Investment strategy: Dubai healthcare sector 2017-20

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Dubai is a vibrant city of opportunity for professionals, investors and entrepreneurs

The Dubai Advantage

THE CITY

- Over 200 Nationalities
- 84% of population is between 15 and 64 Yrs.
- 88% of GDP is from Financial Corporation
- 15.8 million tourists in 2017

THE HUB

- Investor friendly destination
- Quality of life and talent retention
- Number 1 city for quality of living across the Middle East and Africa for 5 yrs in a row
- Top 10 financial hubs in the Bank2017 IFC ranking

THE GATEWAY

- Open economy
- Strategic location
- 140 airlines
- 260 destinations
- Ranks #1 in the World Bank’s logistics performance index for MENA region
- 8 hrs flights to 2/3rd of the world

Dubai is a gateway to growth markets with recognized quality of life and ability to retain talent
Dubai Health Authority oversees the healthcare sector in the Emirate of Dubai, and the health sector has witnessed significant growth in the past decade.

**Regulatory Bodies**

- Dubai Health Authority (DHA)
- Ministry of Health and Prevention (MOHAP)
- Dubai Health Care City Authority (DHCC)
- MOHAP (Partially Regulated by DHA)
- DHCC (Fully Regulated by DHA)

**Snapshot of the Key Figures of Dubai’s Healthcare Sector**

The number of outpatients, inpatients as well as the number of healthcare facilities and professionals licensed by DHA have seen significant growth in recent years.

- **Outpatients**
  - OP Volumes (2012-2017, in millions)
  - CAGR 12-17: +6.0%
  - 2012: 7.3
  - 2017: 9.8

- **Inpatients**
  - IP Volumes (2012-2017, in thousands)
  - CAGR 12-17: +4.8%
  - 2012: 2...
  - 2017: 2...

- **Facilities**
  - Total number of licensed facilities by DHA (2014-2017, in thousands)
  - CAGR 14-17: +3.9%
  - 2014: 2.8
  - 2017: 3.1

- **Professionals**
  - Total number of licensed professional by DHA (2014-2017, in thousands)
  - CAGR 14-17: +8.1%
  - 2014: 3...
  - 2017: 3...

**Number of hospitals, per type of setting (2017, in no. of facilities)**

<table>
<thead>
<tr>
<th>Type of Setting</th>
<th>MOHAP</th>
<th>DHCC (Private)</th>
<th>Public</th>
</tr>
</thead>
<tbody>
<tr>
<td>Private</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Regulated by DHA</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Public</td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

Source: Dubai Health Investment Guide 2018
Health spending in Dubai has risen by 12% p.a. from 2012 to 2017, and there exists opportunities for investment and growth in the health sector.

Health spending has risen from AED 9.9 billion in 2012 to est. 17.5 billion in 2017, supported by health insurance reforms...

Source: Dubai Health Investment Guide 2018

...and the UAE is one of the top 10 economies with the most efficient healthcare sector, and ranked on top of Middle East countries...

Source: Bloomberg Health Efficiency Index, 2018

...however, despite years of positive development, there exists potential for growth in the health sector

Source: Health Accounts System of Dubai 2013-2014

Healthcare expenditure in Dubai vs. GCC and OECD countries (2014, in % of the GDP)

Source: Dubai Health Investment Guide 2018
The Investments and PPP’s department is one of the 15 strategic programs of DHA with a focus to promote, facilitate and encourage investments.

Published in 2018, DHA's Investment Strategy 2017-2020 focused on the following initiatives:

- Enhance competitiveness of the health sector in Dubai through enabling legislation, certificate of need policies and publish health investment guide for investors.
- Increase awareness of the economic viability of Dubai’s health sector and attract FDI and local investments.
- Develop the need apparatus to provide a sustainable public-private investment model to enable and facilitate future investment activity within Dubai’s health sector.
- Facilitate and future opportunities within the health sector then courage investments to address current gaps and at align with DHA Strategy 2016-2021 priorities.

The Dubai Health Investment Guide 2018 has been developed as part of DHA Strategy 2016-2021 and its Investment and PPP’s initiative. It aims at fulfilling the following key objectives:

- Inform potential healthcare investors and operators about the attractiveness of the Dubai market.
- Educate investors about the current investment ecosystem in Dubai, and the governance and regulatory framework.
- Align investment priorities with clinical capacity plan results.
- Promote healthcare investment in Dubai to attract the right investments in Dubai’s healthcare sector.
The focus areas to support the development of Dubai’s health ecosystem are identified in the short to mid-term as priorities for investment.
Demand for health services in Dubai is supported by population growth, a high prevalence of chronic diseases and mandatory health insurance among key drivers...

**Drivers for Health Investment**

- **A growing population with greater need for health services**
  - One of the fastest growing populations in the world
  - Approximately 8% UAE Nationals aged +60 y.o. by 2030

- **A high prevalence of chronic and non-communicable diseases**
  - The UAE is amongst the countries with the highest prevalence rates for obesity, diabetes, cardiovascular diseases and smoking compared to OECD countries
  - Cardiovascular diseases and cancer are the main causes of mortality in Dubai and are seeing a rising prevalence and growing burden of disease

- **An increasing utilization of private healthcare**
  - Utilization of healthcare services in Dubai increased at est. 6-7% between 2012 and 2017
  - Private sector treated 79% of outpatients and 74% of inpatients in Dubai in 2017
  - Number of licensed healthcare facilities and healthcare professionals has grown of +3.9% p.a. and +8.1% p.a. between 2014 and 2017, and 10 new hospitals have come between 2010 and 2017 in the private sector

- **A leading position as a health tourism hub**
  - 500,000 health tourists are expected in Dubai by 2020, growing from est. 326,000 health tourists in 2016
  - Health tourists can choose from more than 600 packages supported by healthcare visas issued within 48 hours

- **Landmark projects and infrastructure**
  - Dubai Expo 2020 is set to host est. 25 million visitors
  - Major touristic and leisure attractions and upcoming residential communities in South Dubai and other catchments
  - Dubai Int. Airport welcoming 90 million passengers per year and Al Maktoum Int. Airport has capacity to handle 26.5 million passengers

- **Health coverage sustaining the development of the healthcare sector**
  - Over 98% of Dubai’s population benefits from health insurance coverage
  - In 2017, est. 60% of the health expenditure of est. AED 17.5 billion was covered by health insurance reimbursement

- **Embracing digital revolution and innovation**
  - Innovative applications such as 3D printing and robotic surgery for complex procedures are adopted at leading hospitals
  - Ranked #1 in the MENA region as per the Global Innovation Index
  - Licensing of telehealth and homecare providers in place with supporting initiatives by Dubai Accelerator Program

- **A positive investment climate**
  - Dedicated free-zones for healthcare and life sciences allow for 100% ownership and repatriation of profits
  - 7th most globally competitive country, home to 196 regional offices of Fortune 500 companies
  - Proposed 10 year visa for investors and doctors

... supported by increased utilization of private services, supportive environment for health innovation, health tourism and the favorable investment climate in Dubai
Dubai’s population is expected to reach est. 4.6 million inhabitants by 2030 (Base case)…

### Dubai population projections, by type 2018-2030

- **Forecasted evolution of Dubai’s population** (2018-2030, in number of inhabitants)
  - High case: 5.5 million
  - Base case: 4.6 million
  - Low case: 4.0 million

### Dubai population projections, by sector, 2020-2030 (base case)

- **Forecasted breakdown of Dubai’s population**, by type (base case, 2018-2030, in percentage)
  - **By Nationality**
    - UAE Nationals
    - Non-Nationals
    - 2018: 90% (91%), 2020: 91%, 2025: 39%, 2030: 40%
  - **By Gender**
    - Female: 33%, 2018: 91%, 2020: 81%, 2025: 81%, 2030: 80%
  - **By Age**
    - 60+ y.o.: 2%, 2018: 2%, 2020: 2%, 2025: 2%, 2030: 2%
    - Below 14 y.o.: 2%, 2018: 9%, 2020: 9%, 2025: 9%, 2030: 9%

Nine sectors have been defined to analyse the evolution of Dubai’s population which include, but are not limited to:
- Sector #1: Deira, Hor Al Anz, Abu Hail, Al Murqabat
- Sector #2: Nahda, Al Quasis, Al Garhoud, Al Twar, Muhaisanah
- Sector #3: Jumeirah, Palm Jumeirah, Al Quoz, Al Barsha, Al Karama
- Sector #4: Meydan, Al Warqaa
- Sector #5: Jebel Ali, Dubai Marina, JLT
- Sector #6: Al Barsha south, Arabian Ranches, Motor city, Sports city, Warsan (1st, 2nd, 4th), Nad Al Shibba
- Sector #7: Mirdif, International city, Al Aweer
- Sector #8: Silicon oasis, Warsan (3rd), Academic city, the Villas
- Sector #9: Al Lesaily, Umm Nadad

Source: Dubai Health Investment Guide 2018, Preliminary results from Dubai Clinical Services Capacity Plan 2018-2030, developed by TAHPI
...leading to investment needs in certain medical specialties in terms of outpatient rooms...

**Gap analysis by specialty, in no. of outpatient rooms required** (base case, 2018-2025)

<table>
<thead>
<tr>
<th>Specialty</th>
<th>Gaps (base case)</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Primary Care</td>
<td>524</td>
<td>696</td>
</tr>
<tr>
<td>Orthopaedics and Rheumatology</td>
<td>77</td>
<td>31</td>
</tr>
<tr>
<td>Respiratory Medicine</td>
<td>10</td>
<td>20</td>
</tr>
<tr>
<td>Immunology &amp; Infections</td>
<td>11</td>
<td>15</td>
</tr>
<tr>
<td>Endocrinology</td>
<td>33</td>
<td>21</td>
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<tr>
<td>Oncology</td>
<td>8</td>
<td>4</td>
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<tr>
<td>Haematology</td>
<td>1</td>
<td>3</td>
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<tr>
<td>Gastroenterology</td>
<td>47</td>
<td>35</td>
</tr>
<tr>
<td>Nursing care &amp; Allied health</td>
<td>357</td>
<td>463</td>
</tr>
<tr>
<td>Trauma and Injury</td>
<td>27</td>
<td>32</td>
</tr>
<tr>
<td>Neurology</td>
<td>1</td>
<td>12</td>
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<tr>
<td>Vascular Surgery</td>
<td>4</td>
<td>7</td>
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<tr>
<td>Urology</td>
<td>41</td>
<td>27</td>
</tr>
<tr>
<td>Renal Medicine</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Neonatology</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Dentistry</td>
<td>26</td>
<td>19</td>
</tr>
</tbody>
</table>

Projections are based on the following assumptions:
1. 248 operational days per year
2. 8 operational hours per day
3. 70% planning occupancy per consultation room
4. Adjustments for National and Non-national utilisation based on current trends
5. Nursing demand has been split between adult and paediatric Hospital modes, no supply captured but absorbed by other consultation rooms

Source: Dubai Health Investment Guide 2018. Preliminary results from Dubai Clinical Services Capacity Plan 2018-2030, developed by TAHPI
... as well as acute inpatient beds in 2020 and 2025 across certain specialties and services

Gaps by specialty, in no. of additional acute inpatient beds required (base case)

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<thead>
<tr>
<th>Specialty</th>
<th>2020</th>
<th>2025</th>
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<tbody>
<tr>
<td>Oncology</td>
<td>520</td>
<td>165</td>
</tr>
<tr>
<td>Plastic surgery</td>
<td></td>
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<tr>
<td>Resp. medicine</td>
<td></td>
<td></td>
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<td>33</td>
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</tr>
<tr>
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<td></td>
</tr>
<tr>
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<td>32</td>
<td>37</td>
</tr>
<tr>
<td>Dialysis</td>
<td></td>
<td></td>
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<tr>
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<td></td>
<td></td>
</tr>
<tr>
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<td></td>
<td></td>
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<tr>
<td>Cardio. &amp; Cardiot. Head &amp; Neck</td>
<td>24</td>
<td>61</td>
</tr>
<tr>
<td>Urology</td>
<td></td>
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<td>231</td>
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<td>208</td>
<td>248</td>
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<tr>
<td>Ortho. &amp; Rheum.</td>
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**Snapshot of upcoming projects**

**Health facility guidelines project**
Update of the 2012 healthcare facilities guidelines to guide the development of health facilities in line with international healthcare best practice

**Sheryan project**
New transformation initiative to redesign the Health Regulation Sector’s licensing and inspection system (Sheryan) to:
- improve the *customer and employee experience*
- increase *operational performance*
- drive stronger *regulatory compliance*

**Dubai healthcare performance project (Qeyas)**
KPI framework for health facilities aiming to: implement quality improvements, provide patients and medical tourists with information about healthcare providers, develop a long-term reimbursement strategy

**DRG: a new pricing system for healthcare services**
Dubai is adopting the International Refined Diagnosis Related Groups (IR-DRGs) for inpatient hospital payment, to ensure price stability and improve efficiency

**Ejada: Dubai's health insurance performance monitoring system**
Ejada is a performance management system aiming to rate all healthcare facilities, physicians and insurance companies to increase efficiency, improve clinical results and enhance patient experience

**Dubai Standards in Healthcare: an education programme on best practices guidelines**
- provide healthcare practitioners with *best practice guidelines and standards*
- bring the latest updates on screening, diagnosis and prevention

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**Health insurance in Dubai: Key Metrics**

Total **health expenditures** in 2017: **AED 17.5 billion**

Total **health expenditures** covered by **private insurance** (2017): **approximately 60%**

<table>
<thead>
<tr>
<th>Year</th>
<th>Percentage of insured population (2018)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014</td>
<td>35%</td>
</tr>
<tr>
<td>2015</td>
<td>56%</td>
</tr>
<tr>
<td>2016</td>
<td>92%</td>
</tr>
<tr>
<td>2017</td>
<td>98%</td>
</tr>
</tbody>
</table>

**Gender (2017)**
- **Female**: 24%
- **Male**: 76%

**Income category (2017)**
- **Below 18 y.o.**: 13%
- **< AED 4k/m**: 22%
- **AED 4k/m - 75k**: 57%
- **> AED 75k**: 16%
The Dubai Investment Guide maps the investment journey for different types of facilities / projects for healthcare services

New facility licensing process map

Licensing process map for Health Facilities: New construction
Dubai has free zones dedicated to healthcare and life sciences which provide domestic as well as international investors with several advantages, and...

**Dubai Healthcare City**

A thriving health and wellness ecosystem, the Dubai Healthcare City (DHCC) free zone, launched in 2002, has brought to life a true integrated community in which healthcare, medical education, medical research and wellness, along with hospitality, retail and residential amenities.

**Top outpatient segments and treatments in demand in DHCC**

- Obstetrics and gynaecology
- Orthopedics
- Pediatric
- Dental
- Ophthalmology
- Mental health

**DHCC has numerous advantages for investors in healthcare**

- A thriving healthcare medical education and research ecosystem: Access to a network of 400+ partners
- Strategic location and accessibility: 10-15 min drive from Dubai International Airport
- One-stop-shop approach: DHCC provides a one-stop-shop solution for all related governmental services transactions
- The free zone offers 100% ownership for both expatriates and UAE Nationals

**DHCC offers investors a range of set-up options...**

- Leasing clinical spaces: Comprehensive space for specialty clinics, day surgery centers, and medical & research laboratories
- Leasing non-clinical spaces: State-of-the-art commercial offices suited to all business types
- Business Centre: Fully-furnished offices and open space workstations
- Freehold leasing solutions: Land plots (sale and lease) with infrastructural provisions

**Dubai Science Park**

Founded in 2005, Dubai Science Park (DSP) fosters an environment that supports scientific research, creativity and innovation. Since its inception, the community has grown to more than 350 companies, employing over 3,600 professionals in the sciences, energy and environmental sectors.

**DSP has numerous advantages for investors in life sciences and healthcare related sectors**

- 100% foreign ownership and repatriation of profits and capital
- Tax-free salaries for all employees
- Exemptions from customs duty for goods and services
- No trade barriers or quotas
- Worldwide recognition of Dubai Science Park

**DSP also offers investors flexibility in capital structure options**

New companies or branches of existing enterprises (international or local) have a choice of legal frameworks they can adopt, all of which offer easy set-up:

1. Free Zone Branch of an international or UAE company (as a legally dependent part of its parent company)
2. Free Zone Limited Liability Company (LLC with corporate structure, with natural person shareholders, with both corporate and natural person shareholders), as well as possible variants
The health ecosystem is supported by the dedicated Health Tourism program, and innovations in models of care through Dubai Future Accelerators.

Dubai Future Accelerators is an intensive 9-week program that pairs top companies and cutting-edge entrepreneurs with strategic stakeholders in Dubai to create innovative solutions together.

Dubai Future Accelerators supports DHA’s health strategy by:
- Working with startups on cutting edge and innovative technologies related to the care model innovation programme
- Accelerating DHA’s access to these innovative technologies and championing their adoption, for Dubai to become the hub for futuristic technologies in healthcare

For example: physiotherapy sensors that can be used by patients at home to continue their physiotherapy sessions.

4 cohorts have graduated from the Future Accelerators programme out of 149 companies participating from over 25 countries and DHA has signed 12 MOUs to pilot different technologies in 2017.

Health Tourism in Dubai

The Health Tourism Department (DXH) is focused on building strong ties with Dubai’s finest healthcare providers to create an unparalleled experience for medical and health tourists.

Key Metrics of Health Tourism in Dubai

Top Nationalities and Specialties of Health Tourism

Dubai is a recognized hub for health tourism:
- Best Integrated Destination for Medical Tourism award at the 10th International Exhibition and Conference on Medical Tourism (2015)
- Highly Commended Destination of the Year award from the International Medical Travel Journal (2015)
- Winner of the Chairmanship of the Global Healthcare Travel Council (2017)
- UAE is ranked #1 in the number of internationally accredited facilities by the Joint Commission International

Top Nationalities:
- Asia
- GCC
- Europe

Specialties:
- Orthopedics and sports medicine
- Dentistry
- Fertility treatment
- Dermatology and Skin care
- Dentistry
- Fertility treatment
A brief overview of the Cardiology CoE PPP Project

- The Cardiology CoE is expected to be a **100-120 bed** dedicated cardiology hospital focusing on cardiac ER, OP and IP services;
- DHA aims to implement a DBFOM PPP Model with the below stated sharing of responsibilities between the Public & Pvt. Sectors with the term of the PPP agreement of **25 years**;
- The CoE will be co-located within the Rashid Hospital Complex.

<table>
<thead>
<tr>
<th>Responsibility</th>
<th>Selected PPP Model - DBFOM (Design-Build-Finance-Operate (partly) and Maintain, “DBFOM”)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Revenues</td>
<td>DHA</td>
</tr>
<tr>
<td>Capex</td>
<td>Private Sector</td>
</tr>
<tr>
<td>Opex</td>
<td>Private Sector</td>
</tr>
<tr>
<td>Clinical Staff</td>
<td>Selected medical and nursing positions by DHA (40-50% of clinical staff), other clinical and allied staff by Private Sector</td>
</tr>
<tr>
<td>Non-Clinical Staff</td>
<td>Private Sector is free to recruit and deploy staff for the suited positions</td>
</tr>
<tr>
<td>Availability Payment</td>
<td>DHA → PPP Co \ Reflects capex and opex incurred by PPP Co, along with cost of funding (debt &amp; equity)</td>
</tr>
</tbody>
</table>

Objectives of the Cardiology CoE

- One-stop-shop approach with integrated care continuum
- Evidence based international best practice with focus on screening and early detection
- Physician access to clinical affiliation, research & technology innovation
- Sustainable and predictable costs with access to financially vulnerable segments
- Focus on physician training, development and education in Dubai
- It will be flexible and adaptable to support remote patient monitoring

Investment and PPP Dept.
Thank you

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