



U.S.-U.A.E. Business Council®  
[usuaebusiness.org](http://usuaebusiness.org)

# The U.A.E. Healthcare Sector: An Update

September 2016





U.S.-U.A.E. Business Council  
**usuaebusiness.org**

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

is the premier business organization dedicated to advancing bilateral commercial relations. By leveraging its extensive networks in the U.S. and in the region, the U.S.-U.A.E. Business Council provides unparalleled access to senior decision makers in business and government with the aim of deepening bilateral trade and investment.

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

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

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

## INTRODUCTION

As highlighted in a previous report by the U.S.-U.A.E. Business Council on the U.A.E. Healthcare Sector, the U.A.E. has witnessed a dramatic expansion of its healthcare industry over the past four decades. Indeed, at the time of the U.A.E.'s founding in 1971, the country had just seven hospitals and 12 health centers. Today, it has well over 70 public and private hospitals and 150 centers and clinics focused on primary care.<sup>1</sup>

U.S. companies have played an important role from the outset of this growth story, as best symbolized by the Oasis Hospital in Al Ain. In 1960, U.S. missionaries Drs. Pat and Marian Kennedy built this hospital – the U.A.E.'s first – in a mud-block guesthouse donated by the late U.A.E. President Sheikh Zayed bin Sultan Al Nahyan.<sup>2</sup> Over the next 50 years, this hospital birthed more than 90,000 babies, including members of Abu Dhabi's ruling Al Nahyan family.<sup>3</sup> Moreover, it retained its strong connections with that family, with U.A.E. Deputy Prime Minister Sheikh Saif bin Zayed Al Nahyan attending the November 2015 inauguration of this hospital's expansion, funded by a grant from the Ruling Family.<sup>4</sup>



*The Cleveland Clinic Abu Dhabi*

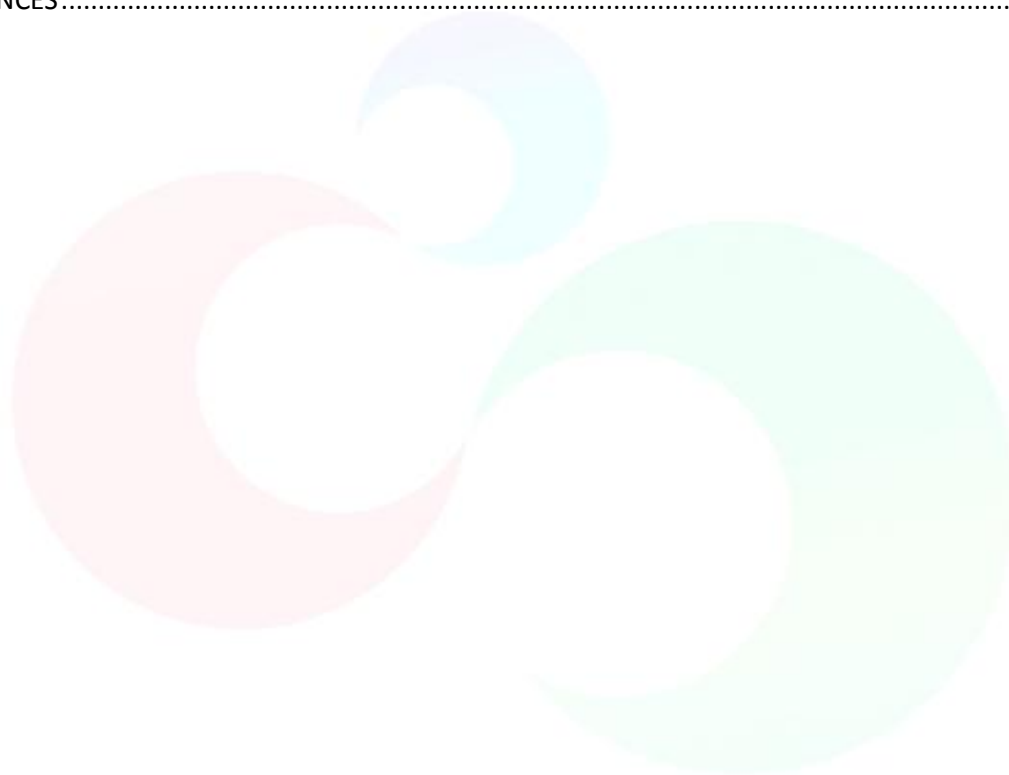
As the U.A.E. healthcare sector appears set to continue its impressive growth in the coming decades, opportunities for new U.S.-U.A.E. partnerships abound. The Cleveland Clinic Abu Dhabi stands as a monument to these possibilities. A joint venture between the U.A.E.'s Mubadala Healthcare and the Ohio-based Cleveland Clinic, this recently inaugurated 364-bed hospital is the largest U.S.-run, U.S.-staffed hospital outside of the U.S. and brings an unparalleled level of specialized care to the heart of Abu Dhabi and the wider Gulf region.

Building on the Business Council's previous report on the U.A.E. Healthcare Sector, this updated and expanded report 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 U.A.E. healthcare sector and potential U.A.E. partners. First, this report will give 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 will dive deeper into different aspects of the U.A.E. healthcare system, from healthcare regulation and provision to insurance and pharmaceuticals. Finally, this report will give a snapshot of both challenges and opportunities for businesses in the U.A.E. healthcare market, and it will provide resources that businesses can draw on when entering this market. Throughout, this report will provide 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.

## Table of Contents

INTRODUCTION .....	2
PART I: GENERAL TRENDS .....	6
A. Growth .....	6
B. Challenges .....	7
Recruiting and Educating Medical Personnel .....	7
Containing Costs .....	8
C. Government Response.....	8
PART II: SECTOR OVERVIEWS .....	10
A. Regulation .....	10
Federal Level .....	10
Emirate Level.....	11
B. Provision.....	13
Public Sector .....	13
Government-Linked Entities .....	15
Private Sector .....	16
Free Zone Entities .....	20
C. Insurance.....	20
Mandatory Health Insurance and Market Expansion .....	20
Daman's Market Dominance and Changes to Insurance Cover .....	21
Heavy Competition and Reduced Profits .....	22
Restrictions to Entry and Increased Regulations .....	23
D. Pharmaceuticals .....	24
Increased Sales but Lower Margins .....	24
Import Reliance but Growing Domestic Production .....	24
Large and Growing International Presence .....	26
E. Medical Products .....	27
F. Information Technology.....	28
G. Education and Research.....	30
Education and Training .....	30
Research.....	32
Conferences .....	33

H. Public Health .....	33
Anti-Smoking.....	34
Cancer Screening.....	34
Combating Obesity, Diabetes, and Cardiovascular Disease.....	35
PART III: ENTERING THE MARKET .....	36
A. Opportunities .....	36
B. Challenges .....	37
C. Resources .....	38
REFERENCES .....	42



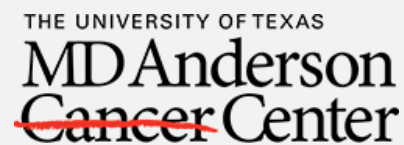


## U.A.E. Involvement in the U.S. Healthcare System

While the following report focuses on healthcare in the U.A.E., it is important to note the active U.A.E. involvement in the U.S. healthcare sector. Large numbers of Emirati patients travel to the United States every year to seek both long-term and short-term medical treatment at leading U.S. hospitals, such as the **Children's Hospital of Philadelphia**. Moreover, numerous U.S. healthcare institutions have benefitted from the extraordinary generosity of the U.A.E. government, U.A.E. charitable institutions, and the U.A.E.'s leadership.



- The U.A.E.'s Founding Father, Sheikh Zayed bin Sultan Al Nahyan, donated \$25 million to the **Mayo Clinic**, which he asked to be used to help patients unable to pay for medical treatment.
- U.A.E. President Sheikh Khalifa bin Zayed Al Nahyan gifted an undisclosed sum to **Johns Hopkins Hospital** to build its 355-room Sheikh Zayed Tower for Cardiovascular Care.
- The Khalifa Bin Zayed Al Nahyan Foundation gave a \$150 million grant to **MD Anderson Cancer Center** for the construction of the Sheikh Zayed Al Nahyan Building for Personalized Cancer Care, which was inaugurated in 2016 by Sheikh Hamed bin Zayed, Chief of the Crown Prince Court of Abu Dhabi.
- The government of Abu Dhabi gave a \$150 million gift to the **Children's National Medical Center**, which it used to create the Sheikh Zayed Institute for Pediatric Surgical Innovation.<sup>5</sup>



## 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, above all U.A.E. Vision 2021, to address these challenges and guide the sustainable growth of this sector.

### A. Growth

The U.A.E. healthcare market will experience tremendous growth in the coming years. In June 2015, global business consultancy RNCOS forecasted that this market would grow at a compound annual rate of 7% between 2015 and 2020.<sup>6</sup> The next year, in February 2016, Alpen Capital projected an even greater annual average growth rate of 12.7% during that time frame, estimating that the total U.A.E. healthcare market would reach \$19.5 billion by 2020.<sup>7</sup>

Population growth is one key driver of this expansion. High birth rates and longer life expectancies among Emiratis are increasing the U.A.E.'s indigenous population.<sup>8</sup> Meanwhile, an increasing number of expatriates are moving to the country to pursue work opportunities. As such, a 2015 U.N. report predicted that the U.A.E.'s indigenous and expatriate population would grow from 9.16 million to 10.98 million by 2030.<sup>9</sup>

Demographic shifts are also at work, as the U.A.E.'s population slowly begins to age. The percentage of Emiratis above the age of 60 is set to double from around 5.2% at present to 11% by 2032.<sup>10</sup> This will increase demand for healthcare in general and geriatric care in particular.



Lifestyle habits are also propelling this growth, with a high prevalence of chronic diseases induced by poor nutrition, sedentary behavior, and smoking. The World Health Organization's World Health Statistics 2015 report estimated that 33.8% of adult men and 45.1% of adult women in the U.A.E. are clinically obese.<sup>11</sup> At the same time, around 25-30% of men in the U.A.E. are estimated to smoke tobacco.<sup>12</sup> As a result of the above, diabetes, cardiovascular diseases, and cancer are increasingly prevalent.<sup>13</sup> Diabetes is a particular problem, with the International Diabetes Federation estimating that 19.3% of the population is diabetic.<sup>14</sup>

There are several other reasons for the growth of the U.A.E. healthcare market. These include moves toward the introduction of universal health insurance. Another factor is increasing affluence, which is leading to demand for higher-quality healthcare.

A final major driver of U.A.E. healthcare growth is medical tourism. In 2015, according to the Dubai Health Authority (DHA), Dubai received 630,831 health tourists, of whom 298,359 were foreigners from abroad. From this baseline, the DHA expects the number of medical tourists to increase 13% each year for the next five years to 1,313,360 by 2021. Of these, 621,169 will come from abroad.<sup>15</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.

### Recruiting and Educating Medical Personnel

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. The Health Authority - Abu Dhabi (HAAD) projected in a September 2015 report that the Emirate will need 4,800 new doctors and 13,000 new nurses by 2022.<sup>16</sup> Meanwhile, the Director General of the Dubai Health Authority estimated in early 2015 that Dubai will need 7,323 more doctors and 8,510 nurses over the next decade.<sup>17</sup>

In particular, the U.A.E. will need certain types of medical personnel that are already in short supply:

- ❖ Nurses: The World Health Organization's 2015 *World Statistics Report* found that the U.A.E. had just 31 nursing and midwifery personnel for every 100,000 people. While this ratio is higher than many countries of the world, it is lower than most Gulf States including Kuwait (45), Saudi Arabia (48), Oman (53), and Qatar (118). It is also lower than most Western countries, such as the United Kingdom (88), France (93), and Germany (115).<sup>18</sup>
- ❖ Psychiatrists: The World Health Organization's 2015 report also found that the U.A.E. had one of the lowest ratios of psychiatric beds per head in the world, with one bed for every 100,000 people.<sup>19</sup>
- ❖ Other Medical Specialists: These shortages extend beyond nurses and psychiatrists to other medical specialists as well. Even in relatively affluent Abu Dhabi, HAAD found in 2014 that there was a severe shortfall in specialist healthcare workers, especially those in intensive and critical care medicine, emergency care, neonatology, pediatrics, oncology, orthopedics, rehabilitation, and psychiatry.<sup>20</sup>



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

- ❖ There are shortages of skilled Emirati medical professionals, partly due to prevailing cultural norms.<sup>21</sup> Shortages are particularly acute in the field of nursing, where just 3% of the 23,000-25,000 nurses in the country are Emirati.<sup>22</sup> In Abu Dhabi that figure is even lower, with *The National*



reporting in January 2016 that only 1.6% of the 7,000 nurses employed by the Abu Dhabi Health Services Company (SEHA) were Emirati.<sup>23</sup>

- ❖ The threat of criminal proceedings for medical treatment complaints discourages some foreign medical professionals from working in the U.A.E.<sup>24</sup>
- ❖ The Northern Emirates, Abu Dhabi's Western Region, and more rural areas of the U.A.E. face difficulties recruiting and retaining talent.<sup>25</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>26</sup>

### Containing Costs

The rapid growth of the U.A.E.'s healthcare industry also poses the challenge of containing costs. This is exacerbated by the fact that healthcare in the U.A.E. tends to be more expensive than elsewhere in the region. The March 2014 Cost of Living Reports Middle East found that the cost of visiting a mid-level General Practitioner in the U.A.E. was higher than anywhere else in the Gulf, six times more than in Oman.<sup>27</sup>

Waste accounts for some of these high costs.<sup>28</sup> Along these lines, 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>29</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. It aims to do so by accrediting all public and private hospitals according to clear national and international

standards. The 2021 Vision 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>30</sup>

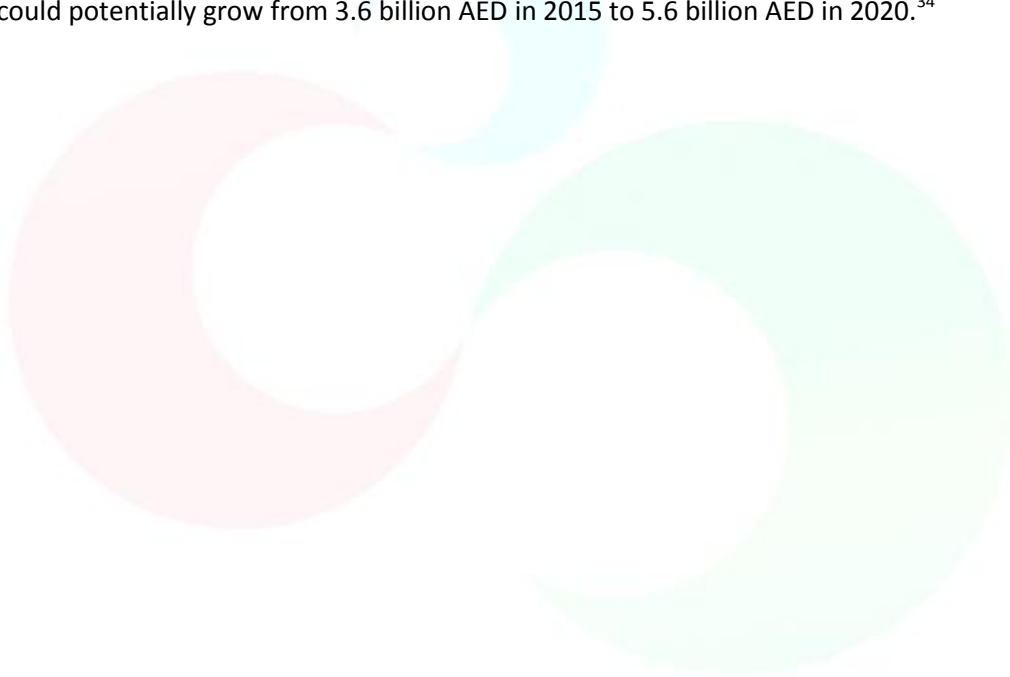


In keeping with this vision, Abu Dhabi has developed its own Emirate-level strategic healthcare plans. In December 2014, Sheikh Mohammed bin Zayed Al Nahyan, Abu Dhabi Crown Prince and Deputy Supreme Commander of the Armed Forces, approved a strategy to improve healthcare in the Emirate. This strategy 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>31</sup>

Dubai has likewise developed strategic plans for its healthcare sector in keeping with Vision 2021. 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>32</sup> Then, in January 2015, it unveiled a complementary 10-year plan, the Dubai Clinical Services Capacity Plan, which involves building three new medical colleges and five nursing schools. This latter 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>33</sup>

Other Emirates have also embarked on far-sighted plans to meet the anticipated growth in their healthcare sectors. Sharjah, for instance, has started building Sharjah Healthcare City in keeping with projections by Sharjah's Investment and Development Authority (Shurooq) that the Emirate's healthcare market could potentially grow from 3.6 billion AED in 2015 to 5.6 billion AED in 2020.<sup>34</sup>



## PART II: SECTOR OVERVIEWS

Under the careful oversight of both Federal and Emirate-level regulatory authorities, the U.A.E. is witnessing a boon 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 device, healthcare IT, and medical education markets.

### A. Regulation

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

#### Federal Level

The two most important federal regulatory authorities in the U.A.E. healthcare sector are the Ministry of Health and Prevention and the Insurance Authority.

##### *Ministry of Health and Prevention*

The recently renamed Ministry of Health and Prevention (MOHAP) oversees the implementation of government policy in relation to the provision of health care for all U.A.E. citizens and residents.<sup>35</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>36</sup>

In practical terms, the MOHAP provides both healthcare services and regulatory oversight in the Northern Emirates. It also licenses and controls the prices of drugs and medical devices nationwide.<sup>37</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>38</sup> For more information, please visit [www.moh.gov.ae](http://www.moh.gov.ae).



##### *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>39</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>40</sup> For more information, please visit <http://www.ia.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. 27 of 1981 concerning communicable disease prevention;
- 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. 15 of 1993 regulating the transfer and transplant of human organs;
- Federal Law No. 20 of 1995 concerning medicines and preparations derived from natural sources;
- Federal Law No. 10 of 2008 concerning medical liability;
- Federal Law No. 11 of 2008 concerning licensing of fertilization centers; and
- Federal Law No. 5 of 2015 (replacing Federal Law No. 2 of 1996) concerning private health facilities.<sup>41</sup>

### ***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 Number 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 Sheikh Mohammed bin Rashid Al Maktoum), the council consists of key constituents with regards to these fields and meets four times a 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>42</sup>

### **Emirate Level**

While healthcare provision in some Emirates is regulated entirely by MOHAP, certain Emirates or free zones also have their own regulatory authorities. These notably include The Health Authority - Abu Dhabi (HAAD) and Dubai Health Authority (DHA).

### **Health Authority - Abu Dhabi**

HAAD, which was established by Abu Dhabi Law No. 1 of 2007, regulates Abu Dhabi's healthcare sector. It is charged with achieving the highest standards in health services in the Emirate and monitoring the operation of the health sector.<sup>43</sup> To this end, it carries out a variety of activities, including collecting health data and launching screening programs.<sup>44</sup> The Chairman of HAAD is Dr. Mugheer Khamis Al Khaili and its Director General is H.E. Dr. Maha Taysir Barakat.<sup>45</sup> For more information, please visit [www.haad.ae](http://www.haad.ae).



#### **HAAD and Johns Hopkins Bloomberg School of Public Health**

Johns Hopkins Bloomberg School of Public Health signed a 10-year agreement with HAAD in 2008 to develop research, educational, and public health programs in Abu Dhabi. This involved, among other things, designing and implementing a Master of Public Health-Doctor of Public Health Degree Program in Health Care Management and Leadership.<sup>46</sup>



### **Dubai Health Authority**

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>47</sup> DHA also regulates the cost of health care in the Emirate and runs special programs such as one meant to encourage young Emiratis to enter medical professions.<sup>48</sup> The President of DHA is H.H. Sheikh Hamdan bin Rashid Al Maktoum, Deputy Ruler of Dubai and Minister of Finance.<sup>49</sup> Humaid Al Qatami is the Chairman of the Board and Director General.<sup>50</sup> For more information, please visit <https://www.dha.gov.ae>.



### **Dubai Healthcare City Authority**

Dubai Healthcare City Authority (DHCA), which was established by Law No. 9 of 2011, regulates Dubai's healthcare free zone: Dubai Healthcare City.<sup>51</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>52</sup> 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.<sup>53</sup> SHA has also partnered with hospitals to offer free health screenings.<sup>54</sup>

## **B. Provision**

Although public-sector institutions play a relatively outsized role in U.A.E. healthcare provision, the private sector is assuming an increasingly prominent role.

### **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***

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>55</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.<sup>56</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>57</sup> It has also added new facilities, such as Al Towayya Children's Specialty Centre in Al Ain.<sup>58</sup> The Chairman of the Board of SEHA is Dr. Mohamed Rashed Al Hameli. For more information, please visit [www.seha.ae](http://www.seha.ae).

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

- **Johns Hopkins Hospital** signed an agreement with SEHA in 2006 to manage Tawam Hospital in Al Ain City. Two years later, it signed another agreement with SEHA to manage Al Rahba Hospital outside Abu Dhabi city.
- **Cleveland Clinic** signed an agreement with SEHA in 2007 to manage Sheikh Khalifa Medical City.
- **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.
- **The Accreditation Council for Graduate Medical Education (ACGME)**, which accredits residency and fellowship programs in the United States, signed an agreement with SEHA in 2012 to enhance specialty programs and training in SEHA's teaching centers and hospitals.<sup>59</sup>



### Dubai Health Authority

In addition to its role as a regulator, the Dubai Health Authority (DHA) operates Dubai's public healthcare facilities, including Dubai Hospital, Rashid Hospital, Latifa Hospital, and Hatta Hospital.<sup>60</sup> As well as building new facilities, DHA continues to develop its existing facilities, for instance by expanding the trauma center and gastroenterology unit at Rashid Hospital and adding a kidney transplant center at Dubai Hospital.<sup>61</sup> For more information, please visit [www.dha.ae](http://www.dha.ae).

### Ministry of Health and Prevention

In addition to its country-wide regulatory functions, MOHAP directly manages public healthcare services in certain areas of the country. As of June 2014, the then-Ministry of Health (MoH) oversaw 16 hospitals and 67 clinics across the country, especially in the Northern Emirates.<sup>62</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>63</sup> Beginning in 2017, MOHAP will embark on a major change whereby its hospitals will begin regularly catering to all residents instead of just Emiratis.<sup>64</sup>

### **Ministry of Health and the Mayo Clinic**

The then-Ministry of Health and the Minnesota-based Mayo Clinic Group agreed in 2012 to partner in the field of continuous medical education. They also agreed to exchange experts and consultants to provide checkup and treatment for critical cases in the Ministry's facilities.<sup>65</sup>



### ***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 and features clinics specializing in pediatrics, gynecology, emergency care, dialysis, and dermatology.<sup>66</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>67</sup>

### **Government-Linked Entities**

Mubadala Healthcare, a division of the prominent and diverse Abu Dhabi government investment vehicle Mubadala Development Company, has also played a prominent role in the provision of healthcare.

#### ***Mubadala Healthcare***

Mubadala, 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 vehicles, "Mubadala Healthcare." Mubadala Healthcare works with prominent international partners to fill gaps left by public-sector providers. Along these lines, it joined with The Cleveland Clinic to create its flagship project: The Cleveland Clinic Abu Dhabi. It also collaborated



with institutions such as South Korea's Wooidul Hospital in its creation of Healthpoint, a world-class specialty hospital that houses the Wooidul Spine Center.<sup>68</sup> In addition, Mubadala Healthcare worked with Imperial College London to create the Imperial College London Diabetes Centre, whose two facilities (one in Abu Dhabi and the other in Al Ain) have accommodated more than 800,000 patient visits since 2006.<sup>69</sup> Moreover, it teamed with Swiss company Medgate to introduce the Abu Dhabi Telemedicine Center, which allows patients to seek a doctor's opinion by phone instead of in person.<sup>70</sup> Other Mubadala Healthcare assets include the Capital Health Screening Centre, National Reference

Laboratory, and Tawam Molecular Imaging Centre.<sup>71</sup> The Executive Director of Mubadala Healthcare is Mr. Suhail Mahmood Al Ansari. For more information, please visit [www.mubadala.com/en/who-we-are/businessunit/mubadala-healthcare](http://www.mubadala.com/en/who-we-are/businessunit/mubadala-healthcare).

#### **Mubadala Healthcare and the Cleveland Clinic**

Mubadala Healthcare and The Cleveland Clinic Abu Dhabi collaborated on the construction of a state-of-the-art 364-bed facility on Al Maryah Island whose services are tailored to complement those already on offer in the Emirate. It boasts five centers of excellence in the following areas: Heart & Vascular, Neurological, Digestive Disease, Eye, and Respiratory & Critical Care. Abu Dhabi Crown Prince and Deputy Supreme Commander of the Armed Forces Sheikh Mohammed bin Zayed officially opened this facility in December 2015 with Morocco's King Mohammed VI.<sup>72</sup>



#### ***Royal Patronage***

Members of U.A.E. ruling families have also patronized healthcare in the U.A.E. In December 2008, for instance, Sheikh Mohammed bin Rashid Al Maktoum, Vice President and Prime Minister of the U.A.E., 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>73</sup> Likewise, Sheikh Hamdan bin Mohammed, Sheikh Mohammed's son and Crown Prince of Dubai, donated 22 million AED [\$6 million] in March 2015 toward the completion of a new facility for the Dubai Autism Center.<sup>74</sup>

#### **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. This could pose a problem for these companies if mid-2016 changes to a widely held insurance scheme disincentive many Emiratis from frequenting their facilities (See Part II Section C on "Insurance" for more details).

#### ***NMC Healthcare***

NMC Healthcare claims to be the U.A.E.'s largest private healthcare provider. A publically listed company on the London Stock Exchange, it has around 20 facilities and over 6,000 employees in four Emirates of the



U.A.E.<sup>75</sup> Moreover, it is rapidly expanding its operations. In June 2015, it purchased ProVita International Medical Center's facilities in Abu Dhabi and Al Ain for \$160 million.<sup>76</sup> Then, two months later, it completed the acquisition of Dr. Sunny Healthcare Group, a chain of 6 medical centers, for \$64 million.<sup>77</sup> Finally, in March 2016, it opened the \$200 million 250-bed NMC Royal Hospital in Khalifa City.<sup>78</sup>

#### ***Mediclinic Middle East (Mediclinic and Al Noor)***

Mediclinic Middle East, a branch of Mediclinic International, has five hospitals and 39 clinics with more than 700 inpatient beds in the U.A.E. This follows the reverse takeover by Al Noor Hospitals Group of the Johannesburg-based Mediclinic International Limited.<sup>79</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 700 million AED [\$191 million] 150-bed Mediclinic Parkview Hospital in Dubai.<sup>80</sup> Meanwhile, Al Noor Hospitals Group was the largest private healthcare company in the Emirate of Abu Dhabi with seven facilities in Abu Dhabi city, one in the Western Region, and two in Al Ain.<sup>81</sup> Moreover, it, too, was quickly growing, agreeing in August 2015 to long-term leases worth about 1 billion AED [\$272 million] that would allow it to expand its three main hospitals in that Emirate.<sup>82</sup>

#### ***VPS Healthcare (Burjeel, LLH, and Lifecare)***

VPS Healthcare, an integrated healthcare provider with over 7,500 worldwide employees, operates ten hospitals in Abu Dhabi, Dubai, Oman, and India under the luxury Burjeel and the midrange LLH and Lifecare brands.<sup>83</sup> VPS Healthcare announced in June 2014 that it planned to spend \$1.5 billion over three years to open four hospitals, five specialty centers, and 10 medical centers in Abu Dhabi.<sup>84</sup> As part of these plans, it was planning on spending \$1.4 billion AED [\$381 million] on the construction of the 400-bed Burjeel Medical City in Mohammed Bin Zayed City.<sup>85</sup> However, in August 2016, it said that it may need to reconsider this plan in the wake of a change to a widely held insurance plan that introduced co-pays for Emiratis visiting private (as opposed to public) facilities.<sup>86</sup>



#### ***Aster DM Healthcare (Aster and Medcare)***

Aster DM Healthcare, a Dubai-based healthcare company with 280 establishments in nine countries in the Middle East and India, operates seven healthcare facilities in the U.A.E. under the high-end Medcare and midrange Aster brands.<sup>87</sup> In January 2016, it announced that it had invested 1.25 billion AED [\$340 million] in the construction of three projects in Abu Dhabi, two in Dubai, and two in Sharjah.<sup>88</sup> It is currently planning to launch an Initial Public Offering in India to continue its expansion plans.<sup>89</sup>

#### ***UEMedical***

UEMedical, part of United Eastern Group, claims to be Abu Dhabi's leading privately owned healthcare development and investment company. Its portfolio of healthcare projects in the U.A.E. includes a women and children's hospital, six specialty centers, and 14 family clinics.<sup>90</sup> UEMedical established the 150-bed Danat Al Emarat Hospital in Abu Dhabi, which opened in August 2015 and is managed by



leading Singaporean healthcare provider ParkwayHealth.<sup>91</sup> It also set up the HealthPlus network of premium outpatient centers.<sup>92</sup> In addition, it partnered with Moorfields Eye Hospital, one of the oldest ophthalmology hospitals in the world, to launch Moorfields Eye Hospital Centre in Abu Dhabi in December 2015.<sup>93</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>94</sup>

### ***Avivo Group***

Avivo Group is a brand of premium medical practices offering specialized healthcare services in Abu Dhabi, Dubai, Sharjah, and Kuwait.<sup>95</sup> As of August 2016, it owned 43 healthcare assets, including hospitals, clinics, and dentistry services. That month, it purchased a majority stake in Kalium Group, which specializes in aesthetic medical procedures. It also announced that it was planning to expand into Qatar and Oman by the end of 2016 and list in London in March 2007 in the hopes of raising \$500 million in funding.<sup>96</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>97</sup> In March 2012, it opened the 316-bed Saudi German Hospital in Dubai.<sup>98</sup> Then, in December 2014, it announced it would expand its U.A.E. presence with a 300-bed facility in Ajman.<sup>99</sup>

### ***Gulf Medical Projects Company (Al Zahra)***

Gulf Medical Projects Company (GMPC) has several facilities in the U.A.E. In 1981, GMPC established the 132-bed Al Zahra Hospital Sharjah, which claims to be “the first and the largest private general hospital in the U.A.E.”<sup>100</sup> Over a decade later, in 1993, GMPC opened its second facility, Al Zahra Medical Center Dubai.<sup>101</sup> Then, in 2013, it inaugurated the 187-bed Al Zahra Private Hospital Dubai.<sup>102</sup> Notably, prior to the latter facility’s opening, GMPC employed the services of U.S.-based Longwood Health Systems Consulting.<sup>103</sup>

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

The Zulekha Healthcare Group established Zulekha Hospital in Sharjah in 1992, which grew from a 30-bed facility to a 150-bed 240,000 square-foot hospital. 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>104</sup>

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

The Thumbay Group, an international business conglomerate headquartered in Dubai International Financial Center, claims to be 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 runs a pharmacy chain, five diagnostic centers, and Gulf Medical University in Ajman.<sup>105</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 four medical centers and a chain of retail pharmacies.<sup>106</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. 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>107</sup>

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

King's College Hospital, one of London's largest teaching hospitals, opened a clinic 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. It is of note that 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>108</sup>

#### **Examples of U.S.-U.A.E. Private Sector Healthcare Partnerships**

- **American Hospital Dubai and Mayo Clinic:** American Hospital Dubai is a private acute care, general medical/surgical hospital. In 2016, Mayo Clinic announced that this hospital 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:** Property company Meraas Holding set up a healthcare division in December 2015. It subsequently announced the launch of an outpatient clinic at its City Walk development that would be operated by Houston Methodist Global Health Care Services. Houston Methodist Global Health Care Services, the international subsidiary of Houston Methodist Hospital, has long been active in the U.A.E. It formerly had a 10-year partnership with Emaar Healthcare Group, which resulted in the establishment of medical centers at Dubai Mall, Arabian Ranches, and The Meadows.<sup>109</sup>



## Free Zone Entities

Free zones are also becoming increasingly important sites for healthcare provision.

### *Dubai Healthcare City*

Dubai Healthcare City (DHCC), which was launched in 2002, is a healthcare free zone, allowing 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 companies such as Johnson & Johnson, Merck Serono, Sanofi Aventis, Novo Nordisk, Moorfields Eye Hospital, Maghrebi Eye Hospital, AstraZeneca, and Eli Lilly. 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>110</sup> For more information, please visit <http://www.dhcc.ae/>



### *Sharjah Healthcare City*

Sharjah Healthcare City (SHCC) was formed in March 2012 under the directive of Dr. Sheikh Sultan bin Mohammed Al Qassimi, the Ruler of Sharjah. SHCC is still under development. However, it will eventually be spread over approximately 1.2 million square meters of land located besides the U.A.E.'s national highway.<sup>111</sup>

## C. Insurance

Over the last decade, the U.A.E. has moved toward mandating health insurance for all citizens and residents, rapidly 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 significant restrictions on the entry of new foreign companies into this market.

### **Mandatory Health Insurance and Market Expansion**

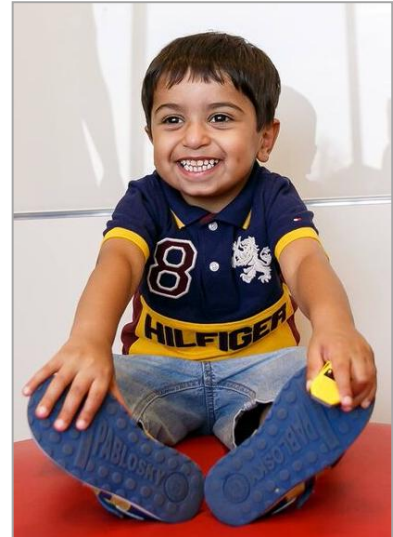
Abu Dhabi has led the way in implementing mandatory health insurance for citizens and residents. In 2005, Abu Dhabi issued Law No. 23, requiring all employers to provide health insurance to their employees and their employees' dependents.<sup>112</sup> Then, in 2007, Abu Dhabi issued Resolution 83 directing the Health Authority - Abu Dhabi (HAAD) to give comprehensive health coverage to all U.A.E. nationals living in that Emirate at no cost through the "Thiqa" program.<sup>113</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>114</sup> This law was to

be 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>115</sup> The law will come into full effect at the end of 2016.<sup>116</sup>

Sharjah has gradually joined Abu Dhabi and Dubai in moving toward more expansive health insurance as well. In May 2014, the Ruler of Sharjah announced a medical insurance program covering families of all Sharjah government employees.<sup>117</sup> The Sharjah government subsequently extended health insurance to all Sharjah citizens aged 55 and over in April 2015.<sup>118</sup>

All U.A.E. residents may have mandatory health insurance in the not-too-distant future. In 2013, a federal law for mandatory insurance for workers across the country was drafted, and this law is currently with the Ministry of Finance.<sup>119</sup> Similar draft laws were also considered in 2004 and 2007, but they have yet to be realized.<sup>120</sup>



### **Daman's Market Dominance and Changes to Insurance Cover**

The U.A.E. health insurance industry is dominated by the National Health Insurance Company (Daman), which currently provides health insurance to more than 2.8 million members in the country. 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>121</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. H.E. Mohamed Sultan bin Ghanoum Al Hameli, who is also Director General of Abu Dhabi's Department of Finance, is Chairman of the Board. Dr. Michael Bitzer serves as CEO.<sup>122</sup> For more information, please visit [www.damanhealth.ae](http://www.damanhealth.ae).



In July 2016, HAAD announced changes to the "Thiqa" program with a view to making the healthcare sector more sustainable. Under these changes, Thiqa cardholders would need to pay 20% of the cost of hitherto free treatment at private hospitals; treatment at public hospitals would still be free. Thiqa cardholders would also need to pay 50% (as opposed to 90% formerly) of the cost of treatment outside Abu Dhabi, except in cases where that type of treatment was unavailable inside the Emirate.<sup>123</sup>

Given the large number of enrollees in the Thiqa program, these changes have significant implications for the U.A.E. healthcare sector. In the short-term, they pose complications for those enrollees currently in long-term private care.<sup>124</sup> In the medium to long term, these changes potentially threaten the viability of private healthcare institutions and their long-term expansion plans.<sup>125</sup> They also discourage Emiratis from seeking certain types of medical treatment abroad.

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

- “Thiqa” is a health insurance program for U.A.E. nationals living in Abu Dhabi. It is managed by the National Health Insurance Company (Daman).
- “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 the Dubai Health Authority’s initiative to provide healthcare for all nationals, residents, and visitors in that Emirate. Forty-five insurance companies are permitted to operate within this scheme. Of them, nine (including MetLife Alico) are approved to provide the “Basic Benefit Package” to low-income expatriates who make less than 4,000 AED [\$1,089] per month.<sup>126</sup>

### Heavy Competition and Reduced Profits

In addition to Daman, a large number of domestic and foreign companies are present in the U.A.E. healthcare insurance market, limiting profitability. In fact, according to *The National*, the U.A.E. health insurance industry posted a loss of 106.2 million AED [\$28.9 million] in 2015, compared to a profit of 859.4 million AED [\$234 million] in 2014. Moreover, 20 of the 29 local health insurers listed on either the Abu Dhabi Securities Exchange or Dubai Financial Market saw a decline in profits.<sup>127</sup>

Prominent local and international companies in the market include:

- ❖ **Abu Dhabi National Insurance Company:**<sup>128</sup> Abu Dhabi National Insurance Company (ADNIC), which was founded in 1972, is a publically listed composite insurance provider headquartered in Abu Dhabi.<sup>129</sup> It provides both individual medical insurance and group medical insurance in partnership with French company MSH International.<sup>130</sup>
- ❖ **Al Dhafra Insurance Company:**<sup>131</sup> Al Dhafra Insurance Company, which was incorporated by Abu Dhabi Emiri Decree No. 8 of 1979, is a public shareholding company entirely owned by U.A.E. nationals. It offers group medical insurance, medical insurance for domestic workers, and emergency medical insurance for visitors to the U.A.E.<sup>132</sup>
- ❖ **Alliance Insurance:** Alliance Insurance, which was established in 1975, claims to be one of the leading composite insurance companies in the U.A.E. It offers both corporate and individual health insurance.<sup>133</sup>
- ❖ **AXA Gulf:**<sup>134</sup> AXA Gulf is the regional division of French insurance multinational AXA. It claims to be the largest non-life international insurer in the Arabian Gulf.<sup>135</sup>
- ❖ **Methaq Takaful Insurance Company:**<sup>136</sup> Methaq Takaful Insurance Company is a U.A.E.-based publically listed company that provides *shari’a*-compliant insurance products. It offers corporate medical insurance in partnership with international healthcare company GlobeMed.<sup>137</sup>



- ❖ **Oman Insurance Company:** Oman Insurance Company (OIC), which is headquartered in Dubai, is reportedly 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 health insurance plan designed and internationally administered by British healthcare giant Bupa Global.<sup>138</sup>
- ❖ **Orient Insurance Company:**<sup>139</sup> 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>140</sup> Orient Insurance Company is also the regional partner of German multinational insurance and asset management giant Allianz.<sup>141</sup>
- ❖ **SALAMA– Islamic Arab Insurance Company:**<sup>142</sup> SALAMA– Islamic Arab Insurance Company is a leading provider of *shari’a*-compliant insurance solutions. Founded in 1979, it is listed in the Dubai Financial Market.<sup>143</sup> SALAMA provides individual, small group, and group health plans.<sup>144</sup>

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

**MetLife:** Metlife - a leading global provider of insurance, annuities, and employee benefit programs - first entered the Gulf insurance market in 2010, with its landmark \$15.5 billion purchase of Alico (American Life Insurance Co.) from AIG. Headquartered in Dubai, Metlife’s Gulf operations, Metlife Gulf, support businesses in Bahrain, Kuwait, Oman, and Qatar as well as the U.A.E. In the U.A.E., Metlife Gulf offers a wide variety of insurance products, including group health insurance and three individual health insurance plans.



**Cigna:** Cigna provides health insurance in the U.A.E. through a partnership with the Saudi Arabian Insurance Company (SAICO).



**Aetna:** Aetna administers insurance policies in the U.A.E. on behalf of Royal & Sun Alliance (RSA) Insurance. Aetna’s Dubai office, based in Media City, serves Africa, the Middle East, the Indian Sub-Continent, and the Indian Ocean.<sup>145</sup>



#### **Restrictions to Entry and Increased Regulations**

Insurance companies face significant obstacles to entering the U.A.E. market. After all, the U.A.E.’s Insurance Authority has long been hesitant to license new insurers in an effort to encourage consolidation of the overcrowded insurance sector.<sup>146</sup> Moreover, the U.A.E. has placed restrictions on foreign ownership of insurance companies. As a result, 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 49% in an existing U.A.E. insurer.”<sup>147</sup>

Insurance companies operating in the U.A.E. 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 insurance companies must be U.A.E. nationals.<sup>148</sup>

Finally, insurance companies must comply with increasingly stringent regulations regarding their activities. 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>149</sup> Companies have until January 2018 to comply with these regulations.<sup>150</sup>

## **D. Pharmaceuticals**

The U.A.E.’s pharmaceutical market is quickly growing, despite government efforts to rein in drug prices. 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.

### **Increased Sales but Lower Margins**

The U.A.E. pharmaceutical market is growing at a healthy rate. A late 2014 report by leading data and analysis company GlobalData estimated that this market would expand at a compound annual growth rate of 5.3% from \$2.4 billion in 2013 to \$3.7 billion by 2020.<sup>151</sup> More recently, in 2016, *The National* cited projections that expenditure on pharmaceutical products would grow 8.1% per year from 10.32 billion AED [\$2.8 billion] in 2015 to 13.97 billion AED [\$3.8 billion] in 2019.<sup>152</sup>

This growth comes despite U.A.E. government efforts to contain rising drug prices. In early 2013, the U.A.E. announced that it would seek to bring U.A.E. pharmaceutical prices in line with those in neighboring countries.<sup>153</sup> Since then, the U.A.E. had, as of January 2016, launched six price reduction initiatives.<sup>154</sup> Through these initiatives, the U.A.E. Ministry of Health decreased the prices of almost 80% of innovative pharmaceutical drugs.<sup>155</sup>

### **Import Reliance but Growing Domestic Production**

The U.A.E. currently imports the vast majority of its pharmaceutical products from abroad. In fact, in August 2015, Marwan Abdulaziz Janahi, an Executive Director at DuBiotech (now Dubai Science Park), estimated that the U.A.E. imports between 85% and 90% of its drugs.<sup>156</sup>

However, the U.A.E.'s domestic pharmaceutical manufacturing base is expanding. In 2016, the Assistant Undersecretary of Public Health Policy and Licensing at the U.A.E. Ministry of Health said that he expects the number of pharmaceutical manufacturing plants in the U.A.E. to increase from 16 at present to 34 in five years' time.<sup>157</sup> This is partly driven by agreements between international drug companies and domestic manufacturers to make medicines in the U.A.E.<sup>158</sup>

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

- **Julphar Gulf Pharmaceutical Industries and MSD:** U.A.E.-based Julphar Gulf Pharmaceutical Industries claims to be the largest generic pharmaceutical manufacturer in the Middle East North Africa region. Established in 1980 under the guidance of the former Emir of Ras Al Khaimah, Sheikh Saqr bin Mohammed Al Qasimi, it operates thirteen manufacturing facilities in the U.A.E., producing tablets, syrups, and suspensions. Along with two other international facilities, these plants manufacture over a million boxes of medicines per day. 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 it can produce, distribute, and sell selected MSD products in the U.A.E., Kuwait, Bahrain, Oman, Qatar, and Iraq.
- **Neopharma and Wyeth/Pfizer:** Neopharma claims to be Abu Dhabi's premier pharmaceutical manufacturing company. Started in 2003, it has a 100,000 square-meter plant. In May 2014, Neopharma joined with Wyeth, a Pfizer unit, to manufacture selected Pfizer products, starting with cardiovascular medicines. Neopharma has also signed partnership agreements with a variety of other prominent pharmaceutical companies, including Germany's Merck Serono, Switzerland's Novartis, and India's Hetero Group.
- **UAEU and BioLegend:** United Arab Emirates University (UAEU) signed a licensing agreement with U.S.-based pharmaceutical company BioLegend to use four different UAEU patents to develop diagnostic tools for the early detection of Parkinson's disease.<sup>159</sup>

**Julphar**  
الخليج للصناعات الدوائية  
Gulf Pharmaceutical Industries



**MERCK SHARP & DOHME**

نيوفارما  
neopharma



**UAEU**  
جامعة الإمارات العربية المتحدة  
United Arab Emirates University



At present, major U.A.E. pharmaceutical companies include Julphar Gulf Pharmaceutical Industries, Neopharma, and:

- ❖ **Globalpharma:** 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 May 2014, French pharmaceutical giant Sanofi acquired a majority stake in Globalpharma.<sup>160</sup> Sanofi plans to make Globalpharma its platform for manufacturing and promoting its generics portfolio in the Gulf and wider Middle East region.<sup>161</sup>
- ❖ **Medpharma:** Medpharma has been described as 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>162</sup> At the time, Medpharma had about \$30-\$40 million in sales per year.<sup>163</sup>
- ❖ **LIFEPharma:** Part of the aforementioned VPS Healthcare, LIFEPharma has a facility at Jebel Ali Free Zone Area in Dubai that manufactures tablets, capsules, liquid suspensions, and syrups.<sup>164</sup> It is currently planning to build a 547 million AED [\$149 million] cancer drug plant at Khalifa Industrial Zone Park in Abu Dhabi. It has collaborated with global pharmaceutical companies including U.S. healthcare giant Abbott Laboratories, Swiss company Acino, and Canadian group Apotex.<sup>165</sup>

### Large and Growing International Presence

In keeping with the above, many major pharmaceutical companies have established a presence in the U.A.E. According to an Alpen Capital report, there were 90 global pharmaceutical companies in the U.A.E. as of 2014.<sup>166</sup> Some of these companies, such as Pfizer, have decided to make the U.A.E. the site of their regional headquarters.<sup>167</sup>

These pharmaceutical companies are drawn to 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. The U.A.E. has also created business friendly environments in which pharmaceutical companies can operate.

In this vein, Dubai Healthcare City has become a hub for pharmaceutical companies such as Abbott Laboratories, Allergan Middle East, AstraZeneca, Baxter, Boehringer Ingelheim, Eli Lilly, Gilead Sciences, Johnson & Johnson, Merck Serono, Merck Sharp and Dohme, Novartis, Novo Nordisk, and Sanofi.<sup>168</sup> Meanwhile, Dubai Science Park – another free zone community that was created in 2015 from the merger of Dubai Biotechnology & Research Park (DuBiotech) and Energy and Environment Park (EnPark) – has come to host pharmaceutical companies including Amgen, Bayer, Bristol-Myers Squibb, Fresenius Medical Care, Medtronic, Merck Serono, Merck Sharp and Dohme, and Pfizer.<sup>169</sup>

## E. Medical Products

The projected growth of the U.A.E.'s medical device market mirrors that for pharmaceuticals. Indeed, a late 2014 report by GlobalData estimated that this market would expand at a compound annual growth rate of 4.2% from \$733 million in 2013 to \$979 million in 2020.<sup>170</sup> More recently, BMI Research predicted this market would grow at an even higher rate of 8.2% per year from \$967 million in 2015 to \$1.4 billion by 2021.<sup>171</sup>

### Major U.S. Medical Device Companies in the U.A.E.

- **GE Healthcare** has based its regional headquarters in the U.A.E., where it has partnered with key public and private providers – including Dubai Health Authority, Abu Dhabi Health Services Company, City Hospital, and Majid Al Futtaim Ventures – to bring its portfolio of technologies and health solutions to the country. GE Healthcare recently joined with CEVA Logistics to inaugurate its first distribution warehouse center in the Jebel Ali Free Zone area. GE Healthcare also recently signed an unusual Memorandum of Understanding (MoU) with the Ministry of Health whereby it would equip and service radiology departments in 11 hospitals around the country in exchange for per patient service fees.
- **Medtronic** announced in January 2014 that it was moving its regional headquarters from Lebanon to the DuBiotech free zone in Dubai (now Dubai Science Park). However, the U.S. medical equipment giant's headquarters still appear to be based in Beirut, Lebanon as per its website. At the time, Medtronic also claimed it was opening the Medtronic Academy to deliver training courses to hundreds of healthcare practitioners every year. Medtronic has notably partnered with Gulf Medical Company, a leading regional provider of medical devices, in that company's Cardiac Rhythm Heart Failure, Coronary and Vascular Solutions, and Structural Heart divisions.<sup>172</sup>



GE Healthcare

**Medtronic**

Given that the U.A.E. produces relatively little medical equipment domestically, this has created significant business opportunities for international medical device companies, many of which have made the U.A.E. their regional headquarters. Indeed, major medical product manufacturers operating in the U.A.E. include GE Healthcare, Medtronic, and:



- ❖ **Siemens Healthcare:** The U.A.E. has been home to Siemens' Middle East headquarters since 1999. In January 2014, Siemens reportedly moved into its new regional headquarters at Masdar City. At the time, it employed around 2,420 employees in the country.<sup>173</sup>
- ❖ **Philips Healthcare:** Dubai serves as the Middle East headquarters for Philips Healthcare. This headquarters services 15 markets, namely the U.A.E., Oman, Saudi Arabia, Kuwait, Bahrain, Qatar, Yemen, Lebanon, Jordan, Syria, Palestine, Iraq, Iran, Afghanistan, and Pakistan.<sup>174</sup>



Although the U.A.E. is still heavily reliant on imports of medical equipment, it is beginning to develop a nascent medical products industry. For instance, Abu Dhabi National Industrial Projects (ADNIP) partnered with NNE Pharmaplan to launch the Abu Dhabi Medical Devices Company, which describes itself as a leading manufacturer of Auto Disable syringes, Single Use syringes, Insulin syringes, and IV Cannula.<sup>175</sup> One area of potential growth is 3D printing; indeed, as BMI recently noted in its report on the U.A.E. Medical Device Market, the Dubai 3D Printing Strategy could make Dubai a manufacturing hub of 3D printed medical devices by 2030.<sup>176</sup>

## F. Information Technology

The U.A.E.'s Healthcare Information Technology (IT) market is set to grow rapidly in the coming years. In fact, Technavio, a market research company that focuses on emerging markets, estimated in 2015 that this market would grow at a compound annual growth rate of over 11% from 2014 through 2019 due to significant IT spending by both public and private healthcare providers.<sup>177</sup>

This growth is to some degree driven by government initiatives to implement technology information solutions in the healthcare industry. These initiatives have involved mobile applications for patient engagement, data analytics, and the digitization of electronic medical records.

Dubai has been particularly proactive in engaging patients through novel mobile applications. In May 2015, Dubai developed two new apps, Dubai Doctors and Sehaty, which jointly offer 93 smart services linked to the Dubai Health Authority (DHA) website. Through these apps, patients can cancel or reschedule appointments, renew health cards or request duplicates, view lab results and medical information, and apply for a medical report, all from the convenience of their smartphone.<sup>178</sup>



In addition to introducing new ways to engage patients, Dubai has been experimenting with employing data analytics to improve healthcare. In March 2015, the DHA announced that it would give ratings to hospitals in an effort to improve services, keep patients informed, and bolster the Emirate's medical

tourism market.<sup>179</sup> As of October 2015, Dubai had moved forward with this plan, conducting a pilot project with five hospitals.<sup>180</sup>

#### U.S. Companies in the U.A.E. Healthcare IT Market

- **Cerner Corporation**, which designs health information technology that is employed in more than 18,000 facilities worldwide, is highly active in the U.A.E., where its clients include hospitals and clinics associated with the Abu Dhabi Health Services Company (SEHA) and the Ministry of Health (MoH) as well as Mobile Doctors, Healthpoint, National Reference Laboratory, and the U.A.E. Armed Forces. In 2008, the MoH began deploying Cerner Millennium as part of its Wareed Project to establish a “One Patient, One Record” system in its hospitals.
- **Epic Systems**, a Wisconsin-based company with an international office in Dubai, has also 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 System’s electronic medical records information system is also reportedly used by the Cleveland Clinic Abu Dhabi.
- **Truven Health Analytics** has likewise long been active in the U.A.E. as a partner of the Health Authority - Abu Dhabi, employing its expertise in collecting healthcare data, analyzing this data, and providing insights to its customers. Notably, Truven’s parent company, IBM, signed an agreement with Mubadala Development Company in July 2015 to bring IBM Watson to the MENA region, where it will be employed at healthcare, retail, education, banking, and finance organizations.<sup>181</sup>



At the same time, Dubai has made moves to digitize and unify medical records. In early 2016, the DHA announced the introduction of Salama, an electronic medical record system, and Nabidh, a patient data exchange scheme. By 2018, DHA hopes to have rolled out both of these tools in all Dubai hospitals, giving patients a single electronic medical file across all the Emirate’s hospitals.<sup>182</sup>

This latter scheme coincides with a nationwide drive to create unified medical records. Indeed, in May 2015, the U.A.E. cabinet backed the establishment of a unified national database of patients’ medical

records in the hopes of reducing registration times, medication errors, and lengths of hospital stays. The data would also be used to help identify systemic problems in the health system.<sup>183</sup>

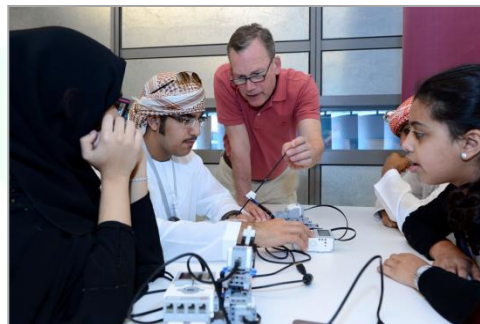
## G. Education and Research

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. At the same time, it has endeavored to make the country a regional hub for medical research and the exchange of medical ideas.

### Education and Training

Over the last several decades, a variety 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 claims to be the first and highest-ranked medical school in the U.A.E. It offers an internationally recognized undergraduate Bachelor of Medicine and Bachelor of Surgery (MBBS) degree, which it has also converted into a 4-year graduate entry MD program. It also offers Master of Medical Science, Master of Public Health, and Doctor of Pharmacy degrees.<sup>184</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>185</sup>
- ❖ **The University of Sharjah:** Opened in 2006, the University of Sharjah's College of Medicine offers a MBBS degree; Master's degrees in Molecular Medicine as well as Leadership on Health Professions Education; and a Doctorate degree in Molecular Medicine.<sup>186</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>187</sup> The University of Sharjah is also home to the 325-bed University Hospital Sharjah.<sup>188</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 and Physiotherapy. It also offers Doctorate degrees in Dental Medicine and Pharmacy as well as a 10-month Nurse Assistant program.<sup>189</sup> It currently has over 1,100 students.<sup>190</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>191</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 10 degree programs at BSc. and Diploma levels in Health



Sciences.<sup>192</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>193</sup>

- ❖ **Higher Colleges of Technology:** The Higher College of Technology's Health Sciences Division offers a broad range of Health Sciences Bachelor Degree programs across its 17 campuses. These programs include a BSc. in Nursing at Fujairah Women's College, Khalifa City Women's College, and Sharjah Women's College.<sup>194</sup>
- ❖ **Dubai Medical College for Girls:** This all-female institution offers a MBBS degree to women.<sup>195</sup>
- ❖ **Dubai Pharmacy College:** This college provides Bachelor of Pharmacy and Master of Pharmacy degrees.<sup>196</sup>
- ❖ **Royal College of Surgeons in Ireland – Dubai:** Established in 2005, this institution offers Master's of Science degrees in Healthcare Management; Quality & Safety in Healthcare Management; and Leadership in Health Professions Education.<sup>197</sup>

Dubai has recently embarked on bold efforts to expand its medical education sector, including in the field of nursing. In September 2014, Dubai Healthcare City announced the establishment of the Mohammed bin Rashid University of Medicine and Health Sciences, which will begin offering six-year MBBS degrees in September 2016.<sup>198</sup> Then, 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>199</sup> Meanwhile, Saudi-based Dr. Soliman Fakeeh Hospital has begun constructing a 1 billion AED [\$272 million] medical university and hospital in Dubai Silicon Oasis.<sup>200</sup>

#### U.S. Partners of the Mohammed bin Rashid Academic Medical Center

- **Harvard Medical School** signed an agreement with Dubai Healthcare City in January 2015 to open a training center at the Mohammed bin Rashid Academic Medical Centre that would both increase training and education of health professionals and bolster medical research and development.



- **GE Healthcare** and Dubai Healthcare City signed a MoU in January 2014 to support human capital development in the region's healthcare sector. As part of this MoU, GE agreed to participate in the delivery of healthcare training and education programs at Mohammed bin Rashid Academic Medical Center.



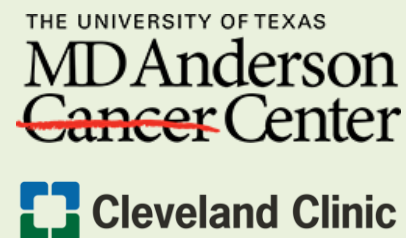
- **Houston Methodist Global Healthcare Services** entered into an agreement with Dubai Healthcare City in October 2013 to provide education and training initiatives at the Mohammed bin Rashid Academic Medical Center. This began with a lecture on diabetes and critical care.<sup>201</sup>



New 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 Khalifa University, one of Abu Dhabi's finest educational institutions.<sup>202</sup> Then, in June 2016, Indian billionaire Dr. BR Shetty, the head of the aforementioned NMC Healthcare, 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. Dr. Shetty noted that the university would be run in conjunction with either Duke University or the University of California, San Diego.<sup>203</sup>

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

- **MD Anderson and the Cleveland Clinic** entered into a medical partnership in late-2014 with the Khalifa bin Zayed Al Nahyan Foundation (KBZF) to develop the skills of Emirati doctors, medical students, and administrators. According to this partnership, educational programs would be offered to qualified Emirati candidates, ranging from collaborative internships to scholarships, residencies, and fellowships.
- **Children's National Medical Center** has provided internships to numerous qualified Emirati medical students over the last several years. In July 2016, four students from Khalifa University were selected to take part in the two-month-long Sheikh Zayed Institute for Pediatric Innovation's student innovators program.<sup>204</sup>



#### Research

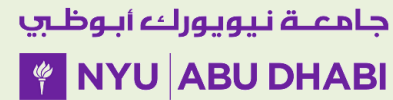
Over the last decade, the U.A.E. has sought to become an incubator for medical research. Along these lines, it has attempted to create a propitious environment for such research through initiatives including the aforementioned Dubai Science Park. The U.A.E. has also funded medical research through institutions such as Sheikh Mohammed bin Rashid's Al Jalila Foundation, which gave a 100 million AED [\$27 million] grant to create Al Jalila Medical Research Center and has also awarded millions of dirhams in seed grants to U.A.E.-based medical researchers.<sup>205</sup> Finally, the U.A.E. has forged fruitful research partnerships with leading medical institutions abroad.





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

- **Cleveland Clinic Abu Dhabi and New York University Abu Dhabi** agreed to collaborate on research, knowledge sharing, education, and training programs. This agreement is meant to help NYU Abu Dhabi improve its academic offerings in medical and health-related fields. Meanwhile, it is intended to help Cleveland Clinic Abu Dhabi form an academic medical center focused on clinical research and education.
- **Children's National Medical Center** has embarked on research collaborations with the U.A.E. Ministry of Health as part of a longstanding relationship between the two institutions.
- **Dubai Harvard Foundation for Medical Research** was created 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 provided a four-year grant to establish 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.<sup>206</sup>



### Conferences

Over the last decade, the U.A.E. has also sought to become a regional hub for the exchange of healthcare ideas via the hosting of countless conferences in the healthcare field. These include the largest healthcare exhibition and congress in the Middle East, "Arab Health," which Dubai hosts every year.<sup>207</sup> They also include more specialized conferences such as that hosted by the Health Information and Management Systems Society (HIMSS) during U.A.E. Health Week.



### 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>208</sup> Building on this legislation, in November 2014, the U.A.E. Ministry of Health announced a nationwide ban on smoking in all enclosed public spaces, and it also announced the construction of eight new anti-smoking clinics so as to have at least two such clinics in each Emirate by the end of 2015.<sup>209</sup> In the near future, the U.A.E. is expected to introduce an excise tax of up to 100% on tobacco products.<sup>210</sup>

### NYU Abu Dhabi and U.A.E. Public Health

New York University Abu Dhabi has sought to improve the health of the population of Abu Dhabi through the creation of the Public Health Research Center (PHRC). Among other things, this Center hopes 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. In so doing, the PHRC has proposed developing four specific centers including the “Smoking Cessation Research Center.”<sup>211</sup>



## Cancer Screening

In addition to implementing anti-smoking measures, the U.A.E. has made strident efforts to promote early cancer detection. In September 2015, the 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.<sup>212</sup> This initiative 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>213</sup>



#### **Susan G. Komen Breast Cancer Foundation and the U.A.E.**

The Susan G. Komen Foundation has partnered with the U.A.E. and the U.S. State Department to raise awareness of breast cancer and facilitate more effective outcomes in its prevention and treatment. Since 1982, the Foundation has funded more than \$889 million in cancer research and more than \$1.95 billion in medical care, community and provider education, and psychosocial support in over 60 countries including the U.A.E.<sup>214</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 industry. Along these lines, 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>215</sup> In the coming year, the U.A.E. may also introduce excise tax legislation on sugary beverages.<sup>216</sup>

U.A.E. health authorities have complemented these efforts with additional initiatives. For instance, HAAD has launched the Weqaya program, which screens individuals for cardiovascular disease, diabetes, and the risk factors associated with these two ailments.<sup>217</sup> U.A.E. nationals must undergo Weqaya screening in order to qualify for the elite “Thiqa” health insurance program.<sup>218</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, and ambitions to become a regional medical tourism hub are all driving the expansion of the country's healthcare market. As a result, Alpen Capital projected in February 2014 that this market would grow 12.7% per year to reach \$19.5 billion by 2020.

At the same time that it is a thriving healthcare market in its own right, the U.A.E. is an ideal regional hub for the distribution of medical products 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. U.S. healthcare providers could sign agreements to set up branches in the U.A.E. (as the Cleveland Clinic and the New England Center for Children did). They could ink hospital administration agreements (as Johns Hopkins and Houston Methodist Global Health Care did). Alternately, companies could provide support or consulting services to medical providers, much like the Mayo Clinic.

The U.A.E. also provides 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 production of drugs, perhaps following the lead of MSD and Pfizer in agreeing to local production arrangements. In addition, U.S. companies will find 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 Cerner Corporation and Truven Health Analytics can attest.

The U.A.E. provides 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. Medical professional recruitment agencies will find a demand for their services, particularly when it comes to

attracting specialists. 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 Harvard Medical School and MD Anderson 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. The U.S.-U.A.E. Business Council's new guide to "Doing Business in the United Arab Emirates" provides U.S. company executives the essential information they need when considering operations in the Emirates.

## **B. Challenges**

While there are abundant opportunities for U.S. businesses in the U.A.E. healthcare market, these opportunities are limited by the inherent size of the market. The U.A.E.'s population of 9 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 the U.A.E.'s connections to the wider region. This is particularly the case where there is fierce competition, like in the healthcare insurance industry.

This problem of scale has been exacerbated to a certain degree by the reported fragmentation of the U.A.E. healthcare market by different healthcare regulators. As seen above, the Ministry of Health and Prevention (MOHP), Health Authority - Abu Dhabi (HAAD), 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>219</sup> That said, it is of note that the U.A.E. has taken steps to unify its regulations; for instance, the MOHAP, DHA, and HAAD announced in October 2014 that they would begin implementing a unified medical license for medical professionals.<sup>220</sup>

In addition to scale, another potential challenge for U.S. companies operating in the U.A.E. healthcare market is tightening budgets. As demonstrated above, the U.A.E. has recently moved to curtail some of the more generous terms of the health insurance it provides its citizens. Moreover, it had previously worked to bring U.A.E. pharmaceutical prices in line with those of its neighbors, dampening the profits of pharmaceutical companies. In an environment of lower oil prices and soaring healthcare costs, one could envisage decreased expenditures and firmer stances regarding prices throughout the healthcare industry.

Finally, there are several legal or regulatory issues that could dampen the enthusiasm of U.S. companies or individuals considering entering the U.S. market. As previously noted, some medical professionals may be discouraged from entering the U.A.E. due to the threat of criminal proceedings for medical malpractice or negligence.<sup>221</sup> Meanwhile, pharmaceutical companies may be dissuaded from expanding their U.A.E. operations due to nagging concerns about protection of intellectual property.<sup>222</sup>

## **C. Resources**

U.S. companies that are looking to capture the myriad 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., to help them navigate any challenges.

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

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

Senior Commercial Officer: Dao M. Le  
U.S. Embassy, Commercial Section  
P.O. Box 4009, Abu Dhabi, U.A.E.  
Tel: +971-2- 414-2665 Fax: +971-2- 414-2228  
E-mail: Dao.Le@trade.gov  
Website: [www.buyusa.gov/unitedarabemirates](http://www.buyusa.gov/unitedarabemirates)

Commercial Officer: Gary Rand  
U.S. Embassy, Commercial Section  
P.O. Box 4009, Abu Dhabi, U.A.E.  
Tel: +971-2-414-2530 Fax: +971-2-414-2228  
E-mail: Gary.Rand@trade.gov  
Website: [www.buyusa.gov/unitedarabemirates](http://www.buyusa.gov/unitedarabemirates)

Commercial Attaché: Nasir Abbasi  
U.S. Consulate General, Commercial Section  
P.O. Box 9343, Dubai, U.A.E.  
Tel: +971-4-309 4963 Fax: +971-4-309-4841  
E-mail: Nasir.Abbasi@trade.gov  
Website: [www.buyusa.gov/unitedarabemirates](http://www.buyusa.gov/unitedarabemirates)

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

Executive Director for Middle East Africa: Christian Reed  
U.S. Department of Commerce  
U.S. and Foreign Commercial Service  
International Trade Administration  
1401 Constitution Ave., NW, Suite A205 HCHB

Washington, DC 20230  
Tel: (202) 482-1902 Fax: (202) 482-5179  
Email: Christian.Reed@trade.gov

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. 20230-0001  
Tel: (202) 482-0879 Fax: (202) 482-0878  
Email: 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 United States***

Commercial Counselor: Saud H. Al Nowais  
U.A.E. Embassy, Trade & Commercial Office  
3522 International Court, NW  
Washington, DC 20008  
Tel: (202) 243-2425 Fax: (202) 243-2408  
Email: trade@uaeembassy-usa.org  
Website: <http://www.uaetrade-usa.org/>

Consul General of the U.A.E. in Los Angeles: His Excellency Abdulla Alsaboosi  
1999 Avenue of the Stars, Suite 1250  
Los Angeles, CA 90067  
Tel: (310) 551-6534  
Email: protocol.la@mofa.gov.ae

Consul General of the U.A.E. in New York: His Excellency Majid Al-Suwaidi  
3 Dag Hammarskjöld Plaza  
305 East 47th Street, 7th Floor  
New York, N.Y. 10017  
Tel: (917) 860-0609  
Email: mh.alsuwaidi@mofa.gov.ae

Consul General of the U.A.E. in Boston: Salem Alshamsi  
One International Pl, Suite 2901  
Boston, MA 02110  
Tel: (617) 505-3300 Fax: (857) 250-4671  
Email: SAlshamsi@uaeembassy-usa.org

***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: +971-2-633-4716 Fax: +971-2-672-6000  
P.O. Box 1853, Dubai U.A.E.  
Tel: +971-4-396-6000 Fax: +971-4-396-5666  
Website: [www.moh.gov.ae](http://www.moh.gov.ae)

Health Authority - Abu Dhabi (HAAD)  
P.O. Box 5674, Abu Dhabi, U.A.E.  
Tel: +971-2-449-3333 Fax: +971-2-444-9822  
Email: [healthcenter@haad.ae](mailto:healthcenter@haad.ae)

Abu Dhabi Health Services Company (SEHA)  
P.O. Box 109090, Abu Dhabi, U.A.E.  
Tel: +971-2-410-2000 Fax: +971-2-410-2311  
Email: [info@seha.ae](mailto:info@seha.ae)  
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 Fax: +971-4-311-3113  
Email: [wasselsotak@dha.gov.ae](mailto:wasselsotak@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 Fax: (202) 863-7289  
Email: [info@usuaebusiness.org](mailto:info@usuaebusiness.org)  
Website: [www.usuaebusiness.org](http://www.usuaebusiness.org)

The American Chamber of Commerce in Abu Dhabi  
P.O. Box 43710, Abu Dhabi, U.A.E.  
Tel: +971-2-631-3604 Fax: +971-2-633-0489  
Email: [inquiries@amchamabudhabi.org](mailto:inquiries@amchamabudhabi.org)  
Website: [www.amchamabudhabi.org](http://www.amchamabudhabi.org)

The American Business Council of Dubai and Northern Emirates  
P.O. Box 37068, Dubai, U.A.E.  
Tel: +971-4-340-7566 Fax: +971-4-340-7565  
Email: [admin@abcdubai.com](mailto:admin@abcdubai.com)  
Website: [www.abcdubai.com](http://www.abcdubai.com)

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

Federation Chamber of Commerce & Industry  
P.O. Box 3014, Abu Dhabi, U.A.E.  
Tel: +971-2-621-4144 Fax: +971-2-633-9210  
Email: [info@fccuae.ae](mailto:info@fccuae.ae)  
Website: [www.fccuae.ae](http://www.fccuae.ae)

Abu Dhabi Chamber of Commerce and Industry  
P.O. Box 662, Abu Dhabi, U.A.E.  
Tel: +971-2-621-4000 Fax: +971-2-621-5867  
Email: [services@adcci.gov.ae](mailto:services@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 Fax: +971-4-202-8888  
Email: [info.dataresearch@dubaichamber.ae](mailto:info.dataresearch@dubaichamber.ae)  
Website: [www.dubaichamber.ae](http://www.dubaichamber.ae)

Sharjah Chamber of Commerce & Industry  
P.O. Box 580, Sharjah, U.A.E.  
Tel: +971-6-530-2222 Fax: +971-6-530-2226  
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: +971-6-742-2177 Fax: +971-6-742-7591  
Email: [ajmchmbr@emirates.net.ae](mailto:ajmchmbr@emirates.net.ae)  
Website: [www.ajcci.gov.ae](http://www.ajcci.gov.ae)

Fujairah Chamber of Commerce, Industry & Agriculture  
P.O. Box 738, Fujairah, U.A.E.  
Tel: +971-9-222-2400 Fax: +971-9-222-1464  
Email: [fujccia@emirates.net.ae](mailto:fujccia@emirates.net.ae)  
Website: [www.fujcci.ae](http://www.fujcci.ae)

Ras Al Khaimah Chamber of Commerce, Industry & Agriculture  
P.O. Box 87, Ras Al Khaimah, U.A.E.  
Tel: +971-7-233-3511 Fax: +971-7-233-0233  
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 426, Umm Al Quwain, U.A.E.  
Tel: +971-6-765-1111 Fax: +971-6-765-5055  
Email: [uaqcci@emirates.net.ae](mailto:uaqcci@emirates.net.ae)

## REFERENCES

- <sup>1</sup> <http://www.uaeinteract.com/society/health.asp>
- <sup>2</sup> <http://gulfnews.com/gn-focus/special-reports/health/the-state-of-the-uae-s-health-2016-1.1658937>
- <sup>3</sup> <http://www.thenational.ae/news/uae-news/health/how-missionaries-transformed-abu-dhabi-healthcare#full>
- <sup>4</sup> <http://www.thenational.ae/uae/abu-dhabis-oldest-hospital-given-new-lease-of-life>
- <sup>5</sup> <http://gulfnews.com/news/uae/health/zayed-s-generosity-praised-by-staff-of-mayo-clinic-1.336171;>  
[http://www.hopkinsmedicine.org/news/media/releases/major\\_gift\\_to\\_johns\\_hopkins\\_medicine\\_honors\\_uae\\_sheikh\\_zayed\\_bin\\_sultan\\_al\\_nahyan;](http://www.hopkinsmedicine.org/news/media/releases/major_gift_to_johns_hopkins_medicine_honors_uae_sheikh_zayed_bin_sultan_al_nahyan) [http://www.thenational.ae/uae/health/officials-inaugurate-texas-cancer-care-unit-named-for-sheikh-zayed;](http://www.thenational.ae/uae/health/officials-inaugurate-texas-cancer-care-unit-named-for-sheikh-zayed) [http://childrensnational.org/news-and-events/photo-gallery/arab-health-2016;](http://childrensnational.org/news-and-events/photo-gallery/arab-health-2016)  
[http://www.emirates247.com/news/app-to-detect-birth-defects-in-uae-infants-2016-01-27-1.618859;](http://www.emirates247.com/news/app-to-detect-birth-defects-in-uae-infants-2016-01-27-1.618859)  
[http://childrensnational.org/research-and-education/sheikh-zayed/about-the-institute;](http://childrensnational.org/research-and-education/sheikh-zayed/about-the-institute)  
<http://www.thenational.ae/news/uae-news/hamdan-bin-rashid-donates-us-5m-to-cleveland-clinic>
- <sup>6</sup> [http://www.researchandmarkets.com/research/zhv296/uae\\_healthcare](http://www.researchandmarkets.com/research/zhv296/uae_healthcare)
- <sup>7</sup> <http://www.emirates247.com/business/economy-finance/uae-healthcare-market-to-grow-12-7-to-dh71-56bn-by-2020-alpen-capital-2016-02-17-1.621363>
- <sup>8</sup> <http://www.emirates247.com/news/emirates/dubai-s-fertility-rate-drops-study-2016-01-17-1.617509>
- <sup>9</sup> <http://www.thenational.ae/arts-life/well-being/the-unhealthy-lifestyle-choices-that-are-plaguing-our-population>
- <sup>10</sup> <http://www.emirates247.com/news/emirates/2050-1-of-5-uae-citizens-60-or-older-2014-08-02-1.558216>
- <sup>11</sup> [http://www.thenational.ae/uae/health/tackling-uaes-obesity-problem-is-more-complex-than-you-may-think;](http://www.thenational.ae/uae/health/tackling-uaes-obesity-problem-is-more-complex-than-you-may-think)  
<http://www.thenational.ae/uae/health/20150513/half-of-women-in-uae-are-clinically-obese>
- <sup>12</sup> <http://www.thenational.ae/uae/uae-losing-fight-against-smoking>
- <sup>13</sup> <http://gulfnews.com/gn-focus/special-reports/health/the-state-of-the-uae-s-health-2016-1.1658937>
- <sup>14</sup> [http://www.idf.org/sites/default/files/attachments/MENA%20factsheet.pdf;](http://www.idf.org/sites/default/files/attachments/MENA%20factsheet.pdf)  
<http://www.diabetesatlas.org/across-the-globe.html>
- <sup>15</sup> <http://gulfnews.com/news/uae/health/dubai-prepares-for-influx-of-1-3m-medical-tourists-by-2021-1.1818558>
- <sup>16</sup> <http://www.haad.ae/HAAD/LinkClick.aspx?fileticket=KeJK5Zsluns%3d&tabid=1516>
- <sup>17</sup> <http://www.thenational.ae/uae/health/dubai-unveils-ambitious-10-year-healthcare-plan>
- <sup>18</sup> <http://www.thenational.ae/uae/health/uae-nursing-staff-levels-fall-behind-region-and-world>
- <sup>19</sup> <http://www.thenational.ae/uae/health/uae-is-letting-its-psychiatric-patients-down-say-experts>
- <sup>20</sup> [http://www.thenational.ae/uae/health/despite-overall-growth-in-number-of-doctors-specialists-are-in-short-supply-across-abu-dhabi;](http://www.thenational.ae/uae/health/despite-overall-growth-in-number-of-doctors-specialists-are-in-short-supply-across-abu-dhabi) <http://www.thenational.ae/uae/health/short-supply-of-critical-care-beds-in-abu-dhabi>
- <sup>21</sup> [http://www.thenational.ae/uae/health/lack-of-emirati-doctors-is-worrying-problem-middle-east-health-leaders-told;](http://www.thenational.ae/uae/health/lack-of-emirati-doctors-is-worrying-problem-middle-east-health-leaders-told) <http://www.thenational.ae/uae/health/shortage-of-healthcare-professionals-in-gcc-as-demand-set-to-soar-240-in-20-years>
- <sup>22</sup> <http://www.thenational.ae/uae/health/more-nurses-and-better-education-needed-to-cope-with-uae-shortage>
- <sup>23</sup> [http://www.thenational.ae/uae/health/seha-seeks-more-emirati-nurses;](http://www.thenational.ae/uae/health/seha-seeks-more-emirati-nurses)  
<http://gulfnews.com/news/uae/health/emirati-nurses-make-up-just-3-in-uae-1.1161080>
- <sup>24</sup> <http://www.thenational.ae/uae/uae-healthcare-costs-driven-up-by-criminalisation-of-malpractice>
- <sup>25</sup> <http://www.thenational.ae/uae/health/hospital-staff-in-the-northern-emirates-opt-for-big-city-salaries>
- <sup>26</sup> [http://www.eiuperspectives.economist.com/healthcare/investing-quality-healthcare-uae;](http://www.eiuperspectives.economist.com/healthcare/investing-quality-healthcare-uae)  
[http://www.thenational.ae/uae/staff-retention-essential-to-the-success-of-the-uaes-hospitals;](http://www.thenational.ae/uae/staff-retention-essential-to-the-success-of-the-uaes-hospitals)  
<http://www.thenational.ae/uae/uae-healthcare-costs-driven-up-by-criminalisation-of-malpractice>
- <sup>27</sup> <http://www.arabianbusiness.com/revealed-doctor-fees-up-6-times-higher-in-uae-535518.html#.V2rbIPkrLIU>
- <sup>28</sup> [http://www.thenational.ae/uae/knee-operations-for-uaes-elderly-expensive-and-unnecessary;](http://www.thenational.ae/uae/knee-operations-for-uaes-elderly-expensive-and-unnecessary)  
<http://www.thenational.ae/uae/dubais-hospitals-face-battle-to-survive-amidst-abuse-of-system>
- <sup>29</sup> <http://www.thenational.ae/uae/billions-lost-in-health-care-fraud-and-waste-in-the-uae>
- <sup>30</sup> <https://www.vision2021.ae/en/national-priority-areas/world-class-healthcare>
- <sup>31</sup> <http://www.thenational.ae/uae/health/sheikh-mohammed approves-strategy-to-improve-health-care>
- <sup>32</sup> <http://www.thenational.ae/uae/health/man-in-charge-of-dha-wants-speed-of-progress-accelerated>
- <sup>33</sup> <http://www.thenational.ae/uae/health/dubai-unveils-ambitious-10-year-healthcare-plan>
- <sup>34</sup> <http://shurooq.gov.ae/business-opportunities/healthcare/>

---

<sup>35</sup> <http://www.uaeinteract.com/society/health.asp>

<sup>36</sup> <https://www.lw.com/thoughtleadership/healthcare-regulation-in-uae>

<sup>37</sup> <https://www.eiuperspectives.economist.com/sites/default/files/Investing%20in%20quality%20WEB%20English.pdf>;  
[http://export.gov/industry/health/healthcareresourceguide/eg\\_main\\_092312.asp](http://export.gov/industry/health/healthcareresourceguide/eg_main_092312.asp);  
<http://www.thenational.ae/uae/health/ministry-of-health-cuts-prices-on-142-medicines>;  
<http://www.thenational.ae/uae/health/uae-slashes-cost-of-diabetes-drugs-by-more-than-80>;  
<http://www.thenational.ae/uae/health/ministry-of-health-bolsters-uaes-medicine-stockpiles>;  
<http://www.thenational.ae/uae/health/uae-fast-tracking-new-drugs-in-bid-to-tackle-growing-health-issues>

<sup>38</sup> <http://www.moh.gov.ae/en/About/Pages/OrganizationStructure.aspx>

<sup>39</sup> <http://www.oxfordbusinessgroup.com/overview/double-digit-growth-projected-continue-2015>

<sup>40</sup> <http://www.ia.gov.ae/EN/About/Pages/default.aspx>

<sup>41</sup> [http://www.haad.ae/haad/Portals/0/Health%20Regulation%20Laws/Book9\\_En/index.html#/36/](http://www.haad.ae/haad/Portals/0/Health%20Regulation%20Laws/Book9_En/index.html#/36/);  
[http://www.haad.ae/haad/Portals/0/Health%20Regulation%20Laws/Book9\\_En/index.html#/4/](http://www.haad.ae/haad/Portals/0/Health%20Regulation%20Laws/Book9_En/index.html#/4/);  
[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/);  
[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/);  
[http://www.haad.ae/haad/Portals/0/Health%20Regulation%20Laws/Book7\\_En/index.html#/2/](http://www.haad.ae/haad/Portals/0/Health%20Regulation%20Laws/Book7_En/index.html#/2/);  
[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/);  
[http://www.haad.ae/haad/Portals/0/Health%20Regulation%20Laws/Book4\\_En/index.html#/2/](http://www.haad.ae/haad/Portals/0/Health%20Regulation%20Laws/Book4_En/index.html#/2/);  
[http://www.haad.ae/haad/Portals/0/Health%20Regulation%20Laws/Book3\\_En/index.html#/2/](http://www.haad.ae/haad/Portals/0/Health%20Regulation%20Laws/Book3_En/index.html#/2/);  
<http://www.thenational.ae/uae/health/uae-private-health-care-law-passed>;  
[http://www.haad.ae/haad/Portals/0/Health%20Regulation%20Laws/Book3\\_En/index.html#/2/](http://www.haad.ae/haad/Portals/0/Health%20Regulation%20Laws/Book3_En/index.html#/2/);  
[http://www.haad.ae/haad/Portals/0/Health%20Regulation%20Laws/Book3\\_En/index.html#/2/](http://www.haad.ae/haad/Portals/0/Health%20Regulation%20Laws/Book3_En/index.html#/2/)

<sup>42</sup> <http://uaenmc.gov.ae/en/AboutUs.aspx>; <http://www.thenational.ae/news/uae-news/health/new-council-to-address-uae-nursing-shortage>

<sup>43</sup> [http://www.haad.ae/haad/Portals/0/Health%20Regulation%20Laws/Book1\\_En/index.html#/2/](http://www.haad.ae/haad/Portals/0/Health%20Regulation%20Laws/Book1_En/index.html#/2/)

<sup>44</sup> <http://www.thenational.ae/uae/health/heart-disease-was-the-top-killer-in-abu-dhabi-last-year>;  
<http://www.thenational.ae/uae/health/experts-tell-gulf-countries-to-do-more-in-fight-against-diabetes-epidemic>;  
<http://www.haad.ae/haad/tabid/912/Default.aspx>

<sup>45</sup> <http://www.haad.ae/haad/tabid/916/Default.aspx>; <http://www.haad.ae/haad/tabid/1207/Default.aspx>

<sup>46</sup> <http://www.jhsph.edu/news/news-releases/2008/abu-dhabi-agreement.html>;  
<http://www.haad.ae/haad/tabid/58/ctl/Details/Mid/417/ItemID/40/Default.aspx>

<sup>47</sup> <https://www.lw.com/thoughtleadership/healthcare-regulation-in-uae>;  
<http://www.thenational.ae/uae/health/dubai-health-authority-inspectors-log-141-violations-in-six-months>;  
<http://www.thenational.ae/uae/health/more-than-6000-medical-professionals-licensed-in-dubai-since-january>

<sup>48</sup> <http://www.thenational.ae/business/economy/dubai-curbs-cost-of-health-care>;  
<http://www.thenational.ae/uae/health/dubai-health-authority-working-on-fund-to-cover-medical-expenses-for-poor-families> ; <http://www.thenational.ae/uae/health/dubai-health-authority-calls-for-more-emiratis-to-enter-medical-profession>

<sup>49</sup> <https://www.dha.gov.ae/en/Aboutus/Pages/OurPresident.aspx>

<sup>50</sup> <https://www.dha.gov.ae/en/Aboutus/Pages/ChairmansMessage.aspx>;  
<http://gulfnews.com/news/uae/government/new-dha-director-general-appointed-1.1516781>

<sup>51</sup> <https://www.lw.com/thoughtleadership/healthcare-regulation-in-uae>

<sup>52</sup> <http://www.dhcc.ae/portal/en/regulatory.aspx>

<sup>53</sup> <https://www.lw.com/thoughtleadership/healthcare-regulation-in-uae> ;  
<https://www.wam.ae/en/news/general/1395295963417.html>

<sup>54</sup> <http://www.khaleejtimes.com/nation/uae-health/sharjah-health-authority-to-provide-free-medical-tests>

<sup>55</sup> <https://www.seha.ae/English/aboutus/Pages/Formation-of-SEHA.aspx>;  
[http://www.haad.ae/haad/Portals/0/Health%20Regulation%20Laws/Book1\\_En/index.html#/2/](http://www.haad.ae/haad/Portals/0/Health%20Regulation%20Laws/Book1_En/index.html#/2/)

<sup>56</sup> <https://www.seha.ae/English/aboutus/Pages/Formation-of-SEHA.aspx>;  
<http://www.thenational.ae/uae/health/number-of-patients-in-abu-dhabi-rises-to-4-million>

<sup>57</sup> <http://www.khaleejtimes.com/nation/uae-health/four-hospitals-two-clinics-to-be-set-up-in-al-gharbia>;  
<http://www.thenational.ae/uae/health/construction-complete-at-sheikh-khalifa-medical-city-dialysis-centre>;  
<http://www.thenational.ae/uae/health/20150609/abu-dhabis-new-centre-to-support-women-with-mental-health-issues>;  
<http://www.thenational.ae/uae/health/seha-opens-new-paediatric-dialysis-unit>

<sup>58</sup> <http://www.thenational.ae/uae/health/al-towayya-childrens-speciality-centre-opens-its-doors>

<sup>59</sup> [http://www.hopkinsmedicine.org/international/international\\_affiliations/middle\\_east/al\\_rahba\\_hospital.html](http://www.hopkinsmedicine.org/international/international_affiliations/middle_east/al_rahba_hospital.html);  
[http://www.hopkinsmedicine.org/international/international\\_affiliations/middle\\_east/tawam\\_hospital.html](http://www.hopkinsmedicine.org/international/international_affiliations/middle_east/tawam_hospital.html);  
[http://www.hopkinsmedicine.org/news/media/releases/johns\\_hopkins\\_medicine\\_international\\_appoints\\_new\\_c\\_o\\_at\\_al\\_corniche](http://www.hopkinsmedicine.org/news/media/releases/johns_hopkins_medicine_international_appoints_new_c_o_at_al_corniche);  
<http://my.clevelandclinic.org/florida/sitecore/content/Sites/ClevelandClinic/Home/services/global-health-center/international-collaboration>;  
[https://www.facebook.com/NECCAbuDhabi/info/?entry\\_point=page\\_nav\\_about\\_item&tab=page\\_info](https://www.facebook.com/NECCAbuDhabi/info/?entry_point=page_nav_about_item&tab=page_info);  
<http://www.acgme.org/What-We-Do/Overview>;  
[https://www.abudhabi.ae/portal/public/en/abu\\_dhabi\\_emirate/government/news/news\\_detail?docName=ADEGP\\_DF\\_345486\\_EN&\\_adf.ctrl-state=w5a72s24h\\_4&\\_afrLoop=11762610570102658](https://www.abudhabi.ae/portal/public/en/abu_dhabi_emirate/government/news/news_detail?docName=ADEGP_DF_345486_EN&_adf.ctrl-state=w5a72s24h_4&_afrLoop=11762610570102658)

<sup>60</sup> <https://www.dha.gov.ae/en/MediaCenter/Pages/News.aspx#>

<sup>61</sup> <http://www.thenational.ae/uae/health/hope-for-patients-as-kidney-transplant-centre-opens-in-dubai>;  
<http://www.thenational.ae/uae/health/dh161m-revamp-of-uaes-busiest-emergency-unit-begins>;  
<http://www.thenational.ae/uae/health/gastro-unit-at-rashid-hospital-in-dubai-undergoes-expansion>

<sup>62</sup> <http://gulfnews.com/news/uae/government/health-ministry-blamed-for-poor-health-services-in-northern-emirates-1.1342696>

<sup>63</sup> <http://www.thenational.ae/news/uae-news/politics/uae-will-improve-health-care-in-northern-emirates-minister-assures-fnc>; <http://www.thenational.ae/uae/hospitals/child-care-centre-opens-in-fujairah>;  
<http://www.thenational.ae/uae/health/three-new-health-centres-for-fujairah-set-to-open>;  
<http://www.thenational.ae/uae/hospitals/early-cancer-detection-centres-planned-for-northern-emirates>;  
<http://www.thenational.ae/uae/uae-news-in-review-2015-fujairahs-infrastructure-gets-an-upgrade>;  
<http://fujairah.ae/en/Pages/health.aspx>

<sup>64</sup> <http://www.thenational.ae/uae/all-health-insurance-cards-to-be-accepted-by-federal-hospitals-in-2017>

<sup>65</sup> <http://gulfnews.com/news/uae/health/moh-partners-with-mayo-clinic-in-the-uae-1.1049630>

<sup>66</sup> <http://nmc.ae/hospitals/umm-al-quwain/sheikh-khalifa-general-hospital-1/>;  
<http://www.thenational.ae/uae/health/dh750-million-hospital-boosts-health-care-in-umm-al-quwain>;  
<http://www.thenational.ae/uae/health/dh750m-sheikh-khalifa-hospital-opens-in-umm-al-quwain>

<sup>67</sup> <http://www.thenational.ae/uae/government/rak-ruler-sheikh-saud-opens-sheikh-khalifa-speciality-hospital---in-pictures>; <http://www.thenational.ae/uae/health/raks-flagship-hospital-to-be-managed-by-leading-korean-medical-institute>; <http://www.sksh.ae/about-us/>; <http://www.thenational.ae/news/uae-news/health/raks-flagship-hospital-will-meet-medical-needs-head-on>

<sup>68</sup> <http://www.mubadala.com/en/what-we-do/healthcare/healthpoint>;  
<http://www.mubadala.com/en/news/mubadala-healthcare-and-wooridul-agree-establish-spine-centre-abu-dhabi>

<sup>69</sup> <http://www.icldc.ae/about-us/overview>

<sup>70</sup> <http://www.thenational.ae/uae/health/medical-advice-being-just-phone-call-away-puts-abu-dhabi-patients-at-ease>

<sup>71</sup> <http://www.mubadala.com/en/what-we-do/healthcare>

<sup>72</sup> <https://www.clevelandclinicabudhabi.ae/en/about-us/pages/who-we-are.aspx>;  
<http://www.thenational.ae/uae/health/sheikh-mohammed-and-moroccan-king-inaugurate-cleveland-clinic-abu-dhabi>

<sup>73</sup> <http://aljalilahospital.com/about-aljalila.aspx>; <http://www.thenational.ae/uae/health/dh700-million-childrens-hospital-set-to-open-in-dubai-by-years-end>

<sup>74</sup> <http://www.thenational.ae/uae/dubai-autism-centre-thanks-sheikh-hamdan-for-donation>

<sup>75</sup> <http://www.nmchealth.com/healthcare/>

<sup>76</sup> <http://www.thenational.ae/business/economy/nmc-health-acquires-provita-to-reinforce-long-term-care-business>

<sup>77</sup> <http://www.thenational.ae/business/economy/medstar-to-invest-100-million-for-day-surgery-centres-in-the-uae-arabian-gulf>; <http://www.zawya.com/mena/en/story/ZAWYA20150818062120/>

<sup>78</sup> <http://www.thenational.ae/business/economy/nmc-healthcare-opens-new-500-bed-capacity-hospital-in-abu-dhabis-khalifa-city>

<sup>79</sup> <http://www.mediclinic.com/About-Us>; <http://www.thenational.ae/business/economy/abu-dhabis-nmc-health-vows-to-fight-on-for-al-noor-merger>

<sup>80</sup> <http://www.thenational.ae/uae/dh700m-hospital-to-be-built-in-new-dubai>

<sup>81</sup> <http://www.alnoorhospital.com/>

<sup>82</sup> <http://www.thenational.ae/business/property/al-noor-hospitals-agrees-dh1bn-deal-to-expand-three-abu-dhabi-sites>

<sup>83</sup> <http://www.vpshealth.com/about-us/overview/>; <http://www.thenational.ae/business/economy/vps-healthcare-latest-company-to-show-interest-in-al-noor-hospitals>; <http://www.thenational.ae/business/economy/vps-opens-new-premium-healthcare-centre-at-aldar-headquarters>

<sup>84</sup> <http://www.thenational.ae/business/industry-insights/property/burjeel-hospital-plans-15-billion-expansion-in-abu-dhabi>

<sup>85</sup> <http://www.thenational.ae/business/economy/nmc-healthcare-opens-new-500-bed-capacity-hospital-in-abu-dhabis-khalifa-city>

<sup>86</sup> <http://www.thenational.ae/uae/health/layoffs-at-abu-dhabi-private-health-centres-as-industry-manages-effects-of-new-copay>

<sup>87</sup> <http://www.thenational.ae/business/economy/vps-healthcare-latest-company-to-show-interest-in-al-noor-hospitals>; <http://asterdmhealthcare.com/about-us/overview/>

<sup>88</sup> <http://www.thenational.ae/business/economy/aster-dm-expands-hospital-network-in-abu-dhabi>; <http://www.thenational.ae/business/economy/aster-dm-opens-first-medcare-clinic-in-sharjah>

<sup>89</sup> <http://www.khaleejtimes.com/business/local/aster-dm-healthcare-targets-india-ipo-by-year-end>

<sup>90</sup> <http://www.uems.ae/en/AboutUs.aspx>

<sup>91</sup> <http://www.uems.ae/en/Projects/DanatAlEmaratHospital.aspx>; <http://www.danatalemarat.ae/>; <http://www.danatalemarat.ae/about-us/who-we-are/>; <http://www.thenational.ae/uae/health/abu-dhabis-danat-al-emarkat-hospital-opens>

<sup>92</sup> <http://www.uems.ae/en/Projects/HealthPlus.aspx>; <http://www.hplus.ae/en/home.aspx>

<sup>93</sup> <http://www.moorfields.nhs.uk/news/moorfields-launches-eye-centre-abu-dhabi>; <http://www.thenational.ae/uae/health/british-eye-hospital-launches-centre-in-abu-dhabi>; <http://www.thenational.ae/uae/health/kings-college-hospital-london-opens-abu-dhabi-clinic>

<sup>94</sup> <http://www.moorfields.ae/dubai/about-moorfields/>

<sup>95</sup> <http://www.avivo-group.com/who-we-are.aspx>

<sup>96</sup> <http://www.reuters.com/article/avivo-ipo-idUSL8N1AK4L4>

<sup>97</sup> [http://www.sghgroup.com.sa/index.php?option=com\\_content&view=article&id=636&Itemid=206&lang=en](http://www.sghgroup.com.sa/index.php?option=com_content&view=article&id=636&Itemid=206&lang=en)

<sup>98</sup> <http://www.sghdubai.com>

<sup>99</sup> <http://www.thenational.ae/business/economy/saudi-german-hospitals-to-open-300-bed-property-in-ajman>

<sup>100</sup> <https://www.alzahra.com/>; <http://www.gmpc.ae/ar/#>; <https://www.alzahra.com/azhshj/about-us.php>

<sup>101</sup> <https://www.alzahra.com/azhmcdxb/about-us.php>

<sup>102</sup> <http://www.azhd.ae/about/about-azhd>

<sup>103</sup> <http://www.thenational.ae/news/uae-news/new-al-zahra-hospital-dubai-promises-the-highest-quality>; <http://longwoodhsc.com/index.html>

<sup>104</sup> <http://zulekhahospitals.com/about>; <http://www.thenational.ae/business/the-life/day-in-the-life-zulekha-hospitals-executive-driven-by-best-healthcare-practice>

<sup>105</sup> <http://www.thumbay.com/about-us>

<sup>106</sup> <http://www.fng.ae/about-us>; <http://www.fng.ae/alsharq-healthcare>; <http://www.fng.ae/al-sharq-hospital>

<sup>107</sup> <http://www.arabianhealthcaregroup.com/content.php?pid=53>; <http://www.arabianhealthcaregroup.com/content.php?pid=59?pid=50>; [http://www.rakhospital.com/node/151/About#.V7yxY\\_krLIU](http://www.rakhospital.com/node/151/About#.V7yxY_krLIU); <http://www.slh.ch/en/mitglieder/RAK-Hospital.php>



<sup>108</sup> <http://www.thenational.ae/business/economy/kings-college-hospital-agrees-deal-for-100-bed-dubai-facility-and-network-of-clinics>; <https://www.kch.nhs.uk/news/media/press-releases/view/15643>; <https://www.kchclinics.com/why-kings/kings-dubai/>; <https://www.kchclinics.com/>

<sup>109</sup> <http://www.prnewswire.com/news-releases/american-hospital-dubai-joins-mayo-clinic-care-network-582079311.html>; <http://www.emirates247.com/business/corporate/valiant-clinic-to-open-at-city-walk-dubai-this-year-2016-01-18-1.617722>; <http://gulfnews.com/business/sectors/general/emaar-healthcare-group-ends-partnership-1.671004>

<sup>110</sup> <http://www.dhcc.ae/Portal/en/about-us/overview.aspx>;  
<http://www.dhcc.ae/Portal/en/investments/faqs.aspx#page=1>;  
<http://www.dhcc.ae/Portal/en/education/medical-education-projects.aspx>;  
<http://www.thenational.ae/business/economy/staff-and-facilities-growing-fast-at-dubai-healthcare-city>

<sup>111</sup> <http://shcc.ae/>; <http://shcc.ae/news/sharjah-healthcare-city-explores-healthcare-opportunities-with-south-africa/>

<sup>112</sup> <https://www.hg.org/article.asp?id=36394>;  
<http://www.haad.ae/HAAD/LinkClick.aspx?fileticket=5exKFrTZQps%3D&tabid=136>

<sup>113</sup> <https://www.thiqa.ae/opencms/opencms/Thiqa/en/about-us/about-us/>

<sup>114</sup> <https://www.hg.org/article.asp?id=36394>; <http://www.tamimi.com/en/section/global/law-no-11-of-2013-concerning-health-insurance-in-the-emirate-of-dubai>

<sup>115</sup> <http://www.thenational.ae/uae/uae-news-in-review-2015-strides-towards-compulsory-health-insurance-for-all>

<sup>116</sup> <http://www.thenational.ae/uae/health/mandatory-insurance-deadline-extended-in-dubai>;  
<http://www.thenational.ae/uae/health/dubais-mandatory-health-insurance-law-comes-into-force>

<sup>117</sup> <http://www.thenational.ae/uae/health/new-dh50-million-health-insurance-programme-for-sharjah-government-staff>; <http://www.thenational.ae/news/uae-news/health/sharjah-to-launch-new-health-insurance>

<sup>118</sup> <http://www.thenational.ae/uae/health/sharjah-citizens-aged-55-and-over-eligible-for-health-insurance>

<sup>119</sup> <http://www.thenational.ae/uae/health/mandatory-health-insurance-for-northern-emirates-in-pipeline-officials-say>

<sup>120</sup> <http://www.thenational.ae/uae/health/calls-for-northern-emirates-to-get-health-cover>

<sup>121</sup> [http://www.haad.ae/haad/Portals/0/Health%20Regulation%20Laws/Book1\\_En/index.html#/2/](http://www.haad.ae/haad/Portals/0/Health%20Regulation%20Laws/Book1_En/index.html#/2/)

<sup>122</sup> <https://www.damanhealth.ae/opencms/opencms/Daman/en/about-us/corporate-profile/management-profile/>

<sup>123</sup> <http://www.thenational.ae/uae/emiratis-and-expats-to-pay-more-for-health-care-as-cover-is-reduced#full>

<sup>124</sup> <http://www.thenational.ae/uae/shock-at-insurance-coverage-cuts-for-most-vulnerable-emirati-patients>

<sup>125</sup> <http://www.thenational.ae/uae/health/layoffs-at-abu-dhabi-private-health-centres-as-industry-manages-effects-of-new-copay>

<sup>126</sup> <https://www.thiqa.ae/opencms/opencms/Thiqa/en/home/>;  
<https://www.dha.gov.ae/en/HealthFunding/Pages/Enaya.aspx>;  
<http://www.dubai.ae/en/Lists/Articles/DispForm.aspx?ID=83&category=Citizens>;  
<http://www.saada.ae/About?Lang=1>; <http://www.thenational.ae/uae/health/health-insurance-scheme-to-benefit-uae-nationals-with-no-other-cover>; <http://www.isahd.ae/Home/About>;  
<http://www.thenational.ae/business/personal-finance/a-guide-to-dubais-mandatory-health-insurance-law>

<sup>127</sup> <http://www.thenational.ae/business/personal-finance/find-the-uae-health-insurance-cover-that-works-for-you>

<sup>128</sup> <http://www.oxfordbusinessgroup.com/overview/double-digit-growth-projected-continue-2015>

<sup>129</sup> <http://www.adnic.ae/en/about-us/about-adnic/>

<sup>130</sup> <http://www.adnic.ae/en/products/individual/medical-insurance/>;  
<http://www.adnic.ae/en/products/corporate/corporate-medical-insurance/>

<sup>131</sup> <http://www.oxfordbusinessgroup.com/overview/double-digit-growth-projected-continue-2015>

<sup>132</sup> <http://www.aldfafrinsurance.ae/about-us/company-profile/>

<sup>133</sup> <https://www.alliance-uae.com/products.htm>

<sup>134</sup> <http://www.oxfordbusinessgroup.com/overview/double-digit-growth-projected-continue-2015>

<sup>135</sup> <https://www.axa-cooperative.com/business/healthcare>; <https://ae.axa-gulf.com/individuals/health-insurance>;  
<http://www.thenational.ae/business/industry-insights/finance/frances-axa-to-buy-stake-at-uae-insurer-green-crescent-for-dh100m>; <http://gulfnews.com/business/sectors/insurance/kanoo-axa-out-to-grab-dominant-share>

of-uae-s-life-insurance-market-1.1690922; <http://financialplanningindubai.com/2014/11/20/axa-medical-insurance-in-uae/>

<sup>136</sup> <http://uaemoneymarket.com/uae-health-insurance/>

<sup>137</sup> <http://www.methaq.ae/takaful-solutions/Medical.aspx>; <http://www.methaq.ae/about-us/about-methaq.aspx>; <http://www.globemedgulf.com/content/about-us>

<sup>138</sup> <http://www.arabianbusiness.com/photos/revealed-uae-s-top-50-companies-539053.html?img=3#.V2Q-PbsrLcs>; <http://www.oxfordbusinessgroup.com/overview/double-digit-growth-projected-continue-2015>; <http://www.tameen.ae/en/about-us/corporate-profile>; <http://www.tameen.ae/en/for-individuals/health-insurance/international-health-insurance>; <http://www.tameen.ae/en/for-businesses/group-health-insurance/group-health-insurance-product>; <http://www.thenational.ae/business/economy/competition-and-regulations-to-rein-in-profit-growth-at-oman-insurance>

<sup>139</sup> [http://www.meinsurancereview.com/Portals/1057/PDF/MENA\\_Ins\\_Mkts-Mini\\_Guide2013.pdf](http://www.meinsurancereview.com/Portals/1057/PDF/MENA_Ins_Mkts-Mini_Guide2013.pdf); <http://www.oxfordbusinessgroup.com/overview/double-digit-growth-projected-continue-2015>

<sup>140</sup> <http://www.oxfordbusinessgroup.com/overview/double-digit-growth-projected-continue-2015>

<sup>141</sup> <http://www.allianzworldwidecare.com/uae-plans>

<sup>142</sup> [http://www.meinsurancereview.com/Portals/1057/PDF/MENA\\_Ins\\_Mkts-Mini\\_Guide2013.pdf](http://www.meinsurancereview.com/Portals/1057/PDF/MENA_Ins_Mkts-Mini_Guide2013.pdf)

<sup>143</sup> <http://www.salama.ae/>

<sup>144</sup> [http://www.salama.ae/healthtakaful\\_products.aspx](http://www.salama.ae/healthtakaful_products.aspx)

<sup>145</sup> <https://www.metlife.ae/en/individual/support-centre/about-metlife-alico/>; <http://www.metlife-gulf.com/en/MetLifeAlicoGulf.html>; <https://www.metlife.ae/en/business/products/group-medical-insurance/>; <http://gulfnnews.com/business/sectors/banking/metlife-alico-sees-opportunities-1.707795>; <http://www.wsj.com/articles/SB10001424052748704706304575107830470736008>; <http://www.wsj.com/articles/SB10001424052748704320104575014834281436288>; <https://www.aetnainternational.com/en/individuals/make-most-of-plan/contact-us.html>; <http://www.aetnainternational.com/aiweb/contentMgt/assets/documents/middleeastfrica/IHP-Individual-Presale-Brochure-UAE-RSA.pdf>; <http://www.cignaglobalhealth.com/products/middle-east.html>; [http://www.aetnainternational.com/aiweb/contentMgt/assets/documents/middleeastfrica/HEA\\_Product-Brochure-UAEOnly.pdf](http://www.aetnainternational.com/aiweb/contentMgt/assets/documents/middleeastfrica/HEA_Product-Brochure-UAEOnly.pdf)

<sup>146</sup> <http://www.thenational.ae/business/industry-insights/economics/regulator-calls-for-mergers-in-uae-insurance-industry>

<sup>147</sup> <http://www.tamimi.com/en/magazine/law-update/section-11/september-5/uae-insurance-law-update.html>; <http://www.linklaters.com/Insights/Publication1386Newsletter/Insurance-Update-November-11/Pages/Foreign-Investment-UAE-insurance-sector.aspx>

<sup>148</sup> <http://www.tamimi.com/en/magazine/law-update/section-11/september-5/uae-insurance-law-update.html>; <http://www.linklaters.com/Insights/Publication1386Newsletter/Insurance-Update-November-11/Pages/Foreign-Investment-UAE-insurance-sector.aspx>

<sup>149</sup> <http://www.thenational.ae/business/economy/20150706/uae-insurance-authoritys-new-regulations-to-streamline-sector>

<sup>150</sup> <http://www.oxfordbusinessgroup.com/analysis/new-era-recent-regulations-are-likely-lead-consolidation>; <http://www.thenational.ae/business/economy/new-uae-insurance-rules-may-lead-to-mergers-and-consolidations>

<sup>151</sup> <http://www.reportsnreports.com/reports/297438-countryfocus-healthcare-regulatory-and-reimbursement-landscape-united-arab-emirates.html>

<sup>152</sup> <http://www.thenational.ae/business/economy/drug-manufacturing-to-increase-in-the-uae>

<sup>153</sup> <https://www.ihs.com/country-industry-forecasting.html?ID=1065975936>

<sup>154</sup> <http://store.bmiresearch.com/united-arab-emirates-pharmaceuticals-healthcare-report.html>; <http://gulfnnews.com/news/uae/health/uae-ministry-cuts-prices-of-142-medicines-1.1637154>

<sup>155</sup> [http://www.tradearabia.com/news/HEAL\\_301502.html](http://www.tradearabia.com/news/HEAL_301502.html)

<sup>156</sup> <http://gulfnnews.com/business/analysis/a-made-in-the-uae-tag-for-the-pharma-industry-1.1567462>

<sup>157</sup> <http://www.thenational.ae/business/economy/drug-manufacturing-to-increase-in-the-uae>

<sup>158</sup> <http://www.in-pharmatechnologist.com/Processing/Pfizer-JV-indicative-of-burgeoning-UAE-drug-sector-says-DuBiotech>

<sup>159</sup> <http://julphar.net/company-profile>; <http://julphar.net/partnerships>;  
<http://www.thenational.ae/business/economy/astellas-aims-to-introduce-cancer-medicines-in-uae>;  
<http://www.neopharmauae.com/en/index.asp>; <http://www.thenational.ae/business/economy/astellas-aims-to-introduce-cancer-medicines-in-uae>; <http://www.thenational.ae/business/industry-insights/economics/neopharma-in-generic-drug-production-deal-with-pfizer-unit>;  
<http://www.thenational.ae/business/industry-insights/economics/pharmaceutical-sector-in-the-uae-is-in-good-health>; <http://gulfnews.com/business/sectors/retail/neobiocon-to-sell-anti-diabetic-drug-in-uae-1.1635392>;  
<http://www.thenational.ae/business/industry-insights/economics/neopharma-in-generic-drug-production-deal-with-pfizer-unit>; <http://gulftoday.ae/portal/b469a28a-260b-4be8-b5f2-0fbd77435e77.aspx>  
<sup>160</sup> <http://www.thenational.ae/business/economy/astellas-aims-to-introduce-cancer-medicines-in-uae>  
<sup>161</sup> <https://www.globalpharma-sanofi.com/our-company.html>  
<sup>162</sup> [http://www.ips-me.com/en/news/ips\\_announces\\_acquisition\\_in\\_medpharma\\_-\\_dubl](http://www.ips-me.com/en/news/ips_announces_acquisition_in_medpharma_-_dubl)  
<sup>163</sup> <http://business.financialpost.com/investing/valeant-pharmaceuticals-international-inc-expands-in-middle-east-with-800-million-purchase-of-amoun>  
<sup>164</sup> <http://www.lifepharmafze.com/about-us/>  
<sup>165</sup> <http://www.thenational.ae/business/economy/life-pharma-prepares-to-make-oncology-drugs-in-abu-dhabi-next-year>  
<sup>166</sup> <http://www.emirates247.com/business/economy-finance/uae-healthcare-market-to-grow-12-7-to-dh71-56bn-by-2020-alpen-capital-2016-02-17-1.621363>  
<sup>167</sup> <http://www.in-pharmatechnologist.com/Processing/Pfizer-JV-indicative-of-burgeoning-UAE-drug-sector-says-DuBiotech>; <http://www.zawya.com/mena/en/story/ZAWYA20150217091343/>  
<sup>168</sup> <http://www.dhcc.ae/Portal/en/directory/pharmaceutical.aspx>  
<sup>169</sup> <http://www.dsp.ae/community/business-partners/>; <http://www.arabianbusiness.com/tecom-creates-new-dubai-science-park-after-merger--609328.html#.V2KXsLsrLcs>; <http://www.dsp.ae/community/business-partners/>;  
<http://www.prnewswire.com/news-releases/uae-pharmaceutical-market-at-37b-by-2020-healthcare-industry-in-united-arab-emirates-forecast-to-show-significant-growth-potential-274356961.html>  
<sup>170</sup> <http://www.reportsnreports.com/reports/297438-countryfocus-healthcare-regulatory-and-reimbursement-landscape-united-arab-emirates.html>  
<sup>171</sup> <http://www.espicom.com/the-medical-device-market-uae.html>  
<sup>172</sup> <http://www.ge.com/ae/b2b/healthcare>; <http://www.thenational.ae/business/economy/ge-signs-agreement-with-uae-health-ministry-for-hospital-radiology>; <http://www.medtronic.me/about-medtronic/medtronic-middle-east/index.htm>; <http://www.thenational.ae/uae/health/medical-giant-medtronic-shifts-regional-hq-to-dubai>;  
<http://www.gulfmedical.com/about-us/>  
<sup>173</sup> <http://www.siemens.com/press/pool/de/feature/2014/corporate/2014-06-middleeast/factsheet-siemens-uae-e.pdf>  
<sup>174</sup> <http://www.mea.philips.com/a-w/about-philips/company-profile/businesses/healthcare.html>  
<sup>175</sup> <http://www.admd.ae/home.html>  
<sup>176</sup> <http://www.espicom.com/the-medical-device-market-uae.html>  
<sup>177</sup> <http://www.prnewswire.com/news-releases/healthcare-it-market-in-uae-2015-2019-300177983.html>  
<sup>178</sup> <http://www.thenational.ae/uae/health/patients-can-access-health-information-using-new-apps-from-dubai-health-authority>  
<sup>179</sup> <http://www.thenational.ae/uae/health/dubai-hospitals-to-be-rated-like-hotels>  
<sup>180</sup> <http://www.thenational.ae/business/economy/dubai-moves-forward-with-hospital-rankings-amid-medical-tourism-drive>  
<sup>181</sup> [http://www.cerner.com/About\\_Cerner/](http://www.cerner.com/About_Cerner/);  
[https://www.cerner.com/uploadedFiles/Content/About\\_Cerner/uae\\_sheikh\\_Khalifa\\_Hospital.pdf](https://www.cerner.com/uploadedFiles/Content/About_Cerner/uae_sheikh_Khalifa_Hospital.pdf);  
<http://www.cerner.com/newsroom.aspx?id=2147485254&blogid=2147483710&langType=14337>;  
<http://www.khaleejtimes.com/nation/uae-health/wareed-links-14-hospitals-25-clinics-across-the-country>;  
<http://truvenhealth.com/dubai-united-arab-emirates>; <http://truvenhealth.com/about-us/company>;  
<https://truvenhealth.com/news-and-events/press-releases/detail/prid/47/advantage-awards-recognize-innovations-for-performance-improvement>; <http://www.haad.ae/HAAD/LinkClick.aspx?fileticket=8FEB->

w5VnDs%3D&tabid=1504; <https://www-03.ibm.com/press/us/en/pressrelease/47327.wss>;  
<https://www.epic.com/Contact>; <http://www.healthcareitnews.com/news/epic-systems-wins-contract-university-hospital-dubai>;  
<http://www.fdbhealth.com/~media/downloads/form%20not%20required/ae/cleveland%20clinic%20case%20study.ashx>  
<sup>182</sup> <http://www.thenational.ae/uae/health/one-stop-shop-for-dubai-patient-data>  
<sup>183</sup> <http://www.thenational.ae/uae/health/uae-cabinet-backs-national-health-database-initiative>  
<sup>184</sup> <http://www.cmhs.uaeu.ac.ae/en/overview.shtml>; <http://www.cmhs.uaeu.ac.ae/en/deanmessage.shtml>  
<sup>185</sup> <http://www.thenational.ae/uae/health/uaes-first-medical-school-to-get-extension>;  
<http://www.uaeu.ac.ae/en/about/>  
<sup>186</sup> <http://www.sharjah.ac.ae/en/academics/Colleges/Medicine/Pages/default.aspx>;  
<http://www.sharjah.ac.ae/en/academics/Colleges/Medicine/Pages/dw.aspx>  
<sup>187</sup> <http://www.sharjah.ac.ae/en/academics/degree-program/Pages/UnderGraduate.aspx>;  
<http://www.sharjah.ac.ae/en/academics/Colleges/healthsciences/dept/nu/Pages/default.aspx>;  
[http://www.sharjah.ac.ae/en/Media/Publications/Documents/UOS%20Catalog/pdf/Health\\_Sc\\_English.pdf#Nursing](http://www.sharjah.ac.ae/en/Media/Publications/Documents/UOS%20Catalog/pdf/Health_Sc_English.pdf#Nursing)  
<sup>188</sup> <http://www.uhs.ae/>  
<sup>189</sup> <http://www.gmu.ac.ae/aboutgmu/>; <http://www.gmu.ac.ae/undergraduate-studies/>;  
<http://www.gmu.ac.ae/cceco/nurse-assistant>  
<sup>190</sup> <http://www.thenational.ae/uae/education/second-teaching-hospital-to-open-in-uae>  
<sup>191</sup> <http://www.rakmhsu.com/about-rakmhsu>; <http://www.rakmhsu.com/medical-courses-in-uae>;  
<http://www.rakmhsu.com/top-medical-school-college-in-uae-FAQ>  
<sup>192</sup> <http://www.fchs.ac.ae/En/AboutUs/Pages/default.aspx>  
<sup>193</sup> <http://www.thenational.ae/uae/health/training-programme-to-encourage-uae-students-to-pursue-nursing>  
<sup>194</sup> <http://www.hct.ac.ae/en/programmes/health-sciences/>  
<sup>195</sup> <http://www.dmcg.edu/home.php?navmenu=5>  
<sup>196</sup> <http://www.dpc.edu/#>  
<sup>197</sup> <https://www.rcsi.ie/dubai>; <http://www.rcsileadership.org/index.jsp?p=0&n=304>  
<sup>198</sup> <http://gulffnews.com/news/uae/government/mohammad-bin-rashid-medical-university-1.1381472>;  
<http://www.emirates247.com/news/government/princess-haya-launches-college-of-medicine-2016-01-28-1.619086>; <https://mbruniversity.ac.ae/en/MBR-University/News/College-of-Medicine-opens-at-Mohammed-Bin-Rashid-University-of-Medicine-And-Health-Sciences>;  
<http://www.wam.ae/en/news/emirates/1395296729656.html>  
<sup>199</sup> <http://www.thenational.ae/uae/health/dubai-unveils-ambitious-10-year-healthcare-plan>  
<sup>200</sup> <http://gulfbusiness.com/saudi-hospital-group-to-build-hospital-university-in-dubai/#.V3K3PfkrLIU>  
<sup>201</sup> <http://www.thenational.ae/uae/health/harvard-medical-school-in-training-partnership-with-dubai-healthcare-city>; <http://www.ge.com/ae/b2b/healthcare>; <http://www.zawya.com/mena/en/story/ZAWYA20131030131708/>  
<sup>202</sup> <http://www.thenational.ae/uae/education/abu-dhabis-first-medical-school-among-13-projects-approved-by-urban-planning-council>  
<sup>203</sup> <http://www.thenational.ae/uae/nmc-chief-to-build-abu-dhabis-first-medical-university-in-honour-of-sheikh-zayed>  
<sup>204</sup> <http://www.thenational.ae/uae/hospitals/kbzf-enters-into-partnership-with-two-hospitals-to-develop-emirati-doctors>; <http://www.thenational.ae/uae/health/emirati-students-pursue-the-latest-medical-technologies-in-us-internship>; <http://www.thenational.ae/uae/health/khalifa-university-students-selected-for-us-paediatric-summer-programme>  
<sup>205</sup> <http://www.thenational.ae/uae/health/new-dh100m-centre-to-research-five-crucial-health-issues-in-the-uae>;  
<http://www.aljalilafoundation.ae/what-we-do/research/research-centre/>;  
<http://www.khaleejtimes.com/nation/uae-health/al-jalila-awards-dh4m-for-medical-research-in-uae>;  
<http://uaeinteract.com/docs/Al-Jalila-Foundation-awards-AED-5-million-to-boost-medical-research-in-the-UAE/74987.htm>; <http://www.thenational.ae/uae/health/dh8m-boost-for-biomedical-research-in-the-uae>

<sup>206</sup> <http://childrensnational.org/news-and-events/photo-gallery/arab-health-2016;>  
<http://www.emirates247.com/news/app-to-detect-birth-defects-in-uae-infants-2016-01-27-1.618859;>  
<http://childrensnational.org/research-and-education/sheikh-zayed/about-the-institute;>  
[http://www.dhfmr.hms.harvard.edu/about-the-foundation/overview/;](http://www.dhfmr.hms.harvard.edu/about-the-foundation/overview/) <http://hms.harvard.edu/news/harvard-medical-school-center-global-health-delivery%E2%80%944dubai>; <http://ghd-dubai.hms.harvard.edu/about>;  
<http://www.thenational.ae/uae/health/cleveland-clinic-abu-dhabi-and-nyu-abu-dhabi-agree-on-collaboration>  
<sup>207</sup> [http://www.arabhealthonline.com/;](http://www.arabhealthonline.com/) <http://www.uae-embassy.org/uae-us-relations/key-areas-bilateral-cooperation/uae-us-partnerships#health>  
<sup>208</sup> <http://www.thenational.ae/uae/health/tough-anti-tobacco-laws-come-into-force-across-the-uae;>  
<http://www.emirates247.com/news/emirates/uae-anti-tobacco-law-in-effect-rules-and-fines-2014-01-21-1.535551>  
<sup>209</sup> <http://www.thenational.ae/uae/health/uae-wide-smoking-ban-in-enclosed-public-spaces-next-year;>  
<http://www.thenational.ae/uae/health/six-antismoking-clinics-to-open-across-the-uae>  
<sup>210</sup> [http://www.bna.bh/portal/en/news/695252;](http://www.bna.bh/portal/en/news/695252) <http://www.khaleejtimes.com/nation/uae-health/will-a-100-rise-in-tobacco-taxation-help-quit-smoking>  
<sup>211</sup> <http://nyuad.nyu.edu/en/research/nyuad-institute/institute-research/public-health-research-center.html>  
<sup>212</sup> <http://www.thenational.ae/uae/health/ministry-of-health-launches-prevention-initiatives>  
<sup>213</sup> <http://focp.ae/pc/about-us.php#page=ABOUT-PINKCARAVAN>  
<sup>214</sup> [http://ww5.komen.org/WhatWeDo.html;](http://ww5.komen.org/WhatWeDo.html) <http://www.uae-embassy.org/news-media/partnership-spreads-awareness-empowers-patients>  
<sup>215</sup> <http://www.thenational.ae/uae/health/school-canteens-banned-from-junk-and-fast-food-advertising-to-be-controlled-in-uae>  
<sup>216</sup> [http://www.arabianbusiness.com/gulf-states-set-for-100-tax-on-energy-drinks-tobacco-618052.html#.V4T6OvkrLct;](http://www.arabianbusiness.com/gulf-states-set-for-100-tax-on-energy-drinks-tobacco-618052.html#.V4T6OvkrLct) <http://www.arabnews.com/economy/news/863486>  
<sup>217</sup> [http://www.thenational.ae/uae/health/experts-tell-gulf-countries-to-do-more-in-fight-against-diabetes-epidemic;](http://www.thenational.ae/uae/health/experts-tell-gulf-countries-to-do-more-in-fight-against-diabetes-epidemic) <http://www.haad.ae/haad/tabid/912/Default.aspx>  
<sup>218</sup>  
[https://www.abudhabi.ae/portal/public/en/citizens/health/health\\_insurance/gen\\_info44?docName=ADEGP\\_DF\\_133720\\_EN&\\_adf.ctrl-state=12k1riu1\\_4&\\_afLoop=598030364750707#!](https://www.abudhabi.ae/portal/public/en/citizens/health/health_insurance/gen_info44?docName=ADEGP_DF_133720_EN&_adf.ctrl-state=12k1riu1_4&_afLoop=598030364750707#!)  
<sup>219</sup> <http://www.eiuperspectives.economist.com/healthcare/investing-quality-healthcare-uae>  
<sup>220</sup> <http://www.thenational.ae/uae/health/doctors-welcome-uae-wide-unified-medical-licence-announcement>  
<sup>221</sup> <http://www.thenational.ae/uae/uae-healthcare-costs-driven-up-by-criminalisation-of-malpractice>  
<sup>222</sup>  
<http://abcdubai.olasoft.com/uploaded/web/Challenges%20Facing%20the%20UAE%20Healthcare%20Sector%20IP%20in%20the%20UAE%20English%20&%20Arabic.pdf>