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# The U.A.E. Healthcare Sector



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## The U.S.-U.A.E. Business Council

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### **U.S.-U.A.E. Business Council**

505 Ninth Street, NW  
Suite 6010  
Washington D.C.  
+202.863.7285  
news@usuaebusiness.org

[usuaebusiness.org](http://usuaebusiness.org)

*\*Report cover, from L to R: Johns Hopkins University President Ronald J. Daniels; Philanthropist, Johns Hopkins Alumnus, and Former New York City Mayor Michael R. Bloomberg; U.A.E. Ambassador Yousef Al Otaiba; Dean of Johns Hopkins University Medical Faculty and CEO of Johns Hopkins Medicine Paul Rothman (photo credit Nick Khazal, U.A.E. Embassy)*

## INTRODUCTION

2018 was another landmark year for the U.A.E.'s healthcare sector and its partnerships with leading U.S. institutions. In February 2018, the U.A.E. Embassy in Washington, D.C. and Johns Hopkins Medicine announced a new institute for stroke research and clinical care. The Sheikh Khalifa Stroke Institute, established through a \$50 million gift from the U.A.E., will feature facilities in Baltimore and Abu Dhabi.<sup>1</sup> The Institute will enable Johns Hopkins scientists to collaborate with their Emirati colleagues, training a workforce of biomedical researchers in the U.A.E.<sup>2</sup>

Furthermore, in April 2018, the U.A.E. Ambassador to the U.S., His Excellency Yousef Al Otaiba, signed memoranda of understanding (MoUs) with leaders from several top American hospitals on behalf of U.A.E. government institutions. The agreements will ensure enhanced medical care for designated Emirati

patients and ongoing coordination between the American hospitals and their U.A.E. counterparts. The hospitals are: Brigham and Women's Hospital, Dana Farber Cancer Institute, The Cleveland Clinic Foundation, University of Chicago Hospitals, Cincinnati Children's Hospital Medical Center, Children's Hospital of Philadelphia, Shirley Ryan AbilityLab, and Johns Hopkins Hospital.<sup>3</sup> In addition, Ambassador Al Otaiba signed a similar agreement with Children's National Medical Center in November 2018.



The above developments are the latest chapters in a long history of healthcare partnerships between the United States and the U.A.E. In 1960, U.S. missionaries Drs. Pat and Marian Kennedy built the U.A.E.'s first hospital – the Oasis Hospital in Al Ain – in a mud-block guesthouse donated by the late U.A.E. President Sheikh Zayed bin Sultan Al Nahyan.<sup>4</sup> Just over five decades later, in 2015, the U.A.E.'s Mubadala Investment Company and the U.S.-based Cleveland Clinic Foundation opened a 364-bed (expandable to 490) multidisciplinary, physician-led hospital to bring an unparalleled level of specialized care to the heart of Abu Dhabi and the wider Gulf region. The next year, Dubai-based Valiant Clinic became part of Houston Methodist's Global Health Care Network and the American Hospital Dubai became the first hospital in the Middle East to join the Mayo Clinic Care Network.

Building on the Business Council's previous reports on the U.A.E. healthcare sector, this updated edition aims to facilitate the involvement of U.S. companies in the next phase of the U.A.E.'s healthcare development by providing key information about the Emirati healthcare sector and potential U.A.E. partners. First, this report gives an overview of the anticipated growth of the U.A.E. healthcare market, the challenges this poses for the U.A.E. government, and the steps the government is taking to meet these challenges. Then, this report dives deeper into different aspects of the U.A.E. healthcare system, from healthcare regulation and provision, to insurance and pharmaceuticals. Finally, this report provides a snapshot of both challenges and opportunities for businesses in the U.A.E. healthcare market, and it offers resources that businesses can utilize when entering this market.

Throughout, this report highlights case studies of how leading U.S. companies have become involved in the U.A.E. healthcare system to the benefit of these companies' bottom lines, their U.A.E. partners, and the health and wellness of the citizens and residents of the U.A.E.

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## PART I: GENERAL TRENDS

The U.A.E. healthcare sector is expanding rapidly to meet both the evolving needs of a growing population and the nation's ambition to become a regional medical tourism hub. This rapid expansion is challenging the ability of the U.A.E. to both provide adequate medical personnel and contain costs. However, U.A.E. government entities have adopted a series of long-term initiatives, in particular the U.A.E.'s Vision 2021, to address these challenges and guide the sustainable growth of this sector.

### A. Growth

The U.A.E. healthcare market is quickly growing. In 2017, according to Business Monitor International, healthcare expenditures in the U.A.E. reached \$17 billion and are expected to rise to \$21.3 billion by 2021. Overall healthcare spending is projected to account for 4.6% of a country's GDP by 2026 from 4.2% in 2016.<sup>5</sup>

Population growth is one driver of this expansion. The World Bank projects that the U.A.E.'s population will grow from 9.4 million people in 2017 to 11.055 million by 2030. Meanwhile, the World Bank projects that by 2030 the U.A.E.'s average life expectancy will reach 79.4 years, up from 77.3 years in 2016.<sup>6</sup>

Demographic shifts are also at work, as the U.A.E.'s population slowly begins to age. The estimated share of the U.A.E.'s population above the age of 65 will, according to the World Bank, increase from 1.1% at present to 4.4% by 2030.<sup>7</sup> This will stimulate demand for healthcare, and geriatric care in particular.

Problematic lifestyle habits are also propelling healthcare growth, with poor nutrition and sedentary behavior leading to obesity. In the U.A.E., 66% of the adult population carries excess weight and 31.7% of the adult population is obese.<sup>8</sup>

Widespread use of tobacco is also at play. According to the 2018 Tobacco Atlas, more than 900,000 adults in the U.A.E. use tobacco every day. Smoking is responsible for one in eight deaths among men in the U.A.E.<sup>9</sup> In 2016, smoking amounted to \$569 million in healthcare costs in the U.A.E.<sup>10</sup>

As a result of the above problematic lifestyle habits, chronic conditions such as cardiovascular diseases, cancer, and diabetes are prevalent.<sup>11</sup>

- ❖ Cardiovascular disease remains the leading cause of fatalities in the U.A.E., accounting for over two-thirds of all deaths.<sup>12</sup>
- ❖ Strokes are the main cause of disability in the U.A.E. and the third-greatest cause of death. Doctors in the U.A.E. have stressed the need for more stroke centers, stating the five existing ones – three in Abu Dhabi and two in Dubai – are insufficient for the scale of the problem.<sup>13</sup>
- ❖ Cancer is also a big issue in the country, accounting for 15% of deaths.<sup>14</sup> As of September 2018, 4,707 new cases of cancer in the U.A.E. were diagnosed in 2018.<sup>15</sup> However, this figure is still relatively low in comparison to other countries of the same size, such as Austria, where the number of new cases diagnosed in 2018 was 45,812.<sup>16</sup> Diabetes remains widespread in the U.A.E., although its prevalence dropped to 11.8% of the total population in 2017 from 19.3% in 2013.<sup>17</sup> According to a UN-backed report, the U.A.E. is lagging behind the rest of the world in its diabetes care, despite having the highest rates of internationally accredited hospitals in the world.<sup>18</sup>



The adoption of poor lifestyle habits by younger generations of Emiratis suggests these problems may persist. Indeed, the prevalence of children in the U.A.E. carrying excess weight is double the global prevalence, with one in every three schoolchildren either overweight or obese at present.<sup>19</sup> Meanwhile, a 2017 study by UAE University determined that 8.5% of children in the U.A.E. between the ages of 12 and 14 are smokers.<sup>20</sup> To counter these trends, the U.A.E. government is focused on a number of programs in school and in society aimed at changing problematic lifestyle habits.

A more positive driver of U.A.E. healthcare growth is medical tourism. In 2018, the U.A.E. rose to one of the top 20 medical tourism destinations in the world, according to the Medical Tourism Index.<sup>21</sup> To further bolster the U.A.E.'s standing as a prominent destination in the medical tourism industry, the Department of Culture and Tourism - Abu Dhabi signed a Memorandum of Understanding with the Medical Tourism Association (MTA) in October 2018. As part of this agreement, the MTA's annual World Medical Tourism & Global Healthcare Congress® event will now be hosted in Abu Dhabi.<sup>22</sup>

There are several other noteworthy reasons for the growth of the U.A.E. healthcare market including the above average medical inflation rates and the implementation of mandatory health insurance.<sup>23</sup> Another factor is increasing affluence, which is leading to demand for higher-quality healthcare.

Along these lines, various metrics have shown that the quality of U.A.E. healthcare has improved. In 2017, the Legatum Institute's Legatum Prosperity Index report ranked the U.A.E. 25<sup>th</sup> globally, up from 34<sup>th</sup> in 2015 and 28<sup>th</sup> in 2016, in terms of healthcare quality.<sup>24</sup> Furthermore, according to BMI Research, a unit of Fitch group, patients in the U.A.E. have the best access to healthcare in the Middle East.<sup>25</sup>

## **B. Challenges**

The tremendous growth of the U.A.E.'s healthcare market poses two major challenges for the U.A.E.: (1) recruiting and educating enough quality medical personnel, and (2) containing costs.

### **Ensuring Adequate Staffing**

Over the coming years, the U.A.E. will need an influx of medical personnel to meet its growing demand for high-quality medical services.

According to September 2018 figures released by the Dubai Health Authority (DHA), Dubai has one of the highest physician-to-population ratios in the world, with 2.9 doctors for every 1,000 residents.<sup>26</sup> Nevertheless, according to a March 2018 report by investment bank Alpen Capital, Dubai will require an additional 8,300 physicians and 8,800 nurses by 2025.<sup>27</sup>

The U.A.E. is in particular need of nurses. According to the U.A.E. Ministry of Health and Prevention, the U.A.E. had 5.68 nurses for every 1,000 people in 2017, a figure lower than in most Western countries.<sup>28</sup> Increasing this number is part of the U.A.E.'s Vision 2021 to provide world-class healthcare.



Several factors will complicate adequate staffing of qualified medical personnel in the years to come.

- ❖ There are shortages of skilled Emirati medical professionals.<sup>29</sup> As of April 2017, the U.A.E. healthcare sector had just 2,289 Emiratis, of which 49% were doctors and 14% nurses.<sup>30</sup> Just 3% of the 23,000-25,000 nurses in the country are Emirati.<sup>31</sup>
- ❖ The Northern Emirates, Abu Dhabi's Western Region, and more rural areas of the U.A.E. can face difficulties recruiting and retaining talent.<sup>32</sup>
- ❖ There tends to be high turnover among expatriate medical staff, as many medical personnel consider the U.A.E. either a temporary locale or a stepping-stone to gain experience before seeking careers in the West.<sup>33</sup>

To mitigate the above issues, the U.A.E announced in May 2018 it will start issuing long-term visas to help attract the best doctors and offer stability to other medical professionals already working in the country.<sup>34</sup>

### **Containing Costs**

The rapid growth of the U.A.E.'s healthcare industry also poses the challenge of containing costs. Healthcare in the U.A.E. tends to be more expensive than elsewhere in the region.<sup>35</sup> Moreover, the cost of healthcare is rising, with a 2016 survey by Willis Towers Watson finding that the cost of healthcare in the country is increasing at a rate of 15%.<sup>36</sup>

Waste accounts for some of these high costs.<sup>37</sup> In February 2016, *The National* cited expert estimates that as much as \$1 billion is lost every year to factors including "identity fraud by patients and a culture of over-prescribing by doctors, who are given financial incentives to prescribe brand-name drugs."<sup>38</sup> These expert assessments are shared by the subjective experience of patients. In a 2017 survey of 1,964 patients in the U.A.E., King's College Hospital London found that 32% felt that doctors over-prescribed medication.<sup>39</sup>

Antibiotics in particular, tend to be overprescribed in the U.A.E. To counter this worrying phenomenon, the Ministry of Health and Prevention (MOHAP) issued circulars to doctors to curb over-prescription of antibiotics in March 2018. This action was undertaken not only to prevent resistance to superbugs but also to tackle the cost that antibiotic misuse represents to health insurance systems.<sup>40</sup>

In light of the above, it is important to note that healthcare is minimally impacted by the U.A.E.'s January 2018 introduction of a value-added tax (VAT) of 5% on most goods and services. All treatments and medicines prescribed by a doctor or medical professional are zero-rated, including preventive health care. The only exception is for cosmetic treatments and medications.<sup>41</sup>

### **C. Government Response**

The U.A.E. federal government – which oversees the country's healthcare sector and funds almost all non-private healthcare in the northern emirates – has developed strategic plans to both respond to the growing demand for healthcare and meet the associated challenges. The U.A.E.'s Vision 2021, the highest-level U.A.E. government strategic plan, makes achieving "world-class healthcare" one of its priority goals through, among other measures, accrediting all public and private hospitals according to clear national and international standards. The 2021 Vision, which coincides with the U.A.E.'s 50<sup>th</sup> National Day, also seeks to reduce the prevalence of diabetes, obesity, and smoking among the population, as well as decrease the number of deaths from cardiovascular diseases and cancer.<sup>42</sup>



In keeping with this vision, Abu Dhabi has developed its own emirate-level strategic healthcare plan. In December 2014, Sheikh Mohammed bin Zayed Al Nahyan, Abu Dhabi Crown Prince and Deputy Supreme Commander of the U.A.E. Armed Forces, approved a strategy to improve healthcare in the emirate. This strategy included 85 initiatives that aim to, among other objectives, elevate the quality of healthcare services, improve safety standards and patient experience, attract and retain medical professionals, and integrate IT systems and build on electronic data.<sup>43</sup>

Dubai has likewise developed strategic plans for its respective healthcare sector in keeping with Vision 2021. In January 2017, Sheikh Mohammed bin Rashid Al Maktoum, U.A.E. Vice President and Prime Minister and Ruler of Dubai, launched Dubai Health Strategy 2021. This strategy aims to provide high-quality medical care to patients with chronic diseases, as well as promote a culture of early detection and regular check-ups. It also seeks to create a high-quality comprehensive and integrated health service system and improve the efficiency of public hospitals.<sup>44</sup>

This strategy in Dubai built on previous emirate-level commitments:

- ❖ In 2013, Dubai announced a 12-year plan to reshape its healthcare system, including a 3 billion AED [\$820 million] revamp of Rashid Hospital, 40 new primary healthcare centers, and three new hospitals.<sup>45</sup>
- ❖ In 2014, Dubai announced a medical tourism strategy that entailed building 22 hospitals so as to attract 500,000 medical tourists per year by 2020.<sup>46</sup>
- ❖ In 2015, Dubai unveiled a 10-year plan, the Dubai Clinical Services Capacity Plan, which involves building three new medical colleges and five nursing schools. This plan also calls for implementing strategies to make the nursing profession more desirable and attract and retain high-caliber medical and healthcare staff to fill gaps in certain healthcare specialties.<sup>47</sup>

Other emirates have also embarked on far-sighted plans to meet the anticipated growth in their healthcare sectors. Sharjah, for instance, has made healthcare a focus of its development strategies, beginning with the construction of Sharjah Healthcare City. In May 2018, Sharjah Healthcare City Authority announced it approved a plan to set up a \$100 million [367 million AED] 120-bed hospital, with construction set to begin in late 2018.<sup>48</sup> Sharjah's Investment and Development Authority (Shurooq) estimates that the emirate's healthcare market will grow from 7.35 billion AED [\$2 billion] in 2016 to 8.8 billion AED [\$2.4 billion] by 2019.<sup>49</sup>

## PART II: SECTOR OVERVIEWS

Under the careful oversight of both federal and emirate-level regulatory authorities, the U.A.E. is witnessing a boom in healthcare provision from both public sector and private sector institutions. Concurrently, the U.A.E. is experiencing a rapid expansion of its pharmaceutical, medical equipment, healthcare IT, and medical education sectors.

### A. Regulation

The U.A.E. has a number of healthcare regulators at both the federal and emirate levels, each with their own geographic or functional purviews. U.A.E. healthcare regulation has recently been shaped by two broad trends: (1) an expanding remit for the Ministry of Health and Prevention and (2) increasing coordination among regulatory authorities.

It has also seen several important developments:

- ❖ In August 2016, the U.A.E. introduced a new Medical Liability Law that requires all medical malpractice claims to be referred to a new medical liability committee before they are reviewed by U.A.E. judicial authorities. It also prohibits the arrest, imprisonment, and investigation of doctors until the committee issues a final report. The threat of criminal proceedings for medical treatment complaints had discouraged some foreign medical professionals from working in the U.A.E.
- ❖ In 2016, U.A.E. President His Highness Sheikh Khalifa bin Zayed Al Nahyan issued Federal Decree by Law No. 5, which allows the transplantation of human organs and tissues from both living and deceased donors. The law came into effect in March 2017. Cleveland Clinic Abu Dhabi, the country's only multi-organ transplant center, performed more than 30 transplant operations by the end of 2018, including the country's first full heart transplant, the country's first double lung transplant, the country's first deceased donor liver transplant, and the first liver transplant from a living relative. These latest achievements come as the U.A.E. rolled out a donor registration program in the summer of 2018.<sup>50</sup>
- ❖ In May 2018, it was announced that couples and unmarried women in the U.A.E. will soon be allowed to freeze their embryos and eggs following a Cabinet decision that will give more options to doctors and patients. The government is set to outline the exact criteria, and some restrictions are expected to remain in place for unmarried women.<sup>51</sup>

### Federal Level

The most important federal regulatory authority in the U.A.E. healthcare sector is the Ministry of Health and Prevention.

#### ***Ministry of Health and Prevention (MOHAP)***

The Ministry of Health and Prevention (MOHAP), formerly known as the Ministry of Health, oversees the implementation of government policy in relation to the provision of health care for all U.A.E. citizens and residents.<sup>52</sup> According to Cabinet Resolution No. 10 of 2008, the Ministry is to provide U.A.E. citizens with healthcare; prepare health, preventive, and training programs; organize the practice of healthcare professions; and establish, manage, and supervise health facilities.<sup>53</sup> In practical terms, MOHAP provides both healthcare services and regulatory oversight in the northern emirates. Importantly, it also licenses and controls the prices of drugs and medical devices nationwide.<sup>54</sup> It is



currently embarking on a major national health survey that will support the U.A.E.'s national health strategy by gathering data from 10,000 families across the country on health habits, spending, and environmental health.<sup>55</sup> The current Minister of Health and Prevention is H.E. Abdul Rahman Mohammed Al Owais and the Undersecretary is Dr. Mohamed Salim Al Olama.<sup>56</sup> For more information, please visit [www.moh.gov.ae](http://www.moh.gov.ae).

### **Federal Healthcare Regulations**

The U.A.E. federal government has introduced a variety of legislation regulating the healthcare industry. The bedrock of this legislation is Federal Law No. 7 of 1975 concerning the practice of human medicine, which included sections on licensing and registration of physicians; laboratories, clinics, and private hospitals; and duties and responsibilities of a physician.

Since then, additional legislation has been introduced, most notably:

- Federal Law No. 28 of 1981 concerning the detention and treatment of the mentally ill;
- Federal Law No. 4 of 1983 concerning pharmaceutical professions and establishments;
- Federal Law No. 5 of 1984 concerning the practice of some medical professions by persons other than physicians and pharmacists;
- Federal Law No. 20 of 1995 concerning medicines and preparations derived from natural sources;
- Federal Law No. 11 of 2008 concerning licensing of fertilization centers;
- Federal Law No. 14 of 2014 (replacing Federal Law No. 27 of 1981) and Executive Decree No. 6 of 2016 concerning communicable disease prevention;
- Federal Law No. 5 of 2015 (replacing Federal Law No. 2 of 1996) concerning private health facilities;
- Federal Law No. 4 of 2016 (replacing Federal Law No. 10 of 2008) concerning medical liability;
- Federal Law No. 5 of 2016 (replacing Federal Law No. 15 of 1993) concerning organ transplants.<sup>57</sup>

### ***The Insurance Authority***

The Insurance Authority, which was established under Federal Law No. 6 of 2007, regulates and supervises the insurance sector in the U.A.E.<sup>58</sup> His Excellency Sultan bin Saeed Al Mansouri, Minister of Economy, chairs its Board of Directors and H.E. Ebrahim Obaid Al Zaabi serves as its Director General.<sup>59</sup> For more information, please visit <http://www.ia.gov.ae>.

### ***The U.A.E. Nursing and Midwifery Council***

The U.A.E. Nursing and Midwifery Council, which was established by U.A.E. Cabinet Decree No. 10 of 2009, regulates the nursing and midwifery professions in the country. Led by its president, Princess Haya bint Al Hussein (the wife of U.A.E. Vice President and Prime Minister and Ruler of Dubai Sheikh Mohammed bin Rashid Al Maktoum), the Council consists of key constituents with regards to these fields and meets four times per year. The Council's work is organized by five standing committees and task forces that address the scope of practice requirements; registration and licensure; nursing and midwifery education; nursing and midwifery Emiratization; and nursing and midwifery research.<sup>60</sup>

### **“A Very Special Place”**

In November 2016, Children’s National Medical Center launched an illustrated, bilingual children’s book titled *A Very Special Place* in honor of the U.A.E.’s Year of Reading. This book, which was written by Emirati writer Maitha Al Khayat and illustrated by Emirati graphic artist Noura Al Sheikh, tells the story of an Emirati patient who is treated at Children’s National. At the book launch, His Highness Sheikh Abdullah bin Zayed Al Nahyan, Minister of Foreign Affairs and International Cooperation, read this story to oncology patients at Tawam Hospital in Al Ain.<sup>61</sup> Hundreds of copies of the book have been distributed through reading rooms in hospitals across the UAE through the Wanna Read initiative led by Sheikha Shamma bint Sultan bin Khalifa Al Nahyan.



### **Emirate Level**

While healthcare provision in some emirates is regulated entirely by MOHAP, certain emirates or free zones also have their own regulatory authorities, most notably The Department of Health – Abu Dhabi (DOH) and Dubai Health Authority (DHA).

#### ***Department of Health – Abu Dhabi (DOH)***

The Department of Health – Abu Dhabi (DOH), formerly known as Health Authority – Abu Dhabi (HAAD), regulates the healthcare sector in Abu Dhabi. It defines the strategy of the health system, and it monitors and analyzes both the health status of the population and the performance of the system. Some of the key regulations that they have recently implemented are as follows:

- ❖ In 2017, the DOH implemented a scheme whereby it linked payments made to healthcare facilities for services and treatment to the level of care they provide. It also instituted a new rule requiring patients to seek a doctor’s referral before visiting another doctor in the same specialty within 21 days of the first outpatient visit.<sup>62</sup>
- ❖ In September 2018, the DOH began to roll out a policy of dispensing generic medicine with the same efficacy and safety for patients as more expensive, branded medicine. These generic drugs will also be covered by health insurance.<sup>63</sup>
- ❖ In August 2018, the DOH announced new standard requirements for emergency departments in General Hospitals across public and private healthcare providers. Under the new policy, emergency divisions will be restructured into two distinct departments: emergency departments and urgent care centers. The standard stipulates specific service requirements that all public and private General Hospitals in Abu Dhabi will be required to fulfill to obtain licensing for their emergency departments.<sup>64</sup>



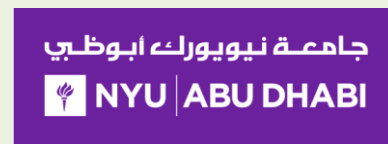
The Chairman of the DOH is His Excellency Sheikh Abdulla bin Mohamed Al Hamed and its Acting Undersecretary is Mohamed Al Hameli.<sup>65</sup> For more information, please visit [www.haad.ae](http://www.haad.ae).

#### DOH Partnerships with U.S. Institutions

**Johns Hopkins Bloomberg School of Public Health** signed a 10-year agreement with the Health Authority – Abu Dhabi (now Department of Health) in 2008 to develop research, educational, and public health programs in Abu Dhabi.<sup>66</sup>



**NYU Abu Dhabi (NYUAD)** signed an MoU with DOH in June 2018 to collaborate on NYUAD's UAE Healthy Future study, a long-term ongoing study that was launched by the NYUAD Public Health Research Center in 2017 to understand the causes of common chronic diseases among Emiratis, focusing particularly on priority areas of obesity, diabetes, and heart disease.<sup>67</sup>



#### Dubai Health Authority (DHA)

Dubai Health Authority (DHA), which was created by Law No. 13 of 2007, is the main health authority in Dubai. DHA regulates all of Dubai's healthcare sector services through licensing healthcare facilities and professionals and inspecting health facilities.<sup>68</sup> DHA also regulates the cost of healthcare in the emirate and runs special programs such as one meant to encourage young Emiratis to enter medical professions.<sup>69</sup>



Beginning in January 2019, the DHA will rate all private and public sector health care facilities in Dubai on their level of care and expertise. This policy is designed to provide patients with information, improve the quality of healthcare and bolster Dubai's burgeoning medical tourism sector.<sup>70</sup>

The President of DHA is His Highness Sheikh Hamdan bin Rashid Al Maktoum, Deputy Ruler of Dubai and U.A.E. Minister of Finance.<sup>71</sup> His Excellency Humaid Al Qatami is the Chairman of the Board and Director General.<sup>72</sup> For more information, please visit <https://www.dha.gov.ae>.

#### Dubai Healthcare City Authority – Regulatory

Dubai Healthcare City Authority – Regulatory (DHCR), which was established by Law No. 9 of 2011, regulates Dubai's healthcare free zone: Dubai Healthcare City.<sup>73</sup> As such, it is responsible for the licensure of all healthcare professionals and healthcare operators in the free zone. It is also responsible for setting and maintaining international best practices in healthcare delivery and patient care within that zone.<sup>74</sup>

In line with U.A.E. Vision 2021, DHCA announced in June 2018 that it will become the U.A.E.'s first national accrediting body for hospitals and clinics in the free zone. DHCA is expected to obtain the accreditation by 2020.<sup>75</sup>



Separately, in October 2018, Dubai Healthcare City Authority and DHA signed a Memorandum of Understanding to link the licensing data of health professionals using Blockchain. The MoU will allow for health professionals to exchange licensing data to improve services and facilitate licensing and transfer of health professionals' license in Dubai.<sup>76</sup>

Dr. Ramadan AlBlooshi is the CEO of Dubai Healthcare City Authority – Regulatory. Her Royal Highness Princess Haya Bint Al Hussein is Chair of the Board of Dubai Healthcare City Authority. For more information, please visit <http://dhcr.gov.ae>.

### ***Sharjah Health Authority***

Sharjah Health Authority (SHA), which was established by Sharjah Emiri Decree No. 12 of 2010 (amended by Emiri Decree No. 33 of 2016), regulates Sharjah's healthcare system. According to SHA, its prime mission at present is to develop and manage Sharjah Healthcare City. It also manages the Sharjah Health Insurance department.<sup>77</sup> Dr. Abdulaziz Saeed Al Muhairi is Director of the Sharjah Health Authority. For more information, please visit <http://www.sha.gov.ae/>.

## **B. Provision**

Public sector institutions play a relatively outsize role in U.A.E. healthcare provision. That said, the private sector is assuming an increasingly prominent role, aligning with a deliberate government strategy to encourage public-private partnerships and private sector investment.

### **Public Sector**

Three public sector institutions play a major role in U.A.E. healthcare provision: Abu Dhabi Health Services Company (SEHA), Dubai Health Authority (DHA), and the Ministry of Health and Prevention (MOHAP). The latter is particularly active in the northern emirates.

#### ***Abu Dhabi Health Services Company (SEHA)***

The Abu Dhabi Health Services Company (SEHA), which was established by Abu Dhabi Emiri Decree No. 10 of 2007, is an independent public joint stock company that owns and operates all public hospitals and clinics across Abu Dhabi. SEHA claims to be the largest healthcare network in the U.A.E., consisting of 12 hospitals, 46 primary healthcare clinics, 10 disease prevention and screening centers, 3 mobile clinics, 1 school clinic, 2 blood banks, 4 dental centers, 2 employee healthcare centers, and 1 vaccination center.<sup>78</sup>



SEHA's flagship business entities are – in decreasing order of patients served – Tawam Hospital, Sheikh Khalifa Medical City, Al Ain Hospital, Al Gharbiya Hospitals, Al Mafraq Hospital, Al Rahba Hospital, and Corniche Hospital (the U.A.E.'s largest maternity hospital).<sup>79</sup> The Al Gharbia Hospitals business entity notably consists of six hospitals and four primary healthcare centers that serve the more than 200,000 people living in the 60,000-square-kilometer area of Abu Dhabi known as the Western (Al Gharbia) region.

Over the last several years, SEHA has embarked on the enlargement of its health facilities in the Western Region, as well as several highly publicized expansions of Sheikh Khalifa Medical City, adding a dialysis

center, psychiatry center, and pediatric dialysis unit.<sup>80</sup> It also added new facilities, such as Al Towayya Children's Specialty Centre in Al Ain.<sup>81</sup>

SEHA is currently building two major new hospitals. In October 2018, Dr. Gareth Goodier, SEHA's new Chief Executive, announced that the largest hospital in the U.A.E., Sheikh Shakhbout Medical City, would open in a few months in Al Mafrq area of Abu Dhabi. The hospital will have 732 beds, two presidential suites and 36 VIP suites, an advanced wound treatment center, 18 surgical rooms, and both a natural and premature birth department.<sup>82</sup> Moreover, the 4.4 billion AED [\$1.2 billion] 719-bed New Al Ain Hospital is scheduled to be completed in the next two years.<sup>83</sup>

The Chairman of the Board of SEHA is His Excellency Salem Rashid Al Nuaimi and the CEO is Dr Gareth Goodier. For more information, please visit [www.seha.ae](http://www.seha.ae).

#### SEHA Partnerships with U.S. Institutions

- **Johns Hopkins Medicine International** signed an agreement with SEHA in 2006 to manage the 479-bed Tawam Hospital in Al Ain City, which is a national referral center for oncology services. Two years later, it signed another agreement with SEHA to manage the 173-bed Al Rahba Hospital outside Abu Dhabi City.
- **Cleveland Clinic** signed an agreement with SEHA in 2007 to manage Sheikh Khalifa Medical City, which is located in Abu Dhabi City and describes itself as the "flagship institution" for the public health system in Abu Dhabi. It consists of a 586-bed tertiary hospital, 14 outpatient specialty clinics, and the Abu Dhabi Blood Bank.
- **The New England Center for Children** signed an agreement with SEHA in 2007 to launch a comprehensive education program for children with Autism Spectrum Disorder. The New England Center subsequently opened a facility in Mohammed bin Zayed City.
- **Children's Hospital of Philadelphia (CHOP)** is supporting the advancement of pediatric medical education in cooperation with SEHA by entering an Emirati national matched medical student graduate into CHOP's Pediatric Residency Program (3 years) on a yearly basis.<sup>84</sup>



JOHNS HOPKINS  
MEDICINE



Cleveland Clinic

The New England Center  
for Children®  
Autism Education and Research



مركز نيو إنجلاند  
للأطفال  
التوحد: تعليم وبحوث



Children's Hospital  
of Philadelphia®

### ***Dubai Health Authority (DHA)***

In addition to its role as a regulator, the Dubai Health Authority (DHA) operates Dubai's public healthcare facilities.<sup>85</sup> In 2017, more than 2 million patients visited DHA-run hospitals and medical centers, with Dubai Hospital welcoming 381,334 patients, Rashid Hospital 321,241, Latifa Hospital 149,640 Hatta Hospital 122,327, and the authority's 12 primary healthcare centers another 1,039,470.<sup>86</sup>

DHA continues to develop its existing facilities.<sup>87</sup> In May 2017, Sheikh Hamdan bin Rashid Al Maktoum, Deputy Ruler of Dubai, U.A.E. Minister of Finance, and President of the Dubai Health Authority, approved a 290 million AED [\$79 million] expansion plan for Dubai Hospital that will include a six-story building for specialized outpatient clinics.<sup>88</sup> In addition, Dubai's Latifa hospital is currently undergoing a 100 million AED [\$27.2 million] expansion and is set to double in capacity by March 2020.<sup>89</sup>

DHA also continues to build new facilities. DHA is planning to build a 10-story Rashid Medical Complex, which will house state-of-the-art equipment, 250 wards, 1,000 outpatient clinics, and amenities such as a five-star hotel, green residential buildings, and shopping areas.<sup>90</sup> DHA also announced that in January 2019 it will be calling for "request for quotations" from private sector investors for a new \$100 million-plus specialist cardiology hospital at the Rashid Complex. The hospital is scheduled to open in 2022.<sup>91</sup>

Furthermore, in October 2018, Dubai Healthcare Corporation (DHC), a newly created entity under DHA, announced it would open the first skin bank in the Arab region. The skin bank, which will be used in grafting of burn cases and other patients in need, is set to open by mid-2019.

In addition to the skin bank, DHA will also set up a Cardiology Centre and Cancer Centre by 2020.<sup>92</sup> The Dubai Oncology and Research Centre will initially provide support to 700 patients, with that number rising to 4,000 by 2027.<sup>93</sup>

### ***Ministry of Health and Prevention (MOHAP)***

On top of its countrywide regulatory functions, the Ministry of Health and Prevention (MOHAP) directly manages public healthcare services in certain areas of the country. As of December 2017, MOHAP oversaw 16 hospitals and more than 68 clinics throughout the U.A.E., especially in the northern emirates.<sup>94</sup> MOHAP has recently made a strong push to improve healthcare in the northern emirates through both the expansion of existing hospitals (such as Fujairah Hospital) and the construction of new specialist clinics and health centers.<sup>95</sup> In 2016, MOHAP announced that its hospitals would begin regularly catering to all U.A.E. residents instead of just Emiratis.<sup>96</sup>

## MOHAP Partnerships with U.S. Institutions

- **Children's Hospital of Philadelphia (CHOP)** and MOHAP signed a memorandum of understanding in October 2017 whereby CHOP would offer its pediatric experts on a short-term visiting basis to provide education and clinical care at the Ministry's hospitals. As a result of this important initiative, both clinicians and children in the Middle East region benefit from medical education and consultations by CHOP healthcare providers who are experts in the field of pediatric medicine.
- **Children's National Medical Center** has embarked on research collaborations with MOHAP as part of a longstanding relationship between the two institutions.
- **Nationwide Children's Hospital**, a pediatric hospital in Columbus, Ohio, works with MOHAP on a range of initiatives. The hospital is also collaborating with Al Qassimi Women's & Children's Hospital in Sharjah in addition to running a visiting consulting program that brings experts to Emirati hospitals.



### MOHAP Partnerships with U.S. Institutions (continued)

- GE Healthcare, MOHAP, and Abu Dhabi International Medical Services formed an innovative, performance-based public-private-partnership in early 2016 called Unison, combining the best in medical and digital technology, hospital management, and patient care to create the U.A.E.'s first public sector teleradiology capability. This unique partnership model is the U.A.E.'s first radiology outsourcing solution, which provides 16 hospitals and 8 primary health clinics in the Ministry of Health's network of hospitals a platform to seek second opinions, match clinical cases with the most appropriate radiologists, and potentially speed up patient diagnoses and treatment.



GE Healthcare

- **Johnson & Johnson** signed a partnership with MOHAP in 2016 to screen 10,000 high-risk individuals and train 90 nurses based on the Johnson & Johnson Diabetes Institute (JJDI) curriculum. In 2017, the two organizations announced the launch of early detection programs for diabetes in ten healthcare centers across the U.A.E.<sup>97</sup>

Johnson & Johnson

### *Ministry of Presidential Affairs*

The Medical Office of the Ministry of Presidential Affairs (MOPA) has made a major push to expand the quantity and quality of healthcare provision in the U.A.E., particularly in the northern emirates. MOPA funded the 750 million AED [\$204 million] Sheikh Khalifa General Hospital in Umm Al Quwain, which officially opened in December 2012, is managed by NMC Health, and features clinics specializing in pediatrics, gynecology, emergency care, dialysis, and dermatology.<sup>98</sup> MOPA also funded the 1 billion AED [\$272 million] Sheikh Khalifa Specialty Hospital in Ras Al Khaimah (near the border with Umm Al Quwain), which officially opened in February 2015 and, at 248 beds, claims to be the largest specialist hospital in the Middle East.<sup>99</sup> In September 2017, the Follow-Up Committee of the Initiatives of the U.A.E. President approved funding for the 300-bed Sheikh Khalifa Central Hospital in Fujairah at a cost of 866 million AED [\$236 million].<sup>100</sup>

### *Ministry of Defense*

The Ministry of Defense is also a significant provider of healthcare in the U.A.E. The Ministry runs Zayed Military Hospital, which is a 365-bed tertiary hospital in Abu Dhabi that provides medical services to the families of the U.A.E. Armed Forces. Zayed Military Hospital also has two satellite hospitals, each with 120 beds, in Sharjah and Al Ain.<sup>101</sup> The Ministry of Defense has strong relationships with leading U.S. hospitals, including Nationwide Children's Hospital, to supplement its resources and ensure that military members and their families receive world-class care.



## Government-Linked Entities

Government-linked entities such as Mubadala Healthcare, a division of the prominent and diverse Abu Dhabi government investment vehicle Mubadala Investment Company, are supporting the development of a world-class, commercially sustainable private healthcare sector in the U.A.E.

### ***Mubadala Healthcare***

Mubadala Investment Company, an investment and development company established by the Abu Dhabi government, has actively spurred the development of healthcare in the emirate through one of its sector verticals, “Mubadala Healthcare.”

Mubadala Healthcare works with prominent international partners to fill gaps left by public sector providers. Along these lines, it has:

- ❖ Joined with Cleveland Clinic Foundation to create its flagship project: Cleveland Clinic Abu Dhabi. In December 2017, Cleveland Clinic Abu Dhabi opened a branch in Al Ain. The expansion of the Abu Dhabi campus offers residents of Al Ain and the surrounding area a range of outpatient and advanced imaging services as well as primary healthcare services.<sup>102</sup>
- ❖ Collaborated with institutions such as South Korea’s Wooridul Hospital to set up Healthpoint, a specialty hospital. The facility has three centers of excellence: Musculoskeletal (Orthopedic and Sports Medicine and Spine Care), Bariatric and Metabolic Surgery, and Dental.<sup>103</sup>
- ❖ Partnered with Imperial College London to establish the Imperial College London Diabetes Centre (ICLDC), which has three branches in the U.A.E. capital, the newest of which, in Zayed Sports City, broke even within three months of opening.
- ❖ Teamed with Swiss company Medgate to introduce the Abu Dhabi Telemedicine Center, which allows patients to seek a doctor’s opinion by phone 24 hours per day 7 days per week.<sup>104</sup>



Other Mubadala Healthcare assets include the Abu Dhabi Knee & Sports Medicine Centre (ADKSMC), Capital Health Screening Centre, Tawam Molecular Imaging Centre, and the National Reference Laboratory. The latter offers more than 4,700 medical diagnostic tests to regional healthcare providers.<sup>105</sup>

As part of the growing collaboration and integration of Emirati healthcare institutions, in January 2018, MOHAP and Mubadala entered an MoU to enhance health services across the U.A.E. The partnership will see both organizations collaborate on a range of healthcare and therapeutic areas where Mubadala Healthcare and its network of world class healthcare companies have deep expertise.<sup>106</sup>

The Head of Mubadala Healthcare is Mr. Abdulla Al Shamsi.

For more information, please visit <https://www.mubadala.com/en/what-we-do/healthcare>

## Mubadala Healthcare Partnerships with U.S. Institutions

- **Cleveland Clinic Foundation** and Mubadala Investment Company collaborated on the construction of Cleveland Clinic Abu Dhabi, a state-of-the-art medical institution on Al Maryah Island that offers world-class care to patients, closer to home. It boasts 14 institutes, including six centers of excellence in the following areas: Heart & Vascular, Neurological, Digestive Disease, Eye, and Respiratory and Critical Care. The hospital is the designated stroke and chest pain center for Abu Dhabi. The Department of Health has designated Cleveland Clinic Abu Dhabi as a human subject research facility and advanced teaching hospital. The hospital published 89 papers in the first half of 2018 and has 55 ongoing research projects. In 2017, the hospital had more than 400,000 outpatient visits and performed more than 13,000 surgical cases.



- **Children's National Medical Center** signed a memorandum of understanding (MoU) with Healthpoint in May 2017 to collaborate more closely in pediatric subspecialty care. As part of this MoU, Children's National would send visiting physicians to Healthpoint, and it would manage the pediatric department alongside Healthpoint.<sup>107</sup>



## Ruling Family Patronage

Members of U.A.E. ruling families have also personally contributed to healthcare in the country. In December 2008, for instance, Sheikh Mohammed bin Rashid Al Maktoum, Vice President and Prime Minister of the U.A.E. and Ruler of Dubai, announced the establishment of a dedicated 200-bed 692 million AED [\$188.4 million] children's specialty hospital named after his daughter, Sheikha Al Jalila.<sup>108</sup> Inaugurated on 1 November 2016, Al Jalila Children's is the first dedicated children's hospital in the U.A.E., and it aims to be a driving force behind tertiary and quaternary care in the region. The hospital has 28 fully operational clinics for pediatric healthcare, two leading educational programs, and several pediatric research studies.<sup>109</sup> In November 2018, Al Jalila Children's hospital performed Dubai's first pediatric kidney transplant. It is chaired by Her Royal Highness Princess Haya bint Al Hussein and is affiliated with Alder Hey Children's as well as Moorfields Eye Hospital Dubai.<sup>110</sup>

### Al Jalila Children's Partnerships with U.S. Institutions

In February 2018, Al Jalila Children's Hospital in Dubai entered into an agreement with **Children's National Medical Center** in Washington, D.C. with a core aim of enabling Children's National to advise Al Jalila Children's on the use of health information technology to deliver quality care for children across the GCC and the region.



**Children's Hospital of Philadelphia (CHOP)** entered into a Memorandum of Understanding (MoU) with Al Jalila Children's in January 2018 to provide Long Term Monitoring for neurology patients, in real time, between the two institutions. The new collaboration is intended to explore the use of telemedicine to assist complex neurology patients during their care at Al Jalila Children's.



### Private Sector

The private sector is playing an increasingly significant role in the provision of healthcare in the U.A.E., with companies such as NMC Healthcare, Mediclinic Middle East, and VPS Healthcare all embarking on aggressive expansion plans. As such, the Ministry of Health and Prevention expects that the government's share of total health expenditure will fall from 71.3% in 2015 to 60.7% by 2025.<sup>111</sup>

Dubai in particular has sought to promote the private sector, with the goal of 70% of healthcare funding coming from the private sector.<sup>112</sup> Along these lines, in July 2017, the Dubai Health Authority said that 12 private hospitals will open in Dubai by 2020, bringing the emirate's total to 38.<sup>113</sup>

### NMC Healthcare

NMC Healthcare claims to be the U.A.E.'s largest private healthcare provider. A publicly listed company on the London Stock Exchange and part of the UK's exclusive FTSE 100 index, NMC owns and manages over 190 healthcare facilities that include hospitals, medical centers, long term care facilities, day surgery centers, fertility clinics, and home health services across 17 countries.<sup>114</sup> In the U.A.E., it advertises 24 facilities in four emirates.<sup>115</sup>



NMC has rapidly expanded its U.A.E. operations in the past several years, partly through wide-ranging acquisitions. In 2015, it purchased ProVita International Medical Center's facilities in Abu Dhabi and Al Ain for \$160 million, and it completed the acquisition of Dr. Sunny Healthcare Group's chain of six medical centers for \$64 million.<sup>116</sup> The next year, it opened the \$200 million 250-bed NMC Royal Hospital in Khalifa City, and it acquired homecare provider LifeWise Home Healthcare, which is the largest private provider of inpatient long-term care in Abu Dhabi.<sup>117</sup> Then, in 2017, it completed the \$650 million purchase of Al Zahra Hospital in Sharjah, which claims to be the first and the largest private general hospital in the U.A.E.<sup>118</sup> More recently, in October 2018, NMC Royal Hospital at Dubai

Investments Park was awarded a health services contract to operate a clinic at IMG Worlds of Adventure in Dubai.<sup>119</sup>

### ***Emirates Healthcare Company***

Emirates Healthcare provides a wide range of healthcare services under the brands Emirates Hospitals and Clinics, CosmeSurge, and Emirates Rehab and Homecare Services.

- ❖ Emirates Hospitals is currently building two hospital facilities, and it is also developing new medical and day case surgery centers in Dubai and Abu Dhabi. In July 2017, Emirates Hospitals acquired 60 percent of Mobile Doctors 24-7, which offers 24-hour medical and wellness concierge services to its 145,000 plus registered members.<sup>120</sup>
- ❖ CosmeSurge, created in 1998, claims to be the Middle East's most trusted name in cosmetology and aesthetic medicine.
- ❖ Emirates Rehab and Homecare Services, established in 2006, is reportedly the first-of-its-kind healthcare provider dedicated to long-term recovery, elderly care, and home health services in the U.A.E.<sup>121</sup>

Emirates Healthcare is closely associated with NMC Health. It is owned by KBBO Group, whose chairman is Khalifa bin Butti – the Executive Vice Chairman of NMC Healthcare.<sup>122</sup> Moreover, in August 2017, NMC Health signed an operations and management contract for the management of Emirates Healthcare assets including CosmeSurge, Emirates Hospitals, and Emirates Rehab and Homecare Services.<sup>123</sup>

### ***Mediclinic Middle East***

Mediclinic Middle East is a branch of Mediclinic International, which consists of 75 hospitals and 29 clinics worldwide.<sup>124</sup> In the U.A.E., it has seven hospitals and 22 clinics with more than 900 inpatient beds.<sup>125</sup> In September 2018, the group opened its seventh hospital in the UAE, Mediclinic Parkview Hospital, a 182-bed in-and outpatient facility in Dubai.<sup>126</sup>

The current Mediclinic International is the result of the reverse takeover by Al Noor Hospitals Group of the Johannesburg-based Mediclinic International Limited.<sup>127</sup> At the time of this reverse takeover, Mediclinic had an extensive and growing U.A.E. presence, announcing in April 2015 the construction of the aforementioned 700 million AED [\$191 million] Mediclinic Parkview Hospital in Dubai.<sup>128</sup> Meanwhile, Al Noor Hospitals Group was the largest private healthcare company in Abu Dhabi with seven facilities in Abu Dhabi city, one in the Western Region, and two in Al Ain.<sup>129</sup>

### ***Aster DM Healthcare***

Aster DM Healthcare is a Dubai-based healthcare company with 18 hospitals, 96 clinics, and 202 pharmacies in nine countries in the Middle East and India.<sup>130</sup> In the U.A.E., it advertises nine hospitals, clinics, medical centers, or pharmacies under the high-end Medcare, midrange Aster, and affordable Access brands.<sup>131</sup> In October 2016, it opened a 100-bed Medcare Women & Children Hospital, which will eventually have all-female staff.<sup>132</sup>

### ***VPS Healthcare***

VPS Healthcare is an integrated healthcare services provider with 20 operational hospitals, 125 medical centers, and 10,000 employees across the Middle East, Europe, and India. In the U.A.E., it operates hospitals and medical centers under the Burjeel, Medeor 24x7, LLH, and Lifecare brands. It also has a variety of specialized clinics, pharmacies, and even a pharmaceutical company.<sup>133</sup> In December 2017, VPS launched its flagship Burjeel Day Surgery Center, which is the largest day surgery center in the Middle East.<sup>134</sup> VPS Healthcare has announced the construction of a 1.4 billion AED [\$381 million] 400-bed Burjeel Medical City in Mohammed bin Zayed City.<sup>135</sup> In November 2018, VPS Healthcare launched research fellowships to encourage more Emirati student nurses to pursue careers in clinical research.<sup>136</sup>



### ***The Thumbay Group***

The Thumbay Group, a Dubai-based business conglomerate, is one of the largest healthcare providers in the region. It operates a 250-bed hospital in Ajman, a 150-bed hospital in Dubai, a 60-bed hospital in Fujairah, and a medical and dental specialty center in Sharjah. It also owns a chain of multi-specialty day care hospitals (Thumbay Hospital Day Care), clinics (Thumbay Clinic), and high-end clinics (Thumbay Clinic ELITE). In addition, it runs a chain of diagnostic labs (Thumbay Labs) and pharmacies (Thumbay Pharmacy). Notably, all hospitals and clinics under the group provide teaching and training opportunities for the students of Gulf Medical University, Ajman, which is also operated by the group.<sup>137</sup> In March 2017, the Thumbay Group announced plans to add 100 new beds to Thumbay Hospital Dubai in 2018 as well as plans to build 45 new clinics and five new medical centers of excellence.<sup>138</sup> The Thumbay academic hospital network will have a total of 1,000 beds in the UAE by 2022, in addition to upcoming clinics, day care hospitals, labs and pharmacies at various locations.<sup>139</sup>

### ***Belhoul Lifecare***

Belhoul Lifecare is a comprehensive healthcare services provider that was formed from the integration of all healthcare facilities and services offered by Belhoul Group Holdings (now Belhoul Investment Office). It includes the Belhoul Specialty Hospital, which is a 60-bed tertiary care hospital. It also includes the Belhoul European Hospital, which is a specialized day-care hospital with 22 outpatient clinics.<sup>140</sup> The Belhoul Group also controls Gulf & World Traders, which was established in 1969 to provide the U.A.E. and neighboring GCC countries with hi-tech healthcare-related products.<sup>141</sup>

### ***Amanat***

Faisal bin Juma Belhoul, who was responsible for the transformation of Belhoul Group Holdings into a modern investment company and is also managing partner at Ithmar Capital, launched Amanat Holdings, which specializes in investments in healthcare and education.<sup>142</sup> Following its exit from a stake in Al Noor Hospitals, Amanat is currently invested in both a 300-bed hospital and a home care company in Saudi Arabia.<sup>143</sup> As of December 2017, it reportedly had about 1.8 billion AED [\$490 million] to spend on new investments.<sup>144</sup> In November 2018, the company said that it has now invested 2 billion AED (\$540 million), across three education assets, three healthcare assets and one social infrastructure asset.<sup>145</sup>



### Private Sector Healthcare Partnerships with U.S. Institutions

- **American Hospital Dubai and Mayo Clinic:** Mayo Clinic announced in June 2016 that the American Hospital Dubai would become the first hospital in the Middle East to join the Mayo Clinic Care Network, providing the facility with access to the latest Mayo Clinic knowledge and promoting collaboration among physicians to benefit patients.
- **Meraas and Houston Methodist Global Health Care Services:** Dubai-based holding company Meraas announced in January 2016 the launch of an outpatient clinic at its City Walk development that would be a member of Houston Methodist's Global Health Care Network. Houston Methodist Global Health Care Services, the international subsidiary of Houston Methodist Hospital, has long been active in the U.A.E. and has had a physical office in Dubai since 2008. It formerly had a 10-year partnership with Emaar Healthcare Group that resulted in the establishment of medical centers at Dubai Mall, Arabian Ranches, and The Meadows.<sup>146</sup>



### *Gulf Healthcare International*

Gulf Healthcare International operates 19 medical and diagnostic centers across the U.A.E. and Kuwait.<sup>147</sup> In the U.A.E., it runs seven clinics and polyclinics under three brand names: “Amber Clinics,” “Al Noor Polyclinic,” and “Dr. Joseph’s Polyclinic.” It also operates eight diagnostic laboratories under the brand name “Medsol Diagnostics.”<sup>148</sup>

### *UEMedical*

UEMedical, part of United Eastern Group, claims to be Abu Dhabi’s leading privately owned healthcare development and investment company with a portfolio of healthcare projects including a hospital, six specialty centers, and 14 family clinics.<sup>149</sup> UEMedical operates the 150-bed Danat Al Emarat Women and Children Hospital in Abu Dhabi, which is managed by leading Singaporean healthcare provider ParkwayHealth.<sup>150</sup> In December 2018, it was announced a new tower with a capacity of 100 beds would be built at a cost of 300 million AED [\$81 million].<sup>151</sup>

UEMedical also runs the HealthPlus network of premium outpatient centers.<sup>152</sup> In addition, it has partnered with Moorfields Eye Hospital, one of the oldest ophthalmology hospitals in the world, to launch Moorfields Eye Hospital Centre in Abu Dhabi.<sup>153</sup> Notably, Moorfields chose the U.A.E. as the site of its first overseas branch almost a decade earlier when it established Moorfields Eye Hospital Dubai in Dubai Healthcare City in 2006.<sup>154</sup>

### ***Avivo Group***

Avivo Group is a U.A.E.-based healthcare firm offering specialized healthcare services in Abu Dhabi, Dubai, Sharjah, and Kuwait.<sup>155</sup> It currently has 47 healthcare assets, including 2 hospitals, 29 clinics, 10 dental centers, 6 pharmacies, 6 distribution centers, and 2 diagnostic facilities. The vast majority of these assets are in the U.A.E.<sup>156</sup>

### ***Ahalia Medical Group***

Ahalia Medical Group, established in the U.A.E. in 1984, currently operates three multi-specialty hospitals.<sup>157</sup> It also runs 23 satellite medical centers and over three dozen pharmacies throughout the country. In May 2018, Sharjah Healthcare City Authority granted the Ahalia Group permission to set up a \$100 million 120-bed hospital in the emirate. The multi-specialty hospital, which is spread across 538,195 square feet, is the first hospital to set up within the mega healthcare city<sup>158</sup>

### ***AlSharq Healthcare***

AlSharq Healthcare, a wholly owned division of the Fujairah National Group conglomerate, manages several healthcare facilities in the eastern part of the U.A.E. Its flagship facility is the 100-bed Al Sharq Hospital in Fujairah. It also runs 4 medical centers, 4 retail pharmacies, 2 specialized clinics, and a medicine store.<sup>159</sup>

### ***Arabian Healthcare Group***

Arabian Healthcare Group is a global healthcare management and consulting firm set up in 2011 by the Government of Ras Al Khaimah (RAK). Comprising a network of hospitals, diagnostic centers, pharmacies, and wellness services, its flagship facility is the 65-bed RAK Hospital, which is managed in cooperation with Sonnenhof Swiss Health.<sup>160</sup>

### ***Middle East Healthcare Company (Saudi German Hospitals)***

The Middle East Healthcare Company, the largest healthcare provider in Saudi Arabia, owns and operates hospitals under the brand name Saudi German Hospitals.<sup>161</sup> In March 2012, it opened the 165-bed Saudi German Hospital in Dubai, which is in the process of expanding thanks to a \$100 million loan.<sup>162</sup> It is currently constructing the Saudi German Hospital – Ajman, which will include 150 beds when it is completed.<sup>163</sup>

### ***Zulekha Healthcare Group***

The Zulekha Healthcare Group established Zulekha Hospital in Sharjah in 1992, and it subsequently grew from a 30-bed facility to a 185-bed 290,000 square-foot hospital.<sup>164</sup> Since then, the Zulekha Healthcare Group has also established a 79-bed hospital in Dubai, a diagnostic center, three medical centers, and three pharmacies.<sup>165</sup> Zulekha Group is currently expanding its facility in Dubai to provide a state-of-the-art 100-bed cancer unit.<sup>166</sup> In January 2018, Zulekha Healthcare Group announced plans to build a 150-bed hospital in Sharjah.<sup>167</sup>

### ***Capital Health***

Capital Health (not to be confused with Mubadala's Capital Health Screening Center) is an integrated healthcare group that was launched in November 2017 and currently has two flagship facilities in Abu Dhabi under development. It is building a 166-bed Specialized Rehabilitation Hospital that it claims will be the U.A.E.'s first acute, sub-acute, and long-term rehabilitation facility with outpatient facilities. Capital Health is also developing the Health Shield Medical Centre, which will be a multi-specialty

healthcare facility located in the Al Qurm district of Abu Dhabi.<sup>168</sup> In May 2018, Capital Health signed a partnership with Chicago's Shirley Ryan AbilityLab to bring its renowned model of care to its new Specialist Hospital in Abu Dhabi.<sup>169</sup>

### ***City Centre Clinic***

Majid Al Futtaim Healthcare, the healthcare arm of leading property developer Majid Al Futtaim, operates "City Centre Clinic," an integrated healthcare network with five locations in the U.A.E. Its flagship project is a Day Care Specialty Clinic, which is located in Deira City Centre in the heart of Dubai. It also has clinics at City Centre Me'aisem, My City Centre Al Barsha, Ibn Batuta Mall, and Nad Al Hammar.<sup>170</sup>



### ***King's College Hospital***

King's College Hospital, one of London's largest teaching hospitals, opened a Medical and Surgical Center in Abu Dhabi in November 2014. Then, in November of the next year, it signed an agreement with Al Tayer Group and Dubai Investments to build a \$200 million 100-bed branch of King's College Hospital in Dubai as well as three other King's College Hospital clinics. The first of these clinics, a Medical Center in Jumeirah, opened in September 2017.<sup>171</sup> In September 2018, King's College opened another medical facility in Dubai.<sup>172</sup> The late U.A.E. President Sheikh Zayed Al Nahyan once provided a donation to King's College Hospital to set up its specialist liver research center.<sup>173</sup>

## **Medical Hubs**

Free zones are becoming increasingly important sites for healthcare provision.

### ***Dubai Healthcare City***

Dubai Healthcare City (DHCC), which was launched in 2002, is a healthcare free zone that allows for 100% foreign ownership of companies; full repatriation of profits; a guaranteed 50-year exemption from personal income taxes and corporate taxes; and exemption from customs duties for goods and services. DHCC currently has almost 160 clinical partners, and it hosts brand-name providers such as Moorfields Eye Hospital and Maghrebi Eye Hospital.

It is also home to the Mohammed bin Rashid University of Medicine and Health Sciences, part of the Mohammed bin Rashid Academic Medical Center.<sup>174</sup> In 2017, DHCC announced the establishment of Emirates Reference Laboratory to provide access to efficient, reliable, and cost-effective pathology testing services.<sup>175</sup>



### ***Sharjah Healthcare City***

In January 2017, His Highness Sheikh Sultan bin Mohammed Al Qasimi, Supreme Council Member and Ruler of Sharjah, approved the master plan for Sharjah Healthcare City (SHC). First announced in 2010, it is expected to be one of the largest healthcare centers in the Middle East, spread over an area of 2.4 million square meters. It will operate as a tax-free zone under the Sharjah Health Authority.<sup>176</sup> In March 2017,



Ahalia Hospital announced that it would be the first U.A.E. hospital to be part of SHCC with the construction of a 100-bed general hospital.<sup>177</sup>

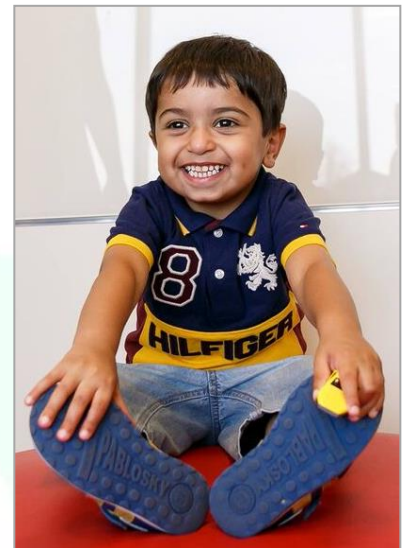
## C. Insurance

Over the last decade, the U.A.E. has moved toward mandating health insurance for all citizens and residents, greatly expanding the country's health insurance market. However, the large number of domestic and foreign players in this market has led to intense competition and limited profitability. Moreover, there are restrictions on the entry of new foreign companies into the market.

### Mandatory Coverage

Abu Dhabi has led the way in implementing mandatory health insurance for citizens and residents. In 2005, Abu Dhabi issued Law No. 23, requiring all employers to provide health insurance to their employees and their employees' dependents.<sup>178</sup> Then, in 2007, Abu Dhabi issued Resolution 83 directing the then-Health Authority - Abu Dhabi (now Department of Health) to give comprehensive health coverage to all U.A.E. nationals living in that emirate at no cost through the "Thiqa" program.<sup>179</sup>

Dubai subsequently followed Abu Dhabi's lead. In 2013, Dubai introduced Law No. 11, requiring employers to provide basic health insurance coverage for their employees and requiring sponsors to provide health insurance for those unemployed individuals under their sponsorship.<sup>180</sup> This law was implemented in phases: first for companies with more than 1,000 employees, then for companies with more than 100 employees, and finally for all companies and sponsors.<sup>181</sup> The law fully came into effect in 2016.<sup>182</sup>



Since then, Dubai has endeavored to increase the scope of mandatory insurance coverage. In November 2017, the Dubai Health Authority launched a new initiative to provide a complete spectrum of care from screening to treatment for three types of cancer under the basic benefit plan of the Dubai Mandatory Health Insurance Scheme. Prior to then, cancer coverage under the scheme was limited to 150,000 AED [\$40,840].<sup>183</sup> In October 2018, it was reported that mandatory health insurance in Dubai will include mental health treatment and rehabilitation of debilitating physical and neurological conditions.<sup>184</sup>

Sharjah has gradually joined Abu Dhabi and Dubai in moving toward more expansive health insurance as well. The Sharjah government extended health insurance to all Sharjah citizens aged 55 and over in April 2015.<sup>185</sup>

### Daman's Market Dominance

The U.A.E. health insurance industry is dominated by the National Health Insurance Company (Daman), which is the largest insurance payer in Abu Dhabi and the third largest in Dubai.<sup>186</sup> Established by Emiri Decree No. 39 of 2005, Daman is a public joint stock company that is 80% owned by the Abu Dhabi government and 20% owned by Munich Re.<sup>187</sup> It exclusively manages the aforementioned "Thiqa" program for U.A.E. nationals in Abu Dhabi as well as the Abu Dhabi Basic Plan for low-income expatriates in that emirate.<sup>188</sup>



### **U.A.E. Health Insurance Terminology**

- “Thiqa” is a health insurance program for U.A.E. nationals and those of similar status living in Abu Dhabi. It is exclusively managed by Daman on behalf of the Government of Abu Dhabi.
- “Enaya” is the Government of Dubai Employee Healthcare Benefits Scheme. Officially launched in July 2009, it provides a broad range of cover as well as preventive treatment and routine health checkups to more than 90,000 individuals. The third party administrator for this program is Neuron LLC.
- “Saada” is a health insurance program for citizens of Dubai who are not covered by any government health program. It is expected to ultimately reach 130,000 people. The third party administrator for this program is NEXtCARE.
- “Isahd” – Insurance System for Advance Healthcare in Dubai – is a Dubai Health Authority (DHA) initiative to provide healthcare insurance for all nationals and residents in the private sector. The system requires that everyone in the private sector have a minimum level of health insurance in place. Around 50 companies are permitted to sell such policies, while only 14 of them have been selected as Participating Insurers to specially serve the low-income expatriate segment. MetLife is one of the 14 Participating Insurers approved to provide the “Essential Benefits Package” to expatriates who earn less than 4,000 AED [\$1,089] per month.<sup>189</sup>

In July 2016, the then-Health Authority – Abu Dhabi (now Department of Health) announced changes to the “Thiqa” program with a view to making the healthcare sector more sustainable. Under these changes, Thiqa cardholders would pay 20% of the cost of hitherto free treatment at private hospitals; treatment at public hospitals would still be free. Thiqa cardholders would also pay 50% (as opposed to 10% formerly) of the cost of treatment outside Abu Dhabi, except in cases where that type of treatment was unavailable inside the emirate.<sup>190</sup>

However, the U.A.E. government ultimately walked back these changes given their implications for the healthcare sector. These moves would have posed complications for those enrollees currently in long-term private care.<sup>191</sup> These changes would have also potentially impacted the viability of some private healthcare institutions and their long-term expansion plans.<sup>192</sup> As such, in April 2017, His Highness Sheikh Mohamed bin Zayed Al Nahyan, Crown Prince of Abu Dhabi and Deputy Supreme Commander of the U.A.E. Armed Forces, ordered the waiving of the 20% co-payment for Thiqa cardholders when receiving treatment at private healthcare facilities.<sup>193</sup>

### **Heavy Competition**

The U.A.E. health insurance market reflects the U.A.E. insurance market as a whole. It is generally overcrowded, limiting profitability. There are currently more than 60 players in the U.A.E. insurance market, split between 30 listed local insurers and the subsidiaries of foreign insurers. In 2017 the 30 U.A.E. listed insurers had a net profit of 1.3 billion AED [\$353 million], compared with 900 million AED [\$245 million] a year earlier. This 45% increase in profit is largely thanks to compulsory medical insurance and underwriting income.<sup>194</sup>

Outside of the aforementioned Daman, three of the most prominent local insurers – both in general and in health insurance – are:



- ❖ **Oman Insurance Company/Bupa:** Oman Insurance Company (OIC), which is headquartered in Dubai, is the biggest insurer in the U.A.E. and one of the leading insurance companies in the MENA region. It provides both group health insurance and an individual international health insurance plan designed and internationally administered by British healthcare giant Bupa Global.<sup>195</sup>
- ❖ **Orient Insurance Company/Allianz:** Orient Insurance Company, which began operations in 1982, is a leader in the U.A.E. insurance market. Based in Dubai, it is part of Al Futtaim Group, a major U.A.E. conglomerate. It provides both individual and group medical insurance.<sup>196</sup> Orient Insurance Company is also the regional partner of German multinational insurance and asset management giant Allianz.<sup>197</sup>
- ❖ **Abu Dhabi National Insurance Company (ADNIC)/MSH International:** ADNIC, which was founded in 1972, is a publically listed composite insurance provider headquartered in Abu Dhabi that is the third-largest insurance company in the U.A.E. by assets.<sup>198</sup> It provides both individual medical insurance and group medical insurance in partnership with French company MSH International.<sup>199</sup> It is owned by Abu Dhabi Investment Council, which is an investment arm of the Abu Dhabi government.<sup>200</sup>

As for international insurers, the largest as of the end of 2016 was U.S. insurance giant MetLife. The second largest was AXA Gulf, which is the regional division of French insurance multinational AXA and the largest non-life international insurer in the Arabian Gulf.<sup>201</sup> Other prominent international insurers include U.S. health insurance companies Aetna and Cigna, the latter of which is making a major push to expand its regional operations.

Capitalizing on the large number of health insurers in the U.A.E. and the new coverage requirements, compareit4me.com launched the first automated, real-time, online health insurance comparison platform in the country. This platform enables those looking for health insurance to compare and buy policies online. Compareit4me is part of a thriving U.A.E. startup community that is transforming the way that healthcare and other industries operate.<sup>202</sup>

## U.S. Insurance Companies in the U.A.E.

- **MetLife:** MetLife, Inc., through its subsidiaries and affiliates, is one of the world's leading financial services companies, providing insurance, annuities, employee benefits, and asset management to help its individual and institutional customers navigate their changing world. Founded in 1868, MetLife has operations in more than 40 countries and holds leading market positions in the United States, Japan, Latin America, Asia, Europe, and the Middle East. MetLife is a pioneer of life insurance with a presence of nearly 65 years in the Gulf. Through its branches, MetLife offers life, accident, and health insurance along with retirement and savings products to individuals and corporations. In the U.A.E., MetLife has had operations since 1962 and today is a leading multinational life and medical insurance company across the country.<sup>203</sup>
- **Cigna:** In June 2017, Cigna opened an office at the Dubai International Financial Center (DIFC) to serve as its regional headquarters. The next month, Cigna announced the acquisition of Zurich Insurance Middle East, gaining official presence in Lebanon, Oman, the U.A.E., and Kuwait. Then, in October, it launched a much-touted individual insurance and wellness solution specially tailored for residents of Dubai. Cigna has been growing in experience by entrenching itself in the region and adding local capabilities like its clinical team, culturally relevant resources, and an ever-expanding network of hospitals, clinics, and pharmacies. Prior to its acquisition of Zurich Insurance Middle East, Cigna already had an established presence via a local partner providing health insurance to U.A.E. residents for over 15 years.
- **Aetna International:** Aetna's Dubai office, based in Dubai Media City, is the nerve center for Aetna International's recently merged European and Middle East & Africa divisions. Notably, Aetna International administers health care plans for individuals, families, and corporate groups in the U.A.E. on behalf of RSA Insurance. It also administers Al Ain Ahlia Insurance Company plans within the country.<sup>204</sup>



## **Restrictions to Entry and Regulations**

International insurance companies must overcome certain obstacles to entering the U.A.E. market. For one, the U.A.E.'s Insurance Authority, which oversees insurance companies onshore (but not in free zones), has long been hesitant to license new insurers given that the sector is often characterized as overcrowded. In fact, the Insurance Authority has publicly called for consolidation of the sector in order to avoid what it views as unhealthy competition.<sup>205</sup>

Moreover, the U.A.E. has placed limits on foreign ownership of insurance companies operating in the U.A.E. mainland. Prominent U.A.E. law firm Al Tamimi & Company noted in a September 2015 piece on U.A.E. insurance law that, "The only way that a non-GCC wholly owned foreign insurer can operate in the U.A.E. is to acquire a stake of not more than 25% in an existing U.A.E. insurer."<sup>206</sup>

Insurance companies operating in the U.A.E. proper also face restrictions on their structure. As Al Tamimi noted in the same 2015 report, a U.A.E. insurer is required to be established as a public company listed on either the Abu Dhabi Securities Exchange or the Dubai Financial Market. As a result, the chairman and a majority of the board of directors of U.A.E. insurers must be U.A.E. nationals.<sup>207</sup>

In addition, insurance companies operating in the U.A.E. must comply with increasingly stringent regulations on their activities meant to strengthen the sector and encourage consolidation. In early 2015, the U.A.E. Insurance Authority announced a series of new regulations including limits on how companies could invest their money and how much exposure they could have to different asset classes.<sup>208</sup> Companies were given until January 2018 to comply with these regulations.<sup>209</sup>

Given the above, an alternative approach for international insurance companies to access the U.A.E. market has been incorporating in a free zone, where the U.A.E. Commercial Companies Law and relevant insurance laws and regulations do not apply. There are tradeoffs, however, in terms of the jurisdiction in which such insurers can operate and the lines of insurance they can write.<sup>210</sup>

## **D. Pharmaceuticals**

The U.A.E.'s pharmaceutical market is quickly growing. Although the U.A.E. imports most of its drugs at present, this is beginning to change, and some international pharmaceutical giants have partnered with U.A.E. companies to locally manufacture their products.

### **Growing Sales**

The U.A.E. pharmaceutical market is growing at a rapid rate. In 2016, according to BMI figures cited by the U.A.E. Ministry of Health and Prevention, U.A.E. pharmaceutical sales were worth 9.61 billion AED [\$2.62 billion], up from 8.84 billion AED [\$2.41 billion] in 2015. These sales are expected to increase at a compound annual growth rate of 8.2% to reach 13.13 billion AED [\$3.58 billion] by 2020 and 14.11 billion AED [\$3.84 billion] by 2021.<sup>211</sup> As such, pharmaceutical sales, which represented 16.2% of total healthcare spending in 2016, are projected to represent 18% of all healthcare expenditure by 2021.<sup>212</sup>

This growth comes despite U.A.E. government efforts to contain rising drug prices, which are regulated by pharmaceutical pricing legislation.<sup>213</sup> In July 2011, the U.A.E. began a series of price reduction initiatives aimed at bringing U.A.E. pharmaceutical prices in line with those in neighboring countries.<sup>214</sup>

Through these initiatives, the U.A.E. had, as of December 2017, cut the prices of 8,732 pharmaceutical products.<sup>215</sup>

### Import Reliance

The U.A.E. currently imports the vast majority of its pharmaceutical products from abroad. Marwan Abdulaziz Janahi, who is the Executive Director of Dubai Science Park and the Chairing Member of the Pharmaceuticals and Medical Equipment taskforce of the Dubai Industrial Strategy 2030, estimated in November 2017 that nearly 90% of pharmaceuticals in the U.A.E. were imports.<sup>216</sup>

Moreover, the U.A.E. will likely continue doing so for the foreseeable future. In 2016, according to BMI figures cited by the U.A.E. Ministry of Health and Prevention, U.A.E. pharmaceutical imports were 14.14 billion AED [\$3.85 billion]. This figure is expected to increase at a compound annual growth rate of 5.1% to 17.3 billion AED [\$4.74 billion] in 2020.<sup>217</sup>

At the same time that U.A.E. pharmaceutical imports are expected to increase, the U.A.E.'s pharmaceutical exports are also anticipated to rise. In 2016, the U.A.E. exported 3.49 billion AED [\$950 million] worth of pharmaceutical products. By 2020, this figure is expected to grow to 4.14 billion AED [\$1.13 billion].<sup>218</sup>

These increased exports will be driven by the expansion of the U.A.E.'s nascent domestic manufacturing industry. As of September 2017, Dr. Amin Al Amiri, Assistant Undersecretary of Public Health Policy and Licensing at the Ministry of Health and Prevention, noted that the U.A.E. had 18 pharmaceutical manufacturing sites, many of which are focused on the production of generic pharmaceuticals.<sup>219</sup> He expects this figure to reach 36 by 2020.<sup>220</sup>

This expansion is a priority for the U.A.E. government, and it is a key plank of the 2030 Dubai Industrial Strategy. As such, in November 2017, Marwan Abdulaziz Janahi said that Dubai seeks to attract as much as \$2.5 billion to the pharmaceutical sector.<sup>221</sup>

### Julphar and U.A.E. Pharmaceutical Manufacturers

The U.A.E.'s domestic pharmaceutical manufacturing industry is headlined by Julphar Gulf Pharmaceutical Industries, which is the largest generic pharmaceutical manufacturer in the Middle East and North Africa. Established in 1980 under the guidance of the former Emir of Ras Al Khaimah His Highness Sheikh Saqr bin Mohammed Al Qasimi, Julphar now operates 16 manufacturing facilities globally, 13 of which are in the U.A.E. These factories collectively produce over one million boxes of medicines per day. In August 2018, the company said it planned to launch 25 new products in the U.A.E. and register 200 new products in the region in 2018.<sup>222</sup> More recently, in October 2018, Julphar entered the pharmaceutical oncology market through a license and supply agreement with Russia's BIOCAD.<sup>223</sup>



The U.A.E. has several other domestic pharmaceutical manufacturers as well:

- ❖ **Neopharma:** Neopharma claims to be Abu Dhabi's premier pharmaceutical manufacturing company. Started in 2003, it operates a 100,000 square-meter plant in Abu Dhabi, and, as of July 2017, had confirmed feasibility plans for a second production facility there.<sup>224</sup> This came just two months after

it invested 100 million AED [\$27 million] in a new factory in Japan to produce supplements for Type-2 diabetes patients.<sup>225</sup> More recently, in October 2018, the US subsidiary of Neopharma acquired an antibiotic manufacturing facility and its related assets in Bristol, Tennessee.<sup>226</sup> Neopharma seeks to differentiate itself from its local peers by focusing on value-added drugs and not just generics.<sup>227</sup> Dr. B.R. Shetty is Executive Vice Chairman and Managing Director of Neopharma.

- ❖ **Globalpharma (a Sanofi Company):** Globalpharma, which is based in Dubai Investment Park, is a major U.A.E. pharmaceuticals manufacturer. Established in 1998, its manufacturing facility can produce up to 300 million tablets, 150 million capsules, and over 7 million liters of dry syrup and liquid each year. In 2014, Dubai Investments sold a majority stake in Globalpharma to French firm Sanofi, and Globalpharma is now being integrated as a Sanofi company to become the platform to manufacture and promote the generics portfolio of Sanofi in the Middle East region.<sup>228</sup>
- ❖ **Medpharma (member of Valeant):** Medpharma is one of the leading pharmaceutical branded generic companies in the U.A.E. In September 2014, it was acquired by Lebanon-based Integrated Pharma Solutions and Canada-based Valeant Pharmaceuticals.<sup>229</sup> At the time, Medpharma had about \$30-\$40 million in sales per year.<sup>230</sup>
- ❖ **LIFEPharma:** Part of the aforementioned VPS Healthcare, LIFEPharma has a facility at Jebel Ali Free Zone Area in Dubai that has the capacity to produce 1 billion tablets, 300 million capsules, and 150 million liters of liquid per year.<sup>231</sup> It is currently planning to build a 547 million AED [\$149 million] cancer drug plant at Khalifa Industrial Zone Park in Abu Dhabi.<sup>232</sup>
- ❖ **Pharmax Pharmaceuticals:** Pharmax Pharmaceuticals is the first local company located at Dubai Science Park that seeks to be engaged in the development and commercialization of pharmaceuticals. It was established by one of the U.A.E.'s leading pharmaceutical and healthcare product distributors, Al Ittihad Drug Store (IDS).<sup>233</sup> In August 2018, Pharmax Pharmaceuticals began the production of "affordable generic medicines".<sup>234</sup>

### International Pharmaceutical Companies

At the same time that the U.A.E. has a growing domestic pharmaceutical manufacturing industry, many international pharmaceutical companies have established a presence in the country. According to an Alpen Capital report, there were 90 global pharmaceutical companies in the U.A.E. as of 2014.<sup>235</sup> Some of these companies – such as Pfizer and Janssen EMEA (the pharmaceutical arm of Johnson & Johnson) – decided to make the U.A.E. the site of their regional headquarters.

Moreover, these companies are increasingly not just selling products in the U.A.E., but engaging in other activities as well. According to Dr. Amin Al Amiri, the number of scientific offices of international pharmaceutical companies rose from 30 in 2013 to 47 in 2016. He expects this number to reach 75 by 2020.<sup>236</sup>

### U.S.-U.A.E. Pharmaceutical Partnerships

- **Julphar Gulf Pharmaceutical Industries and MSD:** In April 2014, Julphar entered into an agreement with Merck Sharp & Dohme (MSD), as U.S.-based pharmaceutical giant Merck is known outside the United States, under which Julphar can produce, distribute, and sell select MSD products in the U.A.E., Kuwait, Bahrain, Oman, Qatar, and Iraq.
- **Neopharma and Wyeth:** In May 2014, Neopharma joined with Wyeth, a Pfizer unit, to manufacture selected Pfizer products, starting with cardiovascular medicines related to hypertension and heart diseases.<sup>237</sup>

**Julphar**  
الخليج للصناعات الدوائية  
Gulf Pharmaceutical Industries



These international pharmaceutical companies are drawn to operate in the U.A.E. for a variety of reasons. In addition to its growing domestic market, the U.A.E. boasts a strategic location and sophisticated logistics infrastructure that make it an ideal hub to access growing regional markets in Africa, Asia, and the Middle East. The U.A.E. has also created business friendly environments in which pharmaceutical companies can operate, as seen in the next section.

Key to the continued expansion of international pharmaceutical companies in the U.A.E. is the protection of intellectual property. U.S. pharmaceutical products have long been protected by U.A.E. Ministerial Decree 404 of 30 April 2000, which prohibited the registration of any pharmaceutical product in the U.A.E. until the expiry of the patent term of the original product in the country of origin. The U.A.E. continues to work with the U.S. government and U.S. industry to ensure that U.S. pharmaceutical companies have the necessary assurances to make investments in U.A.E. operations.

### Pharmaceutical Hubs

Several free zones have become hubs for the pharmaceutical industry.

- ❖ **Dubai Healthcare City:** Launched in 2002 by His Highness Sheikh Mohammed bin Rashid Al Maktoum, U.A.E. Vice-President and Prime Minister and Ruler of Dubai, Dubai Healthcare City (DHCC) seeks to become an internationally recognized location of choice for quality healthcare and an integrated center of excellence for clinical and wellness services, medical education, and research. It has become a hub for pharmaceutical companies such as Abbott, Allergan Middle East, AstraZeneca, Baxter, Boehringer Ingelheim, Eli Lilly, Gilead Sciences, Johnson & Johnson, Julphar, Merck Serono, Merck Sharp and Dohme (MSD), Novartis, Novo Nordisk, and Sanofi.<sup>238</sup>





- ❖ **Dubai Science Park:** Dubai Science Park (DSP), which is part of the TECOM Group, is a science-focused business community, dedicated to supporting entrepreneurs, start-ups, SMEs, and MNEs. Since its inception in 2005, the community has grown to more than 350 companies, including Amgen, Bayer, Bristol-Myers Squibb, Fresenius Medical Care, Medtronic, Merck Serono, and Pfizer, and together the community employs over 3,600 industry professionals.<sup>239</sup>



- ❖ **Jebel Ali Free Zone:** In the 34 years since its inception, Jebel Ali Free Zone (Jafza) has become a key contributor to Dubai's economy and a growth engine for trade and commerce in the wider MENA region. Jafza is the leading source of foreign direct investment (FDI) in the U.A.E., accounting for around 32% of all FDI inflow, and has created a business environment that has helped drive forward economic diversification.



As a part of its diversification efforts, Jafza has worked towards helping grow Dubai's healthcare and pharmaceutical industry. Jafza's healthcare and pharmaceutical trade accounted for roughly 39% and 30.5% of Dubai's total trade volume and value respectively in 2017. Currently, there are over 160 companies registered with the free zone from 38 countries, including leading industry players such as Johnson & Johnson, Colgate, Roche, Sanofi, GlaxoSmithKline, and Quest Vitamins. In September 2017, Jafza agreed to work alongside the UAE Ministry of Health and Prevention to increase support for the sector and encourage the establishment and growth of an indigenous pharmaceutical product manufacturing base in Dubai.

## E. Medical Equipment

The projected growth of the U.A.E.'s medical equipment market broadly mirrors that of other sectors. BMI estimated in 2015 that the medical device market would grow at a compound annual rate of 8.2% from \$967 million in 2015 to \$1.4 billion by 2021.<sup>240</sup> Given that the U.A.E. produces relatively little medical equipment domestically, this means significant business opportunities for international companies.

### Diagnostic Imaging Equipment

Diagnostic imaging equipment comprises a large percentage of the U.A.E. medical device market. In November 2016, Mordor Intelligence estimated that the U.A.E.'s diagnostic imaging equipment market would reach \$738 million by the end of 2020.<sup>241</sup>

Here, the U.A.E. has a preference for products from brand-named international companies, who have often turned to the U.A.E. for the site of their regional headquarters.

- ❖ **GE Healthcare:** From its regional headquarters in Dubai, GE Healthcare provides transformational medical technologies and services to meet the demand for increased access, enhanced quality, and more affordable healthcare around the world. From medical imaging, software & IT, patient monitoring, and diagnostics to drug discovery, biopharmaceutical manufacturing



technologies, and performance improvement solutions, GE Healthcare helps medical professionals deliver great healthcare to their patients.<sup>242</sup>

- ❖ **Siemens Healthineers:** Siemens Healthineers, which is the separately managed healthcare business of Siemens and is a leading provider of medical imaging equipment, bases its Middle East regional office out of Dubai Healthcare City.<sup>243</sup> In December 2016, Siemens Healthineers partnered with Easa Saleh Al Gurg to set up its first U.A.E. business.<sup>244</sup>
- ❖ **Philips Healthcare:** Dubai serves as the Middle East headquarters for Philips Healthcare, which is also a global leader in health technology. This headquarters services 15 markets, including the U.A.E.<sup>245</sup>

## Cardiovascular Devices

Cardiovascular devices are another important segment of the U.A.E. medical device market, especially given the increasing incidence of cardiovascular disease due to sedentary lifestyles and obesity. This market is principally centered on interventional cardiology and cardiac rhythm management.<sup>246</sup>

Many of the key players in this segment also have significant U.A.E. operations.

- ❖ **Abbott:** Dubai serves as a regional headquarters for Abbott, which is one of the world's leading healthcare companies in medical devices as well as nutrition, pharmaceuticals, and diagnostics.<sup>247</sup> Abbott's acquisition of St. Jude Medical created a combined company with best-in-class solutions across the areas of cardiovascular and neuromodulation.<sup>248</sup>
- ❖ **Medtronic:** Dubai is the home for Medtronic's headquarters for the Middle East & Africa, Central Asia & Turkey (MEACAT). These markets comprise 1,400 Medtronic professionals and produce approximately \$1 billion in revenue.<sup>249</sup> Medtronic is world renowned for its wide array of cardiac and vascular products.<sup>250</sup>
- ❖ **Johnson & Johnson:** Dubai is the home of Johnson & Johnson Middle East FZ-LLC, which oversees the regional production of a broad range of products used primarily by healthcare professionals in the fields of cardiovascular disease as well as orthopedics, neurovascular, surgery, vision care, diabetes care, infection prevention, diagnostics, sports medicine, and aesthetics.<sup>251</sup>

## Local Manufacturing and 3D Printing

Although the U.A.E. is still heavily reliant on imports of more sophisticated medical equipment, it is beginning to develop a nascent medical products industry, starting with products like medical consumables. For instance, Abu Dhabi National Industrial Projects (ADNIP) partnered with NNE Pharmaplan to launch the Abu Dhabi Medical Devices Company, which manufactures Auto Disable syringes, Single Use syringes, Insulin syringes, and IV Cannula.<sup>252</sup>



One area in which the U.A.E. is poised to play a leading role in the future is 3D printing. In 2016, His Highness Sheikh Mohammed bin Rashid Al Maktoum, Vice President and Prime Minister of the U.A.E. and Ruler of Dubai, launched the 'Dubai 3D Printing Strategy' in order to exploit this technology for the "service of humanity" and promote the status of the U.A.E. and Dubai as a leading hub of 3D printing technology by the year 2030. One of the primary focus areas of this strategy is to the medical products sector, which could involve developing 3D printed teeth, bones, artificial organs, medical and surgical

devices, and hearing aids. As a sign of Dubai's seriousness in this regard, the Dubai Future Foundation created an "Office of the Future," which is the first fully functional, inhabited 3D printed building ever.<sup>253</sup>

#### **U.A.E. Partnerships with U.S. Medical Equipment Companies**

- **GE Healthcare** brings the best of its scale and capabilities to serve as a strategic partner to public and private sector providers across the U.A.E. including the U.A.E. Ministry of Health and Prevention, Dubai Health Authority (DHA) and Abu Dhabi Health Services Company (SEHA).



GE Healthcare

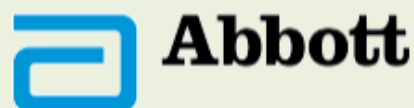
- **3M**, as a well-established healthcare consumables manufacturer and supplier to the healthcare segment, has worked with U.A.E. healthcare service providers and regulators to improve healthcare outcomes and the service level provided to patients. Its healthcare Scientific Affairs and Education team has conducted countless in-hospital seminars and educational sessions, while leveraging its 3M Health Care Academy to accelerate the development of local capabilities and knowledge transfer. In its Oral Care business, 3M is providing advanced Dental materials and aesthetic orthodontic solutions for dentists and orthodontists. In its Medical Solutions Business, it is predominantly focusing on providing differentiated solutions to prevent Central Line Associated Blood Stream Infection (CLABSI) and Medical Adhesives Related Skin Injury (MARS). By doing so, it enables health care service providers as well as patients to benefit from a reduced Hospital Acquired infections ratio, associated complications, and costs.



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#### U.A.E. Partnerships with U.S. Medical Equipment Companies (continued)

- **Abbott** announced in October 2017 the establishment of the Abbott Diabetes Academy. This Academy, which is located in Dubai Healthcare City, is the first dedicated training academy in the U.A.E. for healthcare professionals working with diabetes patients. With its mission to act as a center of excellence and education and training partner for the regional public and private healthcare and diabetes community, the Academy will provide practical tools that can be applied by endocrinologists, diabetologists, and educators to improve the region's management of diabetes. The announcement of this Academy came during the first USA Healthcare Symposium and Showcase on Nutrition, Obesity, and Diabetes, which was held as part of Discover America month at the Mohammed bin Rashid University of Medicine and Health Sciences in Dubai.<sup>254</sup>



- **Medtronic** signed a deal with the University of Sharjah in 2015 whereby Medtronic Academy, the educational wing of Medtronic, would collaborate with the University to educate regional physicians on Medtronic products and therapies as well as general cardiac topics.<sup>255</sup>



## F. Information Technology

The U.A.E.'s Healthcare Information Technology (IT) market is set to grow swiftly in the coming years. This growth is partly driven by government initiatives around the digitization of electronic medical records.

### Electronic Health Records and Health Information Exchanges

For the past decade, the U.A.E. has been gradually implementing electronic health record (EHR) and health information exchange (HIE) systems throughout the country that promise to help the country reduce duplication, medication errors, and the length of hospital stays; improve patient safety and outcomes; and inform more effective public health policies.

In 2008, the U.A.E. Ministry of Health launched the "Wareed" project to establish a 'one patient, one record' electronic health record system by linking all of its facilities in Dubai and the northern emirates. This project, which involved deploying Cerner Millennium systems in all Ministry hospitals and clinics, was managed by Dubai-based Hybrid Health Solutions and implemented by a consortium including

iCapital, Cerner Corporation, Gulf Business Machines (the sole distributor of most IBM products and services), and Injazat Data Systems.<sup>256</sup> The now-Ministry of Health and Prevention continues to improve upon this system with new features, such as those enabling clinicians to verify correct medication doses.<sup>257</sup>

That same year, the Abu Dhabi Health Services Company (SEHA) launched its own electronic health records system. In 2008, Tawam Hospital in Al Ain became the first SEHA hospital to successfully implement Cerner Millennium healthcare information technology solutions at its facility.<sup>258</sup> By 2015, HIMSS Analytics Middle East awarded all 11 SEHA facilities a “Stage 6” rating on its Electronic Medical Record Adoption Model.<sup>259</sup>

In August 2018, the Department of Health - Abu Dhabi (DOH) signed a strategic partnership agreement with Injazat Data Systems, a wholly owned subsidiary of Mubadala Investment Company, to develop an integrated Health Information Exchange system for the healthcare sector in Abu Dhabi. The Abu Dhabi Health Information Exchange (ADHIE) will ultimately connect more than 2,000 Abu Dhabi healthcare providers from both the public and the private sector, offering healthcare services to more than 3 million people in the Emirate of Abu Dhabi.<sup>260</sup> The ADHIE’s four core areas of functionality will be Diagnostic Data Exchange, Provider Portal, Patient Portal, and Public Healthcare Services, which will be upgraded as needs arise.

Meanwhile, in Dubai, the Dubai Health Authority (DHA) embarked on an electronic health records system known as “Salama.” This system, which was announced in February 2016, has created one electronic record for each resident who uses a public hospital in that emirate.

The Dubai Health Authority now intends to extend this electronic health records system to private facilities in the emirate as well through its NABIDH (Network and Analysis Backbone for Integrated Dubai Health) initiative. This initiative will ultimately enable the creation of a single unified medical record for each individual in Dubai by linking the information contained in all public and private health care facilities.<sup>261</sup>

## U.S.-U.A.E. Electronic Health Record and Health Information Exchange Partnerships

- **Cerner Corporation**, which designs health information technology that is employed in more than 27,000 facilities worldwide, is highly active in the U.A.E., where its clients have included the Abu Dhabi Health Services Company (SEHA), the Ministry of Health and Prevention (MOHAP), Mobile Doctors, Healthpoint, National Reference Laboratory, King's College Hospital Dubai, Al Jalila Children's Specialty Hospital, and the U.A.E. Armed Forces. In 2008, MOHAP began deploying Cerner Millennium as part of its Wareed Project to establish a "One Patient, One Record" system in its hospitals; in November 2016, MOHAP renewed and expanded this partnership with Cerner. In July 2018, Mubadala Healthcare implemented an integrated electronic health record system from Cerner.



- **Epic Systems**, a Wisconsin-based company with an international office in Dubai, has long been present in the U.A.E. healthcare sector. As early as 2008, it signed a seven-year contract to implement clinical technology at the Mohammed bin Rashid Al Maktoum Academic Medical Center in Dubai Healthcare City. Epic Systems' electronic medical records information system is also used by Cleveland Clinic Abu Dhabi, which was awarded the prestigious HIMSS Stage 7 certification for its improvements using Epic.



- **InterSystems**, a global U.S.-based provider of database, integration, and analytics software, has been engaged to deploy its health information systems at a variety of U.A.E. medical institutions, including Mediclinic, Emirates Hospital Group, Neuro Spinal Hospital, and Capital Health's Specialized Rehabilitation Hospital.<sup>262</sup>



Along these lines, private healthcare facilities have made significant investments in new electronic health records systems. In 2017 alone, Mediclinic, Emirates Hospital Group, and Neuro Spinal Hospital all turned to InterSystems TrakCare for such purposes. In so doing, these institutions have highlighted InterSystems' advanced interoperability, which will enable it to respond to the NABIDH scheme.<sup>263</sup>

The ultimate goal of all of the above initiatives is a unified national database of patients' medical records. In May 2015, the U.A.E. cabinet backed the establishment of such a database, which it envisaged would take four years.<sup>264</sup>



## Telemedicine

The U.A.E. is also improving healthcare through the increasing adoption of telemedicine, which enables both patients to consult medical professionals and medical professionals to consult each other from a distance. This has reduced hospital visits, limited the movement of patients between hospitals, and extended healthcare services to more remote locations.

In Abu Dhabi, Mubadala Healthcare formed a joint venture with Switzerland's leading telemedicine provider, Medgate, to create the Abu Dhabi Telemedicine Center. This center offers over-the-phone medical consultations in both Arabic and English with medical professionals 24 hours per day, 7 days per week. All services are offered exclusively through Daman to Thiqa and Enhanced cardholders.<sup>265</sup>

Meanwhile, in Dubai, Dubai Health Authority (DHA) has introduced telemedicine at its facilities through the "Dubai RoboDoc" initiative. In March 2017, DHA completed the trial phase of this initiative, which enables doctors to consult with two or more specialists in different health facilities at the same time by way of robots. After the completion of this trial phase, DHA announced that it plans to make this service available across all DHA hospitals and health centers. It also plans to make the service available to home-care patients by means of visiting nurses.<sup>266</sup>

In addition to the above initiatives, the U.A.E. has embraced teleradiology. Mulk Holdings, a prominent Sharjah-based conglomerate, has built two telemedicine and diagnostic centers in Dubai.<sup>267</sup> More recently, as seen above, GE Healthcare, the Ministry of Health and Prevention, and Abu Dhabi International Medical Services formed an innovative, performance-based public-private-partnership called Unison to create the U.A.E.'s first public sector teleradiology capability.

Finally, several startups have embraced telemedicine concepts. "Health at Hand," which is licensed by the Dubai Multi Commodities Center, provides patient-to-doctor video consultations.<sup>268</sup> Meanwhile, "Heydoc!" allows you to find the right doctor, chat with the doctor, share pictures or other information, and get personalized guidance. Finally, "Smart Seha" allows you to call a doctor.<sup>269</sup>

## Smart Technology and Apps

The U.A.E. has embraced the power of smart technologies. For instance, the Dubai Health Authority (DHA) has introduced smart pharmacies where robots can dispense 12 prescriptions in less than one minute from a store of up to 35,000 medicines.<sup>270</sup> DHA has also put electronic tags on babies' ankles to protect against any unauthorized movement.<sup>271</sup> At the same time, it has introduced a small wireless patch that can remotely monitor the heart rates of patients for up to 30 days.<sup>272</sup>

The U.A.E. has also experimented with a wide variety of apps. Dubai Health Authority (DHA) has released no less than eight apps that are geared toward various audiences from patients to doctors, students, medical tourists, blood donors, pregnant women, diabetics, and even investors.<sup>273</sup> It has also developed apps for kids, such as the Tummyfish app, which encourages children to remember to drink water.<sup>274</sup>

## Other U.S.-U.A.E. Information Technology Partnerships

- **IBM** is currently engaged with health leaders in the U.A.E., deploying IBM Services and Technology to enhance and augment care practices and support the U.A.E.'s Artificial Intelligence vision. Commonly referred to as Artificial Intelligence, this new generation of technology and systems that it helps power promises to touch every facet of work and life – with the potential to radically transform them for the better. This is because these systems can ingest and understand all forms of data, which is being produced at an unprecedented rate. The purpose of AI and cognitive systems developed and applied by IBM is to augment human intelligence, not replace it. Cognitive systems, like IBM Watson, can reason over this data, forming hypotheses and judgments.
- **3M Health Information Systems** has been a strategic partner to many U.A.E. healthcare facilities to utilize automation and the deployment of Artificial Intelligence tools to improve the outcome of the total healthcare value chain, from the patient to the service provider and the regulator.
- **Honeywell**, a global leader in connected healthcare, has over 50 years of experience in hospital environments worldwide. The company has a long history in the U.A.E., where it leverages advanced software solutions and Internet of Things (IoT) technology to deliver 'Connected Hospital,' 'Connected Clinician,' and 'Connected Patient' initiatives. Integrating infrastructure and disparate systems to enable better care, Honeywell works with state-of-the-art healthcare facilities across the U.A.E. to ensure the rapid flow of information for more agile operations. Honeywell also specializes in workflow automation and communications to help reduce errors and increase productivity for clinicians, while improving the health of patients through effective monitoring in the hospital and beyond. As part of its commitment to innovation, Honeywell recently implemented an infant tracking solution at a large private hospital in the Middle East. The system provides a special service level to parents who want to track the identity, activity, and movement of their newborn babies, to ensure the highest level of safety and care.<sup>275</sup>

**IBM Watson Health™**

**3M**  
Health Information Systems




**Honeywell**  
THE POWER OF **CONNECTED**

## G. Education, Research, and Events

In order to meet its ever-increasing need for qualified medical professionals, the U.A.E. has sought to grow its nascent medical education and training capacity. It has also endeavored to make the country a regional hub for medical research and events.

### Education and Training

Over the last several decades, a number of medical education institutions have sprouted up in the U.A.E. The most notable of these institutions are:

- ❖ **United Arab Emirates University (UAEU):** Opened in 1984, UAEU's College of Medicine and Health Sciences takes pride in being the first and highest-ranked medical school in the U.A.E. It offers a four-year M.D. program, the pre-requisite for which is successful completion of its two-year premed program. It also offers several graduate programs including a Master of Public Health, Master of Medical Sciences, and a Doctor of Pharmacy. Additionally, it offers PhDs in Biomedical Sciences and Public Health and Occupational Health.<sup>276</sup> In late 2015, the Abu Dhabi Urban Planning Council approved an expansion of U.A.E. University's medical college so as to accommodate an additional 500 students.<sup>277</sup>
- ❖ **The University of Sharjah:** Opened in 2006, the University of Sharjah's College of Medicine offers a Bachelor of Medicine and Bachelor of Surgery (MBBS) degree; a Master's degree in Molecular Medicine; a Master's degree in Leadership on Health Professions Education; and a Doctorate degree in Molecular Medicine.<sup>278</sup> The University of Sharjah also has Colleges of Dental Medicine, Pharmacy, and Health Sciences, the latter of which offers a BSc. in Nursing.<sup>279</sup> The University of Sharjah is notably home to the 325-bed University Hospital Sharjah.<sup>280</sup>
- ❖ **Higher Colleges of Technology:** The Higher Colleges of Technology's Health Sciences Division offers a broad range of Health Sciences Bachelor Degree programs across its 17 campuses, including Bachelor's degrees in Emergency Medical Services, Health Information Management, Medical Imaging Science, Medical Laboratory Technology, Nursing, Pharmacy, Social Work, and Veterinary Science.<sup>281</sup>
- ❖ **Gulf Medical University:** Based in Ajman, this University, which is associated with the aforementioned Thumbay Group, offers a MBBS degree as well as Bachelor's degrees in Biomedical Sciences, Physiotherapy, Medical Laboratory Sciences, Medical Imaging Sciences, Anesthesia & Surgical Technology, and Nursing. It also offers Doctorate degrees in Dental Medicine and Pharmacy.<sup>282</sup> In August 2018, Gulf Medical University (GMU) expanded its footprint and launched Academic Thumbay University Hospital, two new colleges, and new programs as part of its planned educational strategy. The expansion includes the introduction of a Master's degree in Public Health, Environmental Health, and Toxicology, which have been made possible thanks to a partnership between Gulf Medical University and University of Arizona's Mel and Enid Zuckerman College of Public Health.<sup>283</sup>

- ❖ **RAK Medical & Health Sciences University:** Fully owned and managed by the government of Ras Al Khaimah, this institution claims to be the first comprehensive health science university in the U.A.E. It offers a MBBS degree as well as Bachelor's degrees in Dental Surgery, Pharmacy, and the Science of Nursing. It also offers Master's of Science Degrees in Pharmacy and Nursing.<sup>284</sup>
- ❖ **Fatima College of Health Sciences:** Established in 2006, this Abu Dhabi-based college began by offering a BSc. in Nursing through a program now operated in collaboration with Griffith University in Australia. It currently offers more than ten degree programs at BSc. and Diploma levels in Health Sciences.<sup>285</sup> Notably, it has collaborated with Etihad Airways Medical Center to provide three students per year with an opportunity to pursue a career in nursing with the airline.<sup>286</sup>
- ❖ **Dubai Medical College for Girls:** This all-female institution offers a MBBS degree to women.<sup>287</sup>
- ❖ **Dubai Pharmacy College:** This all-female college provides Bachelor of Pharmacy and Master of Pharmacy degrees.<sup>288</sup>
- ❖ **Royal College of Surgeons in Ireland - Dubai:** Established in 2005, this institution offers Master's of Science degrees in Healthcare Management as well as Quality & Safety in Healthcare Management.<sup>289</sup>



One of the newest entrants to the U.A.E. medical education scene is the Mohammed bin Rashid Academic Medical Center, which includes the Mohammed bin Rashid University of Medicine and Health Sciences, the Al Maktoum Medical Library, and the Khalaf Ahmad Al Habtoor Medical Simulation Center. The Mohammed bin Rashid University features a College of Medicine that offers a six-year MBBS program in partnership with Queen's University Belfast and clinical affiliate Mediclinic.<sup>290</sup> The Hamdan bin Mohammed College of Dental Medicine is also part of the Mohammed bin Rashid University, offering Master of Science programs in Endodontics, Oral Surgery, Orthodontics, Pediatric Dentistry, Periodontology, and Prosthodontics.<sup>291</sup> The Khalaf Ahmad Al Habtoor Medical Simulation Center (KHMSC), named after a prominent U.A.E. real estate tycoon, is the first comprehensive simulation training facility of its kind in the region.<sup>292</sup>



The Mohammed bin Rashid University of Medicine and Health Sciences is part of a larger expansion of Dubai's medical education facilities. In January 2015, the Dubai Health Authority announced the planned construction of an additional three medical colleges and five nursing schools in Dubai to meet that emirate's future health needs.<sup>293</sup> Meanwhile, in the private sector, Saudi healthcare service provider Fakeeh.Care has begun constructing a 1 billion AED [\$272 million] medical university and hospital in Dubai Silicon Oasis.<sup>294</sup>

New public and private sector medical education institutions are also taking root in neighboring Abu Dhabi. In early 2016, the Abu Dhabi Urban Planning Council approved plans for the creation of a medical school at the prestigious Khalifa University, which has since been renamed the Khalifa University of Science and Technology following its 2017 merger with both the Masdar Institute and the Petroleum Institute.<sup>295</sup> Khalifa University launched Abu Dhabi's first medical school in September 2018. The University's American-style Doctor of Medicine (MD) program is set to start in 2019.<sup>296</sup>



Separately, in June 2016, Indian billionaire Dr. BR Shetty said he would invest at least \$2 billion in the construction of a medical university in honor of U.A.E. Founding Father Sheikh Zayed Al Nahyan.<sup>297</sup> More recently, in April 2017, His Highness Sheikh Mohamed bin Zayed issued directives to set up a specialized medical college and build a specialized medical city in Abu Dhabi.<sup>298</sup>

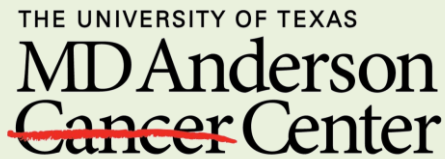
#### Other U.S.-U.A.E. Educational Partnerships

- **Children's National Medical Center** provides four training positions to Emirati physicians during their clinical and trial rotations. Each year, it also provides work experience to a number of Emirati students from UAE University, Higher Colleges of Technology, and Khalifa University.
- **Mayo Clinic and MD Anderson Cancer Center** are among the top U.S. hospitals where Emirati doctors and final year medical students receive specialized medical training as part of a program between The Scholarship Office at the Ministry of Presidential Affairs and the Khalifa bin Zayed Al Nahyan Foundation.



## Other U.S.-U.A.E. Educational Partnerships (continued)

- **MD Anderson Cancer Center and Cleveland Clinic Abu Dhabi** entered into a medical partnership in 2014 with the Khalifa bin Zayed Al Nahyan Foundation (KBZF) to develop the skills of Emirati doctors, medical students, and administrators. Under the partnership, educational programs are offered to qualified Emirati candidates, ranging from collaborative internships to scholarships, residencies, and fellowships.



- **Cleveland Clinic Abu Dhabi** chose 75 Emirati and expatriate high school students to participate in its prestigious two-week Junior Caregiver Program in the summer of 2018 across 4 of its 14 Institutes. It also formed partnerships with local education establishments such as Fatima College of Health Sciences, a local higher education college, from which it recruited five candidates to join its graduate nursing program. The hospital also sponsored 20 students from the college to continue their studies. Cleveland Clinic Abu Dhabi has been designated an advanced teaching facility by the Abu Dhabi department of Health. In September 2018, Cleveland Clinic Abu Dhabi welcomed its first eight U.A.E. national resident physicians as part of its ongoing plans to boost the number of Emirati physicians practicing in the country and support a sustainable healthcare sector.



- **Cleveland Clinic Abu Dhabi and New York University Abu Dhabi** agreed in May 2016 to collaborate on research, knowledge sharing, education, and training programs.<sup>299</sup>





## Research

U.A.E. universities are increasingly conducting innovative medical research. For instance, Sharjah University created a Research Institute of Medical & Health Sciences, which seeks to help make the university a national and international leader in biomedical and health sciences. Its research focuses on experimental and system biology, experimental genetics, disease states experimental therapeutics, inflammatory diseases, and clinic epidemiology/health policy.<sup>300</sup> Moreover, NYU Abu Dhabi has created a Public Health Research Center (PHRC), which seeks to identify environmental and genetic determinants of health problems in Abu Dhabi and develop and test new public health interventions to promote wellness in the emirate.



Likewise, private sector companies are increasingly conducting research in the U.A.E., facilitated by dedicated facilities such as those provided by Dubai Science Park. The community features world-class laboratory space, equipped with air exhaust and ventilation systems, acid resistant draining, and pH neutralization systems amongst other technical features. As a result, the laboratories have become home to a wide range of organizations conducting activities including research and product development, testing, diagnostics, manufacturing, and production.<sup>301</sup>

Meanwhile, several dedicated medical research centers have emerged in the country. In March 2017, the Thumbay Institute of Precision Medicine and Translational Research opened on the site of Gulf Medical University to conduct postgraduate research, particularly on diabetes and cancer. The Thumbay Institute of Population Health and the Thumbay Institute of Healthcare Workforce Development and Leadership are also expected to open soon.<sup>302</sup> So, too, will Al Jalila Foundation Research Center, which is a 200 million AED [\$54 million] institution being built in Dubai Healthcare City to research five major areas: cancer, cardiovascular disease, diabetes, obesity, and mental health.<sup>303</sup>

At the same time that medical research has expanded in the U.A.E., Emirati researchers have conducted research in the United States through partnerships with leading medical institutions. For instance, in December 2016, an Emirati researcher, Dr. Humaid Al Shamsi, who is an Assistant Professor at the MD Anderson Cancer Center at the University of Texas, was the primary investigator in the identification of a rare subtype of colon cancer. The discovery was the result of collaboration between the Sheikh Khalifa bin Zayed Al Nahyan Institute for Personalized Cancer Therapy at MD Anderson and the Mayo Clinic, with research support from the Khalifa bin Zayed Al Nahyan Foundation.<sup>304</sup>

## U.S.-U.A.E. Research Collaborations

- **Harvard International Medicine** (now Partners HealthCare International) and the government of Dubai founded the Dubai Harvard Foundation for Medical Research to support cutting-edge collaborative research and establish sustainable research and education programs focused on diseases relevant to the MENA region. In January 2015, it formed the Harvard Medical School Center for Global Health Delivery-Dubai in Dubai Healthcare City. This institution is mandated to address regional health issues through research, medical education, and training.
- **New York University Abu Dhabi (NYU Abu Dhabi)** announced the launch of the “UAE Healthy Future Study” in early 2017, which is a long-term study of 20,000 Emiratis to better understand the risk factors of obesity, diabetes, and heart disease. The study is being conducted in collaboration with SEHA, Zayed Military Hospital, UAE University, Zayed University, Khalifa University, EBTIC, Healthpoint, Cleveland Clinic Abu Dhabi, Capital Health Screening Center, and Daman. Separately, in November 2018, the Emirates Scientists Council signed a strategic partnership agreement with New York University Abu Dhabi. The MoU grants researchers from various disciplines access to the university’s advanced science laboratories and research centers to conduct ground-breaking studies.<sup>305</sup>
- **The Medtronic Foundation** gave a two-year \$100,000 Health Access Grant to Al Jalila Foundation in February 2017 to fund a local research program focusing on Vitamin D deficiency across the country. The grant will allow Al Jalila Foundation to promote early detection and prevention of the disease.<sup>306</sup>



**CENTER FOR GLOBAL  
HEALTH DELIVERY-DUBAI**  
HARVARD MEDICAL SCHOOL

جامعة نيويورك أبوظبي



**NYU | ABU DHABI**



**Medtronic**  
FOUNDATION

The U.A.E. has spurred much of the above activity through generous grants. For example, Al Jalila Foundation has not only funded the construction of the Al Jalila Foundation Research Center, but it has also provided scholarships to U.A.E. medical students and funded U.A.E.-based medical research.<sup>307</sup> Indeed, as of December 2017, Al Jalila

Foundation had awarded 20 million AED [\$5.4 million] to 76 U.A.E.-based research projects.<sup>308</sup> Al Jalila

مؤسسة الجليلة  
AL JALILA FOUNDATION



Foundation is not alone, as the Sheikh Hamdan bin Rashid Al Maktoum Award for Medical Sciences, which funds medical research, is now in its 18<sup>th</sup> year.<sup>309</sup>

## Exhibitions and Conferences

Over the last decade, the U.A.E. has become a regional hub for healthcare exhibitions and conferences. Every January, the U.A.E. hosts the largest gathering of healthcare and trade professionals in the Middle East, “Arab Health.” In 2018, more than \$778 million worth of business was generated by exhibitors during the event.<sup>310</sup> In 2019, the event is expected to welcome more than 4,150 exhibiting companies and 84,500 attendees from over 160 countries.<sup>311</sup>



The U.A.E. also hosts a variety of more specialized annual events. These include MEDLAB, which is the largest attended laboratory expo worldwide with approximately 600 exhibitors and more than 25,000 attendees.<sup>312</sup> Also included are the Building Healthcare Innovation and Design Show, the AccessAbilities Expo, and the Health Information and Management Systems Society (HIMSS) U.A.E. Health Week.<sup>313</sup> For more information about MEDLAB and the Building Healthcare Innovation and Design Show please visit [www.medlabme.com](http://www.medlabme.com) and [www.buildinghealthcare-exhibition.com/en/Home.html](http://www.buildinghealthcare-exhibition.com/en/Home.html).

### **“Reaching the Last Mile” Global Health Forum**

In November 2017, Abu Dhabi convened key global health stakeholders for the “Reaching the Last Mile” global health forum. This forum, held in partnership with the Bill and Melinda Gates Foundation and the Carter Center, sought to catalyze action to reach the “last mile” of eliminating and eradicating certain preventable diseases.

During this forum, His Highness Sheikh Mohammed bin Zayed Al Nahyan, Crown Prince of Abu Dhabi and Deputy Supreme Commander of the U.A.E. Armed Forces, and Bill Gates each pledged \$20 million towards a \$100 million fund to tackle diseases including river blindness and lymphatic filariasis (elephantiasis). Two of the world’s largest drug companies, MSD (as U.S. pharmaceutical giant Merck is known outside the United States) and GlaxoSmithKline, also announced in-kind contributions of drugs, with co-investments from the UK Department of International Development and the U.S. Agency for International Development (USAID). MSD, in particular, announced that it would manufacture and provide free of charge 880 million tablets through 2025 to support river blindness treatment and efforts to achieve eradication. The conference also led to the establishment of a new research institute based in Abu Dhabi that will develop policies to combat infectious disease.

This forum built on previous partnerships between the U.A.E. and both the Bill and Melinda Gates Foundation and the Carter Center. In 2013, Abu Dhabi, in partnership with the Bill and Melinda Gates Foundation, convened the Global Vaccine Summit, which raised \$4 billion in commitments to polio eradication. More than 30 years ago, the late U.A.E. President His Highness Sheikh Zayed bin Sultan Al Nahyan forged a partnership with the Carter Center around Guinea worm disease eradication that continues to this day.<sup>314</sup>

## H. Public Health

In line with the U.A.E.'s Vision 2021, the U.A.E. has recently made a major push to reduce the incidence of chronic diseases by adopting relevant legislation and launching public health campaigns.

### Anti-Smoking

Above all, the U.A.E. has focused on combating smoking. In January 2014, the U.A.E. announced the implementation of Federal Law No. 15 of 2009 that, among other things, made it illegal to smoke in houses of worship, universities, and schools; prohibited smoking in a vehicle when a child under 12 was present; forbid the sale of cigarettes to individuals under the age of 18; banned all tobacco advertising and promotion; and mandated a large warning label on the packaging of tobacco products.<sup>315</sup> Building on this legislation, in November 2014, the then-U.A.E. Ministry of Health announced a nationwide ban on smoking in all enclosed public spaces.<sup>316</sup> Two years later, in 2017, the U.A.E. introduced an excise tax of 100% on tobacco products.<sup>317</sup>

### Cancer Screening

The U.A.E. government has also made concerted efforts to promote early cancer detection through screening. In September 2015, the then-Ministry of Health launched an official cancer screening initiative to raise awareness about cancer and the importance of early detection through regular medical check-ups. In 2018, MOHAP regularly offered free breast cancer screenings across the U.A.E.<sup>318</sup> Moreover, in October 2018, MOHAP launched its month-long Breast Cancer Awareness and Prevention Program to raise community awareness on early detection and diagnosis, prevention and treatment methods, and risk factors.<sup>319</sup>

Other U.A.E. entities have also provided free screenings. For instance, Ambulatory Healthcare Services has conducted breast cancer screenings in Abu Dhabi. Moreover, Zulekha Healthcare has offered free screenings for breast cancer and colorectal cancer at its facilities in Sharjah and Dubai.<sup>320</sup>



These initiatives have complemented the longstanding efforts of the Friends of Cancer Patients. Founded by Sheikha Jawaher bint Mohammed Al Qasimi, this group has organized the high-profile “Pink Caravan” every year since 2011 to raise awareness about breast cancer early detection and screening.<sup>321</sup> In its first eight editions, the caravan travelled 1,700 kilometers across the seven emirates with 490 riders and 700 volunteers, providing free medical tests and screenings to 56,000 men and women, leading to the diagnosis of 61 breast cancer cases.<sup>322</sup>

### U.S.-U.A.E. Cancer Partnerships

- **The Susan G. Komen Foundation** has partnered with the U.A.E. to raise awareness of breast cancer and facilitate more effective outcomes in its prevention and treatment. The U.A.E. Embassy in Washington, D.C. regularly participates in the Susan G. Komen Race for the Cure as an official sponsor.
- **The American Cancer Society (ACS)** has partnered with Friends of Cancer Patients in the U.A.E. since 2014 to launch the U.A.E.'s first Relay for Life Race and translate the ACS's Cancer Atlas into Arabic. This Atlas provides a comprehensive guide to the global cancer landscape and is used to promote cancer prevention and control worldwide.<sup>323</sup>



### Combating Obesity, Diabetes, and Cardiovascular Disease

On top of its efforts to combat smoking and cancer, the U.A.E. has tried to fight growing rates of obesity and associated ailments through regulation and taxation of the food and beverage industry. In December 2013, the U.A.E. cabinet announced that it would require calorie counts to be printed on food products, limit the size of soft drinks that can be sold, regulate advertising of fast food, and enforce healthy food standards at school cafeterias.<sup>324</sup> In 2017, the U.A.E. introduced an excise tax of 50% on sugary beverages.<sup>325</sup>

Additionally, the U.A.E. has sought to combat these chronic ailments by promoting exercise. In 2017, His Highness Sheikh Hamdan bin Mohammed bin Rashid Al Maktoum, Crown Prince of Dubai and Chairman of the Executive Council of the Dubai Government, launched the Dubai Fitness Challenge, which challenged Dubai to be active for 30 minutes every day for 30 days. Sheikh Abdullah bin Zayed, Minister of Foreign Affairs and International Cooperation, was among the many U.A.E. officials who publicly embraced this challenge. A number of companies, such as Emirates, also accepted Sheikh Hamdan's challenge.<sup>326</sup> Sheikh Hamdan repeated the Dubai Fitness Challenge in 2018.

In recent years, educational campaigns about the danger of cardiovascular diseases have increased in the U.A.E. In December 2018, Amgen lit up Burj Khalifa in Dubai, the world's tallest building, as part of its "See The Emergency In Cholesterol" campaign.<sup>327</sup>

### U.S.-U.A.E. Fitness Partnerships

- **New York Road Runners** partners with the U.A.E. Embassy in Washington, D.C. on its annual U.A.E. Healthy Kidney 10K, which benefits the National Kidney Foundation. In 2018, close to 8,000 runners from around the globe finished this race through Central Park.<sup>328</sup>
- **Cleveland Clinic Abu Dhabi** and the Department of Health – Abu Dhabi organize Cycle for Health UAE, which seeks to promote cycling as a fun and healthy way to reduce the risk of chronic diseases. This initiative involves regular events at Zayed Sports City Stadium and is held in partnership with Healthpoint and Imperial College London Diabetes Center, all part of Mubadala Investment Company's network of world-class healthcare providers. Cleveland Clinic Abu Dhabi has also supported Walk 2017 and Walk 2018, the U.A.E.'s leading walkathon. The 2017 and 2018 editions of Walk were sponsored by Mubadala's Imperial College London Diabetes Center with the support of the Department of Health – Abu Dhabi, Healthpoint, and Cleveland Clinic Abu Dhabi.<sup>329</sup>



Finally, the U.A.E. has endeavored to detect chronic ailments at an early stage so they can be effectively managed and treated. For instance, the then-Health Authority – Abu Dhabi (now Department of Health) launched the “Weqaya” program, which screens individuals for cardiovascular disease, diabetes, and the risk factors associated with these two ailments.<sup>330</sup> U.A.E. nationals must undergo Weqaya screening in order to qualify for the elite “Thiqa” health insurance program.<sup>331</sup>



## PART III: ENTERING THE MARKET

The U.A.E. healthcare market offers enormous opportunities for U.S. companies to expand their presence and forge meaningful partnerships. However, it also poses certain challenges. Fortunately, there are a wide range of resources that companies can draw on to help them navigate any risks.

### A. Opportunities

As previously noted, the U.A.E.'s increasing population, demographic shifts, high prevalence of chronic diseases, wealth, and ambitions to become a regional medical tourism hub are all driving the expansion of the country's healthcare market. As a result, Business Monitor International projects healthcare expenditures in the U.A.E. will rise to \$21.3 billion by 2021 from \$17 billion in 2017.<sup>332</sup>

At the same time that it is a thriving healthcare market in its own right, the U.A.E. is an ideal regional hub from which to provide medical goods and services. The country is centrally located at the crossroads of Africa, Europe, and Asia. It boasts advanced transportation and logistics infrastructure. Moreover, it enjoys relative security, political stability, and favorable business regulations, particularly in free zones.

The U.A.E. provides attractive opportunities for U.S. companies in the field of healthcare provision, where there is a high demand for U.S. expertise, particularly in more specialized domains. American healthcare providers could replicate institutions in the U.A.E. as Cleveland Clinic did. Alternately, they could manage U.A.E. hospitals in the same fashion as Johns Hopkins Medicine International does. They could also include Emirati hospitals in their global healthcare networks, following the examples of Houston Methodist Global Health Care Services and the Mayo Clinic.



The U.A.E. also offers opportunities in the pharmaceutical, medical equipment, and healthcare IT sectors. U.S. companies will not only find the U.A.E. a ripe market for pharmaceutical exports, but they may also find it a suitable platform for the manufacture of drugs, perhaps following the lead of Merck and Pfizer in agreeing to local production arrangements. In addition, U.S. companies will find in the U.A.E. a growing market for medical equipment sales and one in which they can potentially sign agreements to install and service their own medical devices, as has GE Healthcare. At the same time, U.S. companies will find clients that are eagerly pursuing the latest innovations in healthcare information technology, as IBM Watson Health, 3M, and Honeywell can attest.

The U.A.E. presents opportunities in meeting an ever-increasing demand for medical professionals as well. Along these lines, U.S. doctors and nurses will find gainful employment in the U.A.E. In addition, world-class medical institutions will find local counterparts that are eager to partner with them to give the best education and training to future generations of local medical professionals, as Children's National Medical Center, Children's Hospital of Philadelphia, and others well know.

The above is far from an exhaustive list of opportunities available for U.S. companies in the U.A.E. healthcare market, and less obvious opportunities exist as well. For instance, U.S. companies may find lucrative contracts in designing or building the U.A.E.'s myriad planned medical facilities. Moreover, U.S. venture capital and private equity firms may find promising investment opportunities in the U.A.E. healthcare space, which includes a wide array of innovative healthcare startups.

Regardless of the opportunity U.S. companies are pursuing, one of the keys to success will be an on-the-ground commitment. Fortunately, there are numerous advantageous environments in which U.S. companies can establish themselves, including Dubai Healthcare City and Dubai Science Park. The U.S.-U.A.E. Business Council's guide to "[Doing Business in the United Arab Emirates](#)" provides U.S. company executives the essential information they need when considering operations in the U.A.E.

## **B. Challenges**

While there are abundant opportunities for U.S. businesses in the U.A.E. healthcare industry, these opportunities are somewhat limited by the size of the market. The U.A.E.'s population of 9.4 million people, which is relatively small by global standards, limits the profitability of certain healthcare enterprises that depend on scale and whose scale cannot be achieved by either the U.A.E.'s connections to the wider region or the U.A.E.'s booming medical tourism market. This is particularly the case where there is fierce competition, as there is in the healthcare insurance industry.

This problem of scale has been exacerbated to a certain degree by the fragmentation of the U.A.E. healthcare market by different healthcare regulators. As seen above, the Ministry of Health and Prevention (MOHAP), Department of Health - Abu Dhabi, Dubai Health Authority (DHA), and several other authorities are all involved in the regulation of the U.A.E.'s healthcare industry. A 2015 Economist Intelligence Unit report cited this as a concern, remarking that "the development of differing protocols and standards can impede service quality and make it harder to attain scale across the U.A.E."<sup>333</sup>

In addition to scale, another potential challenge for U.S. companies operating in the U.A.E. healthcare market is tightening budgets. In an environment of lower oil prices and soaring healthcare costs, there have been firmer stances regarding prices throughout the healthcare industry.

Finally, there are several legal and regulatory factors for U.S. companies or individuals to consider when they assess the U.A.E. market. For instance, pharmaceutical companies who would like to expand their U.A.E. operations may have concerns about protection of intellectual property.<sup>334</sup> The U.A.E. government is taking active steps to address these concerns.

## **C. Resources**

American companies that are looking to capture the myriad of opportunities in the U.A.E. healthcare market and forge fruitful partnerships with local counterparts can draw on a variety of resources and services, both in the United States and U.A.E.

They can rely on the assistance of U.S. government institutions, located in both the U.A.E. and Washington, D.C.

***U.S. Government Contacts in the U.A.E.***

Senior Commercial Officer: Thomas Bruns  
U.S. Embassy in Abu Dhabi, Commercial Section  
P.O. Box 4009, Abu Dhabi, U.A.E.  
Tel: +971-2-414-2665  
E-mail: [thomas.bruns@trade.gov](mailto:thomas.bruns@trade.gov)  
Website: <https://2016.export.gov/unitedarabemirates/index.asp>

Principle Commercial Officer in Dubai: Shakir Farsakh  
U.S. Consulate General in Dubai  
P.O. Box 121777, Dubai, U.A.E.  
Tel: +971-4-309-4963  
E-mail: [Shakir.Farsakh@trade.gov](mailto:Shakir.Farsakh@trade.gov)  
Website: <https://2016.export.gov/unitedarabemirates/index.asp>

***U.S. Government Contacts in Washington, D.C.***

U.A.E. Desk Officer: James Cramer  
U.S. Department of Commerce  
U.S. and Foreign Commercial Service  
International Trade Administration  
14th St. & Constitution Avenue, N.W.  
Washington, D.C. 20230  
Tel: (202) 482-0879  
Email: [James.Cramer@trade.gov](mailto:James.Cramer@trade.gov)

In addition, U.S. companies can turn to U.A.E. government institutions in both the United States and the U.A.E.

***U.A.E. Government Contacts in the U.S.***

U.A.E. Commercial Counselor: Saud Al Nowais  
U.A.E. Embassy, Trade & Commercial Office  
3522 International Court, NW  
Washington, DC 20008  
Tel: (202) 243-2425  
Email: [trade@uaeembassy-usa.org](mailto:trade@uaeembassy-usa.org)  
Website: <http://www.uaetrade-usa.org/>

U.A.E. Consulate in Los Angeles  
1999 Avenue of the Stars, Suite 1250  
Los Angeles, CA 90067  
Tel: (310) 551-6534  
Email: [protocol.la@mofa.gov.ae](mailto:protocol.la@mofa.gov.ae)

U.A.E. Consulate in New York  
535 5th Ave., 32nd Floor  
New York, N.Y. 10017  
Tel: (212) 419-7670  
Email: nycon@mofa.gov.ae

U.A.E. Consulate in Boston  
One International Pl, Suite 2901  
Boston, MA 02110  
Tel: (617) 948-8800  
Email: consboston@uaeembassy-usa.org

U.A.E. Consulate in Houston  
7505 South Main Street, Suite 510  
Houston, TX 77030  
Tel: (832) 956-6666  
Email: houstoncon@mofa.gov.ae

***U.A.E. Government Contacts in the U.A.E.***

Ministry of Health and Prevention  
P.O. Box 848, Abu Dhabi, U.A.E.  
Tel: +971-2-652-0590  
P.O. Box 1853, Dubai, U.A.E.  
Tel: +971-4-230-1000  
Website: [www.mohap.gov.ae](http://www.mohap.gov.ae)

Department of Health – Abu Dhabi  
P.O. Box 5674, Abu Dhabi, U.A.E.  
Tel: +971-2-449-3333  
Website: [www.haad.ae](http://www.haad.ae)

Abu Dhabi Health Services Company (SEHA)  
P.O. Box 109090, Abu Dhabi, U.A.E.  
Tel: +971-2-410-2000  
Website: [www.seha.ae](http://www.seha.ae)

Dubai Health Authority (DHA)  
Dubai Health Authority Building, Al Maktoum Bridge Street, Bur Dubai Area 4545, U.A.E.  
Tel: +971-800-342  
Email: wasselsotak@dha.gov.ae  
Website: [www.dha.gov.ae](http://www.dha.gov.ae)

Finally, U.S. companies can count on major U.S. trade associations and chambers of commerce and their counterparts in the U.A.E.

***U.S. Trade Associations/Chambers of Commerce***

U.S.-U.A.E. Business Council  
505 Ninth Street, NW  
Washington, D.C. 20004  
Tel: (202) 863-7285  
Email: [news@usuaebusiness.org](mailto:news@usuaebusiness.org)  
Website: [www.usuaebusiness.org](http://www.usuaebusiness.org)

***U.A.E. Trade Associations/Chambers of Commerce***

Federation of U.A.E. Chambers of Commerce & Industry  
P.O. Box 3014, Abu Dhabi, U.A.E.  
Tel: +971-2-621-4144  
Email: [info@fccuae.ae](mailto:info@fccuae.ae)  
Website: [www.fccuae.ae](http://www.fccuae.ae)

Abu Dhabi Chamber of Commerce & Industry  
P.O. Box 662, Abu Dhabi, U.A.E.  
Tel: +971-2-621-4000  
Email: [contact.us@adcci.gov.ae](mailto:contact.us@adcci.gov.ae)  
Website: [www.abudhabichamber.ae](http://www.abudhabichamber.ae)

Dubai Chamber of Commerce & Industry  
P.O. Box 1457, Dubai, U.A.E.  
Tel: +971-4-228-0000  
Email: [customercare@dubaichamber.com](mailto:customercare@dubaichamber.com)  
Website: [www.dubaichamber.com/](http://www.dubaichamber.com/)

Sharjah Chamber of Commerce & Industry  
P.O. Box 580, Sharjah, U.A.E.  
Tel: +971-6-530-2222  
Email: [scci@sharjah.gov.ae](mailto:scci@sharjah.gov.ae)  
Website: [www.sharjah.gov.ae](http://www.sharjah.gov.ae)

Ajman Chamber of Commerce & Industry  
P.O. Box 662, Ajman, U.A.E.  
Tel: +971-600-595-959  
Email: [info@ajmanchamber.ae](mailto:info@ajmanchamber.ae)  
Website: [www.ajmanchamber.ae](http://www.ajmanchamber.ae)

Fujairah Chamber of Commerce & Industry  
P.O. Box 738, Fujairah, U.A.E.  
Tel: +971-9-223-0000

Email: [chamber@fujcci.ae](mailto:chamber@fujcci.ae)

Website: [www.fujcci.ae](http://www.fujcci.ae)

Ras Al Khaimah Chamber of Commerce & Industry

P.O. Box 87, Ras Al Khaimah, U.A.E.

Tel: +971-7-207-0222

Email: [info@rakchamber.ae](mailto:info@rakchamber.ae)

Website: [www.rakchamber.ae](http://www.rakchamber.ae)

Umm Al Quwain Chamber of Commerce & Industry

P.O. Box 436, Umm Al Quwain, U.A.E.

Tel: +971-6-765-1111

Email: [uaqcci1@eim.ae](mailto:uaqcci1@eim.ae)

Website: <http://www.uaqchamber.ae/>





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[http://www.haad.ae/haad/Portals/0/Health%20Regulation%20Laws/Book8\\_En/index.html#/2/](http://www.haad.ae/haad/Portals/0/Health%20Regulation%20Laws/Book8_En/index.html#/2/);  
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[http://www.haad.ae/haad/Portals/0/Health%20Regulation%20Laws/Book6\\_En/index.html#/2/](http://www.haad.ae/haad/Portals/0/Health%20Regulation%20Laws/Book6_En/index.html#/2/);  
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<http://www.tamimi.com/law-update-articles/the-new-uae-medical-liability-law-an-analysis/>;  
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<http://www.gulftoday.ae/portal/7774e525-37c3-4a03-9fcc-0ed99ee74237.aspx>; <https://www.thenational.ae/uae/abu-dhabi-hospital-carries-out-country-s-first-full-heart-transplant-1.684400>; <http://gulfnews.com/news/uae/health/passed-uae-organ-transplant-law-and-what-it-means-1.1896013>  
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