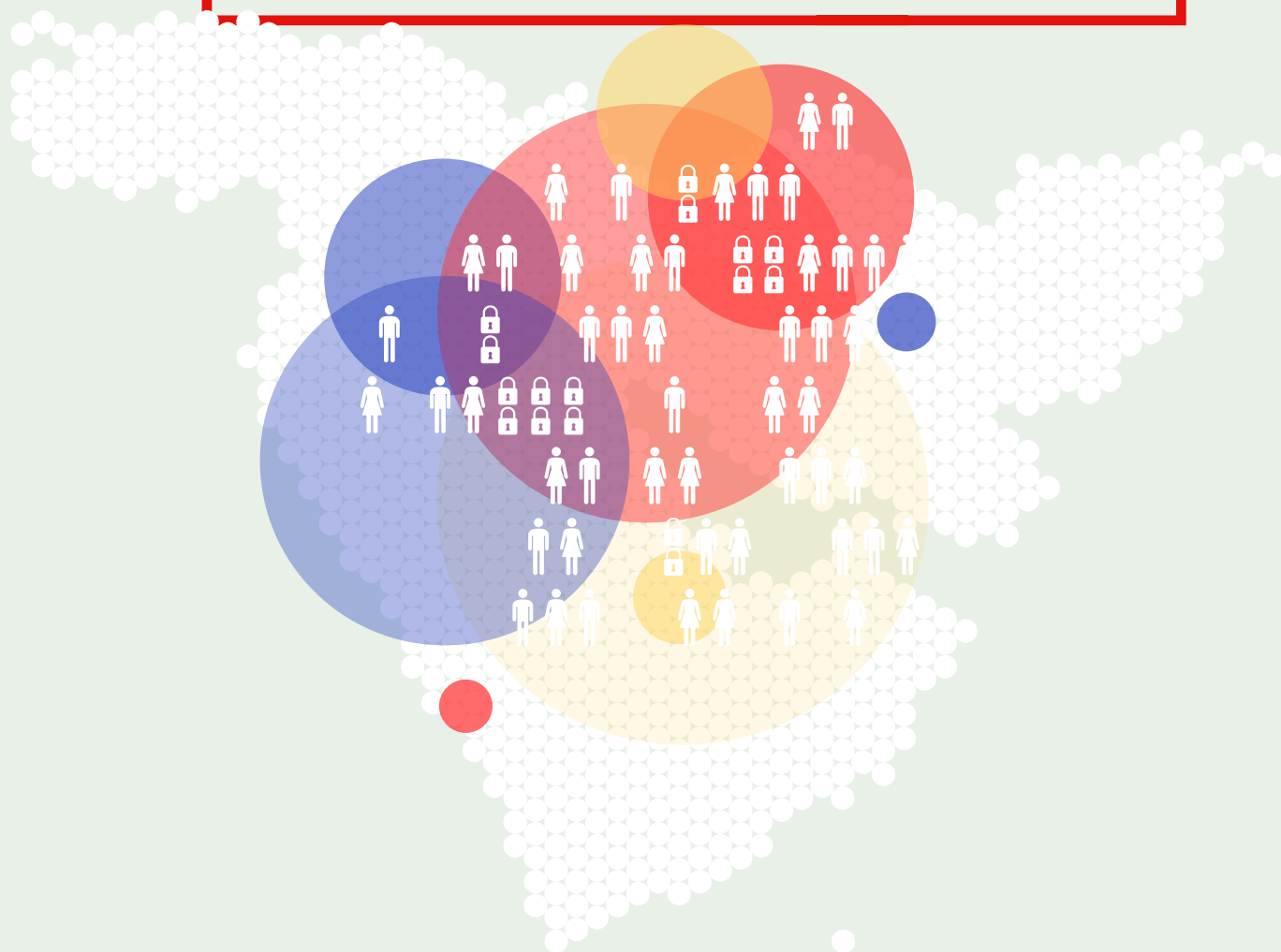


The future of cancer care: health system sustainability in the Middle East and North Africa (MENA)



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About this report

The future of cancer care: health system sustainability in the Middle East and North Africa (MENA) is an Economist Impact white paper, commissioned by BeiGene. The report provides an independent analysis of the growing cancer burden in the MENA region and the challenges this presents to the sustainability of oncology care and the wider health system. It further aims to understand the limiting factors for sustainability in cancer care and identify potential ways to close the gaps across the patient pathway. The report was developed based on an extensive literature review and in-depth interviews with relevant clinical experts, scientific leaders, policy stakeholders and patient advocates. The editorial team at Economist Impact would like to thank the following individuals (listed alphabetically) for generously contributing their time and insights, which have been critical to the creation of this report:

Dr Ahmed Seyam, Director, Health Economics & Health Systems Research, Universal Health Insurance Authority, Egypt

Mr Imad El Hajje, Public Relations & External Affairs Team Leader, Children's Cancer Center of Lebanon (CCCL)

Dr Lamia Mahmoud, Regional Adviser, Noncommunicable Diseases Prevention (NCP) Programme, Department of Noncommunicable Diseases and Mental Health, Regional Office for the Eastern Mediterranean, World Health Organization

Mr Majed Mohamed Ibrahim, Head of Advocacy & Scientific Affairs, Friends of Cancer Patients (FoCP), United Arab Emirates

Dr Marwan Ghosn, Chairman, Haematology – Oncology Department, Faculty of Medicine Saint-Joseph University, Lebanon

Dr Mohsen Mokhtar, Professor, Clinical Oncology, Cairo University; Managing Director, Cairo University's Center of Oncology and Nuclear Medicine (NEMROCK); President, CanSurvive, Egypt

The report focuses on selected countries in the Middle East and North Africa (MENA) region; Bahrain, Kuwait, Oman, Qatar, Saudi Arabia, United Arab Emirates (UAE), Iraq, Jordan, Lebanon, Egypt, Syria Arab Republic and Yemen, providing a representative sample in terms of population size and income groups in the region. The report also refers to the WHO Regional Office for the Eastern Mediterranean (WHO EMR), which covers 22 countries and territories in West Asia, North Africa, the Horn of Africa and Central Asia.

Economist Impact bears sole responsibility for the content of this report. The findings and views expressed in the report do not necessarily reflect the sponsor's views. The research was led by Clare Roche, with research and writing conducted by Clare Roche, Gerard Dunleavy, Giulia Garcia, Alcir Santos Neto and Vitor Taira Yi. While every effort has been made to verify the accuracy of this information, Economist Impact cannot accept any responsibility or liability for reliance by any person on this report or any of the information, opinions or conclusions set out in this report.

Executive summary

Cancer, a leading cause of death worldwide, currently contributes to more than one in every six deaths globally.¹ The health and economic burden posed by cancer is set to increase, with the World Health Organization (WHO) projecting that cancer incidence will increase by 50% by 2040 in comparison to 2020 levels.² The Middle East and North Africa (MENA) region is on the cusp of a demographic transition that will significantly impact the burden of cancer over the next two to three decades. The elderly population (aged >65 years) will increase by 290% between 2018 and 2050, from 28m in 2023 to 92m in 2050.³

As a result of the growing and ageing populations, the number of newly diagnosed cancers and cancer deaths in the WHO Eastern Mediterranean Region (EMR) is expected to double by 2040. The incidence of cancer in Iraq, Saudi Arabia and Syria, for instance, is projected to increase by more than 100%, while in the United Arab Emirates (UAE), it is projected to increase by as much as 231%.⁴

The rising burden of cancer will force countries to innovate, rethink strategy, and re-prioritise resources to ensure that health systems can deliver cancer care that is both high-quality and sustainable. The diversity of the MENA region in terms of population size and density, as well as economic and political systems means that the provision of, and access to, quality cancer care vary greatly across the region.

Despite this heterogeneity, healthcare policymakers and providers in the region have many challenges in common. These include increasing pressure on health services due to growing demands and demographic change, a rising burden of chronic diseases, and a shortage of healthcare workers.

Addressing inefficiencies today is critical to safeguarding the quality of cancer care and to allowing health systems to adapt to the growing cancer burden such that they evolve for the benefit of patients and society. A number of common integrated policy priorities and interventions have been identified in this report that will help countries improve access and health outcomes in a sustainable manner.

Scale-up prevention measures – Cancer control starts with prevention. Prevention includes raising awareness of cancer, its signs and symptoms, and measures to target modifiable risk factors, such as tobacco use, physical inactivity, and unhealthy diets, which simultaneously helps to reduce the burden of other non-communicable diseases (NCDs). Civil society organisations should be encouraged to play a bigger role in educating the public, as well as supporting cancer prevention and screening initiatives. Countries should also consider scaling cost-effective prevention measures identified by the WHO as the “NCD Best Buys”, ie, interventions with the most bang for buck, such as tobacco control and the HPV vaccine.⁵

Prioritise screening and early diagnosis -

The majority of cancer patients in the MENA region are diagnosed in the late stages, which increases treatment costs and resources, and compromises health outcomes and survival rates. Directing healthcare spending towards screening should be an immediate policy priority because it will help support early diagnosis, thereby lowering treatment costs, while reducing the cancer mortality rate. Egypt's "100 Million Healthy Lives" campaign is a good example of prioritising prevention and screening initiatives to target the country's leading risk factors for NCDs and cancer. Prioritising screening services as part of progressing towards Universal Health Coverage (UHC), or under the basic insurance package, will help to alleviate the financial obstacles to early cancer detection.

Strengthen end-to-end cancer services across the health system -

Although tertiary cancer specialist services are available across the region, albeit with varying degrees of capacity and coverage, there is a pressing need to strengthen and integrate primary care and palliative care. While there has been a significant shift towards investment in primary care infrastructure across the region, there remains a need for capacity-building among primary health professionals to facilitate awareness, early diagnosis and prompt referral. Palliative care is under-developed across many countries in the region, and this lack of service will become a more and more significant concern as populations' age.

Invest in data and digital infrastructure -

Deficiencies in national cancer policy, planning and programmes stem, in part, from a scarcity of data. Comprehensive data on incidence, outcomes and costs across the entire care pathway are needed to underpin investment decisions. Many countries in the MENA region lack accessible, timely and reliable data, leading to poorly chosen priorities and wasted resources. Investing in cancer registries, as well as collecting and extrapolating real-world data from health information

systems will enable decision-makers to allocate resources more effectively, and to prioritise sustainable actions and interventions that are relevant to the needs of their population.

Collaborate to manage the economic burden and expand access -

The rising costs of controlling cancer is an undeniable challenge for the MENA region. The long-term sustainability of oncology care will therefore require the collaboration of various stakeholders, including policymakers, payers, providers, industry, non-governmental organisations (NGOs), among others. To achieve better patient outcomes, while also reducing the economic burden on society, each country must develop a context-specific roadmap for delivering and funding cancer care that supports innovation in treatment and care and reflects differences in country size, income level, health system and public health priorities.

Financing reforms are crucial to sustaining equitable access and efficient use of resources -

Providing affordable healthcare is a challenge that all countries in the MENA region face, as populations grow and age, new therapies are developed, and healthcare demands increase. These factors are forcing many countries in the region to re-evaluate how their health system is financed; for instance, reforms in the Gulf Cooperation Council (GCC) countries are seeking to expand the role of private health insurance, and Egypt is aiming to implement UHC through the defragmentation of public funding sources. Reforming healthcare financing systems is essential to achieving UHC, extending financial protection to citizens, and enhancing equitable access to health services. Financing reforms should also support a move from curative to preventive care, and from payment based on volume and fee-for-service models to value- and outcomes-based financing. The implementation of Health Technology Assessment (HTA) and frameworks to support economic evaluation will further support the efficient use of healthcare resources.

Introduction

In 2015, at the United Nations General Assembly, world leaders came together to adopt 17 goals that would eradicate poverty, improve the lives of people, and secure the future of the planet. These sustainable development goals (SDGs) are more important than ever as the world faces several ongoing crises, including the climate crisis, military conflicts, poverty and growing wealth inequality, and a tenuous post-pandemic economy. One of these goals is to “ensure healthy lives and promote well-being for all at all ages”. To make this happen, a strategic target identified by the UN is a reduction in the premature mortality of non-communicable diseases (NCDs) by one-third.¹ To make any progress on this front, health systems must target cancer. Unfortunately, the fact is that cancer incidence is expected to grow. The World Health Organization (WHO) projects that cancer incidence will increase by 50% by 2040 when compared to 2020 levels.¹ The rising burden of cancer will force countries to re-strategise and reprioritise health system resources to manage the significant increase in demand. Therefore, building more sustainable health systems for oncological care must start now.

The role of health system sustainability in oncology

Several international groups and organisations have been trying to shed light on the critical components of sustainability in health systems for many years now. However, there is no universally agreed-upon definition or framework for the concept of sustainable healthcare yet (see *Table 1*).^{6,7} Academic literature often takes a piecemeal approach that does not account for how local, national, and international factors interact to influence the dynamics of sustainability within health systems. However, sustainability is central to ensuring a long-term commitment to improving population health.



Table 1: What is health system sustainability?

Author	Definitions or Characteristics
WHO, 2023⁸	"...a broad term to describe policies, projects and investments that provide benefits today without sacrificing environmental, social and personal health in the future."
Gorman & Horn, 2022⁹	"...the ability to be maintained at a certain rate or level."
Lehoux et al., 2022¹⁰	"...1) a healthy population, 2) superior care ("effective, safe, timely, patient-centred, equitable, and efficient"), and (3) fairness, which implies that services are provided "without discrimination or disparities."
Müller et al., 2021¹¹	"...health care funding mechanism(s), infrastructure and human resources development as well as funding levels of health research."
Urquhart et al., 2020¹²	"Continued capacity to deliver the innovation, continued delivery of the innovation and continued benefits for the patient, provider, or health system."
Mortimer et al., 2018¹³	"...refers to the capacity of a health service to deliver healthcare over time, with consideration to future generations."
Ferrelli et al., 2017¹⁴	"...the capacity to endure and can also be defined as a process characterised by the pursuit of a common ideal."

As the burden of cancer is set to increase in the coming years, restructuring and re-prioritising resources and personnel, as well as formulating policies that keep sustainability in mind, are critical to ensuring the ability of the international community to reduce the impact of cancer on populations.

the region will also experience the ageing of their populations. The elderly population (aged >65 years) will increase by 290% between 2018 and 2050, from 28m in 2023 to 92m in 2050.³ This is a cause for concern because although cancer can develop at any age, the incidence increases significantly in later life. Therefore, as a result of this demographic change, the number of newly diagnosed cancers and cancer deaths in the WHO Eastern Mediterranean Region (EMR) is expected to double by 2040.⁴

The incidence of cancer in Iraq, Saudi Arabia and Syria, for instance, is projected to increase by more than 100%; in the United Arab Emirates (UAE), it is projected to increase by as much as 231% (see *Figure 1*). The UAE will also see the greatest percentage increase in cancer mortality, with a 335% increase in annual deaths expected by 2040, compared to 2020 (see *Figure 2*).

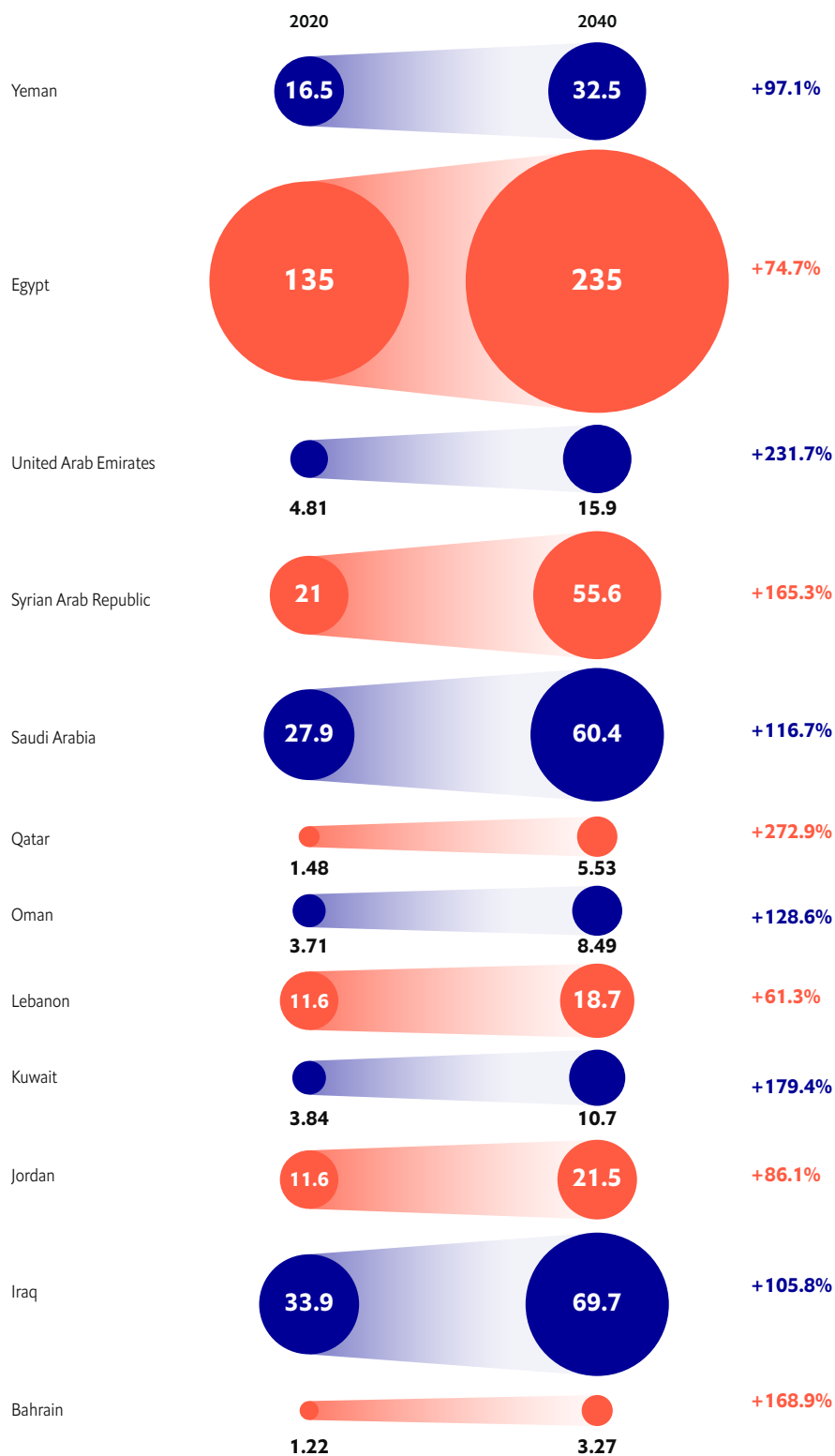
The number of newly diagnosed cancers and cancer deaths in the WHO Eastern Mediterranean Region (EMR) is expected to double by 2040.

The growing burden of cancer in the Middle East and North Africa

The Middle East and North Africa (MENA) region is on the cusp of a demographic transition that will significantly impact the burden of cancer over the next two to three decades. The region's population is expected to increase from 500m in 2023 to 676m in 2050. Many countries across

Figure 1: Estimated number of new cases of cancer 2020 to 2040, in selected countries of the MENA region (in thousands)

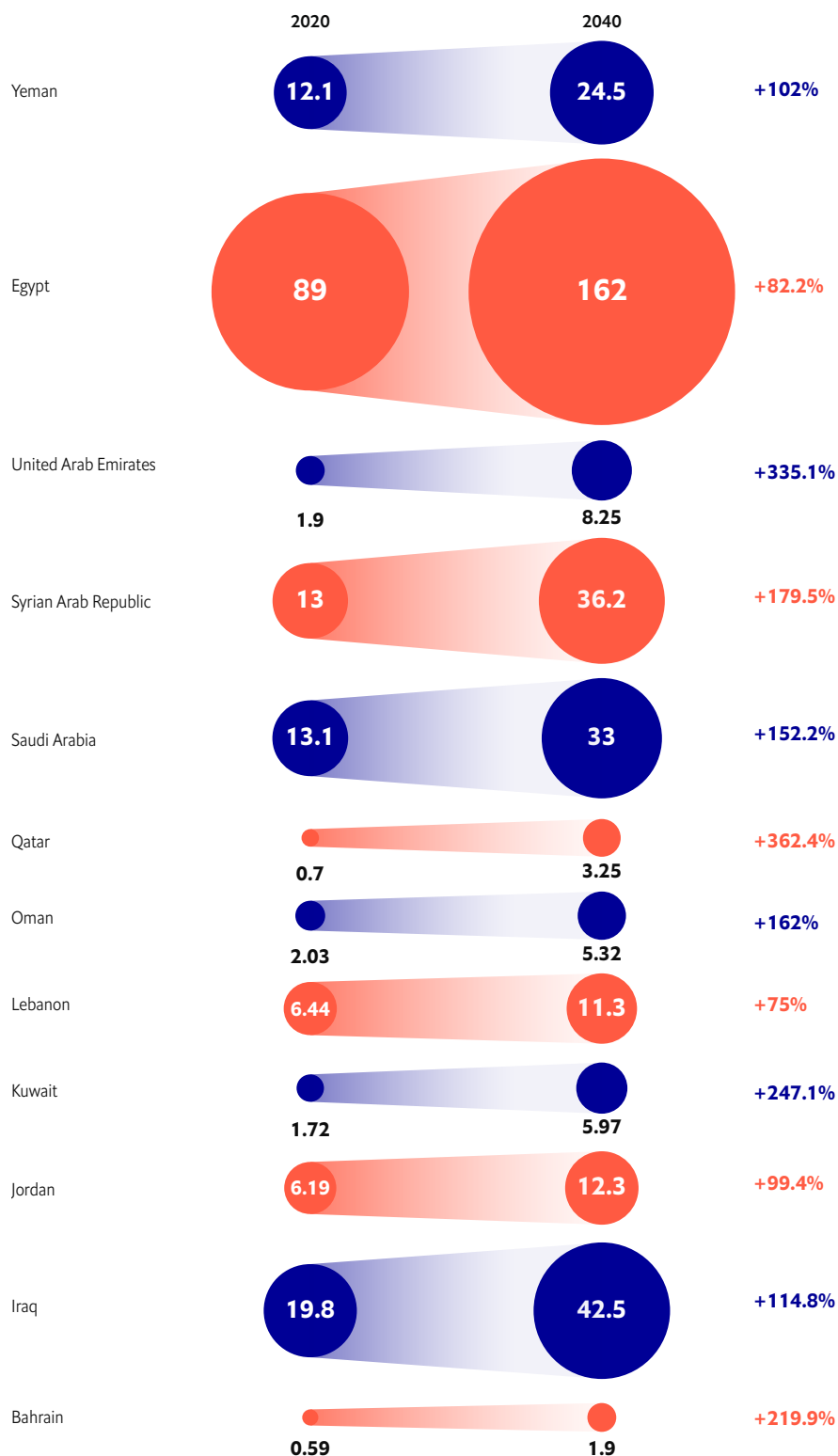
Both sexes, age [0-85+], All cancers



Sources: Global Cancer Observatory, 2020²

Figure 2: Estimated number of deaths from all cancers 2020 to 2040, in selected countries of the MENA region (in thousands)

Both sexes, age [0-85+], All cancers



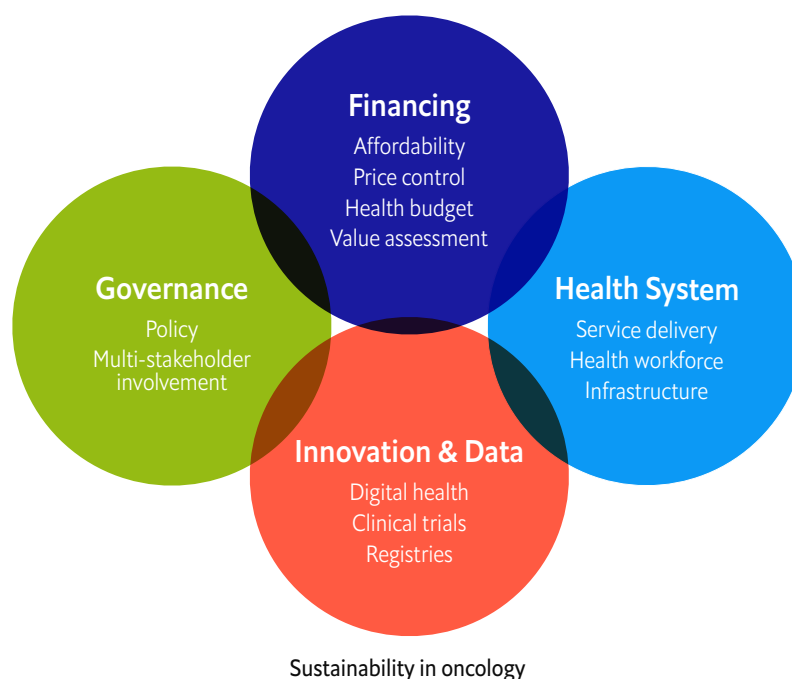
Sources: Global Cancer Observatory, 2020²

While the projected increase in cancer incidence and mortality is attributed mainly to population growth and ageing, greater exposure to risk factors, such as tobacco use, air pollution, unhealthy diets and physical inactivity, also plays a significant role.⁴ Almost 50% of adults in the WHO EMR region are overweight; in 70% of the countries, at least one in four is obese.¹⁵ A high body mass index (BMI) increases the risk for a number of health complications, including high blood pressure, cardiovascular disease and type 2 diabetes, as well as liver and colorectal cancer, especially among males, and breast cancer among females, thereby resulting in significantly higher pressure on health systems.⁴ The prevalence of smoking, the leading risk factor for lung cancer, is particularly high among males in the MENA region, exceeding 30% in the majority of countries and 40% in Egypt, Lebanon and Kuwait.¹⁶

A conceptual framework

For stakeholders to develop a more comprehensive understanding of the dynamics of sustainable oncology care, it is important for research to offer an integrated, multi-level method to identify which factors have the most impact, given particular local factors. Our research deployed a mixed-methods approach by engaging world-renowned experts and an in-depth systematic analysis to understand the intricacies of how each internal, external and multi-level factor influences the development of a sustainable health system in oncology. Following this multifactorial analysis, our team developed an evidence-based conceptual framework that illustrates different influential factors that can impact sustainability (see *Figure 3*). In the rest of this report, we will investigate each pillar of sustainability in oncology in greater detail, and offer insights on what countries need to prioritise in order to create a sustainable future for cancer care.

Figure 3: Pillars of sustainability in oncology care



Health system

Sustainability in oncology care requires robust health systems that can adapt to evolving population demographics and demands and still deliver optimal patient outcomes across the entire patient journey, from prevention and diagnosis to treatment and follow-up.

Service delivery

The diversity of the MENA region in terms of population size and density, as well as economic and political systems, means that provision of, and access to, quality cancer care vary greatly across the region. These disparities are particularly evident in the cancer survival rates between high-income and low-income countries and in their national health system priorities. In high-income Gulf Cooperation Countries (GCC) countries, where access to and quality of care are generally high, there is a strong focus on strengthening local

capacities and adopting innovation. In other countries in the region, political instability and regional conflicts have forced many governments to focus on crisis management with limited resources to invest in the long-term sustainability of health systems. “The region is facing a lot of challenges. More than half of our countries are in conflict, acute or protracted crisis. This has created a situation where there’s definitely resource shortages or competing priorities, be they financial or human resources,” explains Dr Lamia Mahmoud, Regional Adviser, Noncommunicable Diseases Prevention (NCP) programme and Cancer Focal point at the WHO Eastern Mediterranean Office.

Despite the heterogeneity, healthcare policymakers and providers in the region have several challenges in common. These include increasing pressure on health services due to growing healthcare demands and demographic changes, a rising burden of chronic diseases and a shortage of healthcare workers.¹⁷ Addressing inefficiencies in service delivery today is vital to safeguarding the quality of cancer care and to allowing health systems to adapt to the evolving needs of the region for the benefit of patients and society.

For many MENA countries, the approach to NCDs management is largely curative rather than preventive, leading to increasing healthcare costs and poor patient outcomes.³

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Dr Lamia Mahmoud, Regional Adviser, Noncommunicable Diseases Prevention (NCP) programme, Cancer Focal point, Regional Office for the Eastern Mediterranean, WHO

According to Dr Mahmoud, “There are many lost opportunities to identify cancers early”, which leads to a greater need to strengthen cancer screening across the region. “It’s very important to look at the patient journey as a whole, not just the treatment phase,” adds Majed Mohamed Ibrahim, Head of Advocacy & Scientific Affairs, Friends of Cancer Patients (FoCP), a patient advocacy organisation based in the UAE. The financial crisis in Lebanon has also had an impact on screening and early diagnosis. “While we see breast cancer campaigns everywhere, third-party payers are not covering screening. People need to pay out of pocket now, so they don’t want to do it. They are not coming to their regular visits,” explains Dr Marwan Ghosn, Chairman, Haematology – Oncology Department at the Faculty of Medicine, Saint-Joseph University, Lebanon.

Following the Salalah Declaration on Universal Health Coverage (UHC) in 2018, many countries in the region are moving towards strengthening health systems to achieve UHC.¹⁸ UHC is specifically referred to in Sustainable Development Goal 3 (SDG3), and contributes to the achievement of other SDGs as well. Progress towards UHC is highly variable, and there is no regionally shared vision of how UHC should be funded or implemented (see *Table 2*). Although primary healthcare is widely recognised as being at the core of UHC, it is still not a priority in many MENA countries, where resources are focused on secondary and tertiary care.¹⁹

Reforming healthcare financing systems is essential to achieving UHC, enhancing equitable access to health services, and extending financial protection to citizens. Given the diversity in population dynamics, health systems, and income levels across the region, approaches to achieving UHC will necessarily vary with regards to risk-pooling mechanisms and the utilisation of public and private funding sources. In GCC countries, financing reforms are taking place in response to rising healthcare demands from an ageing population, the growing burden of NCDs, and a need to rationalise public expenditure and increase private sector involvement in all sectors of the economy.¹⁹

As part of its “Vision 2030” blueprint, Saudi Arabia aims to create alternative sources of income and increase private sector participation in the economy, with healthcare identified as a key growth area. Saudi Arabia aims to achieve UHC through a combination of free public healthcare and mandatory cooperative health insurance. Private health insurance is now compulsory for expatriates and Saudi nationals (and their dependents) working in the private sector, with further moves expected to increase private insurance for public sector employees.²⁰





In Qatar, the Healthcare Services Law, introduced in 2021, aims to provide high-quality care for all Qatari nationals and foreign residents in a financially sustainable manner, taking into account the country's shifting demographics and disease profile. The law requires all employers to obtain health coverage from an approved insurer for all expatriate workers and their families, who currently make up 80-90% of the resident population. The law also mandates insurance coverage for tourists and temporary visitors.²¹ In the UAE, financing schemes differ by Emirate (state). In general, employers are responsible for covering the private insurance costs of expatriate employees, whereas citizens are covered by government-funded plans.²²

UHC has emerged as a national priority in Egypt. Healthcare system reform is critical to Egypt's "Vision 2030", the country's national development agenda. According to Dr Ahmed Seyam, Director for Health Economics & Health Systems Research at the Universal Health Insurance Authority (UHIA), UHC has been a subject of debate since the late 1990s. "We had multiple attempts at legislative reform to implement the universal health insurance scheme. While the first two attempts were not successful, the third attempt was [successful]." In 2018, the government announced a new universal health insurance (UHI) system, which will cover all Egyptians when fully implemented over the next 12-15 years.²³

The law created the Universal Health Insurance Authority (UHIA), which has begun merging various insurance pools into a single pool where enrolment is based on the family unit, considerably reducing fragmentation in the healthcare system. Dr Seyam adds that the UHC law will lead to a "reform for the healthcare system, how healthcare services are financed, as well as service provision and accreditation".

Egypt's transition towards UHC has also promoted several initiatives to target the screening and treatment of chronic diseases in the country. The "100 Million Healthy Lives" campaign, considered one of the largest health screening campaigns in the world, was launched in 2014 in response to the high prevalence of hepatitis C, a leading risk factor for liver cancer, and to test and treat other NCDs such as hypertension, obesity and diabetes.²⁴ In 2019, the Egyptian Women's Health Initiative was launched to increase the early detection of breast cancer, with over 34m women screened for breast cancer as of March 2023.^{25,26} The campaign was extended further in 2022 to include early detection and treatment of Hepatocellular carcinoma (HCC) or primary liver cancer.²⁷ Egypt has also introduced a number of initiatives to support tobacco control, including a partial ban on tobacco advertising and increases in tobacco taxes.²⁸

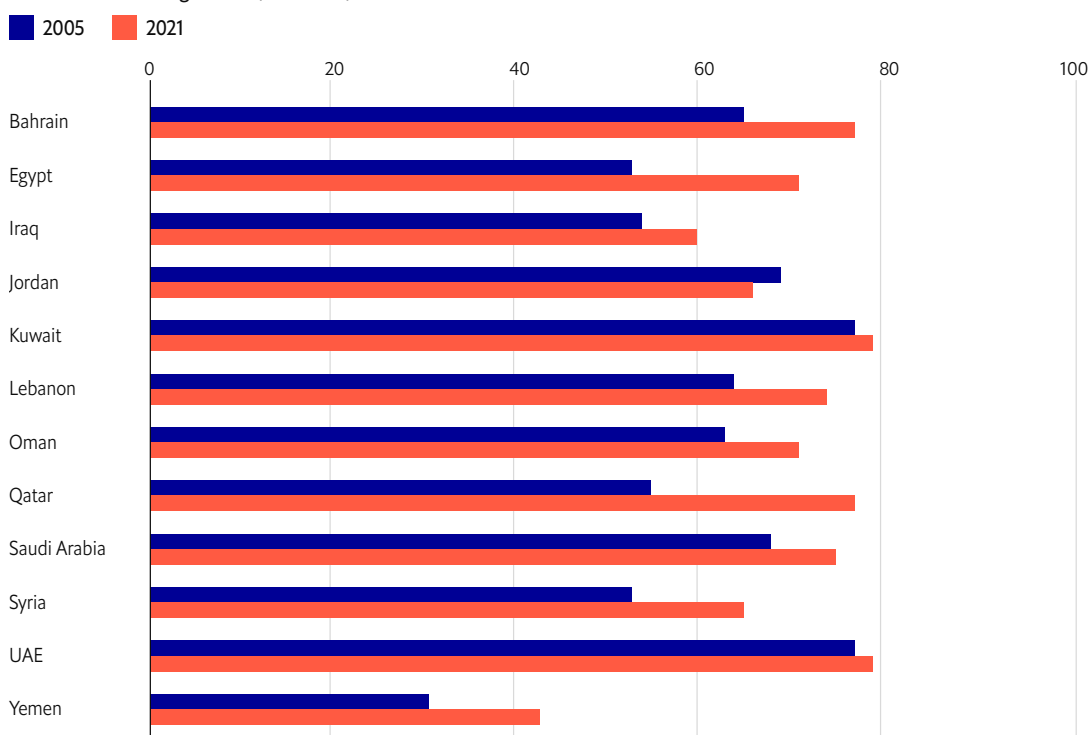
These initiatives mark a transition from curative to preventive care in the country and will help to further reduce pressure on the health system once UHC is fully implemented. “The whole aim of these presidential initiatives is to target specific diseases and provide screening services as well as treatment and curative services for these diseases... as a way of alleviating the burden of these diseases on the population as we gradually implement UHI, so that by the time UHI covers the whole country, most probably there won’t be a need for more initiatives,” says Dr Seyam.

Government and civil society in Jordan have also taken steps to strengthen NCD prevention and care as part of their commitment to UHC, and to improve health equity among refugees and vulnerable Jordanians. One out of 15 residents is a refugee, making the country home to the second largest refugee population per capita.²⁹



Figure 4: Progress towards Universal Health Coverage (UHC) in the MENA region

UHC Service Coverage Index (out of 100)



Source: WHO. The Global Health Observatory. UHC service coverage index (3.8.1). 2021³⁰

Health workforce

Attracting, training and retaining healthcare workers is a challenge across the MENA region, and there is considerable variation in health workforce capacity among and within countries.¹⁷ The mean density of physicians in the MENA region is 1.4 physicians per 1,000 population, which is just slightly below the global average of 1.6. However, physician density in many MENA countries is lower when compared to the averages of countries within comparable income groups. For example, all GCC countries have less than the global high-income average of 3.2 physicians per 1,000 population, ranging from 0.9 in Bahrain to 2.7 in Saudi Arabia (see Table 2).

Disparities based on income level are evident in the availability of radiologists and nuclear medicine specialists per 10,000 cancer patients in the region. While Saudi Arabia and the UAE have over 1,000 radiologists per 10,000 new cancer patients, Lebanon, Egypt and Yemen have fewer than 300. Similarly, the number of nuclear medicine specialists per 10,000 new cancer patients in GCC countries ranges from 31.9 in the UAE and 139.6 in Kuwait to 8.1 in Egypt and 4.6 in Yemen.³¹

Table 2: Healthcare workforce capacity in selected countries in the MENA region

Country	Physicians (per 1,000 population)	Nurses and midwives (per 1,000 population)	Radiologists (per 10,000 new cancer patients)	Nuclear medicine Specialists (per 10,000 new cancer patients)
MENA region	1.4	2.5		
High-income	3.2	11.3		
Bahrain	0.9	2.5		47.7
Kuwait	2.3	7.4		139.6
Oman	1.8	3.9		27.1
Qatar	2.5	7.2		39.7
Saudi Arabia	2.7	5.8	1,114	32.3
UAE	2.6	5.7	1,064	31.9
Upper middle-income	2.1	3.9		
Iraq	1	2.4		4.3
Jordan	2.7	3.3		26.6
Lebanon	2.2	1.7	231	8.7
Lower middle-income	0.8	1.8		
Egypt	0.7	1.9	283	8.1
Low-income	0.4	1		
Syria Arab Republic	1.3	1.5		4.3
Yemen	0.5	0.8	207	4.6

Source: World Bank, Latest available year.^{32,33} WHO Cancer country profile, 2020.³¹

The workforce in GCC countries may be sufficient to manage today's cancer burden; however, it will be unable to keep pace with growing and ageing populations and the resulting increase in the number of cancer patients. GCC countries are also heavily reliant on expatriate healthcare workers. 82% of physicians and 96% of nurses in the UAE are expatriates, while an estimated 85-90% of the medical oncology workforce in Saudi Arabia are non-Saudi.^{34,35}

Many of these expatriate healthcare workers in the GCC are from lower-income countries in the MENA region, exacerbating the workforce shortages in these countries. "After our financial crisis, a huge number of Lebanese left, especially in the healthcare field," explains Dr Ghosn, adding that many Lebanese healthcare workers have moved to GCC countries. "Despite this haemorrhaging, we still have a lot of resources because Lebanon has been very orientated towards education, but still, we are losing a lot of our human resources," he adds. Egypt faces a similar challenge. "Egypt produces almost half of the doctors in the Middle East," says Dr Mohsen Mokhtar, Professor of Clinical Oncology at Cairo University and President of CanSurvive, a patient support programme in Egypt, adding that many locally trained doctors leave Egypt for better pay in the GCC. "Today, we do have enough oncologists to cover patients; however, it is going to become an issue as the incidence of cancer increases," he explains.

"Today, we do have enough oncologists to cover patients; however, it is going to become an issue as the incidence of cancer increases"

Dr Mohsen Mokhtar, Professor, Clinical Oncology, Cairo University; Managing Director, Cairo University's Center of Oncology and Nuclear Medicine (NEMROCK); President, CanSurvive, Egypt

The challenges in training and recruiting healthcare workers are also more pronounced in rural and conflict settings.

Ongoing conflict in Iraq, Libya, Syria and Yemen has created new health challenges that threaten to reverse the health advances in recent decades with healthcare infrastructure and medical personnel routinely targeted for attack in these countries.¹⁷

There is an urgent need for investment in human resource planning, capacity-building and training across the region. An effective cancer care system requires a wide spectrum of health specialities. Providing well-structured oncology training programs for physicians and nurses, as well as better integration across the spectrum of care, will help ensure continuity of care and appropriate support to patients and their families while reducing costs and expanding access to services, particularly in lower-income countries.³⁶ "There's been a good move in increasing nursing across the region, but still, it's not enough to meet the needs of our region," Dr Mahmoud explains, adding that investment in training and policies to support task-shifting are also essential. "I see many countries trying to improve their postgraduate training to address those needs, specifically for oncology. So it's not only in terms of numbers but also in terms of the qualifications or specialisations needed."

Infrastructure

Robust and reliable healthcare infrastructure is the foundation for the effective and efficient delivery of high-quality care, and critical to successfully implementing new technologies and medical treatments in oncology care. The increasing burden of cancer in the MENA region will inevitably require an upgrade and scale-up of infrastructure and equipment, as well as careful planning to manage resources for the future.

In many MENA countries, health infrastructure and services are concentrated in urban areas. While this may be a minor barrier for smaller, densely populated countries such as Kuwait and Qatar, such centralised services will be harder to access in larger countries such as Oman and Saudi Arabia, as well as in countries where travel may be disrupted due to conflict.¹⁷

Infrastructure for primary care, homecare and community-based services is under-developed across many countries in the region, driving patients towards secondary and specialised healthcare services, often increasing costs and leading to late diagnosis and treatment.⁴ There is also a need to strengthen the infrastructure for palliative care, which is currently not available in over 60% of countries in the EMR.⁴ “When you offer palliation, you improve patient satisfaction, the need for hospitalisations and admissions is

“When you offer palliation, you improve patient satisfaction, the need for hospitalisations and admissions is less, and therefore it’s a way also to reduce the costs in healthcare.”

Dr Lamia Mahmoud, Regional Adviser, Noncommunicable Diseases Prevention (NCP) Programme, Department of Noncommunicable Diseases and Mental Health, Regional Office for the Eastern Mediterranean, World Health Organization

less, and therefore it’s a way also to reduce the costs in healthcare,” says Dr Mahmoud.

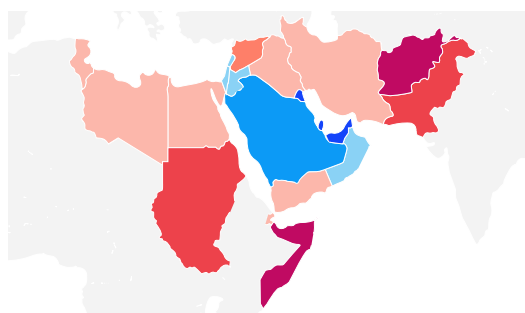
The private sector is also playing a more dominant role in the healthcare provision of many MENA countries to meet increasing demand, fill gaps in coverage, and develop the delivery of certain specialised types of services. While necessary to complement the overstretched public health sectors, this has also resulted in concerns about equity, efficiency and quality assurance.¹⁷

Cancer diagnosis and treatment services in the public sector are reported as available for at least 50% of patients in need on average. Pathology services, cancer surgery, chemotherapy, and cancer facilities at the tertiary level are reported to be widely available in 86% of countries in the EMR; radiotherapy is available in the public sector in almost 70% of countries in the region.³⁷ Availability and capacity of diagnostic and treatment machines reflect regional disparities with significant differences seen in the availability of Computed Tomography (CT) and Magnetic Resonance

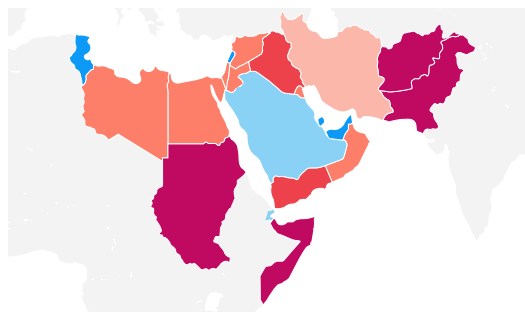
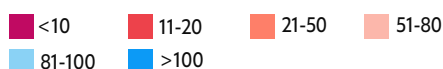


Figure 5: Health system capacity of oncology treatment (equipment) in the MENA region

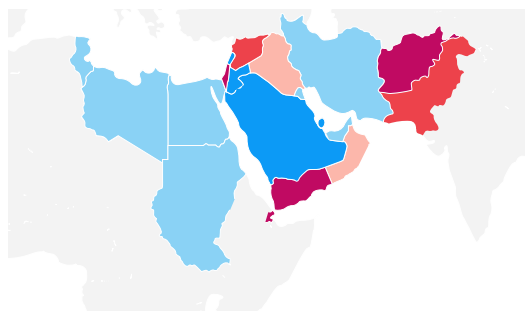
Distribution of CT Scanner devices
(Number of CT scanner per 10,000 new cancer patients)



Distribution of mammography devices
(Number of devices per 10,000 new cancer patients)



Coverage of needs for radiotherapy devices
(1,000 patients need a minimum of one radiotherapy device)



Recent developments and political commitments have led to progress in improving infrastructure for oncology care across a number of MENA countries. Kuwait's "Vision 2030" includes a significant expansion in the infrastructure of the healthcare system and ambition for the Kuwait Cancer Control Center (KCCC) to be the largest cancer centre in the Middle East with more than 680 beds.³⁸ In Qatar, there has been widespread development in healthcare infrastructure following the launch of the National Cancer Strategy in 2011. Investments have included a specialist palliative care unit and advancements in the availability of stem cell therapies and precision medicine.³⁹ While in Oman, cancer services are largely centralised at the National Oncology Centre in the Royal Hospital in Muscat, satellite clinics have been created to increase access to treatment and facilitate follow-up care for cancer patients.⁴⁰

Health financing

Affordability

Providing affordable healthcare is a challenge for all countries in the region as new therapies are developed and resource demands increase. Given the disparities in healthcare access and outcomes, developing equitable solutions to increase access to care for vulnerable populations is a critical health goal. “Is it affordable? Nobody can afford cancer,” says Dr Mokhtar “Financial hardship is an issue in our region because not all population groups have access to insurance systems or insurance schemes, and therefore it’s not easy for everyone to access cancer care,” adds Dr Mahmoud.

“Is it affordable? Nobody can afford cancer.”

Dr Mohsen Mokhtar, Professor, Clinical Oncology Cairo University; Managing Director, Cairo University’s Center of Oncology and Nuclear Medicine (NEMROCK); President, CanSurvive, Egypt

Healthcare coverage and out-of-pocket (OOP) spending vary significantly across the MENA region. In countries that do provide full, or nearly full, coverage, many patients still face long waiting times for treatment. In some countries, essential oncology medicines are not available for more than half of the patients.⁴⁰

A wide disparity and lack of equity in terms of OOP spending on healthcare is particularly problematic in the MENA region. The rate of OOP spending as a percentage of total healthcare expenditure (THE) in high-income countries ranges from 4.7% in Oman to 26% in Bahrain, as compared to 44% in Lebanon, 59% in Egypt and over 80% in Yemen. As a result of surging inflation, OOP costs are also significantly higher in Lebanon, as compared to other countries in the region, at US\$440 per capita (see *Table 4*).⁴ Currency devaluation in Lebanon, currently at over 98% since 2019, is causing unprecedented financial hardship and challenges in accessing cancer care.^{41,42} Purchasing power is significantly reduced, resulting in a shortage of cancer medicines, often forcing cancer patients to import, ration, or substitute their medicines to continue treatment.⁴³ Egypt faces a similar challenge, with a devaluation of the Egyptian Pound by over 50% in the past year, resulting in financial stress for Egyptian patients where OOP spending is particularly high.⁴⁴

Many cancer patients across the MENA region rely on financial support from NGOs and patient organisations. “In Egypt, we have NGOs that sponsor treatment. Patients are taken on a case-by-case basis, depending on age, whether the cancer is curable or not, as well as many other things,” says Dr Mokhtar.

Speaking about the situation in Lebanon, Dr Ghosn adds, “Currently, the people who are living in Lebanon are supported by two groups. They are supported by the NGOs, and they are supported by the Lebanese living outside Lebanon.” However, this financial support can be limited and short-term, as Mr Ibrahim explains when speaking about the work of FoCP in the UAE, which provides financial support largely to expatriates living in the country to help them access cancer treatment, “Patients often need to approach various charities which can create a lot of anxiety and fear that they might not be able to get the full support needed to cover treatment,” he adds.

The cost of cancer also extends beyond medical and treatment expenses, impacting the social and economic situation of patients, their families and society. Many patients are out of work during cancer treatment, so “daily expenses and commitments towards housing, family and school fees accumulate, and this can negatively impact patient’s health due to the inability to afford treatment expenses,” says Mr Ibrahim.

Regulatory reforms, infrastructure developments and more efficient resource allocation have helped improve the registration and market access timelines of new medicines in the UAE, Saudi Arabia and Egypt. On the other hand, political instability and budget constraints, impacting regulatory and reimbursement processes, have contributed to slower access to new medicines in Lebanon. The average time to registration following approval by the United States Food and Drug Administration (FDA) or the European Medicines Agency (EMA) has reduced from 2.5 years to 1.5 years in the MENA region over the past five years. While some countries have introduced new processes for faster processing of applications, prior approval from the FDA or EMA is typically required.⁴⁵

The UAE ranks among the world’s fastest for new drug approvals, including multiple cancer medications, with local registration for new medicines taking less than six months, compared to one-year period in Kuwait, 1-1.5 years in Saudi Arabia and nine months to over two years in Egypt.⁴⁵ Saudi Arabia offers priority registration for medicines that address unmet need, and attempts to expand the pathway for cancer medicines are reportedly in development.⁴⁶ Recently, Egypt has also adopted a number of fast-track regulatory mechanisms to expedite new drugs already approved by the FDA or the EMA. Reforms to the Egyptian Drug Authority (EDA), which began operating as an independent regulatory body in 2020, have also helped to consolidate and speed up registration procedures for new medicines in the country.⁴⁷

While regulatory reforms are helping to improve registration timelines and availability of new medicines, affordability challenges remain, which highlights the need for strategies that improve access to cancer treatments, financing mechanisms, and social support for patients.





Price control

While advances in cancer drugs and therapies promise improved cancer survival rates and patient outcomes, they also create challenges for affordability, equity and sustainability. Most cancer medications launched between 2009 and 2014 cost upwards of US\$100,000 per year, while the price tag for recently approved Chimeric antigen receptor (CAR) T-cell therapies may cost up to US\$500,000 per treatment.⁴⁸ Making cancer treatment more affordable is crucial for promoting equity in healthcare. Price control mechanisms can effectively achieve this goal by minimising the financial barriers to access for the most vulnerable patients.

Many of the current pricing and reimbursement systems in the MENA region rely on the use of external reference pricing (ERP) and tendering processes. Alternative pricing and reimbursement mechanisms are being explored, particularly among GCC countries, as many transition to value-based healthcare financing approaches that link patient outcomes to payment and reimbursement.⁴⁹ In Qatar, an interdisciplinary panel, the Qatar Oncology Health Economics Expert Panel (Q-OHEP), has been convened to establish a base for evaluating and accelerating access to novel oncology medications.⁵⁰

There are no regional mechanisms or agreements to procure oncology medicines, which could help reduce prices of drugs, particularly for countries with smaller populations.⁴⁰ However, there have been national efforts within some countries to strengthen bargaining power. For example, the National Unified Procurement Company

for Medical Supplies (NUPCO) in Saudi Arabia will serve as the universal agent to purchase medications, including for cancer.⁵¹

A number of countries in the region, including Egypt, Jordan, Lebanon, Saudi Arabia and the UAE, are expanding the use of approved generics and biosimilars in an effort to improve cost-effectiveness and support access to affordable care.³⁵

Developing local pharmaceutical manufacturing capabilities is a long-term focus for a number of countries in the region, including Saudi Arabia, Egypt, UAE and Oman. The region is highly dependent on imported pharmaceuticals and medical goods – for example, Saudi Arabia imports 100% of biological medications and 95% of active pharmaceutical ingredients.⁵² The covid-19 pandemic and the disruption to global supply chains further emphasised the need for local production and self-sufficiency.⁵³ Incentives encouraging foreign direct investment (FDI) and local manufacturing include expedited regulatory approval, registration and licensing, and favourable reimbursement. Saudi Arabia offers priority review vouchers and a reduced registration time, while Egypt provides better pricing for locally manufactured medical products. The development of local pharmaceutical manufacturing capacity is both a health security issue and an economic necessity. Localisation would reduce import costs and help innovative medicines reach patients faster, addressing unmet healthcare needs while also supporting local research and development (R&D), labour force development and access to an export market in neighbouring countries.⁵³

Health budget

Sustainable financing of cancer care requires adequate funding from the government and other stakeholders. In the MENA region, healthcare spending per capita in most countries is lower than global averages, partly reflecting a younger demographic. As populations grow and age in the coming decades, healthcare budgets will necessarily come under increasing pressure. “We need to start making the government realise that by spending more on health now, there’s a revenue for that and a return on investment. And this is where we also have to start shifting priorities from providing treatment to preventing cancer,” says Imad El Hajje, Public Relations & External Affairs Team Leader at the Children’s Cancer Center of Lebanon (CCCL).

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Imad El Hajje, Public Relations & External Affairs Team Leader, Children’s Cancer Center of Lebanon (CCCL)

Health expenditure data suggests that health is not a priority for many regional governments, with some countries under-investing in health despite having the fiscal capacity to do so. Healthcare spending in GCC countries, at between 4.2% of GDP in Qatar and 6.3% of GDP in Kuwait, is significantly below the average for high-income countries (14%).

While the gap in spending may also reflect younger population dynamics, the disease burden will increase as populations grow and age in these countries, increasing healthcare demand and costs. In low- and middle-income countries in the region, financial protection is low, with generally high OOP spending compared to countries of a similar income level in other parts of the world. Unrest, instability and insecurity amplify the effects of OOP spending in these countries, increasing the risk of financial hardship and catastrophic health expenditure for cancer patients.



Table 3: Health expenditure and the burden of out-of-pocket (OOP) spending in the MENA region, 2020

Country	Current health expenditure (CHE) as % of GDP	Current health expenditure (CHE) per Capita (US\$)	Out-of-pocket (OOP) spending as % of current health expenditure (CHE)	Out-of-pocket (OOP) spending per Capita (US\$)
MENA region	5.9%	470	30%	141
High-income	14%	6,180	12.1%	750
Bahrain	4.7%	1,110	26.5%	295
Kuwait	6.3%	1,532	9.1%	140
Oman	5.3%	845	4.7%	39
Qatar	4.2%	2,188	9.5%	207
Saudi Arabia	5.5%	1,291	15.9%	205
UAE	5.7%	2,192	11.2%	246
Upper middle-income	6.1%	570	30.9%	176
Iraq	5%	202	44.8%	91
Jordan	7.5%	299	30.2%	90
Lebanon	8%	994	44.2%	440
Lower middle-income	3.9%	99	45.6%	45
Egypt	4.3%	151	59.3%	90
Low-income	5%	37	39.8%	15
Yemen**	4.2%	63	81%	51

Source: WHO. Global Health Expenditure database, 2020 (*2018 **2015).
CHE - Current Health Expenditure; GDP – Gross Domestic Product; OOP - out-of-pocket.

How and where budgets and resources are allocated impacts the cost of care and patient outcomes. The stage of cancer diagnosis is a predictor of cost and resource utilisation, as patients at more advanced stages require more intensive treatment. A 2021 study looking at the economic burden of different stages of breast cancer in Saudi Arabia found that the average cost of treating breast cancer increased from approximately US\$14,000 per patient in stage 1 to over US\$80,000 per patient in stage 4, with medication being the main driver, accounting for 80% of the costs in stage 4.⁵⁴

Exploring additional sources of financing, such as “sin taxes” on tobacco, alcohol and unhealthy food and beverages, may help governments reduce the burden of NCDs while also supplementing healthcare budgets.⁴ For example, Egypt’s UHI system will rely mainly on public sources of funding, which include earmarked taxes on tobacco.⁵⁵

Value assessment

Value assessment is an essential element in developing value-driven payment mechanisms and supporting innovation sustainably. Health Technology Assessment (HTA) plays an indispensable role in the transition to value-based care by weighing financial costs against the expected impact of health interventions to make informed and evidence-based decisions. HTA serves multiple purposes, including advising regulatory agencies on technology authorisation and use, assisting payers with coverage decisions, guiding clinicians and patients on the appropriate use of health technologies, and determining dis-investment in inefficient treatments.

Institutionalisation of HTA has already been initiated in several MENA countries. In Saudi Arabia, a HTA centre under the Ministry of Health has been established to support mandatory HTA for high-cost drugs.

HTA programs have also been initiated at the Drug Policy & Economics Centre under the Ministry of National Guard Health Affairs as part of the 2020 National Transformation Program. Jordan introduced a hospital-level HTA unit at the King Hussein Cancer Centre (KHCC). The Centre for Drug Policy and Technology Assessment at KHCC is responsible for conducting HTAs with the findings utilised to support formulary listing decisions.⁵⁶

“No coverage or reimbursement decision for any innovative technology [in Egypt] will be taken without a full economic valuation,” explains Dr Seyam. Advancements in HTA implementation in Egypt have followed the enactment of UHC law. The law mandates the representation of health economists in the governing boards of the new UHIA and the establishment of an HTA unit within the payer body.⁵⁷ According to Dr Seyam, “providing key guidance on the most effective and cost-effective health technologies is a critical tool for achieving UHC”.





Implementation of HTA is still in the early stages in many countries in the MENA region. However, a 2020 survey of regional health policy experts revealed that a majority expect significant progress towards HTA implementation over the next ten years. Funding, capacity-building, data availability, legislation and stakeholder collaboration are among the largest barriers to HTA development.^{56,58}

With multiple countries in the MENA region on the path towards HTA implementation, regional harmonisation of these efforts may be helpful. While cost-effectiveness thresholds will vary depending on resources, there could be common approaches to evaluating risks and benefits. The European Network for Health Technology Assessment (EUnetHTA), for example, was established in 2006 to enhance collaboration among the 50+ HTA agencies, research institutes, and health ministries to reduce duplication and delays in access to medication. The network has supported economies of scale, particularly in smaller countries with fewer resources.⁵⁹

Sub-regions in Europe, where health system financing and dynamics may be more similar, have also established their own joint networks. For example, FINOSE is a collaboration between three Nordic countries, Norway, Sweden and Finland, to jointly assess cost-effectiveness and the health and economic impact of new treatments.⁴¹

The HTA process is also complex, partly because of a lack of shared understanding among policymakers, providers, payers, manufacturers, patients, and other stakeholders of what makes a health technology “valuable”. Depending on the perspective, value may be interpreted as cost reduction, improved safety, clinical outcomes, quality of life, or other aspects relative to the patient experience – some of which can be difficult to quantify. Implementation of HTA also requires a gradual shift in policymaking towards an environment that is more transparent, collaborative, and consultative, and that is supportive of innovation and investment.

Governance



“We need governments to rearrange their priorities. We need them not just to create policies, but to implement policies for them to actually be effective.”

Imad El Hajje, Public Relations & External Affairs Team Leader,
Children’s Cancer Center of Lebanon (CCCL)

Policy

When implemented well, National Cancer Control Plans (NCCPs) have measurable returns for system efficiency and patient outcomes. In a global review of NCCPs, instituted between 2000 and 2015, there was a statistically significant reduction in the number of male smokers and an uptake in breast cancer screening in countries with an NCCP compared to those without one. Furthermore, countries that implemented governance elements in their NCCPs recorded better cancer survival rates.⁶⁰

Although there has been significant progress in the cancer policy landscape over the past decade, almost half of the WHO EMR countries, do not have an operational NCCP. Even in countries with operational plans, progress towards implementation has been slow due to a lack of political commitment, weak governance structures, and insufficient human and financial resources.⁴ Political instability and conflicts affecting over half of the countries in the region have also adversely impacted cancer care planning and implementation.⁴⁰ “We need governments to rearrange their priorities. We need them not just to create policies, but to implement policies for them to actually be effective,” says Mr El Hajje.

Table 4: The availability of Non-Communicable Disease (NCD) plans and National Cancer Control Plans (NCCPs) in selected countries in the MENA region

Country	Integrated NCD plan	NCCP
Bahrain	Operational	No standalone plan*
Egypt	Operational	Operational
Iraq	Operational	Last standalone operational NCCP 2010 – 2014
Jordan	Not in effect	Under developed (covers breast cancer only)
Kuwait	Operational	Last standalone operational NCCP 2013-2018*
Lebanon	Operational	NCCP 2023-2028**
Oman	Operational	No standalone plan*
Qatar	Operational	Operational*
Saudi Arabia	Operational	Operational*
UAE	Operational	Standalone plan in progress*
Yemen	No	No

Source: Global Health Dynamics Limited. Eastern Mediterranean NCD Alliance. Cancer Control. Eastern Mediterranean Region Special Report. 2022.

*There is a GCC Joint Cancer Control Plan 2016-2025, however Qatar and Saudi Arabia also have a standalone up-to-date NCCP

**Republic of Lebanon. Ministry of Public Health. National Cancer Plan 2023-2028.⁶¹

Snapshot of NCCPs in select countries in the MENA region

- Egypt's National Multisectoral Action Plan for Prevention and Control of Non-communicable Diseases, initiated in 2018, aims to achieve a 15% reduction in premature mortality from NCDs by decreasing the exposure to risk factors and improving early detection and effective treatment of diseases. The plan also focuses on improving the National Cancer Registry Program of Egypt.⁶² A national cancer committee was created to develop and implement an NCCP, introduced in 2016, as well as aid in the development of national diagnosis and treatment guidelines.^{40,63}
- Saudi Arabia's NCCP 2014-2025 covers specific targets and indicators to support preventive and palliative care, patient-centred care, and a continuous cancer care service from the government. The plan also supports multi-stakeholder involvement in implementation and the allocation of financial resources.⁶⁴
- As of 2022, the UAE does not have an NCCP; however, one is reportedly in the works, led by the Ministry of Health and Prevention (MOHAP), in line with the regional WHO framework. The proposed plan will focus on improving public health education and workforce training, prevention, early detection, prompt diagnosis, treatment, continuity of care, performance evaluation, and research.⁶⁵

- Lebanon announced a 5-year National Cancer Plan in 2023. While the plan is still in the preparation phase, it is expected to be operational by 2025. The plan serves as a blueprint for oncology care in Lebanon and aims to address poor prevention, late diagnosis, and access to palliative care while also improving adherence to evidence-based guidelines, investment in research and technology, and sustainable financing solutions for cancer patients and their families.⁶¹

Priority areas for cancer policy and planning in the EMR include strong governance, integration with primary healthcare to support preventive and early diagnosis activities, close collaboration with health and non-health sectors, as well as alignment of NCCPs to national and local priorities with clear targets and budget allocation.

Multi-stakeholder collaboration

National cancer control policies, plans and guidelines should be developed collaboratively and engage all stakeholders involved in cancer care, including regional municipalities, civil society organisations and advocacy associations. These organisations play an essential role in raising awareness, reaching vulnerable populations, capacity-building, responding to local population needs, and holding policymakers accountable. "The engagement of other sectors beyond health is important to sustainability. We know that it's not only health who plays a role, other sectors also have a huge role to play," says Dr Mahmoud.

While patient advocacy groups have been traditionally scarce in the MENA region, there are numerous groups and associations cropping up across the region playing a pivotal role in raising awareness and bridging the funding gap for cancer patients to access care.

“The engagement of other sectors beyond health is important to sustainability. We know that it’s not only health who plays a role, other sectors also have a huge role to play.”

Dr Lamia Mahmoud, Regional Adviser, Noncommunicable Diseases Prevention (NCP) programme, Cancer Focal point, Regional Office for the Eastern Mediterranean, World Health Organization

Snapshot of patient advocacy activity in select countries in the MENA region

- In Jordan, the King Hussein Cancer Foundation plays a key role in the cancer control agenda and regional capacity-building programmes. Efforts by the foundation to improve early diagnosis of breast cancer has helped to reduce the proportion of late stage diagnosis from 56% in 2005 to 23% in 2009.⁴
- UAE-based organisation, Friends of Cancer Patients (FoCP) provides both financial and social support for patients with cancer and their families.⁶⁶ The patient advocacy group has also led awareness, prevention and screenings campaigns, including the “Pink Caravan” campaign for breast cancer and cervical cancer, “Shanab” for prostate and testicle cancer, and other initiatives for skin cancer and childhood cancer awareness.⁴
- In Saudi Arabia, the Saudi Cancer Society, a non-profit organisation, provides an array of philanthropic services, including social services, health awareness programs, and support programmes for patients, and training for healthcare workers.⁶⁷ Other organisations in Saudi Arabia include the Zahra Foundation, which raises awareness on breast cancer and provides support to patients and survivors, and Sanad Children’s Cancer Support Association, which is a non-profit that provides financial support to children’s cancer centres in the country and support services to families.⁶⁸

- In Kuwait, the Hayatt Association provides funding for cancer treatment and for outreach through Kuwait’s Cancer Centre. The association also aims to provide chemotherapy and other support services at no cost to expatriate cancer patients.⁶⁹
- The Children’s Cancer Center of Lebanon (CCCL) funds cancer treatment for almost 50% of children with cancer in Lebanon and refugees from neighbouring countries. The CCCL also hosts education sessions for paediatricians to improve early cancer detection.⁴

While civil society and patient organisations have an active role across the MENA region in funding cancer care and research, providing support to vulnerable groups and leading awareness campaigns, they are not always engaged by policymakers.⁴ Advocacy and patient support groups play a pivotal role in ensuring that the patient voice is represented in the development of policies and guidelines so that they more effectively address the needs of those directly affected. “It’s important to engage people living with NCDs, those with lived experience. I think they should be sitting around the table because they know what works and how it can work,” says Dr Mahmoud. “Hearing from the patients is very important today, more than ever”, adds Mr Ibrahim saying, “Patients need to be meaningfully engaged when it comes to policymaking, taking into consideration their needs and their perspectives.”

“Patients need to be meaningfully engaged when it comes to policymaking, taking into consideration their needs and their perspectives.”

Majed Mohamed Ibrahim, Head of Advocacy & Scientific Affairs, Friends of Cancer Patients (FoCP), United Arab Emirates

Innovation and data

Deficiencies in cancer policy and planning are attributable, in part, to a scarcity of data, which often results in misdirected priorities, investments and resources. There is an urgent need for improvement in data generation and accessibility across the MENA region.⁴⁰ High-quality local research is also needed to inform policy and for the development of national cancer programmes. Although research output in oncology, and in health in general, is disproportionately low across the MENA region, as compared to global averages, there are ongoing efforts to change the situation. Saudi Arabia, Qatar, Egypt, and the UAE, for example, have launched their own human genome projects. These initiatives aim to enhance knowledge of the genetic profile and distribution of cancer of their populations while also supporting the development of personalised medicines that address the specific needs of their people.⁷⁰

Digital health

The level and speed of adoption and integration of health information systems (HIS) varies across the MENA region. Well-functioning, inter-operable HIS supports the effective implementation of cancer screening programmes and generates real-time data to support more effective evaluation of NCCPs. While the GCC states are generally more advanced in implementing HIS, some face challenges in maintaining

cancer-related statistics, particularly among expatriates, and integrating data between national data repositories.³⁵

In the UAE, the National Unified Medical Record (NUMR) platform, Riayati, now connects and integrates patient medical records from all public and private healthcare facilities. The platform is expected to contribute to the sustainability of the UAE healthcare system by improving preventive care through better disease surveillance, reducing health system costs through greater service efficiency, and generating data to support further digital health developments, including advanced analytics and Artificial Intelligence (AI).⁷¹ Saudi Arabia has also made progress in the development of national electronic health records to improve access and equitable geographical distribution of health services. One of their Vision 2030 goals is to have 100% of the population covered by the unified digital medical records system by 2025.⁷² Telemedicine is also important to the future of health service delivery in the country. To this end, the Saudi Telehealth Network initiative is working to enhance the quality and cost-effectiveness of telecare, particularly in rural and remote areas. The country's Cooperative Health Insurance Law also mandates the coverage of telemedicine services.

The government of Egypt is working with the Ministry of Health and Population (MOPH) and the Ministry of Communications and Information Technology (MCIT) on several electronic health (e-Health) programmes to enhance and improve healthcare services as part of Egypt's Vision 2030 plan.⁷³ One of the programmes, Hayah Kareema (Decent Life), includes developing telemedicine services in remote and under-served areas of Egypt as part of a plan to develop sustainable rural communities. Barriers to implementation include funding, patient awareness and acceptance, legislative frameworks, and capacity-building.⁷⁴

There has been rapid development in the acceptance, use and policies to support telehealth following the covid-19 pandemic. In a region where healthcare facilities and specialised oncology centres tend to be concentrated in large cities, telehealth technology offers huge potential for expanding access and reducing unmet care need, especially in remote areas.⁷⁵

However, the disparities that impact remote and conflict-impacted regions are also present in access to digital infrastructure. The percentage of the population using the internet ranges from 100% of the population in Qatar and the UAE to 72% in Egypt, 66% in Jordan and 27% in Yemen.⁷⁶ For the region to realise the full potential of digital health solutions, addressing areas beyond the health sector to establish the needed infrastructure for telehealth, e-health, and HIS solutions will be critical.

Clinical trials

Clinical trials are fundamental to the R&D process and the development of new medicines, benefiting patients, the health system, and the broader economy. Conducting clinical trials locally is necessary to evaluate the safety and efficacy of drugs in the local population. Increasing clinical trial activity in the MENA region will also support the development of treatments that address the specific genetic characteristics and common diseases of the MENA population and create new routes for patients to access the latest advancements in cancer therapies.

While the MENA region accounts for over 5% of the global population, the region participates in just 3% of clinical trials.⁷⁷ According to data from the US National Library of Medicine's ClinicalTrials.gov, Egypt leads the region in clinical trial activity with a total of 924 registered clinical trials in oncology, followed by Saudi Arabia with 180 and Lebanon with 103. This is compared to a total of 5,563 registered clinical trials for cancer in the United Kingdom.⁷⁸



A number of obstacles impede progress on clinical trials in the region. According to a survey in the UAE, barriers to clinical trials in oncology include a lack of understanding and awareness of the importance of clinical trials, a shortage of research experience among healthcare providers and institutions, limited collaboration between industry, academia and other key stakeholders and complex regulatory requirements.⁷⁰ Other studies also echo low awareness, training, trust and operating procedures as issues holding the region back.^{50,79,80}

Despite these challenges there are ongoing efforts to increase the quantity and quality of clinical trials in the region. In Saudi Arabia, the King Abdullah International Medical Research Center (KAIMRC) has set a goal of increasing the number of patients engaging in clinical trials in Saudi Arabia to 10,000 by 2030.⁸¹ To support this ambition, the Saudi Network for Clinical Trials was established to improve the quality and number of clinical trials, and the Saudi Clinical Trial Enterprise (SCTE) to support collaboration across health and regulator stakeholder groups.⁸²

Egypt leads the MENA region in terms of research output with a higher number of academic publications and clinical trials. Cancer trials account for over half of the country's active drug studies. In response to this clinical research activity, in December 2020, the Egyptian President issued the Regulating Clinical Medical Research Bill. The law establishes the first unified legislative framework for managing clinical trials, provides guidance to stakeholders involved in executing clinical trials, and aims to protect the rights of patients and volunteers in clinical trials.⁸³ The law also outlines the phase

of clinical trials that can be performed in the country. All phases (1-4) of clinical trials are permitted for drugs tested and manufactured in Egypt. Only phase 3 and 4 trials are permitted if drugs are manufactured outside Egypt. While these provisions aim to enhance local capacity-building, they may exclude advanced therapies or technologies that require time, resources and special expertise to develop.⁸⁴

In the UAE, MOHAP is also exploring strategies and regulatory frameworks to support medical innovation and clinical trial activity by establishing the National Center for Health Research (NCHR), which aims to promote and develop national health and medical research and clinical trials capabilities. The 2021 National Health Research Strategy identified innovative cancer therapies as one of the priority research areas.⁸⁵

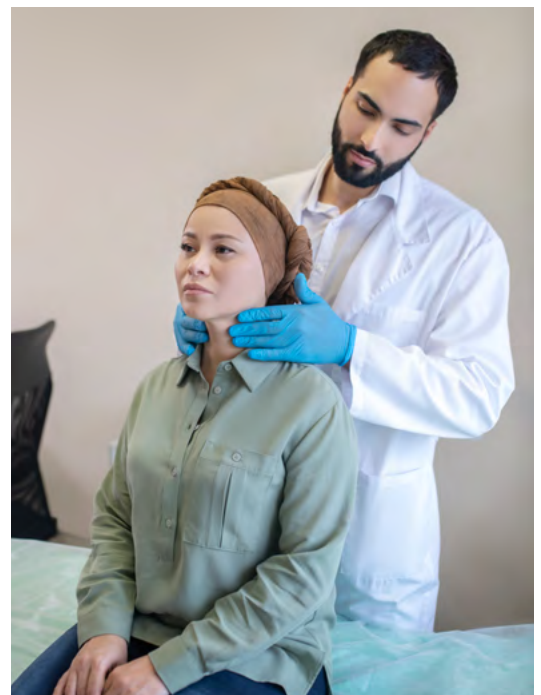
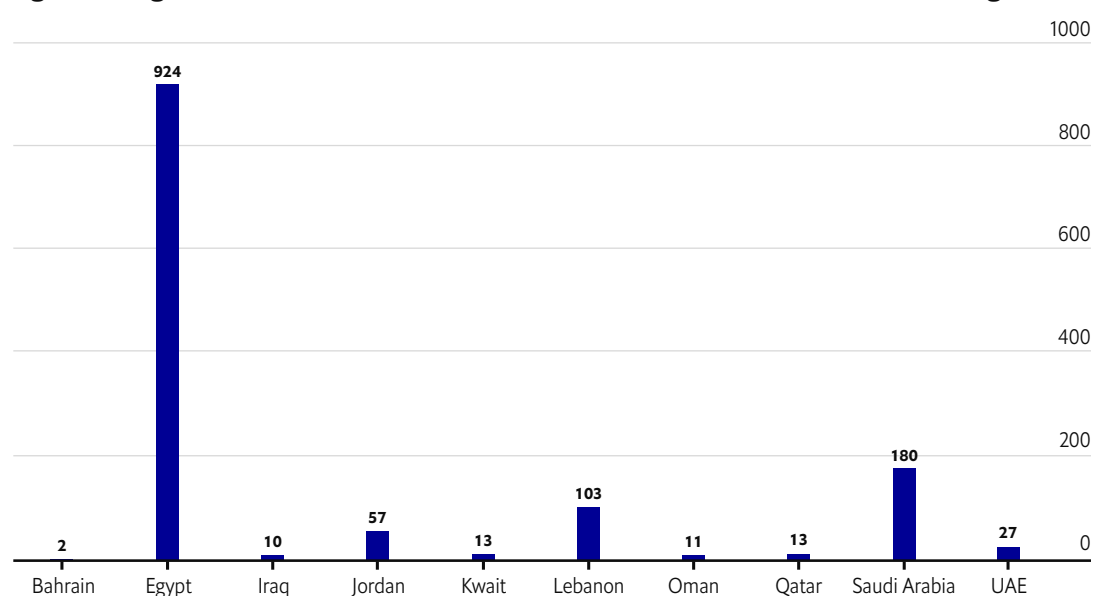


Figure 6: Registered clinical trials for cancer in selected countries in the MENA region

Source: US National Library of Medicine. ClinicalTrials.gov. Accessed May 2023

*Includes multi-site clinical trials.

Registries

The sustainability of oncology care depends on the availability and quality of cancer data to better inform planning and prioritisation, and support regular monitoring and evaluation. Population-based cancer registries (PBCRs), which assess the burden of cancer in a defined population over time, are instrumental to the planning process. “The cancer registry is the key for all kinds of analysis and guides the way for better use of resources. It helps us to identify weaknesses and corrective actions that are built on evidence-based arguments,” says Mr El Hajje. High-quality PBCRs that include survival data can also help countries routinely monitor the effectiveness of treatments and new technologies.

While most countries in the WHO EMR region have PBCRs, not all are of high quality, with challenges ranging from a lack of standardisation to governance and collaboration.⁸⁶ Furthermore, not all cancers are well-documented, and accurate statistics on cancer mortality are very limited. From the PBCRs that do exist, it is unclear how meaningfully data is adopted in cancer control planning and policy. A survey from the region reported that only 46% of countries had used cancer registry data in cancer policy and planning.⁴ “In terms of data systems, countries need to invest in cancer surveillance and their cancer registries because this is what really guides action, and it provides the evidence for decision-makers,” says Dr Mahmoud.

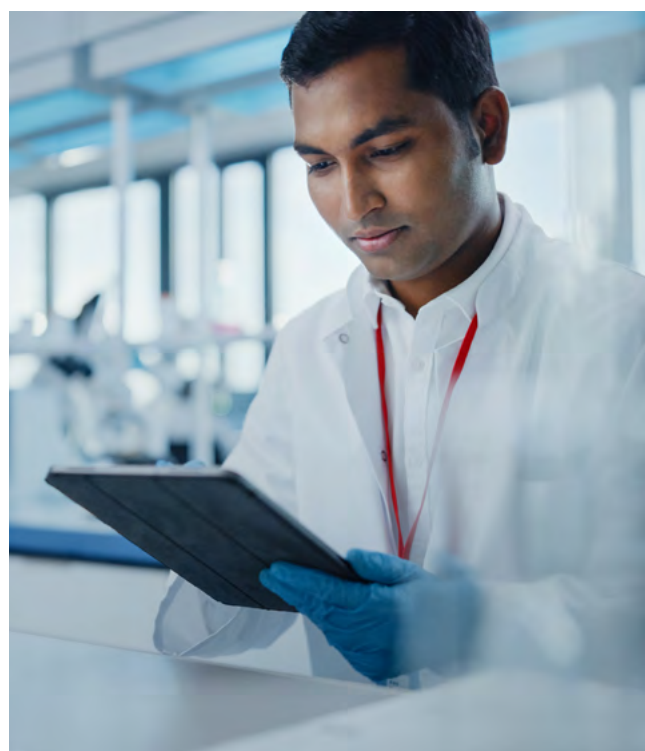
Table 5: Cancer registration and surveillance across selected countries in the MENA region

Country	Availability of population-based cancer registry (PBCR)	Quality of mortality registration (2007-2016)	Available cancer incidence report
Bahrain	High quality PBCR	Low	2014
Egypt	PBCR	Low	2009
Iraq	PBCR	Low	2012
Jordan	High quality PBCR	Low	2016
Kuwait	High quality PBCR	Low	2015
Lebanon	PBCR	No coverage	2016
Oman	PBCR	Very low	2017
Qatar	High quality PBCR	Low	2015
Saudi Arabia	High quality PBCR	Very low	2016
UAE	PBCR	Low	2012
Yemen	No information	No coverage	Not available

Source: WHO. Eastern Mediterranean Region. Cancer Country Profiles. 2020, Fadhil et al., 2021.⁴⁰
Cancer incidence: By type of cancer per 100,000 population.

“We need to focus more on understanding our demographics and what cancers are really problematic for us in Egypt. At the moment, liver cancer is one of the top cancers; however, as our demographics change, lung, prostate and breast cancer will become more prevalent. We need to improve centralised data collection to make sure we have the correct numbers.”

Dr Mohsen Mokhtar, Professor, Clinical Oncology, Cairo University; Managing Director, Cairo University’s Center of Oncology and Nuclear Medicine (NEMROCK); President, CanSurvive, Egypt



Conclusion

While the obstacles to sustainable cancer care are numerous in the MENA region, they are not insurmountable. With a predominantly young population, there is an opportunity to implement changes today to mitigate the imminent rise in cancer incidence and its impact on patients, health systems and society for future generations. Given the heterogeneity of country dynamics and health systems across the MENA region, finding a one-size-fits-all approach to sustainable cancer care is not only impossible but ill advised. However, a number of common integrated policy priorities and interventions will help countries improve access, system sustainability and outcomes.

Scale-up prevention measures – Cancer control starts with prevention. Prevention includes raising awareness of cancer, its signs and symptoms, and measures to target modifiable risk factors, such as tobacco use, physical inactivity, and unhealthy diets, which will simultaneously help to reduce the burden of other NCDs. Civil society organisations should be encouraged to play a bigger role in educating the public and supporting cancer prevention and screening initiatives. Countries should also consider scaling cost-effective prevention measures identified by the WHO as the “NCD Best Buys”, ie, interventions with the most bang for buck, such as tobacco control and the HPV vaccine.⁵

Prioritise screening and early diagnosis –

The majority of cancer patients in the MENA region are diagnosed in the late stages, which increases treatment costs and resources, and compromises health outcomes and survival rates. Directing healthcare spending towards screening should be an immediate policy priority because it will help support early diagnosis, thereby lowering treatment costs, while reducing the cancer mortality rate. Egypt’s “100 Million Healthy Lives” campaign is a good example of prioritising prevention and screening initiatives to target the country’s leading risk factors for NCDs and cancer. Prioritising screening services as part of progressing towards UHC or under the basic insurance package will help to alleviate the financial obstacles to early cancer detection.

Strengthen end-to-end cancer services

across the health system – While tertiary cancer specialist services are available across the region, albeit with varying degrees of capacity and coverage, there is a pressing need to strengthen and integrate primary care and palliative care. While there has been a shift towards investment in primary care systems across the region, there remains a need for capacity-building among primary health professionals to facilitate awareness, early diagnosis and prompt referral.

Palliative care is widely under-developed across many countries in the region, and this lack of service will become a more and more concerning as populations' age.

Invest in data and digital infrastructure – Deficiencies in national cancer policy, planning and programmes stem, in part, from a scarcity of data. Comprehensive data on incidence, health outcomes and costs across the entire care pathway is needed to provide evidence for investment decisions. Many countries in the MENA region lack accessible, timely and reliable data, leading to poor choices of priorities and wasted resources. Investing in cancer registries and collecting and extrapolating real-world data from HIS will enable decision-makers to allocate resources more effectively and prioritise actions and interventions that are relevant to the needs of their population in a sustainable manner.

Collaborate to manage the economic burden and expand access – The rising cost of controlling cancer is an undeniable challenge for the MENA region. The long-term sustainability of oncology care will require the multi-level collaboration of various stakeholders, including policymakers, payers, providers, industry, and NGOs, among others. To achieve better patient outcomes, while reducing the economic burden on society, each country must develop a context-specific roadmap for delivering and financing cancer care that supports innovation in treatment and care, and reflects differences in country size, income level, health system and public health priorities.

Financing reforms are crucial to sustaining equitable access and efficient use of resources

– Providing affordable healthcare is a challenge that all countries in the MENA region face, as populations grow and age, new therapies are developed, and healthcare demands increase. These factors are forcing many countries in the region to re-evaluate how their health system is financed; for instance, reforms in GCC countries are seeking to expand the role of private health insurance, and Egypt is aiming to implement UHC through the defragmentation of public funding sources. Reforming healthcare financing systems is essential to achieving UHC, extending financial protection to citizens, and enhancing equitable access to health services. Financing reforms should also support a move from curative to preventive care, and from payment based on volume and fee-for-service models to value- and outcomes-based financing. The implementation of HTA and frameworks to support economic evaluation will further support the efficient use of healthcare resources.

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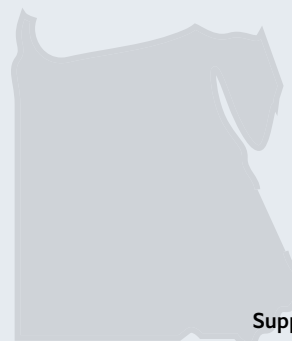
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The future of cancer care: health system sustainability in The Middle East and North Africa (MENA)



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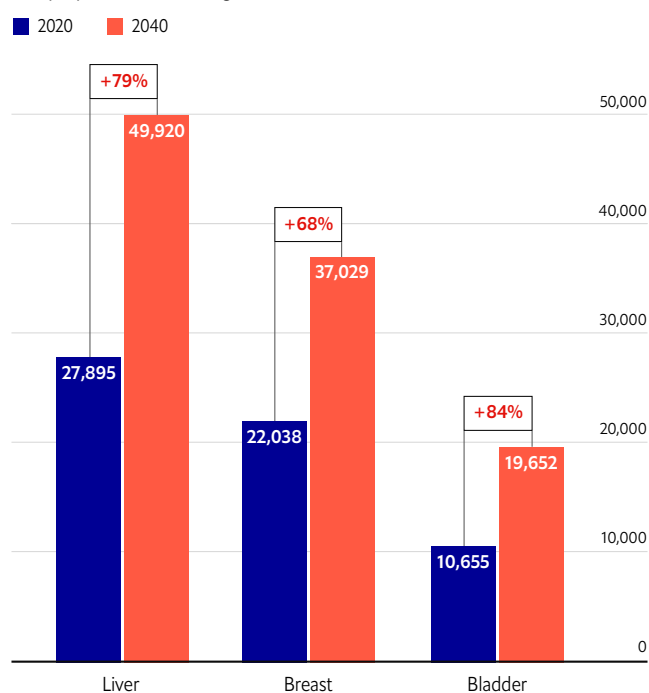
Key trends

With over 109 m people, the Egyptian population is one of the largest in the MENA region. The over-65 population, which makes up just over 5% of the total population today, is expected to double by 2040.¹ Egypt has a higher incidence of liver and bladder cancer than global averages, which is attributed to a higher prevalence of HCV, a critical risk factor for liver cancer and a higher but decreasing prevalence of schistosomiasis and a growing prevalence of smoking, key risk factors for bladder cancer.²

Population over 65 years ¹	5.3m (2022)	10.7m (2040)	↑ 100%
Total cancer incidence ³	135k (2020)	235k (2040)	↑ 75%
Total cancer mortality ³	89k (2020)	162k (2040)	↑ 82%
Probability of premature death from cancer per year in 2030 ⁴	8% (2020)	5% (SDG target)	Projected to miss SDG target by 59%

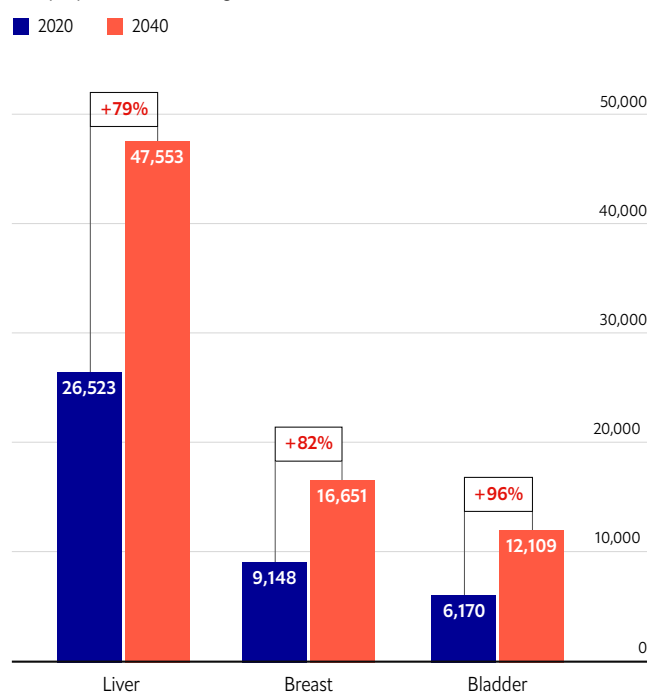
Top 3 Cancers: Incidence Projections estimates 2020 and 2040⁴

(# of people, both sexes, all ages)



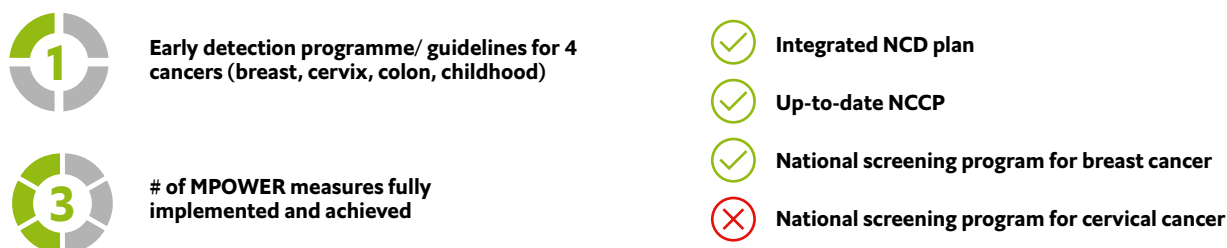
Top 3 Cancers: Mortality Projections estimates 2020 and 2040⁴

(# of people, both sexes, all ages)



Policy

Egypt has an integrated NCD plan, up-to-date NCCP, and national cancer diagnosis and treatment guidelines. While the early detection and screening programmes are less developed, recent efforts, policy direction and resources, including the 100 Million Healthy Lives initiative, have helped improve screening and early detection services for HCV, breast, lung and prostate cancer.⁵ The Egyptian Women’s Health Initiative was launched in 2019 with the aim of screening at least 28m women for breast cancer.⁶ As of March 2023, over 34m women have been screened.⁷

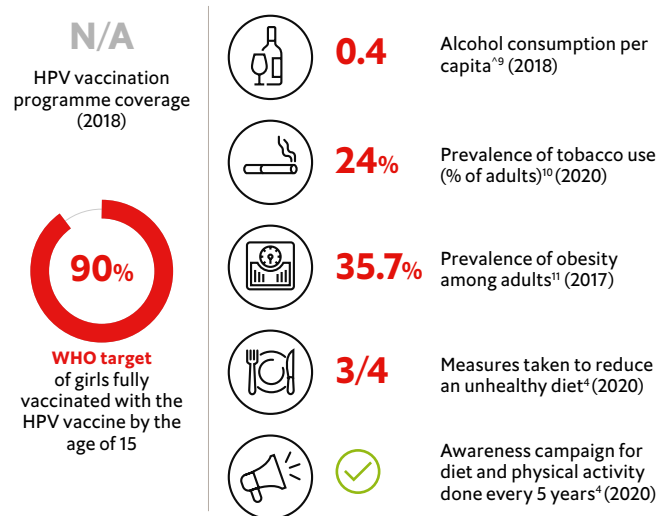


* MPOWER: **M**onitor tobacco use and prevention policies, **P**rotect people from tobacco smoke, **O**ffer help to quit tobacco use, **W**arn about the dangers of tobacco, **E**nforce bans on tobacco advertising, promotion and sponsorship, and **R**aise taxes on tobacco.
 Source: WHO. Cancer Country Profile 2020. Egypt⁴

Health System

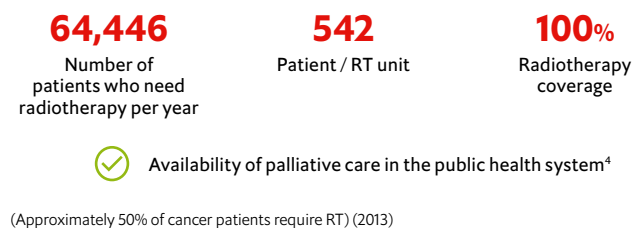
Healthcare system reform is critical to Egypt’s Vision 2050, the country’s national development agenda. NCD prevention has been a priority of the Egyptian Government over recent years with the 100 Million Healthy Lives Program to provide routine testing and treatment for infectious and chronic diseases, including hep C and obesity.⁸

Primary prevention & risk factors

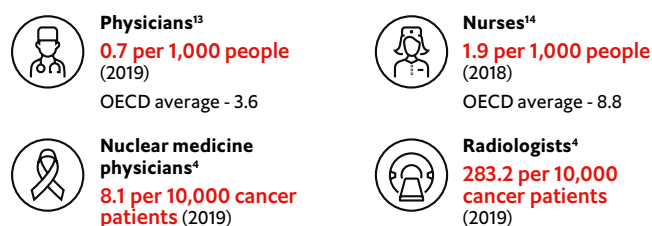


⁹Total alcohol consumption per capita (liters of pure alcohol, projected estimates, 15+ years of age)

Infrastructure¹²



Health workforce



Innovation & Data

Egypt leads the MENA region in terms of research output with a higher number of academic publications and clinical trials. In 2020, the Egyptian president issued the Regulating Clinical Medical Research Bill to establish a legislative framework for managing clinical trials.¹⁵ Improving Egypt’s National Cancer Registry Program is a key focus of the NCCP.¹⁶ While adopting digital health could help reduce unmet healthcare needs and improve access in remote areas, the country will need to address disparities in internet access.



Health Financing

Healthcare spending is expected to rise in Egypt as the country moves towards achieving Universal Health Coverage (UHC) as part of the Transforming Egypt's Healthcare System Project. Currency devaluation is also increasing financial stress on Egyptian patients where out-of-pocket (OOP) spending is high. Implementing HTA is crucial for attaining UHI objectives, expanding access, and enabling better resource allocation and evidence-based decision-making. The introduction of fast-track approval mechanisms, Egyptian Drug Authority (EDA) reforms and incentives for locally manufactured products are helping to accelerate access to new medicines.²²

Health Budget²³

Current health expenditure (CHE) as % of GDP

4.3% (2020)

13.9% OECD average

Current health expenditure (CHE) per capita

US\$150 (2020)

\$5,292 OECD average

General government health expenditure as % CHE

32% (2020)

66% OECD average

Private health expenditure as % CHE

67% (2020)

34% OECD average

Value Assessment²⁴

Universal Health Insurance Law (UHI) 

Includes clause for the establishment of the HTA unit (2018)

Unified procurement Law 

Law for unified procurement was published in 2019 directing the establishment of a department for HTA

Universal Health Insurance Authority (UHIA) 

Economic evaluation is a mandatory prerequisite for all new coverage and reimbursement decisions (2022)

Barriers to HTA implementation

- Funding
- Data quality and availability
- Qualified human resources
- HTA research

Accessibility



70/100

Progress towards Universal Health Coverage (UHC) - up from 52 in 2005²⁵ (2021)



9 months - 2 years

Average time to local registration for new medicines¹⁵ (2022)

Economic Burden



\$143 billion

Total macroeconomic cost attributable to cancers between 2020-2050²⁶ (2023)

(Total macroeconomic burden attributable to cancers in 2020-2050 using a discount rate of 3%)

Affordability²³

Out-of-pocket (OOP) spending as % of current health expenditure (CHE)

59% (2020)

12% OECD average

Out-of-Pocket (OOP) spending per capita in USD

\$90 (2020)

\$653 OECD average

Opportunities for Improvement

1 Expand screening programmes

Egypt has seen positive outcomes from the primary prevention and screening programmes to address liver, bladder and breast cancer. As one of the most impactful interventions to reduce mortality and treatment costs, more focus should be given to establishing prevention and screening programmes for other prevalent cancers, such as colon and cervical cancer.

2 Alleviate immediate financial pressure

The new UHI system will cover all Egyptians when fully implemented over the next 12-15 years. OOP spending at 59% of CHE is higher than the average for the MENA region (30%) and World Bank Lower Middle-Income countries (45%).²³ With over 32% of the population below the national poverty line, immediate interventions are needed to alleviate financial obstacles to cancer screening, diagnosis and treatment.²⁷

3 Collaborate in the transition to Universal Health Coverage (UHC)

The transition towards UHC provides an opportunity to strengthen and invest in end-end cancer services across the health system. It's essential to engage all stakeholders, including providers, payors, civil society organisations, industry and patients, in cancer policy and planning to realise a model of cancer care that meets the evolving needs of Egypt's population. Investment and collaboration with the private sector, through PPPs, are also expected to help close the demand gap and bring new technologies and innovation.

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Lebanon

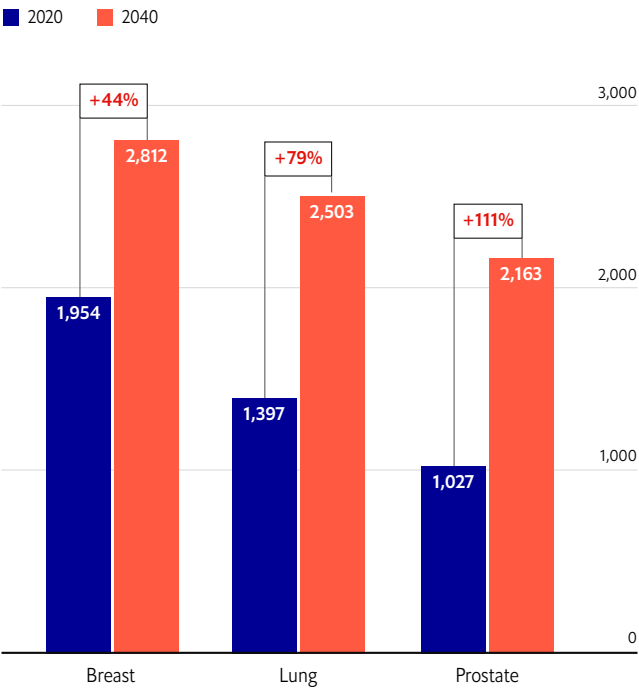
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Key trends

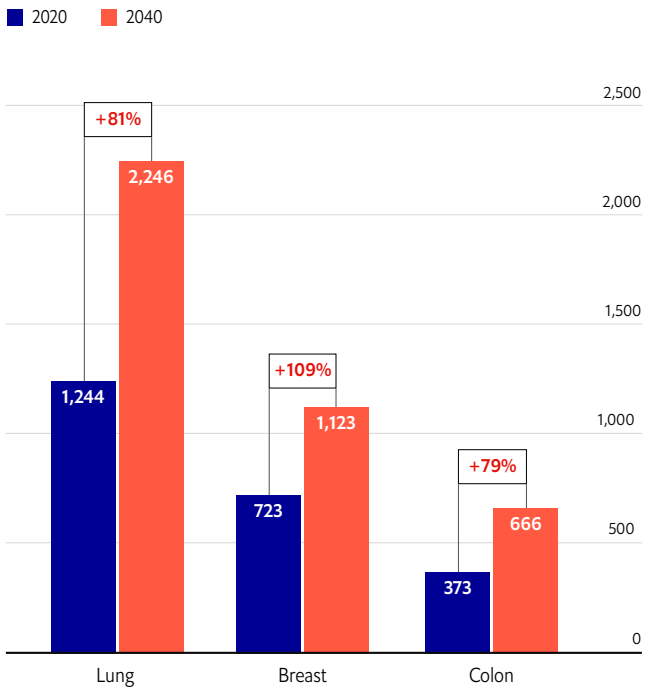
The 2018 Health Care Access and Quality Index ranked Lebanon 33 in the world and first in the Middle East. However, since 2019, the unprecedented economic decline, compounded by the covid-19 pandemic and the 2020 Beirut port explosion, has adversely affected healthcare delivery and the lives of cancer patients.

Population over 65 years ²	538k (2022)	934k (2040)	↑ 72%
Total cancer incidence ³	11.5k (2020)	18.6k (2040)	↑ 61%
Total cancer mortality ³	6.4k (2020)	11.2k (2040)	↑ 75%
Probability of premature death from cancer per year in 2030 ⁴	3.5% (2020)	3.6% (SDG target)	Projected to reach SDG target

Top 3 Cancers: Incidence Projections estimates 2020 and 2040³
(# of people, both sexes, all ages)



Top 3 Cancers: Mortality Projections estimates 2020 and 2040³
(# of people, both sexes, all ages)



Policy

Early-stage detection and screening programmes are available for breast, colon and cervical cancer.⁴ There is also a screening programme for lung cancer but with limited availability.⁵ Lebanon announced a 5-year National Cancer Plan in 2023. While still in the preparation phase, the plan will serve as a blueprint for oncology care in Lebanon and aims to improve prevention, diagnosis, and palliative care and facilitate sustainable financing solutions for cancer patients and their families.⁶



Early detection programme/ guidelines for 4 cancers (breast, cervix, colon, childhood)



of MPOWER measures fully implemented and achieved



Integrated NCD plan



Up-to-date NCCP



National screening program for breast cancer



National screening program for cervical cancer

* MPOWER: **M**onitor tobacco use and prevention policies, **P**rotect people from tobacco smoke, **O**ffer help to quit tobacco use, **W**arn about the dangers of tobacco, **E**nforce bans on tobacco advertising, promotion and sponsorship, and **R**aise taxes on tobacco.

Source: WHO. Cancer Country Profile 2020. Lebanon⁴

Health System

While Lebanon has good hospital infrastructure and well-trained healthcare personnel, the challenges of the last three years have left the health system fragile and fragmented, leading to increased privatisation and reduced access for some of the most vulnerable in the population.⁷ There is an urgent need to strengthen preventive care and the provision of palliative care.

Primary prevention & risk factors

N/A
HPV vaccination programme coverage⁴ (2018)



1.7

Alcohol consumption per capita⁸ (2018)



38%

Prevalence of tobacco use (% of adults)⁹ (2020)



27%

Prevalence of obesity among adults¹⁰ (2017)



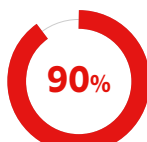
1/4

Measures taken to reduce an unhealthy diet⁴ (2020)



⊗

Awareness campaign for diet and physical activity done every 5 years⁴ (2020)



90%
WHO target of girls fully vaccinated with the HPV vaccine by the age of 15

⁸Total alcohol consumption per capita (liters of pure alcohol, projected estimates, 15+ years of age)

Infrastructure

8,647

Number of patients who need radiotherapy per year

376

Patient / RT unit

130%

Radiotherapy coverage



Availability of palliative care in the public health system⁴

(Approximately 50% of cancer patients require RT) (2013)

Health workforce



Physicians¹²

2.2 per 1,000 people (2019)
OECD average - 3.6



Nurses¹³

1.7 per 1,000 people (2018)
OECD average - 8.8



Nuclear medicine physicians⁴

8.7 per 10,000 cancer patients (2019)



Radiologists⁴

231.3 per 10,000 cancer patients (2019)

Innovation & Data

While data on R&D expenditure is unavailable, research output per physician or scientist and the number of clinical trials conducted are among the highest in the MENA region.⁵ Lebanon has a population-based cancer registry (PBCR), however, there is limited coverage of cancer mortalities.⁴



87%

Individuals using the Internet¹¹ (2021)



N/A%

Research and development (R&D) expenditure (% of GDP)¹⁶



77

Number of mobile phone subscriptions (per 100 people)¹⁵ (2021)



103
1,199

Total number of clinical trials for oncology¹⁷ (2022)

Number of clinical trials (1999-2022)¹⁸ (2022)

Health Financing

Private healthcare and out-of-pocket (OOP) spending are the main funding sources in the Lebanese healthcare system.¹⁹ With high inflation, currency devaluation and job losses, the economic crisis is affecting the capacity to pay for healthcare. Hospitals are also facing financial difficulties due to the decrease in government funding, a shortage of essential medicines and the inability to collect payments from insurance companies.²⁰ While registration timelines for new medicines are comparable with regional averages, political instability and budget constraints have contributed to delays in the launch of new medicines.²¹

Health Budget¹⁹

Current health expenditure (CHE) as % of GDP

8% (2020)

13.9% OECD average

Current health expenditure (CHE) per capita

US\$994 (2020)

\$5,292 OECD average

General government health expenditure as % CHE

33% (2020)

66% OECD average

Private health expenditure as % CHE

66% (2020)

34% OECD average

Value Assessment^{22,23}

While it is recommended to submit an economic analysis for the evaluation of new innovations, the healthcare sector in **Lebanon does not have an independent HTA**

The **2016 Health Strategic Plan** includes a focus on establishing HTA systems and procedures

Barriers to HTA implementation

- Awareness/advocacy of the importance of HTA
- Mandata from policy authority
- Institutionalisation of HTA
- Qualified human resources
- Political support

Accessibility



73/100

Progress towards Universal Health Coverage (UHC) - up from 63 in 2005²⁴ (2019)



9 months

Average time to local registration for new medicines²¹ (2022)

Economic Burden



\$884 million

Total macroeconomic cost attributable to cancers between 2020-2050²⁵ (2023)

(Total macroeconomic burden attributable to cancers in 2020–2050 using a discount rate of 3%)

Affordability¹⁹

Out-of-pocket (OOP) spending as % of current health expenditure (CHE)

44% (2023)

12% OECD average

Out-of-Pocket (OOP) spending per capita in USD

\$440 (2023)

\$653 OECD average

Opportunities for Improvement

1 Keep cancer at the centre of health reform plans

While the recently launched National Cancer Plan 2023-2028 provides long-term direction to enhance and adapt the overall system, immediate action plans are needed to mitigate disruption in the face of current challenges. As Lebanon establishes future healthcare reform plans, providing access to cancer care and minimising disruption to cancer care must be a priority. Reform plans should involve all stakeholders providing care to cancer patients, including the private sector, NGOs and refugee organisations.

2 Focus on cost effective cancer control measures

In light of the current economic situation and pressure on the existing cancer infrastructure and workforce, cost-effective interventions such as maintaining access to existing early detection and screening programmes should be a priority. Expanding the use of telemedicine could also help reduce pressure on an overburdened healthcare system.

3 Explore alternative funding sources

High inflation and a shortage of medicine continue to limit the accessibility and affordability of cancer treatment for patients. There is a need for rapid intervention as OOP spending and medicines shortages escalate. Alternative funding sources, such as partnerships with international organisations and the private sector, should also be explored.

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United Arab Emirates (UAE)

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Key trends

As the economy and population of the UAE grow, the number of cancer patients will also significantly increase.

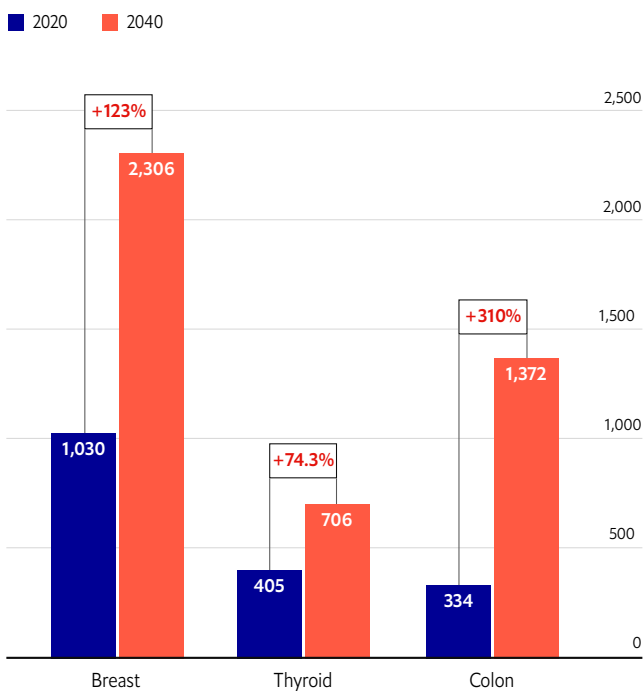
The percentage of the population aged over-65, a high-risk group for cancer, will increase by 272% between 2022-2040.

The anticipation of an increasing cancer burden poses a challenge to patients, national health services, the economy and broader society.

Population over 65 years ¹	173k (2022)	643k (2040)	↑ 272%
Total cancer incidence ²	4.8k (2020)	15.9k (2040)	↑ 231%
Total cancer mortality ²	1.9k (2020)	8.2k (2040)	↑ 335%
Probability of premature death from cancer per year in 2030 ³	4.49% (2020)	2.63% (SDG target)	Projected to miss SDG target by 1.86%

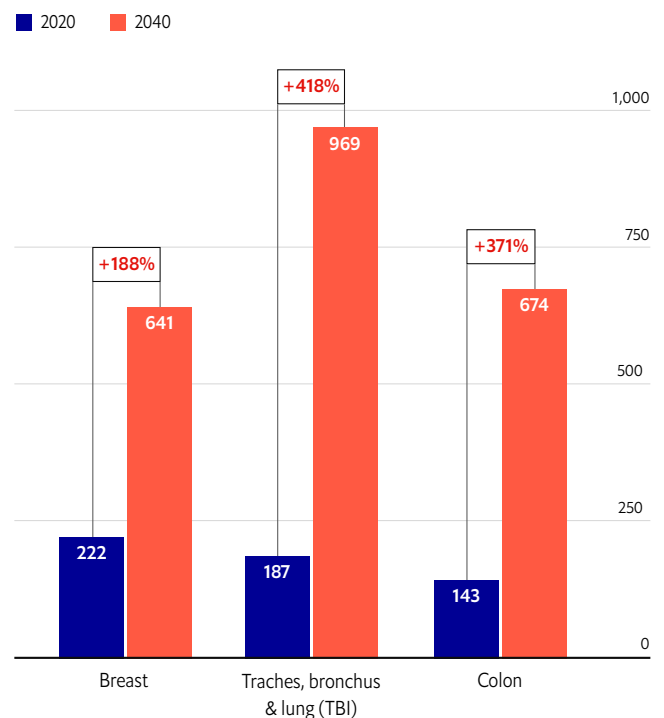
Top 3 Cancers: Incidence Projections estimates 2020 and 2040²

(# of people, both sexes, all ages)



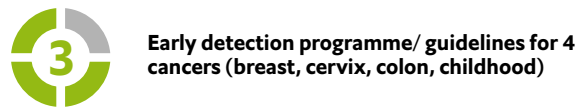
Top 3 Cancers: Mortality Projections estimates 2020 and 2040²

(# of people, both sexes, all ages)



Policy

While the UAE has a comprehensive and up-to-date NCCP, it has yet to be officially adopted. Implementation of the NCCP is necessary to effectively and systematically combat cancer. The government has expanded screening and early detection efforts with established breast, cervical and colon cancer programmes. However, population coverage among target groups is below WHO targets.⁴



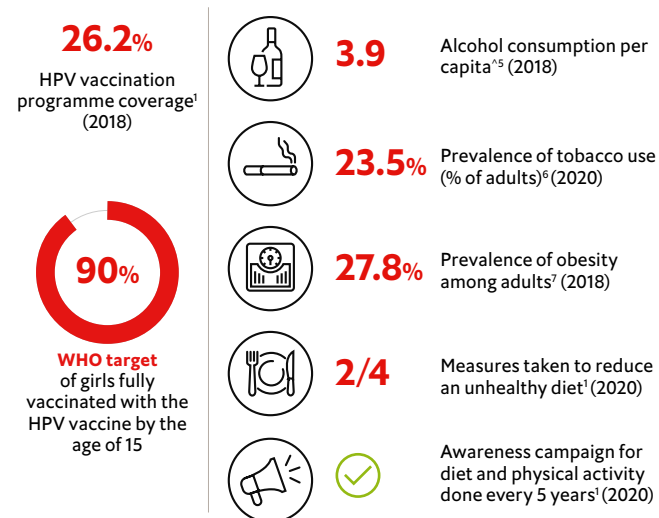
- Integrated NCD plan
- Up-to-date NCCP
- National screening program for breast cancer
- National screening program for cervical cancer

* MPOWER: **M**onitor tobacco use and prevention policies, **P**rotect people from tobacco smoke, **O**ffer help to quit tobacco use, **W**arn about the dangers of tobacco, **E**nforce bans on tobacco advertising, promotion and sponsorship, and **R**aise taxes on tobacco.
Source: WHO. Cancer Country Profile 2020. UAE³

Health System

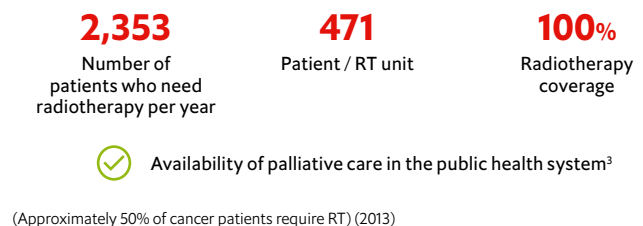
While health system infrastructure and capacity in the UAE are sufficient to manage today's cancer burden; ongoing efforts are needed to expand prevention interventions and palliative care service locations and reduce reliance on expatriate healthcare workers to maintain access to quality care as the number of cancer patients increases.

Primary prevention & risk factors

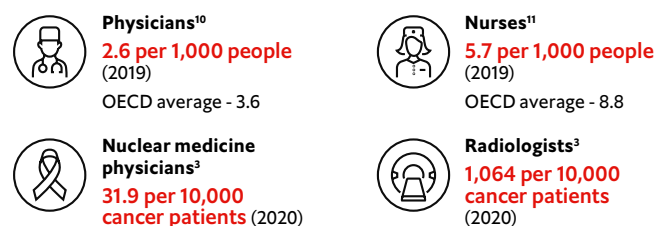


¹Total alcohol consumption per capita (liters of pure alcohol, projected estimates, 15+ years of age)

Infrastructure⁹



Health workforce



Innovation & Data

Data on cancer is expected to improve further with the development of the UAE National Cancer Registry (UAE-NCR) and the Riayati platform, a database for all electronic medical records in the country.¹¹ Internet access and smartphone penetration are among the highest globally, providing a good basis for digital health applications.^{12,13} Research activity has also gradually increased, with the number of clinical trials rising from 38 in 2012 to 55 in 2022.¹⁴ The National Center for Health Research (NCHR) was recently established to support medical innovation and clinical trial activity.¹⁵



Health Financing

According to the UAE Ministry of Finance, health expenditure was projected to reach \$21 billion by 2021 and \$26 billion by 2025, driven by demographic changes, medical tourism, and the rise in national wealth. This increase in healthcare spending raises the significance of developing a suitable HTA or value assessment system to support resource allocation and evidence-based decision-making.¹⁸ Drug approval timelines for new medicines, at an average of less than six months, are the fastest in the region.¹⁹ There are also efforts to incentivise local manufacturing to reduce exposure to price and supply chain fluctuations and support local R&D.²⁰

Health Budget²¹

Current health expenditure (CHE) as % of GDP

6% (2020)

13.9% OECD average

Current health expenditure (CHE) per capita

US\$2,192 (2020)

\$5,292 OECD average

General government health expenditure as % CHE

66% (2020)

66% OECD average

Private Health Expenditure as % CHE

39% (2020)

34% OECD average

Value Assessment²²

Has a systematic process to support healthcare decision-making?



Is there an existence of a standard methodology or process guideline?



Are there legislative and / or regulatory requirements to consider HTA results in benefit package decisions?

N/A

Barriers to HTA implementation

- Awareness/advocacy of the importance of HTA
- Mandate from policy authority
- Institutionalisation of HTA
- Qualified human resources
- Political support

Accessibility



78/100

Progress towards Universal Health Coverage (UHC) - up from 76 in 2005²³ (2021)



6 months

Average time to local registration for new medicines¹⁹ (2022)

Economic Burden



\$66 billion

Total macroeconomic cost attributable to cancers between 2020-2050²⁴ (2023)

(Total macroeconomic burden attributable to cancers in 2020-2050 using a discount rate of 3%)

Affordability²¹

Out-of-pocket (OOP) spending as % of current health expenditure (CHE)

11% (2020)

12% OECD average

Out-of-Pocket (OOP) spending per capita in USD

\$246 (2020)

\$653 OECD average

Opportunities for Improvement

1 Expand screening programmes

Expanding screening and early detection programmes is one of the most impactful ways to improve cancer survival rates and manage treatment costs. Coverage rates for national screening programmes in the UAE are well below WHO targets, ranging from 1.6% for colon cancer to 7% for cervical cancer among eligible population groups.⁴ Health authorities should also work with private insurers to expand and promote screening among expatriate residents, who are not covered under national programmes.

2 Explore alternative insurance solutions

While expatriate residents are covered by insurance plans, typically through their employer, these plans are often subject to expiration dates and limitations that do not cover lengthy and costly cancer treatment. Many expatriate patients rely on financial support from NGOs and patient organisations. Alternative solutions to insurance packages that provide financial protection and access to treatment should be explored as the expatriate population increases.

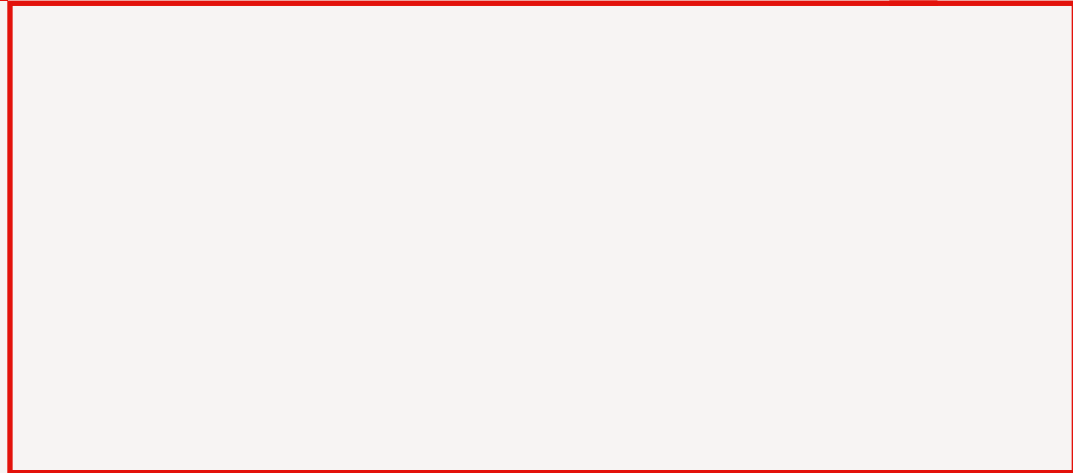
3 Collaborate to develop national cancer capabilities

Several healthcare advancements and Public Private Partnerships (PPPs) in the UAE also support innovation in oncology, including the National Genome Strategy, which has led to personalised precision medicine programmes for oncology, policies and strategies to support the use of AI in healthcare, as well as developments in the delivery of advanced treatments like stem cell therapy, CAR-T cell therapy and bone marrow transplants, providing an opportunity to position the UAE as a leader in innovative and complex care.⁴

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LONDON

The Adelphi
1-11 John Adam Street
London WC2N 6HT
United Kingdom
Tel: (44) 20 7830 7000
Email: london@economist.com

GENEVA

Rue de l'Athénée 32
1206 Geneva
Switzerland
Tel: (41) 22 566 2470
Fax: (41) 22 346 93 47
Email: geneva@economist.com

SÃO PAULO

Rua Joaquim Floriano,
1052, Conjunto 81
Itaim Bibi, São Paulo,
SP, 04534-004
Brasil
Tel: +5511 3073-1186
Email: americas@economist.com

NEW YORK

750 Third Avenue
5th Floor
New York, NY 10017
United States
Tel: (1.212) 554 0600
Fax: (1.212) 586 1181/2
Email: americas@economist.com

DUBAI

Office 1301a
Aurora Tower
Dubai Media City
Dubai
Tel: (971) 4 433 4202
Fax: (971) 4 438 0224
Email: dubai@economist.com

HONG KONG

1301
12 Taikoo Wan Road
Taikoo Shing
Hong Kong
Tel: (852) 2585 3888
Fax: (852) 2802 7638
Email: asia@economist.com

SINGAPORE

8 Cross Street
#23-01 Manulife Tower
Singapore
048424
Tel: (65) 6534 5177
Fax: (65) 6534 5077
Email: asia@economist.com