

TOGETHER WE CARE

2021 CLINICAL SERVICES REPORT



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MEDICLINIC'S CORE PURPOSE IS TO ENHANCE THE QUALITY OF LIFE

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Better ways to connect

Employees keep clients at the heart of all Mediclinic does. That is the commitment behind putting *Patients First*.

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Klinik Hirslanden, Switzerland

Better ways to unlock value

The Group is dedicated to partnering with all its stakeholders and forging long-term relationships.

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Better ways to care

Superior clinical performance is essential to achieve Mediclinic's purpose of enhancing the quality of life.

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ABOUT THIS REPORT

Mediclinic International plc ('Mediclinic' or the 'Company') is proud to publish a Clinical Services Report annually as part of a suite of reports in respect of both the 2020 calendar year and 2021 financial year.

The reporting suite listed below is available on the Group's website.

[2021 Annual Report and Financial Statements](#)

[2021 Clinical Services Report](#)

[2021 Sustainable Development Report](#)

[2021 Modern Slavery Statement](#)

[2021 Notice of Annual General Meeting](#)

SCOPE

The goal of this Report is to provide Mediclinic stakeholders with an overview of the most important clinical performance characteristics across its divisions in Switzerland, Southern Africa (South Africa and Namibia) and the United Arab Emirates ('UAE') (collectively, the 'Group') for the 2020 calendar year, unless stated otherwise.

Mediclinic reports on its material issues at a Group level, but also discloses information on divisional initiatives and performance, as this is the level at which data is collected.

This Report does not include information on initiatives undertaken by Spire Healthcare Group plc, a leading private healthcare group based in the United Kingdom and listed on the London Stock Exchange ('LSE'), in which Mediclinic holds a 29.9% interest.

APPROVAL

Mediclinic's Clinical Performance and Sustainable Development Committee approved this Report on 19 May 2021.



SHARE YOUR VIEW

Mediclinic welcomes the opinions of its stakeholders. Please contact Dr René Toua on tel: +27 21 809 6500 or email: rene.toua@mediclinic.com with queries or suggestions.



COVID-19 OVERVIEW

The important role of large corporates in modern society was already widely recognised before the emergence of the COVID-19 pandemic, and must be emphasised even more at this time. Each business today plays a vital role in supporting livelihoods – of its employees, the communities it serves and the national economies in which it operates.

Healthcare is unique that, during this time, it has been the industry around which national responses have been designed. It has been, and continues to be, centre stage – what the industry does during this time will define it for decades to come.

MEDICLINIC'S RESPONSE

The Group continues to fulfil an essential role in combatting the pandemic. As an international healthcare services provider, Mediclinic prioritises the safety of its employees and patients; the continuity of its operations; and its support of and collaboration with the relevant health authorities.



COVID-19 IN NUMBERS

27 000+ COVID-19 patients treated in hospital

60+

international professional societies and epidemiology experts consulted

105m

examination gloves sourced in 2020, 35 million more than in an average year

1.3m

masks/month used during COVID-19 waves, up from 360 000 masks/month pre-pandemic

2 900%

increase in use of isolation gowns during pandemic's peak compared with normal operations

10+

new internal engagement channels across the Group to support continuous communication

48%

increase in absenteeism hours, mainly due to COVID-19 quarantine periods and illness



EMPLOYEES VACCINATED AT 31 MARCH 2021¹

Hirslanden

±35%

Mediclinic Southern Africa

±29%

Mediclinic Middle East

±85%

Note

¹ Percentage applicable to eligible employees.

EMERGENCY PREPAREDNESS SUMMARY

The system that prepares, protects and mobilises Mediclinic during the COVID-19 pandemic

	WHO	WHAT
BOARD LEVEL	Clinical Performance and Sustainability Committee and the Board, which has four directors with healthcare and clinical experience	Through regular reporting and consultation, these bodies provide invaluable guidance to the Group Chief Clinical Officer in tailoring and adapting Mediclinic's response
GROUP LEVEL	Clinical taskforce led by the Group Chief Clinical Officer Multidisciplinary and specialist taskforces	Strategic direction and response and outcome monitoring Central coordination of task teams and clinical governance
DIVISIONAL LEVEL	Multidisciplinary taskforces	Hospital and operational response planning and management

ACTIONS

- Redeploying suitable employees to support operations
- Acquiring additional ventilators and other intensive care unit ('ICU') equipment and related consumable products
- Expanding ICU capacity where possible
- Establishing additional laboratory facilities
- Proactively procuring critical personal protective equipment ('PPE') and medication
- Researching and sourcing alternative mechanisms to provide oxygenation

CONTINUOUS EXTERNAL STAKEHOLDER CONSULTATION



Clients

24/7 call centres, online risk assessment tools, awareness campaigns



Governments and authorities

Supporting with testing, treatment and vaccination strategies



Healthcare insurers



Investors



Media



Medical practitioners

Communication via live broadcasts, virtual meetings and online treatment collaborations



Professional societies



Suppliers

NEW SERVICES AND INFRASTRUCTURE

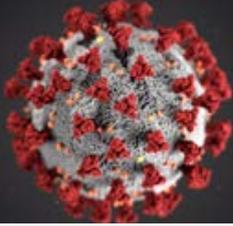
- Virtual care advancement
- Polymerase chain reaction ('PCR') testing units and additional laboratory facilities
- Home delivery and drive-through pharmacy services
- Remote patient monitoring
- Alternative interim facilities which admit asymptomatic and low-acuity cases
- Vaccination centre establishment and management

Restrictions on elective procedures¹

- Switzerland
- Southern Africa
- The UAE

COVID-19 TIMELINE

2020



9 January
First COVID-19 case admitted at Mediclinic Middle East

26 February
First COVID-19 case admitted at Hirslanden

28 February
Daily Group clinical taskforce meetings commence

11 March

- World Health Organization ('WHO') declares COVID-19 outbreak a pandemic
- First COVID-19 case admitted at Mediclinic Southern Africa

12 March
Online risk assessment tool launched at Mediclinic Southern Africa

26 March
PCR testing service launched at Mediclinic Middle East

1 April
First telemedicine consultation at Mediclinic Middle East

5 April
Hirslanden: admissions peak in first wave

23 April
Hospital access control screening app introduced at Mediclinic Southern Africa

14 May
Mediclinic Middle East: admissions peak in first wave

1 June

- Telemedicine solution launched at Mediclinic Southern Africa to support affiliated doctors
- Mediclinic Middle East concludes agreement with national airlines to test passengers before flights

22 July
Mediclinic Southern Africa: admissions peak in first wave



15 August
First Mediclinic Middle East employee vaccinated as part of a clinical trial

24 November
Hirslanden: admissions peak in second wave

7 December
Vaccination roll-out commences in the UAE

18 December
New 501.V2 variant announced in South Africa

23 December
First Hirslanden employee vaccinated

2021

12 January

- Vaccination roll-out commences in Switzerland
- Mediclinic Southern Africa: admissions peak in second wave



13 January
Hirslanden contracted to operate its first vaccination centre

12 February
Mediclinic Middle East: admissions peak in second wave

17 February
Vaccination roll-out commences in South Africa

20 February
First Mediclinic Southern Africa employee vaccinated



25 March
Repetitive testing platform, Together we test, launched at Hirslanden

Note

¹ Restrictions were both self-imposed and government mandated to preserve capacity. In some divisions, restrictions were applicable to certain regions or facilities only.

SAFETY FIRST

The Group's international perspective remains a key differentiating factor for Mediclinic. Led by the centrally coordinated Clinical Services function, the Group responded efficiently and effectively to the pandemic and expanded upon established infection prevention and control ('IPC') programmes by leveraging Group insight and best practices.

- IPC and communicable disease emergency preparedness programmes govern admission, containment, triage and treatment of suspected or confirmed COVID-19 cases
- New visitation and access control guidelines
- Thermal screening at the point of entry
- Increased availability of hand sanitisers
- Mandatory use of masks for patients and visitors
- Mandatory COVID-19 testing prior to admission for elective procedures
- Mandatory COVID-19 testing upon admission for all non-elective admissions
- Social distancing enforced in waiting areas
- Restrictions on the number of persons using the elevators
- Revised PPE-use protocols in high-risk areas and procedures
- Increased frequency of facility disinfection
- New clinical guidelines for care process flow of COVID-19 patients from emergency centre ('EC') to ward, ICU, high dependency and palliative care or discharge
- Periodic employee COVID-19 testing as per regulatory guidelines
- Suspected and confirmed COVID-19 case management as per national treatment guidelines
- Employee vaccination programmes



Multidisciplinary taskforces at Group and divisional level enable Mediclinic to constantly re-evaluate its ongoing response to the pandemic, allowing it to optimise treatment pathways for patients in order that demand for critical and intensive care beds can be managed appropriately.

The Group invested in a number of initiatives to support employees, affiliated doctors and communities during this time, including establishing 24/7 client call centres and crisis control centres.

The Group's centrally coordinated procurement teams with global sourcing capabilities have played a pivotal role in ensuring uninterrupted delivery of critical care during the pandemic. Across three continents, the teams' proactive measures ensured the continued supply of critical PPE, medication, consumables and ICU equipment.

EMPLOYEE PROTECTION, EDUCATION AND WELLBEING

- Work-from-home arrangements for qualifying employees
- COVID-19 and PPE-use training and PPE supply for workplace use
- Screening and self-isolation of employees
- Vulnerable frontline employees redeployed to lower-risk units
- Paid leave for sick and quarantined¹ employees
- E-learning and distance learning methods implemented for continuous medical training and education
- Mental and physical wellbeing support for employees and affiliated doctors
- Regular communication with employees and affiliated doctors

> Refer to **2021 Sustainable Development Report** for more information on how employees were supported during the reporting period.



The Group invested in a number of initiatives to support employees, affiliated doctors and communities during this time, including establishing 24/7 client call centres and crisis control centres.

Note

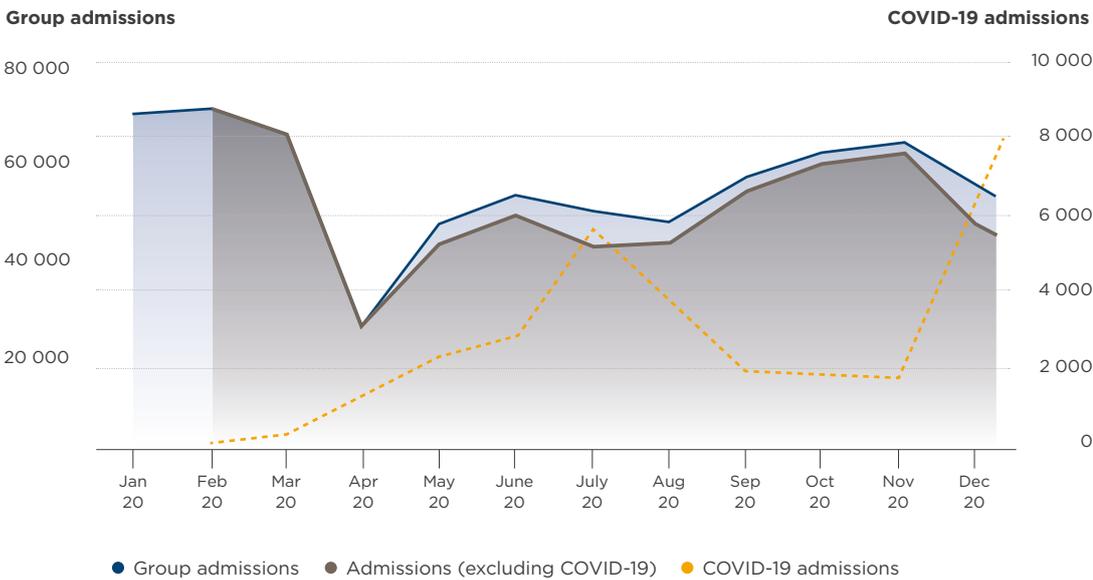
¹ Refer to page 57 of the **2021 Sustainable Development Report** for more information.

CONTINUITY OF CARE

The Group’s approach to providing elective procedures and outpatient treatments has remained fluid, while its delivery of critical and urgent care has not wavered. Hospitals have adapted their services to reflect any local restrictions, the changing demands on individual and regional facilities, and the availability of clinical personnel.

As the peaks of COVID-19 recede, more normal operating practices have resumed, demonstrating the strong underlying demand for Mediclinic’s specialist healthcare services. Patient activity is returning steadily, supported by the Group’s ability to implement and accommodate protocols to ensure services are offered safely and conveniently.

Admissions in 2020



PARAMOUNT PARTNERSHIPS

Collaborating with public and private stakeholders, including governments and authorities, has been vital in helping to address the effects of the pandemic. Across the world, major advances have been made in the development, manufacture and distribution of COVID-19 vaccines. Mediclinic is working with health authorities to support government-led vaccination roll-out plans and prioritisation schedules. It is encouraging to witness that across the world, governments are prioritising healthcare workers in the vaccination roll-outs. Mediclinic supports this approach and is facilitating the process, ensuring eligible colleagues receive a vaccine, thereby protecting their wellbeing

and, as a result, the quality of care Mediclinic patients receive.

In Switzerland, Hirslanden plays an active role in the fight against COVID-19 by operating COVID-19 test centres at more than 10 locations and through its involvement in the Swiss government’s vaccination strategy. Mediclinic Southern Africa is supporting the vaccine roll-out strategy of the National Department of Health and is part of the private sector initiative to assist the government where required, including the management of vaccine centres at its facilities. The government-led vaccination programme in the UAE is well underway and all Mediclinic Middle East facilities are supporting the roll-out.

IMPACT ON CLINICAL INITIATIVES AND INDICATOR REPORTING

The COVID-19 pandemic has had an unprecedented impact on Mediclinic’s operations and stakeholders. As such, many non-critical clinical initiatives were postponed to allow the organisation to focus on ensuring the safety of patients and employees, delivering quality care and supporting the wellbeing of its workforce.

Throughout this Report, the impact of the pandemic is highlighted by the **COVIDevelopment** visual element.



Mediclinic Midstream, South Africa

FEATURE

IN A PATIENT'S SHOES

SR TAUHIERAH TAVARES HAS EXPERIENCED COVID-19 FROM BOTH SIDES - AS CARER AND PATIENT.

As chair of Health and Safety for Mediclinic Midstream in South Africa, Deputy Nursing Manager Tauhierah Tavares was intimately involved in the hospital's pandemic response. Long before the first COVID-19 patient was admitted, she was facilitating mock drills in preparation.

The flow of COVID-19 patients started as a trickle that soon turned into a deluge: by the end of April 2020, the Mediclinic Midstream ICU was full. Since she had not worked in ICU for many years, Sr Tavares was not in a position to care for ventilated patients, but she was everywhere else. Running to get equipment, preparing the emergency trolley, phoning around to find nurses for shifts ...

This revealed her gift for dealing with patient families. When pandemic restrictions prevented visiting, she arranged window visits and video calls. In one case, after a tearful request from a patient's daughter, she held a sick man's hand until he passed away. 'I had worked in oncology so I knew the importance of emotional support to families,' she says.

Despite being scrupulous about IPC measures, she contracted COVID-19. 'On 13 August 2020, I noticed my voice was husky and my pulse slightly elevated. I had a test done and went home to await the results. When the IPC sister phoned, I knew.'

That same evening pulmonologist Dr Emmanuel Taban admitted her to the hospital where she worked. She was to experience first-hand the terrible speed with which COVID-19 progresses.

By 16 August her oxygen saturation levels had dropped so low she had to be ventilated. The infection seemed to stabilise within days and ventilation was stopped, but her next memory is of a colleague crying by her bedside. Sr Tavares later learned she had been saying farewell to the nurses.



I chose to come to this hospital, because I knew I would at least have my hospital family with me.

Tauhierah Tavares
Deputy Nursing Manager Mediclinic Midstream

She suffered a cardiac arrest and had to be resuscitated; this time the infection ravaged her body. She developed multiple organ failure and neutropenic sepsis. The outlook was dire: three times they called her family to come say goodbye.

Doctors suggested a white cell transplant, although the procedure is rarely performed on a ventilated patient. Her brother was found to be a suitable match - his donation proved to be the turning point.

After seven weeks spent on a ventilator, she could begin her journey of recovery. It would be a long one. As the sedation wore off, Sr Tavares developed panic attacks. 'I lay awake all night watching the nurses go about their tasks. Did they wash their hands? Was everything properly done?' Her responsibility for quality control within the hospital became an awful burden that aggravated her anxiety, prevented her sleeping and worsened the panic attacks. It was a vicious circle that kept her shackled to the ventilator.

The hospital's psychiatrist, Dr Melinda Lombard, prescribed medication and with the help of a psychologist, Sr Tavares overcame the panic attacks.



On 21 October she was discharged from the hospital. It was an emotional moment, with Mediclinic Midstream employees singing as they escorted her out of the facility. They knew her well from years of working together and had spent months looking after her. 'I chose to come to this hospital, because I knew I would at least have my hospital family with me.'

After weeks of painful rehab to restore movement and rebuild her strength, she returned home on 20 November. 'It was scary,' she says when talking about her time in hospital. But she is eager to return, this time as a carer, not a patient. She has spent her career looking after those in need and intends to continue making a difference. 'I can't wait to go back to work.'

INTRODUCTION

ABOUT MEDICLINIC

Established in South Africa in 1983 as a provider of acute care in hospitals, the Group has expanded and evolved significantly since inception, and currently has divisions in Switzerland, Southern Africa (South Africa and Namibia) and the UAE, through Hirslanden, Mediclinic Southern Africa and Mediclinic Middle East, respectively.

Over the past few years, the healthcare industry has encountered unprecedented change due to rapid development in the global landscape, most notably driven by ageing populations, a growing burden of lifestyle diseases, advances in new medical technology, virtual care and emerging healthcare consumerism. These provide opportunities for growth.

Mediclinic is adapting to address this changing landscape in which convenient access to the most appropriate care in the most appropriate setting at the most appropriate cost has become critical to success. By evolving across the continuum of care, offering services that prevent, care, recover and enhance, the Group is deliberately positioning itself for a sustainable future.

AT A GLANCE

PURPOSE

To enhance the quality of life

VALUES

In behaviour, Mediclinic commits to being:

- client centred
- trusting and respectful
- patient safety focused
- performance driven
- team orientated



COMMITTED TO CLIENTS

Dr René Toua, Group Chief Clinical Officer, shares learnings from the past year.



Dr René Toua
Group Chief Clinical Officer

Q In 2020, healthcare providers had to contend with monumental challenges. What is the value of having a clear purpose?

When confronted with a crisis, our clear purpose is the true north that guides us. It gives us hope, makes us more resilient and reminds us to put clients first. Our single-minded focus on enhancing the quality of life for clients is what helped us navigate the challenges.

Q How did the Group's cross-country insight and expertise benefit Mediclinic over the past year?

We were fortunate that the pandemic reached the divisions at different times, enabling us to learn from experience and global experts, share the burden of work and capitalise on coordinating procurement processes for the Group. Working together in this way underlined that when we share our lessons, we lessen our share of the load.

Q What did you learn in emergency medicine that stood you in good stead for handling the pandemic?

Uncertainty, high stakes, making decisions with imperfect information and teamwork are critical elements to emergency medicine. They are equally true for the current healthcare crisis. As such my experience has prepared me well.

Q The past year has shown the importance of research to healthcare. What does Mediclinic do to promote it?

Research, which is centrally coordinated, is a key focus for Mediclinic. Affiliation with academic institutes, relationships with the industry and support for specialist partners to pursue research remain a priority.

Q The pandemic may have dominated headlines, but other health issues did not disappear. How did you go about providing care to those patients?

Although elective surgery was paused, essential emergency services proceeded as usual. It was critical to ensure the safety of patients and employees, and build trust among clients, doctors and the community to enable those essential services to continue. Mediclinic quickly took steps to also provide telephonic and virtual access to healthcare.

Q What long-term lessons have there been?

It is important to remain focused on our purpose, gain insight through data and use the collective knowledge and expertise in the Group to ensure that we provide excellent care.



Our single-minded focus on enhancing the quality of life for clients is what helped us navigate the challenges.

Q What inspiration do you draw from the past year?

It makes me so proud to see healthcare workers, who are the epitome of unselfish service, striving to enhance the quality of life of our clients and their loved ones.

Q Which developments have you most excited for the future?

Forming partnerships with patients to create true client centricity and keeping clients healthy, not only treating disease, are both very inspiring.



[View a condensed video interview.](#)

HIGHLIGHTS

In the face of the global healthcare crisis, Mediclinic advanced on multiple fronts.



Geneva Innovation Prize 2020

COVID-19 DEVELOPMENT

Clinique La Colline and Clinique des Grangettes, as part of Association des Cliniques Privées de Genève, Genève-Cliniques (the Association of Private Hospitals of Geneva), together with the University Hospital of Geneva ('HUG'), were awarded the prize to highlight their remarkable collaboration during the COVID-19 pandemic. All COVID-19 patients were treated at HUG with the Hirlanden hospitals allocated patients according to their pathology. They also participated in a joint study to analyse the proportion of the population that has developed antibodies against COVID-19.

Conference goes online

COVID-19 DEVELOPMENT

When pandemic restrictions scuppered plans to host large-scale gatherings in person, Hirlanden transformed its annual conference from a town hall event to an innovative online forum, a first for the business. The third Hirlanden Doctors' Summit, attended by around 200 doctors, was broadcast live on 20 November 2020 and dealt with themes such as precision medicine, digital transformation and robotic-assisted surgery.

New screening tool for COVID-19

COVID-19 DEVELOPMENT

Just one day after the WHO declared a global pandemic on 11 March 2020, Mediclinic Southern Africa launched its online assessment tool to help the public determine whether they needed to be tested. This was soon expanded to cover questions evaluating risk for hospitalisation. With a clinical team of registered nurses and paramedics on call to provide expert advice, the service disseminated vital knowledge and eased the strain on overburdened state resources.

Milestones for robotic surgery

Dr Gawie Bruwer, urologist at Mediclinic Durbanville in South Africa, carried out his 500th radical prostatectomy using the da Vinci surgical system. The robot, which uses a small camera and tiny tools inside the body, offers surgeons greater precision, enhanced visualisation of the operation area and improved dexterity. After introducing the da Vinci surgical system in June 2020, Mediclinic City Hospital in Dubai has seen rapid uptake and reached its goal number of robotic surgery cases five months ahead of expectations. It also achieved a number of firsts, with several major procedures that had never been done robotically in the UAE or the Middle East region, including minimally invasive surgery for large ventral hernias.

Pioneering transplant programme

In November 2020, Dubai's first transplant surgeries using kidneys from living donors took place thanks to a partnership between Mediclinic City Hospital, Mohammed Bin Rashid University of Medicine and Health Sciences ('MBRU') and Al Jalila Children's Specialty Hospital. The joint collaboration, which also covers surgeries with deceased donor kidneys, has brought transplants to the fore in the UAE. The use of living-related donations aims to shorten the time patients spend waiting for a kidney and improve long-term survival through better genetic matching.

Excellence in cancer care

The comprehensive cancer centre ('CCC') at Mediclinic City Hospital was awarded the 2020 Healthcare Innovation Award from Dubai Healthcare City Authority. In 2020, part of the CCC's sector-leading activities included a symposium to present the latest oncological breakthroughs. Dr Shaheenah Dawood, Mediclinic consultant oncologist with a special interest in breast cancer, was recognised as Top Emirati Contributor at the healthcare awards.

200

Klinik Hirlanden among Newsweek's 200 Best Hospitals in the World for 2021.

90%

increase in research applications approved for Mediclinic Southern Africa in 2020.

100

robotic surgeries at Mediclinic City Hospital in first year of introducing da Vinci surgical system.



MEDICLINIC'S HEALTHCARE LANDSCAPE

UNIQUE BUT UNITED

Mediclinic is a diversified international private healthcare services group which operates more than 115 healthcare facilities in three geographies across the continuum of care. Although the divisions operate in unique legal, regulatory and economic environments, they share and strive towards the same client-centred Group strategic goals of:

- becoming an integrated healthcare provider across the continuum of care;
- improving the Group's value proposition significantly;
- transforming the Group's services and client engagement through innovation and digitalisation; and
- evolving as a data-driven organisation.

➤ Refer to the Value equation index on page 20 for information on progress against these goals, and focus areas for 2021.

Mediclinic Constantiaberg,
South Africa

MEDICLINIC'S HEALTHCARE LANDSCAPE CONTINUED

SWITZERLAND HIRSLANDEN

FACILITIES



17
Hospitals



Including:
7 Secondary
care community
hospitals



7 Tertiary
care city
hospitals

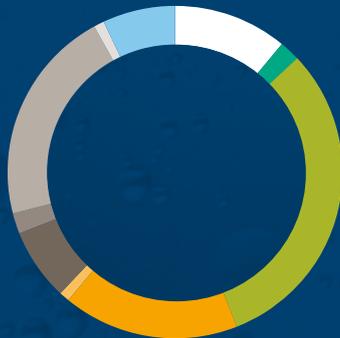


4
Day case
clinics

10 000+ Full-time employees | 60% Involved in direct patient care

HEALTHCARE SERVICES

- ✓ **DIAGNOSTICS** ✓ **ROUTINE ELECTIVE PROCEDURES**
- ✓ **SPECIALISED TREATMENTS** ✓ **EMERGENCY CARE** ✓ **ADVANCED TECHNOLOGY**
- ✓ **RESEARCH AND TRAINING** ✓ **COVID-19 VACCINATION CENTRES** **COVID-DEVELOPMENT**
- ✓ **COVID-19 ONLINE REPETITIVE TESTING** **COVID-DEVELOPMENT**



Care settings

- Inpatient 81%
- Day cases 4%
- Outpatient¹ 15%



Speciality split

- Cardiology 11%
- General medicine 2%
- General surgery 31%
- Internal medicine 17%
- Laboratory 1%
- Obstetrics & gynaecology 7%
- Oncology 2%
- Orthopaedics 21%
- Paediatrics 1%
- Radiology 7%

WORLD-CLASS CARE

- 6 certified breast cancer centres
- CCC at Klinik Hirslanden
- Prostate cancer centre at Klinik Hirslanden
- Certified stroke centre at Klinik Hirslanden
- 4 cardiac centres
- CAR-T therapy at Klinik Hirslanden
- 9 hospitals offer robotic surgery (da Vinci surgical system at 3)
- CyberKnife at Klinik Hirslanden

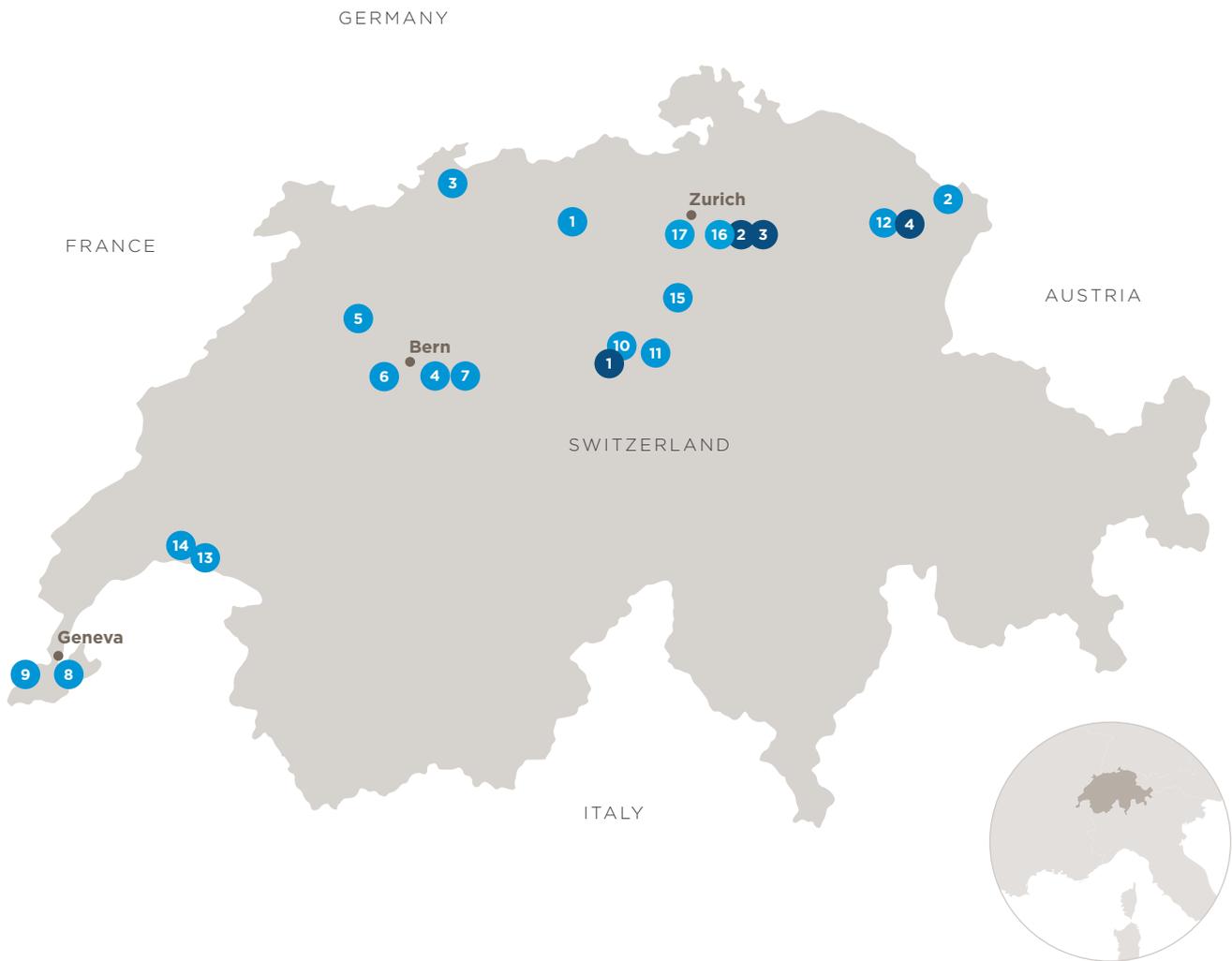
QUALITY ASSURANCE

- ISO 9001:2015 certification for all participating facilities
- German Cancer Society certification – Klinik Hirslanden Cancer Centre
- Joint Accreditation Committee ISCT-Europe & EBMT ('JACIE') accreditation – Klinik Hirslanden
- Swiss Cancer League certification – Six breast cancer centres
- Swiss Cancer League and Swiss Society for Senology certification – Bern Biel Cancer Centre
- Swiss Federation of Clinical Neuro-Societies certification – Klinik Hirslanden Stroke Centre

Notes

¹ As part of a significant cooperation agreement, Hirslanden sold its three outpatient clinics to its strategic partner Medbase during the year.

² Reflecting inpatient and day case admissions only. In Switzerland, major trauma, neonatal intensive care and advanced critical care handled by cantonal and university teaching facilities.



Hospitals

Canton of Aarau

- 1 Hirslanden Klinik Aarau¹

Canton of Appenzell Ausserrhoden

- 2 Klinik Am Rosenberg

Canton of Basel

- 3 Klinik Birshof

Canton of Bern

- 4 Klinik Beau-Site
- 5 Klinik Linde¹
- 6 Klinik Permanence
- 7 Salem-Spital¹

Canton of Geneva

- 8 Clinique des Grangettes¹
- 9 Clinique La Colline

Canton of Lucerne

- 10 Klinik St. Anna¹
- 11 St. Anna in Meggen

Canton of St. Gallen

- 12 Klinik Stephanshorn¹

Canton of Vaud

- 13 Clinique Bois-Cerf
- 14 Clinique Cecil¹

Canton of Zug

- 15 AndreasKlinik Cham Zug¹

Canton of Zurich

- 16 Klinik Hirslanden¹
- 17 Klinik Im Park¹

Day case clinics

Canton of Lucerne

- 1 St. Anna im Bahnhof

Canton of Zurich

- 2 Operationszentrum Bellaria
- 3 OPERA Zumikon

Canton of St. Gallen

- 4 OPERA St. Gallen

Note

¹ Hospital with obstetrics department.

SOUTH AFRICA & NAMIBIA
MEDICLINIC SOUTHERN AFRICA

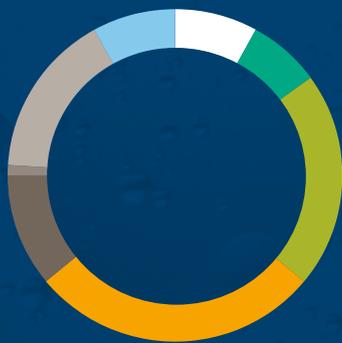
FACILITIES¹



15 200+ Full-time employees | 61% Involved in direct patient care

HEALTHCARE SERVICES

- ✔ ROUTINE ELECTIVE PROCEDURES
- ✔ SPECIALISED TREATMENTS
- ✔ EMERGENCY CARE
- ✔ TRANSPLANT MEDICINE
- ✔ ADVANCED TECHNOLOGY
- ✔ RESEARCH AND TRAINING



Speciality split

- Cardiology 8%
- General medicine 7%
- General surgery 21%
- Internal medicine 28%
- Obstetrics & gynaecology 11%
- Oncology 1%
- Orthopaedics 16%
- Paediatrics 8%

WORLD-CLASS CARE

- Solid Organ Transplant Centre at Wits Donald Gordon Medical Centre in partnership with Wits University
- Haematology and Bone Marrow Transplant Centre at Mediclinic Constantiaberg
- 46 ECs
- Arthroplasty network
- 9 cardiac centres
- 2 electro-physiology centres
- Robotic surgery at Mediclinic Durbanville (da Vinci surgical system)
- 36 neonatal ICUs for high-risk infants, 30 of which form part of the VON²



Care settings

- Inpatient 90%
- Day cases 8%
- Outpatient 2%

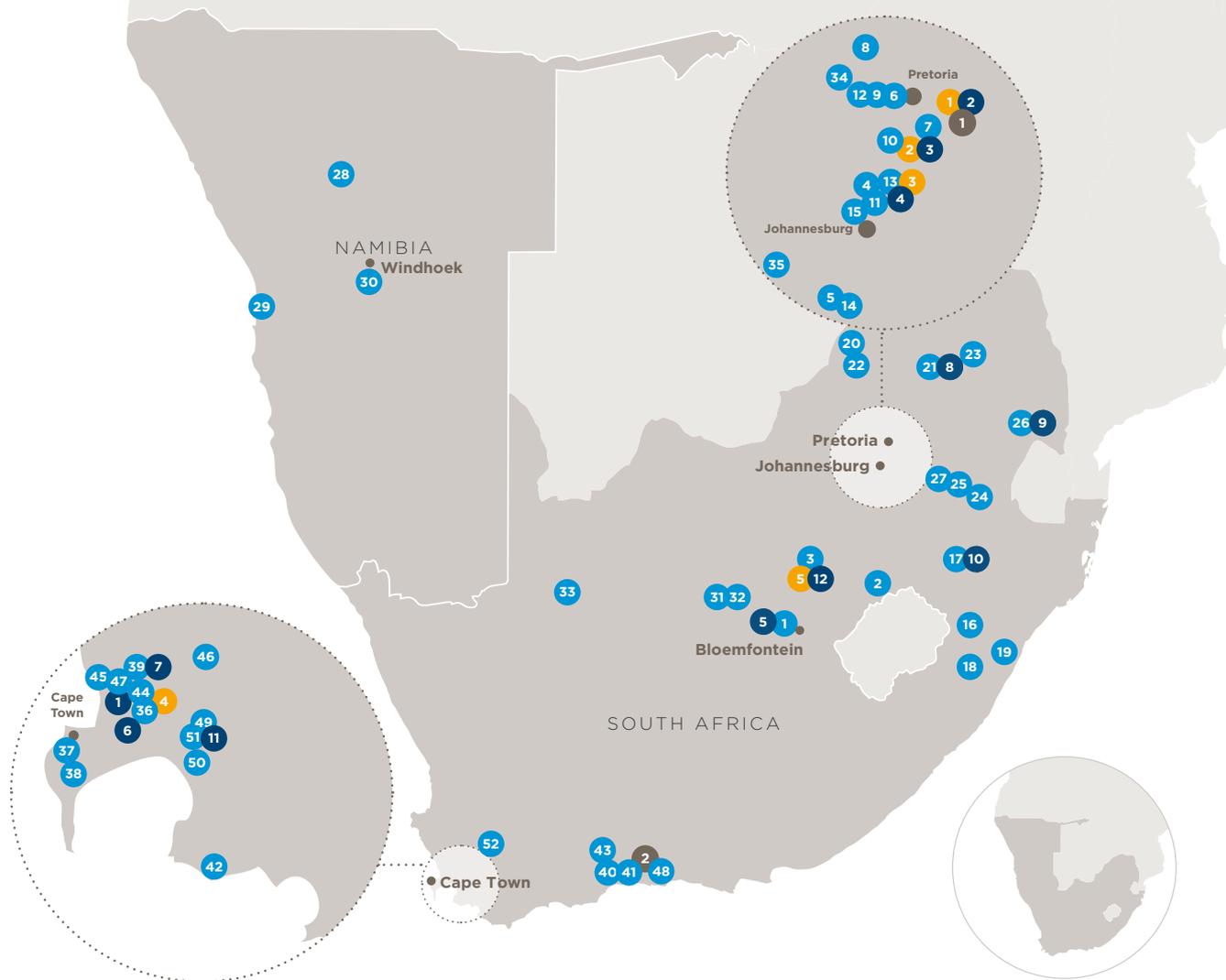


QUALITY ASSURANCE

37 hospitals participate in COHSASA⁴ accreditation programme⁵

Notes

¹ Includes Intercare facilities.
² Vermont Oxford Network ('VON')
³ Reflecting inpatient and day case admissions only.
⁴ Council for Health Service Accreditation of Southern Africa ('COHSASA').
⁵ The accreditation programme was paused during COVID-19 with COHSASA granting an extended grace period for reaccreditation. Reaccreditation has now restarted.



Hospitals

Free State

- 1 Mediclinic Bloemfontein
- 2 Mediclinic Hoogland
- 3 Mediclinic Welkom

Gauteng

- 4 Intercare Medfem Hospital
- 5 Mediclinic Emfuleni
- 6 Mediclinic Heart Hospital
- 7 Mediclinic Kloof
- 8 Mediclinic Legae
- 9 Mediclinic Medforum
- 10 Mediclinic Midstream
- 11 Mediclinic Morningside
- 12 Mediclinic Muelmed
- 13 Mediclinic Sandton
- 14 Mediclinic Vereeniging
- 15 Wits Donald Gordon Medical Centre¹

KwaZulu-Natal

- 16 Mediclinic Howick
- 17 Mediclinic Newcastle
- 18 Mediclinic Pietermaritzburg
- 19 Mediclinic Victoria

Limpopo

- 20 Mediclinic Lephalale
- 21 Mediclinic Limpopo
- 22 Mediclinic Thabazimbi
- 23 Mediclinic Tzaneen

Mpumalanga

- 24 Mediclinic Ermelo
- 25 Mediclinic Highveld
- 26 Mediclinic Nelspruit
- 27 Mediclinic Secunda

Namibia

- 28 Mediclinic Otjiwarongo
- 29 Mediclinic Swakopmund
- 30 Mediclinic Windhoek

Northern Cape

- 31 Mediclinic Gariiep (part of Mediclinic Kimberley)
- 32 Mediclinic Kimberley
- 33 Mediclinic Upington

North West

- 34 Mediclinic Brits
- 35 Mediclinic Potchefstroom

Western Cape

- 36 Mediclinic Cape Gate
- 37 Mediclinic Cape Town
- 38 Mediclinic Constantiaberg
- 39 Mediclinic Durbanville
- 40 Mediclinic Geneva
- 41 Mediclinic George
- 42 Mediclinic Hermanus
- 43 Mediclinic Klein Karoo
- 44 Mediclinic Louis Leipoldt
- 45 Mediclinic Milnerton
- 46 Mediclinic Paarl
- 47 Mediclinic Panorama
- 48 Mediclinic Plettenberg Bay
- 49 Mediclinic Stellenbosch
- 50 Mediclinic Vergelegen
- 51 Mediclinic Winelands Orthopaedic Hospital
- 52 Mediclinic Worcester

Subacute hospitals

- 1 Intercare Subacute Hospital Hazeldean
- 2 Intercare Subacute Hospital Irene
- 3 Intercare Subacute Hospital Sandton

- 4 Intercare Subacute Hospital Tyger Valley
- 5 Welkom Medical Centre Subacute Hospital

Mental health facilities

- 1 Denmar Specialist Psychiatric Hospital
- 2 Mediclinic Neuro Clinic

Day case clinics

- 1 Intercare Day Hospital Century City
- 2 Intercare Day Hospital Hazeldean
- 3 Intercare Day Hospital Irene
- 4 Intercare Day Hospital Sandton
- 5 Mediclinic Bloemfontein Day Clinic
- 6 Mediclinic Cape Gate Day Clinic
- 7 Mediclinic Durbanville Day Clinic
- 8 Mediclinic Limpopo Day Clinic
- 9 Mediclinic Nelspruit Day Clinic
- 10 Mediclinic Newcastle Day Clinic
- 11 Mediclinic Stellenbosch Day Clinic
- 12 Welkom Medical Centre Day Clinic

Note

¹ Associated company being equity accounted (Mediclinic Southern Africa holds 49.9%).

MEDICLINIC'S HEALTHCARE LANDSCAPE CONTINUED

THE UAE MEDICLINIC MIDDLE EAST

FACILITIES



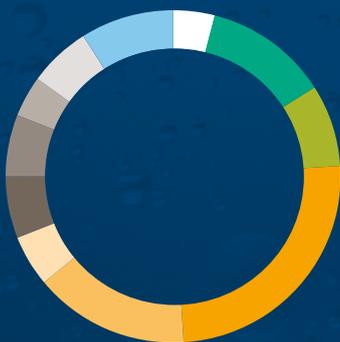
7 000+ Full-time employees | 60% Involved in direct patient care

HEALTHCARE SERVICES

- ✓ OUTPATIENT CARE ✓ REMOTE CARE 🧬 COVIDEVELOPMENT
- ✓ TELEMEDICINE 🧬 COVIDEVELOPMENT ✓ DIAGNOSTICS
- ✓ ROUTINE ELECTIVE PROCEDURES ✓ SPECIALISED TREATMENTS
- ✓ EMERGENCY CARE ✓ ADVANCED TECHNOLOGY ✓ RESEARCH AND TRAINING

WORLD-CLASS CARE

- CCC in the North Wing adjacent to Mediclinic City Hospital
- 5 cardiology units
- 2 cardiac centres
- Robotic surgery at Mediclinic City Hospital (da Vinci surgical system)
- Stroke centre at Mediclinic City Hospital
- 7 neonatal ICUs for high-risk infants, all of which form part of the VON

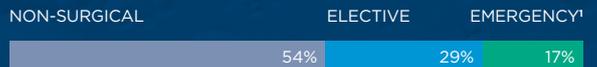


Speciality split

- Cardiology 4%
- General medicine 12%
- General surgery 8%
- Internal medicine 25%
- Laboratory 15%
- Nursing & allied health professions 5%
- Obstetrics & gynaecology 6%
- Oncology 6%
- Orthopaedics 4%
- Paediatrics 6%
- Radiology 9%

Care settings

- Inpatient 26%
- Day cases 12%
- Outpatient 62%

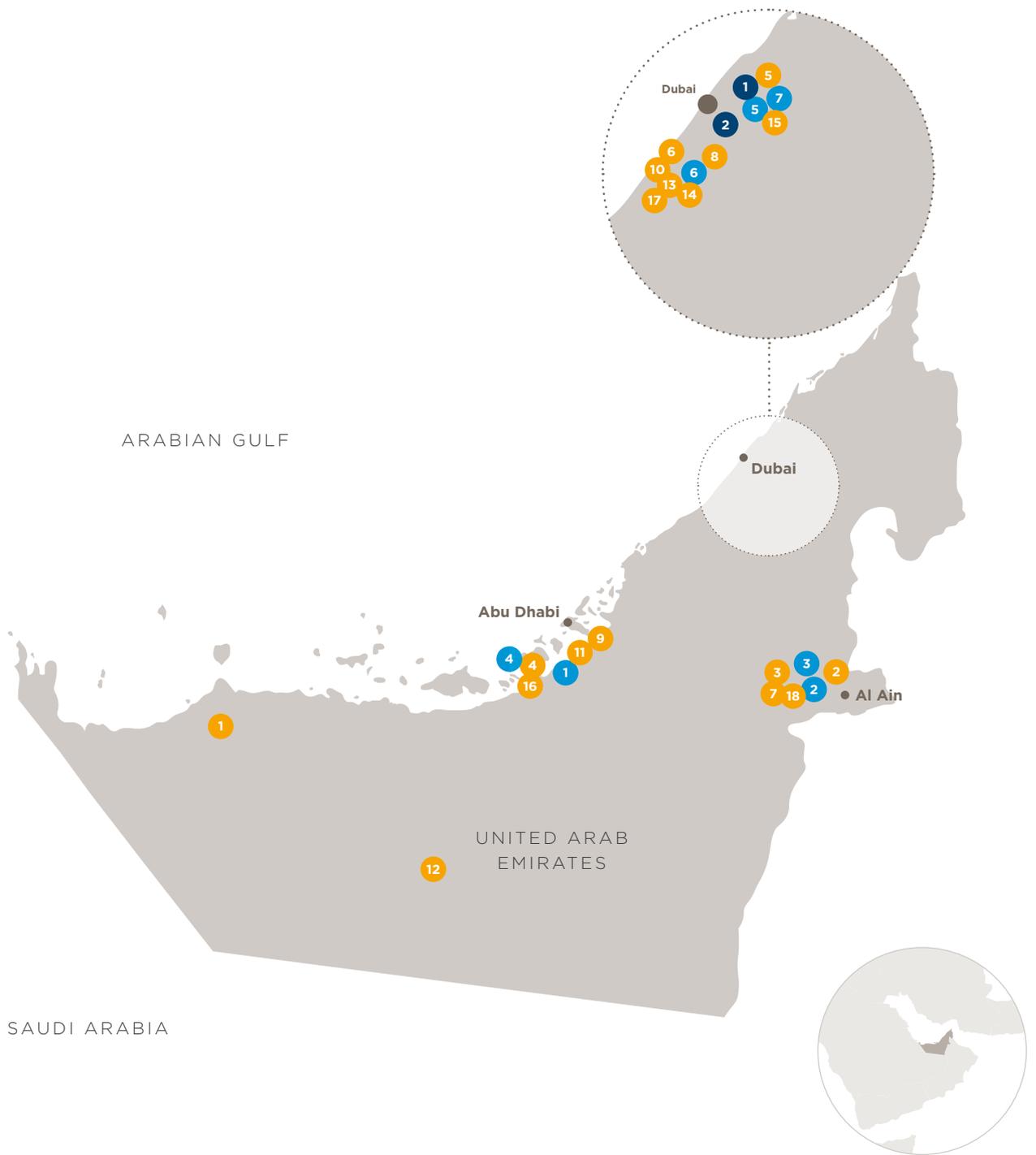


QUALITY ASSURANCE

- CAP² accreditation – Mediclinic City Hospital laboratory
- EASO³'s Collaborating Centres for Obesity Management accreditation – specialised unit at Mediclinic Parkview Hospital
- ISO 15189:2009 certification for eight laboratories
- JCI⁴ accreditation for all facilities
- JCI accreditation – diabetes clinical programme at Mediclinic Welcare Hospital
- Surgical Review Corporation Centre of Excellence accreditation – specialised bariatric unit at Mediclinic Airport Road Hospital

Notes

¹ Reflecting inpatient and day case admissions only.
² College of American Pathologists ('CAP').
³ European Association for the Study of Obesity ('EASO').
⁴ Joint Commission International ('JCI').



Hospitals

- 1 Mediclinic Airport Road Hospital
- 2 Mediclinic Al Ain Hospital
- 3 Mediclinic Al Jowhara Hospital
- 4 Mediclinic Al Noor Hospital
- 5 Mediclinic City Hospital
- 6 Mediclinic Parkview Hospital
- 7 Mediclinic Welcare Hospital

Day case clinics

- 1 Mediclinic Deira
- 2 Mediclinic Dubai Mall

Outpatient clinics

- 1 ENEC
- 2 Mediclinic Al Bawadi
- 3 Mediclinic Al Madar
- 4 Mediclinic Al Mamora
- 5 Mediclinic Al Qusais
- 6 Mediclinic Al Sufouh
- 7 Mediclinic Al Yahar
- 8 Mediclinic Arabian Ranches
- 9 Mediclinic Baniyas
- 10 Mediclinic Ibn Battuta
- 11 Mediclinic Khalifa City
- 12 Mediclinic Madinat Zayed
- 13 Mediclinic Meadows
- 14 Mediclinic Me'aisem
- 15 Mediclinic Mirdif
- 16 Mediclinic Mussafah
- 17 Mediclinic Springs
- 18 Mediclinic Zakher

PATIENTS AND MEDICAL PRACTITIONERS

Each division deals with distinct burdens of disease and works within different governmental frameworks.

PATIENTS

		Hirlanden	Mediclinic Southern Africa	Mediclinic Middle East
Average patient age		59 years  (2019: 56 years)	46 years  (2019: 39 years)	35 years  (2019: 33 years)
Average inpatient length of stay		4.34 days  (2019: 4.40 days)	4.17 days  (2019: 3.88 days)	3.63 days  (2019: 2.90 days)
Case mix index ¹		1.51  (2019: 1.47)	1.35  (2019: 1.22)	1.29  (2019: 1.08)
	 COVIDEVELOPMENT	Highest case mix index due to high load of complex and technologically advanced cases in an older population. Fewer COVID-19 patients and lesser loss of elective procedures than other divisions. Impact on length of stay and case mix index therefore not as significant.	Decrease in less severe cases partially due to postponement of elective procedures in support of national efforts to curb the spread of the pandemic and potential patients avoiding hospitals. COVID-19 patients required longer stays and their conditions were more severe than the average admission.	Lowest case mix index due to young patient population. Case mix index and length of stay increased significantly for the same COVID-19-related reasons listed for Mediclinic Southern Africa.
Main medical issues	 COVIDEVELOPMENT COVID-19 cases as a % of total cases treated	1%	5%	4%
	Burden of disease	<ul style="list-style-type: none"> • Consists mainly of chronic diseases commonly associated with lifestyle and old age • Very small burden of communicable (infectious) diseases and trauma 	<ul style="list-style-type: none"> • Consists mainly of communicable (infectious) diseases • Chronic diseases more prevalent in insured population, followed by communicable diseases and trauma 	Consists of chronic lifestyle diseases and communicable (infectious) diseases
	Most common chronic diseases ²	<ul style="list-style-type: none"> • Hypertension • Ischaemic heart disease • Hyperlipidaemia 	<ul style="list-style-type: none"> • Diabetes mellitus • Hypertension • Hyperlipidaemia 	<ul style="list-style-type: none"> • Dysrhythmias • Hyperlipidaemia • Chronic renal disease
		Underlying chronic medical conditions may significantly impact the level of care received and/or length of stay		

Notes

¹ Case mix refers to the characteristics of patients served, where some have more complex medical conditions which may influence outcomes. Healthcare providers have no control over these characteristics and therefore the need exists to keep them fixed in comparative analysis. The ability to measure the heterogeneous case mix of hospitals has been recognised for some time as critical to improving hospitals and health system management through planning and quality assurance, as well as achieving equity in hospital reimbursement. Without the capability to measure case mix differences, the comparative analysis of hospital outcomes and attempts to establish the reasonableness of those outcomes often reflect in oversimplification of the issues involved and may result in invalid and misleading findings. The case mix indices of the divisions were calculated by using the internally developed clinical and cost-related grouping ('CCRG'). The CCRG is a classification system of the type of illness and clinical severity in a hierarchical system of clinical and statistical homogenous groups used to assign a risk score to each patient. A higher score reflects higher complexity and case load. These risk scores in turn are used to group patients in risk strata to enable risk-adjusted benchmarking.

² The ranked list was generated based on a South African-regulated chronic disease list which does not perfectly apply to the Swiss setting and coding standards. Comparability is thus limited.



MEDICAL PRACTITIONERS

	Hirlanden	Mediclinic Southern Africa	Mediclinic Middle East
Employment	<ul style="list-style-type: none"> • Most admitting medical practitioners self-employed • Medical practitioners working in the fields of hospital-based specialities, such as anaesthetics, internal medicine and emergency medicine, employed at some hospitals • In most instances, radiology, nuclear medicine and radiation oncology services owned and operated by hospitals 	<ul style="list-style-type: none"> • Admitting medical practitioners, excluding emergency medicine practitioners within certain ECs, self-employed and practise independently • Radiology, laboratory and oncology services provided by independent practices 	<ul style="list-style-type: none"> • Employs most of the medical practitioners who work in the hospitals and clinics • Owns and operates the laboratory and radiology services
Clinical quality	<ul style="list-style-type: none"> • Treating and admitting medical practitioners registered with Swiss Government's registry for medical professions • Affiliation follows strict entry criteria and comprehensive credentialing process, assisted by clinical committee • Medical practitioners evaluated at least annually on case numbers, infections, re-operations and liability cases • Abnormalities investigated by hospital management • Anonymous means to report performance problems, which hospital management teams and medical practitioner committees address • Insufficient performance improvements lead to de-accreditation 	<ul style="list-style-type: none"> • Treating and admitting medical practitioners registered with the Health Professions Council of South Africa ('HPCSA') or Health Professions Council of Namibia ('HPCNA') • Medical practitioners work within scope of defined clinical disciplines as determined by HPCSA/HPCNA registration • Performance and clinical outcomes monitored by Clinical Performance Committees ('CPCs') comprised of medical practitioners working at hospital, hospital general managers and regional and Corporate Office teams 	<ul style="list-style-type: none"> • All medical practitioners licensed with the relevant authority in the UAE (Dubai Health Authority, Dubai Healthcare City Authority, Department of Health) • Standardised performance appraisal process includes reviewing feedback from peers and patients, clinical key performance indicators ('KPIs'), incidents and quality-related complaints • Clinical privileges reviewed annually and depend on medical practitioner's activity during the past year and additional skills obtained • Comprehensive incident reporting and concerns addressed by Medical Director and Clinical Quality Patient Safety Committee that meets on a monthly basis • All patient complaints investigated • Immediate action taken if problem arises, including counselling, remedial action, review of privileges or, if appropriate, termination of privileges

VALUE EQUATION INDEX

At the heart of Mediclinic lies its *Patients First* philosophy, supported by the organisational values of being client centred; trusting and respectful; and patient safety focused.



Refer to the *Strategy overview* section of the **2021 Annual Report** for more information on each Group strategic goal and progress against sub-goals during the 2021 financial year, and to the **2021 Sustainable Development Report** for more information on the Group's Sustainable Development Strategy and material issues.

Three critical areas define the value equation in healthcare – clinical outcomes, client experience and cost per event.

The goals and sub-goals reported against in this index are those of the Group, with divisional information on progress and focus areas. Additional objectives, initiatives and action plans exist at divisional level to address key clinical considerations unique to the respective geography of each.

GROUP STRATEGIC GOALS	Becoming an integrated healthcare provider across the continuum of care	Improving the Group's value proposition significantly	Transforming the Group's services and client engagement through innovation and digitalisation	Evolving as a data-driven organisation	Minimising the Group's environmental impact	Growing in existing markets and expanding into new markets
DIRECT IMPACT ON	Clinical outcomes	Client experience	Cost			
	By growing its spectrum of services – both physical and virtual – Mediclinic is able to offer clients access to the most appropriate care in the most appropriate setting, directly impacting all aspects of the value equation. This expansion accelerates the Group's integrated care offering.	Mediclinic is defining new, innovative healthcare delivery systems to ensure its clients receive appropriate care at a cost that is fair, predictable and transparent. With increased engagement and collaboration, it continuously measures and improves client experience. Standardisation and transparent reporting embed a client-centred culture focused on patient safety that enables high-quality clinical care.	Technology is reshaping client relationships and expectations. By exploring care solutions that transcend limitations, the Group is making its client care offering even more personalised and precise.	All aspects of the value equation rely on accurate, efficient and safely accessible data. Mediclinic's tools and capabilities enable it to gain valuable insight from healthcare and client data, and use this to make informed decisions to improve its client offering.		

GROUP STRATEGIC GOAL			
GROUP STRATEGIC GOAL	<p>To improve the Group's value proposition significantly</p>	<p>LINK TO MATERIAL ISSUES</p> <ul style="list-style-type: none"> • Patient experience • Healthcare infrastructure <p>LINK TO ESG' GOAL</p> <p>To be the partner of choice that stakeholders trust</p> <p>LINK TO UNITED NATIONS SUSTAINABLE DEVELOPMENT GOALS</p> <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  <p>3 GOOD HEALTH AND WELL-BEING</p> </div> <div style="text-align: center;">  <p>8 DECENT WORK AND ECONOMIC GROWTH</p> </div> <div style="text-align: center;">  <p>9 INDUSTRY, INNOVATION AND INFRASTRUCTURE</p> </div> </div>	
2020 Progress			
2021 Focus areas			
SUB-GOALS	<p>Aim for zero preventable harm to clients</p>	<ul style="list-style-type: none"> • Progressed well with the implementation of Group-wide clinical management system and successfully completed pilots at two divisions • Progressed well with the establishment of doctor-specific KPIs • COVID DEVELOPMENT Postponed the standardisation of obstetric care to the 2022 financial year 	<ul style="list-style-type: none"> • Reduce the number of never events, the preventable return-to-theatre rate and the perinatal injury rate • Standardise obstetric care • Continuously review all re-operation and readmission cases at Hirslanden hospitals with high rates • Implement improved medication prescription process at Mediclinic Southern Africa
	<p>Reduce the 'cost of us' (clinical)</p>	<ul style="list-style-type: none"> • Launched alternative care settings and treatment modalities, e.g. telemedicine and home care • Expanded disciplines covered by indication boards to include oncology, complex visceral and cardiac surgery, and bariatric surgery 	<ul style="list-style-type: none"> • Quantify and reduce variation in clinical care outcomes • Quantify and reduce cost of complications of care • Introduce fast-track orthopaedics at Hirslanden Klinik Aarau, Klinik Birshof, Klinik Permanence and Klinik St. Anna • Pilot home care at Mediclinic Southern Africa
	<p>Partner with patients to create true patient centricity</p>	<ul style="list-style-type: none"> • Standardised and shortened Press Ganey® patient experience survey • Expanded survey to all care settings, including virtual care • Implemented standardised taxonomy for complaints received via the survey tool 	<ul style="list-style-type: none"> • Launch video training series that teaches the key principles of creating a great client experience • Further expand patient-reported outcome measures • Establish patient advocacy groups • Measure client experience in integrated care solutions and virtual healthcare
	<p>Develop patient care journeys which enable an integrated care delivery system and value-based healthcare</p>	<p>As this is a new sub-goal, progress reporting will only commence in the 2022 Clinical Services Report.</p>	<ul style="list-style-type: none"> • Develop and implement an integrated care framework • Pilot client-facing application for pregnancy and baby care pathway at Hirslanden and Mediclinic Southern Africa • Review value-based doctors' performance-led pay system at Mediclinic Middle East, enhance productivity metrics with quality outcome metrics and introduce 'citizen' component to reward physicians for committee participation, research and teaching • Continued focus on chronic disease management on a subscription-based model, incorporating remote patient monitoring at Mediclinic Middle East

Note

¹ Environmental, social and governance.



The pandemic severely disrupted the normal run of business in healthcare and there was a huge demand for real-time insight. The Group's data scientists had to change gear overnight to grapple with the questions around COVID-19.



FEATURE

USING DATA TO MAKE A DIFFERENCE

THE GROUP'S USE OF DATA SCIENCE DURING THE PANDEMIC DEMONSTRATES THE POWER OF THIS RESOURCE.

'When I first heard of COVID-19, I realised it would have serious implications. This coronavirus had never been seen in humans before, so we knew it was going to spread quickly. We anticipated it would have quite a significant impact on Mediclinic. What I did not anticipate was all the amazing work that would flow from it,' says Jannie van Schalkwyk, Group General Manager: Data Science and Information Management.

At the time, the Group Executive Committee had just decided to merge the three departments focused on data into one function. It was a fortuitous move. Given all the unknowns that surrounded COVID-19, the newly formed Data Science and Information Management function would be integral to directing Mediclinic's response.

The first step was to develop foresight for resource planning so the Group could ensure facilities were adequately prepared. Although data scientists around the world were creating epidemiological models, the Mediclinic team developed their own models specifically calibrated for the Group's hospitals. 'This enabled us to

predict the need for hospital resources, for instance the number of ventilators required for each of our facilities at any given point in time. We also developed a forecasting model for stock such as medicine, PPE and oxygen.'

The pandemic severely disrupted the normal run of business in healthcare and there was a huge demand for real-time insight. Leaders needed to know not only what was happening in the moment, but what would likely happen the next day. The Group's data scientists had to change gear overnight to grapple with the questions around COVID-19.

'Our data engineers did a sterling job to create data flows from disparate systems while the visualisation experts put the information together into interactive dashboards,' says Van Schalkwyk. The dashboards presented statistics about COVID-19 within the Group's facilities such as the number of cases admitted, occupancy levels and clinical outcomes.

'The whole process – sourcing the data and packaging the results – was automated. While people were asleep at night, reports were being updated and when they got back to work the next morning, they could see the latest information on how the virus was impacting Mediclinic.'

Besides the forecasting and insights, which were crucial for planning during the pandemic, data analytics also informed the clinical response. 'We quickly learned, for example, that 80% of COVID-19 deaths occur in people over 65 years, which informed how those patients were managed,' Van Schalkwyk says. Data analytics further revealed that COVID-19 consumed resources differently from the traditional mix of treatments – for example, treating the virus led to a significant increase in the use of oxygen and PPE. Addressing these resource requirements timeously enabled Mediclinic to provide better care when it mattered most.

In gathering and analysing data, Mediclinic benefited from its presence in different geographies. Data scientists across the three divisions worked closely together to confront the common challenge – something that has bonded the team and improved collaboration, Van Schalkwyk says. ‘Sharing knowledge assisted us considerably in developing better data solutions and risk models to measure and predict the impact of the virus.’

While the pandemic has taken a terrible toll, he acknowledges that it has given the public a greater appreciation of data science. ‘It has made everyone aware of the importance of understanding uncertainty, ambiguity and the unknown. How do we assess uncertainty, how do we plan for it? That is exactly where data science comes into play. It is using prediction techniques to help people navigate the unknown.’

It has been a blessing that the world has had to face this crisis at a time of a data explosion – from readings on wearable health devices to social media posts – as well as technological advances such as cloud computing and artificial intelligence (‘AI’). ‘We now have the ability that we did not have 10 years back to create insights out of this massive data tsunami, which has helped us mitigate the threat of the pandemic.’

Van Schalkwyk foresees data science playing an ever-increasing role going forward. ‘We are living in a precarious time and I believe data science is going to become instrumental in shedding light on the uncertainties. It will help companies understand what to do to create a better world.’



Jannie van Schalkwyk
Group General Manager:
Data Science and Information
Management



Sharing knowledge assisted us considerably in developing better data solutions and risk models to measure and predict the impact of the virus.



Q&A

Q. What excites you about data science?

It is what we do in data science every day that really excites me: we explore, we discover, we learn about the unknown. There is constant change. We know that tomorrow is not going to be the same as today because the pace at which technology and data grow is extremely rapid. That change creates a nice challenge.

Q. You are a statistician dealing with impersonal data. How do you connect with your job on an emotional level?

People might think of data science as a back-office function where introverts work with algorithms to produce reports and complex statistical models. But I see the real-life impact. When we work with cost data, we think of how we can improve efficiency to use available health resources more effectively. When we work with clinical data, we think of how we can use it to drive better outcomes. Maybe we're not at the point-of-care of looking after patients, but we are improving and saving lives with the insights we generate from data. What could be more rewarding?

UNLOCKING THE VITAL STATISTICS

DATA SCIENCE TRANSFORMS THE TORRENT OF PATIENT AND BUSINESS DATA INTO MEANINGFUL INSIGHTS.

PATIENT DATA

850 000

HOSPITAL ADMISSIONS

7 400 000

PATIENT ENCOUNTERS

150 CLINICAL INDICATORS

28 PATIENT SAFETY

46 IPC

76 CLINICAL EFFECTIVENESS

30-40
TERABYTES OF DATA

20% GROWTH IN DATA YEAR-ON-YEAR

1/5

OF DATA GENERATED IS CURRENTLY CURATED, WITH STRATEGIC PLANS TO UNLOCK THE REMAINDER

NOT JUST MEDICAL FIGURES

In addition to information on patient health and administration, the department collects and analyses data on:

- ✓ AMBULANCE SERVICES
- ✓ CALL CENTRES
- ✓ ESG
- ✓ FINANCE
- ✓ HUMAN RESOURCES
- ✓ LEGAL AND RISK MANAGEMENT
- ✓ PATIENT SURVEYS
- ✓ PHARMACY STOCK
- ✓ PLANT MAINTENANCE
- ✓ PROCUREMENT



Part of our strategy is to use advanced analytics and machine learning to predict patient outcomes. This would significantly reduce the cost of care, improve efficiency, enhance decision-making and ensure patient satisfaction.

Jannie van Schalkwyk

Group General Manager: Data Science and Information Management

The data journey



ACQUISITION

Gathering of raw data – both structured, quantitative input (e.g. operational systems) and unstructured, qualitative input (e.g. social media posts)



CONSOLIDATION

Integrating of data and making it accessible; de-identification and encryption of sensitive information



MODELLING

Reference data and clinical, statistical and machine learning algorithms transform data into forecasting models



PRESENTATION

Interactive visual dashboards provide user-friendly data to clinical experts, business users and others

THE OUTPUT

300+ reports | 20-30 dashboards | Business insight
Clinical performance | Medicine management | Risk profiling
Tariff calculations | Alternative fee models

BETTER WAYS TO CONNECT

The wellbeing of clients and building long-term relationships with them form the cornerstone of the business and the Group's ability to pursue its purpose.



PATIENT OR CLIENT?

I carefully considered the nature of the relationship between Mediclinic and those who make use of our services within an evolving healthcare landscape. A patient is a person receiving medical care; a client is a person who receives advice. The latter implies a level of trust and a long-term relationship that extends beyond mere treatment. We want our patients to interact with Mediclinic beyond the conventional treatment process, rather as a client who turns to us to enhance their quality of life.'

Dr Ronnie van der Merwe,
Group Chief Executive Officer

WHAT MATTERS TO THEM

- Easy access to safe, quality and cost-effective healthcare by means of world-class facilities and technology
- Appropriate care settings
- Treatment information
- The right to make decisions on their care
- Client experience
- Personal data and patient rights

HOW MEDICLINIC ENGAGES

- Systematic patient rounds during hospital stay
- Dedicated employees attend to guest relations at Hirslanden facilities
- Patient experience managers at Mediclinic Southern Africa facilities
- Dedicated employees attend to client complaints at Mediclinic Middle East
- 24-hour helplines
- Press Ganey® patient experience index surveys
- Health awareness days
- Brochures and magazines
- Websites and blogs offering health-related information
- Social media
- Client-centred product and programme development
- Corporate events



PATIENT EXPERIENCE

Client experience refers to a wide spectrum of experiences that clients have when interacting with Mediclinic. These may be related to care or administration (i.e. settling accounts, scheduling appointments). Patient experience is a subsection of client experience and relates to the experience of a patient in any Mediclinic care setting across the continuum of care.

PRESS GANEY®

Mediclinic benchmarks and publicly reports on patient experience at a divisional level through Press Ganey®, an internationally recognised leading provider of patient experience measurement for healthcare organisations. Patients are surveyed after discharge and this valuable feedback helps Mediclinic better understand patients' needs and adapt care services accordingly (Table 1).

The patient experience survey collects feedback on the following categories:

- Admissions process
- Condition of room
- Meals
- Nurses
- Physicians

- Tests and treatments
- Experience of visitors
- Personal issues (i.e. privacy, safety, hygiene, respect)
- Discharge process
- Overall experience

In 2020, various new surveys were introduced to expand the range of patient experience insights. In addition to surveys for the EC and ambulatory surgery, Mediclinic now also garners feedback from paediatric patients with a special version of the inpatient survey. Moreover, the inpatient survey has been enhanced with additional questions for patients admitted via the hospital's EC, and Mediclinic Middle East has incorporated a special survey for virtual care patients.

TABLE 1: PRESS GANEY® INPATIENT RESULTS FOR THE 2020 CALENDAR YEAR

		Hirslanden	Mediclinic Southern Africa	Mediclinic Middle East
Participating since		February 2017	October 2014	October 2014
Total participating facilities		17	50	7
Total surveys collected		18 072 (2019: 12 191)	42 540 (2019: 52 958)	2 262 (2019: 2 939)
Likelihood of recommending the hospital/clinic		91.8% (2019: 92.1%)	85.0% (2019: 85.0%)	87.0% (2019: 88.6%)
Mean score out of 100	Overall	88.4 (2019: 88.3)	82.7 (2019: 82.7)	84.9 (2019: 86.0)
	Admissions	91.1 (2019: 92.5)	85.6 (2019: 85.7)	86.7 (2019: 86.4)
	Nurses	89.4 (2019: 89.7)	82.0 (2019: 82.3)	86.8 (2019: 88.9)
	Physicians	92.1 (2019: 91.4)	86.6 (2019: 86.6)	88.7 (2019: 88.8)
	Tests and treatments	89.4 (2019: 89.4)	88.0 (2019: 83.6)	85.3 (2019: 86.1)
	Personal issues	88.6 (2019: 88.1)	81.6 (2019: 80.3)	85.3 (2019: 86.2)
	Discharge	88.5 (2019: 86.5)	82.2 (2019: 81.9)	82.0 (2019: 82.7)

INITIATIVES IN 2020

The various initiatives listed below are in line with the Press Ganey® priority index per division, and as such are not comparable across the Group.

Hirlanden	Mediclinic Southern Africa	Mediclinic Middle East
<ul style="list-style-type: none"> Surveys extensively revised and automated Ambulatory survey introduced Introduced out- and inpatient paediatric surveys Discharge management policy developed and implemented to optimise discharge process 	<ul style="list-style-type: none"> Launched Press Ganey® tool at 38 ECs <p>COVID DEVELOPMENT</p> <p>The following initiatives were postponed due to the pandemic, and will recommence in 2021:</p> <ul style="list-style-type: none"> Establish a communication blueprint project to develop standard patient communication for all facilities that: <ul style="list-style-type: none"> commences as soon as a patient is identified for admission; provides information on prescription and take-home medication; and provides patient- and procedure-specific discharge information Collaboration with Marketing function to enhance overall patient engagement Train and closely monitor progress of ECs where Press Ganey® tool was launched in 2020 Embed the complaint resolution process 	<ul style="list-style-type: none"> Various nursing care initiatives to improve nurses' friendliness, problem-solving and listening skills AIDET (acknowledge, introduce, duration, explanation and thank you) developed into mandatory annual competency for nursing allied healthcare workers as a tactic for effective patient communication GST (greet, smile, thank) campaign rolled out at Abu Dhabi hospitals Appreciation certificate awarded to employees who receive positive feedback through Press Ganey® comments The DAISY Award celebrations for employees who go above and beyond

2021 FOCUS THEMES

Mediclinic has identified improvement areas for the coming year at Group and divisional level based on the Press Ganey® patient experience survey feedback.

	Group	Hirlanden	Mediclinic Southern Africa	Mediclinic Middle East
Inpatient	<ul style="list-style-type: none"> Response to concerns/complaints made during hospital stay Nurses kept you informed Including patients in decisions regarding their treatment 	<ul style="list-style-type: none"> Response to concerns/complaints made during hospital stay Accommodation/comfort for visitors Including patients in decisions regarding their treatment 	<ul style="list-style-type: none"> Nurses kept you informed Response to concerns/complaints made during hospital stay Including patients in decisions regarding their treatment 	<ul style="list-style-type: none"> Attention to special needs Staff addressed emotional needs Nurses' attitude towards requests
EC	<ul style="list-style-type: none"> Overall rating of care Likelihood of recommending the EC Explanation of financial responsibilities 	n/a	<ul style="list-style-type: none"> Likelihood of recommending the EC Explanation of financial responsibilities Overall rating of care 	<ul style="list-style-type: none"> Information provided regarding delays experienced in EC Overall rating of care/treatment in EC Being kept informed regarding condition/treatment
Ambulatory services	<ul style="list-style-type: none"> Staff worked together to care for you Nurses' response to concerns and questions Information nurses gave to prepare for procedure 	<ul style="list-style-type: none"> Staff worked together to care for you Information nurses gave to prepare for procedure Nurses' response to concerns and questions 	<ul style="list-style-type: none"> Explanation of discharge instructions Information nurses gave to prepare for procedure Care provider explained why procedure was important 	<ul style="list-style-type: none"> Staff worked together to care for you Nurses' response to concerns and questions Information nurses gave to prepare for procedure

Johan von Wielligh, Mediclinic Paarl COVID-19 patient, with his family after his recovery.



The doctors and nurses become so invested in their patients and experience extreme pressure. They saved my life, they are like angels who have lost their wings.

Johan von Wielligh, patient



FEATURE

ANGELS WITHOUT WINGS

A GRUELLING ENCOUNTER WITH COVID-19 CONFIRMS THAT PEOPLE GIVE HEALTHCARE ITS HEALING POWER.

When businessman and father of three Johan von Wielligh woke feeling sick on the morning of 20 September 2020, he did not imagine that before the week was out, he would be admitted to the ICU of Mediclinic Paarl in South Africa.

By that stage he had twice tested negatively for COVID-19. But ICU physician Dr Warren Stilwaney trusted what he saw before him. Von Wielligh exhibited all the signs of COVID-19 and had a severe lung infection, so he decided to treat him accordingly. (The third test was positive.) Two days after Von Wielligh’s hospital admission on 25 September, he was placed on a ventilator. It would be another 29 days before he could breathe without it.

A desperate battle for his life unfolded. When the medical team began to wean him off the ventilator after two weeks, serious secondary infections put paid to their plans. More antibiotics were required and all the while the ventilator kept breathing for him. Finally, on 25 October, they could turn the mechanical breathing off; Von Wielligh’s lungs were coping on their own.

When he regained consciousness, he was shocked to learn he had been in ICU for the past month. ‘I had no idea,’ he says. He had to look through messages on his wife’s mobile phone to understand what had happened. ‘It was like watching CatchUp,’ he says, referring to the South African service that allows broadcast TV to be viewed after the fact.

His survival was the beginning of a long journey back to health. His muscles had atrophied in the time spent immobile and he needed to work with a physiotherapist and occupational therapist to relearn the basics such as walking and eating by himself. ‘The first day the physio came to see me and asked me to lift my hand, I thought, “No problem.” But when it came to it, I couldn’t move it at all.’

A competitive person by nature and used to goal-setting in his profession, Von Wielligh had to completely rethink his approach to the task before him. ‘Long-term goals went out the window. I decided to take every day as it came. I did not try to compare my state to what it had been before COVID-19 – that would have made me feel depressed. I just tried to each day do a bit better than the day before.’

Around two months after entering hospital, he was discharged. On 4 January 2021, he returned to work. Today, he is back to his normal levels of activity although he is still getting therapy for a pinched ulnar nerve. ‘Considering I nearly lost my life, it is a small price to pay.’

The illness pressed pause and gave him the time to reflect. ‘I feel my survival was by the grace of God. It has renewed my appreciation of the small things in life,’ he says. The outpouring of love from family and friends is something he will always treasure.

‘I think it is worse for the people supporting the patient. I realised afterwards what stress my wife went through. The doctors and nurses as well – they become so invested in their patients and experience extreme pressure. They saved my life, they are like angels who have lost their wings.’

AWARENESS AND EDUCATION

KNOWLEDGE IS POWER

Through a variety of educational campaigns, all three divisions empowered the public to prevent health problems and handle emergency situations.

CHANNELS USED



- infographics, social media, video, website
- radio, programmatic display, social media, video
- radio, social media, webinars, website

COVID-19



- expert insight, hand hygiene, OneMillionRun fundraising, vaccination
- hospital safety reassurance, call for volunteers
- antibody tests, medication home delivery, PCR testing, precautionary measures, safety tips, telemedicine

EMERGENCY CARE AND FIRST AID



- heart emergency, lung emergency, tick bites, winter emergency
- stroke awareness

PATIENT EMPOWERMENT



- pre-admission, fixed fees, Care Expert

PREVENTION AND TREATMENT



- brain tumour, breast cancer, intestinal health, men's health, pain therapy, skin cancer
- breast cancer, men's health, oncology, orthopaedics

HEALTH SUPPORT



- breastfeeding, sport and nutrition during pregnancy
- back to school, boosting immunity, healthy eating and fasting during Ramadan, mental health, working from home

- Hirslanden
- Medclinic Southern Africa
- Medclinic Middle East



FEATURE

YEAR OF THE NURSE

AT HIRSLANDEN, THE CELEBRATION DID NOT ONLY PAY TRIBUTE TO NURSES – IT WAS USED TO ADVANCE THE PROFESSION.

Caring, compassionate and committed – the traits that made Florence Nightingale a nursing icon are still synonymous with the profession two centuries later. In commemoration of the 200th anniversary of Nightingale’s birth, the WHO declared 2020 the International Year of the Nurse and the Midwife. Hirslanden used the opportunity to raise the profile of the calling, promote dialogue between management and nurses, and acknowledge these carers’ invaluable contribution through a range of initiatives.

SPOTLIGHT ON LEARNING

Among the public, the Lady with the Lamp became famous for the care she showed soldiers during the Crimean War, but she should equally be remembered for her academic rigour. Nightingale revolutionised nursing by approaching it scientifically: she used statistical models and infographics to demonstrate that unsanitary conditions, lack of food and poor personal care claimed more lives than injuries received on the battlefield. She also opened the first nursing school, at St Thomas’ Hospital in London.

Fittingly, Hirslanden honoured this aspect by focusing on continuous education in the nursing profession. At the beginning of the year, the Nursing Centre of Expertise was reorganised: to strengthen direct collaboration with nursing managers, this network is now led by two of the division’s chief nurses. The policy and development

aspects of nursing are constant components of their activities. Close collaboration with the nursing managers of all 17 hospitals was also championed throughout the year. Decisions were made together, enriching the network’s endeavours.

In the area of nursing policies and development, e-learning courses were created to facilitate the implementation of new guidelines for fall and pressure ulcer prevention. With the outbreak of COVID-19, learning programmes were created for various aspects of the pandemic. Network meetings, which bring together nursing specialists, midwives, trainers and wound experts, presented a valuable opportunity for sharing pandemic-related best practice.

The role of the nurse practitioner, an advanced practice registered nurse who can perform some of the same duties as a doctor, was also a major topic during the year – at Hirslanden hospitals as well as at the Corporate Office and network meetings. Several doctors act as supervisors for nurse practitioner students and the concept for advanced nursing practice within Hirslanden is in the process of approval. Another step forward in recognising the special skills nurses bring to healthcare.

INTERNATIONAL DAY OF THE NURSE 12 MAY 2020

Hirslanden: Management sent a personal letter to nurses’ homes to thank them for their dedication.

Mediclinic Southern Africa: A message from the division’s nursing executive was accompanied by a gift and a journal. The winners per hospital of the Nursing Excellence awards were announced with a series of posts on Facebook.

Mediclinic Middle East: The divisional Chief Executive Officer sent a letter of thanks and all nurses received a reusable coffee tumbler.

In addition, all of the divisions celebrated nurses through public-facing campaigns.



CLIENTS AT HEART

HOW MEDICLINIC PUT PATIENTS FIRST IN 2020

- Establishment of Group-wide clinical management system (refer to page 42 for more)
- Expansion and standardisation of clinical indicators to support safety software
- Increase in day case clinics
- Client experience survey extended beyond inpatients

COVIDEVELOPMENT

- Telemedicine solutions introduced to provide healthcare access during lockdowns
- Ongoing electronic health record ('EHR') projects at all divisions
- Quarterly meetings by Group Clinical Services subcommittees for IPC and patient safety

Healthline for all

COVIDEVELOPMENT

With the onset of the pandemic there was a desperate need for medical advice as lockdown regulations and widespread fear kept the public from their doctor consultations. The Hirslanden Healthline, normally an exclusive service for supplementary insured patients, was opened to all callers so essential medical guidance could be widely accessed. The public could get advice on their symptoms, determine if surgery was possible during the lockdown and find out whether their condition permitted a delay.

In June 2020, Mediclinic Southern Africa introduced a telemedicine solution enabling admitting doctors to provide outpatient teleconsultations. Wide-ranging virtual care solutions were implemented at Mediclinic Middle East (refer to page 33 for more).

Drive-through testing

COVIDEVELOPMENT

As the need for COVID-19 tests grew, Mediclinic Middle East came up with a solution that combined safety, comfort and convenience. At three facilities in Dubai and one in Abu Dhabi, clients can have the PCR test administered while seated in their private vehicle. Testing is offered around the clock and no appointment is required. The results are returned via email and SMS within 24 hours. The test average for the drive-through facilities reached 4 400 tests a day.

SAFETY FRONT AND CENTRE

Virtual ICU forum

COVIDEVELOPMENT

To help doctors navigate COVID-19 treatment, the Group's Digital Transformation function created a collaborative forum for specialist intensivists from all three divisions. The virtual meetings, which ran between April and August, provided an opportunity for knowledge exchange. Up to 221 doctors logged on for one of the interactive sessions.

A paediatric ICU collaborative meeting is held monthly between Mediclinic Southern Africa and Mediclinic Middle East.

Pledge to protect

Hirslanden used the occasion of World Patient Safety Day on 17 September to renew its commitment to clients. Hirslanden's Chief Clinical Officer Dr Christian Westerhoff publicly signed a patient safety pledge while the division encouraged all employees and affiliated doctors to do the same. An internal survey focused on reinforcing the safety culture. Against the background of the pandemic, the goal was to build resilience – key for the sound judgement that keeps patients safe.



Hirslanden's Chief Clinical Officer Dr Christian Westerhoff publicly signed a patient safety pledge.





A check on clinical outcomes

Each division has a CPC, advised by an external clinical expert, to monitor performance and clinical outcomes. The external advisors share their impartial feedback with the Clinical Performance and Sustainability Committee, a subcommittee of the Mediclinic Board, to enable independent assurance of clinical performance. As the division with the most mature CPC, Mediclinic Southern Africa is providing regular feedback from its divisional committees into the Clinical Performance and Sustainability Committee. For the coming year the focus is on achieving the same level of maturity across the Group.

Innovative COVID-19 solutions

COVIDEVELOPMENT

To combat the disease's airborne transmission, Mediclinic Southern Africa upgraded ventilation systems in key areas of 41 hospitals and implemented a remote oxygen monitoring system. As part of the process, temporary isolation pods were created to supplement existing facilities. Made of aluminium frames with clear plastic panels and using extractor fans to create negative pressure, the pods provide a barrier against cross-infection. Moreover, air change rates in critical areas were increased in line with WHO recommendations.



Mediclinic Southern Africa upgraded ventilation systems in key areas of 41 hospitals and implemented a remote oxygen monitoring system.

360-DEGREE CARING

Silver service

There can be no doubt that the food served at Hirslanden hospitals is of exceptional standard – a silver medal says so. In February 2020, the Hirslanden Culinary Team Bernoise garnered this recognition at the IKA/Culinary Olympics in Stuttgart. The team was comprised of skilled chefs from Salem-Spital and Klinik Linde.

Champion carer

Caring is a calling that requires the highest professional standards. Those qualities were on full display when Kilian Schmid, health specialist from Klinik St. Anna in Lucerne, won silver in the health category at the SwissSkills championships for specialists of various professions. Participants of the healthcare competition were asked to care for multiple patients in both inpatient and outpatient scenarios.

Helping hands

The hallmark of excellent cancer care is that it considers the whole patient. At Mediclinic City Hospital this even extends to creating pretty purses that keep drain bags, which collect blood and fluid following breast cancer surgery, tucked away. The bags are a labour of love for the breast cancer team, who produce them with the help of colleagues. All volunteer their time and skills so patients have a safe and discreet way to carry their drain bags when they leave hospital.

38 324 telemedicine consultations

1 092 patients monitored remotely

39 045 pharmacy deliveries

23 delivery motorcycle riders



FEATURE

ON CALL, ONLINE

AT MEDICLINIC MIDDLE EAST, VIRTUAL CARE SOLUTIONS WERE IMPLEMENTED WITH ALACRITY DURING THE PANDEMIC.

The dramatic spread of the COVID-19 virus necessitated equally dramatic measures: around the world governments instituted regulations that severely disrupted in-person healthcare. 'Given that normal physician visits were not possible during the initial lockdown, we simply had to find a quick way of reinstating healthcare access for our patients,' says Hein van Eck, Chief Strategy Officer at Mediclinic Middle East.

Although virtual care had been on Mediclinic's radar for some time as part of the continuum of care strategy, the pandemic accelerated its implementation. At Mediclinic Middle East, the division's doctors, operations and Corporate Office teams worked together with dedicated focus to make the first telemedicine consultation possible on 1 April 2020. With virtual care services in the UAE still in their infancy, only a few such platform providers existed. The division partnered with an established provider, which together with regulatory exemptions by the government, enabled a rapid deployment of both on-demand family medicine and booked specialist telemedicine services.

'These services are now an expected mainstream service for patients and physicians,' says Dr Lisa Pinto, Director Clinical Projects at Mediclinic Middle East. 'While telemedicine cannot address every condition, it can still tackle a wide variety of problems. The access is simple, convenient and time-saving. It also increases patient compliance and rightfully addresses medical concerns early on.'

In tandem with the virtual consultations, the division launched pharmacy home deliveries using an external logistics company. The deliveries are carried out according to strict regulatory guidelines that govern temperature control, dispensing protocols and patient identification. Insurance approval and delivery take place on the same

day as the request and the error rate is marginal. During the course of 2020, the delivery service was further enhanced with trip tracking. Pharmacy home delivery was well received by clients and continued to grow even after the return of outpatients to the units.

When the Abu Dhabi Department of Health approached Mediclinic Middle East about remote monitoring of chronic disease patients, the division leveraged its existing virtual care infrastructure to provide for a trial cohort of 1 092 patients in Abu Dhabi and Al Ain. In early 2021, a third-party provider will enable a more sophisticated remote patient monitoring system.

'The pandemic allowed us to fast-track our virtual care maturity and we are busy investigating exciting platforms and devices,' says Van Eck. Mediclinic Middle East spent part of 2020 developing an integrated online appointment booking and telemedicine portal for implementation in early 2021. Further initiatives include a pilot for home monitoring where clinicians will assess a patient's vital signs remotely and alert them when further care is required.

But for virtual care to really take off, the funding model for such services needs to be resolved, says Van Eck. 'There shouldn't be an incentive for a healthcare provider or professional to favour physical over virtual care or vice versa. Getting this funding model right and applying population health management principles will allow us to seamlessly integrate virtual and physical health services for our clients.'

TIMELINE OF VIRTUAL CARE

- **March 2020**
First pharmacy home deliveries
- **April 2020**
First telemedicine consultations
- **September 2020**
Abu Dhabi Department of Health patients enrolled into remote chronic disease management programme
- **November 2020**
Remote patient monitoring pilot
- **Q1 2021**
Roll-out of appointment booking app

BETTER WAYS TO UNLOCK VALUE

BETTER BY DESIGN

Across the divisions, initiatives seek to improve the quality of care, provide innovative services and reduce costs for clients.

HIRSLANDEN

MOVING FORWARD WITH MEDBASE

In joining forces with Medbase, the leading Swiss provider of family healthcare and prevention, Hirslanden is establishing an integrated healthcare ecosystem to support clients throughout their health journey. At the beginning of 2020, the cooperation made further progress with the transfer of three Hirslanden outpatient clinics to the Medbase outpatient network. A joint venture in radiology will be managed by Hirslanden.

SUPPORTING CANCER SURVIVORS

A revolutionary outpatient programme at Hirslanden Klinik Aarau is helping cancer patients regain quality of life following, or in conjunction with, oncological treatment. The app-based programme, which was launched in 2020, combines complementary treatments such as physiotherapy and nutrition with non-medical measures like yoga and mindfulness sessions over a period of eight or 16 weeks.

COOPERATING ON CARE IN ZÜRICH

Klinik Im Park and the See-Spital Foundation have agreed to use synergies between the two to broaden the offer of local medical care. Hirslanden doctors will establish consultations at See-Spital sites while their peer physicians will have the opportunity to perform specialist procedures at Klinik Im Park.

Hirslanden and Spitäler Schaffhausen is elevating care for the canton's urology patients. Complex procedures are carried out at the Hirslanden facility with preliminary and follow-up care at the cantonal hospital. A similar agreement for

cardiology will be established between Klinik Im Park and Spital Lachen.

INTEGRATED GERIATRIC CARE

To ensure better care for the elderly, Hirslanden Klinik Aarau pursues a model of close cooperation with the authorities. The hospital's department of general medicine provides general practitioner services to the nearby municipal nursing home and thus ensures integrated, low-threshold healthcare. This guarantees that problems requiring hospital intervention are treated as quickly as possible. In addition, this single point of contact relieves the burden on the nursing home's management.

MEDICLINIC SOUTHERN AFRICA

CARE EXPERT

Working with its affiliated orthopaedic surgeons, Mediclinic Southern Africa has created the Care Expert model for hip and knee replacements. This approach brings together multiple facets of surgical treatment into a streamlined, team-led experience. The integrated model optimises efficiency, ensures quality care and provides financial certainty. Since its inception in 2016, the average length of stay has decreased from around six days to 3.5 days. In 2020, a further seven doctors signed up and Care Expert now accounts for 42% of all the division's hip and knee surgeries.

HOLISTIC CANCER CARE

In close cooperation with independent oncologists, several Mediclinic hospitals host affiliated treatment centres. Cancer treatment requires a range of specialists and by bringing together experts and interactions under one roof, the service to the client is streamlined.

MEDICLINIC MIDDLE EAST

QUICKER RECOVERY WITH ROBOTIC SURGERY

In a move to enhance patient experience and improve recovery, the division launched a robotic surgery programme in June 2020. Mediclinic City Hospital acquired the da Vinci Xi surgical system, which enables minimally invasive surgeries in a range of specialities. The benefits of robot-assisted surgery include smaller incisions, less post-operative discomfort and a shorter hospital stay.

COVID-19 TESTS FOR TRAVEL

COVIDEVELOPMENT

Mediclinic Middle East partnered with several travel companies to offer clients a comprehensive COVID-19 pre-trip service. This combined a PCR test with flight check-in and baggage collection, all done at the client's home or chosen location to minimise contact. Passengers had the reassurance that testing was done in ISO-accredited laboratories and received a medical certificate if the test was negative. In another novel collaboration, the division partnered with taxi service Hala to offer discounted travel on emergency trips to the hospital.

NEW HOSPITAL FOR KINGDOM OF SAUDI ARABIA

In partnership with Al Murjan, a Saudi Arabian business group, Mediclinic Middle East will establish a 200-bed private hospital in Jeddah. The strategic agreement, concluded in August 2020, sees the creation of a state-of-the-art facility offering comprehensive inpatient and outpatient services including cardiology, orthopaedics, paediatrics and trauma care.

20% of all new breast cancer cases in Switzerland treated at a Hirslanden breast cancer centre

6 breast cancer centres

8 locations

15 specialists per centre on average, with 15–20 affiliated members



FEATURE

EXEMPLARY BREAST CANCER CARE

HIRSLANDEN IS THE TOP CHOICE FOR BREAST CANCER TREATMENT IN SWITZERLAND WITH GOOD REASON.

Breast cancer is the most common type of cancer among women: every year it is diagnosed in some 6 200 women in Switzerland. That one in five of them seeks care at a Hirslanden breast cancer centre is testament to the holistic and multidisciplinary treatment approach on offer. From diagnosis through to cancer therapies and aftercare, a team of complementary experts stand ready to support the patient.

Dotted across eight locations, all six Hirslanden breast cancer centres carry either the quality certification of the Swiss Cancer League or the German Cancer Society. To achieve these stamps of approval, a breast cancer centre must meet around 100 stringent quality criteria. One of these is a tumour board, made up of experts who pool their knowledge to determine a combined care approach. 'Every decision is discussed by all relevant disciplines,' explains Clemens Leutgeb, manager for the network of Hirslanden Breast Cancer Centres. 'Treatments are based on the latest scientific evidence and not on individual opinions or experience.'

Another requirement is the provision of holistic care, which looks beyond cancer therapies to also address the psyche, social environment, pain relief, nutrition,

physiotherapy and, when necessary, palliative treatment. In addition to a core team of specialists in fields such as oncology, radiology and reconstructive surgery, every breast cancer centre has its own support squad of breast care nurses, psychologists, social workers, physiotherapists and medical geneticists. All the centres also offer complementary treatments such as acupuncture and mindfulness to support patients through their cancer journey. Biannual audits ensure all the quality requirements are in place.

To provide even more comprehensive care, the Hirslanden breast cancer centres have formed a network for knowledge transfer. 'The collection of quality-related data can be methodically complicated and resource-consuming. The network allows our researchers and data managers an easy exchange and increases the cases needed for quality research,' says Leutgeb. In 2020, the network established a Hirslanden benchmark for treatment evaluation and clinical outcome parameters. This allows the centres to measure themselves against one another and has a midterm goal of benchmarking against international standards. The network will also host an annual medical congress with international speakers and participants to further ongoing education.

In October 2020, Hirslanden used the opportunity of Breast Cancer Awareness Month to draw attention to the prevention, early detection and treatment of the disease. A microsite, themed Pink October and sharing vital information about breast exams, was supported by a #hirslandengoespink social media campaign and an instructional video on breast self-examination.

It is this focus on breast cancer and the commitment to ever-improving quality care that make Hirslanden the most sought-after provider of breast cancer treatment in Switzerland.

DUBAI SPECIAL UNIT

The all-female specialist team at Mediclinic City Hospital offers a similar multidisciplinary approach to breast cancer. Every case is discussed at a tumour board meeting and as the only hospital in Dubai with a qualified breast care nurse, it can support patients from diagnosis through treatment and beyond.

BETTER WAYS TO CARE

CLINICAL PERFORMANCE

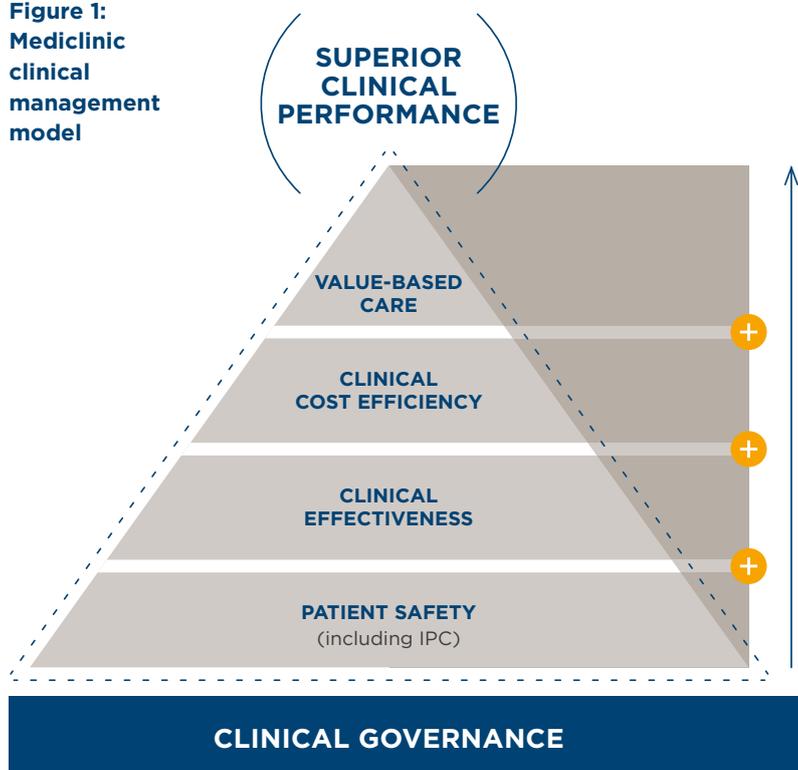
Clinical governance lays the foundation for the structures and processes that ensure the best possible outcomes for patients.

CLINICAL PERFORMANCE FRAMEWORK: FOLLOWING THE CLINICAL MANAGEMENT MODEL

Mediclinic uses a simple, yet powerful clinical performance framework built on a sound clinical governance foundation – collectively, the clinical management model.

The model supports a structured approach to clinical management through a clinical governance foundation layer that provides the structures and processes required for clinical performance.

Figure 1:
Mediclinic clinical management model



WARD-TO-BOARD ACCOUNTABILITY: STRENGTHENING THE ACCOUNTABILITY FRAMEWORK

To improve efficiency and enable seamless integration of information flow, Mediclinic pursues Ward-to-Board accountability. To this end, the Clinical Performance and Sustainability Committee has been replicated at divisional and hospital level. Aligning the committees and reviewing divisional differences provide valuable information on organisational accountability pathways and structure. In addition, clinical services and governance committees call on independent experts to act as ‘positive dissenters’ where possible.



Independent experts act as ‘positive dissenters’ where possible.

Figure 2: Group clinical performance governance structure



TABLE 2: DIVISIONAL CPC SUMMARY

	Hirlanden	Mediclinic Southern Africa	Mediclinic Middle East
Meetings held	1	4	3
Summary	<ul style="list-style-type: none"> • External consultant added to divisional CPC • Quality boards established at each facility 	Subcommittees active at 43 hospitals	Hospitals and clinics divided into clusters – each cluster has a clinical quality and patient safety committee which meets regularly

HEALTH TECHNOLOGY ASSESSMENTS: IDENTIFYING THE BEST-VALUE TECHNOLOGY

To ensure capital is allocated strategically and investments in equipment and interventions are sound, the Group makes use of health technology assessments (‘HTAs’). These measure clinical and cost effectiveness and the broader impact of healthcare treatment and tests on those who plan, provide or receive care. Research focuses on evidence of a technology’s effectiveness by comparing it to the current standard intervention.

Having established a competency in HTAs, the Company is in the process of looking to strengthen the function so that in time it becomes a core, centrally shared service which will enable better clinical decision-making and aid clinical standardisation.

2 HTAs completed during the year in the fields of neurosurgery and screening for retinopathy of prematurity (‘ROP’).

15+ **COVIDEVELOPMENT** informal evidence-based reports on various COVID-19-related topics



Establishing a comprehensive digital backbone is a priority across all the divisions, in line with the Group’s strategic goal to transform its services and client engagement through innovation and digitalisation (goal 3).

EHRs: STREAMLINING PATIENT DATA

EHRs not only transform both clinical and business processes, these also:

- improve quality, safety and efficiency;
- reduce health disparities;
- improve care coordination;
- enable client engagement;
- improve population and public health;
- protect privacy and personal health information; and
- enable expansion into previously untapped markets by laying the foundation for AI-enhanced diagnostics, telemedicine and remote-sensing, thereby future-proofing the organisation.

Establishing a comprehensive digital backbone is a priority across all the divisions, in line with the Group’s strategic goal to transform its services and client engagement through innovation and digitalisation (goal 3).

At Hirslanden, an EHR and a patient data management system are being implemented, as well as a radiology information system. Roll-out was completed at AndreasKlinik Cham Zug and Klinik Stephanshorn during the year. These projects form part of HIT2020, a larger back-office centralisation project at this division.

Mediclinic Southern Africa has appointed a taskforce which will evaluate and manage the process of selecting and implementing an EHR solution to suit the local operating and fiscal environment.

COVIDEVELOPMENT A request for proposal was planned for 2020, but halted as a result of the pandemic. The project was reinstated in December 2020 and is set to continue in 2021.

This year, Mediclinic Middle East successfully concluded the roll-out of its EHR at Mediclinic Airport Road Hospital in August, followed by the Al Ain clinics in September, Mediclinic Al Jowhara Hospital in October and Mediclinic Al Ain Hospital in December.

The division recently became the first private healthcare provider in the UAE to integrate its EHR successfully with the health information exchanges (‘HIEs’) in both Dubai and Abu Dhabi.

COVIDEVELOPMENT During the pandemic, these integrated systems enabled automatic COVID-19 test result notifications via client applications on mobile devices.

CARECONNECT

The CareConnect HIE project at Mediclinic Southern Africa continued through 2020 with work on the technical structure and pilot, as well as consent and financial models. In the fourth quarter, the first implementation phase – which Mediclinic, Netcare Group and Discovery medical aid participate in – commenced. Life Healthcare Group and Medscheme and MMI medical aids will follow in the second implementation phase, which will commence in mid-2021. A process to collect CareConnect consent from patients was initiated in October 2020 with the aim of collecting 100 000 patient records to test in the initial phase. This has been completed. The process for user acceptance testing continued into early 2021.

RESEARCH: GAINING GREATER MEDICAL INSIGHT

Research is conducted across the divisions, making Mediclinic an attractive partner for multinational, multisite studies. At Hirslanden, a clinical trials unit (‘CTU’) and scientific board evaluate and approve research requests. External expertise is sought at Mediclinic Southern Africa, which consults with registered local ethics committees before presenting proposed studies to the internal research approval committee. Research studies are most active at Mediclinic Middle East. As such, the division’s research structures include an ethics committee, a research advisory group, a CTU and a newly formed contract research organisation. All divisions maintain their own research register, elements of which are combined into a Group Research Register.

Approved medical research studies

Hirslanden	25	2019: 27	↓
Mediclinic Southern Africa	59	2019: 31	↑
Mediclinic Middle East	121	2019: 68	↑



BENCHMARKING

Benchmarking is used to measure performance over time. Facilities and divisions are benchmarked against each other where sufficient information is available to control for those variables facilities do not have control over, such as the mix of patients and/or differences in regulatory requirements. Otherwise, facility performance is benchmarked over time. As access to clinical data from the divisions improves, more benchmarking will be possible with risk adjustment.

Where available, external benchmarking is used. This will be expanded over time.

CLINICAL INDICATORS

Each aspect of the clinical performance framework – patient safety, clinical effectiveness, clinical cost efficiency and value-based care – builds on the previous one.

More than 150 clinical indicators are measured monthly in line with a standardised set of definitions and classifications. Many of these outcome indicators are self-reported and others are derived from administrative data. These indicators are monitored for trends and used to identify opportunities for improvement. The hospitals closely monitor their results and compare themselves with other hospitals in the same division.

Clinical indicator improvements during the year include the roll-out of an adult mortality risk adjustment model for Mediclinic Middle East; the refinement of existing indicator definitions; and the expansion of categories.

The scope of services and delivery model of each division differ significantly. Note the following when reviewing the clinical performance results reported on pages 44 to 56:

- All indicators are reported for the calendar year to ensure complete and comparable results.
- Figures in the **2021 Clinical Services Report** may differ from the previous report where additional data became available after publication or where criteria changed (refer to page 40).
- Statistical significance is determined for a subset of the indicators and calculated by determining whether there is a statistical difference when values from prior periods are compared (refer to page 40).
- Not all indicators are directly comparable due to regulatory requirements, e.g. Simplified Acute Physiological Score ('**SAPS**') II is measured at Hirslanden while SAPS 3 is measured at Mediclinic Southern Africa and Mediclinic Middle East.

TABLE 3: COMPARABLE BENCHMARKS OF INTERNATIONAL CLINICAL QUALITY

Indicator	Hirslanden	Mediclinic Southern Africa	Mediclinic Middle East
VON	n/a	•	•
SAPS II	•	n/a	n/a
SAPS 3	n/a	•	•
The Initiative on Quality Medicine ('IQM') ¹	•	n/a	n/a
Robert Koch Institute – catheter-associated urinary tract infections ('CAUTI'), central line-associated blood stream infections ('CLABSI') and ventilator-associated pneumonia ('VAP'), as per Centres for Disease Control and Prevention definitions	Selected patient groups only	•	•

Note

¹  **COVIDevelopment** Due to the pandemic, extraordinary changes in the populations of the indicators were identified and no target achievements were disclosed for 2020.

DISCREPANCIES

The 'Clinical outcomes' section that follows from page 44, provides a summary of the events that have occurred in the divisions during the year. As the effect of actions becomes evident over time, so too the data changes resulting in indicators which fluctuate slightly after the reporting period. These changes can be contributed to one or more of the following reasons:

- reclassification of an event after investigation;
- delay in receiving infection test results (e.g. microbiology culture results);
- delay in capturing of data;
- delay in billing days and patient counts;
- finalisation of accounts (e.g. accounts for complex cases); and/or
- discharge of patients to palliative care facilities.

KEY TERMS



IPC BUNDLES

IPC bundles are groups of evidence-based practices which when performed consistently significantly improve patient outcomes and prevent device-related and procedure-related healthcare-associated infection ('HAI').



STATISTICAL SIGNIFICANCE

Statistical significance is determined to identify areas of improvement that create knowledge leveraging and sharing opportunities to the benefit of all divisions. By also identifying areas of concern, it allows the Group to determine key focus areas for future initiatives.

Statistical significance in this Report is calculated by performing a hypothesis test. The indicators reported represent the means of their respective distributions and the hypothesis test examines if the means for successive years are different distribution (null hypothesis) or not (alternative hypothesis). A year-on-year difference in clinical performance is deemed to be statistically significant if the p-value for the appropriate statistical test exceeds a 5% critical limit. This result allows Mediclinic to conclude if a change in the indicator being measured can be attributed to normal statistical variation, or is the result of a change in an external or environmental factor. The test statistic for the hypothesis test and the distribution of the test statistic are dependent on the type of data being reported on.

Where variation in the current year's data is found to be statistically significant compared with prior reporting periods, the applicable data in the graph is marked with an orange dot and an explanation is provided, if available (see example below). In these instances it is unlikely that the changes in the numbers are due to chance.

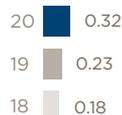
EXAMPLE OF STATISTICAL SIGNIFICANCE

Adverse events – Mediclinic Middle East

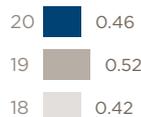
Rate per 1 000 patient days

- Statistically significant

Hospital-associated pressure ulcers



Falls



Medication errors



“

More than 150 clinical indicators are measured monthly in line with a standardised set of definitions and classifications. These indicators are monitored for trends and used to identify opportunities for improvement.





Just as medicine understands more about disease than health, so the safety sciences know more about what causes adverse events than about how they can best be avoided.

James Reason
British psychologist and industrial safety expert



FEATURE

FORTIFYING THE SAFETY CULTURE

MEDICLINIC'S NEW CLINICAL MANAGEMENT SYSTEM ENABLES ENHANCED LEARNING FROM EVENTS.

Adverse patient safety events are likely one of the 10 leading causes of death and disability in the world, according to information by the WHO. Traditionally, safety management has studied adverse outcomes for the purpose of preventing them. 'As an experienced emergency care doctor, I know how the reporting of patient safety events tends to focus on what has gone wrong,' says Dr René Toua, Group Chief Clinical Officer.

But event reporting has the potential to do so much more. By sharing knowledge and experience, it has the ability to expand expertise across the Company. 'We not only want to learn how to prevent errors, we also want to celebrate what we do right,' she says.

THE PATIENT SAFETY COMPANY

While Mediclinic has always taken a transparent approach to safety reporting, it was handled slightly differently in each division and the information gathered was stored in several disparate systems. The Group needed an integrated software solution that would provide better information for strategic planning, clinical risk management and continuous improvement.

In 2020, Mediclinic embarked on a project to implement a Group-wide clinical management system. The choice fell on The Patient Safety Company ('TPSC'), which serves more than 500 organisations

worldwide and has over 15 years' experience in enhancing quality in healthcare. The TPSC software enables various activities - from event reporting to data management and analysis to structuring improvement actions.

Healthcare workers can access the reporting system online, even from their private mobile phones, and a framework of questions makes it quick and straightforward to report an event of potential or actual harm. Whether a physiotherapist in Geneva, a doctor in Johannesburg or a nurse in Dubai, everyone involved in client care at Mediclinic will use this uniform reporting system going forward.

'For the first time, the Group is following a standardised classification and management system for patient safety events,' says Dr Toua. 'Before there were various forms and emails and documents; now it is all in one place and much easier to manage. We expect the reporting to increase; for the first time we will also be able to confirm that we have closed the loop on all events.' Quality teams will have better capacity to monitor trends and analyse data, which will enable prevention and improvement plans to be established.



CREATING A 'JUST CULTURE'

The software's implementation is evidence of a mindshift in the industrywide approach to reporting safety events. It is not about apportioning blame, it is about creating opportunities for learning. Key to that is creating a 'just culture' (Frankl framework) where employees feel comfortable reporting events.

'We are asking people to come forward whenever things do not go to plan and that is a difficult thing to do, to admit to a mistake. But if an employee knows they will not be victimised, they will report events. We do not ask who but what is responsible,' says Dr Toua.



To promote forward-looking accountability, individuals and teams are asked: 'What actions are you going to take?' and 'What did you learn from this event?'

Dr René Toua
Group Chief Clinical Officer

'For each and every event we want to understand the circumstances surrounding it. To promote forward-looking accountability, individuals and teams are asked: "What actions are you going to take?" and "What did you learn from this event?".'

Part of event management is ensuring the divisions have strong support systems for employees involved in an adverse event that harmed someone. But a 'just culture' is not only about employees and management, it is also about protecting the patient. It allows all safety events to be captured in a way that can be studied and analysed, removing the tendency to treat wider safety issues as individual issues.

PATIENT AT THE CENTRE

The TPSC product is a reporting and management system, but it is not the main focus – at Mediclinic the patient will always be at the centre.

With the TPSC system the Group has built in a feedback element where all events must be discussed at unit level to enhance employees' situational awareness. After an event, the line manager and employees should discuss what happened to get a comprehensive picture. In this way contributing factors and circumstances surrounding the event are identified and understood in order to complete a systems analysis.

The system offers tremendous potential for learning and improving by enabling the divisions to share insights – going forward various teams will be able to work together to address specific safety issues. Because TPSC facilitates intelligence gathering from events, it transforms traditional adverse event data into actionable information.

A side benefit of implementing the system across the Group is that the same training material is being used at all divisions. The various clinical and training departments all contributed to developing the modules, creating a standard training system and safety message for all of Mediclinic. As the internal communication about the clinical management system puts it: 'We improve care, because we share.'

TIMELINE

- **March–July 2020**
Clinical pre-work including standardising definitions, workflow and governance processes
- **August–September 2020**
Building of Safety Event Management module in collaboration with TPSC
- **October–December 2020**
Testing, training and kick-off of pilot programme
- **2021 Implementation**
of the TPSC Improve Module and Compliments and Complaints Module to drive continuous quality improvement

CLINICAL OUTCOMES

PATIENT SAFETY

Achieving patient safety requires a collective commitment to building a patient safety culture. This means that each employee focuses on reporting and learning from near misses and adverse events that may cause patient harm. An open culture where teams are comfortable discussing patient safety incidents and concerns is fostered through the inclusive completion of systems analysis of serious adverse events ('SAEs') in hospitals. These processes lead to an informed culture because teams learn from the adverse events to mitigate future incidents. Fundamental to this is the 'just culture' (Frankl framework) wherein employees involved in adverse events are treated fairly.

COVIDEVELOPMENT

HIRSLANDEN

The clinical outcomes of the division remained stable during the year, although occupancy rates in the first half of 2020 were lower than comparable prior periods as elective patients could not be admitted due to the pandemic.

MEDICLINIC SOUTHERN AFRICA

Most patient safety indicators saw a year-on-year decrease, especially SAEs, despite the challenges experienced. Some indicators such as medication errors may have been affected by a decrease in reporting, which was negatively impacted by COVID-19 surges.

MEDICLINIC MIDDLE EAST

Most of the clinical indicators that were negatively impacted by the COVID-19 pandemic during the first wave improved significantly after the peak in May/June. A centralised ICU strategy, which was initiated during the first wave of the pandemic, proved to be very effective, and daily huddles to coordinate and standardise care were reintiated as COVID-19 admissions started to increase again towards the end of the year.

NEVER EVENTS

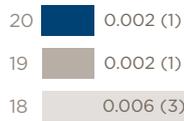
Across the divisions, the WHO surgical safety checklist is followed to decrease errors and adverse events, and increase teamwork and communication during surgery.

The implementation of the safe surgical checklist remains a key focus area. Mediclinic reports only on a subset of surgical and procedural never events at present, focusing on: the correct identification of patients, procedures and sites, and the prevention of retained foreign objects.

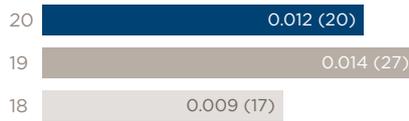
Figure 3: Never events¹

Rate per 1 000 patient days
(Number of events in brackets)

Hirslanden



Mediclinic Southern Africa



Mediclinic Middle East



Note

¹ The never event rate is reported to the third decimal to negate the obscuring effect of rounding.

ADVERSE EVENTS

An important aspect of improving the quality and safety of patient care is preventing adverse events that could harm patients, including hospital-associated pressure ulcers, falls and medication errors.

HIRSLANDEN

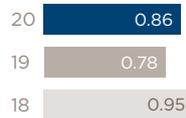
COVID DEVELOPMENT

Due to operational pressures caused by the pandemic, data collection for adverse events was interrupted for three months during the year.

Figure 4: Adverse events
Rate per 1 000 patient days

● Statistically significant

Hospital-associated pressure ulcers



Falls



Medication errors

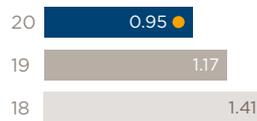
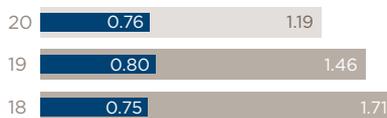


Figure 5: Falls breakdown
Rate per 1 000 patient days

■ Falls without injury
■ Falls with injury



The 10.26% increase in the hospital-associated pressure ulcer rate from 0.78 in 2019 to 0.86 in 2020 is not statistically significant.

The fall rate decreased by 13.72% from 2.26 in 2019 to 1.95 in 2020, a statistically significant change. The decrease directly relates to the incorrect use of electronic reporting forms at two hospitals. Steps are being taken to ensure correct capturing in future.

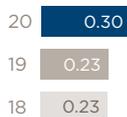
Hirslanden commenced reporting on medication errors in 2018. The 18.80% decrease in the medication error rate from 1.17 in 2019 to 0.95 in 2020 is statistically significant. Analysis of the fluctuation is difficult as the current reporting system is restrictive with limited classification and system factor analysis abilities. A multidisciplinary taskforce has been established to review medication management and develop a medication safety plan.

MEDICLINIC SOUTHERN AFRICA

Figure 6: Adverse events
Rate per 1 000 patient days

● Statistically significant

Hospital-associated pressure ulcers



Falls



Medication errors

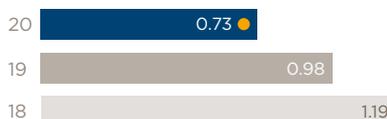


Figure 7: Falls breakdown
Rate per 1 000 patient days

■ Falls without injury
■ Falls with injury



The rate of hospital-associated pressure ulcers increased by 30.43% from 0.23 in 2019 to 0.30 in 2020. The fall rate increased by 2.78% from 1.08 in 2019 to 1.11 in 2020. Neither of these increases is statistically significant.

Medication errors per 1 000 patient days reduced by 25.51% from 0.98 in 2019 to 0.73 in 2020, a statistically significant decrease. The rate could be influenced by a lower reporting rate and does not necessarily reflect an improvement in medication safety.

MEDICLINIC SOUTHERN AFRICA CONTINUED

The involvement of pharmacists in incorrect medication error reporting has resulted in additional reporting mechanisms for potential medication errors. Near-miss medication errors related to prescription and dispensing are recorded to show where pharmacists intervene with regard to appropriate prescription of antibiotics and other medication, and where dispensing errors are corrected before medication is given to the patient. Pharmacists are also well placed to identify certain administration errors which may not have been identified by the nursing employees in the wards. This reporting is supplementary to the hospital event management system and is quantitative and dependent on time availability of pharmacists. The data collection to date has been used to guide hospitals to identify specific areas for quality improvement and prevention of medication errors, and to provide a measurement tool to track progress.

COVIDEVELOPMENT

The number of reported pharmacy interventions decreased by 40% in 2020, especially in July, August and December, approximately in line with the peaks of the pandemic. Pharmacists could not review as many prescriptions as they usually do, due to fewer patients admitted, a temporary termination of team rounds, restriction of movement in the hospitals and reallocation of clinical and ward pharmacists to assist with dispensing. This resulted in a decrease in the reporting of interventions and early identification of medication errors.

MEDICLINIC MIDDLE EAST

Figure 8: Adverse events
Rate per 1 000 patient days

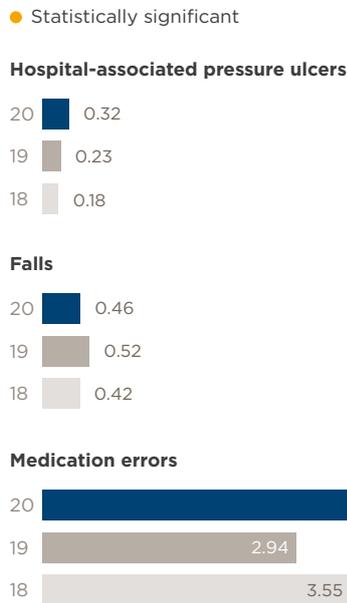


Figure 9: Falls breakdown
Rate per 1 000 patient days



COVIDEVELOPMENT

The increase in the hospital-associated pressure ulcer rate by 39.13% from 0.23 in 2019 to 0.32 in 2020 is not statistically significant and was mainly due to COVID-19. All patients are risk assessed for pressure injuries and appropriate preventive measures are implemented.

The 11.54% decrease in the fall rate from 0.52 in 2019 to 0.46 in 2020 is not statistically significant. Fall awareness and prevention remain focus areas for Mediclinic Middle East. A multidisciplinary taskforce was established to review the fall framework and current fall prevention policies, and to investigate new technologies to identify concerning trends and opportunities for improvements.

The medication error rate increased by 210.54% from 2.94 in 2019 to 9.13 in 2020, a statistically significant change. There is a continued focus on medication management. Both outpatient and inpatient medication errors are reported and are classified as prescription, dispensing and administration errors. Focused medication audits and physician education and training are ongoing in all facilities. The majority of prescription errors during the period were reported at Mediclinic Parkview Hospital. A thorough multidisciplinary review revealed that many of the errors related to lack of adherence to EHR processes. These issues were effectively addressed, and the inpatient medication error rate decreased steadily for the rest of the year. Medication management policies and double-checking of medication before dispensing are continuously reinforced.

COVIDEVELOPMENT

The pandemic also contributed to the increase in the no-harm inpatient medication error rate, which peaked at the height of the first COVID-19 wave. Many pharmacists were infected during the first wave and the increased workload and lack of proper documentation were identified as possible contributing factors.

INFECTION PREVENTION AND CONTROL

Preventing infection is paramount to patient safety. Activities include standardising processes around infection control based on international best practices; implementing care bundles around the prevention of surgical site infections ('SSIs'), VAP, CLABSI and CAUTI; and running surveillance projects with multilayer methodology.

Each division has central IPC specialists who standardise

infection control policies and procedures for the respective geography. Each facility has IPC team members who receive regular training and monitor compliance to the IPC bundles and any infections.

COVID DEVELOPMENT

Refer to the COVID-19 overview on page 2 for more information on new IPC actions taken during the year.

HAND HYGIENE

HIRSLANDEN	MEDICLINIC SOUTHERN AFRICA	MEDICLINIC MIDDLE EAST
Adherence to hand hygiene procedures is essential to prevent HAIs and compliance is evaluated through direct observation by IPC specialists. Hand hygiene fluid consumption is monitored per hospital and department, and the IPC specialists provide training.	Hand hygiene compliance results showed a 3.1% improvement from 79.9% in 2019 to 83.5%. Hospitals continue to focus on interventions to improve hand hygiene compliance. There is a direct correlation between the improved hand hygiene compliance and the reduction in HAI rates.	Hand hygiene data is collected at all facilities using a standardised tool. Data is reported to Infection Control Committees of each cluster to address non-compliance. A hand-washing monitoring system has been installed at Mediclinic City Hospital, with a pilot launched in two wards. This tracking and alert system captures 100% of hand hygiene events with the use of badges and location readers.

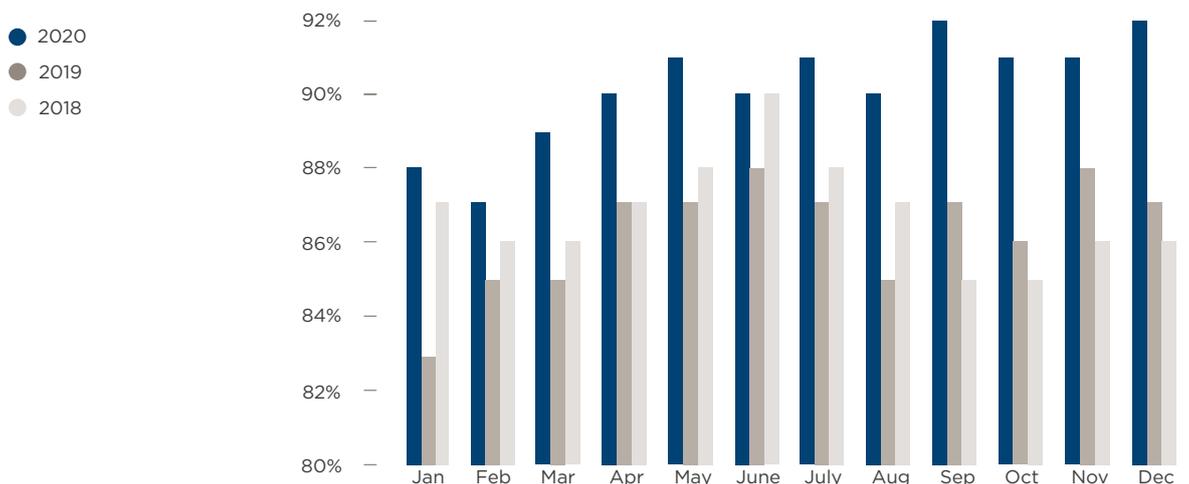
MEDICLINIC SOUTHERN AFRICA

Figure 10: Hand hygiene compliance rate (%) vs HAI rate



MEDICLINIC MIDDLE EAST

Figure 11: Hand hygiene compliance rate



HEALTHCARE-ASSOCIATED INFECTIONS

HIRSLANDEN

The HAI rate remained stable in 2020. As these conditions are rare, the calculated rates can be sensitive to single events.

MEDICLINIC SOUTHERN AFRICA

Figure 12: HAIs

Rate per 1 000 patient days



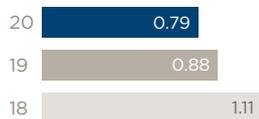
Southern Africa has a high burden of infectious diseases, unlike Switzerland and the UAE, necessitating a continued focus on the identification of infectious diseases and community-acquired infections upon admission and the prevention of HAI.

The 4.95% decrease in the HAI rate from 1.82 in 2019 to 1.73 in 2020 is not statistically significant and is mainly due to an increase in the hand hygiene compliance and continuous focus on device-associated IPC bundles. Hospitals continue to focus on interventions to improve compliance and on the five moments of hand hygiene as outlined by the WHO.

MEDICLINIC MIDDLE EAST

Figure 13: HAIs

Rate per 1 000 patient days



The 10.23% decrease in the HAI rate from 0.88 in 2019 to 0.79 in 2020 is not statistically significant. There is a continued focus on current IPC practices in the division, with a specific focus on the implementation of care bundles in the critical care units ('CCUs') and compliance with antibiotic prophylaxis guidelines.

DEVICE-ASSOCIATED INFECTIONS

HIRSLANDEN

Figure 14: Device-associated infections

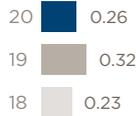
Rate per 1 000 device days

● Statistically significant

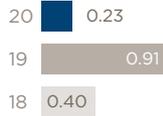
VAP



CLABSI



CAUTI



The CLABSI rate decreased by 18.75% from 0.32 in 2019 to 0.26 in 2020 and the CAUTI rate decreased by 74.73% from 0.91 in 2019 to 0.23 in 2020.

COVIDEVELOPMENT

The VAP rate increased by 153.67% from 2.18 in 2019 to 5.53 in 2020, a statistically significant change, mainly due to COVID-19 patients requiring longer ventilation. Prevention actions have been taken by the IPC specialists.

Due to operational pressures caused by the pandemic, data collection for device-associated infections was interrupted for five months during the year.

MEDICLINIC SOUTHERN AFRICA

Figure 15: Device-associated infections

Rate per 1 000 device days

● Statistically significant

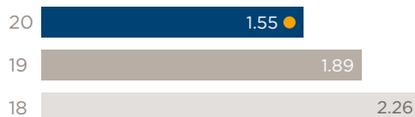
VAP



CLABSI



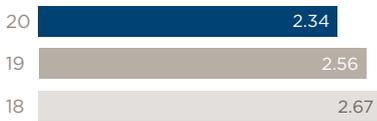
CAUTI



MEDICLINIC SOUTHERN AFRICA

All three device-associated infection rates decreased during the year. The VAP and CLABSI rates decreased by 11.76% from 3.57 in 2019 to 3.15 in 2020 and by 5.39% from 2.97 in 2019 to 2.81 in 2020, respectively. The 17.99% decrease in the rate of CAUTIs from 1.89 in 2019 to 1.55 in 2020 is statistically significant. These decreases are mainly due to continued improvement of IPC bundle compliance.

Figure 16: SSIs
Rate per 1 000 theatre cases



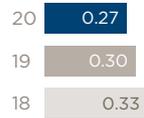
The 8.59% decrease in the rate of SSIs from 2.56 in 2019 to 2.34 in 2020 is not statistically significant. The decrease was mainly due to a reduction in patient volumes, a strong focus on hand hygiene and environmental cleaning in theatre, and improved SSI care bundle compliance.

MEDICLINIC MIDDLE EAST

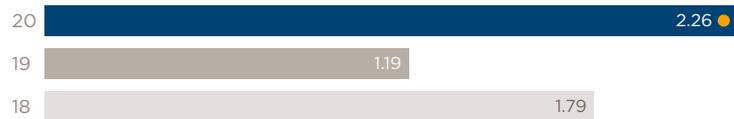
Figure 17: Device-associated infections
Rate per 1 000 device days

● Statistically significant

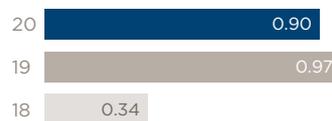
VAP



CLABSI



CAUTI



The VAP and CAUTI rates decreased by 10.00% from 0.30 in 2019 to 0.27 in 2020 and by 7.22% from 0.97 in 2019 to 0.90 in 2020, respectively, mainly due to the reinforcement and strict adherence to care bundles in ICUs. Neither of these decreases is statistically significant. IPC care bundle practices were reinforced and in-service education on catheter insertion and catheter care is conducted regularly.

COVID DEVELOPMENT

The rate of CLABSI increased by 89.92% from 1.19 in 2019 to 2.26 in 2020, a statistically significant change.

The rate increased significantly during the peak of the pandemic and remained elevated until July when the CLABSI rate decreased again. All CLABSI cases were reported in high-risk and susceptible patients, which included a number of COVID-19 patients.

Figure 18: SSIs
Rate per 1 000 theatre cases



The 15.95% decrease in the SSI rate from 2.57 in 2019 to 2.16 in 2020 is not statistically significant. SSIs remain a focus area for improvement in the division. Perioperative evidence-based interventions are implemented that include SSI care bundles, standardised antibiotic prophylaxis guidelines and preoperative skin preparation protocols.

ANTIMICROBIAL STEWARDSHIP

Antimicrobial resistance increases with growing utilisation of antimicrobials, therefore Mediclinic Southern Africa and Mediclinic Middle East monitor total antimicrobial utilisation in defined daily doses ('**DDD**').

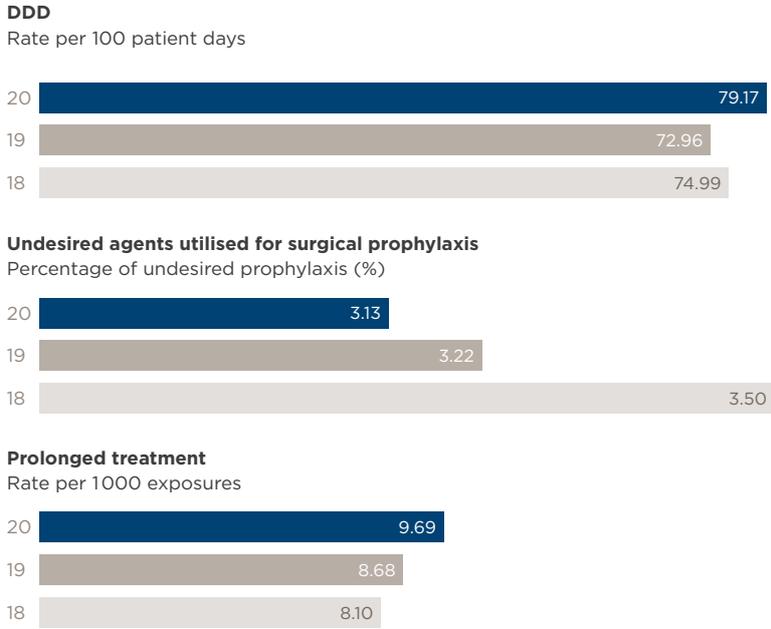
HIRSLANDEN

The burden of resistant germs in Switzerland is low. Colonisation of patients with multidrug-resistant organisms is monitored on a monthly basis. Antibiotic consumption is reported to the Society of Pharmacists and benchmarked against other Swiss hospitals.

MEDICLINIC SOUTHERN AFRICA

Considering the high burden of infectious diseases in Southern Africa, effectively managing antimicrobial resources and preventing multidrug resistance are critical.

Figure 19: Antimicrobial utilisation indicators



The undesired surgical prophylaxis rate decreased by 2.80% from 3.22% in 2019 to 3.13% in 2020, due to improved use of the surgical prophylaxis guidelines. These indicators are based on administrative and billing data and are continuously updated and refined.

COVIDEVELOPMENT

The total antimicrobial usage and prolonged treatment exposure rate increased by 2.85% and 11.64%, respectively, in 2020, mainly due to increased usage during the COVID-19 waves in July and December.

Improvement in the utilisation of antimicrobials is driven by retrospective audits and feedback interventions by the clinical and ward pharmacists in each hospital. Their interventions include discussions with the prescribing medical practitioner to improve appropriate dose, duration and frequency of antimicrobials, and to stop or change antimicrobials as soon as investigations demonstrate the causative organism's resistance profile.

MEDICLINIC MIDDLE EAST

Adult and paediatric antibiotic guidelines and the antibiotic stewardship programme were standardised across the division. Compliance to the antibiotic guidelines is continuously monitored.

CLINICAL EFFECTIVENESS

Clinical effectiveness measures whether the indication for the treatment was correct and whether the care was rendered timeously. The divisions participate in various international comparable outcomes databases, and also continuously measure and refine a set of internal indicators.



MORTALITY

COVIDEVELOPMENT

The pandemic was the biggest contributor to the increase of both the in-hospital mortality rates and SAPS II/3 indices. These models will be refined in future as they inflate the indices as they underestimate the virus's mortality risk.

HIRSLANDEN

Figure 20:
Inpatient mortality rate (%)
Percentage of admissions

● Statistically significant



COVIDEVELOPMENT

The 10.52% increase in the inpatient mortality rate from 0.95% in 2019 to 1.05% in 2020 is statistically significant and relates to the higher mortality rate of COVID-19 cases as well as changes to the case mix with fewer elective admissions.

HIRSLANDEN

Adult critical care mortality - SAPS II

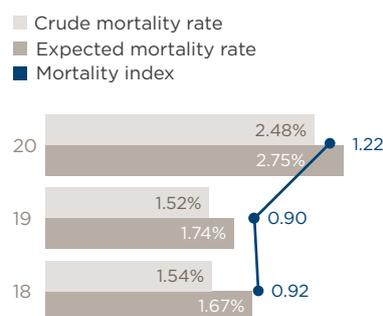
Hirslanden participates in the mandatory dataset for CCUs in Switzerland. SAPS II is a physiological mortality prediction model that utilises patient attributes to calculate an expected mortality value. The expected mortality rate is compared with the actual mortality rate calculating a mortality index.

TABLE 4: SAPS II MORTALITY INDEX

	2018	2019	2020
Cases	7 364	6 707	5 788
Average age of patients (years)	68.0	68.3	68.54
SAPS II expected mortality rate (%)	13.44	13.42	19.3
Actual mortality rate (%)	2.81	2.65	5.79
SAPS II mortality index	0.21	0.20	0.30
Average length of stay in CCU (days)	2.2	2.2	2.7
Percentage of ventilated patients (%)	31.95	31.59	33.48

MEDICLINIC SOUTHERN AFRICA

Figure 21: Inpatient mortality



The division's mortality index increased by 35.56% from 0.90 in 2019 to 1.22 in 2020. In April 2020, a new mortality system analysis model was implemented to deliver more accurate inpatient adult mortality predictions, which resulted in a slight increase in the mortality index.

Adult critical care mortality – SAPS 3

TABLE 5: SAPS 3 MORTALITY INDEX

	2018	2019	2020
Cases	22 688	23 439	21 589
Average age of patients (years)	62.3	62.6	61.9
SAPS 3 expected mortalities (cases)	4 088	4 245	4 274
Actual mortalities (cases)	3 650	3 578	4 881
SAPS 3 expected mortality rate (%)	18.02	18.20	19.80
Actual mortality rate (%)	16.09	15.27	22.61
SAPS 3 mortality index	0.89	0.84	1.14
Average SAPS 3 score	50.77	51.04	52.08

The SAPS 3 mortality index increased by 35.71% in 2020. High-index hospitals will be analysed to identify improvement areas.

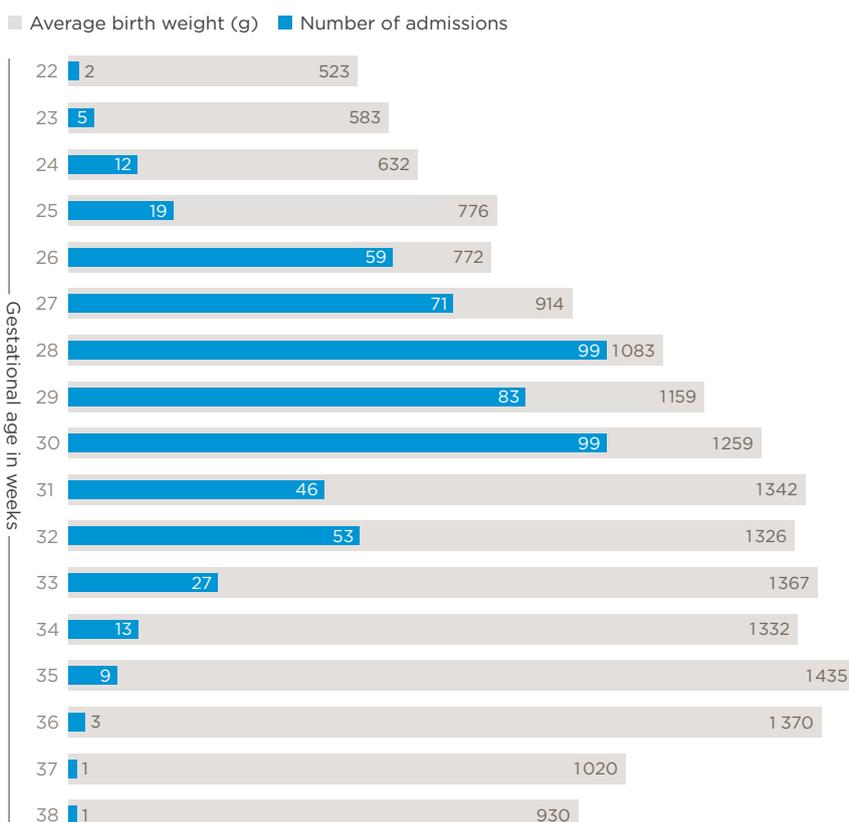
Neonatal mortality and Vermont Oxford Network

Mediclinic Southern Africa has contributed to the VON since 2001 and currently has 30 hospitals registered on the network. The VON is an international initiative aimed at improving the quality of care of infants through the collection and benchmarking of outcome data across the globe. There are currently over 1 300 participating centres around the world.

Although Mediclinic Southern Africa captures data on all infants admitted to participating neonatal CCUs, included in this report are the very low birth weight ('VLBW') newborns, which include neonates who weigh 401-1 500g at birth or fall into a gestational age range of 22-29 weeks. Most cases in 2020 were at 29-31 weeks' gestation and weighed more than 1 000g.

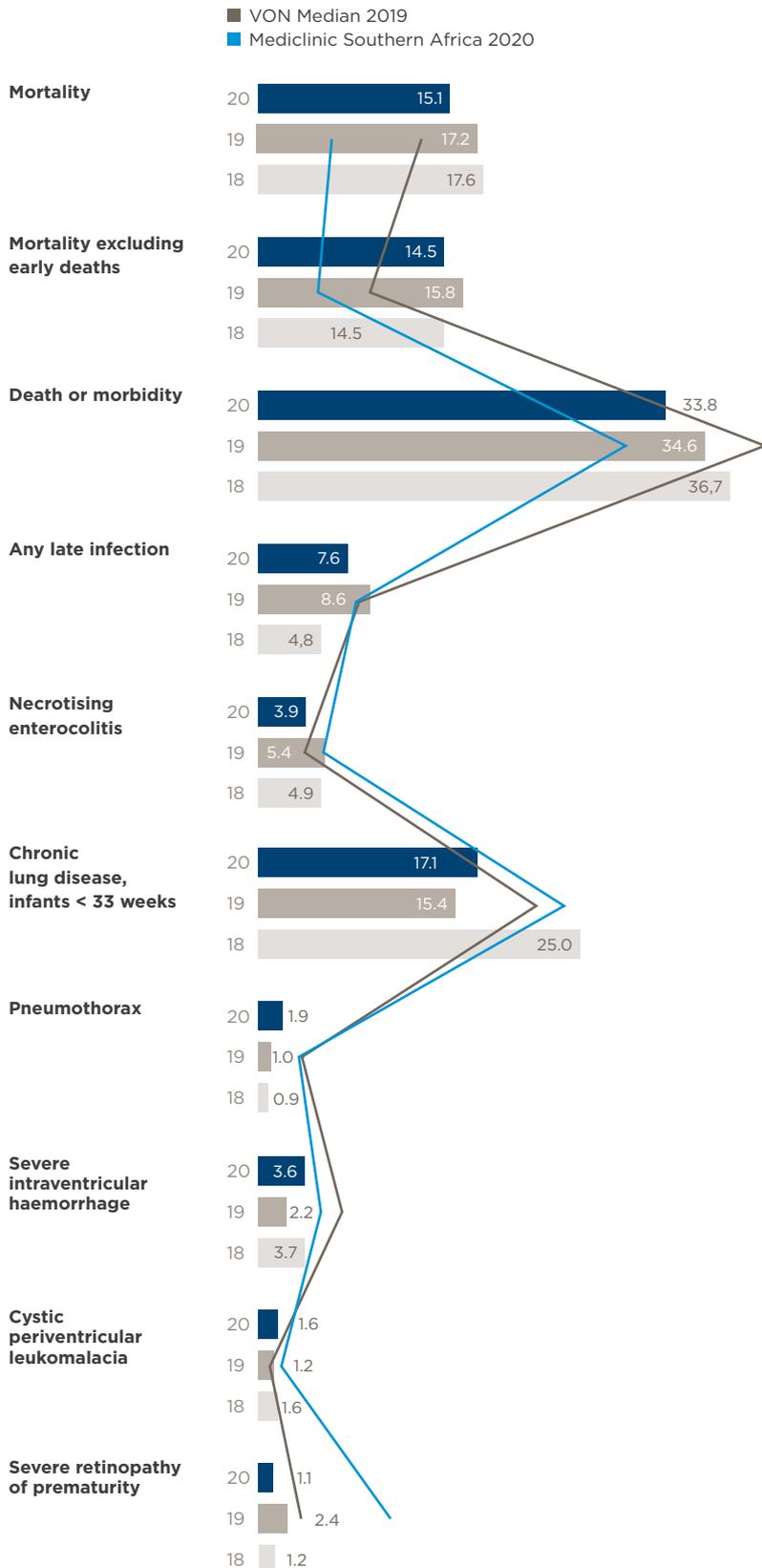
Figure 22: Average birth weight, gestational age and admissions for VLBW infants in 2020

Given for gestational age in weeks



MEDICLINIC SOUTHERN AFRICA

Figure 23: Neonatal key performance measures (%)



Increases were seen in chronic lung disease ('CLD'), pneumothorax, severe intraventricular haemorrhage ('IVH') and cystic periventricular leukomalacia ('PVL').

In the coming year, the division's neonatal strategy will focus on training neonatal nurses to ensure preterm or ill babies are offered the best possible care. In addition, the VON is creating a comparison report to enable comparison against the VON database, Mediclinic Southern Africa only, and participating South African neonatal ICUs – a first for South Africa.

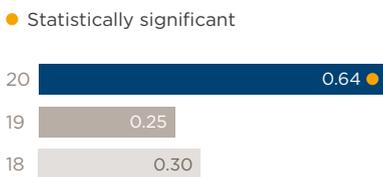
MEDICLINIC MIDDLE EAST

The mortality rate in the UAE is still low when compared with the other divisions due to the demographics and age profile of the patients. The overall acuity level of inpatient admissions and complexity of procedures are also much lower in the UAE compared with other divisions.

COVID DEVELOPMENT

A significant increase was noted in the overall mortality rate during the peak of the pandemic in May/June. The mortality rate decreased once the wave passed and remained stable until December.

Figure 24: Inpatient mortality rate (%)
Percentage of admissions



The 156.00% increase in the mortality rate from 0.25% in 2019 to 0.64% in 2020 was statistically significant.

ADULT CRITICAL CARE MORTALITY – SAPS 3

TABLE 6: SAPS 3 MORTALITY INDEX

	2018	2019	2020
Cases	2 771	2 124	1 392
Average age of patients (years)	56.7	56.9	58.9
SAPS 3 expected mortalities (cases)	54	40	65
Number of mortality cases	51	40	76
SAPS 3 expected mortality rate (%)	0.91	1.90	4.68
Mortality rate (%)	1.8	1.9	5.5
SAPS 3 mortality index	0.95	0.99	1.17
Average SAPS 3 score	40.81	40.74	40.76

The SAPS 3 mortality index increased by 18.18% in 2020. All ICUs in the division participate in the SAPS 3 mortality prediction model to measure critical care outcomes. All hospitals at which the EHR has been implemented submit their SAPS 3 data on the platform.

All unexpected mortalities are investigated to determine if care could be improved. The hospitals have reviewed their 2019 and 2020 mortalities and no specific trends were identified. The leading causes of mortality at the division are oncology, cardiology and sepsis.

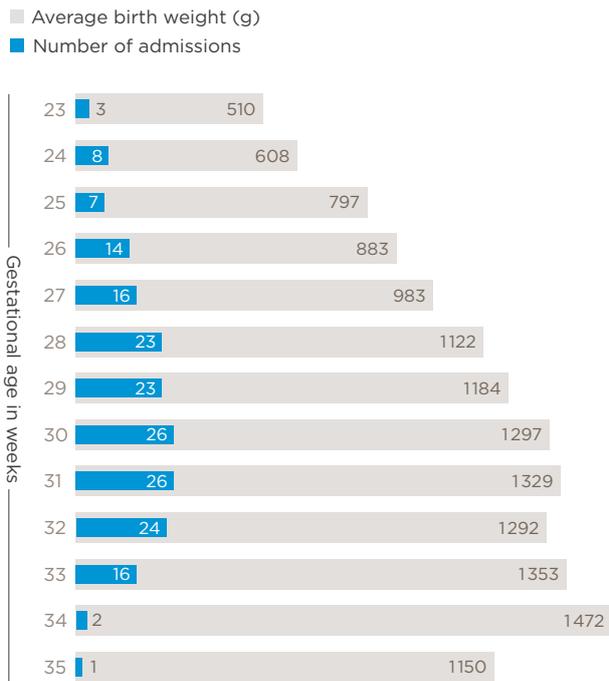
Neonatal mortality and Vermont Oxford Network

The VON database participation is well entrenched in the facilities, with all seven hospitals registered on the network. This is an important initiative to measure performance and improve the quality of care delivered to patients.

Although all infants admitted to neonatal CCUs are included in the programme, reporting focuses on all infants eligible for the VLBW database. When interpreting data, it must be considered that as the information is expressed as a percentage, a small sample size of VLBW can skew results when compared with the larger number of babies in the network database. Most cases during the period 2018–2020 were at 31–32 weeks' gestation and weighed more than 1 000g.

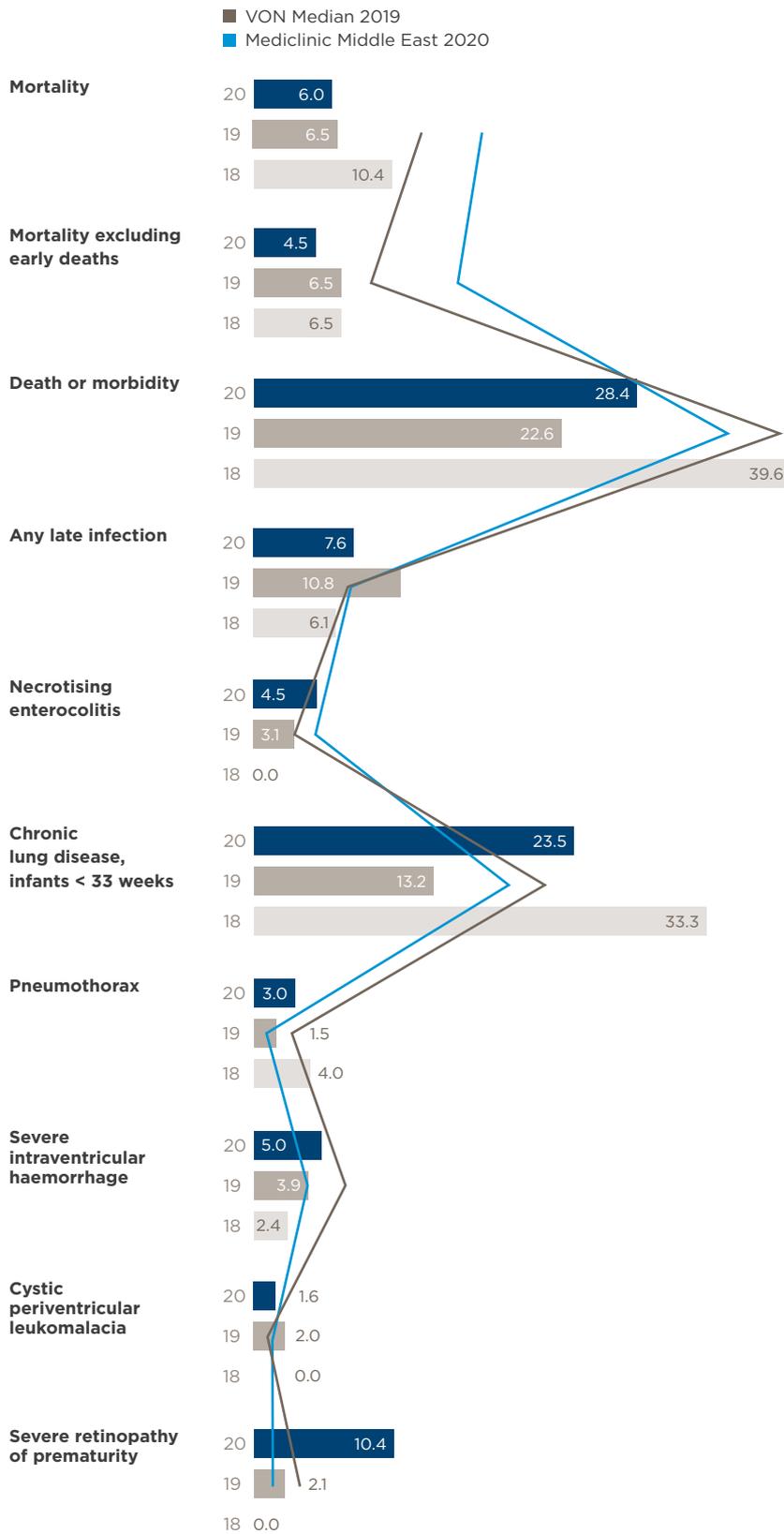
Figure 25: Average birth weight, gestational age and admissions for VLBW infants 2018–2020

Given for gestational age in weeks



The number of VLBW cases admitted to neonatal CCUs is low and the outcomes are in line with the majority of the VON's KPIs, with the exception of CLD and ROP. The ROP pathway for all Mediclinic Middle East facilities was standardised during 2020.

Figure 26: Neonatal key performance measures (%)



READMISSION, RE-OPERATION AND EXTENDED STAY

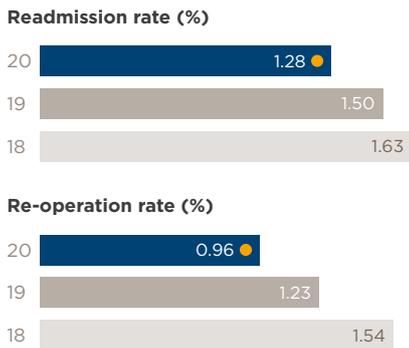
TABLE 7: VARIANCES IN DIVISIONAL READMISSION RATE CALCULATIONS

HIRSLANDEN	MEDICLINICSOUTHERN AFRICA	MEDICLINIC MIDDLE EAST
Reported as a 15-day unscheduled readmission rate as defined by the International Quality Indicator Project. The 15-day interval was chosen according to the 18-day readmission criteria of the Swiss diagnostic-related grouping system to provide input to the case management process.	Reports on a 30-day all-cause readmission rate which refers to patients readmitted within 30 days of the first admission, whether the second admission is related to the first admission or not, and whether it is planned or unplanned.	Reports on a 30-day unplanned readmission rate.

HIRSLANDEN

Figure 27: Readmission and re-operation rates (%)

● Statistically significant



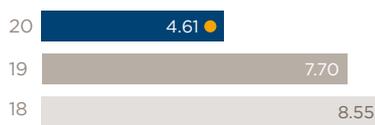
Both the 14.67% decrease in the readmission rate from 1.50 in 2019 to 1.28 in 2020, and the 21.95% decrease in the re-operation rate from 1.23 in 2019 to 0.96 in 2020 are statistically significant and are directly related to the decrease in elective procedures during the year.

Every readmission case is reviewed at hospital level by a member of the quality management team to ensure continuous improvement.

MEDICLINIC SOUTHERN AFRICA

Figure 28: Readmission rate (%)

● Statistically significant



The 40.12% decrease in the readmission rate from 7.70% in 2019 to 4.61% in 2020 is statistically significant. During the year, new readmission reporting methodology was implemented which led to a reduction in prior year rates.

The extended stay index is calculated using the average length of stay of patients in hospital divided by an average expected length of stay of the same patient group. The expected length of stay is calculated based on the diagnoses and procedures for which patients are admitted.

Figure 29: Extended stay index

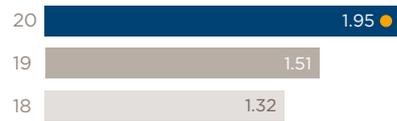


The 8.40% increase in the extended stay index from 1.19 in 2019 to 1.29 in 2020 is not statistically significant.

MEDICLINIC MIDDLE EAST

Figure 30: Readmission rate (%)

● Statistically significant



The 29.14% increase in the readmission rate from 1.51% in 2019 to 1.95% in 2020 is statistically significant. Chemotherapy administration, wound care, false labours, maternity-related conditions, lithotripsies, dialysis and removal of an implant are excluded in the calculations. The most common reasons for readmission were non-infectious surgical complications, same/worsening symptoms, medical complications and postoperative infections.

The continued increase in the unplanned readmission rate has been identified as one of the top clinical risks for this division. To effectively manage this risk, a readmission methodology and analysis framework was developed by Mediclinic Airport Road Hospital and shared across all facilities as part of lessons learned and as a future framework for a similar analysis in the respective units.

Figure 31: Re-operation rate (%)



The 19.05% increase in the re-operation rate from 0.21% in 2019 to 0.25% in 2020 is not statistically significant.



I am not sure they are getting enough credit. As Mediclinic we can pride ourselves on the number of patients we have saved, but it would not have been possible if it was not for the nurses.

Dr David Masuku
Specialist physician



Mediclinic Potchefstroom, South Africa

FEATURE

A PASSION TO HEAL

IN CARING FOR PATIENTS, MEDICLINIC HEALTHCARE WORKERS SHARE MUCH MORE THAN THEIR SKILL. THEY PLEDGE THEMSELVES WHOLEHEARTEDLY.

‘It was really daunting. I think I speak for every physician I know when I say it was difficult.’ Dr David Masuku, specialist physician at Mediclinic Potchefstroom in South Africa, grows quiet as he reflects on the early days of the pandemic.

He had joined the hospital at the end of 2019, just a few months before COVID-19 would transform the world. As the sole physician at the facility for close on three months during the pandemic’s first surge, he was responsible for treating COVID-19 patients in both the ICU and the wards. At times there would be up to 60 or 70 patients in need of care. He was at the hospital all the time, returning home for a just few hours and snatching sleep at work whenever the caseload permitted.

‘What kept me going was the commitment to what I do. I completely commit myself to looking after a patient and I have to see it through. If I put a person on a ventilator, it is my responsibility to get them off it alive. I remind myself: this is somebody’s mother, this is somebody’s husband, this is somebody’s child.’

‘I think if there is one thing I was blessed with, it is management,’ he says. When they needed more ventilators, because there were young patients with good odds of survival, hospital manager Rayno Crouse reached out to the North West Department of Health and obtained additional ones.

‘Every bed in high care and ICU had its own ventilator. I could ventilate every patient that required it, it was amazing,’ Dr Masuku says. Along with the support of management, he singles out the dedication of nurses, calling the ICU team ‘soldiers’ for their single-minded focus in the face of COVID-19.

‘I am not sure they are getting enough credit. As Mediclinic we can pride ourselves on the number of patients we have saved, but it would not have been possible if it was not for the nurses.’

The experience gained has been immense and the Mediclinic Potchefstroom team is moving forward with confidence. From a year ago, when COVID-19 was an unknown, to where they are now, with systems and protocols in place, has been the result of continued commitment.

For Dr Masuku, the pandemic confirmed that medicine is a calling. ‘I learned that you have to have love for what you do.’



FACILITY FOCUS

FOUNDATIONS FOR SUCCESS

Thanks to ongoing development projects, Mediclinic is positioned to provide in-demand care.



OPERA St. Gallen, Switzerland



Mediclinic Cape Gate Day Clinic, South Africa



Mediclinic Airport Road Hospital, the UAE

DAY CASE CLINIC

WHERE: ST. GALLEN, SWITZERLAND

With patients looking for convenient yet excellent care and funders demanding affordability, Hirslanden has taken strategic steps to expand its day case clinics. By implementing streamlined processes and leveraging medical advances, these facilities can offer same-day surgeries without compromising on quality. The new OPERA St. Gallen, which opened on 1 July 2020, is the Group's fourth clinic in Switzerland to offer outpatient procedures. It offers two operating theatres, 12 beds and various waiting and recovery rooms. Patients with additional insurance can take advantage of private rooms. Surgeons at OPERA St. Gallen carry out a wide range of procedures under the same quality conditions as the division's hospitals.

DAY CASE CLINIC

WHERE: CAPE TOWN, SOUTH AFRICA

In response to healthcare consumers clamouring for convenient quality care, Mediclinic Southern Africa has opened its 12th day case clinic. Situated alongside the hospital of the same name, Mediclinic Cape Gate Day Clinic offers the same quality care and expertise, and has welcomed patients since 1 September 2020. The facility consists of two fully equipped theatres with specialised personnel that offer day surgery in the areas of dermatology, orthopaedics and ophthalmology, to name a few. The novel design uses cubicles to provide patients with private recovery areas, enhance the workflow and improve access for nurses. Through its focus on minor surgical procedures the clinic can streamline service, making treatment efficient and cost-effective while maintaining the clinical standards of the main hospital.

HOSPITAL EXPANSION

WHERE: ABU DHABI, THE UAE

Featuring over 100 beds and providing for a range of specialities, the extension to Mediclinic Airport Road Hospital sees the facility more than double in size. The new construction, completed in 2020 and due to open in 2021, accommodates several outpatient clinics including paediatrics, obstetrics and gynaecology, dermatology and cosmetology, and medical oncology and haematology. Still coming within the new building is a CCC modelled on Mediclinic Middle East's pre-eminent oncology unit at Mediclinic City Hospital, which will offer radiotherapy, nuclear medicine and chemotherapy. The expansion positions the facility as Abu Dhabi's leading tertiary care private hospital and is part of a wider renovation project that has included equipment upgrades and refurbishment.

PARTNERSHIPS

The Group partners with leading organisations to complement existing services and expand its offering across the continuum of care.

In light of the continued global shortage of healthcare employees and to secure the future of healthcare, Mediclinic actively invests in the workforce of tomorrow. Across the divisions there are training opportunities for healthcare students and support of applicable studies. Refer to the **2021 Sustainable Development Report** for more information.

PARTNERSHIPS			
AL AIN UNIVERSITY		A memorandum of understanding exists between Mediclinic Middle East and Al Ain University of Science and Technology to facilitate academic collaboration and create learning and development opportunities for Emiratis. This partnership paves the way for students enrolled in Pharmacy and Dietetics undergraduate programmes to experience clinical accompaniment in various Mediclinic facilities across the UAE.	aau.ac.ae/en/
BERN UNIVERSITY OF APPLIED SCIENCES		Hirslanden partners with the Bern University of Applied Sciences to provide internships for the master modules Clinical Assessment and Advanced Nursing Practice in Primary Care in the Nurse Practitioner Programme. This is a pilot implementation during which certain physicians will act as supervisors. The project commenced in December 2019.	www.bfh.ch
BOURN HALL INTERNATIONAL MENA LTD		Mediclinic Middle East holds a minority stake in Bourn Hall International MENA Ltd, the holding company for the Bourn Hall Fertility Centre in the UAE, a pioneering and JCI quality-accredited fertility centre.	www.bournhall-clinic.ae
FATIMA COLLEGE OF HEALTH SCIENCES		A memorandum of understanding between Mediclinic Middle East and Fatima College of Health Sciences (established in 2006) facilitates academic collaboration and creates learning and development opportunities for Emiratis. The memorandum of understanding paves the way for students enrolled in Nursing, Health Emergency (paramedics), Pharmacy, Radiography and Physiotherapy to experience on-the-job training in various Mediclinic facilities across the UAE.	www.fchs.ac.ae
KANTONSSPITAL BASELSTADT		Hirslanden and the Kantonsspital Baselstadt have established a joint venture in the treatment of musculoskeletal disorders.	www.ksbl.ch
MEDBASE		Hirslanden and Medbase pool their expertise in outpatient and inpatient medicine and jointly invest in integrated healthcare close to home.	

 = Hirslanden  = Mediclinic Southern Africa  = Mediclinic Middle East

PARTNERSHIPS CONTINUED



PARTNERSHIPS			
MOHAMMED BIN RASHID UNIVERSITY OF MEDICINE AND HEALTH SCIENCES		In line with Mediclinic Middle East's partnership with MBRU, a number of Mediclinic facilities in Dubai are approved as training sites for medical students.	www.mbruniversity.ac.ae
STELLENBOSCH UNIVERSITY		In partnership with Stellenbosch University, Mediclinic Southern Africa offers medical students the opportunity to complete their training in Internal Medicine under the supervision of accredited full-time specialists working at Mediclinic hospitals.  COVID DEVELOPMENT Participation was postponed in 2020 due to the pandemic.	www.sun.ac.za
UNIVERSITY OF JOHANNESBURG		A memorandum of agreement between Mediclinic Private Higher Education Institution and University of Johannesburg makes provision for collaboration on research, the sharing of intellectual property and opportunity for students to receive practical training in Emergency Medical Care.  COVID DEVELOPMENT Participation was postponed in 2020 due to the pandemic.	www.uj.ac.za
UNIVERSITY OF LUCERNE		In partnership with the University of Lucerne, Hirslanden Klinik St. Anna trains medical students from the Joint Medical Master Programme. Each academic year, an average of 40 students participate in these classes.	www.unilu.ch
UNIVERSITY OF ZURICH		In partnership with the University of Zurich, Klinik Hirlanden offers medical students the opportunity to complete their training in several perioperative medicine modules. In 2020, the partnership assisted around 100 students.	www.uzh.ch
WITS UNIVERSITY DONALD GORDON MEDICAL CENTRE		Mediclinic Southern Africa has a partnership with Wits University and also manages Wits University Donald Gordon Medical Centre, the only private specialist training facility in South Africa and the largest and most successful solid organ transplant centre in the country.	www.dgmc.co.za

ASSURANCE

ACCREDITATIONS, CERTIFICATIONS, INITIATIVES

To provide the necessary independent assurance over the quality and reliability of its healthcare services, processes and facilities, the Group follows a combined assurance model with assurance between management, internal audit and external accreditation and certification.

ACCREDITATION			
COHSASA & INTERNATIONAL SOCIETY FOR QUALITY ASSURANCE IN HEALTHCARE ('ISQua')		COHSASA accredits all of Mediclinic Southern Africa's participating hospitals ¹ . Accreditation assessments are based on detailed hospital standards and are validated by ISQua.	www.cohsasa.co.za
COLLEGE OF AMERICAN PATHOLOGISTS		The laboratory at Mediclinic City Hospital in Dubai is accredited by the CAP, which evaluates the entire spectrum of laboratory test disciplines against the most scientifically rigorous customised requirements.	www.cap.org
EUROPEAN ASSOCIATION FOR THE STUDY OF OBESITY'S COLLABORATING CENTRES FOR OBESITY MANAGEMENT		EASO's Collaborating Centres for Obesity Management initiative is a network of accredited multidisciplinary treatment centres. Accreditation is in accordance with accepted European and academic guidelines, ensuring a network of high-level, well-structured centres. Mediclinic Parkview Hospital's specialised obesity management unit was accredited in 2020.	easo.org/coms-2/
JOINT ACCREDITATION COMMITTEE ISCT-EUROPE & EBMT		Accreditation body JACIE was founded by the European Organisation for Blood and Marrow Transplantation (EBMT) and the International Society for Cell & Gene Therapy (ISCT), the two leading international scientific organisations in stem cell transplantation. Klinik Hirslanden is the only private hospital in Switzerland with JACIE accreditation.	ebmt.org/accreditation/about-jacie
JOINT COMMISSION INTERNATIONAL		The JCI is a leader in healthcare accreditation and the author and evaluator of rigorous international standards in quality and patient safety. All Mediclinic Middle East facilities are accredited. In addition, the diabetes clinical programme at Mediclinic Welcare Hospital passed JCI accreditation in 2020.	www.jointcommissioninternational.org
SURGICAL REVIEW CORPORATION		Surgical Review Corporation is a non-profit, patient safety organisation that accredits the top hospitals and ambulatory surgical centres in the world. The fundamentals of an accreditation are intrinsic to the delivery of safe and effective patient care. The specialised bariatric unit at Mediclinic Airport Road Hospital was accredited as a Centre of Excellence in 2020.	https://www.surgicalreview.org/

Notes

¹ COHSASA accreditation is limited to the largest hospitals caring for the more complex cases. These hospitals undergo regular reaccreditation surveys on a rotational basis, the findings of which are shared with the hospitals and with the Mediclinic Southern Africa Corporate Office. Learning points emerging from findings inform focus areas for improvement initiatives, which also benefit smaller non-participating hospitals. In addition, the smaller facilities adhere to all the required regulatory requirements and industry standards.

The accreditation programme was paused during COVID-19 with COHSASA granting an extended grace period for reaccreditation. Reaccreditation has now restarted.

ASSURANCE CONTINUED

CERTIFICATION			
GERMAN CANCER SOCIETY		Certification by the German Cancer Society reassures patients of high-quality treatment. The Cancer Centre at Klinik Hirslanden has held this certification since 2017. Its certification extends to breast and prostate cancer (including uro-oncology), gynaecological tumours, colon cancer, and haematological and lymphological oncology. The hospital is the first, and only, private institution in Switzerland to obtain this certification.	
ISO 9001:2015		This independent international certification shows that the organisation meets world-class specifications for quality, safety and efficiency. All participating Hirslanden hospitals were ISO 9001:2015-certified in 2020.	
ISO 15189:2012		8 of 9 Mediclinic Middle East laboratories operating within Mediclinic hospital and clinic facilities are ISO 15189:2012-certified. The remaining laboratory at Mediclinic Parkview Hospital will seek accreditation in May 2021.	
SWISS CANCER LEAGUE		The Swiss Cancer League is a national, charitable, private non-profit organisation that attends to all aspects of cancer with the aim of ensuring that more people can be treated successfully. A cancer centre must meet about 100 criteria in order to pass external certification. Hirslanden has six certified Breast Cancer Centres across eight locations.	www.krebsliga.ch
SWISS CANCER LEAGUE AND SWISS SOCIETY FOR SENOLOGY		The Breast Centre Bern Biel was awarded the quality label by the Swiss Cancer League and the Society for Senology in November 2020. The centre of competence of Salem-Spital in Bern and Klinik Linde in Biel combines the medical expertise of various specialists at the two locations and offers patients with breast diseases all the necessary diagnostics and subsequent treatments close to home.	
SWISS FEDERATION OF CLINICAL NEURO-SOCIETIES ('SFCNS')		SFCNS promotes collaborations and interactions between clinical neuro-societies in Switzerland to enhance interdisciplinary knowledge and overall impact of all its disciplines. The Stroke Centre at Klinik Hirslanden is certified by SFCNS.	www.sfcns.ch/portrait.html

INITIATIVES			
IQM		The IQM promotes further improvements in medicine through innovative and efficient procedures, thereby setting new standards in quality. In Switzerland, quality measurements using routine data are based on the Swiss Inpatient Quality Indicators (CH-IQI). Hirslanden has been applying these quality management criteria since 2012.  COVID DEVELOPMENT Due to COVID-19, extraordinary changes in the populations of the indicators were identified and no target achievements were disclosed for 2020.	www.initiative-qualitaetsmedizin.de
PRESS GANEY®	   	Press Ganey® strengthens patient-provider relationships through real-time feedback and performance benchmarks, leveraging state-of-the-art survey methodology. All three divisions use the Press Ganey® platform to measure and report on patient experience.	www.pressganey.com
VERMONT OXFORD NETWORK	  	VON is a non-profit collaboration of more than 1 300 hospitals to improve neonatal care globally with data-driven quality improvement and research. Currently, 30 Mediclinic Southern Africa facilities and seven Mediclinic Middle East facilities participate.	public.vtoxford.org

CLINICAL ETHICS SUMMARY

ADVANCED CARE PLANNING, END-OF-LIFE AND TERMINAL CARE

Clinical governance structures are in place to report, audit and address any concerns in line with local regulations and legislation.

ASSISTED REPRODUCTIVE TECHNOLOGY AND IN VITRO FERTILISATION

Centres providing this service are governed by the local regulatory and legal framework, e.g. in the UAE, Bourne Hall Fertility Centre complies with Federal Law No. (11) of 2008 on licensing fertilisation centres in the country. In addition, compliance is monitored by the licensing authorities during inspections.

COMPETENCE AND SCOPE OF PRACTICE

Established clinical governance structures monitor and address concerns. Recruiting the correct skills and continuously assessing the skill-set of employees remain key focus areas. Many strategies are implemented to ensure competency of employees (e.g. formal training, short courses and clinical facilitators).

DOCTOR COVER, AVAILABILITY AND RESPONSE

On-call rosters are compiled and available at emergency centres. An established management process and reporting system covers non-compliant independent medical practitioners; an established human resources process covers employed doctors.

DOCTOR QUALIFICATIONS AND PERFORMANCE, AND ILLEGAL PRACTICE

Credentialing and privileging of doctors follow a combined approach – a formal process verifies registration, qualifications and credentials while an informal process solicits performance-related information from peers.

Prevention policies are established and doctors are monitored through annual validation of registration; investigations of deteriorating hospital clinical quality indicators; mortality audits; serious incident investigations; complaints from patients, fellow doctors and employees; medico-legal investigations; ethics line reports; CPC meetings; direct reporting by doctors; and informal feedback from employees regarding recurring concerns.

DRUG TRIALS AND MEDICAL RESEARCH

Drug trials and medical research are aligned with the Declaration of Helsinki and local legislation.

All requests for clinical drug trials and medical research are approved by an independent, accredited ethics committee before being accepted for evaluation and approval by the respective divisional committees. All approved trials are recorded on a registry and no unofficial drug testing is allowed. Medical research and experiments are managed by a clinical research approval committee and related policies.

The Group deals with medical ethical issues on a daily basis. Most of these are covered by formal policies, but some are still elusive and quite complex to deal with by way of policy. In all instances, response and reaction are governed by local legislation and regulations.

EMPLOYEE AND PATIENT PROTECTION

The safety of Mediclinic employees and patients is of paramount importance and across the Group it is managed through established IPC measures. Occupational health specialists provide a service at each hospital. On acceptance of employment, all healthcare employees are screened for pulmonary tuberculosis, and screened and vaccinated against Hepatitis B if they do not have sufficient antibodies.

Proper management of sharps injuries and safety procedures are applied at all three divisions. Depending on the geography, HIV/Aids diagnosis and support are offered to affected employees in accordance with local regulations.

Mediclinic's recruitment policies are in accordance with the local legislation of its divisions. At Hirslanden and Mediclinic Southern Africa, the HIV/Aids status of new recruits is not considered during appointment, whereas at Mediclinic Middle East, foreigners planning to work in the UAE must be tested for HIV upon arrival (and thereafter every two years).

In the event of an increase in the incidence or an outbreak of Methicillin-resistant *Staphylococcus aureus*, healthcare employees are screened and decolonised, if necessary.

Flu vaccines are offered annually to employees. Other vaccines, e.g. diphtheria and measles, are offered when there is an indication; when there is an increase in cases in a specific area; or as post-exposure. At Hirslanden, radiation exposure and compliance with prevailing acceptable exposure limits are monitored centrally.

ETHICAL BEHAVIOUR AND BILLING, AND FALSIFICATION OF DIAGNOSIS AND DOCUMENTATION

Operational and clinical management at each hospital is responsible for ensuring the ethical conduct of doctors and employees. Human resources policies address issues of misconduct and criminal behaviour. Regular documentation and clinical coding audits ensure compliance with legal, ethical and operational requirements. Across all divisions, fraudulent behaviour of doctors and employees can be reported via independent ethics lines.

EUTHANASIA

Euthanasia is neither practised nor condoned in any Mediclinic facility. All hospitals have control measures in place to ensure compliance with local legislation.

FORCED FEMALE CIRCUMCISION

Control measures ensure compliance with respective legislation. Informed consent for any medical or surgical intervention or procedure is upheld by the profession and is entrenched in local legislation.

GENETICS

Genetic testing and counselling are offered in each division according to local regulations and legislation, and in adherence to the relevant ethical framework. The results of genetic testing are governed by the same data privacy principles and rules which apply to other personal information.

INAPPROPRIATE CARE

Appropriate care is a Group-wide focus area. It is managed by indication boards at Hirslanden, and cost per event at Mediclinic Southern Africa and Mediclinic Middle East. Cost reporting and management processes and structures are in place. Complex cases are discussed with treating doctors.

ORGAN TRADE

The organ donation and receipt process is carefully documented and is in line with applicable legislation.

PHARMACY

Pharmacy policies, procedures and audits ensure compliance with legislation, ethical and operational requirements.

REMUNERATION AND KICKBACKS

Perverse incentives are prohibited. Corporate Office and hospital management ensure strict compliance with established rules.

REPORTING AND DISCLOSURE OF ADVERSE EVENTS

Each hospital has a formal adverse event reporting system, with a Group system being introduced in 2021. A 'just culture' (Frankl framework) is promoted. The reporting system is non-punitive and the recorded adverse events are discussed at the hospitals' clinical hospital committees. To prevent similar incidents, learning from incidents is a key focus area.

TECHNOLOGY (INCLUDING ROBOTICS)

Equipment must be CE-certified and approved by the local regulator and/or certified by the Food and Drug Administration of the United States. CE marking is a certification mark that indicates conformity with health, safety and environmental protection standards for products sold within the European Economic Area ('EEA'); it is also found on products sold outside the EEA that are manufactured in, or designed to be sold in, the EEA.

Equipment may only be used for the approved indications and as dictated by local or international guidelines. Clinical safety must be proven before any new technology is implemented at a division or in a facility.

TERMINATION OF PREGNANCY

Strict control measures exist to ensure legal compliance. In addition, the Group allows employees freedom of choice as to whether they wish to refrain from participating in any terminations of pregnancy for moral, religious, ethical or related reasons.

GLOSSARY OF TERMS

TERM	MEANING
AI	artificial intelligence
Board or Board of Directors	the board of directors of Mediclinic International plc
CAP	College of American Pathologists
CAUTI	catheter-associated urinary tract infection
CCC	Comprehensive Cancer Centre
CCRG	clinical and cost-related grouping
CCU	critical care unit
CLABSI	central line-associated blood stream infection
CLD	chronic lung disease
COHSASA	Council for Health Service Accreditation of Southern Africa
Company	Mediclinic International plc
CPC	Clinical Performance Committee
CTU	clinical trials unit
DDD	defined daily dose of antimicrobial use
EASO	European Association for the Study of Obesity
EC	emergency centre
EEA	European Economic Area
EHR	electronic health record
Group	Mediclinic International plc and its subsidiaries, including its divisions in Switzerland, Southern Africa and the United Arab Emirates
HAI	healthcare-associated infection
HIE	health information exchange
Hirlanden	the Group's operations in Switzerland, trading under the Hirlanden brand, with Hirlanden AG as the intermediary holding company of the Group's operations in Switzerland
HPCNA	Health Professions Council of Namibia
HPCSA	Health Professions Council of South Africa
HTA	health technology assessment
HUG	University Hospital of Geneva
ICU	intensive care unit
IPC	infection prevention and control
IQM	Initiative on Quality Medicine

GLOSSARY CONTINUED

TERM	MEANING
ISQua	International Society for Quality Assurance in Healthcare
IVH	intraventricular haemorrhage
JACIE	Joint Accreditation Committee ISCT-Europe & EBMT, accreditation body for stem cell transplantation
JCI	Joint Commission International, an international quality measurement accreditation organisation, aimed at improving quality of care
JSE	the stock exchange of South Africa based in Johannesburg
KPI	key performance indicator
LSE	London Stock Exchange
MBRU	Mohammed Bin Rashid University of Medicine and Health Sciences
Mediclinic	Mediclinic International plc
Mediclinic Middle East	the Group's operations in the UAE, trading under the Mediclinic brand, with Mediclinic Middle East Holdings (registered in Jersey) as the intermediate holding company of the Group's operations in Dubai and Abu Dhabi
Mediclinic Southern Africa	the Group's operations in South Africa and Namibia, trading under the Mediclinic brand, with Mediclinic Southern Africa (Pty) Ltd as the intermediary holding company of the Group's operations in South Africa and Namibia
NSX	the Namibian Stock Exchange based in Windhoek, Namibia
PCR	polymerase chain reaction, used in testing for COVID-19
Period under review/ Reporting period	1 January 2020–31 December 2020
PPE	personal protective equipment
PVL	periventricular leukomalacia
ROP	retinopathy of prematurity
SAE	serious adverse event
SAPS	Simplified Acute Physiological Score
SFCNS	Swiss Federation of Clinical Neuro-Societies
SSI	surgical site infection
TPSC	The Patient Safety Company
UAE	the United Arab Emirates
VAP	ventilator-associated pneumonia
VLBW	very low birth weight, as describing newborns who weigh 401g–1 500g at birth
VON	Vermont Oxford Network
WHO	World Health Organization

COMPANY INFORMATION

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(incorporated and registered in England and Wales)
Company number: 08338604

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LISTING

FTSE sector: Health Care – Health Care Providers –
Health Care Facilities
ISIN code: GB00B8HX8Z88
SEDOL number: B8HX8Z8
EPIC number: MDC
LEI: 2138002S5BSBIZTD5160
Primary listing: LSE (share code: MDC)
Secondary listing: JSE (share code: MEI)
Secondary listing: NSX (share code: MEP)

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Inga Beale DBE (*ind ne*) (*Chair*) (*British*), Dr Ronnie van der Merwe (*Group Chief Executive Officer*) (*South African*), Jurgens Myburgh (*Group Chief Financial Officer*) (*South African*), Alan Grieve (*Senior Independent Director*) (*British and Swiss*), Dr Muhadditha Al Hashimi (*ind ne*) (*Emirati*), Jannie Durand (*ne*) (*South African*), Dr Felicity Harvey CBE (*ind ne*) (*British*), Danie Meintjes (*ne*) (*South African*), Dr Anja Oswald (*ind ne*) (*Swiss*), Trevor Petersen (*ind ne*) (*South African*), Tom Singer (*ind ne*) (*British*), Steve Weiner (*ind ne*) (*American*), Pieter Uys (*alternate to Jannie Durand*) (*South African*)

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CORPORATE ADVISORS

Auditor

PricewaterhouseCoopers LLP, London

Corporate broker and sponsors

UK

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SOUTH AFRICA

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NAMIBIA

NSX sponsor: Simonis Storm Securities (Pty) Ltd

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