



مؤسسة حمد الطبية  
Hamad Medical Corporation

HEALTH • EDUCATION • RESEARCH صحة • تعليم • بحوث

Annual Report 2011/12

## Sustaining the health of a nation



**Our vision is to be an internationally recognized integrated healthcare system, acclaimed for excellence in healthcare, education and research, and to play a premier role in the sustainability of health in Qatar.**





**His Highness**  
**Sheikh Hamad Bin Khalifa Al-Thani**  
Emir of the State of Qatar





His Highness  
Sheikh Tamim Bin Hamad Al-Thani  
Heir Apparent

**Our belief in patient-centered healthcare means always putting the people of Qatar first.**



**We do that by excelling in three key areas:**



## Clinical Services

During 2011/12 Hamad Medical Corporation continued to enhance its services and facilities in order to deliver high-quality care of an international standard.

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## Research, Education and Training

We believe research delivers valuable and tangible benefits to patients and has a direct and positive impact on the quality of clinical outcomes.

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## Support Services

By continually investing in people, innovation and technology, we are setting a standard of true excellence.

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## Managing Director's Foreword



The last year has been an exciting and energizing one for Hamad Medical Corporation. We have made great progress on a range of the issues that matter most to our patients and our people. This has been made possible by the excellent work of our staff at all levels and by the enlightened leadership of our country which has placed universal, high quality healthcare and innovative education and research at the heart of our nation's success.



Our success in meeting our patients' needs depends on our most valuable asset, our staff. Last year alone we recruited 3,000 new staff.

**W**e thank our Emir, His Highness Sheikh Hamad Bin Khalifa Al-Thani, for his vision for the State of Qatar, and for his leadership and belief which has inspired all its citizens. We are immensely grateful to His Highness Sheikh Tamim bin Hamad Al-Thani, Heir Apparent and Chairperson of the Supreme Council of Health, and to Her Highness Sheikha Moza bint Nasser, Vice Chairperson of the Supreme Council of Health, for their vision, leadership and support. We would also like to express our gratitude to His Excellency Abdulla bin Khalid Al-Qahtani, Secretary General of the Supreme Council of Health and Minister of Health.

At Hamad, we aim to exemplify their Highnesses' vision. We continue to provide high quality healthcare for all. In addition, we are greatly expanding our programs of education and research as we develop with our partners to become an internationally competitive academic health system.

### **We are making sure that patients are seen more quickly**

Following the introduction of our new telephone booking system, Hamad now ensures that all patients receive more convenient and timely referral to see a hospital specialist.

Early results from six clinics across Hamad General Hospital indicate wait times have reduced from an average of 29 to just seven days. We have also dramatically reduced waiting times for MRI scans from an average of 75 days to just two weeks.

Every patient who is diagnosed with cancer is now allocated a Patient Pathway Coordinator to help them navigate their pathway of care and to provide support on how to cope with their disease. By the end of 2012, patients referred to be seen by a cancer specialist will be seen within 48 hours.

### **We are focusing on patient satisfaction as the key measure of success**

A respected international Gallup poll on satisfaction with healthcare found recently that 90% of residents in Qatar were satisfied with the availability of quality healthcare in the country, which was the highest satisfaction rate in the GCC and wider region. This is a testament to the leadership of our country which has guided the development of a thriving healthcare sector. Hamad is proud to have played its part in that success.

Patient satisfaction rates are high at all of Hamad's hospitals and compare well with international benchmarks. For example, 86% are satisfied with their care at Hamad General Hospital. The excellent work and dedication of our hospital staff at Al Khor has meant that 94% of their patients are satisfied with their care.

### **We are expanding our capacity and capability at an unprecedented rate**

Our success as an organization in meeting our patients' needs depends on our most valuable asset, our staff. In the last year alone we have recruited 3,000 new staff and we have plans to recruit many thousands more to meet the needs of the population.

We are also growing as a hospital system to meet the needs of the expanding population. In the last year, we opened three new state-of-the-art-hospitals: Al Wakra, the Cuban Hospital in Dukhan and the Heart Hospital in Doha. Over the two years from 2010 to 2012 our bed numbers will increase by 46%. Moreover, we are at advanced stages of planning for three new hospitals that will open in 2014 with several hundred more beds.

Hamad's Ambulance Service has expanded its capacity by establishing a critical care paramedic program, expanding the Life Flight program, reorganizing ambulance deployments across the country and by adding 100 new state-of-the-art ambulances.

### **We are building our intellectual capital for the future**

We are continuously improving our programs of education to train and develop the next generation of excellent clinical leaders. 152 Weill Cornell medical students have trained at Hamad over the last six years. We will have an institutional review in the summer of 2012 by the US Accreditation Council for Graduate Medical Education and we aim to achieve the prestigious ACGME accreditation later in the year.

# Managing Director's Foreword

The most important thing about our Academic Health System is that it is focused on the needs of our people and our patients.



## Our Academic Health System is developing leading edge research and innovation

By building a culture of academic medicine in Qatar, we aim to improve healthcare for the whole population and to support the development of our nation's knowledge based economy. The most important thing about our Academic Health System is that it is focused on the needs of our people and our patients. It will focus on those disease areas that place the greatest burden of mortality and morbidity on the population. And it will focus on 'translational research', that is, bringing new technologies, medicines and treatments from the laboratory bench to the patient's bedside as quickly as possible. We are already making good progress. Last year, Hamad increased its share of the Qatar National Research Funding by 64%, making us the largest recipient of QNRF biomedical research funds. Our plans to build a vibrant research culture will be boosted significantly by the new Translational Research Institute (TRI). Set to open in two years as a world class facility, the TRI will become a beacon for the best researchers locally and from around the world.

We are harnessing the latest information technology for the benefit of patients. We have signed a QR 365m contract with Cerner to implement a top class clinical information system which will be rolled out within three years. This will improve diagnoses and clinical decision making to improve the speed and effectiveness of care. We are also introducing this year the Oracle e-business system to radically improve our business processes so that we can provide the optimal support to our frontline clinicians.

## We are receiving international recognition

All of this progress has been thanks to the hard work of our staff at all levels, to the support of our community and, of course, to the visionary leadership of our government. It is pleasing, therefore, that we are increasingly receiving plaudits internationally for our progress.

We were honored that Hamad won the Arab Hospital Federations award for most distinguished hospital in 2012. We remain the only hospital system outside the United States to have all of our hospitals accredited and then reaccredited by the Joint Commission International. Our Ambulance Service and Home Healthcare Service have also now received JCI accreditation, and our organ transplantation program has been accredited by the United Network for Organ Sharing.

Our Trauma Department received the Arab Health Award 2012 in Dubai this year and is currently being readied for verification as a Level 1 Trauma Center by the American College of Surgeons.

## We are excited about the future

As we look back on last year, we can take satisfaction from the strong progress that has been made. But we will not rest there. We remain ambitious, energetic and dedicated to do the very best for all of our patients, and for the whole nation, in the years ahead.

**Hanan Al Kuwari PhD**  
Managing Director  
Hamad Medical Corporation

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# Hamad Medical Corporation – Profile

Hamad Medical Corporation is the premier non-profit healthcare provider in Qatar. It was established by Emiri decree in 1979 and manages eight hospitals: Hamad General Hospital, Rumailah Hospital, Women's Hospital, National Center for Cancer Care and Research, Heart Hospital, Al Wakra Hospital, The Cuban Hospital and Al Khor Hospital.





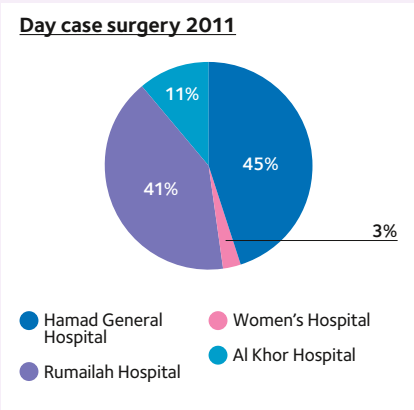
Since its establishment, Hamad Medical Corporation has developed medical facilities capable of providing state-of-the-art diagnosis and treatment of diseases that previously could only be managed in overseas medical institutions. Hamad Medical Corporation reports to the Supreme Council of Health in Qatar and provides secondary care (including a national ambulance service and a home healthcare service) and tertiary care.

Hamad Medical Corporation prides itself in providing quality and cost efficient care for all patients regardless of nationality, in line with the State of Qatar's pledge of "Health for All". For this purpose, the Corporation implements a policy of continuous improvement of all management systems and patient care protocols. Hamad Medical Corporation's ethos is based on three key pillars, Health, Education and Research, which is reflected in its logo.

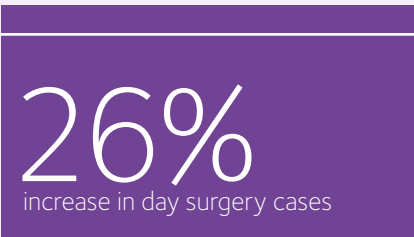
2011 saw the activities of a number of areas within Hamad Medical Corporation undergo significant change. This was predominantly a result of services being either redesigned to improve capacity or reconfigured for enhanced synergy.

## Day Case Surgery

Major increases took place in the number of surgical day cases, resulting from better theater utilization and capacity. Hamad General Hospital continued its theater refurbishment program, which to date has seen the creation of two additional theaters. Rumailah Hospital, the second largest provider of day case surgery, increased its theater capacity by providing additional surgery sessions in the evenings.

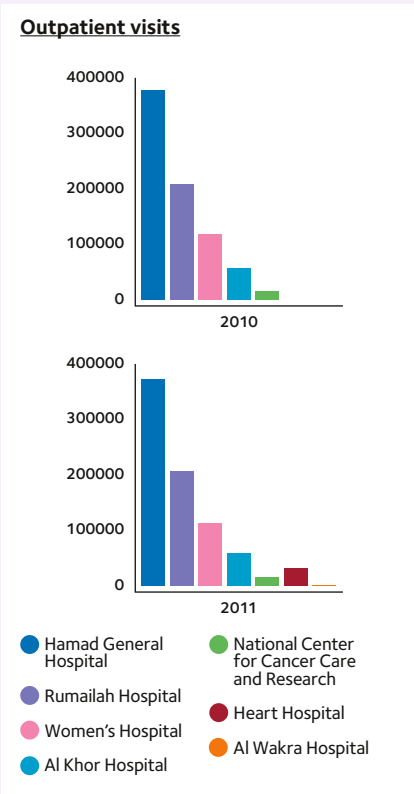


Day case surgery rates at the Women's Hospital and Al Khor fell slightly due to the pressures on inpatient beds and a lack of dedicated day case surgery facilities.



## Outpatients

Outpatient attendances rose by 2.9% during the year. The main increases were at Al Khor and the National Center for Cancer Care and Research (NCCCR), although these were small numbers in each case.



The improved outpatient booking system at both Hamad General and the Women's Hospital has contributed to improving the Did Not Attend (no show) figures, by allowing patients a wider choice of appointments.

Rumailah Hospital is also abiding by best practice in improving patient choice, and in August launched five weekly dermatology clinics at the Gharaffa Health Center.



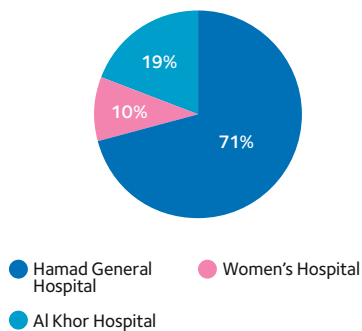
## Therapy Services

Rumailah Hospital increased its therapeutic activities during the year, which comprise occupational and speech therapy, audiology, prosthetics, orthotics (insoles for foot and heel pain) and physiotherapy. A total of 256,482 visits were made by patients to these clinics in 2011, representing a 22% increase over the previous year. Much of the increase was related to expanded capacity in physiotherapy services. Additionally, just as other specialties are offering patients an improved choice, the Al Gharafa Health Center made orthopedic physiotherapy available, with additional clinics at the OPD Annex to address the needs of the industrial sector.

## Emergency Departments

The Annual Report for 2010/11 reported a 3.7% rise over the previous year in overall attendance at Hamad Medical Corporation's Emergency Departments (ED). There was a notable dip in the last quarter of 2010 at Hamad General Hospital (HGH) following the opening of the new laborer's clinics. However, Al Khor and the Women's Hospital saw an increase in their attendances and now represent nearly 30% of all visits.

**ED visits 2011**

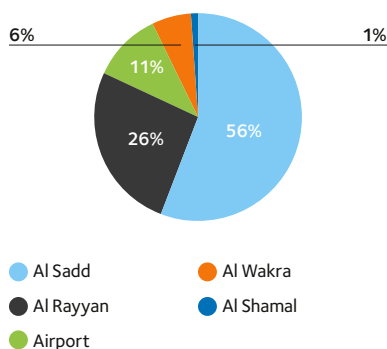


As predicted, the new laborers clinics continued to have an impact on the HGH Emergency Department during 2011, and overall attendance at all Hamad emergency hospital facilities was down by 4.9%.

Attendance at Hamad's Pediatric Emergency Centers (PECs) grew by 1.34% during the year.

We made some significant changes to our PEC facilities during 2011, with the opening of Al Dayyan PEC and the closure of Al Wakra PEC when Al Wakra Hospital opened. The Al Sadd and al Rayyan PECs continued to dominate with 85% of PEC attendances.

**PEC Activity 2011**



## Hamad Services

**Bed Capacity:** 603

### Services

- Adult emergency medicine
- Pediatric emergency medicine (PEC)
- Trauma
- Critical care
- Specialized/general medicine
- Pediatrics
- Laboratory medicine
- Radiology

## مستشفى حمد العام Hamad General Hospital

عضو في مؤسسة حمد الطبية  
A Member of Hamad Medical Corporation



**Bed Capacity:** 343

### Services

- Obstetrics
- Gynecology
- Neonatal care
- Emergency care
- Newborn screening
- IVF

## مستشفى النساء Women's Hospital

عضو في مؤسسة حمد الطبية  
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**Bed Capacity:** 115

### Services

- Cardiology
- Cardiothoracics
- Non invasive cardiac surgery
- (Emergency department to open 2012)

## مستشفى القلب Heart Hospital

عضو في مؤسسة حمد الطبية  
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**Bed Capacity:** 76

### Services

- Medical oncology (chemotherapy)
- Clinical oncology (radiotherapy)
- Pain management
- Palliative care
- Specialist laboratory services

## المركز الوطني لعلاج وأبحاث السرطان National Center for Cancer Care & Research

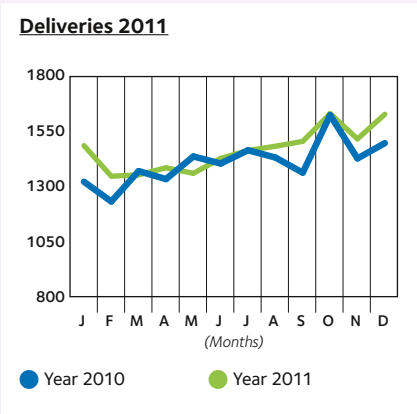
عضو في مؤسسة حمد الطبية  
A Member of Hamad Medical Corporation



# Hamad Medical Corporation – Profile

## Births

Births increased by 4% across Hamad during the year, with a 3.5% increase at the Women’s Hospital and by 14.5%, but with smaller numbers, at Al Khor. The increase at Al Khor was due in part to pro-active work in promoting choice of care closer to home.



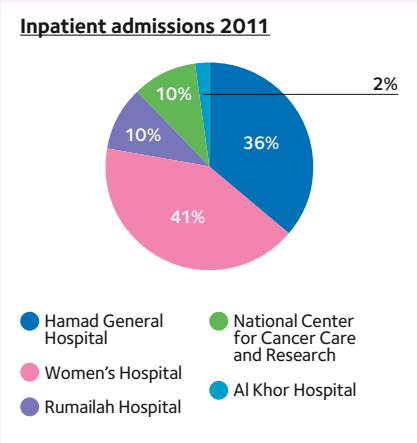
Of the 16,781 deliveries at the Women’s Hospital in 2011, 5,435 were Qatari and 11,346 were non Qatari. Of the Qatari babies, 2,789 were male and 2,740 female; 5,863 non Qatari babies were male and 5,667 were female.



## Inpatients

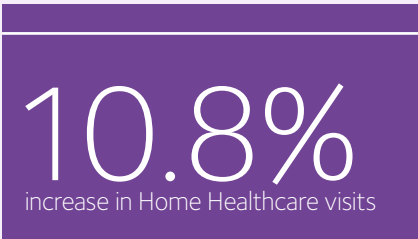
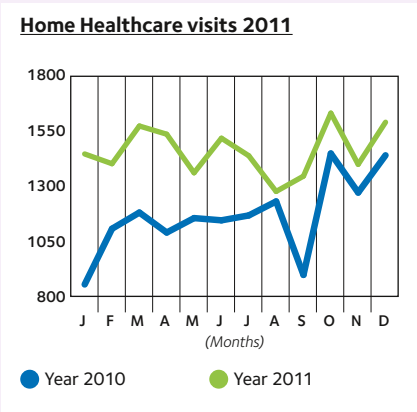
Inpatient admissions rose in all Hamad hospitals with the exception of NCCCR; however this was partially balanced by the Chemotherapy Day Case Unit, which saw an additional 239 patients registered during the year with a total of 2,827 patients receiving chemotherapy courses.

The NCCCR also opened additional beds in December 2011 and will increase its inpatient capacity further during 2012 through the provision of dedicated palliative care beds.



## Home Healthcare

Our Home Healthcare division continued to develop its services, helping to drive a 10.8% increase in visits during the year from 15,848 in 2010 to nearly 17,600.



## Ambulance Service

The Ambulance service saw an increase in both priority 1 and 2 calls during the year. However, due to efforts to standardize call prioritization, involving an algorithm-based script that was used to question all callers, priority 1 calls increased substantially (by 19.5%) and priority 2 calls only marginally (by 0.3%).

| Ambulance service |       |       |        |
|-------------------|-------|-------|--------|
| Calls             | 2010  | 2011  | Change |
| Priority 1        | 18017 | 21531 | +19.5% |
| Priority 2        | 36848 | 36962 | +0.3%  |
| Total             | 54865 | 58493 | +6.6%  |

There was a 6.6% overall increase in activity during 2011, continuing the same upward trend seen in previous years.

Life Flights activations (use of the air ambulance) decreased slightly from 2010, due to an increase in the number of ground based Critical Care Paramedics in both urban and industrial areas.



Hamad prides itself in providing quality and cost efficient care for all patients regardless of nationality, in line with the State of Qatar's pledge of "Health for All"

## Hamad Services continued

**Bed Capacity:** 115

### Services

- Critical care
- General medicine
- General surgery
- Obstetrics/gynecology
- Pediatrics

### مستشفى الخور Al Khor Hospital

عضو في مؤسسة حمد الطبية  
A Member of Hamad Medical Corporation



**Bed Capacity:** 301

### Services

- Pediatric emergency
- General medicine
- General surgery
- Obstetrics/gynecology
- Pediatric
- (Emergency medicine to open 2012)

### مستشفى الوكرة Al Wakra Hospital

عضو في مؤسسة حمد الطبية  
A Member of Hamad Medical Corporation



**Bed Capacity:** 87

### Services

- Adult emergency medicine
- General medicine
- General surgery
- Obstetrics
- Pediatrics

### المستشفى الكوبي The Cuban Hospital

عضو في مؤسسة حمد الطبية  
A Member of Hamad Medical Corporation



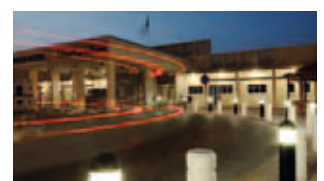
**Bed Capacity:** 659

### Services

- Adult rehabilitation
- Children's rehabilitation
- General Medicine
- Specialised Medicine
- Specialised Surgery
- Dentistry
- Psychiatry (Mental Health)
- Interim care (hostel)

### مستشفى الرميلا Rumailah Hospital

عضو في مؤسسة حمد الطبية  
A Member of Hamad Medical Corporation



## Clinical Services

We are firm in our commitment to offer comprehensive and advanced healthcare services in Qatar. We aim to deliver the highest quality clinical care and to be a center of excellence in the Gulf region and a recognized leader on the wider international healthcare scene.



### New look Ambulance Service

The Ambulance Service launched its new state-of-the-art ambulance fleet. Built to world-class specifications by Mercedes Benz, the fleet of 100 new vehicles is fitted with GPS location technology to shorten response times and electronic data transmission that ensures the fast transfer of clinical information direct to the hospital before arrival.

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### Reducing waiting times

Hamad General Hospital implemented a new fixed-time appointment booking system for all outpatient appointments. The new system reduces the waiting time for patients when they come to the clinics, provides patients with telephone and SMS appointment reminders and means they no longer have to visit the hospital to book their first appointment as the new Patient Contact Center now telephones patients directly.

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### At the forefront of Qatar's national plans

Work over the past year in the field of organ transplantation, cancer services and mental health made a key contribution to delivering the National Health Strategy (NHS) for Qatar. Hamad is the premier non-profit healthcare provider in Qatar, delivering medical services to more than 90% of the population. With eight hospitals, a national ambulance service and a home healthcare service, Hamad has a vital role to play in the delivery of the NHS.

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## Clinical Services

During 2011/12 Hamad Medical Corporation continued to enhance its services and facilities in order to deliver high-quality care of an international standard.



## Reducing waiting times for patients

**Hamad Medical Corporation introduced a series of initiatives for patients all of which were aimed at streamlining and easing the process of making appointments. This work underlines the strong sense of care Hamad feels towards its patients and the people of Qatar and reflects our belief that the patient should be at the center of everything we do.**

### Satellite pharmacy opens for Hamad General Hospital

The opening of a satellite pharmacy for the Hamad General Hospital Pediatric Outpatient Clinic provides a convenient additional dispensing service. This minimizes waiting times and ensures parents leave the clinic with the drug information they need. This initiative has reduced the load on the main OPD pharmacy and shortened dispensing time. It has been well received by parents because it gives the Pharmacist more time to counsel the patient and parents in private.

### New Outpatient Department appointment booking system

Hamad General Hospital also implemented a new fixed-time appointment booking system. The new system means that patients do not need to visit the hospital to make an appointment as the new Patient Contact Center now telephones patients to arrange an appointment once they have been referred to the OPD. Patients benefit in many ways. There is less waiting when they come to the clinic and each patient enjoys an assured timeslot with the specialist. Patients also see the correct specialist within the right timeframe for a given condition because all referrals are reviewed and prioritized on the basis of clinical need. Patients also receive reminders about their appointment by telephone and SMS.

The new system was launched in early 2012 at the Pediatric Daytime Clinics and Urology Clinics and more clinics will migrate to the new system throughout 2012. The new system is part of Hamad Medical Corporation's continuous effort to improve every patient's experience.

### Hamad Medical Corporation Patient Contact Center

The Hamad Medical Corporation Patient Contact Center (HPCC) was initially a sub-project of the Hamad General Hospital (HGH) Outpatient Department (OPD) System Re-engineering project to support booking and rescheduling of HGH OPD appointments. This has now evolved into a corporation-wide project to support all Hamad appointment-based services initially and all telephone-

based patient contact services at a later stage. Piloted for the Pediatrics Department in March 2011 the HGH Patient Contact Center was developed to handle all appointment-related tasks in the Pediatric OPD clinics.

The HPCC is an integral part of the HGH OPD System Re-engineering project as it plays a significant role in reducing congestion at HGH OPD and provides patients with a single point of contact for all appointment-related inquiries. Patients now have the ability to cancel or reschedule their OPD appointments when called for appointment reminders or they may call a single number to inquire about, or make any changes to their appointment. This has resulted in the no-show rate for pediatrics dropping to as low as 25% from a high of 43%.

The HPCC also follows up with patients who miss appointments and offers to rebook them. Additionally, it collects information on why patients miss appointments and uses this learning to improve operational planning. The HPCC has also taken the initiative to improve and streamline the booking of follow-up appointments for patients referred by inpatient wards/units at HGH. The ward nurse can now email an appointment request directly to the HPCC and secure a follow-up appointment time prior to the patient being discharged. This has eliminated the need for patients to visit the OPD in person or return to make an appointment at a later date.

### Referral and booking management system for PHCCs and PECs

In May 2011, Hamad Medical Corporation implemented a Referral and Booking Management System (RBMS) to process all referrals from Primary Health Care Centers (PHCCs) and Pediatric Emergency Centers (PECs) around the country. This service has directly improved the quality and provision of care to patients by facilitating communication between the referrer, Hamad and the patient. This in turn impacts on system performance and effectiveness and increases patient and staff satisfaction.

The new RBMS was developed in partnership with representatives from the Primary Healthcare Corporation and included the design of a new referral form, and development of a clinical triage system to allocate appointments based on clinical need rather than on a "first come first served" basis. Operational processes to support the new referral management system were put in place with a new dedicated team formed to manage the collection, processing and management of referrals.

The success of this initiative has triggered Hamad's Center for Healthcare Improvement to plan for an extension of the Pediatrics Referral Management System to include all referrals for Hamad General Hospital (HGH) and at a later stage in 2012, referrals to all other Hamad hospitals.

# Clinical Services

## Caring for patients closer to home

Hamad Medical Corporation is a patient-centered organization. We underlined this further during the year with two new facilities that allow us to meet the needs of patients in locations closer to where they live. In these cases, Hamad has ensured that many patients have an effective alternative to attending a hospital.

### New Pediatric Emergency Center at Al Dayeen

A new Pediatric Emergency Center (PEC) opened in June 2011 and is serving people in Al Dayeen, Al Khor, Umm Salal Ali, Umm Salal Mohd, Al Garria, Al Gowairia, Al Kaban and Sumaishmah. Operating initially from 6 am to 10 pm daily, the center provides care for patients up to 14 years of age. Satellite PECs are located throughout Qatar and this speeds up the time it takes to get a child seen when there is a problem.

### Making services more accessible

In another initiative, which saw Rumailah Hospital (RH) working closely with the Primary Health Care Corporation, a dermatology service has been established at Al Gharafa Health Center and consists of one clinic daily (Sunday to Thursday) from 7 am to 2 pm. On average, 25 patients are seen in each clinic session. Patients who require more complex management are referred to the tertiary Dermatology Center at RH. Following the initial success of the clinic, the aim is to roll out this model of service to other Primary Health Care Centers.



## Serving Qatar with state-of-the-art services

We naturally have a strong sense of pride in the high standards that Hamad Medical Corporation sets for itself. This means that we take every opportunity to upgrade our services. The improvements in our Ambulance Service show what we can achieve. We also took important steps forward in a number of key surgical capabilities, in the early detection of acute coronary syndrome (ACS), and in looking after children with developmental disorders, autism and other disabilities.

### Ambulance Service achievements in 2011

The Ambulance Service made continued progress during the year in its aim to ensure a world-class service for the whole country. Key achievements include JCI Accreditation for the Ambulance Service, and the launch of a new state-of-the-art ambulance fleet.

# 21.4%

of LifeFlight missions took place in the newly extended hours

Ambulance Service Joint Commission International accreditation  
Joint Commission International (JCI) is a global, knowledge-based organization that provides leadership and innovative solutions to help international healthcare organizations across all settings improve patient safety and quality. It is the international arm of The Joint Commission, the oldest and largest standards-setting and accreditation body in healthcare in the United States. The JCI has been working with healthcare organizations, ministries of health, and global organizations in over 80 countries since 1994.

New ambulances help crews deliver improved care at the roadside and on the move, and enhance the patient's experience and safety while on board.



In September, the Ambulance Service had its first JCI inspection and achieved full accreditation, with 98% compliance with JCI standards. The Ambulance Service is only the fifth ambulance service worldwide ever to achieve JCI accreditation and the first in the Gulf region.

This was the first time the Ambulance Service has sought accreditation from the JCI. The comprehensive JCI accreditation plan was implemented over 18 months and involved close cooperation from partner organizations within Hamad Medical Corporation such as Quality Management, Occupational Health and Safety, and Infection Control.

The Ambulance Service accreditation is another milestone for Hamad, which is the first healthcare organization outside the United States ever to achieve simultaneous JCI reaccreditation for all of its hospitals (2010).

#### **New world-class ambulance fleet**

In early 2012, Hamad Medical Corporation unveiled the first of a new fleet of 100 emergency ambulances. Built to world-class specifications by Mercedes Benz, the new vehicles have narrower bodies to enable faster progress through traffic, enhanced warning systems, improved safety features, and a state-of-the-art stretcher system. The new ambulances help crews deliver improved care at the roadside and on the move, and enhance the patient's experience and safety while on board.

The new vehicles are fitted with GPS location technology to shorten response times and electronic data transmission ensures fast transfer of clinical information direct to the hospital before arrival. The vehicles are also equipped with mechanical heart-and-lung resuscitation equipment for patients who have suffered a heart attack.

The Ambulance Service is the first national ambulance service to fully implement these technologies across a whole vehicle fleet. The new vehicles form part of a bigger specialized fleet that already includes Toyota Landcruiser Prado rapid response vehicles, specialized Mass Casualty Incident (MCI) vehicles, and mountain bikes and quad bikes for difficult-to-access areas. These ground-based resources are in turn supported by the LifeFlight Helicopter Emergency Medical Service.

The new fleet ensures the Ambulance Service is well equipped to serve the people of Qatar in any emergency situation. It also demonstrates Hamad's commitment to deploying the latest technology and medical advancements with the ultimate aim of saving lives and achieving the best possible outcomes for patients.

#### **Ambulance Service ProQA system**

The Ambulance Service implemented an internationally recognized system known as ProQA, which assists the call-taker in dispatching the correct level of ambulance and defining the response priority. ProQA is being integrated into the newly developed Computer Aided Data system at the National Communication Center (NCC). The system has been highly successful in addressing calls where there is language comprehension difficulty between the NCC and the caller.

#### **Extended operating hours for Ambulance Service LifeFlight**

Hamad Medical Corporation's Helicopter Emergency Medical Service – LifeFlight – achieved a milestone at the start of October when it extended operational hours to 18 each day (from 6 am to midnight). Prior to this, the airborne critical care service was only available during daylight hours. This extension is the initial step in achieving a 24-hour unrestricted helicopter emergency medical service. In the first two months of the extended service, LifeFlight was activated for 30 patients at night. This accounted for 21.4% of total helicopter mission load during this period and has highlighted the vital role LifeFlight plays within the Ambulance Service.

# Clinical Services

## Stereotactic services at the National Center for Cancer Care and Research

The National Center for Cancer Care and Research (NCCCR) began offering stereotactic radiosurgery services in the early part of 2011. This followed initial commissioning of stereotactic radiosurgery equipment in late 2010, and clinical implementation of the joint service with the Department of Neurosurgery, Hamad Medical Corporation and the Department of Radiation Oncology. To date, approximately 20 patients have been referred to the program and 10 have been treated with this highly advanced technique. Stereotactic radiosurgery treats brain tumors and lesions through focused delivery of very high ablative doses of radiation. The doses are directed at a small target area with even greater precision than conventional radiotherapy equipment. The key benefit of this new technology is that the radiosurgery – in the form of a one-session treatment – has such a dramatic effect that the changes are considered “surgical.” Three-dimensional computer-aided planning, along with a high degree of patient immobilization, minimizes the amount of radiation that passes through healthy brain tissue and therefore reduces the risk to the patient.

## Peri Surgical System Redesign Program

Throughout 2011, the Center for Healthcare Improvement at Hamad Medical Corporation continued work on developing the Peri-Surgical System Redesign Program, which aims to improve all elements of the patient pathway for people undergoing surgery. The program is divided into 11 workstreams including: standardized assessment process, patient information and communication, referral management, centralized booking system, improving operating theater effectiveness/system review, capacity management, post-surgical care and discharge planning and the ambulatory care hospital.

This radical redesign of existing surgical processes aims not only to ensure that patients are informed about what will happen to them when they come to a Hamad hospital for an operation but also improve the way patients are managed and cared for at every stage. The redesign will help to reduce patients’ length of stay in hospital by incorporating same-day admission and increasing the number of

day-case procedures so people can return home faster to be with their families and loved ones.

## New system for early detection of acute coronary syndrome

Al Khor Hospital introduced a scoring system for the early detection of acute coronary syndrome (ACS) in the Emergency Department. This new and simple system can help emergency physicians detect ACS and so plan for early admission and initiation of appropriate and effective management. The new scoring system has reduced morbidity and mortality from ACS and cut the number of missed ACS cases.

## New Bariatric team extends options to combat obesity

In 2011, Hamad Medical Corporation formed a specialist Bariatric surgical team led by a new Professor of Surgery, who has successfully introduced the latest Laparoscopic Gastric Plication technique to Qatar.

In Laparoscopic Gastric Plication, a surgical procedure to treat morbid obesity, folding of the outer curve of the stomach is done with sutures. There is no foreign body attached and the technique has minimal side effects. The volume of the stomach is reduced to 100cc and the entire Plication technique is reversible. This procedure is said to be twice as effective as the alternative banding technique and has similar results to Laparoscopic Sleeve Gastrectomy in which a substantial part of the stomach is surgically removed.

The medical benefits of Laparoscopic Sleeve Gastrectomy are also significant. Statistics show that it improves type 2 diabetes in patients by 95%, reduces hypertension by 88%, lowers cholesterol by 73%, reduces sleep apnea by 91%, and also helps in reducing joint pain by 70%. Plication is expected to deliver similar results.

The Plication technique usually takes less than one hour to complete. Patients are kept in for observation for up to two days, but there are plans to make the procedure an outpatient service with immediate discharge.

## Expansion of Children’s Rehabilitation Clinic services

The Developmental Pediatrics and Children’s Rehabilitation Section, based at Rumailah Hospital (RH), has recently expanded its capability to accept more referrals from schools, the Shafallah Center for Children with Special Needs, and the school health program. The main service provider in Qatar for children with developmental disorders, autism and other disabilities, the section now runs a total of 17 clinics a week. It provides a variety of clinical services such as evaluation, consultation, diagnosis and assessments of children with a wide range of conditions such as developmental delay, speech and language delay/disorder, autism and cerebral palsy. The main sources of referrals are hospital pediatricians, as well as primary health care specialists and therapists.

In 2011, around 3,000 clinical appointments were offered at the newly refurbished child development center within RH. The center is set to become the hub for child development and rehabilitation services within Hamad Medical Corporation.

In 2011, Hamad Medical Corporation formed a specialist Bariatric surgical team led by a new Professor of Surgery

## Pharmacy improvements

**There was excellent progress in the development and enhancement of our pharmacy services. The Pharmacy Redesign Project is a thorough and deep-rooted review of our entire pharmacy capability, and yet another manifestation of our determination to deliver high-quality care. The pharmacy improvements at the National Center for Cancer Care and Research (formerly known as Al Amal Hospital) complement the overall improvements in our pharmacy operation.**

The outpatient pharmacy department at the National Center for Cancer Care and Research has been redesigned to maintain patient privacy.

## Pharmacy redesign project

The Center for Healthcare Improvement is working with pharmacy directors and CEOs from across Hamad Medical Corporation to redesign the entire pharmacy service. The aim is to ensure that Hamad meets or exceeds the standards required to be an Academic Health Center.

All existing pharmacy services were assessed using the McKesson High Performance Pharmacy tool. This led to an important official overseas visit to three sites run by Harvard-based Partners HealthCare in the United States. Our staff saw first-hand the increasing role that clinical pharmacy has in ensuring medication safety, as well as the impact that technology and workflow redesign can have on patient care.

The group visited three world famous hospital sites in the Partners group: Brigham and Women's Hospital, North Shore Medical Center, and Massachusetts General Hospital.



# Clinical Services

A four-day program introduced the group to the full range of medication management activities. Key themes addressed during the visit were medication safety, optimal use of the latest information, use of computers to enter prescriptions, use of bar-codes to monitor the journey of a drug from arrival in the hospital through to administration at the bedside.

Our collaboration with Partners HealthCare is helping to ensure our services and processes deliver the safest and most effective medications. Hamad is seeking to maximize the use of technology to minimize human error. It aims to have highly trained clinical pharmacists reviewing medication at all stages of all patient journeys undertaken in Hamad facilities.

Findings from the overseas visit were used in a Pharmacy visioning workshop held in December and attended by 120 Hamad pharmacy and nursing staff, as well as medical staff.



Hamad has highly trained clinical pharmacists reviewing medication at all stages of all patient journeys.

## Pharmacy improvements at the National Center for Cancer Care and Research (NCCCR)

### NCCCR pharmacy works towards patient-centric model

NCCCR staff received the *Rising Star in Leadership Team Impact Award* at the 2011 Stars Of Excellence Awards ceremony. The award recognized the paradigm shift that has taken place in pharmacy practice towards a patient-centered model, in contrast to the traditional drug distribution model.

Increased automation and computerization, as well as deployment of pharmacy technicians for technical tasks, have given pharmacists more time to devote to clinical roles and communication with patients. Other improvements include ensuring that all patients receiving chemotherapy, patients on high-risk medications, elderly patients, patients being discharged and patients on polypharmacy (more than five drugs), receive education and counseling about their medications. The outpatient pharmacy layout has also been redesigned to maintain patient privacy. Together, these changes are delivering numerous benefits to patients, including better compliance with drug therapy and a lower incidence of untoward drug-related events. The cost of care is also reduced owing to shorter lengths of stay and fewer readmissions.

### Pre-printed chemotherapy prescription

Chemotherapy protocols are often complicated and present numerous opportunities for error. The introduction of pre-printed chemotherapy prescriptions aims to minimize incorrect or incomplete prescribing and improve patient safety. During 2011, the Pharmacy Department continued its pre-printed prescription project. Following the success of four pre-printed prescriptions for colon cancer that were launched three years ago, 16 pre-printed prescriptions for breast cancer patients were prepared and introduced in 2011.

### Expanding the role of pharmacists

The 2010 project to increase pharmacists' involvement in the detection and documentation of drug-related events continued into 2011. This project involves the development of an electronic data sheet to document pharmacists' intervention in rectifying medication-related problems. The aim is to reduce the incidence of prescribing errors and so ensure greater patient safety. A total of 824 interventions were documented in 2011. The creation of a database is assisting in analysis of problematic prescribing habits and the development of appropriate corrective measures.

## Recognition of our world-class capabilities

**Hamad Medical Corporation is a leading healthcare organization adhering to international standards with regard to its facilities, its services and its people. We are actively engaged in obtaining formal verification wherever possible of our care capabilities and our standards. This is an integral part of fulfilling our aspiration to be a leader in healthcare and a center of excellence in the Gulf region. During the year under review, we successfully completed an important assessment process in oncology and reached the final stages of a key verification procedure in our trauma service.**

### **National Center for Cancer Care and Research (NCCCR) is designated as a Center of Competence**

Following the QUATRO audit of the department in 2010 by the International Atomic Energy Agency (IAEA) a final report was published in 2011 designating the NCCCR as a Center of Competence. The QUATRO audit is one of the leading international benchmarks for measuring the quality and safety of clinical care in radiation oncology. A Center of Competence rating is the top rating that can be achieved in the IAEA audit and signifies that the hospital is capable of delivering radiotherapy services to the highest international standards. The IAEA assessment included over 400 factors, ranging from equipment calibration and treatment procedures to the quality of medical and technical staff.

“Hamad Medical Corporation is a leading healthcare organization adhering to international standards with regard to its facilities, its services and its people”

### **Trauma verification**

As part of Hamad Medical Corporation's ambition to provide the best trauma services in the region, the Emergency Department (ED) at Hamad General Hospital (HGH) has commenced a program that works towards accreditation as a Level 1 Trauma Center. The HGH ED is the first site outside the United States ever reviewed by the American College of Surgeons for verification as a Level 1 Trauma Center. Successful implementation of an accreditation action plan is expected to lead to HGH receiving formal verification as the only accredited Level 1 Trauma Center outside the United States.

In order to achieve Level 1 from the American College of Surgeons, HGH Trauma Services must meet an extensive set of criteria. The verification process began in October 2009, with an initial visit from the American College of Surgeons assessment team. They reviewed the trauma services and outlined the steps that needed to be taken to successfully meet the criteria. HGH ED is now in the final stages of its journey towards verification and is awaiting the outcome of a final review from the American College of Surgeons assessment team.



## Hamad's role in the national plans

**The first National Development Strategy for the State of Qatar 2011–2016 sets a path towards achieving the goals of the Qatar National Vision for 2030. The National Development Strategy comprises a number of complementary plans from across government and includes a National Health Strategy. Hamad Medical Corporation is naturally committed to playing a full and energetic part in bringing Qatar National Vision 2030, particularly the specific objectives for health and healthcare, to life. Our work over the past year in the field of organ transplantation, cancer services and mental health all make a key contribution to Qatar's national plans.**

## Organ Transplantation

**National organ transplant center opens at Hamad**  
November 2011 saw the official opening of the Qatar Center for Organ Transplantation. With the world's most advanced equipment, and benefiting from a carefully selected multinational team of experts, the multi-organ transplant facility offers kidney, liver and pancreas transplantation as well as technical support to facilitate access to organs from donors.

End stage kidney disease is a common health problem in Qatar and about 600 people are now on dialysis. An estimated 65 patients are waiting for kidney transplantation while nine are waiting for pancreatic surgery–liver transplantation. The new Qatar Center for Organ Transplantation aims to provide the best quality of health, emotional and social care to patients (organ recipients), as well as donors and their families, as part of developing an efficient and effective multi-organ transplant program based on world-class standards.

The new facility has focused attention on organ donation. Religious and cultural beliefs, and lack of knowledge of the donation procedure, are among the top reasons behind reluctance to donate organs. This is despite all religions allowing organ donation and the fact that the new facility adheres strictly to international criteria for determining brain death. To help counter these perceptions and fears an educational campaign involving the expatriate community in Qatar is planned and will aim to raise awareness of the importance of organ donation.

In addition, and in line with the Doha Donation Accord, Qatar will soon launch a National Organ Donation Center. It will house the national donor registry, supervise all donation processes including allocation of organs and complement the work of the Qatar Center for Organ Transplantation. The aim is to have an active donor registry in Qatar by mid 2012. By that time, everybody in Qatar will have the right to express, via their Qatari ID card, whether they wish to be a donor.

## First Hamad General Hospital liver transplant patient

The first ever liver transplant in Qatar was successfully conducted by a surgical team at Hamad General Hospital (HGH) on 6 December 2011. After a stable 10-day postoperative stay, the patient was discharged home in a good state of health and is being monitored regularly at the Outpatient Department liver clinic.

With the normal postoperative hospital stay for liver transplantation ranging from two to three weeks, the rapid progress made by this patient underlines the highly satisfactory performance of the Qatar Liver Transplant Program. The program is ready to deal with any similar case, provided a suitable donor is available. All members of the surgical team that conducted the first liver transplant are Hamad Medical Corporation employees. This makes Hamad the first medical center in the region to conduct a liver transplant with a local team of surgeons, which is a significant milestone.

## Kidney transplant success

Also in December, kidney transplant operations were performed for two patients, both residents of Qatar, who had been receiving treatment at the HGH Renal Dialysis Unit. A 39-year-old Lebanese citizen and a 34-year-old Pakistani citizen each received a new kidney from a deceased Filipino citizen. The third kidney transplant was performed for a 17-year-old Iraqi citizen who received a live kidney donated by his mother.

Hamad made huge progress in the field of kidney transplantation during 2010 and 2011, with nine successful operations performed each year, compared to just three kidney transplant operations in each of 2007, 2008 and 2009 owing to a lack of kidney donors. Hamad covers all pre- and post-operative financial expenses for live donors and meets the costs of all the drugs they need.

Live donors are normally subjected to exhaustive investigations for various types of diseases including hypertension, diabetes and cholesterol. The Qatar Kidney Transplant Center team has recently introduced the use of endoscopy, a simple, safe and time-saving technique, to remove the kidney from a live donor. This new technique shortens the donor's stay in hospital, requires far less recovery time and is far easier for the donor than an open surgical procedure.



# Clinical Services

## Transforming Cancer Services

### New National Center for Cancer Care and Research

The announcement of the new National Center for Cancer Care and Research (NCCCR) within Hamad Medical Corporation in April 2011 was a step forward in the development of cancer services for Qatar. The NCCCR incorporates a wide range of cancer services, activities and expertise from across a number of Hamad's hospitals. The changes include a refurbishment and re-naming of Al Amal Hospital which is now to be known as the National Center for Cancer Care and Research. The refurbished hospital aims to provide international standard, high-quality cancer care. The NCCCR as a whole is building partnerships with international cancer care institutions to assist in treating rare cancers and to support staff training and development.

### Patient Pathway Coordinators for cancer care

Hamad Medical Corporation introduced the new role of Patient Pathway Coordinator (PPC) as part of its implementation of the National Cancer Strategy for Qatar, launched by Her Highness Sheikha Moza bint Nasser in April 2011. The Strategy saw the PPC role as crucial to the delivery of high quality and truly personalized cancer services. Being patient-centered at all times and taking into consideration a patient's psychosocial needs as well as their medical needs is key to delivering an effective service.

Working with the team of health professionals engaged in cancer care, the PPCs will play a crucial part in coordinating a cancer patient's care, right from the point of diagnosis and through every step of their journey, with the goal of ensuring seamless care.

Patient Pathway Coordinators play a crucial part in coordinating a cancer patient's care, right from the point of diagnosis and through every step of their journey.

### Formation of cancer services Multi-disciplinary Teams

The establishment of Multi-disciplinary teams (MDTs) of cancer specialists comprising physicians, surgeons, radiologists, pathologists and oncologists with specialist knowledge and skills in different cancer types was a major development in 2011. The MDTs focus on the clinical, radiological and pathological features of individual cases and make recommendations about treatment and care for individual patients.

The MDTs provide continuity of care even when different aspects of care are delivered by different individuals or providers and have been shown to improve clinical outcomes significantly. All MDTs are subject to peer review to ensure quality standards and clinical outcomes are met. During the year, MDTs were established for: GI; Urology; Breast; Lymphoma and Leukemia; Hepatobiliary; and Palliative Care. More MDTs will be formed in the future.

All MDTs meet weekly or on an "as needed" basis. The sessions are well attended and every case submitted is discussed.

### Palliative care developments

In 2011, a decision was taken to embark on the development of a specialist Palliative Care Center comprising dedicated single rooms with en-suite bathrooms, the new Center will allow patients to stay close to hospital facilities, but in a more homely, private and comfortable environment better suited to the needs of people requiring palliative care. Plans are also being developed for a palliative care team for patients who wish to be cared for in their own home.





The Multi-disciplinary teams focus on the clinical, radiological and pathological features of individual patients with cancer and make recommendations about treatment and care for individual patients.

The National Center for Cancer Care and Research incorporates a wide range of cancer services, activities and expertise from across a number of Hamad's hospitals.

### Mental Health Strategy

#### Lead role for Hamad Medical Corporation

The Supreme Council of Health has given Hamad Medical Corporation a leading role in transforming mental health care in line with the developing National Mental Health Strategy. Hamad will work closely with other organizations that have responsibility for delivering the changes required to transform Mental Health services. Partners include the Primary Health Care Corporation and the Supreme Council of Health. Work is overseen by a National Mental Health Committee established in May 2011 by the Supreme Council of Health.

#### Experts appointed for the National Mental Health Strategy

A number of international experts will be working with Hamad Medical Corporation on behalf of the Supreme Council of Health on the National Mental Health Strategy. Asia Australia Mental Health has been contracted for two years (2012 to 2013) as the primary consultant. Canada's SickKids Foundation is to provide expert input for Child and Adolescent Mental Health through their contract with Hamad Medical Corporation's Children's Hospital Project. As implementation progresses, other experts will ensure that the best evidence and advice helps to shape the creation of a world-class mental health service for Qatar.

## Serving the community

Hamad Medical Corporation is a patient-centered healthcare provider that is continuing to develop to meet the healthcare needs of the expanding population of Qatar. We strive to meet as many community needs as we can and will continue to do so. During 2011, Hamad became the first health system in the region to become more transparent by publishing information online about its performance. We also started to provide home-based services to elderly people with mental health problems.

### Hamad Medical Corporation makes performance information public

#### Importance of transparency

People everywhere welcome transparency. We have now begun a journey in which information about successes, and about opportunities for improvement, will be shared with patients and the public. As the data set grows, it will become easier to compare Hamad Medical Corporation's performance with other health systems around the world. Reports will focus on the following areas:

- improving access to inpatient and outpatient services;
- ensuring the safest possible use of medications;
- reducing the risk of infection acquired in the hospital; and
- measuring and improving outcomes of care.

The first two reports, published in late 2011 and early 2012, showed improvements in two key areas: MRI waiting times and Ambulance Service Critical Care Paramedic (CCP) response times.

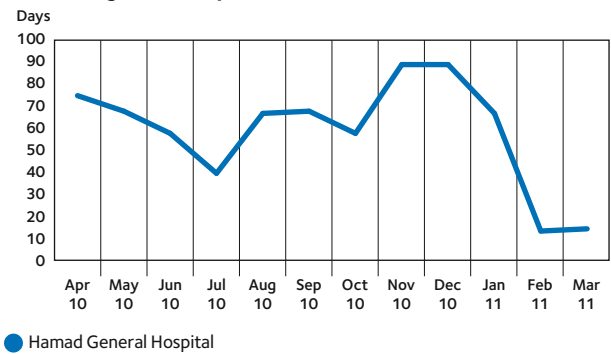
### Reduction in MRI waiting times

Patients require easy and timely access to emergency and routine care. A key access issue at Hamad Medical Corporation in 2010 was waiting times for MRI scans. There were significant improvements in this respect during the year under review. At the beginning of the 2010/11 year, the waiting time for MRI scans at Hamad, and in particular Hamad General Hospital (HGH), was 75 days. This was clearly an unacceptable waiting time and the issue was given high priority.

#### Reduction in 2010/2011

From the initial waiting time of 75 days at HGH, there was a gradual reduction month on month. By the end of the financial year 2010/11, the average waiting time had decreased to 15 days.

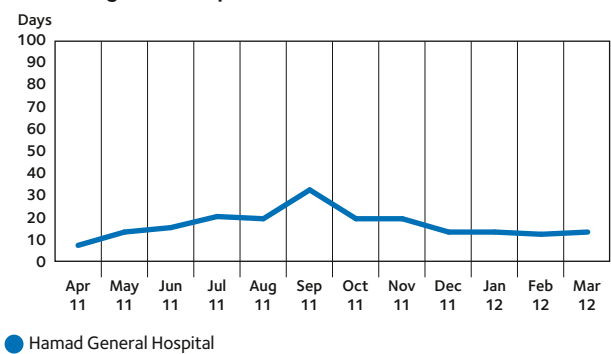
MRI Waiting Time (Outpatient)



#### Reduction in 2011/2012

The improvement continued into the 2011/2012 financial year. While there was a slight rise due to reduced working hours during the holy month of Ramadan (waiting time at HGH in August 2011 was 20 calendar days), the waiting time during October 2011 dropped to 14 days, and by mid November 2011 it had reached 12 calendar days.

MRI Waiting Time (Outpatient)



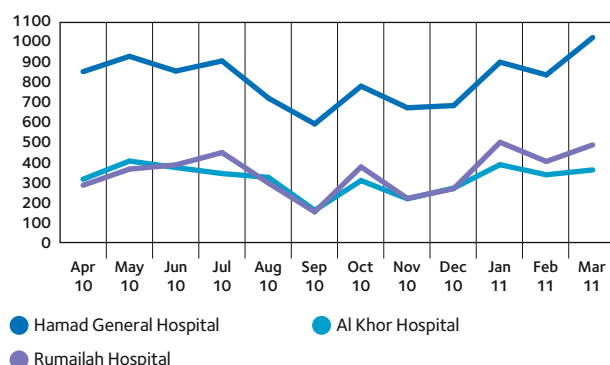
### Reasons for the improvement

The reduction in waiting times resulted from various improvements. From late 2010, for example, the Radiology Service commenced evening and weekend appointments to provide greater patient choice. This brought waiting times down despite increasing patient numbers, with 17,972 scans being undertaken at Hamad during the period April 2010 to March 2011 (see graph below). The appointment system and expanded opening hours have been so successful that as from January 2012, the majority of MRI Centers are open from 7 am until 11 pm Sunday to Thursday, with Saturday appointments available at some locations.

The Radiology Department also upgraded MRI equipment across all Hamad Medical Corporation hospitals. In April 2011, for example, a new corporation-wide Radiology IT System was installed to speed up the process of issuing appointments. In addition, all MRI pictures can now be stored in digital format (not films) and, to help with rapid diagnosis, can be reviewed by any specialized Hamad MRI doctors. Images can be seen by patients' referring doctors too at any Hamad location via the Corporation's secured computer network.

In April 2011, Hamad commenced an upgrade of its MRI Services. As a result, cutting-edge MRI technology is now available at the National Center for Cancer Care and Research, Al Wakra Hospital and Hamad General Hospital.

**Total number of patients for MRI scans per month**



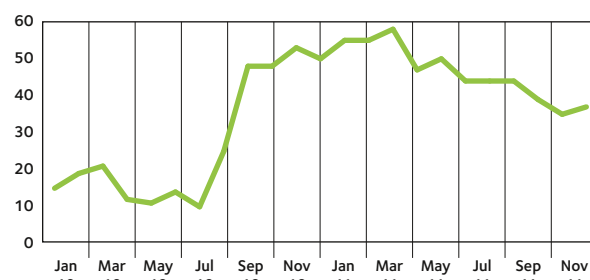
Graph showing the total number of patients waiting for MRI scans per month during 2010/2011 at Hamad General Hospital, Rumailah Hospital and Al Khor Hospital.

### Ambulance Service Critical Care Paramedic response times

The aim of the Ambulance Service was to ensure all patients who require a Critical Care Paramedic (CCP) had access to one. So more CCPs were recruited and, from a position in which CCPs were provided to fewer than 15% of Priority 1 calls in January 2010 (as is shown by the graph in the next column), by November 2011 the Ambulance Service was providing a CCP to 36% of all calls attended. The improvement commenced in the second half of 2010 with the arrival of new staff and this trend is shown clearly in the graph.

Graph showing percentage of Priority 1 calls for which a CCP is dispatched.

**Priority 1 calls with CCP Response (%)**



The decrease in CCP attendance over the last few months of 2011 reflects an increased number of Priority 1 calls. Furthermore, there was a significant increase in demand on the CCP program caused by expansion of the Helicopter Emergency Medical Service – LifeFlight. Due to night landing restrictions, CCP staffed helicopters have a much lower CCP utilization rate than ground units. CCPs have also been deployed in special humanitarian operations in neighboring Arab states. Nevertheless, the number of patients receiving care from a CCP has increased threefold since January 2010.

### Reasons for the improvement

CCPs are now available on two additional rapid-response vehicles per shift, and the LifeFlight helicopter (with CCP staffing) is now available until midnight as opposed to only daylight hours. In addition, CCPs are deployed to accident hotspots (such as the Sealine Resort) during winter weekends and provide clinical support on a 24-hour basis in the 999 Communications Center.

### Psychiatry Department outreach service for older people

The recently established Psychogeriatric Outreach team is providing home-based services to 20 older people with mental health problems. The team offers assistance with medication, psychosocial needs and education of the patient and immediate family. Caring for older people is assuming growing importance in Qatar. Changes in family structures have resulted in children becoming less involved as caregivers and there is now a need for more support to be given from outside the family.

Old people who suffer from dementia or other conditions associated with old age, are unlikely to be able to make outpatient appointments. By making home visits, the Outreach team can ensure that these people are properly assessed for treatment. The team is also able to obtain better information about a patient's needs by seeing them within the family environment.

## Research, Education and Training

We are developing research partnerships around the world to transform Hamad Medical Corporation into a world-class healthcare organization. We believe research delivers valuable and tangible benefits to patients and has a direct and positive impact on the quality of clinical outcomes.





#### Launch of the Academic Health System

The Academic Health System (AHS) is an exciting new collaboration between Hamad Medical Corporation and a number of prestigious local and international partners. Over the next five years, Qatar's AHS will improve the standard of care that patients receive, train the next generation of clinical and scientific leaders and support world-class research leading to new and exciting discoveries.

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#### Research Grants

10.8 million US dollars was awarded in research grants by QNRF to Hamad researchers during 2011.

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#### Arab Health Award

The Trauma and Critical Care Fellowship program at Hamad General Hospital was the winner of the Excellence in Surgery Services Award at the 2012 Arab Health Awards. This recognized Hamad's commitment to delivering life-changing patient care and ensuring excellence.

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## Research, Education and Training

All leading healthcare organizations combine the delivery of healthcare services with strong research, education and training. In 2011 Hamad Medical Corporation entered into a new collaboration to develop these three key areas that will transform healthcare delivery in Qatar.



## Developing an academic health system to transform healthcare in Qatar

**The Academic Health System (AHS), formally launched in August 2011, is an important and innovative approach to transforming health, education and research practice across Qatar and has been welcomed widely. The integration of the three key components is central to driving the long-term quality of healthcare in the country. The establishment and successful development of the AHS is critical to achieving Hamad's aspiration to be a leader and center of excellence in the Gulf region.**

### Introducing the AHS to the international community

All eyes were on Qatar on 8 August 2011, when the AHS was launched in an inspirational ceremony held in the presence of Her Highness Sheikha Mozah bint Nasser, Vice Chairperson of the Supreme Council of Health, AHS partners and a number of distinguished international experts in health, education and research who form an International Advisory Board for the AHS. The event featured an engaging panel discussion and a signing ceremony, highlighting each partner's commitment to the AHS. The launch was attended by international media and received worldwide coverage, affirming Hamad's reputation as a dynamic, innovative healthcare organization with international reach.

#### AHS/IAB members

|    |                                                                           |
|----|---------------------------------------------------------------------------|
| 1  | <b>Dr. Delos (Toby) Cosgrove</b> , Cleveland Clinic, USA                  |
| 2  | <b>Dr. Victor Dzau</b> , Duke University Health System, USA               |
| 3  | <b>Professor the Lord Ara Darzi</b> , Imperial College, UK                |
| 4  | <b>Professor Edward Hillhouse</b> , Hamad Medical Corporation, Qatar      |
| 5  | <b>Hanan Al Kuwari</b> , PhD, Hamad Medical Corporation, Qatar            |
| 6  | <b>Professor Martin Paul</b> , Maastricht University, The Netherlands     |
| 7  | <b>Sir Keith Peters</b> , Cambridge University Health Partners, UK        |
| 8  | <b>Dr. Javaid Sheikh</b> , Weill Cornell Medical College in Qatar         |
| 9  | <b>Sir John Tooke</b> , University College London, UK                     |
| 10 | <b>Dr. Steven Wartman</b> , Association of Academic Health Centers, USA   |
| 11 | <b>Professor John Wong</b> , National University Health System, Singapore |

Over the remainder of 2011, Hamad worked in close collaboration with Weill Cornell Medical College – Qatar (WCMC-Q) and other local partners to continue development of the AHS with the underlying aim of generating significant positive impacts on health, patient care, medical education and medical research.

In line with Qatar's National Health Strategy and the Qatar National Vision 2030, the AHS will transform healthcare delivery in Hamad Medical Corporation hospitals. It will improve the health and

well-being of Qatar's population, undertake innovative research leading to novel healthcare solutions, and educate the next generation of clinical, operational and scientific leaders. The partnership will also be socially responsible, supporting and engaging with the local, regional and international community to promote health awareness and disease prevention.

Qatar's Academic Health System is the first partnership of its kind in the region and the only academic health partnership in the world that draws members together on a national scale. In addition to Hamad and WCMC-Q, current partners include Qatar University, the Primary Health Care Corporation, Sidra Medical and Research Center, University of Calgary – Qatar, and College of the North Atlantic – Qatar.

### Pursuing ambitious health, education and research goals

The Academic Health System is focused on six key themes:

- Clinical
- Education
- Research
- Human Resources
- Community Engagement
- Information Systems

Within each key theme, ambitious goals and programs have been developed that will advance – and in some cases, transform – health, education and research practice across Hamad and the AHS partner organizations. Initially, goals and programs focus on cancer, metabolic disease, neuroscience, and cardiovascular disease, as these areas represent healthcare challenges particularly relevant to the local population. There is also an early emphasis on building a robust infrastructure to support the AHS. The research element is critically important because it is translational, which means it delivers tangible benefits to patients and can directly impact clinical outcomes.

### Building a strong foundation

Hamad Medical Corporation and partners in the AHS have worked together closely on the development of a clear framework and governance structure for the AHS. They have also developed and adopted a shared vision, mission, and values, a clear decision-making structure, and a well-defined strategy to guide the AHS's further development.

Significant progress in moving the AHS forward from vision to reality included the establishment of a Joint Steering Committee, which, together with the International Advisory Board of luminaries provides oversight and direction to the partnership. A number of interprofessional subcommittees have also been established to develop and implement the programs required to move the partnership forward across each of the six key theme areas.

In line with Qatar's National Health Strategy and the Qatar National Vision 2030, the AHS will transform healthcare delivery in Hamad Medical Corporation hospitals.

# Research, Education and Training

## Development of the Neurosciences Institute

In collaboration with Weill Cornell Medical College in Qatar, Hamad Medical Corporation began development of a Neurosciences Institute. With a focus on patient-centered care and public health, the Neurosciences Institute will help to improve neurological and mental health outcomes for Qatar's population. Initially, it will focus on conditions that are particularly relevant to Qatar, including epilepsy, stem cell and regenerative medicine, depression and schizophrenia, and brain injury (including stroke).

Using an integrated approach to research, training and clinical activities, the institute will deliver and draw together, within a single body, interprofessional clinical service programs crossing various specialties in the neurosciences area. The institute will support the neuroscience community through a robust research and intellectual infrastructure, including undergraduate, postgraduate and continuing professional development programs and cutting-edge translational research fully integrated with high-quality clinical service delivery.

## Joint Appointments process and Joint Institutional Review Board

Also in collaboration with Weill Cornell Medical College in Qatar (WCMC-Q), Hamad Medical Corporation developed a Joint Appointments process and convened a Joint Institutional Review Board. The Joint Appointments process allows for physicians and senior nurses recruited to Hamad to be appointed as faculty

members at WCMC-Q or the University of Calgary – Qatar, respectively. The newly created Joint Institutional Review Board, with a mandate to approve, review and monitor research involving human subjects, ensures that research undertaken by any AHS partners conforms to the highest ethical standards and meets or exceeds international best practice.

These two innovations draw together healthcare, education and research and help to ensure that Hamad's physicians and senior nurses are of the highest caliber, stay closely connected to the academic community, and engage in research that will benefit patients, all while delivering safe and effective clinical care.

## Taking a position on the international stage

Since its formal launch, the AHS has steadily gained local, regional and international recognition for its innovative approach and unique potential to have an impact on health and well-being at a national level. Key leaders from Hamad Medical Corporation and the AHS have been invited to participate in prestigious international events and health congresses, and the AHS has been featured in the international media and prominent professional journals, such as *The Lancet* and *Health Service Journal*.

Looking ahead to 2012 and beyond, Hamad and its AHS partners will continue their journey of transformation, working to achieve their vision of becoming the leading healthcare partnership in the region. Further information about the Academic Health System is available at <http://ahs.hamad.qa>.

We actively encourage and facilitate research that leads to evidence-based healthcare practice and has the potential to improve patient outcomes and enhance the patient experience.



## Research

**Hamad Medical Corporation actively encourages and facilitates research that leads to evidence-based healthcare practice which has the potential to improve patient outcomes and enhance the patient experience.**

### Development of the Translational Research Institute (TRI)

In early 2011, planning and design was initiated for the development of the Translational Research Institute (TRI). This is a key component of the Academic Health System and will underpin Hamad Medical Corporation's development as an internationally recognized health research organization and the leading health research organization in the region. Scheduled for completion in 2014, the TRI will provide state-of-the-art core research facilities to support internationally competitive translational (bench-to-bedside) and clinical research. With a focus on the fields of cancer, trauma, infectious diseases, neuroscience, diabetes, obesity, cardiovascular disease, and women's and children's health, the TRI will give researchers ready access to facilities that enable the translation of basic biomedical discoveries into new diagnostic biomarkers and therapies.

The TRI will consolidate in one place, all research groups from across Hamad and encourage collaboration and innovation through a number of cross-cutting themes such as bioinformatics, ethics, molecular imaging, functional genomics, proteomics and metabolomics, clinical imaging, clinical trials and biostatistics.

### Qatar National Research Fund (QNRF) grants

Qatar Foundation, located in Doha, is an independent, private, non-profit, chartered organization established in 1995 by decree of His Highness Sheikh Hamad Bin Khalifa Al-Thani, Emir of the State of Qatar. It seeks to support centers of excellence that develop people's abilities through investment in human capital, innovative technology, state-of-the-art facilities and partnerships with elite organizations.

A Translational Research Institute will provide internationally recognized state-of-the-art core research facilities

Qatar Foundation sees research as a key catalyst for expanding and diversifying the country's economy, enhancing the education of its citizens and the training of its workforce, and fostering improvements in the health, well-being, environment, and safety of people in Qatar and in the region more widely.

Qatar National Research Fund (QNRF) is the research funding agency for Qatar Foundation and strives to advance knowledge and education by supporting original research. Each year QNRF encourages researchers from all over the world to apply for research grants. Priority is given to research in the following national priority areas:

- Diabetes
- Obesity
- Cardiovascular diseases
- Women's and children's health
- Genomic factors on health of individuals and population
- Cancer (breast, hematological, colon, and malignancies)
- Health and environmental pollution

Hamad Medical Corporation puts forward proposals to QNRF each year and the quality of the funding bids is improving rapidly. During 2011, Hamad researchers received the following 12 QNRF grants totaling US \$10,845,673.

| Project No.             | Title                                                                                                                                                                               | Total Funding (US\$) |
|-------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|
| NPRP 4 – 053 – 3 – 018  | Molecular Basis of Alpha-Thalassaemia among Qatari Population                                                                                                                       | 332,700              |
| NPRP 4 – 093 – 3 – 035  | Genetic Basis of Autosomal Recessive Disorders in Qatar                                                                                                                             | 1,002,654            |
| NPRP 4 – 096 – 3 – 037  | Elucidating Molecular Pathways Involved in Cellular Senescence as a Tumor Suppressor Response                                                                                       | 1,016,324            |
| NPRP 4 – 154 – 3 – 050  | Highly Characterized DNA Repository of Ischemic Stroke in Qatar                                                                                                                     | 942,630              |
| NPRP 4 – 169 – 3 – 055  | Prevalence and Management of Attention Deficit Hyperactivity Disorder (ADHD) among Qatari students                                                                                  | 471,550              |
| NPRP 4 – 247 – 3 – 076  | Characterization of Metabolic Defects in Arab Subjects at Increased Risk of Type 2 Diabetes                                                                                         | 1,019,972            |
| NPRP 4 – 471 – 3 – 148  | Novel Approach in Molecular Pathophysiology of Myeloproliferative Neoplasms (MPNs): What Determines Phenotypes of JAK2 Mutations (Qatari Prospective)                               | 992,680              |
| NPRP 4 – 545 – 3 – 165  | National Epidemiological Study of Lung Health among Qatari Schoolchildren: Phase II: Assessment of Asthma Prevalence Rates and Normal Reference Values for Spirometry Lung Function | 973,909              |
| NPRP 4 – 603 – 3 – 179  | Sensors for Advanced Wound Care                                                                                                                                                     | 974,915              |
| NPRP 4 – 1025 – 3 – 276 | Game-Based Virtual Reality Approach for Improving Balance, Reducing Falls, and Preventing Complications in Diabetes                                                                 | 1,045,373            |
| NPRP 4 – 1026 – 3 – 277 | Smart Sox: Using Intelligent Textiles to Dose Activity and Prevent Complications                                                                                                    | 1,022,966            |
| NPRP 4 – 1392 – 3 – 345 | Kidney Disease in Type 2 Diabetes Mellitus: Biomarker Discovery and Novel Therapeutics                                                                                              | 1,050,000            |

# Research, Education and Training

## Internal Research Grant Competition

In 2011, and to support Hamad Medical Corporation's focus on research, the Managing Director's Office set aside funds for a Hamad Internal Research Grant Competition. This initiative, to be repeated annually, aims at encouraging research participation right across Hamad. The Medical Research Center received 37 high-quality research proposals for review by a panel comprising scientists from Hamad and external experts. The 11 winning submissions between them received a total of QR 3 million in research funding.

Many of these research projects are multi-disciplinary and involve collaboration with medical experts from North America and Europe. The research findings will be published in local, regional and international medical journals and are expected to make a significant contribution to improving patient care.

Internal Research Grant Competition winners were:

1. Novel Smartsock Technology to Prevent Diabetic Foot Ulcer Based On Fiber-Optic Concept
2. Using the Medication Event Monitoring System (MEMS) to Estimate Imatinib Myslate (IM) Compliance In Chronic Myelocytic Leukemia (CML) Patients in Qatar
3. Assessment of Oncology Patients' Adherence to Oral Anticancer Medications
4. Review of Factors Associated with Suicide and Self-Harm in Qatar
5. The Contribution of Genetic Variation In the MO-I Gene to Obesity And Diabetes In Qatari Arabia
6. Automated Alert System for Multi-drug Resistant Organisms in Hospital Locations – Indicator For Patient Risk and Safety
7. Correction of Vitamin D in Asthma Control In Vitamin D Deficient Children with Moderate-Severe Asthma
8. Homocystinuria: Common but Treatable Inborn Error of Metabolism in Qatar Treatment and Pathophysiology
9. Validation and Cultural Adaptation of the Arabic Versions of the Mini Mental Status Exam and Mini Cog Test In The Qatari Population
10. Using Pressure Mapping in Selection of Equipment to Reduce Pressure Sores
11. Multicenter Randomized Controlled Trial of Therapeutic Hypothermia vs. Therapeutic Hypothermia And Magnesium Sulphate (MGSO4) in the Management of Term Babies with Hypoxic Ischemic Encephalopathy (The Meg-Cool Study)

## Basic science has an important part to play

Hamad Medical Corporation received the Best Biomedical Research Program of the Year award at the Qatar Foundation Annual Research Forum in November 2011. Building on this achievement, Hamad is now planning to set up a dedicated Medical Research Facility at Hamad Medical City for conducting basic science research that will complement current clinical research. It will have special laboratories to facilitate multi-disciplinary collaboration between health providers from Qatar.

## Education and Training

**Hamad Medical Corporation sets high standards and these are underpinned by comprehensive education and training. We work with world-class partners wherever possible to ensure best practice. The many awards we receive, and the accreditation schemes in which we participate, underline our determination to achieve the highest standards possible in the service of the people of Qatar.**

## Approval for pharmacy training

The pharmacy at the National Center for Cancer Care and Research (NCCCR) was approved as one of the training sites for PharmD (Doctor of Pharmacy) students from Qatar University College of Pharmacy. Experts from the Canadian Council for Accreditation of Pharmacy Programs (CCAPP) inspected the Pharmacy Department and evaluated staff. Approval to use the site was given in accordance with CCAPP standards and the first students began a four-week program in September 2011. The students conducted patient reviews, clinical team rounds with the principal, reported on patient, and gave presentations to pharmacy staff.



### **HIS – Gold Award from ictQATAR for promoting e-Learning**

Hamad Medical Corporation received a Gold Award from the Supreme Council of Information and Communication Technology in Qatar (ictQATAR) for actively promoting employee e-Learning through the Qatar National e-Learning Portal. The award recognized Hamad's adoption of e-Learning throughout the organization. The head of the Information Technology training section at the Health Information Systems (HIS) department also received the "e-Learning Manager of the Year" award for leadership in promoting e-Learning.

### **Moving towards Accreditation for Graduate Medical Education**

The year saw progress in aligning Hamad Medical Corporation residency programs with the Accreditation Council for Graduate Medical Education (ACGME) in the United States. The accreditation strategy focuses on continuous assessment and improvement of trainees. Progressive supervision and graded responsibility guarantees the highest quality of patient care and safety, promotion of excellence, and ongoing education. The residency programs, with the support and guidance of the Medical Education Department, achieved clear progress with the development and implementation of their curriculum based on competencies defined by the ACGME.

The Medical Education Department also introduced MedHub, a web-based residency management system designed to track

and document a variety of critical program and resident activities relating to ACGME institutional and program accreditation. All house staff are provided with a MedHub username and password after they have completed orientation. The Medical Education Department also started compiling internal review documents that will form part of the submission for institutional accreditation.

### **Arab Health Award for Trauma Fellowship program**

Hamad Medical Corporation's dedication to excellence was recognized in January with an outstanding win among five nominations at the Arab Health Awards in Dubai. The Trauma and Critical Care Fellowship Program in the Trauma Surgery Section at Hamad General Hospital (HGH) was awarded the Excellence in Surgery Services Award.

The award recognized the organization's commitment to delivering life-changing patient care and ensuring excellence. Trauma is one of the leading causes of death in the Gulf region's young adult population and a significant number of people require advanced critical care and surgical services each year. The HGH Trauma and Critical Care Fellowship Program places a strong focus on improving patient outcomes and a cutting-edge approach to training and education of the next generation of trauma and critical care specialty physicians. A Program priority is to train physicians to enhance the delivery of critical care for patients throughout the hospital, from admission through to discharge.

### **Engaging clinicians in quality improvement**

To promote the engagement of Hamad Medical Corporation clinicians in patient care improvement, Harvard-based Partners HealthCare worked with colleagues to deliver a series of workshops to 350 physicians from 15 departments in the spring of 2011. The workshops were followed by a four-month training program in clinical process improvement. This was designed exclusively for Hamad's clinicians and taught by a mixed faculty from Hamad and Partners HealthCare.

### **Al Khor staff education success**

The Health Information Systems department has developed a software application called Staff Education Program Management System (SEPMS). Al Khor Hospital is the first Hamad Medical Corporation hospital to implement this application. Developed using the latest technologies, the system has a range of functions that manage, monitor and report on staff education and training needs. Following completion of a pilot phase SEPMS became fully operational in early 2012.

Hamad's comprehensive education and training programs underline our determination to achieve the highest standards possible in the service of the people of Qatar.



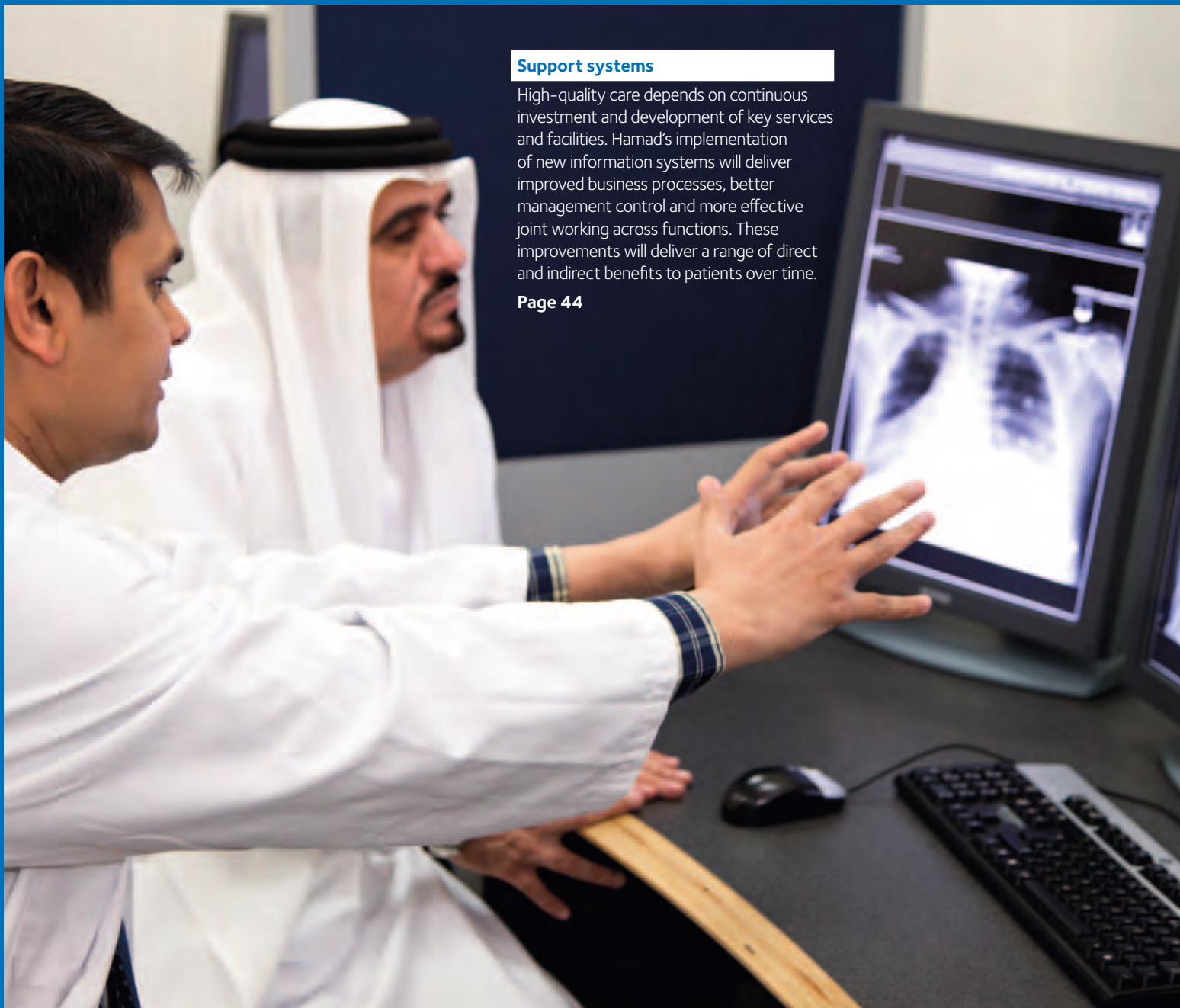
# Support Services

**We are passionate about delivering a positive experience that changes lives for the better. By continually investing in people, innovation and technology, we want to set a standard of true excellence and offer the highest quality of care today and into the future.**

## Support systems

High-quality care depends on continuous investment and development of key services and facilities. Hamad's implementation of new information systems will deliver improved business processes, better management control and more effective joint working across functions. These improvements will deliver a range of direct and indirect benefits to patients over time.

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#### Evolving organization

In Hamad's new organizational structure the hospital Chief Executive Officers and other operational leaders are empowered to take responsibility and make decisions about people and resources at local level. The new structure ensures patients are cared for at the right place, at the right time and in the right way.

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#### Three new hospitals

Our commitment to ensuring Qatar has truly world-class healthcare services is evident in our continuing program of investment in new hospital facilities across the country. Three new hospitals, Heart Hospital, the Cuban Hospital and Al Wakra Hospital, were opened in 2011/12 to ensure Hamad meets the increasing healthcare demands of Qatar's growing population.

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## Support Services

We implemented an important management reorganization during the year which allows decisions about people and resources to be made at local level so that we can serve patients' needs better.



## Our people leading the way

**When it comes to people, Hamad Medical Corporation prides itself on recruiting and retaining high caliber staff at all levels in the organization. We also feel it is important to recognize the achievements that staff make in pursuit of Hamad's corporate goals.**

### Reorganizing for high performance

At the heart of Qatar's National Health Strategy (2011 to 2016) is a concrete plan to improve the health and wellbeing of the nation. This plan depends on the development of an integrated system of healthcare offering high quality services to the people of Qatar. Hamad Medical Corporation is naturally preparing to play its part in delivering integrated pathways of care, focused on the patient, to the highest international standards. For this reason Hamad has developed a new structure to ensure resources and human capital are allocated in a way that will address the challenges of delivering effective healthcare to all the people of Qatar.

Hamad is now evolving in three significant ways to support the strategic aims of the organization:

1. By planning and delivering services around patients' needs
2. Developing and growing clinical leadership across the organization
3. Placing decision-making authority at the right levels of the organization, in order to best respond to patient needs. Authority is being decentralized wherever it best serves patient needs and is being integrated across care groups to ensure improved patient care pathways and beneficial economies of scale.

In Hamad's new organizational structure, introduced in October 2011, the hospital Chief Executive Officers and other operational leaders are empowered to take responsibility and make decisions about people and resources at local level. The hospital Chiefs of Staff have become hospital Medical Directors, responsible for clinical quality and clinical governance in their hospitals.

Hospitals are being supported to provide seamless care to patients through the formation of three new care groupings: Tertiary, Continuing Care and the General Hospitals Groups. Three Hospital Group Chiefs will provide leadership to ensure that care is integrated and delivered in the most effective and efficient way across the hospital system as a whole. Through this re-organization, Hamad is committed to ensuring patients are cared for at the right place, at the right time and in the right way.

To enable delivery of priorities and to complement the management reorganization, Hamad is revamping its corporate and clinical governance structures. The Executive Management Committee, including seven Chiefs, will be supported in discharging its duties and in governing the organization by a set of underpinning committees,

covering the full range of Hamad's activities. One of the committees is the Clinical Executive Committee which enables clinical leaders to meet with a number of the Chiefs to drive forward clinical quality and patient safety strategies.

Migration to the new organizational structure is well underway and the new governance committees have started work.

### Stars of Excellence Awards

The Stars of Excellence Employee Awards recognize clinical and administrative teams from across Hamad Medical Corporation that have made significant contributions to patient care. Now in its second year, the program is designed to stimulate and encourage teams, and individuals within teams, to undertake improvement initiatives that benefit patients, staff and the organization.

Overseen by the Chief of Planning and Performance, and developed in partnership with the Center for Healthcare Improvement and the Corporate Communications Department, the 2011 program saw close to 200 submissions from across Hamad. From these, no fewer than 28 projects were judged to have met the criteria for an award and received recognition.

The 2011 program benefited from new efforts to encourage submissions from across the whole organization. These included a comprehensive six-week staff awareness campaign to promote the Star of Excellence program, a convenient electronic submission process, and electronic evaluation with peer reviews from over 80 clinical and administrative leaders. The top level winners of the 2011 program were:

#### Leadership

| Ranking | Project                                                                      |
|---------|------------------------------------------------------------------------------|
| 1       | Department of Surgery: a Center of Excellence in Surgical Multi-subspecialty |

#### Performance

| Ranking | Project                                                                                                   |
|---------|-----------------------------------------------------------------------------------------------------------|
| 1       | Achieving Patient and Customer Satisfaction through Reduction of MRI Waiting Time from 90 days to 14 days |

#### Practice

| Ranking | Project                           |
|---------|-----------------------------------|
| 1       | Leadership in Pediatric Emergency |

#### Technology

| Ranking | Project                                                                                                                                                                                          |
|---------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1       | Implementation of Assistive Technology to Improve Quality of Life for People with Disabilities (collaborative effort between Hamad Medical Corporation and MADA center for assistive technology) |

#### Service

| Ranking | Project                                                                                                                                                              |
|---------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1       | Implementation of Newborn Screening Program (for metabolic and endocrine diseases) in collaboration with University Children's Hospital in Heidelberg (UCH), Germany |

# Support Services

## Developing advanced support systems

**High-quality care depends on continuous investment and development of key services and facilities. Hamad Medical Corporation implemented a number of improvements to its information systems and infrastructure during the year. These will deliver a range of direct and indirect benefits to patients over time.**

### Electronic Incident Reporting System

Hamad Medical Corporation implemented a new and advanced Medical and Non-medical Electronic Incident Reporting System (EIRS) in 2011. Qatar is only the second country in the region to introduce the system, which is tried and tested having been developed in Canada in the 1990s and successfully implemented there. It is currently in use in seven world-class healthcare institutions.

In recent years, Hamad has seen a huge expansion in its services and therapeutic facilities. This calls for innovative, timely and comprehensive techniques for quality measurement and improvement. EIRS enables tracking, identification, classification and analysis of errors and identifies appropriate solutions. This helps to minimize the occurrence of similar adverse incidents in the future.

### Automated Prescription System for Heart Hospital OPD

The introduction of an automated Prescription System has delivered welcome benefits for patients at the Heart Hospital (HH). The new system has not only reduced the waiting period for prescriptions to be filled to no more than 15 minutes but has also helped to flag up errors in real time and so prevent prescribing errors and also enabled more prescriptions to be filled each day.

The new system is called Computerized Physician Order Entry (CPOE) and was developed collaboratively by the Health Information System Center (HISC) and pharmacists at HH. Medical staff can view patients' medical records online and record and update various patient data including allergies to medications, diagnosis, medical procedures and vital signs.

The benefits of the new system, coupled with a carefully designed dispensing area where pharmacists can hold one-to-one patient consultations with privacy, mean that the service delivered to patients is safe, focused on their individual needs and of a very high standard.

### The E-business project

This project aims to implement 'world class' business systems and processes in the Finance, Human Resources and the Supply Chain Management functions throughout Hamad Medical Corporation right down to departmental level in all hospitals. The new Oracle system will replace the current paper-based systems with best practice process solutions. The E-business project commenced

in May 2011 and is due to complete by early 2013. The vision for this project is that staff will see the new E-business systems as a normal part of their day-to-day working life with faster access to management information to support decision making.

E-business will deliver improved business processes, better management control, more accessible information, faster processing, fewer delays, more accurate and timely reporting, improved accountability, more efficient working and more effective joint working across functions. The changes are essential to the achievement of Hamad's vision because clinical excellence can only be achieved and sustained if it is backed by modern business support systems.

The project involves more than simply automating processes; procedures will also be streamlined. While the benefit to patients will be less direct and obvious than the benefit to staff, the upgrade and simplification work will give clinical staff more time to spend with their patients.

### Clinical Information System (CIS)

In January, Hamad Medical Corporation, the Primary Health Care



Corporation and Cerner, a specialist in systemic change of health and care delivery, signed a landmark agreement to improve healthcare delivery by digitizing the entire public health system of Qatar with a Clinical Information System (CIS). The CIS agreement includes all Hamad hospitals and Primary Health Care Centers (PHCCs). Acting as a prime contractor and CIS integrator, Cerner will deliver cutting-edge health-related IT solutions from Cerner and third-party suppliers. This is the first time in the region that Cerner has sought to digitize an entire country's public health system on a single computing platform.

The project will lay the foundation for a national health framework that provides a personal health record for every citizen in Qatar. The system will allow clinicians on-screen access to patient data and enable individuals to schedule appointments, send messages to their doctor and create a personal health record to better manage their health and use of healthcare services. Hamad will also be able to capture and research health data across a variety of different medical encounters and medical facilities. This will provide data for ongoing research, disease management and healthcare planning purposes. Access to the latest evidence-based clinical information will ensure best clinical guidelines and healthcare practices and

hence best care for patients. The partnership with Cerner is a key stepping stone in the ongoing aim to achieve excellence through the implementation of technology.

Benefits for patients will include:

- **Lifetime clinical record for all Qatari citizens and residents:** Whether an individual is treated in the ambulatory setting, inpatient setting, or even at the home, the information will be captured and stored in the individual's lifetime clinical record.
- **High standards of care:** The use of standardized treatment guidelines promotes evidence-based, effective and consistent care for every patient while enabling quality improvement and operational efficiency.
- **Reduced potential for transcription errors:** Errors arising from illegible, handwritten orders or from inaccurate transcriptions are reduced through the use of electronic order entry.
- **Improved information access:** Clinicians have immediate access to a unified patient Electronic Health Record (EHR) that has up-to-the-minute information about the patient including past visits, medical test and results.



“Hamad Medical Corporation implemented a number of improvements to its information systems and infrastructure during the year”

# Support Services

## Building world-class facilities

We care about the people of Qatar and their health. Our commitment to ensuring Qatar has truly world-class healthcare services is certainly evident in our continuing program of investment in new facilities, and in our expansion and refurbishment schemes. Our aim is to ensure we can offer the highest quality of care today and into the future, and to give people throughout Qatar the confidence to choose Hamad Medical Corporation as their care provider.

### Hamad Bin Khalifa Medical City

One of the biggest and most ambitious master facility plans ever seen in international healthcare, Hamad Medical City made good progress during the year. Qatar's Public Works Authority (Ashghal) and South Korea's Hyundai Engineering and Construction Company have embarked on a QR1.9 billion contract to furnish and equip three state-of-the-art hospitals and a Translational Research Institute that are currently under construction.

The whole complex will have a built-up area of 216,000m<sup>2</sup> and more than 500 beds. Work began in early 2011, with handover scheduled for December, 2013. It includes the Women's Hospital, the Ambulatory and Minimally Invasive Surgery (AMIS) Hospital, a state-of-the-art medical imaging suite, and the Rehabilitation Hospital.

A significant amount of teaching and research space will also be provided, allowing for the training of future clinicians and therapists, and creating an environment where research can help to expand and improve patient care and outcomes.

The planning of the hospitals took into consideration the highest medical standards and the latest medical technologies to ensure that upon completion they represent the very best healthcare facilities in the region.



### The Cuban Hospital opens in Dukhan

His Highness Sheikh Hamad bin Khalifa Al Thani, Emir of Qatar, formally opened the newly named Cuban Hospital in Dukhan on 9 January 2012 in the presence of guest of honour, Cuban Health Minister Dr Roberto Morales Ojeda.

The Cuban Hospital, formerly known as Dukhan Hospital, is the eighth hospital to come under the management of Hamad Medical Corporation. The new name of the hospital highlights the special partnership that exists between Qatar and Cuba. More than 200 Cuban medical staff work in the hospital servicing the healthcare needs of the population in the west of Qatar, including the towns of Dukhan, Um Bab, Al Jemaliya and Al Shahaniyah.

Cuba's own healthcare system is well respected around the world as one of the first fully integrated healthcare systems whose model is to place the patient at the center and to value the patient experience. The new hospital has been designed and equipped to the highest standards to meet fully the healthcare needs of the local population. The hospital also has the potential for future expansion as communities in the west of Qatar grow.

The Cuban Hospital's model is to place the patient at the center and to value the patient experience



### The Heart Hospital offers state-of-the-art facilities

Cardiovascular disease has been identified as one of the foremost health challenges for Qatar, with lifestyle factors among Qatar's residents contributing greatly. The opening of a specialist dedicated center for the diagnosis and treatment of cardiovascular disease brings a new and very exciting focus to this area of Hamad's work and considerable benefits to patients.

The Heart Hospital is a state-of-the-art medical cardiac and cardiothoracic facility that integrates all cardiothoracic medical and surgical services and expertise in one building. The opening of the hospital was planned in two stages and both were completed by October 2011 when the admissions section, cardiac catheterization laboratory, intensive care units and cardiac emergency department all became operational.

The hospital's initial capacity of 114 beds provides significantly more beds than previously available at Hamad General Hospital's cardiology unit. Plans are in place to increase bed numbers to around 200 over the next three years.



### Al Wakra Hospital opens

The new Al Wakra Hospital will serve the towns of Al Wakra and Mesaieed, with a new road network providing easy access. The Outpatient Department opened to patients in May 2011 with pediatrics, general medicine and obstetrics/gynecology coming on line first. By October, subspecialties such as diabetes, and nephrology were added to this offering and a surgical outpatient clinic followed soon after.

October also saw the opening of the Pediatric Emergency Center and the effective transfer of services from the existing Pediatric Emergency Center at Al Wakra Primary Health Care Center. With this change, the pediatric emergency service became available on a 24-hour basis. The service is backed up by 24 beds for children who are referred through the pediatric emergency system.



# Support Services

## New residential compound

Rumailah Hospital (RH) cares for many long-term patients for whom hospital is also home. The majority of them live with a severe disability that results from conditions such as cerebral palsy and spinal cord injury. In October 2011, and in order to make life more normal for these patients and to encourage more independent living, RH opened a new residential care facility. Known as the Residential Compound, the facility contains 17 specially converted villas, each with five en-suite bedrooms.

Each resident living at the Residential Compound has their own bedroom which they can personalize. Every villa is staffed by two registered nurses 24 hours a day, seven days a week and nursing care is planned specifically to meet the needs of each individual. Residents have access to an on-site clinic that provides routine medical care, five days a week. This is supported out of hours by an on-site doctor on-call to manage any emergencies.

The new compound is the first facility of its kind in the GCC and aims to reintegrate Hamad's long-term patients into the community, encourage their independence and provide them with the opportunity for socialization to enhance their quality of life.

In a very short time it has been possible to see dramatic changes in how many residents approach day-to-day activities and also to observe their growing desire to become more independent, take more interest in activities in the community and re-connect with their families.

## Al Khor VIP rooms

With an increasing number of patients opting for hospitals offering VIP rooms, it was clear that Hamad Medical Corporation should introduce a similar service. VIP rooms were opened in early 2012 at Al Khor Hospital in the Obstetrics/Gynecology Inpatient Unit. The aim is to expand this service in the future. The VIP rooms are furnished to an exceptionally high standard and special menus are available. This additional service underlines the hospital's commitment to ensuring that the preferences of patients are fully met.

## Lithotripsy Unit at Hamad General Hospital

With its strong focus on offering the most advanced healthcare technology and equipment to deliver high-quality care, Hamad General Hospital (HGH) made significant improvements to the treatment of kidney stones by expanding patient facilities in the Lithotripsy Unit and acquiring a new extracorporeal shock wave lithotripsy (ESWL) machine.

HGH first started using this type of technology to break kidney stones from outside the body in the 1990s. With the new Lithotripter installed, the hospital expects to reduce waiting times to as little as one week. This method of treatment means there is far less risk and discomfort for the patient than with surgical removal of the stones and the patient can see and feel immediate results and go home on the same day.

## Enhancing the patient care environment at three hospitals

Throughout 2011, Hamad Medical Corporation was hard at work on an extensive renovation program to improve the environment in which patient care is delivered at three of its hospitals: Hamad General Hospital, Women's Hospital and Rumailah Hospital. Each of the three hospitals benefited from upgrading schemes that included flooring, ceilings, lighting and other fixtures and facilities in the main lobbies and public areas. All clinical services remained open throughout the working period.





