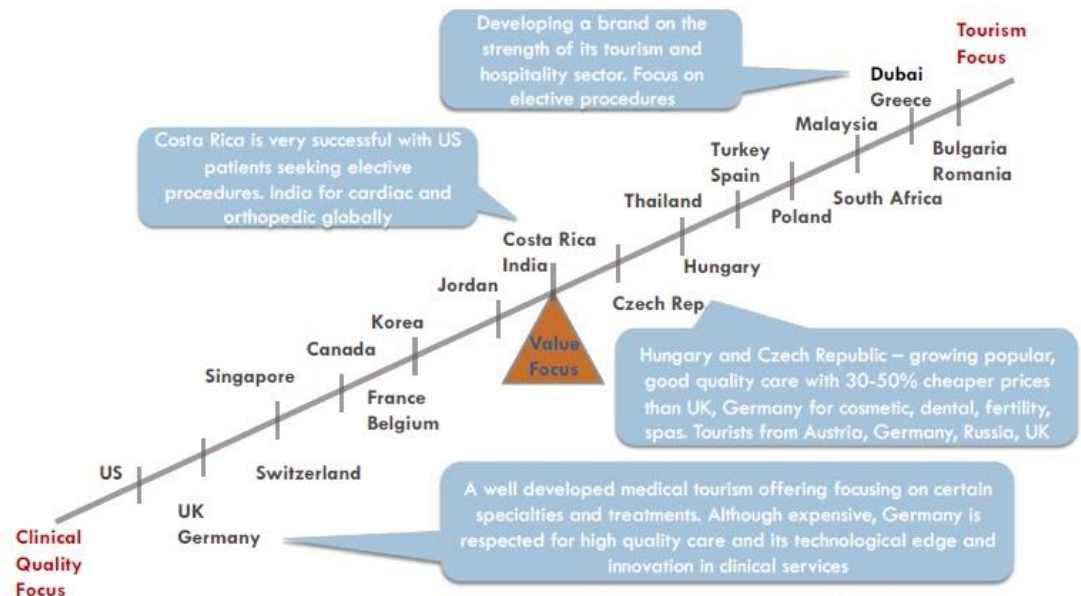


Figure 3: Perceptual mapping of leading destinations in medical tourism

Source: Health Beyond Borders – an advisory firm based in Dubai



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Possible Policy Directions

The world is at a crossroads when it comes to healthcare. As more and more innovations in healthcare are put into practice, we are witnessing the transformation of healthcare systems. This ongoing transformation requires a balanced regulatory framework, one that does not impede the take up of innovation and yet does not compromise the safety and quality of healthcare services. Too much and too rigid regulation can be a major hurdle to the uptake of innovation in the healthcare system. And yet there need to be laws and regulations that provide protection against risky and unethical practices. In UAE, for example, it is not possible to use the cloud to transfer data as the privacy of the patient is vital.

With the development of new technologies, an increasing number of ethical questions will be raised which the government will need to tackle. Some of these will be addressed globally in a multilateral level through the World Health Organisation; others will have to be addressed locally. At the local level, governments can spearhead ethical-industrial committees to forge roadmaps for the development and adoption of the next generation of healthcare innovations. As seen with the Bush administration regarding stem cell research in the US, one country's ban on a particular research area can have long-term implications for the development of that area.



More specific to the UAE; we offer the following recommendations:

- Increase both government and private investment in medical research.
- Develop a national medical innovation strategy that sets a roadmap with milestones and targets that aim to put the UAE among the top 10 countries in healthcare innovation.
- Create a UAE healthcare innovation exchange network where best practices and innovations in healthcare delivery and administration are shared openly.
- Create a UAE Healthcare Innovator Award that recognises and celebrates the country's top medical innovator.
- Develop a balanced regulatory framework that reconciles the provision of the right set of incentives for innovation and the most adequate level of patient and practitioner protection.
- Consolidate, coordinate and communicate healthcare policy targets at all levels of government.