



سدرة للطب
Sidra Medicine

عضو في مؤسسة قطر
Member of Qatar Foundation

ANNUAL REPORT 2020







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Compliance Notice: Sidra Medicine adheres to the COVID-19 regulations stipulated by Qatar’s Ministry of Public Health. Photos in this report depicting unmasked staff or patients were either taken before COVID-19 legislation or provided by parents and family members where masking is not required together.



Chairperson's Message

"Sidra Medicine, I believe, epitomizes the resolve toward realizing the country's National Vision to transform Qatar into a thriving, knowledge-based society by 2030. Through its partnerships with international universities at Qatar Foundation, local affiliations and with the Ministry of Public Health, Sidra has supported an integrated approach to establish Qatar as a center for modern and pioneering healthcare systems, biomedical research and medical breakthroughs.

The year 2020 has been an extraordinary year in the history of health care industry all over the world; and for Sidra Medicine it was no exception. Nevertheless, 'exceptional' has been the perseverance, resolution and steadfastness shown by the people of Sidra during the trying times of COVID-19 pandemic; resolutely working toward its Mission to provide outstanding tertiary healthcare services' and 'deliver leading clinical and translational research of value to the population of Qatar and the world'.

Noteworthy being the development of the second COVID-19 testing method based on the use of nuclease-free water and a heating pad, as an alternative to RNA sequencing. This was a perfect example of prompt and effective response to a pandemic situation, and aligned to the Qatar Public Health Strategy 2018 – 2022, where Sidra Medicine helped promote access to the latest scientific evidence-based solutions for health maintenance, improvement and well-being.

As a leading center for innovation and excellence in the field, Sidra Medicine's research competences and leading-edge facilities have helped advance the healthcare system in Qatar; and established itself as a regional and international destination of medical tourism.

A healthy population is essential to a strong, prosperous society, and throughout 2020, Sidra continued to provide uninterrupted comprehensive specialist healthcare services for children and young people; and exceptional maternity, gynecology and reproductive medical services for women, previously unavailable in Qatar and the region."

Her Highness Sheikha Moza bint Nasser

About Us

Sidra Medicine represents the vision of Her Highness Sheikha Moza bint Nasser who serves as its Chairperson. This high-tech facility is home to world-class patient care, scientific expertise and educational resources.

Our team of international healthcare experts, some of whom are considered pioneers and ranked the bests in their fields, are delivering optimal care for those who need specialist expertise.

Sidra Medicine is also part of a dynamic research and education environment in Qatar and through strong partnerships with leading institutions around the world, we are creating an intellectual ecosystem to help advance scientific discovery through investment in medical research.

Based in Education City and as an entity of the Qatar Foundation for Education, Science and Community Development (QF), Sidra Medicine is

part of a dynamic research and education environment. Education City includes leading international institutions such as Weill Cornell Medicine-Qatar, Georgetown University, Carnegie Mellon University, and HEC Paris as well as locally established national research centers like Qatar Biomedical Research Institute and Qatar Environment and Energy Research Institute.

We work closely with academic partners like Weill-Cornell Medicine in Qatar (WCM-Q), University of Calgary, Qatar University (QU), and Hamad Bin Khalifa University (HBKU) as well as other health and research institutions like Hamad Medical Corporation (HMC), Primary Health Care Corporation (PHCC) and Qatar Biobank in regard to all three missions – raising the standard of healthcare throughout the country and providing valuable opportunities for research and learning.





Vision and Mission

Sidra Medicine is a beacon of learning, discovery and exceptional care, ranked among the top academic medical centers in the world.

We provide children and women with outstanding tertiary healthcare services in an innovative and ultramodern facility specially designed to promote healing. We collaborate with academic partners, leading research institutions and Qatar's health sector to train students and staff. We will deliver leading clinical and translational research of value to the population of Qatar and the world.

Leadership

Board of Governors 2020

Chaired by H.H Sheikha Moza bint Nasser, the Board of Governors is responsible for overseeing the organization's activities and strategic direction.

The role of the Board is to govern and oversee the management of the hospital, develop its strategy, while the day-to-day management of Sidra Medicine is delegated to the Managing Director.

Sidra Medicine is a private institution for public benefit and observes the highest standards of corporate governance. The members of the Board are:



**Her Highness Sheikha Moza
bint Nasser**

Chairperson



**Professor the Lord Darzi
of Denham**

Vice Chair



**Mr. Mohammed Khalid
Al Mana**

Managing Director



**Her Excellency Dr. Hanan
Mohammed Al Kuwari**
Minister of Public Health
Governor



**Mr. Abdulaziz Mohammed
Al-Rabban**
Governor



Mr. Omar Hussain Alfardan
Governor



Dr. Javid I. Sheikh
Governor



Dr. Iyabo Tinubu-Karch
Governor



Ms. Jill Watts
Governor



Professor Deborah White
Governor



Dr. Muhammad Pate
Governor



Professor John Eu-Li Wong
Governor



Dr. Elias Zerhouni
Governor



Dr. Swati Piramal
Governor

Chief Executive Team

In 2020 the Chief Executive Team was under the leadership of Mohammed Khalid Al Mana, Managing Director and Board Governor. The Chief Executive Team is responsible for clinical and operational services at Sidra Medicine.



Mr. Mohammed Khalid Al Mana
Managing Director



Professor Ziyad Hijazi
Acting Chief Medical Officer



Mr. Hamza Al-Kuwari
Chief of Administrative Services



Dr. Khalid Fakhro
Chief Research Officer



Ms. Nouf Al-Sulaiti
General Counsel



Mr. Nikesh L. Davda
Chief Financial Officer



Ms. Judy Dawson-Jones
Acting Chief Nursing Officer





Managing Director's Message

"We started the year on an optimistic high note by receiving the Joint Commission International Accreditation Gold Seal of Approval. Sidra Medicine was poised to build on this and enter the new decade with a focus on expanding our care model and patient safety. No one could have guessed that come February, we would all face one of the most unique challenges that would not only sweep across the hospital, but also the community, the country, and the world.

Despite the uncertainty surrounding the pandemic and the fact that we were dealing with so many unknowns, I am proud to say, not only did we weather it, but we emerged stronger and better. We came together in ways unimagined earlier. We worked relentlessly and came together for our community – we found new and innovative ways to serve our patients while protecting the health and safety of both our patients and our people.

As challenging as the year has been, the changes we have brought about to delivering high-quality care, safely and efficiently, were met with great success. We introduced virtual consultations, changed our protocols to introduce cashless transactions and introduced drive-through pharmacies. We offered perinatal mental health advice for pregnant women and women who have had babies during the pandemic.

We developed two new testing methods to address the global shortages in conventional testing kits, and shared the source code in the global medical community so that people

could benefit from alternative means of testing. We implemented rigorous testing and standards at Sidra Medicine to keep the hospital COVID free, ensuring the safety of our staff and patients. We successfully created a safe and compassionate environment for pediatric and women's care during a pandemic which is a significant achievement.

Whilst we were dealing with the pandemic, we continued to bring changes where they mattered. We reduced our patient wait lists, we opened new services like the cervical screening program, established treatment protocol for hybrid insulin pump for children with Type I Diabetes, conducted pediatric hip preservation surgeries, successfully conducted complex airway surgery for children with laryngeal web and subglottic stenosis, saved the life of a baby with Vein of Galen Malformation, performed minimally invasive surgery on an infant born with scaphocephaly, successfully performed endoscopic surgery on a baby with misshapen skull, and saved the life of a teen born with Wolff-Parkinson-White syndrome.

To say 2020 was an eventful year is an understatement. But the sentiment that rang out across the world in praise of healthcare workers still echoes loud at Sidra Medicine. We continue to build on our good work so that we can remain true to our vision of providing exemplary healthcare care for our women and children patients."

Mohammed Khalid Al-Mana

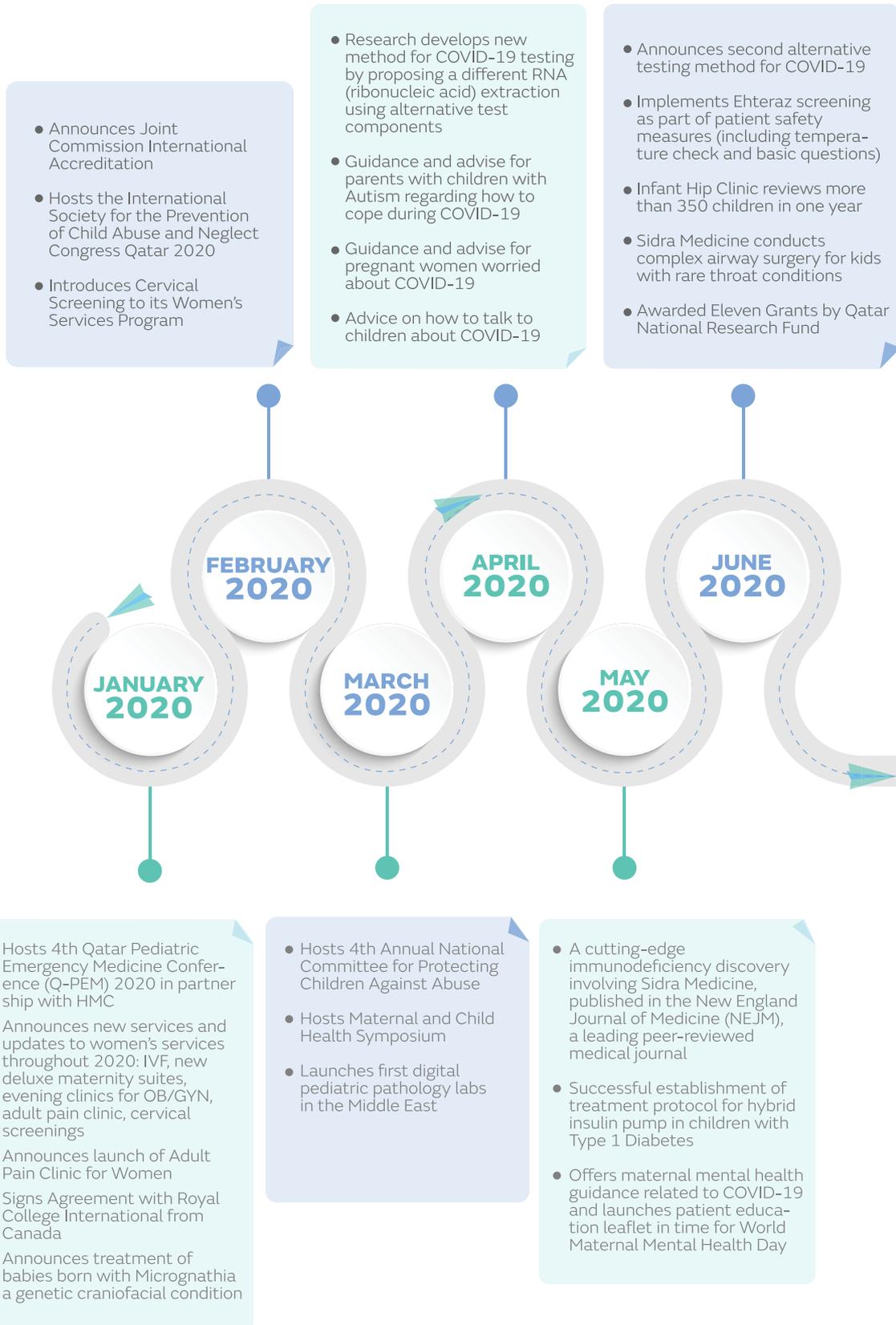
Managing Director and Member of the Board of Governors



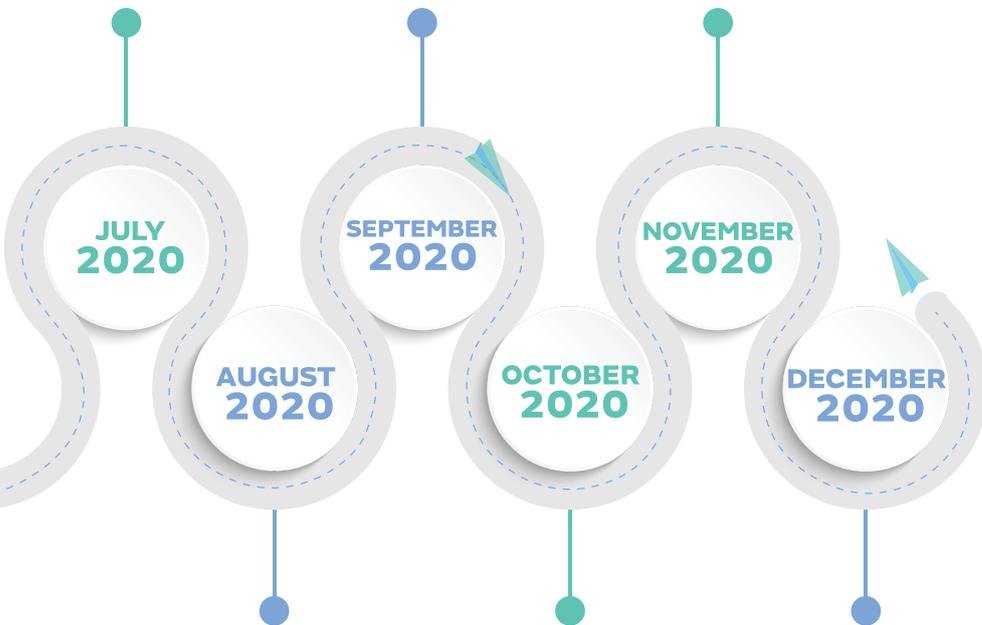


Milestones 2020

Top Milestones in 2020

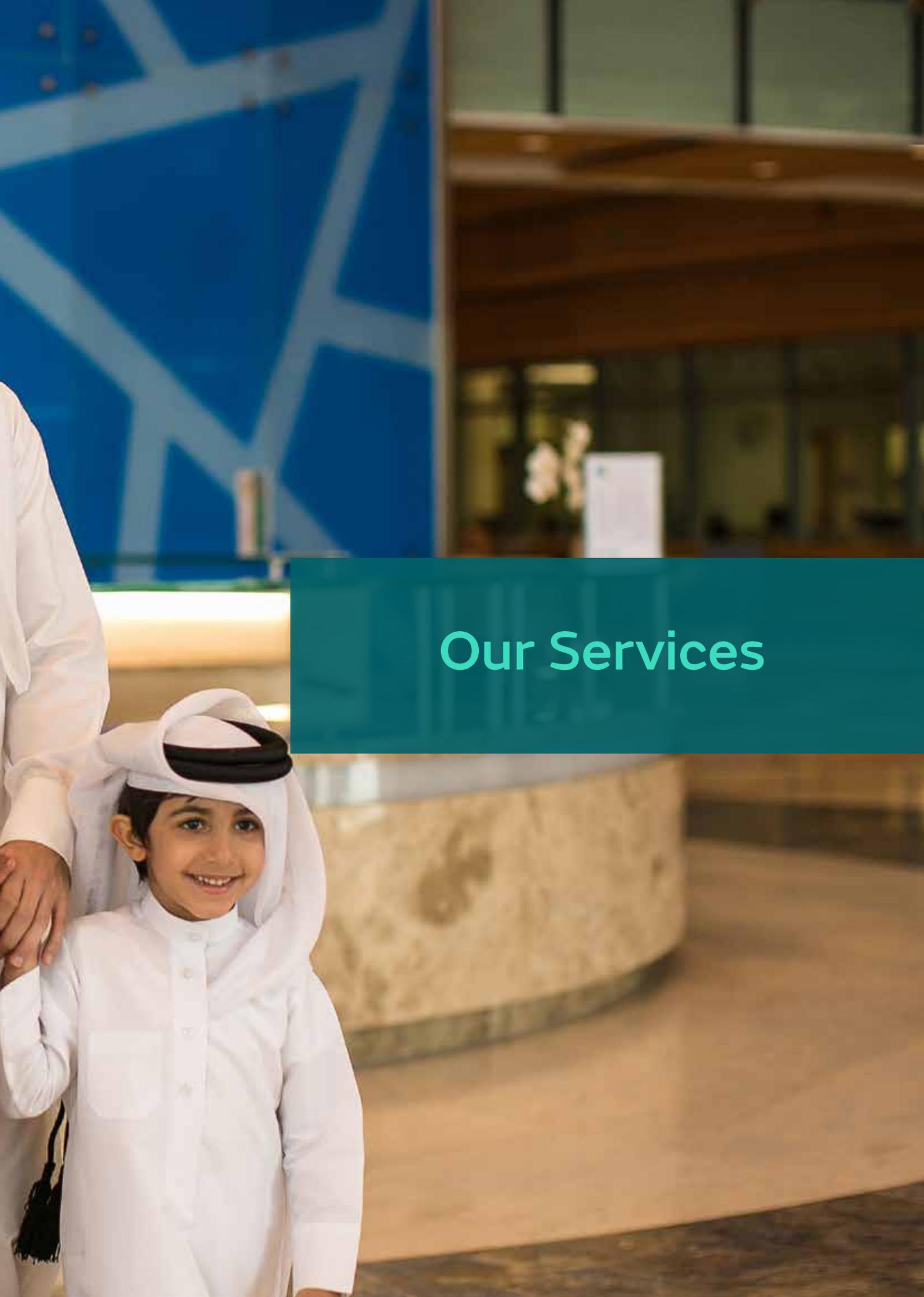


- Publishes Study on Impact of Fasting on different organs
- Performs Endoscopic Surgery on Baby with Misshapen Skull
- Participation at Virtual Pediatric and Adult Interventional Cardiac Symposium (PICS-AICS)
- Highlights research partnership with Harvard and Tulane Medical School in the ongoing global race to find a safe and effective vaccine to tackle the COVID-19 virus
- Researchers develop a test to support the call for immunity passports related to COVID-19 and facilitate the return to normality
- Performs lifesaving neurosurgery on Kuwaiti patient with epilepsy
- Conducts first kidney transplant from deceased donor on teenager



- Performs lifesaving airway stent intervention on Omani patient
- Announces specialized approach in the treatment of endometriosis as part of its Women's Services program
- Sidra Medicine partners with MOPH for Mental Health Month
- Liver Clinic: transforming the lives of children with Liver Diseases
- Hosts virtual Precision Medicine Functional Genomics Conference (5-7 Dec)





Our Services



Chief Medical Officer's Message

"2020 was an extraordinary year. The care and innovation provided by our teams under these circumstances was anything but ordinary as they continually rose to the challenge, demonstrating resiliency in the most trying of times.

Despite the current pandemic, which has disrupted healthcare systems world-wide, we remain committed to ensuring our patients continue to receive quality healthcare support and services in Qatar. In addition to being a COVID-19 free facility, we have taken and continue to take precautionary measures to keep patients and staff safe. We have also supported national efforts in testing for the virus and demonstrated our innovation and thought leadership through new testing methods developed by our research and pathology programs.

We also demonstrated greater alignment and partnership between quality patient experience and risk management which has enabled us to engage in shared decision making. We have all proactively worked to improve the safety of the services, and our goal and approach to quality has always been geared toward being a high reliability organization and provide safe healthcare.

One of our key response to the National Health Strategy is building Patient Experience and Services and Clinical Excellence. We have consistently worked on providing an exceptional patient experience, delivering world-class outcomes in provision, research and education.

Clinical Services at Sidra Medicine takes a multi-disciplinary approach to care for children, young people and women. Our services are amongst one of the top in transformative specialty care for children and young people in the region. We demonstrated this by offering some ground-breaking and life saving procedures and treatments for children from Qatar and abroad. Our women's services were expanded to include reproductive medicine (IVF), offering the latest technologies through robotic myomectomy and surgeries to address Mullerian Anomalies in women or young teenage girls. We also launched an adult pain clinic and cervical screening program as well as introduced the latest safe prenatal testing methods.

We have demonstrated that the specialist care we are able to provide, thanks to our team of local and international experts, has meant that families in Qatar have access to services right at their doorstep. This has reduced the burden on both the State and the individual in having to travel abroad to seek expensive treatment and care, especially for specialist pediatric services. Our healthcare services have also attracted regional and international patients, with Kuwait and Oman leading the way and patients coming in as far as South America and Europe.

In our drive toward excellence, Sidra Medicine is working on providing the following new Clinical Services for the community in the near future:

- General Pediatrics:

Launch of Qatar's first Down Syndrome Clinic.

- Bone Marrow Transplant:

In collaboration with the Hematology/ Oncology service, and the research branch will be actively participating in the development of the first Pediatric Bone Marrow Transplant (BMT) in the State of Qatar.

- Hematology:

New hematology tests to be added for the care of children and mothers, including Eosin-5'-maleimide and Platelet glycoproteins.

I hope that you will find the information and the stories we share in this report inspiring and how we continue to place prominence on our three strategic objectives to set us on a path of precision medicine by providing world-class patient care underpinned by medical education and biomedical research. This is an exciting journey for Sidra Medicine as aim to set new standards inpatient care for women, young people and children."

Professor Ziyad M. Hijazi

Acting Chief Medical Officer
Chair – Department of Pediatrics
Medical Director – International Affairs Office
Prof. of Pediatrics and Medicine

Clinical Quality, Safety, and Accreditation

As a Joint Commission International (JCI), Gold Seal of Approval® accredited hospital and academic medical center, Sidra Medicine is committed to ensuring that patients and their families are at the heart of everything we do. Throughout 2020 we continued to work in collaboration with our healthcare partners across Qatar to deliver patient-centered, integrated healthcare that is safe, high quality, compassionate and sustainable.

We continued to support our staff to drive improvements and deliver more effective and person-centered care. This was done despite the particularly demanding times of supporting the community through a pandemic and a difficult financial climate.

Sidra Medicine was awarded the Joint Commission International's (JCI) Gold Seal of Approval® for its hospital and academic medical center in February 2020. The accreditation also applies to Sidra Medicine's research practices particularly within clinical care programs; and highlights that Sidra Medicine's delivery model of care is based on leading, evidence-based practices.

Following our JCI Accreditation, we had the opportunity to reflect on what we could do better to consistently improve our processes, as we continue on our journey toward high reliability and zero harm. A set of jointly agreed priorities enabled us to focus on the improvement of the following key safety areas, in which we have successfully achieved system wide improvements:



- Deteriorating Patients:

We implemented improved processes to ensure the early detection and management of a deteriorating patient, and ensure the patient gets the right care in the right place at the right time.

- Medical Record Documentation:

As with any healthcare system the importance of robust contemporaneous documentation is critical, and therefore we improved processes for our electronic Medical Record.

- Pressure Injuries:

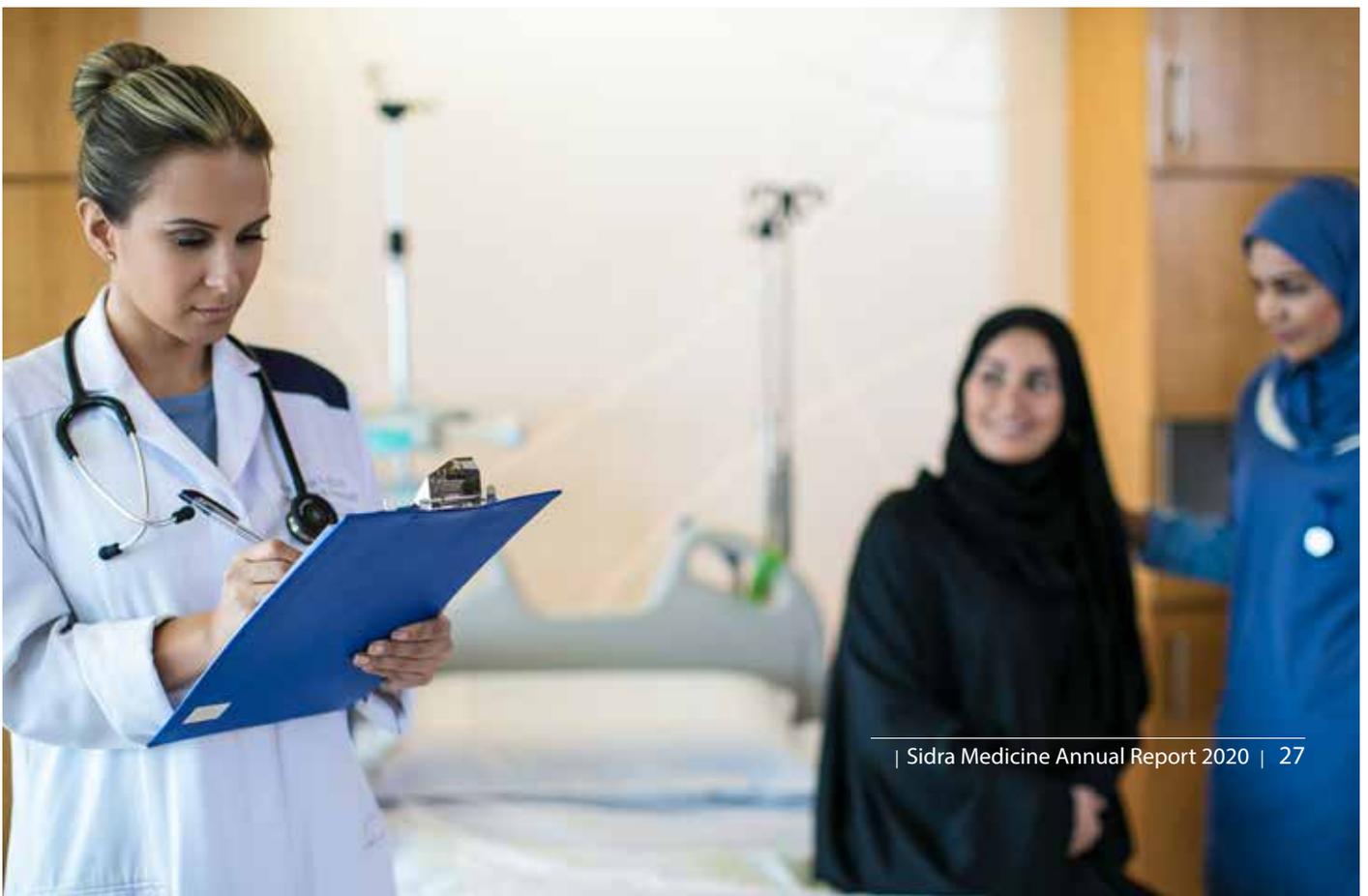
Pressure injuries are detrimental to our patients' physical and psychological wellbeing, therefore we put focus on the recognition, reporting and management of pressure injuries and have seen a progressive improvement.

- International Patient Safety Goals:

Addressing specific problematic issues that have significant safety implications for patients, such as putting in place sound systems to minimize harm, include the correct Identification of a Patient, Improvement in Communication, Safety of High-Risk Medications, Safe Surgery, Health Care Associated Infections and Patient Falls.

- Sepsis:

Created a collaborative, focused plan on improving the delivery of care around sepsis (a potentially life-threatening complication of an infection).







Children and Young People's Services

Young People and Children's Services

Sidra Medicine is positioned to improve the lives of children and young people through its multi-disciplinary approach to care. We have integrated our research and education priorities into a program of excellence that is built on a foundation of personalized medicine.

Embracing a model of evidence and best practice-based healthcare involves integrating the best available research evidence worldwide into clinical expertise. Sidra Medicine is a tertiary hospital equipped to provide specialized treatments that are not available in primary or secondary care centers in Qatar and the region. Our highly qualified and experienced teams in specialty pediatric care provide families with high quality medical services.

Whether it was setting up a ground-breaking child advocacy program dedicated to protecting children from abuse or neglect at home and in the community, a first in the region; or advancing our clinical research competences to bring in new treatments

and medication capabilities to address common diseases like diabetes and obesity that are affecting our children in Qatar. our services have facilitated access to a comprehensive network of supportive and educational services to treat and protect children, and strengthen families and communities.

Our team of healthcare professionals include experts from medicine, nursing, social services, child life and psychiatry. Sidra Medicine provides the resources and support network to help children and families through its highly skilled staff, who take a multidisciplinary approach to ensure a child's needs and safety is a priority.

Integrating the clinical services with the ultramodern research facilities available at Sidra Medicine, we have built the platform for undertaking high powered translational research that will ultimately bring tangible benefits to patients. Understanding disease mechanisms will allow the development of potentially new personalized treatments – a key focus for the patient and family focused care offered by Sidra Medicine.



Our Firsts

Sidra Medicine has established core and specialized services for children and young people. During 2020, we achieved several milestones across our clinical services spectrum including:

Allergy and Immunology:

For the first time in Qatar, Sidra introduced the enzyme replacement therapy for adenosine deaminase deficient severe combined immunodeficiency.

Children's Emergency Department:

Qatar's first Children Major Trauma Service led Emergency Department was activated in two phases in 2019 and 2020. The major trauma service provides Level One trauma care for the entire pediatric population of Qatar. No serious adverse events reported in the 17 months of its operation, despite 550 trauma calls, with more than 50 of the highest acuity cases (Injury Severity Scores, ISS >15).

Gastroenterology:

Launch of very early onset of Inflammatory Bowel Disease (IBD) clinic- the first of its kind in the Middle East based on international standards

Neonatal Respiratory ECMO:

Neonatology department established the first neonatal respiratory Extracorporeal Membrane Oxygenation (ECMO) program in the Middle East. The team executed four successful ECMO cases (3 in 2019, and one in 2020); and the first CDH surgery on ECMO (in Middle East) was done 2019.

Rehabilitation Medicine:

Sidra Medicine developed the first Pediatric Electromyography (EMG) service in Qatar, led by Dr Talia Collier who, to our knowledge, is the only board certified electromyographer in the country.

Otolaryngology:

The team performed the first single stage airway reconstruction procedure in Qatar. Sidra developed a Bone Anchored Hearing Aid (BAHA) program, again the first to do so in Qatar

Pediatric Medicine (0-18 Years Old)	
Adolescent Medicine	Intensive Care (NICU Level IV *, PICU, CICU)
Cardiology & Interventional Cardiology	Intraoperative Neuromonitoring **
Child & Adolescent Mental Health	National Poison Centre *
Dermatology	Neonatal & Pediatric ECMO *
Developmental Pediatrics	Neonatal Hemodialysis *
Epilepsy Monitoring Unit *	Nephrology *
Gastroenterology *	Neurodiagnostic Lab *
General Pediatrics: Secondary	Neurology *
General Pediatrics: Tertiary *	Pulmonary Function Test Lab *
Genetics and Metabolic Diseases * (0-14 years old)	Rehabilitation Medicine
Hematology & Oncology *	Rheumatology *
Hemodialysis, Peritoneal Dialysis and Apheresis *	Sidra Child Advocacy Program *
Infectious Diseases *	Sleep Lab (Pediatrics) *
Infusion Services	Transplant (Renal) & Transplant Coordination *

* Sole Provider for Pediatric (Children's) Services in Qatar

** Sole Provider for Adults and Children in Qatar



Pediatric Surgery

(0-18 Years Old)

- Cardiac Surgery
- Fetal Surgery
- General Surgery & Thoracic Surgery
- Neurosurgery
- Orthopedic Surgery
- Otolaryngology
- Plastics & Craniofacial Surgery
- Urology



Neurosurgery:

- First international epilepsy patient from Kuwait treated in 2020 with surgery to implant Vagus nerve stimulator.
- First Selective Dorsal Rhizotomy (SDR) procedure done mid-2019 (first ever in Qatar) for a child with very severe spasticity causing constant severe pain. The child smiled for the first time in years on the 5th day after the operation due to reduction of painful spasms.
- First ever cases in Qatar of Endoscopic Third Ventriculostomy (ETV) with Choroid Plexus Cauterization (CPC) done on two babies with progressive hydrocephalus, with the first child successfully treated without the need for a VP shunt procedure. This was made possible at Sidra Medicine due to a high-quality, tiny, and flexible neuro-endoscope.
- International referrals of children with complex hydrocephalus received in 2020, with Sidra Medicine successfully treating a child from Kuwait, with very complex combined problems, through the insertion of a programmable VP shunt.

Plastics/Craniofacial (First time in Qatar)

- Sidra Medicine performed first three facial bipartition procedures (with distraction).
- Performed microsurgical free tissue transfers for pediatric facial palsy.
- Performed total ear reconstruction for microtia.
- Performed first index pollicization procedure.
- Performed endoscopic (minimal intervention) cranioplasty for craniosynostosis.
- Launched regular multi-disciplinary pediatric hand clinic (four clinics per week).
- Established MDT brachial plexus clinic.
- Initiated MDT pediatric facial palsy clinic.

Supporting Clinical Services

- CAP Accredited Laboratory
- Fetal MRI *
- Gait Training Lab *
- Interventional CT *
- Interventional Radiology *
- Intraoperative MRI & Angiography *
- NICU retrieval team *
- Nuclear Medicine *
- Pediatric & Adult Anesthesia
- Sterile Processing Department

* Sole Provider for Pediatric (Children's) Services in Qatar

** Sole Provider for Adults and Children in Qatar

Pathology:

- The first Pediatric Pathology Department in the Middle East, staffed by Board Certified Pathologists, and the first Digital Pathology hospital department in the region (February 2020).
- Hemopathology - Implementation of Bridge electronic transfusion safety system, first in Middle East.



Pediatric Emergency and Urgent Care Services

The Pediatric Emergency Department is designed to meet the goals of Qatar's National Health Strategy by creating a Level 1 Pediatric Trauma Center. Our care methodology is evidence-based best-practice, with each patient assessed according to the Emergency Severity Index (ESI) and placed in a category ranging from Level 1 (for patients in critical condition) to Level 5 (for non-critical patients), for 0-18 - year-olds. Meanwhile the Urgent Care, fast track clinics, treat children with non-life-threatening illnesses or injuries.

Sidra Medicine's Children's Emergency Department is home to Qatar's first integrated child advocacy program. The Sidra Child Advocacy Program is the culmination of a concerted effort to truly support the health, wellbeing and development of a child who has been the victim of abuse or neglect. We provide the resources and support network and work closely with partner organizations to reinforce a team-based approach that will ensure that the child's needs and safety will always be a priority.

The Qatar Poison Centre (QPC) is another groundbreaking initiative to help manage poisoning cases in homes and also within healthcare settings that involved adults and children. The free helpline provides quick and fast access to poisoning management advice, guidance and support.

Sidra Medicine also operates a Children's Urgent Care Clinic in the same location, with highly qualified and experienced triage staff on site. The CED and Urgent Care Clinic together have 60 rooms offers 24-hour care and is staffed by an international team with the highest qualifications in pediatric emergency care, including physicians, nurses, emergency medical technicians and imaging and lab professionals.





Sidra Medicine's
Emergency and
Urgent Care
division operates

24/7



58

Treatment Areas



70

Doctors



170

Nurses,
and allied health personnel
such as respiratory
therapists, social workers,
cast technicians, child life
specialists, and clinical
psychologists



7,730

Calls to Poison
Control Center



International Patients

The International Office coordinates the journey of our patients traveling to Qatar to seek specialized medical care. They are the single point of contact for accessing the highest quality of care and they understand that every international patient has different needs. They are committed to helping patients and family members with every step of the planning in a culturally sensitive manner. This includes specifics around connecting patients with one of our distinguished physicians, supplying and securing cost estimates, and coordinating appointments and admissions so that the family can focus on treatment, healing and returning home. Despite the travel restrictions in 2020, the international team coordinated the safe care of 40 pediatric patients from 8 countries.

International Patients by Countries



Kuwait



Oman



Iraq



Egypt



Pakistan



Somalia



Ghana



Lebanon

Specialty



16
Cardiology



02
Neurosurgery



09
Neurology



01
General Pediatrics



04
Endocrinology



01
Hematology/Oncology



03
Orthopedic



01
Pulmonology



02
General Surgery



01
Multidisciplinary



The image shows a modern interior space. A curved wall with a light-colored, wavy pattern is the background. In the foreground, a yellow armchair with a chrome base is partially visible. A teal rectangular box is overlaid on the right side of the image, containing the text "Women's Services" in white. The floor is a light wood color, and a small portion of a purple rug is visible in the bottom left corner.

Women's Services



Women's Services

Women's Services at Sidra Medicine was established to provide women in Qatar access to specialized care based on personal choice and preference. Our staff of experienced professionals provide integrated, state-of-the-art healthcare to support and care for women throughout their life from puberty to menopause.

Since the initiation of its outpatient services in 2016, and the launch of its inpatient services in 2018, our Women's Services program has expanded from maternity, gynecology and maternal-fetal medicine to cover a wider spectrum of services from reproductive to maternal child health.

Sidra Medicine's multidisciplinary approach has been structured to focus on a woman's choices and needs. From supporting her pregnancy and delivery choices such as a Vaginal Birth After Caesarean (VBAC), a midwife led delivery or having her husband in the delivery room; to diagnosing and treating gynecological conditions or seeking expert second opinions from our expert physicians - we are committed to providing patient and family-focused care for women in Qatar.

During 2020, Sidra Medicine has a series of strategic expansion and services to support the advancement of women's health in Qatar.

Women's Services

- Gynecology
- Obstetrics
- Maternal Fetal Medicine
- Internal/Acute Care Medicine
- Reproductive Medicine (IVF)
- Women's Urgent Care and Obstetric Triage Services
- Perinatal Mental Health Services
- Women's Health Physiotherapy
- Women's Ultrasound

Gynecology:

- Sidra Medicine offers latest technologies in the management of fibroids at the Fibroid Center: Robotic Myomectomy (unique nationally), hysterectomy, and in-bag morcellation.
- Surgeries to address Mullerian Anomalies in women or young teenage girls, who have congenital anomalies like two complete or underdeveloped wombs or blocked overflow because of imperforated hymens
- Cervical Screening Program

Maternity:

- Birth plan allows women more choices during their pregnancy journey
- Begun expansion of the postpartum unit with new deluxe rooms and suites

Maternal Fetal Medicine

- Safe introduction of Invasive (Amniocentesis and Chorion Villous Sampling) and Noninvasive Prenatal Testing (NIPTs)

Adult Pain Clinic: The clinic treats all kinds of chronic pain conditions in women, including post caesarean section/ operative pain; pelvic pain; knee, shoulder or neck pain; and headaches.

Reproductive Medicine: Sidra Medicine's state-of-the art In-Vitro Fertilization (IVF) Treatment facility was officially slated to open in Q1 2020, however due to COVID-19 pandemic the plan is on hold. The facility will be managed by a diverse team of consultant physicians, embryologists, nurses offering a holistic environment of care in a single location, with "in-house" reproductive surgery, maternal fetal medicine, obstetrics and gynecology services.

Women's Perinatal Mental Health

Treatment and care is offered for women whose obstetric condition is having an impact on their mental health and emotional wellbeing, or whose pre-existing mental health issues may be affecting their pregnancy and postnatal period. If the woman wishes, husbands and families are encouraged to be involved. During the pandemic, Sidra Medicine as a COVID-free hospital has implemented safety measures for the wellbeing and safety of its patients, families and staff. This was also applied to its female inpatients and their families.

Women's Emergency Services

Sidra Medicine's Women's Urgent Care and Obstetrics Triage Center treats women with urgent issues related to pregnancy and the reproductive system.

The teams treat moderate to serious health issues for women, including:

- Acute pelvic pain
- Bleeding complications in early pregnancy (below 12 weeks), other emergencies related to the female reproductive system
- In the event of a pregnancy emergency, Sidra Medicine's Maternity Team is ready to provide immediate critical care services to protect both mother and child. Patients are sent to the Obstetric Triage or Women's Urgent Care center based on the stage of their pregnancy. For pregnancies under 20 weeks' gestation, patients are transferred to Women's Urgent Care. Emergencies affecting women over 20 weeks of gestation are treated at the Obstetric Triage.



In 2020, we launched our reproductive medicine service (soft launch), and we are proud to introduce our first IVF baby, James.



A photograph of a modern hospital hallway with warm lighting, wooden doors, and a teal text overlay. The hallway is clean and well-lit, with recessed ceiling lights and wall sconces. A person in blue scrubs is partially visible on the left side of the frame. A green exit sign is visible above a set of double doors at the end of the hallway.

Nursing, Midwifery & Allied Health



Chief Nursing Officer's Message

"Our dynamic team of nurses, 1,700 strong, are changing the face of healthcare in Qatar. We are dedicated to providing skillful and compassionate care across the spectrum of services at Sidra Medicine.

2020 was the Year of the Nurse and Midwife, and no other year has been as extraordinary in showcasing the exemplary work of our nursing and midwifery staff. We worked tirelessly to support Sidra Medicine's strategy and keep our staff, patients, and families safe during COVID-19. We achieved several clinical milestones that improved patient care outcomes and also educated parents and families. We trained our nurses and developed a health literacy framework as well as transitioning our graduate nurses from students to professional nurses.

Our journey of providing patient and family-centered care proudly continues in the loving and caring hands of our nursing team in a collaborative approach between physicians, medical teams, and our patients."

Judy Dawson-Jones
Acting Chief Nursing Officer

Nursing and Midwifery

Sidra Medicine has over 1,700 Nursing and Midwifery staff who play a crucial role in fulfilling our ambition for excellence in care for patients and their families. The Nurses, Midwives and Allied Health Staff at Sidra Medicine representing over 80 nationalities, provide skillful and compassionate care in a variety of settings: outpatient, emergency room, perioperative services, and acute and critical care.

In the last decade, both the function and responsibility of nurses, and the how they are trained, has changed significantly from university degrees and higher diplomas to a diverse range of advanced nursing professions including Nurse Practitioners. The Department of Nursing and Midwifery Education and Practice Development at Sidra Medicine embodies this shift by partnering with University of Calgary Qatar, to develop and provide robust training opportunities in a state-of-the-art facility, providing the most up-to-date patient care.

As the healthcare industry deals with increasingly complex challenges, our vision is to build a strong nursing workforce to support the State of Qatar, and our international patients. Nurses today play an independent and autonomous role with much greater responsibilities than just administering medication; and they build and manage an increasingly collaborative relationship between the physicians, the medical teams and the patients.

We work closely with our academic partners to offer scholarship for student nurses. The Bedayati Program is a one-year program supporting a New Graduate Nurse to transition from a student to a professional nurse; while providing opportunities for continuous professional development, post-graduate studies, in-house training and workshops; ensuring career progression.

In 2020, the Nursing and Midwifery Education Delivered

195 Internationally Accredited Courses

930 Hours of Training

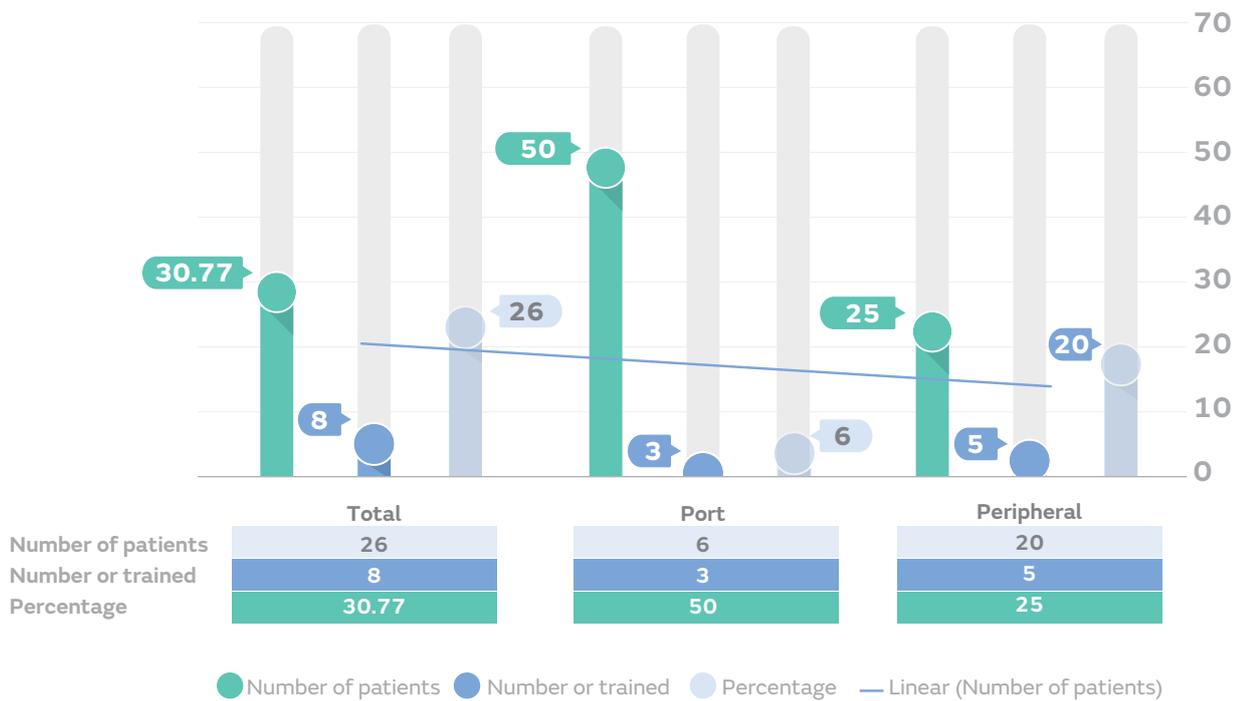
248 CPD Hours

- Association of Pediatric Hematology/Oncology Nurses (APHON) Chemotherapy and Biotherapy Provider Program
- Management of Actual or Potential Aggression (MAPA) Training Program
- Neonatal Resuscitation Program (NRP)
- S.T.A.B.L.E. neonatal stabilization training program
- Team S.T.E.P.P.S: an evidence-based set of teamwork tools, aimed at optimizing patient outcomes by improving communication and teamwork skills among health care professionals
- End of Life Nursing Education Consortium (ELNEC) training for palliative and bereavement care

In addition, we provide ongoing clinical skills, training and professional development courses in specialties such as pediatric dialysis, pediatric diabetes management, and fetal heart rate monitoring.

Sidra is committed to establishing a culture that allows the professional voice of Nursing and Midwifery to flourish, ensuring the delivery of world-class care.

Home Infusion Project Data



Establishment of the first Hemophilia Home Infusion Program in Qatar: Training parents and improving patient care and quality of life by decreasing the number of visits to hospital.



Allied Health

Clinical support services complement Sidra Medicine's medical services with high-quality imaging, therapy services, and a wide range of health and wellness services:

- Audiology
- Child Life
- Child Safety and Advocacy
- Casting Services
- Clinical Pharmacology
- Dietetics
- Orthotic and Prosthetics
- Occupational Therapy
- Pulmonary Function Testing
- Pathology
- Psychology
- Social Work
- Speech and Language Pathology
- Sleep Lab

Despite the healthcare industry making rapid development in recent years, the challenges have also been multifold, as witnessed during the COVID-19 pandemic. With a constantly evolving healthcare system, delivering integrated health services depends more and more on team effort, thus necessitating the paradigm shift from a doctor-centric approach to a multidisciplinary team approach.

Thus, Allied Health professionals play a critical role in providing timely and specialty services to the community. Allied Health teams include professionals trained and specialized in diagnostic, preventive, therapeutic, rehabilitative and curative disciplines.

2020 Highlights

1. Only Hip Spica Cast service in Qatar
2. Only Pediatric Gait Lab in Qatar
3. Only Facial Palsy Clinic in the Gulf Region
4. Child Life: The Child Life team embraced adaptability during 2020 to assure continuity of care to our patients during challenging pandemic changes by:
 - a. Finding and utilizing COVID resources to help children process their fears, feelings and questions while in the midst of healthcare challenges.
 - b. Virtual Art Therapy Sessions implemented through collaboration with the Art Therapist and Child Life Specialists in response to measures put in place to protect staff and patients in minimizing cross coverage areas.
 - c. Play – 7883 play interventions provided in 2020
 - d. Play continued throughout the hospital to support normalization of not only the health care environment, but pandemic realities, worries and fears. The child life assistants and child life specialists increased bedside play (therapeutic, developmental, and normalizing play), and implemented changes limiting one patient at a time in the play room. Despite shifting from open playgroups in play rooms to individual session, 7883 play interventions were conducted to help children while hospitalized.



Shared Governance

Shared Governance is a professional practice model that promotes nursing and midwifery staff empowerment, promoting shared decision-making by clinical staff accountable for decisions that impact policies, procedures and processes at the point of care.

Sidra Nursing and Midwifery and Allied Health utilizes a Shared Decision Making/ Shared Governance Model to drive meaningful improvements at unit level and to build a direct line of communication from the bedside caregivers to the Chief Nurse.

Councils, both at the unit and at the organization level recommend, plan, implement and evaluate initiatives that improve patient and family care and employee wellbeing in the workplace.

Practice Council:

28 Nursing and Midwifery practice changes completed. This includes development or modification of policies, procedures and guidelines based on evidence-based recommendations

Informatics Council:

14 EMR System Changes proposed by front line staff to streamline and improve quality of nursing, midwifery and allied health documentation.

Education and Professional Development Council: Design and approval of the Nursing and Midwifery Professional Development Ladder.

Wellness Council:

The DAISY (Diseases Attacking the Immune System) Award is an international recognition of excellence in care. It was established to celebrate the extraordinary compassion nurses provide their patients and families every day. This merit-based award honors not only great clinical skill and leadership, but especially strong patient care and compassion.

In 2020, Nursing Achieved:

3 Individual Daisy Awards

1 Daisy Leader Award

1 Daisy Team Award







Sidra Medicine in Numbers

Sidra Medicine in Numbers

Pediatrics



Women's

33,312

OUTPATIENT FEMALE
PATIENTS SEEN

123

OBSTETRICS &
GYNECOLOGY BEDS

2,218

INPATIENT FEMALE
PATIENTS DISCHARGED

422

ACTIVE DOCTORS

3,755

WOMEN'S EMERGENCY VISITS

55

WOMEN'S OUTPATIENT CLINICS

3,594

WOMEN'S URGENT CARE VISITS

Bed Capacity and Top Procedures

Bed Capacity

Hospitals Beds Distribution	Available Beds	Staffed 2018	Staffed 2019	Staffed 2020
Pediatric Beds	137	97	96	96
Obstetrics and Gynaecology Beds	123	84	66	36
NICU/PICU Beds (Intensive Care Beds)	102	49	65	64
Total	398	230	227	196

Pediatric Surgery (Top 5 Procedures)

Appendectomy Laparoscopy	443
Repair Hernia Inguinal	226
Esophagogastroduodenoscopy with Biopsy	206
Colonoscopy with Biopsy	226
Distal Humerus CRPP Supracondylar	226
Total Pediatric Surgery	4442

Women's Service - Obstetrics, Gyne, RMU (Top 5 Procedures)

Cesarean Section	608
Double Setup Vaginal Delivery	50
Dilatation and Evacuation	22
Oocyte retrieval (transvaginal)	19
Transvaginal intra-uterine embryo trans	18
Total Women's Services	969

Interventional Labs - CCL, CT, EP, IR, IMRIS (Top 5 Procedures)

IR PICC Line Insertion Anesthesia	317
IR PICC Line Insertion Anesthesia	178
CV Cardiac Cath Medium	141
IR Gastrojejunostomy Check+/- Change Ane	137
IR Venous Access Removal Anesthesia	97
Total Interventional Labs	1718

Special Procedures (Top 5 Procedures)

Lumbar Puncture With Intra-Thecal Chemot	216
Aspiration Bone Marrow	74
Skeletal Muscle Botox Injection	14
Lumbar Puncture Diagnostic	3
Bone Marrow Aspiration, Unilateral Bone Marrow Aspiration, Bilateral	1 each
Total - Special Procedures	309

Anesthesia out of OR (Top 5 Procedures - AAOR)

Lumbar Puncture With Intra-Thecal Chemot	584
Aspiration Bone Marrow	149
Skeletal Muscle Botox Injection	96
Lumbar Puncture Diagnostic	49
Bone Marrow Aspiration, Unilateral Bone Marrow Aspiration, Bilateral	46
Total - Anesthesia out of OR	1677





Patient Stories

Patient Stories

First Pediatric Kidney Transplantation from Deceased Donor

“

I would like to take this opportunity to thank the family of donor for their honourable and strong decision to change the life of an unknown person – my daughter... Furthermore, I would like to encourage the community to be more active in supporting organ donation. Organ donation is a life-saving gift.”

- Patient's Mother

”

Fifteen-year-old N was on dialysis for four years, before she matched with a donor in Qatar. She became Sidra Medicine's first recipient of an organ from a deceased donor, ending years of agony and the stress of living with chronic kidney failure.

N received a kidney from a deceased 26-year-old, whose family gave permission to donate his organs, in one of the first donation and transplant procedures performed in Qatar since the start of the COVID-19 pandemic.





“Done in close collaboration with Qatar Center for Organ Transplantation (QCOT) and Hamad Medical Corporation, this is a first for Sidra Medicine, where a young person received an organ from a deceased donor, who is not related to them. This process of deceased organ donation, will change the face of organ transplantations and offer hope for many children and young people suffering from chronic organ failure.”

-Dr. Abubakr Imam, the Division Chief of Nephrology, Sidra Medicine



“My daughter has a long history with autoimmune disease and kidney failure... While undergoing a transplant is not an easy journey, the support and care from the excellent team at Sidra Medicine, made the whole process smooth and reassuring. We knew we were in safe hands, and this has been validated by the patient and family approach to care they have shown us.”

- Patient's Mother

N's transplantation surgery, which took three hours, was performed at Sidra Medicine by Dr. Pippi Salle, Division Chief of Urology and Dr. Bruno Leslie, who said: “Unlike living donor transplantations, deceased donor transplantations have a critical immediacy. For the first time, we were able to highlight the urgency and efficiency through which we could mobilize a specialist team to perform the transplantation within a matter of hours. **The multidisciplinary approach to care that Sidra Medicine excels in, really came to the fore in this case. This is a pediatric first for Qatar and a game changer for children, many of whom are unsuccessful in finding living kidney donors.**”

Patient Stories

Complex Epilepsy Surgery Saves Life of Young Kuwaiti Boy

Salem suffered from at least 15 to 30 seizures a day, with each seizure lasting from a few seconds to four minutes; increasing the danger to his physical health... While he was on a good therapy program including anti-epileptic medications in Kuwait, we had reached a stage where he was no longer responding to conventional treatment or medication.

- Dr. Abdulrahman Abdullah, Salem's father

Ten-year-old Salem was transferred to Sidra Medicine after his family in Kuwait sought a second expert opinion with the hospital's renowned specialist treatment program for children with intractable epilepsy. After thorough assessment and investigations, it was decided that Salem would benefit from a left hemispherectomy; an advanced and innovative technique that has proven to reduce the complication rates while maintaining good seizure control.





Salem's case was brought to our attention when his father reached out to our international office about saving his son's life. Studies have shown that only 3-4 per cent of patients with intractable epilepsy would respond to treatment with antiepileptic medications. Cutting edge advanced therapies such as epilepsy surgery might be the only answer in such cases.

Dr. Hussam Kayyali, Acting Division Chief of Neurology, Sidra Medicine



Salem was cared for at Sidra Medicine by a multidisciplinary team of experts from neurology, neurophysiology, radiology, nuclear medicine, neuropsychology and neurosurgery. He was also extensively supported by a wider team from occupational health, physical therapy, rehabilitative medicine and ophthalmology to ensure a comprehensive pre- and post-operative care program. Sidra Medicine is one of very few children's hospitals in the Middle East to have dedicated pediatric experts overseeing the entire spectrum of care for children with complex diseases or health challenges including epilepsy.

"As a physician myself, I was well aware of the complexities of my son's case and am very impressed with the level of care, professionalism and the team-based approach that Sidra Medicine applied in my son's treatment. This is very reassuring for families within the gulf region, many of whom have to think twice about relocating for months on end to the US, UK or Europe for such complex surgery. I would like to specifically thank Dr. Hussam Kayyali and Dr. Ian Pople. It is a blessing to have such pioneering experts so close to home.

- Dr. Abdulrahman Abdullah, Salem's father

"Hemispherectomy is quite a complex procedure and Salem's case was our first on an international patient. We performed the surgery in our advanced high-tech neuro-imaging operating theatre, whereby we disconnected the left side of Salem's brain from the right side. We then removed the affected part of his brain which was causing the seizures, through the guidance of special MRI scans in the operating theatre."

- Dr. Ian Pople, Division Chief Neurosurgery, Sidra Medicine.

Patient Stories

Teen with Wolff-Parkinson-White Syndrome Saved

“Abdulla had been through a few episodes while growing up, when he would complain of dizziness and then nausea. We put it down to him being an active and excitable boy, and even though we saw a doctor back then, nothing was picked up during the tests.”

- *Abdulla's father*

At 16, Abdulla was brought to Sidra Medicine after experiencing a rapid heart rate and shortness of breath where he was diagnosed with Wolff-Parkinson-White (WPW) syndrome. WPW is a condition that causes the heart to beat abnormally fast for periods of time due to an extra electrical connection in the heart.

“We were concerned that Abdulla was at high risk unless we perform an ablation procedure straight away, as it turned out he was one of those with the rare kind of WPW, where risk of cardiac arrest was very high. The conduction of his abnormal electrical pathway was extremely fast and dangerous,” said Dr. Volkan Tuzcu, Senior Attending Physician and Clinical Lead of the Electrophysiology Cardiology service, Sidra Medicine.

The ablation procedure developed by Dr. Tuzcu, eliminated the risk of Abdulla being exposed to prolonged radiation. While most of the extra electrical pathways of WPW patients are inside the heart chamber and can be reached from the leg vein access, Abdulla's electrical pathway was located outside his heart, making the procedure even more complex.

Dr. Tuzcu and the team used a different approach by inserting the catheter through Abdulla's neck. The procedure was a success and follow up tests revealed that Abdulla condition was reversed.

Dr. Tuzcu is an internationally recognized leader and the founder of comprehensive electrophysiological and catheter ablation procedures without the use of fluoroscopy (X-ray) in children and adults. He used the ground-breaking process during Abdulla's procedure at Sidra Medicine.



Patient Stories

Lifesaving Airway Stent Intervention

“My four-year-old daughter suffered a major accident, and despite several surgeries in Oman, she required an airway stent to save her left lung. It was a challenging journey travelling during a pandemic, but we arrived on a specially chartered plane to Qatar, with the commitment and determination of everyone involved to ensure Maryam received the best and safe care possible.”

- Talal Al Balushi, Maryam's father

Maryam required a highly specialized interventional airway procedure in order to preserve and save her lung, a procedure not available in Oman. Worldwide, there are only a select number of hospitals with a combination of Cardiac Intensive Care Units (CICU) and interventional radiology way (bronchial stent) interventions.



Sidra Medicine is one of the few hospitals with a Cardiac Intensive Care Unit that provides support for infants and children with congenital or acquired heart disease. The hospital is also the only one in the Middle East with an advanced intra-operative imaging suite (IMRIS) supported by adult and pediatric interventional radiologists and a pediatric cardiac anesthesia team to ensure patient safe outcomes.

Maryam's procedure was planned as a multi-modality, multidisciplinary approach and to improve the outcome of the procedure, the surgery took place in Sidra Medicine's state-of-the-art IMRIS hybrid operating theater, which features intraoperative imaging capabilities, including a moveable intraoperative MRI (magnetic resonance imaging) and capacity to run highly complex interventional radiology procedures. Her procedure involved the use of CAT scan, fluoroscopy and bronchoscopy working together at the same time to insert the stent under direct and indirect visualization.

"Maryam was our first international patient to be implanted with a biodegradable stent. This is a highly specialized procedure, and is performed by only a handful of airway specialists around the world. In Maryam's case, a novel biodegradable stent was used; and it is incredibly fortunate that Sidra Medicine is one of the few Greenfield hospitals to make such an investment in specialist children's surgeries along with a highly skilled interventional team to help conduct the procedure safely.

- Dr. Andrew Durward, Attending Physician at Sidra Medicine's CICU unit.

Maryam's recovery was very swift, as her breathing improved on the very same day following her procedure.

Patient Stories

Successful Selective Dorsal Rhizotomy Procedure

Eight-year-old Aiden's parents tried different therapies for his Cerebral Palsy (CP) and visual impairments, including stem cell therapy in the USA, before seeking a treatment program at Sidra Medicine.

Aiden was the first case at Sidra's Movement Disorders Clinic, who underwent a Selective Dorsal Rhizotomy (SDR) procedure to help ad-

dress his spasticity. SDR has been shown to reduce the number of additional orthopedic surgeries needed over the course of a child's life. In most cases, spasticity doesn't return. The goals of the surgery were to make it easier for him to move, so that he could walk in his home with a walker.

Sidra Medicine established Qatar's first pediatric focused Movement Disorders Clinic. It is one of the very few hospitals in the world with the specialist expertise to offer comprehensive care for children with Cerebral Palsy or Dystonia, including neurosurgery, neurology, inpatient and outpatient rehabilitation and orthopedic surgery. While these brain conditions are incurable, the teams' combined effort is to ensure an improved quality of life for the patients and their families.

Dr. Ian Pople, Division Chief of Neurosurgery at Sidra Medicine said: "Timing was critical regarding the selective dorsal rhizotomy procedure on Aiden. It was important that Aiden would be able to withstand undergoing such a complex surgery and it took three years before we felt confident that he was ready. The surgery took six hours and involved a team of two surgeons, a neurologist and two neurophysiologists who monitored Aiden's spinal cord function during the surgery."

- Dr. Ian Pople, Division Chief of Neurosurgery, Sidra Medicine.

Dr. Lisa Thornton, Division Chief of Rehabilitative Medicine at Sidra Medicine said: "When SDR is followed by months of rehabilitation, it can improve a child's ability to move and control their muscles. Following his surgery and while undergoing therapy, Aiden is now able to support his own weight aided by a walker. This is a significant milestone."



Complex Laryngotracheal Reconstruction

“During our daughter’s initial assessments, we sought a second opinion outside of Qatar and were assured when they validated that Sidra Medicine, with its expert team and technologies, was one of the best children’s hospitals in the Middle East to conduct the surgery.”

- Lulwa’s parents

Baby Lulwa was born with a laryngeal web and subglottic stenosis. The condition is a rare birth defect, with an estimated incidence of 1 per 4000001. Dr. Faisal Abdulkader, Division Chief of Ear, Nose and Throat (ENT) and Otolaryngology, Sidra Medicine said, “Laryngeal web can sometimes be misdiagnosed for asthma, as the symptoms of raspy breathing and shortness of breath are very similar. Without immediate intervention, the openness (patency) of her airway would be at risk.”

“Despite the rarity and the complexity of her condition, this was the first time the management of such a rare case was performed in Qatar without the need for a tracheostomy. It is important to highlight the specialist expertise that we have at Sidra Medicine throughout the entire journey of care for our young patients – from our surgery to pediatric anesthesiology, through PICU and child life services. We want families in Qatar to be assured of our commitment to providing the highest levels of care for their children.”

Dr. Mansour Ali, Chair of Pediatric Surgery, Sidra Medicine.

Surgeons at Sidra Medicine performed a laryngotracheal reconstruction surgery on baby Lulwa in two phases. In the weeks following surgery, the MDT team performed regular endoscopic exams and a video fluoroscopy to check on Lulwa airway and her ability to swallow. She was also assessed by a speech and language therapist and received an out-patient based care plan to ensure her full recovery.



Patient Stories

Infant Hip Clinic for Newborns



The Infant Hip Clinic

has seen more than

350

CHILDREN

by its multidisciplinary team, diagnosing and treating children with Developmental Dysplasia of the Hip (DDH).

“Having both the assessment and treatment service under one room made it easier for us as a family to ensure that Tia received the best treatment possible. We are glad that we sought early intervention and treatment at Sidra Medicine.”

- Baby Tia's Parents

The Infant Hip Clinic at Sidra Medicine is run by a multidisciplinary team consisting of orthopedic surgeons, radiographers, nurses and physiotherapists – who provide a key step by step assessment and treatment process all within one clinical setting.

Developmental Dysplasia of the Hip (DDH) is the most common condition in newborns, affecting one in 10 firstborn children. Known to develop before or after birth, the condition includes a range of hip disorders from dysplasia to dislocation.

“The Infant Hip Clinic helps address a very critical component of the assessment and treatment of Developmental Dysplasia of the Hip (DDH) – that is saving families the time and effort between separate appointments and scheduling a treatment plan. This is part of our multidisciplinary approach to family and patient-centered care.”

- Dr. Talal Ibrahim, Act. Division Chief of Pediatric Orthopedic Surgery, Sidra Medicine



Positive Birth Experience

“I chose Sidra Medicine to deliver my second child because I wanted a place where I could have a calm birth experience, where my birth plan would be followed and respected, unlike my first experience of childbirth.”

– Clare Flores

Clare chose Sidra Medicine for her second delivery after receiving recommendations from mothers in Doha who shared their positive and empowering experience there.

“I had a negative birth experience for my first child at a different hospital, with unnecessary interventions by a rushed staff who took no care to follow my birth plan. This made my physical and emotional recovery a very difficult and long journey,” says Clare.

Clare was informed of the skilled team of UK midwives at Sidra Medicine who are trained to deliver low risk vaginal births. Clare discussed and created her own birthing plan, and decided on a midwife-led delivery, as she believed having a midwife lead the birth was more comforting.

“As I lay on the bed having the baby’s heartbeat and contractions measured, my son cuddled up with me and we read books together until it was time for me to head to the delivery room with my husband, while my son stayed back with my mother.”

- Clare

“Throughout my pregnancy and aftercare, I was treated with respect for my birthing plan, and it was followed exactly as I wanted. I could never imagine having such a perfect hospital birth experience anywhere else in the world,” said Clare.





A male scientist with a shaved head, wearing a white lab coat with teal accents and blue nitrile gloves, is seated at a desk in a laboratory. He is looking down at a black laptop. In the background, a microscope is visible on a lab bench, and shelves with various lab equipment and containers are blurred. A teal semi-transparent banner is overlaid across the middle of the image.

Research



Chief Research Officer's Message

"The past year has been remarkable on many fronts. We have proven this, not only as a key player in addressing the challenges imposed by the pandemic – coming up with solutions and new tests that have both a local and global impact, but also in our own precision medicine strategy.

We continued to develop core competencies in genome sequencing and computational analysis as well as investigate the role genetics plays in disease predisposition and progression.

I am proud of the work that we do and the tremendous potential of our contribution towards Qatar's precision medicine strategy. We are moving ahead in this exciting journey of biomedical discoveries as we share our knowledge and high-level expertise. We remain committed to supporting Sidra Medicine's model of care being based on leading, evidence-based practices and to enable research-guided discoveries to usher in a new era of personalized care."

Dr. Khalid Fakhro
Chief Research Officer

The research function at Sidra Medicine has developed a comprehensive strategy of Precision Medicine for its patients, where world-class research is integrated into the patient's journey, making the transition from standard clinical service to research investigation seamless as is typical at high performing academic medical centers.

Translational clinical research is fundamental to Sidra Medicine's ambition of being a world-class academic medical center and plays a key role in its precision medicine program.

Sidra Medicine's Research programs are a result of our Response to the National Health Strategy, focusing on:

Knowledge and Innovation

We will lead **creation of new knowledge** via clinical research, and **develop top healthcare talent**. In doing so, we will become the benchmark institution in developing and implementing **'best-practices' in healthcare management globally**.

- In 2020, Sidra Medicine published over 300 peer-reviewed scientific papers
- 105 Research Branch publications in 2020 with a mean impact factor of 7.1
- 74% of publications are in the top 15% of internationally recognized journals
- 92 formal scientific collaborations locally and internationally
- Over 60% of PIs with academic affiliations inside Qatar
- Research Branch investigator average H-Index for 2020 is 21
- The Branch hosted over 20 MSc & PhD Students in the PI labs
- 46% of research studies have a clinical lead/co-investigator

Sidra Medicine has aspired to achieve and ensure high quality care, leading medical education and a research agenda built on supporting the path to personalized medicine. Our Joint Commission International's (JCI) Gold Seal of Approval® accreditation for hospital and academic medical center in 2020 also applies to Sidra Medicine's research practices particularly within clinical care programs. It emphasizes that Sidra Medicine's delivery model of care is based on leading, evidence-based practices.

The research branch is home to exceptional laboratory instrumentation, including national reference labs in: Genomics, Proteomics, Bioinformatics, Microscopy, Zebrafish models, etc.

Formally integrating these technologies into the clinical work-up will enable research-guided discoveries to usher in an era of individualized/ personalized care, making Sidra Medicine a hospital of choice for patients locally and from abroad.

Strategic Overview and Competitive Platforms

Four Strategic Focus Areas
<ul style="list-style-type: none"> Pediatric Conditions Maternal Health Cancer Qatar Genome Program
Competitive Platforms and Core Services
<ul style="list-style-type: none"> Advanced Laboratory Technologies for Deep Phenotyping and Genomic Investigation of Sidra patients High Performance Computing and Informatics for a future of genome-guided digital health Advanced Therapy Core for future Cell and Gene Therapy and Bone Marrow Transplantation

Publications:



Key events

• CUDOS Conference: 3rd Annual Congress of Current Understanding in Diabetes, Obesity and Related Syndromes:

- Focused on pediatric precision medicine, genomics and clinical research, as well as the care and treatment of children and young people with diabetes, obesity, and related syndromes.
- 1,300 local registrations over the course of 3 days

• Maternal and Child Health (MCH) Symposium:

- Explored the latest developments and innovations in maternal and child health research including the most cutting-edge advances in the field of reproductive health, pregnancy, fetal and post-natal life
- 400 local registrations over the course of 3 days

- Over the past 18 months, over 5,500 samples from the Qatar Genome Program were sequenced by Sidra Medicine, in support of national collaborative efforts to implement precision medicine.

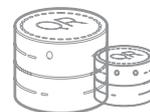
- We signed umbrella lab services and collaboration agreements with Hamad Bin Khalifa University; Qatar Biomedical Research Institute; Qatar University regarding the sharing and deduplication of local capabilities and resources.

- In April 2020, Sidra Medicine's Advanced Cell Therapy Core (ACTC) became the first ISO 9001:2015 certified cell therapy center in Qatar. It paves the road toward standardization of the Stem Cell Program for cell, gene therapy, and regenerative medicine, for the benefit of patients locally and regionally.

Grants:

18 

18 Total grants
from Qatar National
Research Fund and
other external funds
were awarded in the last
18 months



Totaling
QR 17.1 m

Key Statistics

Breakdown of Grant Applications in 2020

External Applications	2020	
	Submitted	Awarded
National Priorities Research Program (NPRP-12S)	16	6
Path Towards Precision Medicine (PPM-03)	8	2
Researchers Exchange and Mobility Program (REMP-01)	3	4
Early Career Researcher Award (ECRA-01)	1	1
Conference and Workshop Sponsorship Program (CWSP-17)	2	3
Rapid Response Call (RRC_Covid19)	17	1
Academic Health System (AHS) Covid19 National Call	7	-



COVID-19

The research team is working on several key innovations and research studies related to COVID-19, including 8 papers submitted for publication covering progress as follows:

Paper Title	Description of Impact/Relevance to Qatar/Sidra
High-Throughput Extraction of SARS-CoV-2 RNA from Nasopharyngeal Swabs Using Solid-Phase Reverse Immobilization Beads	A novel High-throughput RNA extraction method using non-standard, available and very affordable reagents to bypass reagent shortages and enable high volumes of testing with minimal staff hands-on time with the same sensitivity and specificity as the WHO/CDC-approved tests. This method has been used to extract around 15.000 samples for HMC.
A review about the Pathophysiology and Treatment Strategies for COVID-19	Summarizes the pathogenesis of COVID19 and the treatments currently used in Qatar and Worldwide along with their mechanism of actions.
COVID-19 and Pregnancy: Immuno-transcriptomics, epigenetics and long-term effect on the offspring	Assess the effect of COVID19 on pregnant women, and to look at vertical transmission. Finding answers to this research question will help treat pregnant women infected with the virus, and assess the long-term effect on the baby.
Endemic human coronaviruses induce distinct antibody repertoires in adults and children	Children have different antibody responses to seasonal human coronaviruses than adults. Hypothesize that some of these antibodies that originate from past infections with seasonal human coronaviruses (i.e. 'common cold' viruses) -bind to the new coronaviruses as well. Thereby they may provide some degree of cross-protection from severe disease in children who become infected with SARS-CoV-2.
A modular framework for the development of targeted Covid-19 blood transcript profiling panels	A significant proportion of Covid-19 patients' immune dysfunctions could also lead to uncontrolled inflammatory response, organ failure and death. Here we present an approach to the development of targeted transcript panels that may in turn be used for enhancing immune profiling capabilities of Covid-19 patients.
Toward Nanotechnology-Enabled Approaches against the COVID-19 Pandemic	How nanotechnology-based approaches can be used to fight against COVID-19 spreading.
More than smell – COVID-19 is associated with severe impairment of smell, taste, and chemesthesis	To better understand the pathophysiological mechanisms of the Sars-Cov-2 virus.
Global Consortium Chemosensory Research [GCCR] collaboration	Currently coordinating a world-wide crowdsourced research to understand the reports of the chemosensory issues related to COVID-19.



A photograph of medical students in a classroom. In the foreground, a female student in a blue lab coat with a teal sash is writing in a teal notebook. To her right, a male student in a blue lab coat with a teal sash is looking towards the camera. In the background, other students in blue lab coats are visible, some looking towards the front of the room. The scene is set in a classroom with desks and books.

Medical Education



Chair of Medical Education's Message

"Medical Education is one of the three pillars that form the foundation of Sidra Medicine's mission to provide patient and family care, by offering a continuing education platform for clinical staff.

In 2020, we achieved great strides in our ongoing educational mission to train not only our surgical staff and physicians but also the next generation of healthcare professionals. We launched new fellowship programs covering a multitude of our pediatric specialties.

Despite the challenges imposed by the pandemic, we offered over 154,562 Continuing Medical Education (CME) based credits via workshops, seminars, simulation training, grand rounds, and blended online learning modules.

Our partnerships with leading universities in Qatar as well as collaboration with international training and educational institutions has positioned Sidra Medicine to developing a stronger and well-established learning environment for medical trainees in Qatar. Our programs will continue to build on our academic credibility in order to strengthen our standing as a premier teaching hospital in the region."

Professor Ibrahim Janahi
Chair of Medical Education

Sidra Medicine is home to world-class patient care, scientific expertise and educational resources. Promoting an inter-professional training model for all healthcare professionals, our Medical Education programs apply to doctors as well as for undergraduate and graduate medical training.

Sidra Medicine introduced professional training and advancement in the field of healthcare in Qatar and the region, providing unique opportunities for progress and development of highly specialized physicians and surgeons. Unique training programs to include; pediatric urology, pediatric plastic surgery, pediatric orthopedic surgery, child and adolescent mental health, pediatric cardiology, pediatric pulmonology, sleep medicine and many others.

In 2020, Sidra recruited for over 15 pediatric subspecialties including general pediatrics, nephrology, infectious diseases, NICU, radiology, genetics and others.

Sidra is a Qatar Council for Healthcare Practitioners (QCHP) accredited center, it offers Continuous Medical Education (CME) and Continuing Professional Development (CPD) to all licensed healthcare professionals and senior medical staff.

For Undergraduate Medical Education, Sidra Medicine is affiliated locally with Weill Cornell Medical College – Qatar (WCMC-Q), Hamad Medical Corporation (HMC), Qatar University (QU), University of Calgary – Qatar (UC-Q) and Doha Institute

Planned and Completed Accreditations in 2020 for Residents and Fellows:

ACGME-I :



Accredited Programs in 2020; Pediatric Radiology, Neonatology, Pediatric Surgery and Pediatric Nephrology



Royal College of Physicians and Surgeons of Canada (Planned): Accreditation of Residency and simulation programs. The planned accreditation will make our graduates eligible to sit for the Canadian Board Examination and become Canadian Board Certified.



Joint Accreditation for Inter-professional Continuing Education



Qatar Council for Healthcare Practitioners (QCHP) Accreditation



American Heart Association – Accreditation of Life Support training



Undergraduate Medical Education: In 2020, further expansion planned for Qatar University to include additional 80 students.

Continuing Medical Education

Continuing Medical Education (CME) provided 3,329 educational hours to 19,947 participants with over 154,562 granted credits in 2020. The credits were earned in workshops, seminars, symposia, grand rounds, conferences, journal clubs and blended online learning modules. These courses are vital to ensuring the licensing and accreditation as well as the proficiency of our clinical staff.

Accredited conferences in 2020 including but not limited to; The 4th Qatar Pediatric Emergency Medicine (QPEM) Conference, ISPCAN International Child Protection Congress Qatar, Maternal Child Health (MCH) Conference and Precision Medicine Functional Genomics (PMFG).

Clinical Library

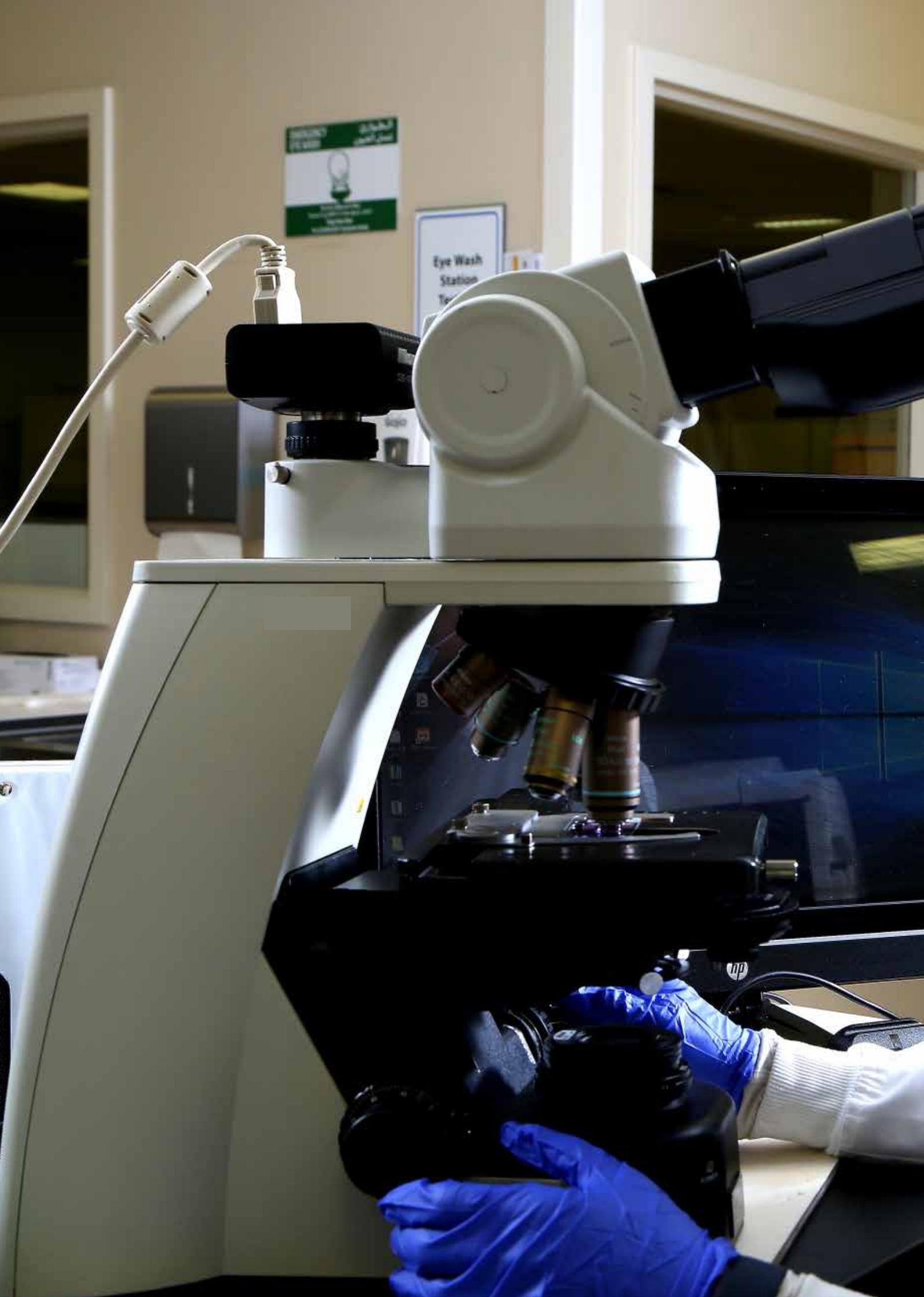
The clinical library provides clinical staff and researchers' access to information that will improve clinical care. Important online resources, such as UpToDate, LexiComp, Lippincot Procedures, Science Direct and Springer Nature have been accessed over 1,000,000 times by staff in 2020.

Simulation and Life Support Center: The Simulation Center is a local and regional center of excellence and innovation for healthcare simulation, education, patient safety, and research. Equipped with the latest technology, the new facility offers training based on international best practice standards.

Simulation training sessions conducted in 2020 to certify a total of 2986 trainees in the following programs; Basic Life support (BLS-1728 trainees), Pediatric Advance Life Support (PALS-408 trainees), Advanced Cardiovascular Life Support (ACLS-250 trainees), Neonatal Resuscitation Program (NRP-264 trainees) and Pediatric Emergency Assessment, Recognition and Stabilization (PEARS- 264 trainees).

Simulation training sessions conducted in 2020 to certify a total of 2986 trainees in the following programs

	2020
Program	Trained
Basic Life Support (BLS)	1728 trainees
Pediatric Advanced Life Support (PALS)	408 trainees
Advanced Cardiovascular Life Support (ACLS)	250 trainees
Neonatal Resuscitation Program (NRP)	336 trainees
Pediatric Emergency Assessment, Recognition and Stabilization (PEARS)	264 trainees
Total	2986 trainees





MORPHOLOGY BENCH

Our Response to COVID-19



The pandemic as a result of COVID-19, highlighted Sidra Medicine's expertise as we joined the race to find sustainable solutions to the global health challenge with our innovative and academic expertise. We did this while continuing to provide uninterrupted, quality healthcare support and services in Qatar.

Sidra Medicine worked closely with the Ministry of Public Health and Hamad Medical Corporation (HMC) in the nationwide efforts to tackle the pandemic while also positioning our thought leadership globally. While supporting HMC's COVID-19 testing efforts, Sidra Medicine's research and pathology teams also played an important role in the development of new COVID-19 testing methods.

The first method to be developed in-house during the early months of the pandemic, involved a new COVID-19 virus testing method to help address the challenge of global shortages in conventional kits, by proposing a different RNA (ribonucleic acid) extraction using alternative test components.

The second COVID-19 testing method based on the use of nuclease-free water and a heating pad, as an alternative to RNA sequencing (2020). The novel High-throughput RNA extraction method uses non-standard, available and very affordable reagents to bypass reagent shortages. It enables high volumes of testing with minimal staff hands-on time, with the same sensitivity and specificity as the WHO/CDC-approved tests. This method has been used to extract around 15,000 samples.

We also developed a better antibody test that provides more detailed information than existing

commercial assays for COVID-19 antibodies. The serological testing method looks at multiple types of antibodies against the different protein components of the COVID-19 virus, as well as against the other common human coronaviruses. The method is based on testing whether the antibodies to other coronaviruses impacts immunity and how it affects the clinical trajectory of infected patients.

The Research Team Also Published International Papers On:

- 'A review about the Pathophysiology and Treatment Strategies for COVID-19';
- 'COVID-19 and Pregnancy: Immuno-transcriptomics, epigenetics and long-term effect on the offspring';
- 'Endemic human coronaviruses induce distinct antibody repertoires in adults and children';
- 'Endemic human coronaviruses induce distinct antibody repertoires in adults and children';
- 'A modular framework for the development of targeted COVID-19 blood transcript profiling panels';
- 'Toward Nanotechnology-Enabled Approaches against the COVID-19 Pandemic'; and Chemosensory Research [GCCR] collaboration'.

- 'More than smell – COVID-19 is associated with severe impairment of smell, taste, and chemesthesis, and Global Consortium Chemosensory

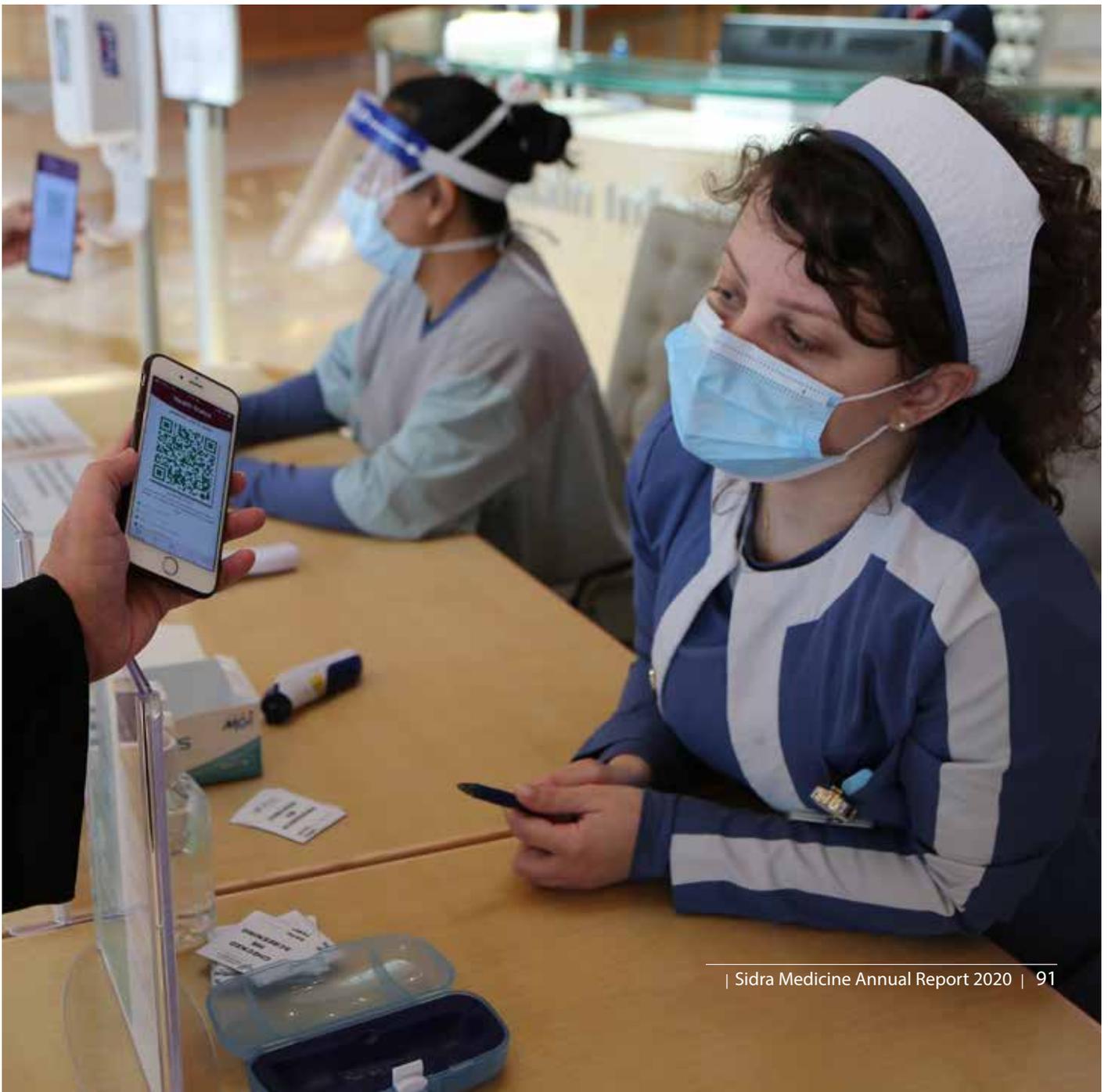
- Research [GCCCR] collaboration'.

We also worked actively with the community to keep patients informed in line with Qatar's MOPH and WHO guidelines,

A drive-through pharmacy, the first of its kind in Qatar, was launched to ensure medications were dispensed safely and on time. We also initiated thought leadership and guidance on topics relevant to parents, pregnant mothers and young people including 'Guidance and advice for parents with children with Autism on how to cope during COVID-19', 'Guidance and advice for pregnant women worried about COVID-19' and 'Advice on how to talk to children about COVID-19'.

Developed new COVID-19 testing methods in-house

to find sustainable solutions to the global health challenge with our innovative and academic expertise.





Forward Facing Message for 2021 from our New Chief Executive Officer

“There is no question anymore that the pandemic has forever changed how healthcare will be delivered. Hospitals and teams that have responded well to the challenges and emerged resilient and stronger on the other side will be the ones that will lead the standards of outcomes that matter most to patients.

Despite 2020 being a challenging year, our hospital has made great strides and pushed forward. We provided outstanding care to 159,239 children and 33,312 women in our outpatient clinics. We had 43,693 urgent care pediatric patients and 3,594 women. We had 19,172 inpatients in pediatrics and 2,218 in women services. We cared for every one of them and we kept our hospital COVID free.

In 2021, we will continue to build on our good work and continue to pursue better patient experiences, better staff experiences, and contribute to fostering healthier populations. We will focus on improving patient outcomes and provide value-based care. We will bring about innovation in our specialty pediatric services in the areas of Cardiology, Neurosurgery, Comprehensive Epilepsy Program, Otolaryngology, Gastroenterology, Hepatology and Nutrition, and Orthopedics, so that children both in Qatar and around the world can benefit from our expertise and can get a fighting chance. We will bolster our women services to encompass holistic

treatments including reproductive medicine, mental health and plastic surgery. But above all, we will continue to deliver care the counts, care that has value for patients, care that improves their lives. We are committed to delivering good patient outcomes above all.

Among other important lessons, 2020 has taught us to be intuitive and innovative. In 2021, we will continue this learning so that we can not only we can weather any other crisis, but instead, emerge as a leader in the delivery of next-generation care.

We have an incredible yet humbling journey ahead. And with the incredible determination of our extraordinary staff, we hope to forge a path full of hope and health for our patients and their families.”

Dr. Barbro Friden
Chief Executive Officer

www.sidra.org