

PATHWAY TO EXCELLENCE IN CANCER CARE

Learning from Qatar's Experience

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LEARNING FROM QATAR'S
EXPERIENCE



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LIST OF ABBREVIATIONS

ASR	Age-standardised rate
CT	Computed tomography
GCC	Gulf Cooperation Council
GDP	Gross domestic product
MDTs	Multidisciplinary teams
MRI	Magnetic resonance imaging
MR-IGABT	Magnetic resonance image-guided adaptive brachytherapy
MRgHIFU	Magnetic resonance-guided high-intensity focused ultrasound
PHCC	Primary Health Care Corporation
QBB	Qatar Biobank
QCRP	Qatar Cancer Research Partnership
QCS	Qatar Cancer Society
QGP	Qatar Genome Programme
QPMI	Qatar Precision Medicine Institute
SGRT	Radiation therapy surface-guided radiotherapy
TBI	Total body irradiation
WHO	World Health Organization

EXECUTIVE SUMMARY

In 2011, Qatar launched the First National Cancer Control Programme in the Gulf Cooperation Council (GCC). The National Cancer Strategy: A Path to Excellence (2011–2016) and the companion document, Qatar National Cancer Research Strategy (2012) transformed cancer care in Qatar. Cancer outcomes are now equivalent to countries with long-established national cancer strategies.¹

Critical to the success were robust governance structures, informed and committed leadership, comprehensive involvement of all sectors including public and private providers, charities, private sector employers, academic partners and the judicious use of expert groups and subject-matter experts.

Major milestones have been reached in the prevention, early detection, treatment and care of cancer throughout the period the National Cancer Strategy has been in place.

Achievements have included harmonised multi-sectoral awareness, education and myth-busting campaigns aligned to a single national awareness calendar.

A National Breast Cancer Screening Programme, a National Bowel Cancer Screening Programme and an opportunistically ran Cervical Cancer Screening Programme have been established, supported by a dedicated Cancer Screening Call Centre and a Mobile Screening Unit for those hard to reach geographical areas in Qatar.

Internationally peer-reviewed cancer-specific teams that included new and extended roles, the introduction of forefront diagnostic and treatment modalities and a patient-centered approach to the organisation of care have improved clinical outcomes, patient experience and public confidence.

Future development will focus on consolidating areas of significant achievement incorporating emerging evidence and new technologies. This will include evidence-based approaches for public engagement, prevention and early detection, particularly the use of personalised approaches. As with any successful cancer programme, survivorship and transition programmes need to be enhanced to include chronic illness and palliative care models. Rare cancers, further development of local faculty and maturity of Qatar's high-impact cancer research portfolio are also a focus.

Qatar provides a model that illustrates how the principles of good cancer control are internationally applicable but need to be locally owned and adapted to the country and be culturally specific. It is critical to have clear leadership and governance, as well as the right people in all partner organisations to work collaboratively in achieving a common goal.

We make the following key policy recommendations that are applicable inside and outside of Qatar. Moreover, we share the successful cancer care framework learned from the Qatar experience.

Key policy recommendations:

- (a) Companion strategies (cancer research, palliative care and transition programmes)
- (b) Communicate early detection and preventive values
- (c) Setting standards and expanding roles

ESSENTIAL COMPONENTS FOR A DEVELOPMENTAL CANCER CARE FRAMEWORK

We believe that the below components are indispensable and integral to the delivery of a successful cancer framework:

- (a) Clearly articulated vision tailored to national realities and cancer profiles.
- (b) Committed leadership with robust progress monitoring and governance arrangements.
- (c) Wide stakeholder involvement from development to implementation and evaluation should include formal and informal providers, societies and communities.
- (d) Strategies cover the cancer continuum from prevention and early detection.
- (e) Essential companion elements such as research, education, palliative care and survivorship are either integrated or have supplementary strategies.
- (f) Service and clinical standards are set through judicious use of internal and external expertise such as international partners and National Clinical Advisory Groups.
- (g) Formalise specialisation, innovative role extension to extend capability with attention to the development of future facility and workforce.
- (h) Outcomes are measured through robust data capture and registries, which include the experiences of those affected by cancer.

INTRODUCTION

In 2011, Qatar launched the First National Cancer Control Programme in the Gulf Cooperation Council (GCC). *The National Cancer Strategy: A Path to Excellence (2011–2016)*² was a five-year plan to transform cancer care in Qatar. It was also the first disease-specific strategy in Qatar and formed a key priority within the *National Health Strategy 2011–2016*.³

Designed around the patient pathway, it also articulated the necessary governance structures, including a *National Cancer Committee* at the Ministry of Public Health, the establishment of *National Clinical Advisory Groups* for each cancer and a *Project Support Team* composed of subject-matter experts.

A companion document, the *Qatar National Cancer Research Strategy, 2012*⁴ provided a framework to develop world-class basic, clinical and translational cancer research while developing national capacity and capability utilising the excellent existing academic infrastructure.

*The National Cancer Framework: Next Steps in the Pathway to Excellence (2017–2022)*⁵ was built on these solid foundations to bring the cancer services and cancer research agenda together to create a single unified plan. It too connected closely with the Better Health dimension of the National Health Strategy 2017–2022: Better Health, Better Care and Better Value.

Qatar is a small country on the Arabian Peninsula that has seen rapid development over the past decades. It has a high per capita gross domestic product (GDP) and a small, relatively young national population. It also has a large expatriate population.

Cancer is already the nation's second non-communicable disease after cardiovascular disease and is projected to triple between 2010 and 2030 as a result of a combination of ageing and population growth.^{3,5}

Qatar has a unique, understudied population with atypical disease presentations and patterns, which are of international interest and of importance for the people of the Gulf region as well as the growing global Arabian diaspora.

It has an excellent cancer research infrastructure across academic partners in universities and research institutions, which offers the possibility to occupy some niche positions in cancer research. This includes an established infrastructure to support innovation and biotech development.

Public healthcare is available free for all residents who have paid a minimum fee for health insurance, and this includes cancer care. There is also access to ad hoc support for treatment on an exceptional or compassionate need basis from other sources such as charities, including the Qatar Cancer Society (QCS).

THE CANCER BURDEN

GLOBAL PERSPECTIVE

Cancer is a global health challenge whose incidence is on the rise, and it is also a leading cause of death worldwide. The World Health Organization (WHO) recommends that all countries develop and implement a cancer control programme to prevent cancer, detect it early when it does occur and manage the disease and its impact effectively through treatment into survivorship or palliative care. It was in response to this call that Qatar developed The National Cancer Strategy: A Path to Excellence (2011–2016).²

According to the WHO estimates in 2015, cancer is the first or second leading cause of death before age 70 years in 91 of 172 countries. It ranks third or fourth in an additional 22 countries, of which Qatar is one of them (fig 1).⁶

THE COST OF CANCER

Cancer and its treatment result in the loss of economic resources and opportunities for patients, families, employers and society overall. These losses include financial loss, morbidity, reduced quality of life and premature death. The economic burden of cancer is a growing global issue, and the burden on individuals and families is profound. Research estimates that based on premature death and disability from cancer worldwide the total economic impact of cancer is around 1.5% of the total global GDP, which does not include direct costs of treating cancer.⁶ For Qatar, this would equate to approximately \$2.87bn. The WHO and global health experts believe that significant costs from cancer could be mitigated by targeted, cost-effective interventions that have worked in some nations.

QATAR PERSPECTIVE

Qatar is a relatively young country, but its cancer incidence is projected to almost triple between 2010 and 2030 due to ageing and population growth (fig 2).⁵

As in other countries, cancer incidence increases with age, and life expectancy in Qatar continues to rise for both men (79 years) and women (82 years) (table 1). It is the second cause of death from non-communicable diseases.⁷

PREMATURE MORTALITY FROM CANCER

Data from Qatar National Cancer Registry in 2016 show that a total of 1566 new cancer cases were diagnosed in 2016, of which 21% were Qataris; 42% females and 58% males. The most common cancer was breast cancer, constituting 17% of all cancer cases, followed by colorectal at 10%. The crude incidence was found to be 59.8 per 100 000 of the population.⁸

Benchmarking Qatar to the rest of the GCC mortality rate seems similar. Qatar has a 16% mortality rate (fig 3).⁹

CANCER INCIDENCE

Among Qataris, breast cancer was the most common cancer with 20.66% of overall cases, followed by colorectal cancer with around 12% of cancer incidence. Cancer survival rates among Qataris have reached 89% for breast cancer, 69% for colorectal cancer, 67% for leukaemia and 90% for thyroid cancer. During the year 2016, there were 165 deaths among Qatari cancer patients, and the age-standardised rate (ASR) for death was 126 per 100 000. Lung cancer was the first cause of death, with almost 14% of the cases followed by liver at 11% and colorectal cancer at 8.5%.⁸

In 2018, breast cancer accounted for the biggest burden of disease from cancer in Qatar with a cumulative risk of mortality from breast cancer, more than twice as much as from other leading cancer types such as colon, leukaemia and non-Hodgkin lymphoma and twice as much as lung cancer.⁷

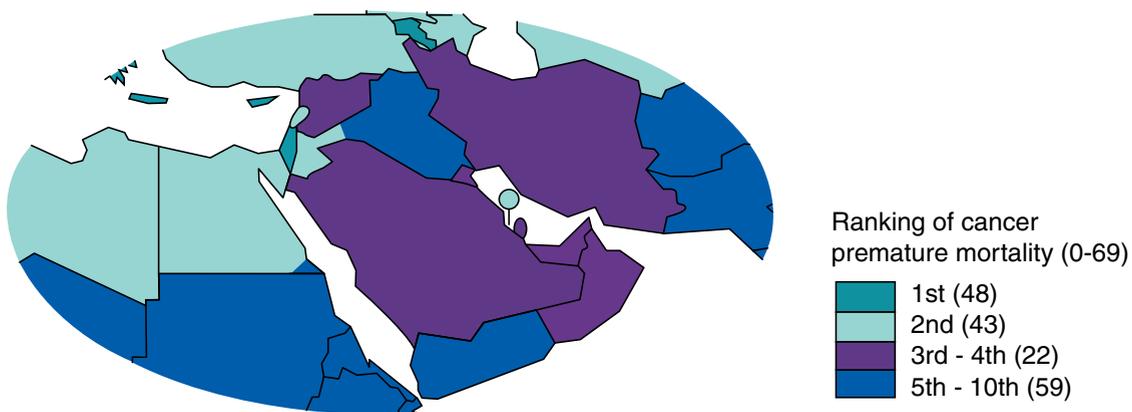


Fig 1 | Adapted global map indicating national ranking of cancer as a cause of death at ages below 70 years in 2015. Source: World Health Organization

Estimated Future Incidence of Cancer in Qatar

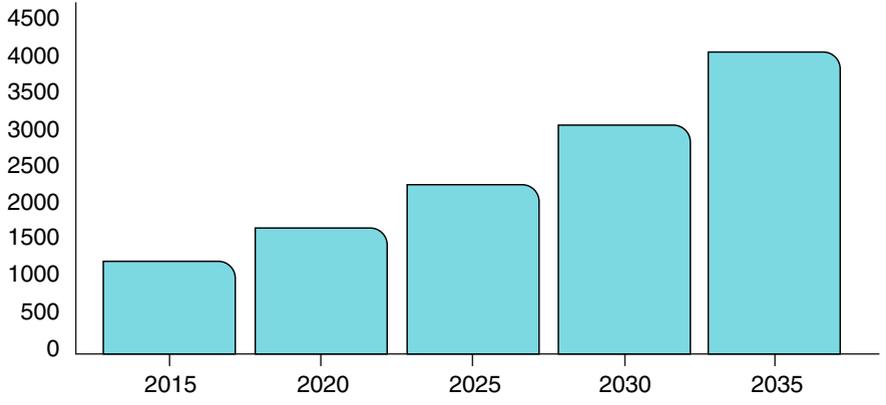


Fig 2 | Projected incidence of cancer in Qatar.
Source: Ministry of Public Health – Qatar

Table 1 | WHO reported cancer situation 2018

	2014 (WHO cancer country profiles)	2018 (WHO Globocan)	Approximate annual increase (%)
Incidence	540	1260	33
Mortality	400	672	17

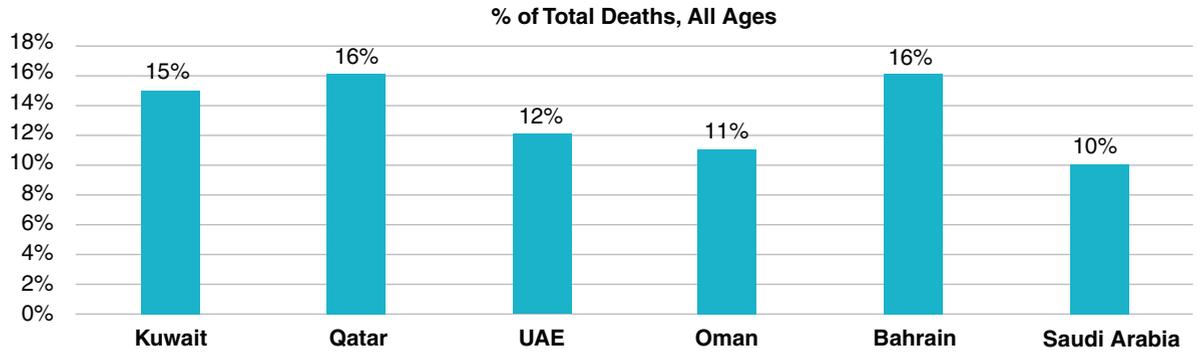


Fig 3 | Cancer proportional mortality in GCC countries.
Source: Noncommunicable diseases country profiles 2018. WHO (2018)

QATAR'S PROGRESS

Qatar has made major progress since the launch of the National Cancer Strategy in 2011. Formally structured and internationally peer-reviewed cancer services are delivering outcomes comparable to those in countries with a longer tradition of comprehensive cancer care. This has translated into an increased confidence in cancer services by the population, demonstrated by a steady increase in the use of the services, especially by Qatari nationals.

GOVERNANCE, STRUCTURE AND COMMUNICATION

Governance arrangements to oversee the strategy including a National Cancer Committee with representation from all sectors, which monitors progress with the framework, and several inclusive subgroups have been established. These include a Communications Group to ensure cancer information, and awareness-raising messages are consistent. The National Cancer Research Partnership oversees implementation of the research agenda and ensures collaboration across academic partners.

National Cancer Clinical Advisory Groups have been established for each cancer, and these are composed of representative stakeholders from the Primary Health Care Corporation, Hamad Medical Corporation, private providers and not-for-profit groups. They act as expert reference groups for the Ministry of Public Health and the State of Qatar on the needs of specific cancer populations.

These groups also oversee the development of *National Clinical Management Guidelines* including *Referral Criteria for the Urgent Suspected Cancer Pathway*. They also agree service standards and improvement programmes to ensure that cancer services in Qatar stay abreast of evidence-based innovation in treatment and care.

Fourteen formally constituted *specialist multidisciplinary teams (MDTs)* have been established for each cancer type. New roles have been developed such as the *patient pathway and MDT coordinators* and the introduction of *cancer clinical nurse specialists* who hold a Masters in Cancer Nursing delivered locally.

The establishment of the *Early Detection of Cancer Programme* was vitally important to the chance of successful treatment and improves outcomes for most cancers. Nationally mandated Qatar-wide cancer screening programmes follow clear screening guidelines, which make the best use of forefront technology and are delivered in convenient locations for the population.

The highly valued *Population-Based Screening Programmes* were established to enable eligible Qataris and expatriate residents with services via walk-in, self-referral or a physician's referral.

Primary Health Care Corporation (PHCC) is currently delivering *three cancer screening programmes* (fig 4).

Coverage among the Qataris is above 50% for the breast cancer screening programme and around 30% for the bowel cancer screening programme. Regular marketing

and awareness campaigns target the age-eligible target populations for the national screening programmes.

In the first complete round length for breast cancer screening, 25 427 women were screened in total between February 2016 and January 2019 with 174 positive outcomes, while during the same period, 20 894 men and women have received bowel cancer screening with 42 positive outcomes.

This programme includes purpose-built *Cancer Screening Suites* from three local close to patient PHCC Health Centres to maximise participation. There is a plan to expand the breast and bowel cancer screening services into an additional health centre.

A dedicated *National Screening Call Centre* for actively calling and recalling the eligible target populations has been established. In addition to 11 schedulers, the National Call Centre includes two nurse navigators to support determining the suitability of some people to participate in the screening programmes.

For those hard to reach geographical areas within Qatar, the national screening programmes are supported by a *Mobile Screening Unit*, which houses a mammography machine and doubles as an excellent promotional marketing and awareness tool for the screening programmes.

Complimentary *rapid referral pathways to tertiary services* have been developed between the National Screening Programmes and other population-based institutions such as Hamad Medical Corporation and the Qatar Genome Project for incidental findings and actionable identified risks. High-risk clinics have been established for those with familial or identified genetic risk.

A *National Cancer Registry* has been established, and there are plans to further develop this into a National Cancer Information Centre, which collates all available cancer intelligence to facilitate evidence-based planning and monitoring of cancer policy, services and outcomes while also being an essential tool for research.

A *Single Unique National Patient Identifier Number* and an *Electronic Patient Record* harmonised across all public providers have facilitated service improvements such as Electronic Urgent Suspected Cancer Referral and better public health data collection but can be expanded to improve continuity of care and patient safety across sectors and providers.

SERVICE DEVELOPMENTS AND ADVANCED TREATMENT TECHNOLOGIES

Throughout the period of the strategy, the environment in which cancer patients are treated has changed beyond recognition. Investments in infrastructure and new technologies have enabled clinical practice improvement and significantly enhanced the facilities in which care is delivered.

A 10-bedded *specialist palliative care* unit has been opened on the site of the cancer centre, and there is an accredited fellowship-training programme.

National Breast Cancer Screening Program

National Bowel Cancer Screening Program

Opportunistic Cervical Cancer Screening Program

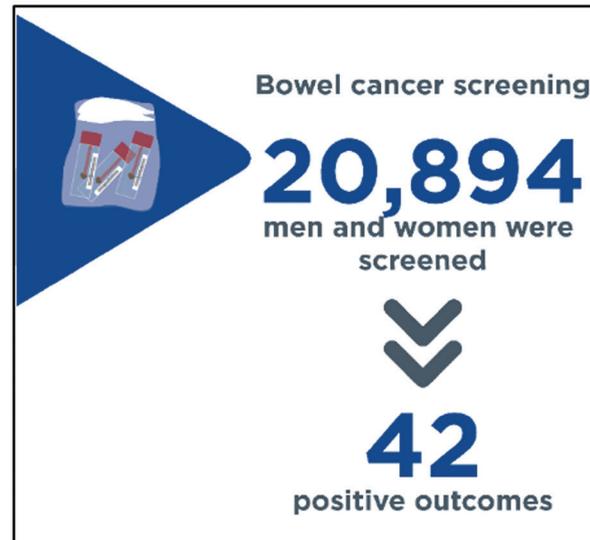
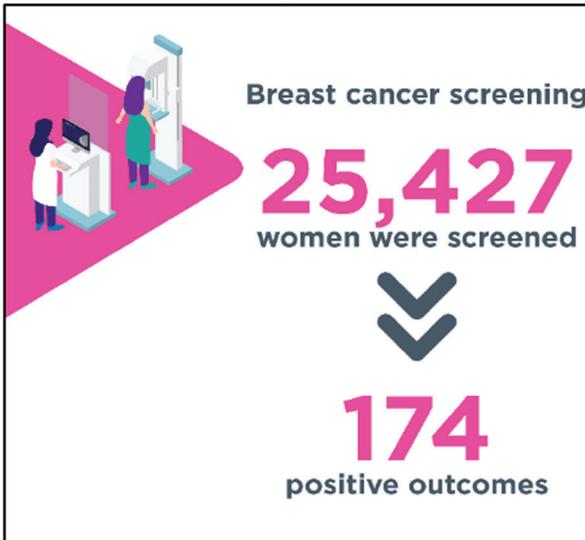
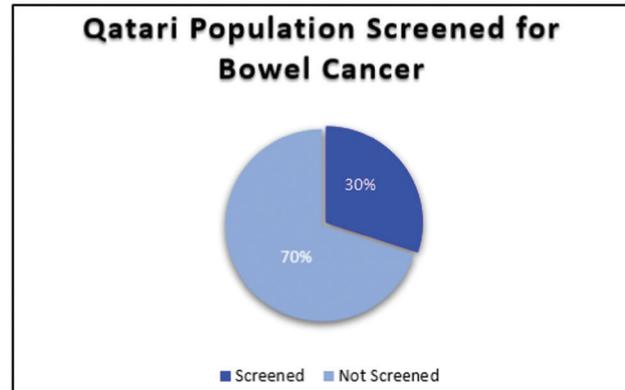
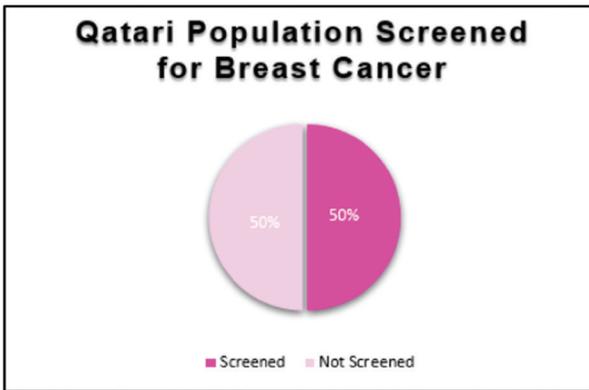
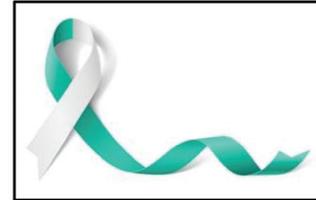


Fig 4 | PHCC cancer screening programmes and outcomes

Qatar's health system has invested heavily in the most advanced technology for treating cancer patients and is now comparable to the world's best. The state-of-the-art diagnostic and treatment modalities in imaging and radiotherapy have also improved the patient experience as well as outcomes.

CyberKnife is a robotic radiosurgery system for the treatment of both cancerous and non-cancerous brain lesions. It delivers

non-invasive high-dose radiation therapy with extreme accuracy providing patients with a pain-free, non-surgical option of treatment and offers new hope for patients with inoperable or surgically challenging conditions.

Magnetic resonance-guided high-intensity focused ultrasound (*MRgHIFU*) for the treatment of cancer that has metastasised (spread) to the bones is the first in the GCC region and one of

only seventeen centres globally with the capacity to perform these treatments under magnetic resonance imaging (MRI) guidance.

Magnetic resonance image-guided adaptive brachytherapy (MR-IGABT) treats patients with advanced cervical cancer and can significantly improve the results of treatment in cases of inoperable cervical cancer.

Radiation therapy surface-guided radiotherapy (SGRT) is a new technique for accurate patient positioning, which is crucial for hitting the tumoural target. Real-time patient surface detection through video cameras provides a radiation-free approach for patient positioning and monitoring during treatment.

Total body irradiation (TBI) supports bone marrow transplant patients, and the first TBI patient was successfully treated on January 2018.

The *interventional radiology* suite offers state-of-the-art imaging equipment for diagnosing and treating cancer by undertaking minimally invasive procedures using X-rays, computed tomography (CT) imaging, ultrasound and MRI. These techniques allow the doctor to insert miniature, highly advanced, medical instruments into the body, which are then directed to the required location. Procedures that once required significant surgery can now be undertaken with a minimal incision ensuring effective, high-quality medical care that is less stressful and painful for the patients.

A cyclotron provides radioisotopes used to make radiopharmaceutical that are used in PET/CT. This is a sophisticated technology using nuclear medicine to diagnose and treat certain cancers. Moreover, the cyclotron also supplies radiopharmaceuticals to cardiology and neurology as well as other local approved providers.

SURGICAL ONCOLOGY

Qatar, in common with other countries with small total populations, faces the challenge of low volumes in some rarer cancer. Outcomes in cancer, as with many other specialties, are enhanced where each practitioner and department deal with a critical volume of each cancer annually. This has been resolved by limiting operators to designated sub-specialisation and super-specialisation for each cancer as well as links with international centres of excellence.

The use of emergent technologies has enabled the provision of a range of sophisticated and minimally invasive techniques in clinical practice. Minimally invasive surgical options should be further developed, studied, evaluated and formally linked into the research and academic agenda. This will be supported by the reporting of 30, 60 and 90-day post-operative outcomes.

This is likely to increase with the successful uptake of population-based screening services, which result in cancer being detected earlier where a potentially curative surgery is more likely to be an option.

STEM CELL THERAPIES

Qatar has established a National Stem Cell Transplant Programme for adults with excellent patient outcomes. The programme is aligned with the World Marrow Donor Agency, European Society for Blood and Marrow Transplantation and the Centre for Bone and Marrow Transplant Research. It will be complemented with a paediatric programme.

There are plans to upscale the medical and equipment infrastructure to support the development of cell therapy and gene therapy options, which offer the population access to forefront treatments and early clinical trials while providing a service that will have regional benefits.

PRECISION MEDICINE AND GENETICS IN CANCER

Precision medicines have the potential to change the cancer paradigm regarding cancer prevention, detection, treatment and follow-up personalised to the individual.

- Cancer can be prevented by identifying actionable genetic mutations that offer the person choices such as prophylactic surgery to prevent cancer.
- Patients identified as being at high risk of cancer can have additional surveillance and can be counselled in high-risk clinics.
- Precision medicine in cancer treatment can ensure that the patients get the treatment most effective as a result of the analysis of the individual's unique genetic characteristics, the molecular characteristics of their tumour and pharmacogenomic information.
- Advances in technologies pre-treatment and post-treatment can also offer predictive and prognostic indicators in which on-going monitoring and surveillance for recurrence can also be personalised.

Although not cancer specific, the *Qatar Biobank (QBB)* hosts a collection of samples and information on health and lifestyle from the Qatari population.

The Qatar Genome Programme (QGP) is a national initiative aiming to map the genome of the local population. QGP uses QBB data to identify genotype-phenotype associations relevant to the Qatari population. Moreover, a comprehensive Qatari genotyping array, the Q-Chip, has been developed.

The wealth of such data provides unique insights that enable the development of patient-centric precision healthcare, accelerates innovation and breakthrough discoveries as well as informing policy makers involved in future planning.

A new entity is the *Qatar Precision Medicine Institute (QPMI)*, which is working closely with local institutes and healthcare providers to develop first model examples of precision medicine for those with a predisposition or higher to cancer.

One of these is the formation of a task force between partners to unveil the landscape of the genetic variation of cancer genes in the Qatari population.

The adoption of these technologies highlights Qatar's commitment to providing a high-quality service, with a focus on the health and wellbeing of each cancer patient utilising cutting-edge treatment modalities and state-of-the-art techniques.

RESEARCH AND ACADEMIC ACTIVITY

The Qatar Cancer Research Partnership (QCRP) was established in 2013 to oversee the implementation of the research and academic elements of the cancer strategies.

In addition to the national cancer care providers, it has senior representation from universities and research institutes across Qatar. The Ministry of Health, the Qatar Genome Project, Qatar Biobank and Qatar Cancer Society are also core members.

QCRP serves to align cancer research, training and teaching programmes across Qatar and encourages joint translational research projects. This correlates with a steadily increasing number of cancer-relevant PhD programmes across Qatar universities.

The establishment of the Qatar Genome Project and the associated disease-specific genomic platforms have facilitated competitive research projects with local and international collaborations. Breakthroughs in cancer immunology have been translated into clinical practice and clinical research activities across the Qatar research community, thus bringing healthcare in Qatar to the forefront with respect to technology and treatment modalities.

The Qatar Cancer Research Partnership works across providers and academic partners to support an annual calendar of cancer-related educational and conference activity.

It will work with the QCS and other stakeholders on a cancer research awareness and public engagement initiative, which will align with the overall cancer awareness programme.

MULTI-SECTORAL WORKING IN EDUCATING AND UNDERSTANDING CANCER PROGRAMME

Collaborative, cross-sectoral cancer awareness programmes and initiatives have been actively underway in Qatar since 2012. These involved the public, academic partners, non-profit and charitable organisations, leaders in the society and various community groups.

These aim to increase education and understanding of cancer through myth-busting campaigns, cancer awareness

events supported by a comprehensive Qatar-specific cancer information website. These include awareness of the National Cancer Screening Programmes. The awareness campaigns are evaluated post-campaign to tailor future activity.

A common cancer awareness calendar has been established, and there is cross-sectoral collaboration on the content of patient and public information regarding cancer. Qatar has a very diverse population, so evidence-informed information and messages are tailored to meet a variety of needs.

To support a healthy future population, cross-sectoral initiatives with the Ministry of Education are held with schools and university, including a volunteer base among university students.

The Qatar Cancer Society (QCS) is the national cancer charity of Qatar. It works with public, private and other third sector organisations nationally and internationally to deliver the national cancer agenda, educate the community, support, empower and advocate for people living with or beyond cancer, in addition to engaging in professional development and research in the field of cancer.

Strategically, the QCS is represented on key groups at the Ministry of Public Health such as the National Cancer Committee, Awareness and Communication Groups and the Qatar Cancer Research Partnership where it represents the lay perspective.

It is also a key player in the coordination of private sectors, contributing to the cancer control and support programme. Examples include Qatar Cancer Society partnered with a Qatari Telecom Company, Ooredoo 2017 to establish a cancer awareness centre away from the hospital setting. The first of its kind in the Middle East, it acts as a hub for cancer awareness delivered through inter-sectoral partnership.

It also works closely with patient facing services to support a range of activities such as cross-sectoral educational sessions for urgent suspected cancer referral and specialist training for cancer nurses. QCS also works directly with those living with and beyond cancer by supporting them emotionally, financially and physically.

It also serves an advocacy function in terms of lobbying for legislative and regulatory issues that affect cancer care and through enabling people living with and beyond cancer, to continue to be effective and productive members of their families and community by advocating for people living with cancer in and beyond Qatar.

NEXT STEPS FOR QATAR

ON-GOING AWARENESS AND PREVENTION

On-going evidence-based, risk-stratified and tailored public awareness, education and involvement are required. In Qatar, non-communicable diseases account for one in two deaths. One in three men aged 18 years and older are physically inactive. One in three men 15 years and older use tobacco. One in two women aged 18 years and older are physically inactive. Associated risk factors for NCDs in Qatar indicate a need for targeted education and awareness to support the population in adopting a healthier lifestyle.⁹

There are inequities across the genders, with men showing greater uptake of tobacco smoking than women do (fig 5).⁹

INFORMATION AND SUPPORT

Information and support for those affected by cancer should cover the entire patient pathway from pre-diagnosis, through treatment and into survivorship, palliative care and bereavement.

The term “affected by cancer” acknowledges that it is not only the patient who requires information and support but that the needs of family members may differ from that of the patients. Children can be affected by cancer as a patient, or as a child or sibling of someone who has cancer. Age-appropriate information and support is required.

Some individuals who will never get cancer will also have complex support and information needs such as those attending high-risk clinics and making difficult choices following genetic testing.

Complimentary patient information pathways should be developed, alongside disease-specific pathways for each disease group. These should be approved by the National

Clinical Advisory Groups to assure of the quality and provide consistency.

TRANSITION PROGRAMMES: LIVING WITH AND BEYOND CANCER

The cancer paradigm has changed and increases in survival in both curable and non-curable cancers by providing life extensions over decades. Transition programmes seek to support patients to maximise health and quality of life and managing the impact of cancer and its treatment. These include long-term and late effects or exacerbation of core morbidities. Services that address these issues are required but do not necessarily need to follow a traditional formal provider model.

Risk-stratified survivorship programmes seek to de-medicalise those aspects of care which might be better undertaken in community-based locations while concentrating specialist follow-up for the care of challenging late effects, on-going treatment and recurrence.

One example is the Qatar cardio-oncology service, which cares for patients experiencing cardiac problems associated with cancer treatments.

Other services which require specialist input can be delivered in community-based locations close to the patient such as outreach lymphedema, prosthetics and continence promotion services.

Shared care protocols with primary health services, with devolved monitoring and follow-up models, will be developed, coupled with essential rapid re-entry pathways to specialist services. Links with the Qatar Rehabilitation Institute will be strengthened, and cancer-specific vocational rehabilitation



Fig 5 | Trends in cancer risk factors in Qatar. Source: WHO Country profile 2014 and NCD profile 2018

programmes will enable patients return to work and contribute to society.

Charities, faith and community groups can be supported and skilled up to provide community lead wellness, fitness, counselling and support groups. These must be supported by professionals to ensure evidence-based practices, and quality standards are maintained. They should also allow for a wide range to ensure that they are age appropriate and respect gender and personal preference. Teenage and young adult transitions programmes are also required.

EXTENDING PALLIATIVE CARE NATIONALLY

Providing access to appropriate palliative and end of life care for those with life-limiting illnesses is a core requirement of responsible societies. The Prague Declaration and the WISH End of Life Care Report, Dying Healed: Transforming End of Life Care through Innovation 2013 articulate the policy requirements.

A multi-sectoral, high-level strategic approach is essential if appropriate palliative care is to be equitably available for all who require it, including those with other chronic illness not amenable to cure.

In common with many countries' community-based palliative care, outreach services and access to community specialist palliative care all need to be further developed. These can be supported by community-based specialist palliative care nurses, allied health professionals and primary clinicians with a special interest.

All healthcare professionals, regardless of sector, need to be educated in palliative care, communication and bereavement skills, which should also be included in undergraduate and postgraduate education.

Skilled and sensitive public awareness campaigns are required, and palliative care should be included in all chronic disease strategies.

As in many other countries, national guidelines need to be developed, and changes in legislation and regulation may be required, especially regarding palliative medication.

Bereavement services in many countries are run by charities with expert professionals leading a team of highly skilled and appropriately qualified volunteers.

FURTHER EXTENDING PRECISION MEDICINE ACROSS THE PATIENT PATHWAY

Developments in genomics and genetics can be used to identify those at particular risk of some cancers and high-risk monitoring, and prophylactic approaches can be developed.

- Building local capability and capacity in a range of other omics to extend the range of diagnostic assessments to inform clinical decision making.
- Emerging pre-diagnostic and post-diagnostic predictive and prognostic testing will enable more tailored approaches to treatment and care.

DEPLOYING CANCER CARE TECHNOLOGIES

These include advancing technologies such as low-dose CT for patients at high risk of lung cancer or the use of molecular technology to identify those at high risk of recurrence of their apparently treated cancer in order to risk stratify on-going monitoring and care.

Technology and telemedicine approaches can also be used for monitoring of those on treatment, including side effects as well as personalising follow-up.

POLICY RECOMMENDATIONS

KEY RECOMMENDATIONS: LEARNING FROM QATAR'S EXPERIENCE

In 2005, the WHO called on all countries to develop a national cancer programme to reduce the number of cancer cases and deaths and improve the quality of life of cancer patients and their families. This involves implementing systematic, equitable and evidence-based strategies for prevention, early detection, diagnosis, treatment and palliation using available resources.

In Qatar, The National Cancer Strategy, A Pathway to Excellence lays out a clear, stepwise approach, which could be adopted to accommodate national health, cultural realities and requirements elsewhere. The companion document, the Qatar National Cancer Research Strategy and the subsequent National Cancer Framework: Next Steps on the Path to Excellence were built on this foundation.

Cancer is a complex disease that affects individuals, family communities and wider society. The cancer programmes require broad engagement of all stakeholders. These include providers across all sectors including public, private and not for profit, commissioners, regulators, educational, academic, research establishments and community groups.

COMPANION STRATEGIES

Cancer research

Cancer research is integral to comprehensive cancer care. Cancer research ensures that cancer prevention, detection treatment and care are tailored to the population they serve. Basic research provides insight into the unique aspects of the population studied, and translational research ensures that innovations are readily adopted into practice. Clinical trials offer patient's access to forefront treatments while health service research can identify the most effective models of care.

Cancer strategies should consider the research component as part of the aspiration to comprehensive cancer care.

Palliative care

The WISH End of Life Care Report, Dying Healed: Transforming End of Life Care through Innovation 2013¹⁰ calls for the adoption of the Prague Charter 2013 and the development of a national strategy for palliative and end of life care for all regardless of disease.

Countries where palliative care is not yet fully developed and integrated should develop palliative care, end of life strategies, and Palliative and end of life care components are incorporated in all health policies. In Muslim-majority countries, substantial attention should be paid to palliative care from an Islamic bioethics perspective while considering others and remaining culturally sensitive. Palliative care services for Muslim patients will become more ethical and eventually effective.¹¹

Transition programmes

A successful cancer strategy results in many more people living with and beyond cancer. The effects of cancer and its treatment

may be prolonged or even permanent. Cancer trajectories for patients may vary between curative, living for decades with cancer as a chronic illness or palliation, so traditional binary models of curable/incurable are no longer adequate.

Additionally, some patients will transition from potentially curative to palliative when disease reoccurs or fails to respond to treatment. Children and adolescents with cancer may also face the transition of becoming an adult living with or beyond childhood cancer. Successful transition programmes benefit patients, families and society by ensuring the maximum health and wellbeing possible for as long as is possible.

Transition programmes are a cost-effective means of maximising the health and wellbeing gained from a cancer programme, particularly when they embrace the expansion of roles and new innovative models of care, including from non-traditional providers.

COMMUNICATING EARLY DETECTION AND PREVENTIVE VALUES

Core to reducing the cancer burden is prevention and early detection. Preventive and public awareness strategies need to be evidence based and tailored to age, ethnicity, health literacy, cultural and personal preferences. Campaigns should be multi-sectoral and consistent with wider health messages. Innovative technologies and AI can be harnessed to develop personalised approaches.

Early detection strategies to encourage the uptake of screening programmes should also be evidence based. Interventions found more consistently to improve participation in cancer screening, including in underserved populations, were pre-screening reminders, general practitioner endorsement, more personalised reminders for non-participants, and more acceptable screening tests in bowel and cervical screening¹² [The World Innovation Summit for Health Policy Report on Behavioural Insights 2018).¹²

SETTING STANDARDS AND EXPANDING ROLES

Equity in cancer requires standardisation of care. International and national expertise can be merged to ensure that cancer services are delivered to the best available evidence, yet are adapted to local need, capacity and capability.

Specialisation increases outcomes, and this can be used to extend scopes of practice and create innovative roles.

Nursing and midwifery are the key to rapid and cost-effective expansion of high-quality universal health coverage, Doha WISH 2018.¹³

The effectiveness of a national cancer programme is ultimately measured by its outcomes in terms of mortality, morbidity and the experience of those affected by cancer, so appropriate outcomes and evaluation mechanisms need to be agreed.¹⁴

ESSENTIAL COMPONENTS FOR A DEVELOPMENTAL CANCER CARE FRAMEWORK

We believe that the below components are essential to the delivery of a successful cancer framework:

- (a) Clearly articulated vision tailored to national realities and cancer profile.
- (b) Committed leadership with robust progress monitoring and governance arrangements.
- (c) Wide stakeholder involvement from development to implementation and evaluation should include formal and informal providers, societies and communities.
- (d) Strategies should cover the cancer continuum from prevention and early detection.
- (e) Essential companion elements such as research, education, palliative care and survivorship are either integrated or have supplementary strategies.
- (f) Service and clinical standards are set through judicious use of internal and external expertise such as international partners and National Clinical Advisory Groups.
- (g) Formalise specialisation, innovative role extensions to extend capability with attention to the development of future facility and workforce.
- (h) Outcomes are measured through robust data capture and registries, which include the experiences of those affected by cancer.

1. <https://www.uicc.org/>

CONCLUSIONS

Qatar has developed a high-quality national cancer programme in a relatively short strategic time scale. Essential to this was a clearly articulated cancer strategy, which had excellent strategic fit to the wider Qatar policy context, which was tailored to be responsive to local and cultural needs in a young country that is developing rapidly. It was supported by engaged, committed political and clinical leadership.

Central to success was excellent integration between primary, secondary and tertiary services, the Ministry of Public Health and other public, private and third sector organisations.

Qatar's size offers the possibility to work on a national scale and with a whole population. This also presents some challenges in terms of rarer cancers and disease volumes, which has been addressed by super-specialisation and sub-specialisation for some conditions and establishing close partnership arrangements with international centres of excellence.

Qatar is fortunate as a developing country to be relatively wealthy with one of the highest per capita incomes in the world. However, while this has permitted the development of advanced technology treatment, the principal success of the National Cancer Strategy has been through a clear vision, supportive leadership, judicious use of expertise, expansion of roles and comprehensive involvement of all the relevant partners across specialisms and sectors working towards a common goal.

Regardless of resource constraints, Qatar's experience would support the belief that a well-conceived and well-managed national cancer programme helps reduce the cancer burden and improves services, outcomes and experiences for cancer patients and their families.

REFERENCES

- 1 Allemani C, Matsuda T, Di Carlo V, et al. Global surveillance of trends in cancer survival 2000–14 (CONCORD-3): analysis of individual records for 37 513 025 patients diagnosed with one of 18 cancers from 322 population-based registries in 71 countries. *Lancet* 2018;391:1023-75. doi:10.1016/S0140-6736(17)33326-3
- 2 Supreme Council of Health. *The national cancer strategy: a path to excellence (2011–2016)*. Supreme Council of Health, 2011.
- 3 Supreme Council of Health. *National health strategy 2011–2016*. Supreme Council of Health, 2011.
- 4 Qatar Foundation. *Qatar national cancer research strategy 2012*. Academic Health System, 2012. Available from: <http://www.nhsq.info/app/media/880>
- 5 Ministry of Public Health. *The national cancer framework: next steps in the pathway to excellence 2017–2022*. State of Qatar, Ministry of Public Health, 2017.
- 6 World Health Organization. *WHO report on cancer – setting priorities, investing wisely and providing care for all*. WHO, 2020. Available from: <https://apps.who.int/iris/handle/10665/330745>
- 7 WHO. *Qatar factsheet*. WHO, 2019. Available from: <https://gco.iarc.fr/today/data/factsheets/populations/634-qatar-fact-sheets.pdf>
- 8 Ministry of Public Health. *Qatar National Cancer Registry (QNCR)*. State of Qatar, Ministry of Public Health, 2016
- 9 World Health Organization. *Noncommunicable diseases country profiles 2018*. WHO, 2018
- 10 Hughes HT, Murray SA, Cleary J, Grant L, Harding R, Jadad A, Steedman M, Taylor K. *Dying healed: transforming End-of-life care through innovation*. World Innovation Summit for Health; 2013. Available at: <http://www.wish-qatar.org/app/media/386>
- 11 Ghaly M, Diamond RR, El-Akoum M, Hassan A. *Palliative care and Islamic ethics*. Doha, Qatar: World Innovation Summit. Available from <http://www.wish.org.qa/wp-content/uploads/2018/11/IMPJ6078-WISH-2018-Islamic-Palliative-Care-181026>
- 12 Hallsworth M, Snijders V, Burd H, Prestt J, Judah G, Huf S, Halpern D. *Applying Behavioral Insights: Simple Ways to Improve Health Outcomes*. Doha, Qatar: World Innovation Summit for Health, 2016. Available from https://www.wish.org.qa/wp-content/uploads/2018/01/IMPJ4495_WISH_Behavioral_Insight_WEB_2.pdf
- 13 Crisp N, Brownie S, Refsum C. *Nursing and midwifery: the key to the rapid and cost-effective expansion of high-quality universal health coverage*. World Innovation Summit for Health, 2018. Available from <https://www.wish.org.qa/wp-content/uploads/2018/11/IMPJ6078-WISH-2018-Nursing-181026.pdf>
- 14 The Union for International Cancer Control. Available from <https://www.uicc.org/>