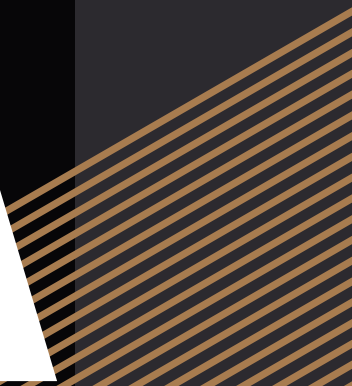


DESIGNING HEALTHCARE  
FOR THE FUTURE  
IDENTIFYING OPPORTUNITIES FOR  
MODULAR CONSTRUCTION IN THE  
HEALTHCARE INDUSTRY



# HEALTHCARE TRENDS ON THE GLOBAL MARKET

As aging populations across the globe continue to grow, the global healthcare market is currently investing in new construction trends to improve both cost and access to services. In similar positions as other Middle Eastern countries, Oman is in a unique situation to improve both access and cost to services.

What follows is a look at the technological changes we, at MEC, have seen in the global healthcare market, along with a high-level review of Oman's health care sector to identify opportunities for the coming years.

## GLOBAL HEALTHCARE TRENDS

There are clear trends to improve the cost certainty of healthcare projects, as well as the timelines to market to help provide services to the public. For instance, EIR Healthcare in the United States is meeting this need for care access and integration of technology by transforming how medical rooms are designed and developed through modular designs. We've seen similar trends over the past few years, particularly as they relate to Patients/Facilities and Healthcare Providers.

### PATIENTS/FACILITIES

A sampling of trends we've identified include:

- Upgrades to existing facilities to meet technological advancement of medical care solutions,
- Flexibility and adaptability for new equipment and procedures,
- Modular solutions allowing for growth in existing schemes and future re-use/relocation,
- Prefabricated customised solutions for I.P. Wards, Delivery Rooms, ICU's, Chemotherapy Rooms, Dialysis, Physiotherapy, Radiology, Laboratories, Operating Rooms, Data centres, etc.,
- Well-laid out, cost effective designs, particularly within the private sector,
- Accessible and upgradable data systems, and
- More outpatient clinics, micro-clinics, and wellness centres to engage patients as active partners in their healthcare.

### HEALTHCARE PROVIDERS

Healthcare provider trends identified include:

- Strategies and practices to retain healthcare workers in the profession,
- Programs to help reduce stress and burnout of physicians and support staff,
- Building designs to bring more natural light and spaces, and
- Well-designed modular accommodation facilities.

Of these opportunities, MEC sees great benefits with modular construction for the healthcare industry, primarily through efficient design, better quality materials, reduced waste, speed, flexibility and cost savings. Unlike the standard construction process, the modular approach has potential to reduce site-based activities by up to 80%. As such, new healthcare projects could develop base builds, with additional modules added as the demand increases. With less site-based activity and building only for current need, modular solutions help to prevent construction accidents, provide jobs for the local workforce, and ensure effective costs in design through execution.



## HEALTHCARE TRENDS WITHIN OMAN

Life expectancy is increasing right across the globe and Oman is no exception. In 2012, life expectancy in Oman was 76.2 years and the population is expected to continue growing to 4.7 million by 2050. Given the aging population, visits to clinics are also expected to increase.

While Oman continues to see this age increase, in 2012, the country spent only ~2.7% of its GDP on health expenditures compared to 4.0% in Saudi Arabia and 9.6% in the UK. However, it is expected that this percentage will grow to the 10% levels over time in Oman.

Over the last 40 years, Oman has invested heavily in the health sector and succeeded in creating a relatively modern health care system. At the same time, the government's aim to provide all its citizens with free, basic health care, means that health-related expenditures are growing.

By 2018, the Ministry of Health (MoH) had 74 hospitals with a total of 6,589 beds, the equivalent to 14.9 beds per 10,000 people. Additionally, there were 266 governmental health centers, clinics, and pharmacies. Private sector accounted for 1,105 clinics.

The public sector runs the majority of the hospitals and hospital beds, along with employing most doctors and nurses. Government-run hospitals for the general Omani public accounted for 49 hospitals and 4,659 beds, while the private sector accounted for 15 hospitals with 637 beds. The rest of the hospitals are operated by the Royal Armed Forces, the Royal Oman Police, and Sultan Qaboos University.

Current healthcare expenditures in Oman are expected to grow at a compounded annual growth rate of 9.1 percent from OMR 1.2 billion in 2017 to OMR 1.9 billion in 2022, according to a report published by Alpen Capital. This growth is due to a rising population and the rising cost of care. To accommodate the growing base of patients, the bed requirement in Oman is anticipated to grow at a rate of 3.2 percent through 2022, translating into a demand for more than 1,100 new beds to reach a capacity of 7,937 beds.

Of great benefit to the industry was introducing mandatory insurance in 2018 for expats in the private sector. In January 2019, a phased approach to compulsory national health insurance was introduced. Undoubtedly, additional private facilities will be required in Oman.



## OMAN'S SUPPORT FOR HEALTHCARE OPPORTUNITIES

There has been a push in Oman for the implementation of modern technological solutions to boost efficiency in the health care sector, ultimately keeping costs down and cutting wait times. The private hospitals and clinics, licensed by MoH, function mostly in big cities, providing mainly primary care and some aspects of specialty care. Over the last few years, Oman's healthcare industry has focused on how to implement these trends and ensure all Omanis, including those who do not live near big cities, have access to care. As such, two primary plans have been developed: Health Vision 2050 and the Ninth Five Year Plan for Health Development.

### HEALTH VISION 2050 DEVELOPMENT PLAN

Health Vision 2050 (Vision 2050) outlines the need for the expansion of specialist services and reduction of costs. Included in this plan is a key vision for building a medical city between the governorates of Muscat and Al Batinah to provide tertiary care. This construction will continue to ensure the efficiency and accessibility of tertiary care services to most people in Oman. This will continue to facilitate training and education for healthcare professionals.

Additionally, we believe Vision 2050 brings to light a number of opportunities for improved healthcare, including:

- Primary health centres constructed using modular solutions where appropriate,
- New or refurbished 300-bed, 150-bed or 50-bed public hospitals,
- Building of medical cities to provide tertiary care outside of capital area,
- Accommodation for health service personnel, possibly with modular solutions,
- Anticipated public and private sector growth outside Muscat area, and
- Development of a world class "Pre-Hospital Care System," involving an Ambulance System or Emergency Medical Services.

### NINTH FIVE YEAR PLAN FOR HEALTH DEVELOPMENT

The Ninth Five Year Plan for Health Development (2016-2020) was approved in 2016. It was based on the Vision 2050, which represents a quantum leap in the future health planning process. MoH is currently in the process of completing a number of expansion projects, which are in the process of consultancy or construction bidding.



## MEC SUPPORT IN HEALTHCARE ADVANCEMENT OPPORTUNITIES

As development plans continue to roll out and new healthcare construction opportunities present themselves in both the private and public sector, it will be critical to source alternatives for cost effective solutions. Based in Oman, we have staff experienced on a global level in the Project and Cost Management of hospitals, clinics, and medical offices. Offering early evaluation of schemes and costs estimates, along with a myriad of other services, we are particularly passionate about further introduction of modular solution to the Omani market in support of improved healthcare trends.

To discuss your next healthcare project, visit [www.majaneng.com](http://www.majaneng.com) or contact Kevin Ellis at [k.ellis@majaneng.com](mailto:k.ellis@majaneng.com).

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