

Gulf Region Longevity Initiative *Concept*

— Gulf Region Longevity Initiative - Scope and Purpose

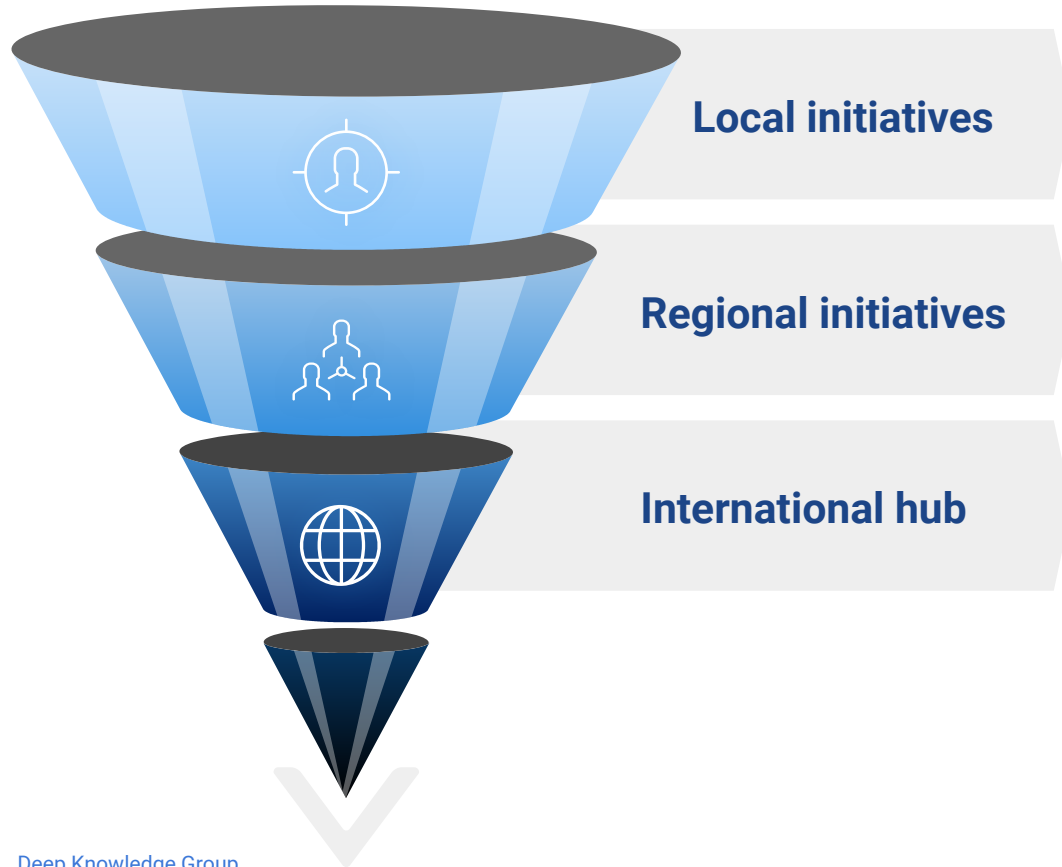
The **GCC Longevity Initiative** seeks to unite the resources of several Gulf countries towards the shared goal of concerted Longevity Industrialization, the improvement of public health and the optimization and extension of healthy ageing. The initiative aims to enable the population to age better through the synthesis of early disease detection and preventive medicine.

The notion of Healthy Longevity as a national, strategic and economic opportunity is already recognized in parts of the Gulf region. However, the scientific, technological and societal components—situated at the intersection of the opposing megatrends of Population Aging and Longevity Industrialization—represent enormous challenges and opportunities even for the most resourceful and well-equipped nations. Addressing the challenges and tapping into the opportunities to guide industrial strategies require more than adequate budgets and in-depth analytics. GCC countries need a clear assessment of their strengths and weaknesses, and willingness to leverage international cooperation for the mutual, synergetic economic benefit of all parties involved.

Each Gulf country has its own health related project and initiatives that can be marshalled towards the collective aim of international Longevity Industrialization. Each nation possesses a unique set of strengths and opportunities that can be leveraged towards this collective goal. Furthermore, establishing a united front will position the region at the forefront of collaborative efforts aimed at creating and advancing Healthy Longevity Hubs similar to the UK, Switzerland, Israel, Singapore and Japan.

Collectively tackling the challenge of an increasingly aging population and leveraging Longevity Industrialization in the Gulf will require a robust, synergetic, cross-border approach. Longevity represents one of the most strategically relevant and economically viable sectors for the GCC region.

— Gulf Region Longevity Hub



Local initiatives are dedicated towards taking advantage of the opportunity for healthy life extension. The ultimate goal for local projects are by utilizing technology to ensure longer, healthier, more productive, and financially active lives.

United potential of entire region directed on the achieving maximum of Healthy Longevity available and moving beyond with use of cutting edge Longevity Science and Medicine solutions developed and implemented within the region with help of international cooperation.

International institution calls to increase cooperation between longevity hubs all over the world and accelerate development of Longevity Economy, strength current links and create synergy from different approaches.

— Three Pillars of Gulf Longevity Initiative



Longevity Pharma Hub

The main objective of Longevity Pharm Hub is to develop strong global connections and focus on the needs of the economy and serve as an international pharmaceutical and medical platform for particular regions and the global economy in general. Progressive PharmTech and MedTech companies, Biotechnology and Research Parks, clinical research promotion facilities based in Longevity PharmTech Hubs will develop new business models using AI to improve analytics quality.



Longevity Medicine Hub

Longevity Medicine Hub aim to support well-being of permanent and temporary residents through prevention of diseases and access to integrated, innovative, high-quality, and cost-effective health care. The cutting-edge genomics and regenerative medicine involves analysing an individual's genome to better understand their genetics and provide precise diagnosis and treatment, thus applying the principles of Precision Medicine.



Longevity Policy & Governance Hub

Additional efforts are needed to further maintain and develop the industry's existing strengths, including government support for research and development, as well as other stakeholders in the Longevity Industry. Aging proliferation as a growing problem is turning into an opportunity for governments to develop progressive policies for the pension system, an ecosystem of insurance companies, and a national strategy for intensive healthcare system development.

Gulf Longevity Association - Scope of Activities and Agenda for 2022-2025

Stage I. September 2022

Seasoned and Experienced Founding Partners with Years of Experience in Supporting the Development of Government-led Longevity Development Plans and Sophisticated Longevity Industry Analytics

Aging Analytics Agency and the Biogerontology Research Foundation were instrumental in the initial groundwork and establishment of the UK APPG for Longevity, whereas Aging Analytics Agency provided key data, analytics and informational inputs for the APPG for Longevity, and whereas the Biogerontology Research Foundation provided the initial financing that enabled implementation of its first scope of activities.

Stage II. September 2023

The Launch of Gulf Longevity Association to Support the Development of the UAE into a World-Leading Longevity Biomedicine, Policy, Politics, Governance and Progressive Financial Industry Hub

The founders and executives of these two entities have plans to establish a similarly-purposed entity in the UAE, given that the country's policy-related ecosystem and its scientific and financial industry-related environment are quite matured, to a similar level as in the UK, which provides excellent grounds for launching a non-profit Gulf Longevity Association to structure the initial scope of activities and accumulate the initial budget to establish a Longevity Committee.

Stage III. September 2025

Cross-Sector Engagement with Government, Industry, Academic, Private-Sector and Public-Sector Stakeholders to Maximize the Reach and Inclusivity of the Gulf Association's Projects and Activities

Engagement with UAE Longevity companies and financial corporations interested in the emerging markets of Longevity Medicine, AgeTech and Longevity WealthTech including private wealth banks, insurance companies, pension funds, family offices, etc

Engagements with broader international organizations like the World Economic Forum, the World Health Organization, United Nations-related organizations, etc.

Aggregation of amount of money from sponsors, who will also provide active support in the form of strategic development, establishment of good relations with relevant UAE counter-parties.

UAE among Other Longevity Hubs



London,
United Kingdom



All Party Parliamentary Group for Longevity



AgeTech UK
IT-Platform



Longevity Industry
in United Kingdom



Practical Applications
of Mitochondria
Research for Human
Longevity and Space
Medicine



King's College
Longevity
Summits: AI,
Policy, Finance



Switzerland



Basel Area Life
Sciences Ecosystem



Precision Medicine
Clinics in Switzerland



AI Industry in
Switzerland Landscape
Overview



Longevity Industry
in Switzerland 2019



Longevity in
Switzerland



Longevity InsurTech
in Switzerland



Israel



Longevity Industry in Israel 2019



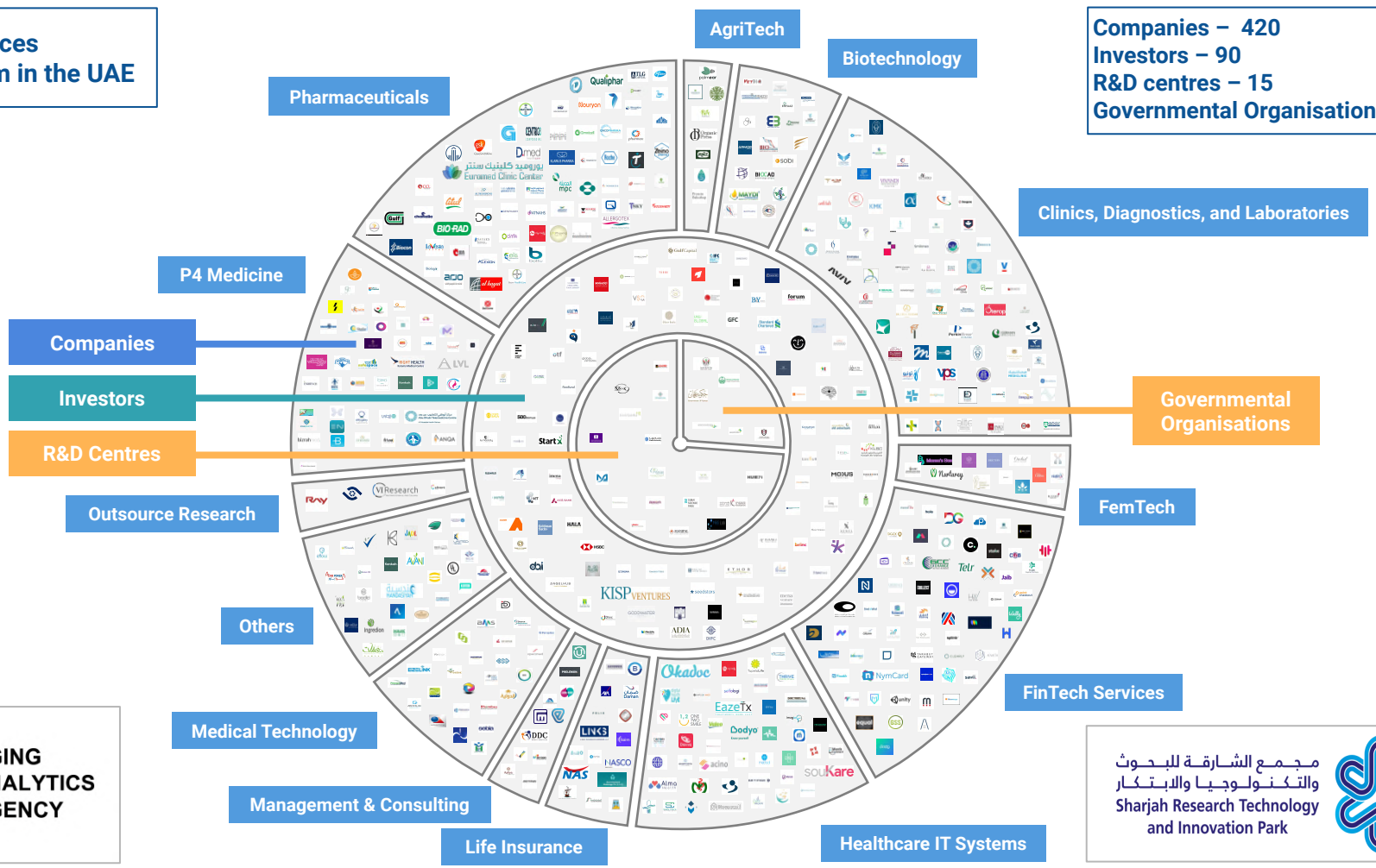
UAE



Life Science in the UAE 2022

**Life Sciences
Ecosystem in the UAE**

Companies – 420
Investors – 90
R&D centres – 15
Governmental Organisations – 6



Global Life Sciences Industry Outlook

Drivers of Growth

Population ageing

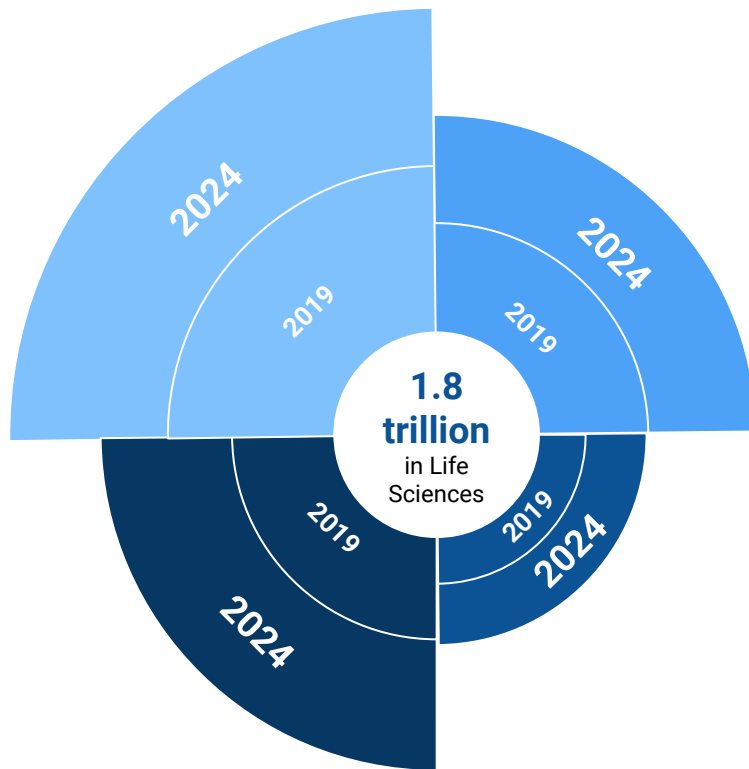
Medical services are in high demand as the world's population ages.

New machines and drugs

New remedies are being developed to meet previously unmet health requirements, stimulating additional technological advancements and pharmacological development.

Patient centricity

A shift to customised health care is underway, and platforms that deliver it to patients (literally) at their doorstep are in high demand.



Pharmaceuticals

\$ 871 → 1200



Medical devices

\$ 475 → 595



CROs*

\$ 37 → 55



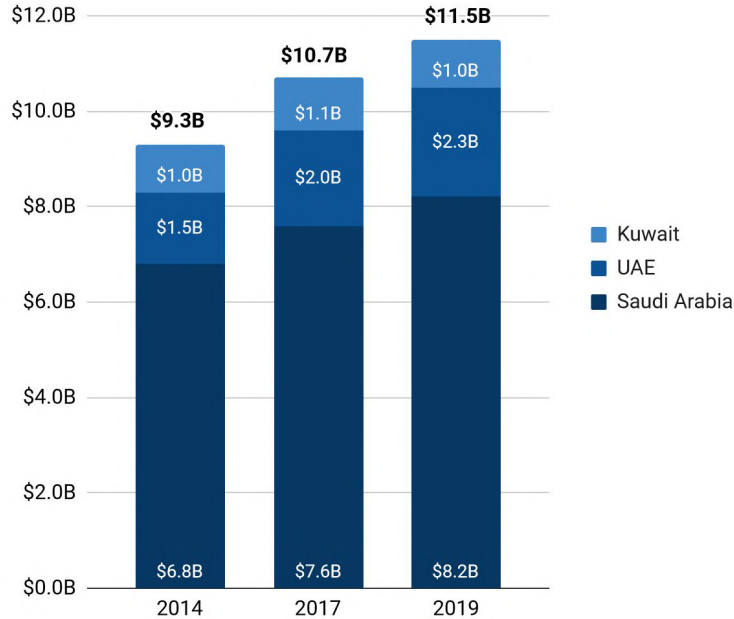
Biotechnology

\$ 453 → 656

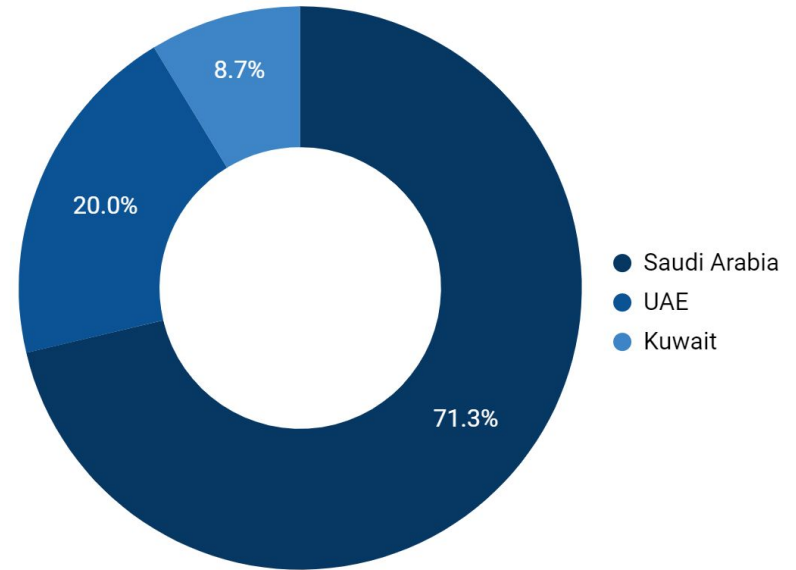
*Note: CRO is a company that provides support to the pharmaceutical, biotechnology, and medical device industries in the form of research services outsourced on a contract basis.

Middle East Pharmaceutical Market

Pharmaceutical Market Size in the Leading Gulf Region Countries in Pharma Industry



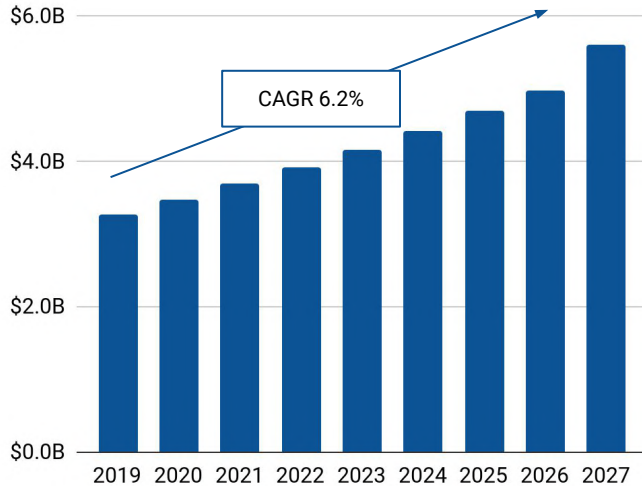
Share of Middle-East Pharmaceutical Market by Country, Q1 2019



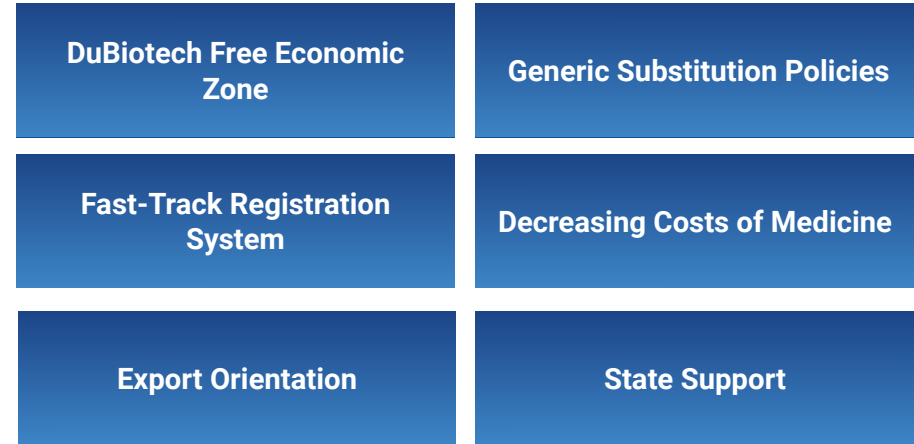
Since 2014, the pharmaceutical market size in the leading countries of the region has increased by 23.6%, reaching \$11.5B in 2019. The CAGR of the total market is +4.3% per year. Meanwhile, the UAE market has grown faster than the average, with CAGR a 6.3%. In 2019, the UAE constituted 20% of the market.

Establishing the UAE as a Pharma Hub

Forecasted Growth of the UAE Pharma Industry, 2019-2027



Steps for Establishing the UAE as a Pharma Hub



The UAE pharma industry appears to be following a similar path to the rest of the region. It is rapidly developing to suit the changing requirements of a growing population, which, according to World Bank predictions, is likely to reach about **11.1 million by 2030**. Because of its future growth prospects, export potential, and mid- to long-term economic impact, UAE government entities have adopted a series of long-term plans to achieve sustainable growth for this industry. The Dubai Industrial Strategy 2030 and the Abu Dhabi Vision **2030**, for example, consider the development of the pharmaceutical industry to be of high priority. In 2019, Dubai-based Life Pharma signed a 10-year contract to manufacture billions of tablets in Jebel Ali for export to Canada, ushering in a new era of medication manufacturing.

The UAE Healthy Future Study

In the United Arab Emirates, the prevalence of noncommunicable diseases such as obesity, diabetes, and cardiovascular disease is rapidly increasing. The UAE Healthy Future study is a prospective cohort that aims to see if there are any relationships between risk factors and illnesses in Emiratis.

Scope:

- Primarily interested in the risk factors for obesity, diabetes, and cardiovascular disease
- Both proximal (e.g. smoking, obesity, hypertension) and distant (i.e., socioeconomic) determinants
- Genetics, epigenetics, and microbiome

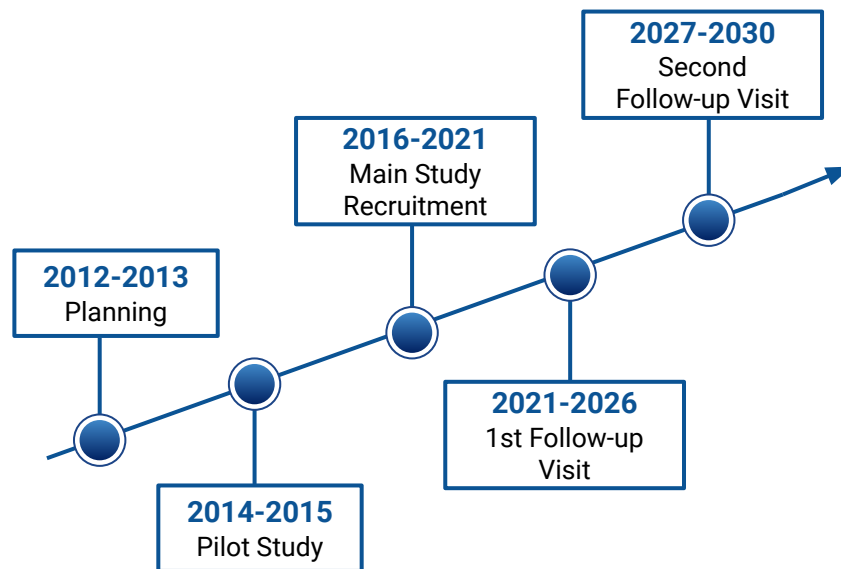
Sample:

- Population-based recruitment of healthy volunteers
- 20,000 participants, aged 18-40
- 5,000 participants recruited to date
- Link to electronic health records for key outcomes agreed
- Follow-up visits every 4 years.

Approach:

- Questionnaire, anthropometric measures, and biological samples
- More accurate measures of diet and physical activity using new technologies

Study Timeline

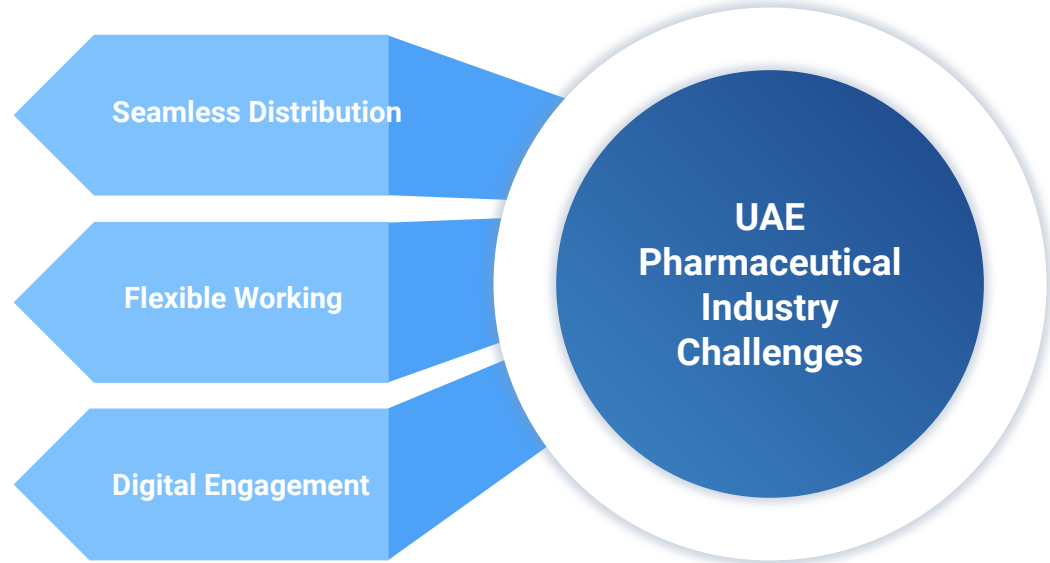


The UAE Pharmaceutical Industry Perspectives

The year 2020 was the most transformative in the pharmaceutical industry's history. To adapt to the uncertainties of COVID-19, the global pharmaceutical sector was obliged to analyze, rethink, and reconfigure operations in a matter of months.

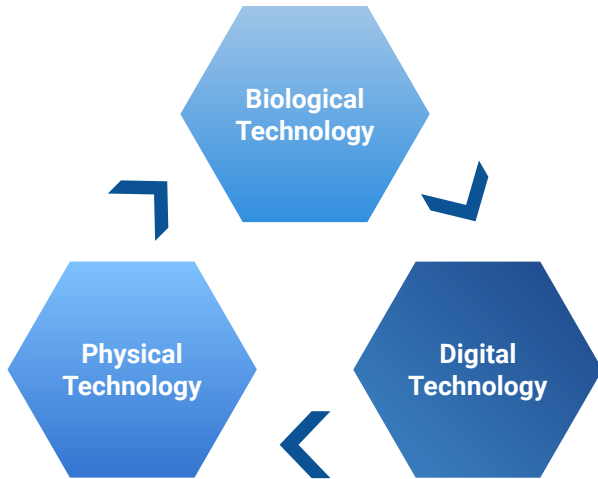
Dozens of fresh opportunities have surfaced in the UAE, the **Middle East's major pharmaceutical hub**. **More than 80% of the World Health Organization's global medical COVID-19** response was distributed **through Dubai's International Humanitarian City**, resulting in a massive surge in pharma exports and re-exports from the emirate in 2020. Similarly, Abu Dhabi announced in March 2021 that China's Sinopharm vaccine would be produced in the UAE, boosting local manufacturing.

However, while the pandemic has opened up new business opportunities, it has also brought **a number of obstacles and challenges**: First, how **to digitalise and continue to serve consumers** and key stakeholders in the face of significant travel disruption. Second, how **to distribute medication** when international supply lines are badly interrupted Third, how **to promote flexibility** in the workplace to meet the rapidly changing needs of industry workers all around the world.



The UAE's 4th Industrial Revolution

4th Industrial Revolution



The 4th Industrial Revolution is a technological revolution that merges physical, digital, and biological technologies to deliver new and unprecedented products and services in emerging sectors.

The UAE's future is marked by the 4th Industrial Revolution, which is an important and influential milestone. It presents both extraordinary potential and a number of concerns that must be handled and effectively utilized. As a result, the UAE is speeding up its attempts to become the world's first open lab for experimenting with and embracing 4th Industrial Revolution technologies at a rapid pace.

The UAE's Fourth Industrial Revolution Strategy, the first of its type in the world, was created to give policymakers a practical framework for embracing advanced technologies and transforming future obstacles into opportunities that can benefit the country's population.

Characteristics of the 4th Industrial Revolution

1

Speed: Exponential and unprecedented advancements.

2

Impact: A large-scale and comprehensive transformation in all systems.

3

Scope: The 4th Industrial Revolution will affect all current and future sectors.

AI Lab by the DoH

The **Artificial Intelligence (AI) Lab by the DoH** aims to foster a new culture, new mindset, and new ways of working for innovators in health care. It provides a medium for fuelling innovation and coaching idea-owners and innovation teams in bringing their ideas to fruition. It is a collaborative initiative realised through a partnership between academic institutions, technology leaders, innovation-driven enterprises, and government entities.

My Health Coach

My Health Coach is a UAE-specific wellness platform that leverages the power of AI to drive improved standards in preventative care. This first-of-its-kind health and wellness app is designed in Arabic and tailored to the needs of residents of Abu Dhabi at all levels of fitness.

Cognitive virtual assistant

The DoH was looking to enhance its online presence for users seeking information on the licensing process.

Its proposed AI-based solution is designed to handle customer queries, requests, and inquiries (in accordance with DoH standards and processes) via a virtual assistant guiding them through the process, handing over to a human agent only when necessary.

Working Principles



Adaptability:
inspection and Feedback



Sustainability



Responsibility



Simplicity



Transparency



Relentlessly
innovate

— Abu Dhabi Stem Cells Center

Abu Dhabi Stem Cells Center (ADSCC), the first of its type in the UAE, is a specialty health care centre in Abu Dhabi that focuses on cell therapy and regenerative medicine procedures as well as conducting cutting-edge stem cell research in the area. It was established in March 2019 to satisfy an increasing need for highly specialized medical services and treatments. Its areas of specialisation include immunology, hematology, clinical stem cell treatment, molecular biology, immunotherapy, orthopedics, and urology.



National Institute of
Allergy and
Infectious Diseases

Partnership

Abu Dhabi Stem Cells Center has signed a research agreement with the USA's **National Institute of Allergy and Infectious Diseases** to develop treatments for metabolic, infectious, and immunological diseases.

ADSCC offers a variety of basic and specialized outpatient treatments as well as regenerative medicine and novel treatment options.

Unique Services:

- Regenerative Medicine
- Bone Marrow Transplantation
- Car-T Cells
- Extracorporeal Photopheresis
- Gene Therapy

Dubai Biotechnology and Research Park



The Dubai Biotechnology and Research Park, the region's first science-focused corporate community, established the UAE as a destination for human, plant, material, environmental, and energy sciences research and development, prototyping, creativity, and innovation.

The Park is a supportive environment for growth in the medical, wellness, and pharmaceutical industries, with local medicine, perfumery, and food and beverage labs producing products. In addition to a lively community that provides a supportive ecology for its residents, the neighborhood's robust infrastructure and collaborative atmosphere enable success.

3,600+
Business
professionals

350
Partners

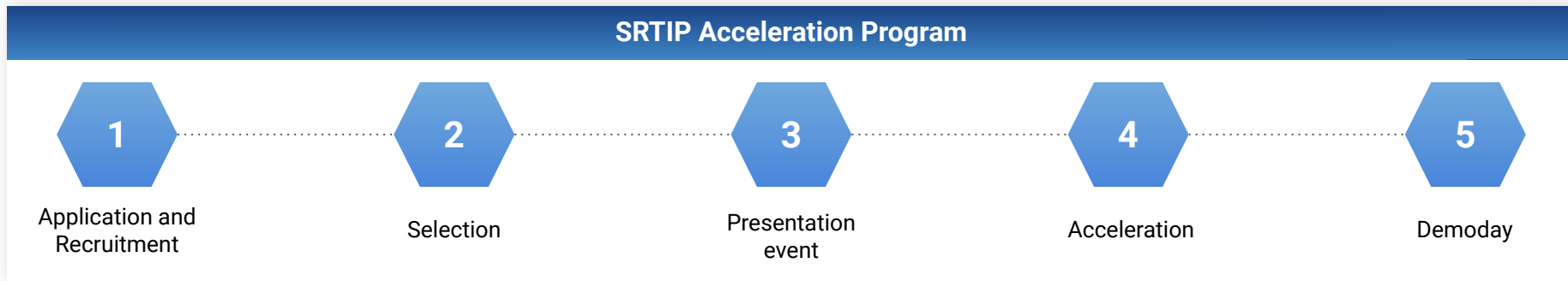
The Ministry of Health and Prevention, Pfizer, Medtronic, Olympus, and Mettler Toledo are among the prominent local and international institutions that call the Dubai Biotechnology and Research Park home.



Many of these firms have been instrumental in the UAE's efforts to limit COVID-19's impact, with firms like Alliance Global distributing hundreds of thousands of PCR test kits across the UAE, as well as the Middle East, Africa, and Central Asia.

Sharjah Research, Technology, and Innovation Park as Accelerator

The **SRTIP Acceleration Program** is aimed at supporting start-ups and growth-driven companies in the region. It is an industry-specific programme **focused on bringing companies from across the MENA region closer to realising the full potential of the 4th Industrial Revolution**. The Park enables local and regional entrepreneurs as well as global start-ups to scale up their businesses through education, mentorship, and financing provided by the SRTI Park ecosystem and network.



Sharjah's Age-Friendly City Initiatives

Sharjah is one of the seven emirates that make up the UAE. It is the first Arab city among 414 major cities from around the world – and one of just two Middle Eastern cities – to join the World Health Organization's Global Network of Age-Friendly Cities and Communities. **The 24 Sharjah government entities** are successfully implementing **189 strategic initiatives** and activities that they launched **under the 2017-20 Strategic Plan**. This makes Sharjah the first age-friendly city in the Arab world.

Examples of the 189 Age-Friendly Initiatives

Age-Friendly Housing

The goal is to provide a list of age-sensitive technical standards and regulations for housing construction and maintenance.

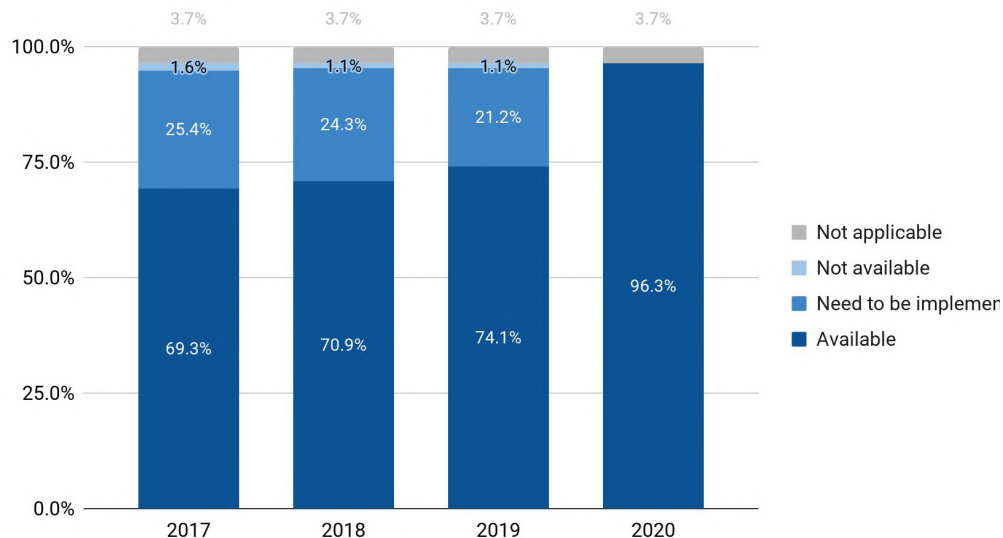
Community Responsibility

Under this initiative, people aged over 60 are eligible for additional perks, regardless of their nationality or emirate of residence.

Age-Friendly Public Places

This initiative has been launched ahead of time to provide lighting in places frequented by the elderly.

Evaluation of Fulfillment of Age-Friendly Standards in Sharjah, %



*Note: Some of the age-friendly city standards are not applicable in Sharjah (3.7%). The rest were implemented on time, by the end of 2020.

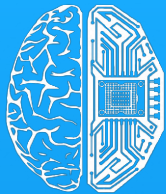
— The Unified Challenge and Opportunity of Longevity in the GCC

The optimization of population health and the concerted support of Longevity Industrialization pose many challenges and bring numerous opportunities for the Gulf region. The ensuing potential can only be effectively realized through region-wide, mutually-beneficial and synergetic cooperation.

The combined industrial assets of Gulf countries provide all the resources required to create and maintain an internationally competitive position within the Global Longevity Industry. However, those resources need to be integrated and harmonized by leveraging the individual strengths of each nation for the collective benefit of the entire region.

Nations taking part in this initiative must not just seek to replicate the best practices from international markets, but to surpass them, capitalizing on the magnitude of the collective resources present within the Gulf. This initiative will allow the GCC to create frameworks and strategies tailored to the needs of the region, addressing high-priority issues such as Non-Communicable-Diseases that is prevalent among the Gulf population.

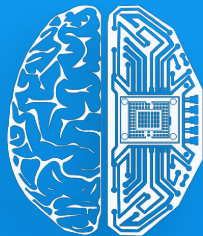
The full realization of this initiative represents one of the most prospective opportunities to simultaneously create stable economic growth and diversification, while optimizing population health and quality of life, offsetting existing and upcoming economic burdens resulting from aging population, and creating new sources of economic stability.



DEEP
KNOWLEDGE
ANALYTICS

CONTACT US

www.dka.global
info@dka.global



Deep Knowledge Group

www.dkv.global
info@dkv.global



AGING
ANALYTICS
AGENCY

CONTACT US

www.aginganalytics.com
info@aginganalytics.com