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Software**

Medtech Oasis



**Emerging
healthcare
trends
in the UAE**

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About Espeo Software

Espeo is a digital consultancy with a strong international presence. Born in Finland and headquartered in Poland, we've built an international team that values transparent communication, efficiency, and craftsmanship.

Our expert team builds and designs custom tech solutions to keep our clients on the cutting edge. Exceptional industry knowledge combined with strong technical roots is where we excel.

Throughout the project, we stand right beside our clients to consult, implement, and deliver. Our focus on deep collaboration sets us apart.

Sarah Lang
Head of Marketing

Emerging healthcare trends in the UAE

Beginning in 2010, the United Arab Emirates set robust goals to reform key industries and improve many aspects of life for its population. Healthcare is one of the sectors in the government's crosshairs.

The UAE aims to become a center of advanced healthcare in the GCC region and address key health challenges facing the country. A growing and aging population as well as a burgeoning medical tourism sector are raising demand for healthcare in the region. Following government initiatives such as Vision 2021, which set goals to improve public health, life expectancy has risen by nearly two years on average and infectious disease rates have fallen sharply. Both urban and rural emirates have enjoyed the benefits of better, more responsive care. Following this success, the UAE has attracted top global talent to fill myriad healthcare positions. Despite the great strides the Emirates have made, there are still big challenges to address. Pharmaceutical supply chains, and managing chronic disease rates are two areas to focus next efforts. Rising expectations for the quality of care as well as rising costs have put additional pressure on healthcare providers and the government to find ways to deliver concrete solutions.

A commitment to implement smart technological

solutions has also placed the Emirates at the forefront of healthcare innovation. As with many countries in the region, the UAE is in a unique position to leapfrog legacy systems and adopt the latest technology. What's more, innovative technologies have improved care, cut costs, and raised the UAE's global healthcare standing. This is great news. But there is still work ahead for the Gulf nation. Many of the goals set over a decade ago have spurred healthcare providers to get creative in finding ways to solve the most pressing challenges. This deep synergy between the public and private sector has resulted in a strong healthcare market in the UAE.

More specifically, one of the areas the UAE is uniquely positioned to take advantage of is in the field of internet of medical things, or IoMT. These connected devices give healthcare practitioners, insurance providers, and patients themselves greater control over their health. This data-driven approach to healthcare gives stakeholders unprecedented access to vital health information. Valuable both to healthcare practitioners and patients alike, IoMT devices monitor and report on vital signs such as blood sugar, heart rate, and activity levels.

In addition to IoMT devices, better pharmaceutical supply chain management can improve overall health outcomes, keep Emiratis in the Emirates for their

healthcare needs, and attract medical tourists from abroad. A lot is riding on the success of the Government's healthcare initiatives. As oil prices stagnate and an uncertain geopolitical situation continues to put pressure on the Gulf region, finding ways to create a more efficient, cost-effective healthcare system is all the more vital. In this report, we'll dive into the key drivers and obstacles for the UAE healthcare market and offer ways technology such as blockchain, AI, and IoMT can help make the Emirati health system more competitive in the region and across the globe.

Special thanks to our interviewees

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Key drivers in rapid healthcare growth

A growing population in the UAE as well as the government's goal of becoming a medical tourism destination, are among several factors driving the rapid growth of the Emirati healthcare sector.

The government defined many initiatives to support this growth in the UAE's Vision 2021. One of the healthcare related goals is to reduce the high rate of lifestyle diseases, such as obesity and diabetes and in turn, to ensure top healthcare quality.

During the last annual meeting in November 2018, leaders launched seven long-term strategies and more than 100 initiatives. Those initiatives don't ex-

clusively concern the healthcare sector, however, a special focus is kept on improving and promoting the healthcare system for providers and patients. Among others, the government wants to focus on food security, artificial intelligence, and quality of life and happiness.

Innovative technology offers a lot of promise, but implementing these solutions takes skill and forethought. To address the main drivers facing the Emirati healthcare market, companies hoping to deliver better care and cut costs should consider both the opportunities and challenges in the market.

Source: DC_Studio,
Envanto Elements

Improving healthcare in the region overall

As one of the motivating factors, the improvement of the overall healthcare is a hot topic throughout the GCC region and drives the aim of increasing quality standards. The government wants to reduce the need for GCC nationals to go abroad for their healthcare by offering world-class care in clinical centers inside the bloc.

Additionally, since citizens of GCC countries have their healthcare covered by the state, the oil-reliant states are attempting to reign in spending amid stagnant oil revenue. At the same time, high patient expectations for healthcare add another layer of complexity to the equation. A pivot to a more patient-centric model is a vital part of overhauling the region's healthcare.

Those efforts are also reflected in the UAE's mission to become a medical tourism hub. For this medical tourists need to know that they can expect exceptional care, but overall challenging for providers is the managing cost to stay at a competitive price point. According to Dr. Howard Podolsky, Group Chief Executive Officer of Cambridge Medical & Rehabilitation Center in Abu Dhabi, labor costs play a significant role in this as "it accounts for 50% to 60% of overall expenses."



Source:
Maciejbledowski,
Envanto Elements

Obesity — a national global disease

Obesity is a global epidemic. Nearly 30% of the world's population is overweight or obese, the numbers for the UAE are even more alarming. Over the last couple of years, the level of obesity has risen to double the global average.¹ The World Health Organization states that between 64% to 86% of women and 69% to 77% of men aged 15 years and above are overweight.² Another troubling trend is child obesity. Over 40% of kids under 15 years are overweight or obese. The clinical definition of overweight is when a person has a body mass index between 25 and 30, higher than 30 is classified as obese. Poor diet and a lack of exercise are common causes. Serious health problems such as heart disease, chronic pain, and type 2 diabetes arise.

Source: Rawpixel,
Envanto Elements



Often prescription medication, can treat symptoms. However, it's becoming more and more obvious that the root causes are lifestyle related. Excessive screen time and a lack of physical activity is a major factor in childhood obesity. Rising awareness of benefits which come along with a healthy lifestyle as well as the increased physical activity and proper nutrition-related campaigns are some factors that have helped to awaken the interest in a healthy lifestyle among Emiratis. The demand for gym memberships, personal trainers and organic and healthy food has risen significantly. The use of technology such as fitness apps and trackers as an assistant during dieting and training is on the rise as it supports tracking results and, in turn, helps users stay motivated. As people are trying to take better care of themselves, also the demand for fresh food is increasing.

However, people are still reluctant to search for professional help. This also reflects in the ongoing issue of child obesity. Parents play an essential role in monitoring their children's weight and if they notice a significant gain, they must act quickly. Aside from excessive screen time and poor diet, second-hand smoke also contributes to childhood obesity rates. Better education and outreach is helping in this regard. Better health consciousness and an awareness of poor health habits can help parents guide children to healthier lifestyles.

Fully aware of the long-term risks of obesity, the government is focusing all efforts on improving the healthcare system. In general, the government sees the high importance of promoting better self-care and has defined one of the key performance indicators (KPI) in the Vision 2021 to reduce child obesity, in order to tackle the chronic disease. Efforts are made to inform, educate and encourage a healthy lifestyle, which means among others balanced nutrition and regular exercise. One planned measure is the implementation of front-of-pack labelling for pre-packaged foods, as well as a sugar decrease by

20% in food products. But not just that. The entire Gulf region is backing a newly globally established patient network, which aims to fight obesity by encouraging people to choose a healthier lifestyle. The Patient Network was launched by the World Obesity Federation for the purpose of rising awareness of treatment possibilities and providing information on how to change unhealthy eating habits. People have the chance of sharing their stories and connecting with each other to exchange experiences.

By leveraging technology, the fight against obesity and child obesity particularly could result in serious health improvement of Emiratis and in the rest of the world. Gamification is key to getting children to use the technology. One great example here could be to provide kids with an inexpensive step counter they can plug directly into a device, similar to more expensive bluetooth-enabled versions adults use. Children could wear it throughout their day and connect to a website to upload their physical activities and the more active they are, the more incentives inform of some game features they receive. The use of technology in supporting weight loss are endless.

¹ <https://www.thenational.ae/uae/health/special-report-obesity-rate-in-the-uae-double-the-world-average-1.74056>

² <http://www.emro.who.int/health-topics/obesity/>

Challenges

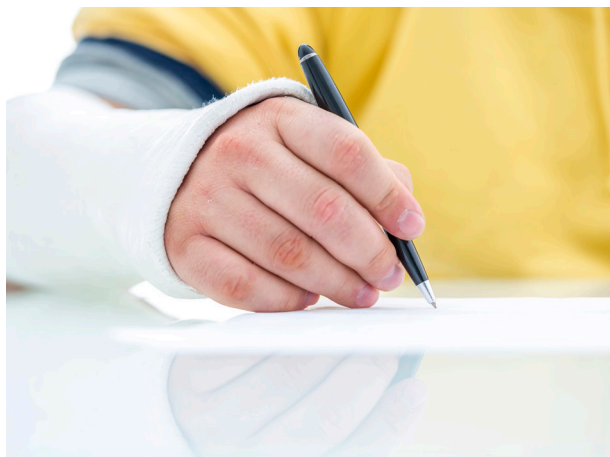
UAE Insurance Market

Along with health challenges facing many Emiratis, there is also the aspect of insurance. Currently, health insurance is mandatory and this has led to an increase in demand for healthcare services. Patients have certainly gained in the short term, but payers are facing increasing loss ratios and providers face lengthy revenue cycles as they maintain high quality care. While this is a boon to healthcare companies, significant gaps have opened up — ones smart tech solutions can help fix.

The UAE is unique in its mix of both citizens and resident expats. Citizens, who make up only about 10% of the population receive full subsidized health coverage at home and abroad. The largest Emirates, Dubai and Abu Dhabi are home to 4.34 million people, roughly half of the UAE population. Meanwhile, expats primarily work for companies and receive health benefits through their employers. This dual system is at the crux of the challenges facing the healthcare system.

Dubai Health Authority (DHA) and Health Authority of Abu Dhabi (HAAD) have mandated that all employers provide at least basic coverage to their employees. DHA has asked insurance companies to provide a basic plan with an annual premium of approximately \$170 USD and it has also enumerated a checklist of services that must be covered under this basic plan, which has a maximum coverage of nearly \$50,000 USD. Prior to the mandate, health insurance was a luxury in the UAE and those who could afford it contracted with large private insurance organizations and paid annual premiums of approximately \$2700 USD. Majority of companies have of course opted for the basic plan for their employees, and insurance companies have no choice but to offer a large group policy plan at the lowest rate.

Equipped with health insurance, people are visiting healthcare facilities far more frequently than required, driving up the demand for healthcare services. On the supply side, the UAE has seen a sharp rise in the number of hospitals and clinics in the past couple of years. It seems that healthcare providers have capitalized on the mandatory insurance provision, and to meet their own revenue goals, have been ordering investigations and procedures without concern for the cost. The costs of these overused group policies, billed back to the payers and insurance companies, began eroding already thin margins. The total claim far exceeded the expected amount and losses began to increase for all insurance groups.



Source:
Gajus-Images,
Envanto Elements

Payers, by mandate, cannot raise premiums but must continue covering the basic health services enumerated by DHA and HAAD. With ever increasing losses, insurance companies have had no choice but to resort to various cost-cutting measures. Some are positive, such as emphasizing and redirecting patients to primary healthcare services prior to seeing a specialist; while directing a diagnosed patient to specialized care providers rather than a general hospital. For example, a diabetic patient is sent to a diabetes center of excellence, to get the optimal care. Such patient pathway changes, can create a balance of demand across the provider spectrum, reduce costs, and make patient care more efficient.

Other measures include offering telemedicine services and pharmacy services to contain variation of costs. Payers are trying to offer patients the option of virtual consultation at facilities with western trained doctors. Furthermore, they are also maximizing the ordering and delivery of over-the-counter medication through online services, rather than having patients make purchases at the hospital or retail pharmacies.

However, some of the strategies have set off a chain reaction and have had a detrimental impact on healthcare providers. Insurance providers have begun scrutinizing the claims carefully and processing times are taking anywhere between three to six months. Furthermore, even after long processing times, claims are occasionally denied or require further evidence. Hospitals are thus facing lengthy revenue cycles and their ability to operate smoothly is being impacted. This is leading to friction between payers and providers.

Patients are being directed to specific hospitals for specific procedures, which slows the cohesiveness of care. For one illness, a patient may have to visit and undergo investigations across various providers, depending on the most cost-effective route outlined by the payer. Evidently, a scheme designed to make

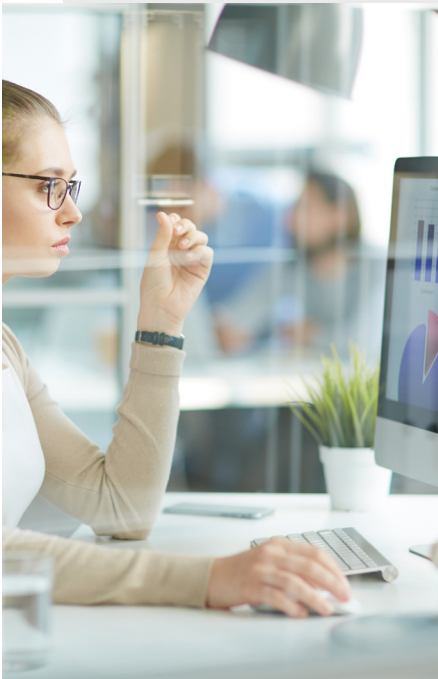
healthcare easier and affordable for patients is growing more complex. Patients are having to wait long periods in lines and between visits to receive approvals and care. Patients with basic insurance are also severely under informed about their insurance plans and are often surprised to find the low level of coverage or irrelevant coverage for their needs.

It's only possible for medium and large insurance companies to undertake such cost-cutting strategies. Many of the smaller third party administrators and insurance brokers have succumbed to solvency issues and have had to either close down or consolidate. Many firms have also had to refocus to remain competitive. Regional and local players have struggled with solvency issues more than the larger multinationals, as their corpus funds are helping them survive this challenging phase. One might argue that a top-line approach might help the situation. However, in a market with high fragmentation and somewhat low competition is counterintuitive.

Today, the healthcare insurance landscape of the UAE is at a crossroads. The market is saturated with both payers and providers, and patients are beginning to feel the growing pains. Industry leaders have to adapt to the changing insurance landscape. Higher regulation against false claims and increased education of claims processing can also be very helpful.

Data management and security

Among the many pain points and threats to the modern health-care sector is in just how to secure and handle the immense amount of data hospitals and insurance companies collect on patients.



Source: Pressmaster,
Envanto Elements

Currently, most of this data remains on centralized databases, or even on paper. Of the records stored electronically, few institutions work together and share this data effectively. Data siloing is one of the major sticking points healthcare companies cite as a major challenge. In the current climate, it's time consuming and expensive to transfer medical data between medical facilities. Efforts to streamline this process, of course, also opens up this data to greater security risks. The risk of a data breach or a malicious attack only grows year to year as hackers increasingly target medical records.

Connected IoMT devices constantly collect data on the patients who use them. As more doctors rely on these devices to better diagnose and treat disease, securing these devices and the data they collect is increasingly vital. Losing consumer trust can threaten any company. This is especially true for healthcare providers due to the sensitivity of medical records. For a market so focused on an influx of foreign medical tourists from around the GCC region and further afield, UAE healthcare providers need to be proactive in their data handling. Of course, one solution is to hire more administrators and more qualified IT professionals, but this is also perhaps not a good use of resources. Especially as labor costs can account for up to 60% of the expenses, which does not match with the goal of cutting costs in the long run. Technological solutions that can aid hospitals in data management and security will improve their bottom line. The UAE is especially well-suited to digital transformation. High income, a relatively low population, plenty of government investment, and a willingness to implement technology such as AI and blockchain make healthcare in the region a lucrative market.

Simultaneous pressures to provide better more responsive healthcare and to keep up with global digitalization trends exposes healthcare data to security threats. As IoMT devices make their way into doctors offices, solutions to secure them are an essential part of any digitalization strategy. One growing trend is handing patients themselves control over their own medical data and allowing them to grant and revoke access as they see fit. One technology that manages such a system is blockchain technology. Blockchains facilitate the transfer of information among a network of stakeholders. One application for the technology in healthcare is using a blockchain to manage data transfer and security among a web of connected devices. In this case, parties would be the patient, hospital, insurance provider, and government and research institutions. Portuguese healthcare startup GHP with consulting help from Espeo developed a way to use a private Hyperledger Fabric-based blockchain to enable patients to grant and revoke access to their medical data. The startup aims to introduce greater transparency to the healthcare sector and to make it easier to transfer medical data in a network of providers.

By migrating a healthcare ecosystem onto a blockchain platform, secure data handling and security would be highly automated. The UAE is uniquely situated to implement such a solution due to the market forces in the region. Cost containment measures and an overarching government initiative to wean the Emirates off of generous oil-funded healthcare subsidies is designed to encourage public-private partnerships and strengthen the UAE's healthcare profile globally. As the role of IoMT devices grows and begins collecting greater amounts of data on patients, the need to implement ways to protect them will increase as well.



Source: Pressmaster,
Envanto Elements

Supply chain inefficiency

In addition to managing and securing data, health systems also need to ensure that there's a constant flow of medicine and equipment to meet growing healthcare demand. While the UAE has a small domestic pharmaceutical industry, nearly 80% of the medicine in the UAE comes from abroad. ³

Extended supply chains increase logistical complexity and drive costs up across the board. It also raises the risk that time and temperature sensitive drugs, such as insulin, will be mishandled in transport, rendering them useless once they're reached their destination. Better tracking of shipment, receipt, and transit conditions for pharmaceuticals will increase the efficiency of the system. Technological innovations can help automate and reduce some of the logistical burdens for healthcare systems.

As mentioned earlier, verifying that sensitive pharmaceuticals were handled correctly is one of the main frictions in the drug supply chain. Insulin is one drug that requires strict temperature control. Exposing insulin to a

temperature outside a window of two to eight degrees celcius can render it unusable and dangerous to use. Since the UAE has one of the highest rates of diabetes per capita in the world, a steady supply is essential to treat the chronic disease. As mentioned earlier, the GCC region has among the world's highest rates of chronic disease per capita.

Yet another challenge for the region is making sure pharmaceuticals are authentic. Drug fraud is a global problem, but the stakes for the UAE is far higher as it continues to remake its image as a trustworthy medical destination. Giving pharmacies and individuals the ability to check whether a drug item is authentic or not. Currently drug fraud costs the healthcare industry \$75 billion⁴ per year and puts patients at risk of con-

suming ineffective or dangerous substances. Tighter controls on supply chains and tools to combat the problem offer a way to reduce the trend.

³. <https://www.export.gov/article?id=United-Arab-Emirates-Pharmaceuticals>

⁴. <https://business.financialpost.com/opinion/they-cost-us-billions-and-they-can-kill-counterfeit-drugs-are-invading-canada>



Source:
NomadSoul1,
Envanto Elements

IoMT to the rescue

"The alarming disease trends in particular show the growing need for more digital solutions to aid the healthcare sector", said Takudzwa Musiyarira, research analyst, transformational health at Frost and Sullivan.

The ever-growing importance of technology in healthcare as an enabler of positive progress and support for improving clinical efficiency as well as improving the everyday life of people is manifesting. Technology in terms of patient remote controlling is especially "critical to chronic disease management as well as effective and efficient home health care," stated Dr. Howard Podolsky. The Cambridge Medical and Rehabilitation Center implemented an own home healthcare program in the King-

dom of Saudi Arabia as a part of delivering effective services. The combination of affordable and technologically advanced monitoring devices as well as "the ability for patients and families to seamlessly incorporating monitoring into their daily lives without it being intrusive" are the main reasons for this. Home monitoring can make the difference and outstanding in this terms are wearable devices and telehealth.

Furthermore, to manage and secure the data to keep it compliant with medical records handling, blockchain and AI can form the basis of a robust IoMT ecosystem. Implementing such systems will drive innovation in healthcare and improve health outcomes overall.

Source: seventyfourimages, Envanto Elements



Wearable devices

Not just recently have wearable health and fitness devices enabled by IoT become popular and even more, nowadays they play a significant role in the healthcare industry. Thanks to the technological advancement, it is possible for healthcare providers to gain more access to patient information which helps to understand the background and with this, improves care. Paired with an app or a website, wearable fitness devices are used to track any kind of physical activity, sleep, heart rates, calorie intake etc. According to a study by Rock Health in the USA, the use of wearables indeed is globally shifting more and more away from simple fitness reasons toward managing health conditions⁵. Monitoring physical activity continues to be the top reason, however compared to 2017, the number decreased by 10%. Furthermore, this decrease is mirrored by a 10% increase in respondents using a wearable to manage diagnosis. The original purpose of wearables becomes more clinically meaningful.

⁵<https://rockhealth.com/reports/beyond-wellness-for-the-healthy-digital-health-consumer-adoption-2018/>

Top Reasons for wearable use (2016-2018)

Source: RockHealth



“Even if we’re not with them [patients] 24 hours a day, seven days a week, we’re supporting them in a way that improves their overall health and welfare,” said Dr. Howard Podolsky.

Thanks to a constant progression of IoMT, real-time patient monitoring is also possible remotely. Patients with health conditions, such as diabetes and those who need close monitoring, can track major health indicators daily and share this data with their physicians without having to make a trip to clinics. It’s also an option for private players to be more effective in their reach and more efficient in the care they provide.

They also can be used for on-site patients. Commonly, nursing staff check on patients every four to eight hours, which is a labor-intensive process. There are possibilities to track health and help to prioritize patients. A small FDA-approved device attached to the patient can track all vital signs and transfer them to the nurses and physicians for monitoring. According to Arab Health, around 45% of residents in the GCC think that wearables are a good way to monitor their personal health. Global spending on wearables is, according to Juniper Research predicted to increase to \$60 billion and that more than five million individuals will be remotely monitored by healthcare providers by 2023⁶.

⁶ <https://www.juniperresearch.com/press/press-releases/healthcare-spend-in-wearables-to-reach-60-billion>

Telehealth

It’s impossible to mention innovation in middle eastern healthcare without talking about telehealth. Great strides in connectivity and widespread mobile use have begun to break down the traditional role of the doctor’s office. With telehealth solutions, patients no longer have to make a special trip to see a doctor in person. Instead, doctors can consult, diagnose, and write prescriptions remotely. This type of interaction, mostly through the use of a mobile application can pass savings on to healthcare companies, government, and, of course, patients. Reduced travel for patients are a major benefit to the Emirati market. Greater opportunity to seek medical care in fellow GCC countries is yet another plus of telemedicine applications. Another clear example is telehealth’s role in medical tourism. Patients who plan to travel to the UAE can have their initial screenings and consultations through a telehealth application instead of face-to-face. This saves patients an extra trip and makes Emirati health services much more attractive. Once patients return home, they can maintain contact with their doctor for aftercare. An initial proof-of-concept has already been launched by the UAE Ministry of Health which links the intensive care units of the Sharjah Hospital and Kalba Hospital. Improved connectivity among all healthcare stakeholders builds trust and reduces costs across the board.

As mentioned above, the UAE has some of the highest rates of chronic diseases such as diabetes and cardiovascular diseases in the world. Infectious disease is not as pressing of an issue for the region.

While on one hand, that is a success, on the other, it's very expensive to treat chronic disease. As a result, this puts pressure on health authorities and governments. Smart use of telemedicine applications is one way to address and try to tackle this trend. Diya Srinivasan, a healthcare consultant focused on the UAE market cites telemedicine as having one of the biggest impacts on the Emirati healthcare system.

"Telemedicine will be a huge thing for people to go to doctors for consultations. I think there needs to be some sort of regional telemedicine system. There's something that could be set up for that and the last thing which I find which is a very like systemic thing and it's something that the Ministry of Health, very big player needs to take on is establishing very good data sets to look at the lifestyle disease trends... in the region," said Srinivasan.

Additionally, citizens of GCC countries can currently travel to member states to get fully-subsidized healthcare. A health app could encourage further integration and make it easier and cheaper to maintain this system, especially as the population of the GCC region ages.

Increased demand for better solutions for people with limited mobility could improve the healthcare market as a whole. Innovative technology plays a key role in building the UAE's healthcare system especially in promoting its medical tourism sector and improving remote monitoring. The UAE's focus on high-tech solutions and eagerness to implement the latest technologies places it in a favorable position globally.

Supply Chain Management

Specific technological solutions exist to help address some of the supply chain inefficiencies mentioned above. Supply chain complexity only grows year to year. This is especially true of the UAE's market. Applications which track pharmaceuticals from the manufacturer to pharmacies and consumers can cut down on loss and verify the authenticity of drugs in the supply chain. Since the UAE imports most of its pharmaceuticals from abroad, knowing that they're safe to take is vital. Additionally for the muslim world, verifying halal compliance is yet another facet important to the region. Tailor-made applications that offer stakeholders extensive manufacturing, transit, and storage details would help the UAE achieve the UAE's ambitious goals.

Now is the time to automate with a blockchain supply chain application. However, this process may not be so straightforward. Expectations are very high in relation to technology, however, the level of complexity of processes and logistics does not facilitate the task. The transport industry goal is digitizing documents, building trust and automating of verification.

Today the supply chain based on blockchain technology is able to satisfy some of the main frictions. IBM, together with shipping giant Maersk has tested this solution in their pilot project TradeLens⁷. The market for such solutions is ripe. Cutting costs and delivering value to consumers is by far the biggest boon to the industry.

The potential for blockchain supply chain solutions together with IoT devices is considerable. The impact that these technologies already have and will have in the future seems large. Not only optimizing many individual processes but also changing the current rules of transport.

⁷. <https://www.tradelens.com/>

Blockchain and AI as tools enabling IoMT innovation

Blockchain technology and artificial intelligence are two promising technologies facing the healthcare industry, especially as IoMT devices proliferate.

Handling the influx of data these devices collect and securing it are two challenges healthcare providers must address to harness this technology effectively. Balancing ever increasing data sets with user privacy needs innovative solutions. Healthcare professionals and administrators alike agree that both blockchain and AI will help deliver better healthcare outcomes in the UAE. Dr. Howard Podolsky, thinks blockchain will secure medical data. He also believes “at some point we’ll also see some transition towards payments coming through blockchain technology as well.”

Part of what makes blockchain so attractive in healthcare is that decentralized consensus eliminates tampering and maintains data integrity. It also securely distributes information to all stakeholders. Finnish company BioMensio, one of Espeo Software’s clients uses IoMT devices to test saliva samples for illicit substances. There are significant opportunities for blockchain technology for this and projects like it in the future. It would help the devices secure and seamlessly distribute data to laboratories, and law enforcement. Savings in administration and security costs will help healthcare companies shore up profits and help reign in overall healthcare spending.

While blockchain can secure medical records, AI is one particularly useful way to handle it all. Using AI as a security layer makes medical data harder to hack, and therefore less likely that sensitive patient data gets exposed. Many security experts have raised concerns of the security of connected devices, especially when they collect and transmit medical data.

IoMT devices are attractive in healthcare is their continuous collection and analysis of health data. Of course, all this unstructured data can be difficult to process. Devices which leverage AI can predict diseases automatically or alert users to sudden changes. Looking back at the example of diabetes, AI empowered IoMT blood insulin monitors can notify the patient when to act. Doctors, in turn, can use this data to better treat patients with more personalized care.

Recent smart continuous glucose monitors include devices such as Eversense and Freestyle Libre. These devices measure glucose data and send it to smartphone applications. Other devices like GoCap, InPen, and Esysta monitor data and prescribe optimal types and doses of insulin. AI can help automate this further and improve IoMT devices even further. Development in this sector is moving quickly and the savings for patients, hospitals, and governments are substantial.

The two technologies round out IoMT devices making them operate more efficiently and securely. Any effective use of IoMT in healthcare will have to implement strong strategies to keep medical data secure and running smoothly.



Conclusion

Many of the UAE's ambitious goals to overhaul their healthcare system are well on their way to being achieved in the gulf state. Rates of infectious disease are at an all-time low and life expectancy has risen considerably since the Government set out to address it. Yet, many challenges still face the country. A growing and aging population coupled with the rise of diseases of affluence both drive demand for healthcare and puts pressure on authorities to act. Robust public-private healthcare partnerships have brought health professionals from across the world. This in turn, aims to build the UAE up as a medical tourism destination for GCC nationals as well as travellers from further afield. For the region to provide high-quality healthcare and keep costs in check, technology— especially in the form of IoMT devices can deliver data-driven solutions to healthcare companies operating in the region. New technology, of course, opens up new challenges to tackle.

Smart use of specific technologies can unleash the potential to bring better healthcare outcomes to the UAE. Blockchain and artificial intelligence are vital parts of this equation. AI for its ability to handle large data sets of unstructured data, and blockchain to securely distribute medical data between healthcare stakeholders. Additionally, better supply chain management both to drive down costs and to build consumer trust are some other compelling uses for these solutions. As healthcare evolves and puts the latest tech to good use, innovative devices and the software that they run on is increasingly essential. Markets such as the UAE are ripe for implementing tech in healthcare. Unburdened by legacy systems, and keen to attract an increasingly mobile medical tourism sector, the UAE can serve as a model for digital transformation. The medtech oasis can teach the world valuable lessons in early adoption and a sustained commitment to using the best technology in healthcare.

Source:
Pressmaster,
Envanto Elements



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Emerging healthcare trends in the UAE
