

UAE health 2071: the future of healthcare

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The Centennial 2071 project launched by the Cabinet of the United Arab Emirates aims to place the United Arab Emirates ('UAE') as the best country in the world by 2071.

In order to be the best country in the world, the UAE must have a healthy population with access to the highest standards of healthcare in the world. The COVID-19 pandemic puts healthcare at the forefront of human existence, and there is no time to be lost in navigating out of the crisis and putting in place a national health strategy that will defeat COVID-19 whilst outlining the objectives for the healthcare sector that will support the UAE in becoming the best country in the world by 2071.

Healthcare for all citizens

The government's healthcare policy is both inward and outward looking (and paraphrased) as follows:

- to develop a healthcare system for citizens and residents that delivers good quality healthcare to international standards, with a focus on lifestyle diseases;
- improvement in access to healthcare through e-health, smart health; and
- to become a top destination for medical tourism.

It is undeniable that the UAE has built an impressive health infrastructure consisting of hospitals, clinics, home care services, and diagnostic laboratories, providing for the healthcare needs of the population and growing new areas of clinical experts; for example, in diabetes care, cancer treatment, and cardiology services, to name but a few. The transition from public to private sector services has been led through private sector investment, insurance provision, and more recently public-private-partnership projects, currently placing the split at 65/35 per cent in favour of the private sector.

Important collaborations with global brands, such as Cleveland Clinic, Mayo Clinic, Johns Hopkins, Mediclinic, Imperial College London, Kings' College London, amongst others, all play a significant role in bringing care to international standards, building trust, improving quality of care and offering medical tourism services.

Medical tourism

Medical tourism is a key pillar of the UAE healthcare strategy. The medical tourism strategy is built upon the concept of inward tourism, building hospitals, some operated by respected international brands, that create a package of services (including concierge) that bring medical tourists to the UAE for treatment. The key question now is, 'has this strategy been successful and is it the best strategy for the future?'

There is no doubt that the medical tourism strategy has been successful. As a result of a huge amount of

political will, and efforts by both public and private infrastructure investment in hospitals, the UAE has recently made it into the top 10 list of globally ranked medical tourism destinations. According to the Medical Tourism Index, the world's most attractive countries for medical tourism are Canada, the United Kingdom, Israel, Singapore, and Costa Rica. Dubai is currently ranked sixth and Abu Dhabi eighth. With the UAE-Israel normalisation of relations treaty signed in September 2020, the UAE has an opportunity to collaborate with Israel with a view to improving its ranking and moving up into the top five of world ranked destinations for medical tourism.

The UAE is in a good position to improve its global ranking. However, improvements in certain areas will be required. Statistics indicate that, in some cases, hospitals were either not receiving the volume of tourism patients that were expected, or not able to raise the targeted revenue from those patients. There has been a disconnect between supply and demand, and with competition within the private sector that has resulted in healthcare operators all offering similar services and chasing the same medical tourists. Competition for the same medical tourists has, in some respects, resulted in it taking longer and costing more to achieve strategic goals. [1]

According to the Medical Tourism Association, the reasons why people choose other countries instead of their own countries for medical treatment are four fold:

- higher quality of treatment;
- cheaper prices;
- a treatment option not available at home; and
- to undergo treatment as soon as possible without queues.

The UAE is a comparatively expensive option for medical tourism and, with some variables in capacity, quality, and trust. Arguably, the UAE only scores very well in two out of four of these criteria. [2] Future-proofing the medical tourism strategy requires corrections to be made in order to give the UAE a better score in those areas where it is not performing as well as expected; quality and cost.

The future for medical tourism

Review the medical tourism strategy and decide what needs to change to make medical tourism more applicable to the current and post COVID-19 environment. We recommend:

- addressing the issue of competition between healthcare operators. There should be a clear and unified plan as to how the healthcare operators will deliver the medical tourism strategy. There ought to be consumer choice, but through a controlled licensing system, for example, offering a selected range of services that do not compete with each other, and which are of the highest caliber of quality;
- developing the capability of offering COVID-19 vaccines to medical tourists; and
- a global medical tourism vision that supports delivering healthcare to the patient wherever they are in the world. This can be achieved in parallel with digital health initiatives.

With the 'World Medical Tourism and Global Health Congress' having taken place in Abu Dhabi in 2019 the spotlight remains upon the UAE to make the required changes in its medical tourism strategy that will continue to make medical tourism successful.

2071 - healthcare agenda for change

We propose three new strategic goals that could drive the UAE to become a global leader and strategic

partner of choice for healthcare science and innovation:

1. a national Life sciences strategy;
2. a national digital health strategy; and
3. growing and attracting talent

Life sciences

The UAE is investing heavily in health science and technology, tripling its research capacity and productivity in recent years.

Health science institutions in the UAE are actively collaborating with a multitude of institutions worldwide on a range of life science projects. The Dubai Science Park (a dedicated free zone established to attract life science and technology businesses) connects international health science institutions with local institutions and supports participation in research projects and clinical trials. Similarly, the Mohamed Bin Rashid University of Medicine and Health Sciences undergraduate programme is heavily research-focused.

Recent examples of groundbreaking research projects include; the American University of Sharjah biomedical engineering programme, which is working in collaboration with Rashid Hospital Dubai (funded by Al Jalila Foundation), to improve diagnosis and treatment of epilepsy by using the skills of engineers, scientists and mathematical techniques to localise the source of epilepsy in the brain. Another project, in collaboration with Johns Hopkins, concerns developing quantitative measures to measure brain injury following cardiac arrest through clinical trials on intensive care patients.

The Abu Dhabi Investment Authority and Mubadala Investment Company each have significant life sciences' investments locally and worldwide. Mubadala Investment Company, in co-operation with a consortium of investors have acquired a majority stake in the Envision Pharma Group, a leading technology enabled scientific communications' company, expanding UAE access in life science technology across European and Global markets.

The UAE is also making significant strides in finding solutions to COVID-19 through clinical trials and vaccine research. Abu Dhabi state-owned G42 (in which Mubadala recently acquired a stake) is collaborating with both Chinese and Russian state-owned enterprises on COVID-19 clinical trials of an UAE/Chinese vaccine, and the Russian vaccine, Sputnik V. Approval has already been granted for the UAE/Chinese vaccine Sinopharm, with the offer of vaccination to UAE residents. Phase III trials are in progress on Sputnik V. These measures place the UAE amongst the leading global nations offering a vaccine for widespread use, and large-scale production. Using sovereign wealth fund and other investment expertise, the UAE is well positioned to be able to monetise the vaccine and offer a global solution as part of a medical tourism strategy.

COVID-19 led change will force the life sciences' sector in the UAE to adopt a business-focused approach to its development strategy, and examine a range of business models and the related components needed that give rise to investment opportunities. The pace of change across the industry and markets is now irreversible.

Life sciences' infrastructure investment needs commitment from the government. In Abu Dhabi, the DOH is regulating and supporting the development of health science innovations using a business-orientated approach through a Health Accelerator programme in partnership with the Abu Dhabi Global Market regulatory framework that facilitates investment in health-tech innovation.

The vision for 2071 - life sciences and innovation

- **A national life sciences and research strategy:** drawn up by MOHAP in collaboration with industry stakeholders.
- **Regulations and Guidelines:** creating a regulatory framework that facilitates a willingness to participate, with robust but practical data access and confidentiality protections, that make it easier to run clinical trials but also helps patients and trial volunteers to understand their rights.
- **Collaboration and integration:** between national policy, government institutions, and science institutes aimed to improve the environment for research, innovation and clinical trials.
- **UAE or GCC regional center: create a center of expertise:** develop strong collaborations with institutions in the Middle East region, United States, Europe and around the world. This will improve the global standing of the UAE in the life sciences' sector.
- **Capacity building:** creating research training programmes, curriculums, and good clinical practice guidelines in collaboration with health authorities and academia. Creating bridge programmes amongst universities, research institutions, and intern programmes.
- **Projects portal:** a consolidated website for all approved research and clinical trial projects, with status updates on approvals and progress through trial phases.
- **Champions:** the UAE must have champions drawn from practising clinicians, scientists, and experts. This will improve the UAE's global standing, and also act as role models for the next generation.
- **Contractual processes:** streamlined to make it easier for institutions, research units, and research co-ordinators to deliver research projects, protect intellectual property, and support the monetisation of innovation.

Digital health

Technology will drive better health outcomes at a lower cost. The trends are towards better diagnosis and prevention, and continuous improvements in the management of chronic diseases, such as through remote monitoring of diabetes.

The future strategy requires a cultural change with regards to prevention of illness rather than consuming health services after the onset of illness. Technology will enable rapid access to health information and prevention, through diagnostics, high quality care and treatment: this is key for medical tourism going forward.

Telemedicine

The UAE has embraced the concept of telemedicine and, having already sought to create a regulatory framework enabling telemedicine activities, was easily able to approve the urgent and widespread use of telemedicine services in the face of the COVID-19 pandemic, enabling continued access to health advice for those in lockdown and allowing e-prescribing and home delivery of medication. There is no turning back. Telemedicine must be at the centre of the future of healthcare delivery systems for the UAE. The benefits include increasing accessibility, focus on wellness and prevention all of which result in reduced costs.

Artificial Intelligence

The use of artificial intelligence ('AI') and machine learning in healthcare is essential in order to support e-health delivery systems. AI data prediction tools, machine learning algorithms for image analysis, and robotics will become woven into the fabric of the future vision for healthcare. The use of AI in combination with the increasingly popular use of wearables and remote monitoring devices will underpin the wellness and prevention agenda. Innovation is thought of as expensive but it can be instrumental in decreasing costs over time. Upfront technology and equipment costs lead to downstream benefits, less surgical complications for example, and over the longer term the investment will reap rewards and reduces costs.

UAE regulators are now developing AI policy models setting out the essential requirements of AI in a healthcare framework; ethics, safety, responsibility, and security implications of AI use in healthcare.

Cloud technology

Cloud technology offers great potential for enabling large volumes of data to be processed and managed by both regulator-controlled centralised systems and healthcare entities. However, the present policy position in the UAE is for data to be hosted onshore on local servers ensuring greater control and security.

We see there being a place in a future national healthcare strategy for the use of cloud technology in association with adequate security protections. This will be essential as cloud technology works hand-in-hand with telemedicine delivery systems and AI solutions. With greater volumes of personal health information exchanged through technology-led and online communication systems, it is very important that tech companies and telemedicine providers operating in the UAE have effective and secure methods of processing and storing data.

Regulation for the use of e-Health

Regulatory reforms must support and boost the health-tech sector. Leaner and faster regulation processes are needed that can be quicker on approving medical devices and pharmaceuticals. Regulation and policy drafting departments need to be more tech-savvy, engage with innovators and create the regulations of the future. Approval processes must be rapid; quicker at providing medical research and clinical trials' approvals. Better regulation, supporting the use of technology, should be at the heart of the healthcare solution, which will translate into a reduction in costs.

Digital health must be at the core of the 2071 centennial health strategy.

The UAE has done much to bridge the gap between digital health technology advances and drafting regulations enabling digital health, but much more needs to be done.

Growing and attracting talent

A best-in-class healthcare system can only succeed with the best talent.

The UAE government, along with health and science intuitions, must recognise the importance of growing and attracting talent both in clinical medicine, and in research and development.

Young students have the opportunity of choosing to pursue a career in medicine and health sciences. There are now opportunities to study within the UAE (such as at the Mohamed Bin Rashid University of Medicine and Health Sciences) but the majority of students must travel abroad to receive education and exposure to working in other healthcare systems. There should be much more investment in our talent of the future.

Funding of research projects is important, along with having processes in place for utilising and supporting the research, and obtaining the consumables needed for research projects. It will be important to create a culture for research with free-flowing dialogue between government and science institutions on the core issue of inspiring the next generation of doctors and scientists.

The vision for 2071 should support growing and educating local talent in parallel with offering funding and grants for sending the best students abroad for the experience of working shoulder to shoulder with internationally recognised physicians and scientists.

Retaining quality healthcare staff remains a challenge. Hospitals that are undersupplied with patients, or where there are insufficient volumes of patients with complex needs requiring clinical specialists, do not create the environment or career development pathways that talented professionals look for in a long-term career destination.

The vision for 2071 must focus on developing centres of excellence, enabling volumes of complex cases to be clustered together, supporting the development of specialists, with associated medical research projects and the opportunity to publish research results: all leading to delivery of higher quality care and better patient outcomes.

Conclusion

In January 2020, H.H. Sheikh Mohammed bin Rashid Al Maktoum, Vice President and Prime Minister of the UAE and Ruler of Dubai said that the year 2020 would be the year of preparing for the 50 years ahead.

“our responsibility is to maintain development, excellence and continued growth... including in the health... and wellbeing of citizens”

The healthcare vision for 2071 must leverage the momentum in technology and innovation investment that has emerged from the COVID-19 crisis, and launch a national health sciences and technology strategy that prioritises digital health, health sciences, whilst nurturing the most talented physicians and scientists: promoting the importance of building both human and machine learning capabilities and knowledge, inspiring the next generation, and enabling the UAE to participate in the role of global health citizen.

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[1] <https://www.imtj.com/blog/medical-tourism-strategy-where-does-it-all-go-wrong/>

[2] <https://www.medicaltourism.com/mta/home>