Value Dossier

HOSPITAL ISRAELITA ALBERT EINSTEIN

2023

ALBERT EINSTEIN

SOCIEDADE BENEFICENTE ISRAELITA BRASILEIRA

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Opening Message

TRANSPARENCY is a fundamental aspect of value-based healthcare. Possessing and analyzing reliable data improves healthcare practices, from the perspective of both the patient and the healthcare system. In this regard, performance measures relating to quality, safety, clinical outcomes, Patient-Reported Outcome Measures, and expenditure can be used to improve organizational planning, providing clinical benefits for patients, increasing efficiency, and reducing unnecessary expenses. The result is that we can improve patient health and quality of life without wasting resources.

This *Value-based care* details how the Einstein Hospital monitors each stage of the relationship between patients and clinical staff and invests in teaching, research, and safety programs, in addition to disclosing the indicators achieved in 2022 for ten medical specialties, from pediatrics to transplants — a field in which we have emerged as a renowned center in Brazil. The objective is to continuously improve these indicators and to surpass national and international benchmarks.

Publishing and comparing indicators is a fundamental part of the transparency we believe is essential to delivering value to patients and the healthcare system, a process that began at Einstein when we obtained our first quality certifications in the 1990s.

We hope that this initiative will serve as an inspiration for the open publication of value-based performance measures as standard among health service providers, allowing us to move forward together and deliver more value to patients.

Contents

PRESENTATION

How Einstein takes care of its patients

EVERY PATIENT SHOULD BE TREATED INDIVIDUALLY, considering their values, needs and preferences. This dossier describes the commitment behind every action taken at Einstein, reinforcing the hospital's ongoing effort to generate value for its patients, with a focus on innovation and excellence in healthcare.

This commitment is reflected in the highly qualified clinical staff and constant investment in advanced technologies, teaching, research, and protocols designed to increase quality and safety.

The following pages offer insight into the Einstein Hospital's value-based approach, guided by the principles of Kaplan and Porter, and adapted by the Einstein's Health Economics department.

Our performance in standout specialties is presented through key indicators: Survival & Patient-Reported Outcome Measures, Costs & Avoidable Complications, appropriate care, and patient experience & satisfaction. The results are guided by targets and national and international benchmarks.

The report as a whole will provide a broad overview of the activities performed within each of Einstein's specialties in pursuit of excellence and continuous improvement.

Read on to find out more about our journey.


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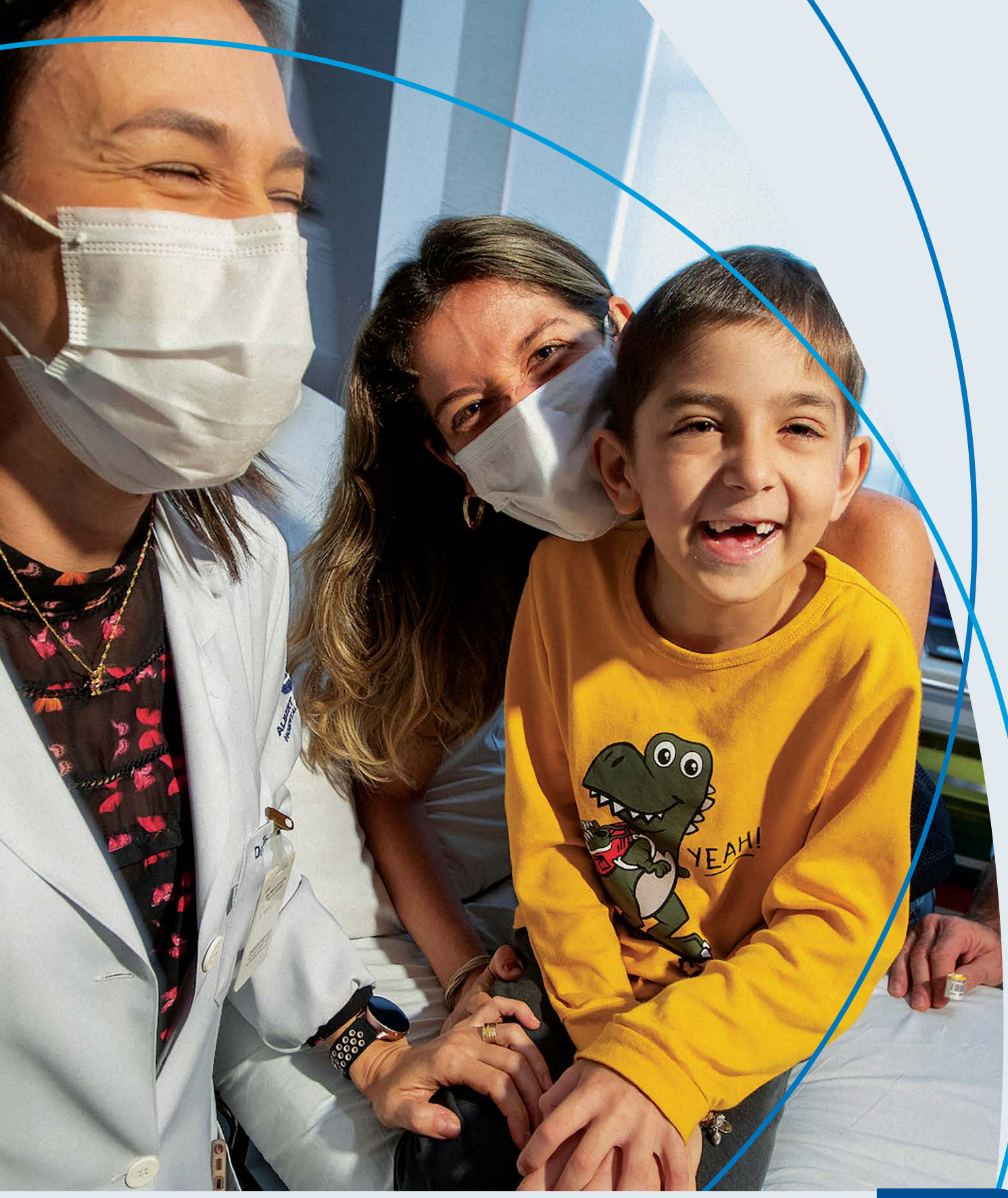


Value-Based Healthcare at Einstein

1

VALUE IN HEALTHCARE is classically defined as the correlation between patient health outcomes and the costs of achieving them[1]. In value-based healthcare, service providers — including hospitals and physicians — are rewarded for promoting better health and reducing complications and incidences of chronic disease through evidence-based practice. Quality of care and patient engagement increase when the focus is on value, not volume[2].

According to Harvard Business School, the principles of value-based healthcare include[1]:

- Organizing care around medical conditions;
- Measuring outcomes and costs for every patient;
- Aligning reimbursement with value through models that reward both better outcomes and efficiency of care;
- Integrating systems to deliver regional healthcare organized around matching the correct provider, treatment, and setting;
- Using national centers of excellence to care for extremely complex patients;
- Implementing an information technology system designed to support the key elements of the agenda.

In 2008, the Institute of Medicine held a workshop to explore perspectives on value in healthcare from the perspective of the main stakeholders. Providers considered value as the basis for appropriate care and effective, evidence-based interventions; payers saw it as a clinical benefit achieved for the money spent; and patients stated that a valuable intervention is any form of treatment that meets their needs[3].

From the patient's perspective, it is important to consider quality of life (QoL) factors, especially those related to clinical health. Needs are measured based on different aspects of QoL, such as pain, emotional and cognitive elements, and functional impairments[4]. A review of patient perceptions of healthcare quality further underscores communication, access, and shared decision-making as key elements in a value-based healthcare environment[5].

Britain's National Health Service (NHS) defines value-based healthcare as the equitable, sustainable, and transparent use of available resources to achieve better outcomes and experiences for every person[6].

In 2017, a decade after public debate on the subject began, a study carried out in England, Wales, Italy, and Scotland led to the definition of three distinct aspects known together as the "Triple Value Model[7]," a reference to the Institute for Healthcare Improvement's "Triple Aim." They are:

Personal valuel: Ensuring each individual patient receives appropriate care and an outcome that relates to their individual values and goals. This requires shared decision-making based on full information about the benefits and risks of every treatment option, including the choice not to treat at all.

Allocative value (at the population level): Ensuring optimal and equitable distribution of resources among population subgroups to maximize healthcare value for the population as a whole. These subgroups may include all people with a certain medical condition, such as cancer or mental illness, or certain demographic characteristics.

Technical value (at the intervention level): Ensuring the best outcomes are achieved with the available resources, through optimal allocation of resources without waste.

This broader and more comprehensive definition of value-based healthcare, balancing sustainability with quality of individual care—which ranges from the patient experience to population health and well-being—has been the focus of recent discussions. Avoiding waste and promoting value is linked to quality of care, which should be a central concern for all physicians and healthcare providers.

Einstein's Healthcare Economy

Einstein's Health Economics departament was established in 2010 and has expanded its functions over the years, including through the creation of the Clinical Outcomes Team in 2011 and the Value Management Office (VMO) in 2017, with the mission of promoting the topic of healthcare value across the organization. It is currently comprised of five key structures: The Value Office, Data Analytics, Epidemiology, Codification, and the Clinical Outcomes Team.

Thanks to these departments, we are able to gather and integrate all of the organization's information and intelligence on value in healthcare, which was previously dispersed and disconnected. Today, value-based projects are discussed in routine meetings and executed collaboratively, eliminating information fragmentation and redundancies.

Another initiative involved the union of healthcare economics and medical practice to spread the concept of value in healthcare and to generate a culture of continuous improvement based on clinical outcomes[8].

Einstein is a physician-led organization with an open clinical staff model. This means that most physicians are not contracted directly by the hospital, but undergo a registration process to work there. The concept of value was introduced to the clinical staff through multidisciplinary groups led by physicians and centered on clinical conditions, called Medical Care Groups (MCGs).

These MCGs helped to amplify the discussion and structure medical feedback, including data on Patient-Reported Outcome Measures (quality of life, functional and emotional aspects) and treatment costs compared to other organizations, as initially proposed by Kaplan[9] to promote value for patients.

Alignment with the Quintuple Aim

In 2015, Einstein and the Institute for Healthcare Improvement (IHI) created a strategic alliance through which they have been fostering a growing community of professionals committed to improving healthcare quality and safety in Latin America based on the principles of the "Quintuple Aim."

First published in an article in *The Journal of the American Medical Association* (*JAMA*) in 2022, the Quintuple Aim is an extension of the concepts of the IHI's Triple Aim and Quadruple Aim[10].

The former, conceived in 2008, comprised three objectives: improving the health of populations, improving the patient experience, and reducing costs. In 2014, clinician well-being was added to the mission statement. Last year, the pursuit of healthcare equity was established as the fifth component of the framework, which is used to guide the development and achievement of good healthcare practices.

Every year, more than 2,000 participants with different perspectives, from patients and frontline service providers to operator directors and CEOs, come together at the Latin American Forum on Quality and Safety to discuss important healthcare topics. Einstein is also partnered with the IHI in its fellowship programs, the IHI Open School, the Improvement Advisor course in Brazil, the Appropriate Childbirth program, the National Patient Safety program, and the Latin American Alliance of Hospitals of Excellence.

Medical Practice & Medical Staff Relationships

2

THE DEPARTMENT OF MEDICAL PRACTICE (MP) oversees the institutional activities of all physicians. Comprising more than 20 staff, including physicians, nurses, and other healthcare professionals, the department oversees the day-to-day routines of physicians at Einstein, from registration to clinical practice.

Its responsibilities include assessment of medical credentials in partnership with the Clinical Board, risk management, analysis of unjustified variability in healthcare, and provision of individualized feedback on clinical performance in conjunction with key programs, aiming to ensure institutional quality and safety.

Physicians applying to work at the Einstein Hospital must prove they have at least two years of experience since completing their residency and present four letters of recommendation from active members of the clinical staff. After a one-year probationary period, physicians who demonstrate good practice and ethical behavior in line with Einstein's standards are fully approved to work at the institution. The Einstein Clinical Staff currently consists of more than 12,000 physicians registered in various specialties, of which 3,300 are contractors.

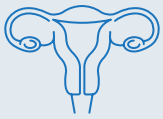
The MP department runs a series of programs aimed at ensuring the quality and safety of medical care.

The medical literature shows a direct association between the use of protocols and the quality of hospital care, which is why the **MP department manages the creation and continuous revision of care pathways** detailing all stages of the healthcare journey. There are currently 308 pathways for 34 specialties published on the institution's intranet.

Several guidelines contained in the documents are incorporated into the electronic medical records of Einstein patients in the form of PowerPlans, providing fast access to a set of prescriptions.

Pathways by Specialty

Pathways are documents that detail every stage of the healthcare journey. The number of pathways for each medical specialty are shown below. There are currently 308 pathways for 34 specialties published on the institution's intranet.

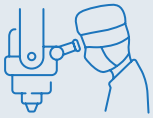


Gynecology & obstetrics

41

Others

39



Oncology

35

Pediatrics

31

Ortopedics

29

Urology

22

Gastroenterology

18

Cardiology

14

Primary care

14

Neurology

14

Infectious diseases

10

Otorhinolaryngology

10

LGBTQIAP+

9

Covid-19

8

Mastology

7

Neonatology

7

The sector **defines and manages the qualifications needed to work in each area of the hospital**. All physicians must be up to date on the necessary training. As an example, to work in the Adult Intensive Care Unit, physicians must have undergone training in neurological patient care, advanced cardiac life support by the American Heart Association, ultrasound-guided vascular access, sepsis, and point-of-care ultrasound.

There are also surgeries in which the risk and cost outweigh the benefit, which has been dubbed low-value care. This is the focus of the **Appropriate Care** program, which monitors the scheduling of operations such as cholecystectomies, endometriosis surgeries, spinal arthrodesis, and ureterolithotripsy, among others, to prevent unnecessary procedures or the use of unnecessary materials and surgical codes.

A study carried out by the institution showed that by reducing the number of low-value cholecystectomies and endometriosis surgeries, the health system made annual savings of approximately R$ 2,650,000.

The Medical Practice Risk Management Office, in partnership with the Risk Surveillance Group (RSG), is **responsible for dealing with any relevant adverse events**. The former, with support from the Executive Medical Board and the Legal Board, focuses on resolving cases with tools such as disclosure, designed to openly communicate the occurrence of healthcare errors to patients and their families.

The RSG, meanwhile, focuses on fostering improvement using tools such as "What if" for proactive risk identification and Ishikawa diagrams, Depose, and the "Five Whys" for reactive risk management, in addition to conducting a robust analysis of each case with support from clinical staff. By identifying the root cause, improvements are suggested and implemented.

In addition to the four mandatory commissions (Death, Medical Records, Ethics, and Infection Control), the MP department and **the Clinical Board support the management of eight commissions that generate indicators for the continuous improvement process and dozens of regulatory policies for practice and compliance.**

With so many control programs, the objective is to continuously improve quality indicators and clinical outcomes while surpassing international benchmarks.

Physician Relationship Program

The Physician Relationship Program (PRP), part of the Clinical Staff Relationship Program (CSRP), evaluates performance indicators that are correlated and grouped as: Quality, Volume, Teaching & Research, and Volunteer Work. The results achieved by physicians in each of these indicators

is summed to give a final performance score. Each indicator has a specific weight in the score, at 45%, 35%, 10%, and 10%, respectively.

The CSRP compares physician performance data against their peers in the same specialty, as stated when they registered with Einstein.

Based on their performance score, physicians are subject to an impartial and transparent annual assessment and stratified into five categories, providing a way of recognizing their level of engagement of in relation to the indicators described above. The program thus encourages good healthcare practices by generating individual feedback and frequent assessments of medical performance.

The individual results for each physician are made available online, including their respective indicator and the average for their specialty, in addition to the best result in their specialty, with the aim of encouraging continuous improvement.

All the information is shared, while respecting the physician's privacy. The objective is not to restrict medical activity, but to provide information about its practice and thus strengthen communication and develop a relationship based on transparency, meritocracy, and respect for autonomy.

Medical Care Groups

Another important function of the Clinical Staff Relationship Program is the administration of Medical Care Groups (MCGs), which comprise organizations of professionals (physicians and multidisciplinary teams) with common interests, not necessarily from the same specialty.

Created to strengthen Einstein's bonds with its clinical staff, the MCGs unite these professionals around thematic axes, encouraging shared management. The aim is to improve care processes based on interactions between specialties.

The Women's Health MCG, for example, is made up of urologists, gynecologists, and physiotherapists that specialize in urinary incontinence, among others.

Physician Compact Program

With the purpose of establishing a pact with its clinical staff, creating a shared vision, and instituting a system based on quality, safety, and sustainability for patients and the community, the Physician Compact Program was conceived by Einstein in 2019 and jointly implemented in 2020.

Based on the elements of physician experience, patient experience, reciprocity, leadership, quality, safety, and innovation, the program recognizes the interdependence between the clinical staff and the organization and defines mutual responsibilities, favoring the role of physicians at all times.

Of the 12,000 physicians on the clinical staff, more than 4,000 were aware of and had read the document, a highly representative figure. For example, 93% are frequent participants in Medical Care Groups (MCGs).

An analysis of the Physician Relations Program and the most prominent segments showed that more than 90% of physicians were impacted by the Physician Compact document, either in individual meetings or in collective meetings and workshops.

Currently active Medical Care Groups

- Big Data
- Cardiology
- Headaches & Dizziness
- Spinal
- Children, Adolescents & Young Adults
- Intellectual Disabilities
- Inflammatory Bowel Disease
- Chest Diseases
- Liver Diseases
- Pain
- Endovascular
- Spirituality Wounds
- Geriatrics
- Infectious diseases
- Knees
- LGBTQIAP+
- Precision Medicine
- Sports Medicine
- Lifestyle Medicine
- Upper Limbs
- Memory & Cognition
- Neuro-Immunology
- Neuro-Oncology
- Neurovascular
- Obesity, Metabolic & Cardiovascular Risk
- Onco-Gastro
- Onco-Genitourinary
- Onco-Pediatrics
- Pediatric
- Orthopedics
- Critically ill patients
- Feet & Ankles
- Perinatology
- Perioperative Hips
- Rehabilitation & Quality of Life
- Oral Health
- Women's Health
- Mental Health
- Population Health
- Patient Safety
- Sleep
- Advanced Therapies
- Supportive Therapies - Oncology
- Thyroid
- Trauma
- Emergency Medicine
- Urgent & Emergency Pediatrics
- Urology

Teaching & Research at Einstein

3

TEACHING & RESEARCH at Einstein arose within an organization that has been a center of excellence in healthcare since 1971. An institution that strives to continuously evolve and understands that this can only occur through heavy investment in the generation and incorporation of knowledge.

Einstein is dedicated to the dissemination of knowledge among professionals nationwide and overseas as a means of informing and updating healthcare professionals and generating value.

Einstein Teaching

Einstein's teaching portfolio includes technical secondary education, technical courses, undergraduate degrees, professional training, corporate solutions, medical and multidisciplinary residencies, graduate specializations, an MBA (Master of Business Administration), other master's degrees, and doctorates.

In 2022, approximately 57,000 students attended or were enrolled in Einstein Teaching courses. At that time, the Albert Einstein Israelite School of Health Sciences (FICSAE) offered the following courses: nursing, medicine, and physiotherapy. New courses are being launched in 2023: biomedical engineering (with 70 vacancies), management (70 vacancies), and dentistry (60 vacancies).

Our residencies are also a highlight, with 195 vacancies available on 22 medical residency programs and 47 vacancies across four multidisciplinary and two uniprofessional programs. More than 500 physicians from Einstein's clinical staff work directly on these residency programs.

It is also important to highlight our graduate courses. In 2022, there were more than 8,800 students enrolled on 144 specialization courses, making up 317 classes. To support this grand effort, more than 2,750 Einstein employees are involved in teaching activities.

Our Physician Improvement program—a graduate course for physicians that focuses on professional practice—is based on the principle of in-service training under the direct supervision and guidance of qualified professors. In 2022, 54 physicians completed this program and 22 physicians received the title of *Fellow*.

Some data about Einstein Teaching:

9,4

the general satisfaction level of Einstein course professors and students in 2022, on a scale from 0 to 10

Einstein Research

The Albert Einstein Israelite Teaching & Research Institute (IIEPAE), established 24 years ago, inaugurated the Albert Einstein Teaching & Research Center, Cecilia and Abram Szajman Campus, in 2022. Occupying an area of more than 44,000 m^2 adjacent to the Morumbi unit, the center embodies contemporary scientific thinking by integrating teaching, research, and innovation in the same location.

The new building houses a large research sector, with laboratory platforms dedicated to experimental, preclinical, and clinical research, in addition to the health education center.

The Professor Geraldo Medeiros-Neto Experimental Biology Laboratory is a 1,170 m^2 multiuser research support complex with cutting-edge, highly specialized equipment that can be used for high-complexity tests and analyses by multidisciplinary teams. It is a center for research in the life sciences, medicine, and health innovation, supporting projects that line up with the institution's key values, such as cell therapy, molecular genetics, big data & digital health, aging, and infectious diseases.

The Research Institute will soon be opening a new 200 m^2 area consisting of 3 biosafety level 2 (BSL-2) cleanrooms, which will allow for the development of advanced therapy products. For Einstein, research is the foundation of knowledge generation and dissemination.

Alongside its laboratory platforms, the Research Institute has been awarded several important certifications, including from the

Association for the Accreditation of Human Research Protection Programs (AAHRPP), granted to organizations with strict safety measures at all levels of their operations, that adhere to the highest standards in research involving human subjects.

The Researcher Support Center (RSC) brings together research management services and platforms with the aim of reducing the amount of time researchers spend on administrative matters and providing technical advice on certain aspects of research project planning.

Einstein also publishes its own scientific journal, *Revista Einstein*, with some unique and important elements, such as its Scientific Advisory Board—a committee of internationally renowned scientists that evaluates the research program every four years and suggests development paths.

Einstein was the first research institution in South America to receive AAHRPP accreditation, putting it on the same level of scientific integrity as institutions such as Duke University (USA), Case Western Reserve University (USA), and Johns Hopkins Medicine (USA), all of which are certified by the program. It also attests to the high level of our ethical standards and practices in studies involving human beings, which are essential to international credibility and visibility.

The Einstein Academic Research Organization (ARO)

The first organization of its kind in Brazil, Einstein's ARO was inspired by others at the best health systems and universities in the world.

This new front is focused on the academic leadership of high-impact national and international multicenter clinical projects and the provision of clinical research services, based on rigorous scientific integrity standards.

The management project begins with planning every stage of the study, designing the protocol, conducting a statistical analysis, and implementing regulatory processes. The purpose is to lead the planning, management, and publication of clinical studies, generating knowledge that can reduce the burden of high-morbidity and high-mortality diseases through partnerships with health institutions in Brazil and abroad.

The Einstein ARO is committed to expanding knowledge and challenging conventional approaches to transform scientific discoveries into better patient care.

By sharing creative solutions, AROs help improve quality of life with new drugs, new therapeutic indications for existing drugs, new devices, and new treatment protocols for a diverse range of diseases.

The Einstein ARO earned praise during the COVID-19 pandemic for its contributions to the scientific community, presenting the first evidence that certain medications widely used in the first wave were ineffective, the first study of a new medication to show clinical improvements in critically ill patients, and collaborations in studies of the first COVID-19 vaccines[11,12].

Quality & Safety at Einstein

4

THE CONTINUOUS PURSUIT of healthcare quality and safety improvements is a fundamental part of the Quintuple Aim.

Quality and safety are key objectives for Einstein, as reflected in its mission to "offer excellence in healthcare, knowledge generation, and social responsibility as a way of highlighting the contribution of the Jewish community to Brazilian society."

The care provided by Einstein's health system strictly follows national and international standards, translated into protocols based on the most rigorous scientific evidence for achieving the best patient outcomes.

WITH 17 ACCREDITATIONS AND CERTIFICATIONS, quality credentials form the basis of our healthcare system. In 1999, Einstein became the first hospital outside the USA to be accredited by Joint Commission International.

In 2022, Einstein was the first hospital in Latin America to receive Magnet certification, which recognizes excellence in nursing at an international level.

For the fourth year running, Hospital Israelita Albert Einstein was named one of the best hospitals in the world by American magazine *Newsweek*. In a survey of 28 countries, it was the only Brazilian and the only Latin American institution in the top 100. In 2023, the hospital was ranked 34th in the world and 40th in the list of the world's best hospitals in the use of cutting-edge healthcare technology.

The quest for excellence in quality and safety through accreditations and certifications generates competitive advantages, resulting in greater added value for our patients.

Our certifications are presented below:

HEALTHCARE

JOINT COMMISSION INTERNATIONAL (JCI): Certifies that quality and safety processes are used to continually improve healthcare, encouraging safe and effective practices of the highest quality. Einstein received this accreditation for the 7th consecutive year, and is the only organization outside the USA to achieve this feat.

MAGNET: Considered the gold standard for excellence in nursing and healthcare practices and strategies. Einstein is the first organization in Latin America to be designated a Magnet® hospital.

PLANETREE: Attests to the adoption of the concepts of patient and family member engagement, including practices, methods, and approaches that foster a culture of person-centered care. The Morumbi unit has the Gold Certification.

AMERICAN COLLEGE OF RADIOLOGY (ACR): Certifies the quality of diagnostic imaging services by evaluating equipment, professionals, treatment plans, records, and quality control. Einstein is the only health organization in Brazil accredited for all diagnostic methods.

AMERICAN ASSOCIATION OF BLOOD BANKS (AABB): Recognizes the quality and safety of transfusion and cell therapy operations at the Department of Hemotherapy and Cell Therapy.

COLLEGE OF AMERICAN PATHOLOGISTS: Guarantees the quality of the clinical diagnosis process in the laboratory.

THE AMERICAN SOCIETY FOR HISTO-COMPATIBILITY AND IMMUNO-GENETICS (ASHI): Ensures quality standards in the immunological evaluation process of hematopoietic stem cell transplantation.

ONA NÍVEL 3: Accreditation by Brazil's National Accreditation Organization is a process that recognizes health organizations that have implemented the best quality practices, in accordance with the standards and requirements defined by the Brazilian Accreditation System. The public hospitals managed by Einstein in São Paulo (Hospital Municipal Dr. Moysés Deutsch and Hospital Municipal Vila Santa Catarina) have been certified as ONA Level 3.

FOUNDATION FOR THE ACCREDITATION OF CELLULAR THERAPY (FACT) TMO E CORDÃO: Certifies that best practices are adopted in hemotherapy and bone marrow transplantation and in the collection, processing, and storage of umbilical cord blood for transplantation. Einstein is the only accredited organization in Latin America, distinguishing it as a reference in cancer treatment.

PROGRAMA DE ACREDITAÇÃO DE LABORATÓRIOS CLÍNICOS (PALC): Attests that all services offered by Einstein's clinical laboratories are compliant with the criteria of the PALC Standard. This represents an important factor in quality assurance, providing physicians with recognition of the services offered by the laboratory and increasing their credibility.

MANAGEMENT AND SOCIAL RESPONSIBILITY

ISO 14001:2015: Certifies that the organization adheres to ISO environmental management standards. The certification covers the Morumbi, Perdizes, Jardins, Santana, Ibirapuera, Chácara Klabin, and Alphaville units, as well as the Parque da Cidade, Alto de Pinheiros, Anália Franco, and Ibirapuera clinics, the Residencial Israelita Albert Einstein care home (RIAE), the Santana Technical Operations Center, and the Paraisópolis Community Program (PECP).

ISO 50001:2018: Certifies that the energy management systems at the Morumbi, Jardins, Perdizes, Alphaville, and Ibirapuera units are compliant with the ISO standard.

ISO 9001: Certifies the quality and safety standards of the Volunteer Department.

ELDERLY-FRIENDLY HOSPITAL: Full recognition from the São Paulo State Health Department that the Morumbi unit is committed to adapting infrastructure, training staff and family members, engaging the community, and encouraging prevention in healthcare for the elderly.

TRAINING & QUALIFICATIONS

SOCIETY FOR SIMULATION IN HEALTHCARE (SSH): Attests to the good practices in training and qualification adopted by the Realistic Simulation Center.

RESEARCH

ASSOCIATION FOR THE ACCREDITATION OF HUMAN RESEARCH PROTECTION PROGRAM (AAHRPP): Recognizes the quality standards of protection for clinical research participants.

ASSOCIATION FOR ASSESSMENT AND ACCREDITATION OF LABORATORY ANIMAL CARE INTERNATIONAL (AAALAC): Certifies quality in experimental research involving animals at the Surgical Experimentation & Training Center.

Safety performance is monitored using indicators designed to enable continuous improvement of processes and services through the setting of targets and implementation of action plans.

Einstein constantly aims to be a high-reliability organization, a concept used to describe companies in high-risk sectors that have operated for long periods of time with no catastrophic accidents. With respect to our organization, the concept relates to the number one priority of eliminating all harm to patients.

Patient safety indicators are calculated based on measures of adverse events or risks in healthcare, which can cause undesired consequences for patients. Data are collected retroactively every month and shared at strategic committees composed of organizational leaders and boards. Leaders are responsible for sharing the results with their teams. Based on these results, actions are taken in pursuit of continuous improvement.

The strategies for implementing and sustaining improvements in our healthcare system rely on a combination of root cause analysis (RCA), Lean Six Sigma projects for identifying risks in critical areas and processes, and the execution of model projects in partnership with the Institute for Healthcare Improvement (IHI).

Tied to the mission of promoting healthier lives and providing a drop of Einstein to every human being, model improvement projects in 2022 positively impacted **308 lives harm-free and led to healthcare cost reductions of R$5,054,397.01**.

MENTAL HEALTH AT EINSTEIN

Einstein's mental health team ensures good practices, safety, and assistance for patients suffering from psychological distress, to improve their psychological well-being, identify potential risks to life, and prevent harm such as suicide.

We observed an improvement in safety indicators, with a 61% reduction in the preventable harm index (based on sentinel events as defined by the JCI), despite a 130% increase in reported adverse event.

Some examples of the results we have achieved over the years:

REDUCTION IN

95%
catheter-associated urinary tract infection;

88%
central line-associated bloodstream infection;

86%
ventilator-associated pneumonia;

44%
catastrophic events.

EINSTEIN QUALITY & SAFETY

RESULTS 2022

▲ The higher, the better ▼ The lower, the better

INDICATORS ● BETTER THAN TARGET ● CLOSE TO TARGET ● TARGET NOT REACHED

1 Incidence density rate of central line-associated bloodstream infection (per 1,000 central venous catheter days)

● **0,26** ▼

BENCHMARK (A) **0,91**

2 Incidence density rate of catheter-associated urinary tract infection (per 1,000 days of use of an indwelling urinary catheter)

● **0,31** ▼

BENCHMARK (A) **0,93**

3 Rate of hospital-acquired pressure injuries – stage 2 or above

● **2,41** ▼

BENCHMARK (C) **2,73**

4 Unintentionally Retained Foreign Bodies Rate (per 10,000 surgeries)

● **0,28** ▼

META (M) **0,26**

5 Rate of fall-related injuries in hospitalized patients

● **0,24** ▼

BENCHMARK (C) **0,49**

6 Surgical site infection rate in clean surgeries

● **0,14** ▼

BENCHMARK (B) **0,37**

7 Suicide rate in patients with suicidal ideation within 72 hours of discharge

● **0%** ▼

TARGET (T) **0%**

8 Serious Adverse Event

● **0,27%** ▼

TARGET (T) **0,21%**

BENCHMARK: (A) NHSN- National Healthcare Safety Network - CDC (B) Associação Nacional dos Hospitais Privados (ANAHP)
(C) Average of the first 3 quarters of 2022 ANCC Magnet Recognition Program® **(T) =** Institutional target based on historical trends

Understanding the quality & safety indicators

1 This indicator analyzes the incidence of a central line-associated bloodstream infection through a laboratory-confirmed bloodstream infection not related to an infection at another site that develops within 48 hours of central line placement. Catheter-associated bloodstream infection occurs when bacteria or other germs present at the insertion site reach the bloodstream, resulting in bacteremia. When not properly treated, it can lead to sepsis.

2 Analyzes the incidence of urinary tract infections associated with the use of an indwelling venous catheter (IVC) in patients who used an IVC for more than two days and presented the defining signs and symptoms of the condition.

3 A pressure injury (PI) is localized damage to the skin and/or underlying soft tissues, usually over a bony prominence or related to the use of medical devices or objects. Injury occurs as a result of intense and/or prolonged pressure linked to shear forces. As well as causing pain, PI increases the risk of infection, length of time spent in hospital, and use of health resources. National and international programs have created strategies for preventing this type of injury, which have been adopted by Einstein.

4 This indicator reflects events related to technical limitations in hospital procedures. Failure to remove surgical items such as needles, scalpel blades, electrosurgical adapters or gauze at the end of a procedure is clinically significant in about 50% of cases, with a mortality of 10% after intra-abdominal surgery.

5 A fall is defined as an unintentional movement of the body to a lower level than the initial position, with an inability to correct the movement in a timely manner. It is a frequent and limiting event, considered a marker of frailty, institutionalization, health decline, and death. The indicator surpassed the target thanks to greater adoption of preventive measures to reduce the incidence of falls.

6 This indicator reflects the occurrence of patients who presented the defining signs and symptoms of surgical site infection after surgeries classified as clean, meaning they were performed in sterile or decontaminated tissue, in the absence of any local infectious or inflammatory process or major technical failure.

7 Represents the percentage of deaths by suicide among patients experiencing suicidal ideation and monitored via telemedicine for 72 hours after being discharged from hospital or emergency care.

8 An adverse event is the occurrence of an unexpected and unintentional incident resulting from care provided to a patient, not related to the natural course of the disease. A serious adverse event can cause enough harm to a patient that they require advanced life support or surgery. Measuring the occurrence of serious adverse events is a way of monitoring the quality and reliability of care processes and implementing improvements, with the aim of minimizing the risk of similar events occurring in the future.

WHAT IS BEING DONE TO IMPROVE THE RESULTS

With a focus on preventing the retention of foreign bodies after surgical procedures, the following actions were taken based on analyses of this type of event:

- Standardization of process for counting gauze, compresses, needles, instruments, and specific materials after a review of current practice;
- Adoption of new instruments for standardized counting process (specific box and acrylics, segregation of packaging)
- Training strategies and strengthening the nursing team's culture of empowerment to follow the safety process stages;
- Use of imaging exams in surgeries that meet risk criteria and in the event of count discrepancies; Establishment of a partnership to implement RFID technology to help count compresses and gauze.

Patient-Reported Outcome Measures (PROMs)

5

IN LINE WITH the Quintuple Aim concept, Einstein is focused on achieving positive clinical outcomes for patients beyond their hospital stay. The Outcomes Team was established for this purpose in 2011, to monitor patients' initial health status and long-term progress.

At organizations adopting value-based healthcare, patient-reported outcome measures (PROMs) should be defined as key performance indicators[13].

Implementing these measures is critical to the growing agenda of value-based healthcare. When clinicians make treatment decisions based on outcomes, patients are more likely to receive high-quality care.

PROMs capture the patient's perception of their own health through validated questionnaires that allow them to report their quality of life, daily function, symptoms, and other aspects of health and well-being before and after medical or surgical intervention.

For every health condition considered relevant to the lines of care, an extensive bibliographic review was carried out to determine commonly reported outcomes in clinical records.

In 2017, to improve outcome measurement in the quest to standardize health outcome reporting and benchmarking, Einstein started using the methodology defined by the International Consortium for Health Outcomes Measurement (ICHOM) when appropriate.

Benchmarks with reference organizations is also essential to improving the results of our services. Outcome data can help clinicians and healthcare organizations assess their performance compared to peers around the world and provide an opportunity to learn from each other and thus improve care.

Although Einstein has been monitoring and publishing these results for more than a decade, the decision to join ICHOM was essential to standardizing patient outcome measures and participating in national and international benchmarks initiatives.

Einstein was one of the first hospitals to participate in outcome benchmarking by Brazil's national association of private hospitals (ANAHP), sharing data on strokes, breast cancer, prostate cancer, heart failure, and osteoarthritis of the hip and knee.

Outcome measurement at Einstein

By the end of 2022, Einstein had begun collecting Patient-Reported Outcome Measures for 23 clinical conditions.

2011
Hip Osteoarthritis
Low back pain
Neck pain
Obesity
Surveillance of postsurgical infection
Prostate cancer

2012 - 2016
Knee Osteoarthritis
Stroke
Tumors of the central nervous system
Cardiac surgery
Organ transplant: Heart, Liver, Lung, Kidney

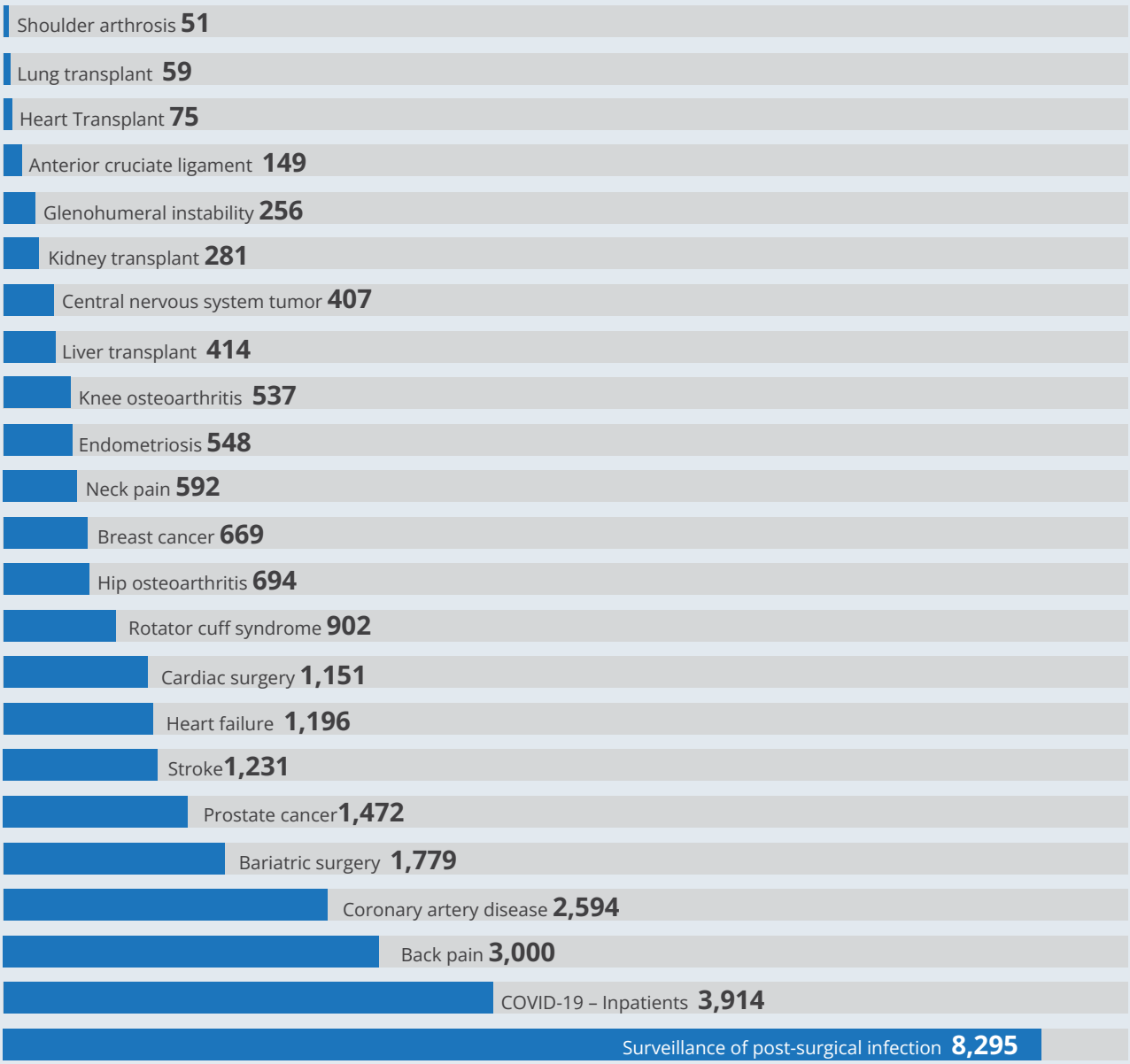
2017 - 2018
Heart failure
Coronary artery disease
Rotator cuff syndrome
Glenohumeral instability
Shoulder arthrosis
Breast cancer

2019 - 2020
Endometriosis
COVID-19 (Outpatient & Inpatient)

2021
Anterior cruciate ligament injury (knee)

Number of patients included by clinical condition (2017 – 2022)

74,965 patients were included and monitored by the Outcomes Team, distributed as follows:



N. = 30,266

COVID-19 – OUTPATIENTS

44,699 patients who had COVID-19 and did not require hospitalization were also monitored

Patient Experience at Einstein

6

THE PATIENT EXPERIENCE, an integral component of healthcare quality, is defined as the set of all interactions, shaped by the culture of the organization, that influence the patient's perception through continuity of the care.

This is considered one of the foundations of value-based healthcare, serving as a measure of quality that can be used to improve the delivery of healthcare services.

The focus on patient experience reflects the broader emphasis on and movement toward patient-centered care. It emphasizes the fact that patient care should encompass not only outcomes, but also the patient's personal experience of the process.

Normally, patient experience is measured using post-care satisfaction surveys. Patient experience metrics provide robust indications of quality and valuable feedback. Although patient experience surveys have limitations, the results can be used to improve service delivery and perceptions and experiences of care, as well as having the potential to improve patient outcomes[14].

Identifying and improving the patient experience is also an essential element for increasing the value of the healthcare delivery system.

The standardized metrics currently used to measure patient satisfaction at Einstein are the Net Promoter Score (NPS) and the Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS), which allow us to benchmark our results against national and international institutions.

Despite being used to measure performance—and even to calculate payment in some countries—the fact is that patients have a complex set of beliefs and expectations about their healthcare that may not be represented in traditional satisfaction surveys. There may be areas of healthcare delivery or deficiencies that cause dissatisfaction but remain invisible to providers through these methodologies.

There can also be other factors not measured by patient satisfaction or experience that affect how patients view the quality of a healthcare system and how they choose where to receive their care. These standardized measures should therefore be used as a guide, but with the critical judgment that they alone are not able to capture the patient's full perception of the healthcare system.

EINSTEIN'S CORNERSTONES FOR DELIVERING VALUE

In value-based models, healthcare is delivered by coordinated, multidisciplinary teams that focus on keeping people healthy while improving chronic disease management.

The focus is on delivering better clinical outcomes, reducing hospitalizations and avoidable and unnecessary complications, and providing a better experience and quality of life for patients.

At Einstein, medical specialties are led by a medical manager and a multidisciplinary team. They monitor key indicators for different lines of care and define action plans for continuous improvement. The objective is to deliver more efficient results while ensuring safety and quality at all times.

We have defined 4 cornerstones for the delivery of value by medical specialties at Einstein:

APPROPRIATE CARE

This cornerstone demonstrates the frequency and/or speed at which the care recommended by the institution's clinical guidelines is provided, meaning to "do the right thing for the right patient at the right time." In general, it encompasses actions also known as process measures. For example: what percentage of patients received antibiotics up to 60 minutes before the first surgical incision of an orthopedic operation? Or how quickly was a patient with suspected stroke given a head CT scan?

COSTS & AVOIDABLE COMPLICATIONS

Patients admitted to hospital for medical problems can suffer other injuries, complications, or serious events that result in more time spent in hospital, readmissions, or reoperations, increasing the cost of their care and worsening their clinical outcomes. These events can often be avoided if hospitals follow best practices for patient treatment.

This cornerstone covers indicators related to hospital safety and potentially avoidable events: what percentage of patients operated on for prostate cancer need a reoperation within 30 days?

What percentage of hospitalized children suffered a bloodstream infection as a result of a central venous catheter? What percentage of patients had to return to the intensive care unit less than 48 hours after being transferred out? In addition, this cornerstone also measures indicators related to expenditure and higher costs in the provision of healthcare, such as average length of stay and the use of intensive care.

SURVIVAL & PATIENT-REPORTED OUTCOMES MEASURES (PROM)

This cornerstone encompasses indicators related to the clinical outcomes of treatment provided for health conditions. A clinical outcome is a measurable change in symptoms, general health, functional capacity, quality of life, or survival as a result of patient care. These indicators are calculated from patient responses to questionnaires validated by scientific literature, applied during treatment in the hospital and after discharge.
Examples of indicators from the clinical outcomes cornerstone include: what is the survival rate one year after a heart transplant? What is the morbidity-free survival rate of babies born weighing less than 1,500 grams? What percentage of patients experience improvement in functionality after a hip arthroplasty? What percentage of patients see improved quality of life 30 days after an acute myocardial infarction?

PATIENT EXPERIENCE & SATISFACTION

Although positive clinical outcomes are heavily dependent on medical decision making, it would be nearly impossible to obtain the healthcare quality metrics necessary for successful value-based care without strong patient involvement. Evidence shows a positive correlation between patient experience and clinical improvement, as well as increased safety, decreased readmission, better outcomes, and greater loyalty. There is a clear and strong link between patient experience/satisfaction and performance in quality indicators. There must therefore be a focus on providing care to patients and their families, placing them at the center of the healthcare process.

This cornerstone involves measuring patient satisfaction with their experience at the hospital. Satisfaction is a measurable result of a patient's perception of the service and care they receive from professionals and the quality of the services provided during their time in the hospital.
Some examples include: how satisfied is a patient after 12 months of breast-conserving cancer surgery? What percentage of patients with heart failure say they are satisfied or very satisfied with the treatment received at the hospital?

⟶ **The indicators for each of these four cornerstones are presented below for a range of specialties and key services offered at the Einstein Hospital.**

Specialties

7

The targets and results of the four cornerstones of healthcare are present below for a range of medical specialties

- **APPROPRIATE CARE**
- **COSTS & AVOIDABLE COMPLICATIONS**
- **SURVIVAL &PATIENT-REPORTED OUTCOMES MEASURES (PROM)**
- **PATIENT EXPERIENCE & SATISFACTION**

We used a color-coding system to show how well each specialty performed in relation to our institutional targets, which were based on national and international benchmarks.

A blue circle indicates that we exceeded our target, a yellow circle means we were close to our goal, and a red circle indicates that we fell short of the target or benchmark.

SPECIALTIES

Cardiology

Results – 2022

⟶ Established in 2003, Einstein's cardiology program operates on several fronts, including care, research, and teaching. Its important role within the institution is internationally renowned, earning recognition for its treatment of heart attacks

CONSULTATIONS

38,383

PROCEDURES

3,161

Interventional medicine: 2,589
Cardiac surgery: 572

REGISTERED SPECIALIST PHYSICIANS

615

Cardiologists: 535
Cardiac surgeons: 80

LINES OF CARE

Unstable Angina
Acute Myocardial Infarction
Heart Failure
Heart Transplant

SCIENTIFIC PRODUCTION

84

ARTICLES PUBLISHED

★ ★ ★ ★ ★

57 journals with
an Impact Factor > 1

SEALS & CERTIFICATIONS

RANKING NEWSWEEK 2023
Named the 32nd best hospital in the world in cardiology and 69th in cardiac surgery

PLATINUM PERFORMANCE ACHIEVEMENT AWARD
American College of Cardiology (ACC) 2022 - Chest Pain – MI Registry

INTERNATIONAL CENTER OF EXCELLENCE
American College of Cardiology

EINSTEIN'S CARDIOLOGY PROGRAM was created in 2003 with the objective of providing patients more agile, global, and integrated care. As one of the institution's key specialties, the cardiology care plan provides for continuous growth and improvement, incorporating new technologies and a commitment to teaching, research, and social responsibility.

As part of this journey, Einstein has since 2013 been part of the Chest Pain – MI Registry, an American College of Cardiology (ACC) database that monitors the quality of care provided to hospital patients diagnosed with myocardial infarction.

Over the years, Einstein has also been recognized by the ACC as an International Center of Excellence, and in 2022 the hospital received the Platinum Performance Achievement Award in recognition of its performance in treating this condition.

Managing lines of care

Our management protocols for acute myocardial infarction and heart failure are designed to optimize patient care through institutional guidelines while simultaneously taking actions to ensure safety and quality of care.

They are implemented by a multidisciplinary team and the Outcomes Team, which continuously monitor the indicators during a patient's time in hospital and after discharge, producing reports that can be used to improve processes.

Services

Arrhythmia Center

Exercise & Sport Cardiology

Cardiovascular Rehabilitation Center

Pediatric Cardiology

Minimally Invasive & Robotic Cardiac Surgery

Cardiovascular Intervention Center

Imaging Department

Precision Cardiology

Program highlights

Heart Team – Established in 2011, Einstein's Heart Team offers first and second opinions to patients with complex cardiovascular diseases. The team uses a transdisciplinary approach that focuses on promoting patient health and well-being.

Every case is discussed individually by a group of clinical and interventional cardiologists, cardiac surgeons, and other specialists, whose level of involvement varies depending on the needs of the case in question.

Corindus Corpath GRX Hemodynamics Robot – In 2019, Einstein performed the first robot-assisted coronary angioplasty in the Southern Hemisphere, going on to perform more than 100 of the procedures by the end of 2022.

Education

POSTGRADUATE
3 programs

151
students

ADVANCED LEARNING
6 programs

16
students

MEDICAL RESIDENCIES

6
students

EINSTEIN RESULTS – 2022

● BETTER THAN TARGET ● CLOSE TO TARGET ● TARGET NOT REACHED

CARDIOLOGY

▲ The higher, the better ▼ The lower, the better

APPROPRIATE CARE

1 General performance of care for acute myocardial infarction

●

98%

▲

BENCHMARK (A)
95%

2 Percentage of patients for whom door-to-ECG was less than 10 minutes

●

72%

▲

TARGET (T)
79%

3 Median door-to-balloon time for patients with acute myocardial infarction

●

51 MIN

▼

TARGET (T)
<60min

4 ACEI/ARB prescription rate for patients with heart failure at discharge

●

91%

▲

BENCHMARK (B)
>85%

COSTS & AVOIDABLE COMPLICATIONS

5 Readmission rate 30 days after discharge among patients with acute myocardial infarction

●

10%

▼

BENCHMARK (C)
15%

6 Readmission rate after 30 days of discharge among patients with heart failure

●

10%

▼

BENCHMARK (C)
21%

TREATMENT SATISFACTION

7 8

99%

of patients admitted with acute myocardial infarction and heart failure reported being satisfied or very satisfied with the treatment outcome

BENCHMARK: (A) Chest Pain MI Registry – American College of Cardiology (ACC) (B) Targets based on the American Heart Association's Get With The Guidelines® - Heart Failure program (C) The Centers for Medicare & Medicaid Services (D) Good to excellent quality of life according to KQQC-12 was considered for scores greater than 75, according to Ref.: Am Coll Cardiol 2020;76:2379–90 **(T) =** Institutional target based on historical trends

EINSTEIN RESULTS – 2022

BETTER THAN TARGET · CLOSE TO TARGET · TARGET NOT REACHED

CARDIOLOGY

▲ The higher, the better ▼ The lower, the better

SURVIVAL & PATIENT-REPORTED OUTCOMES MEASURES

9 Adjusted hospital survival rate for patients with acute myocardial infarction

94%

BENCHMARK (A) 94%

10 Mean quality of life score for heart failure patients after discharge (KCCQ-12)

86

BENCHMARK (D) >75

11 Rate of angina improvement among patients with acute myocardial infarction 30 days after discharge, measured by the Seattle Angina Questionnaire

90%

of patients with acute myocardial infarction experienced reduced frequency of angina episodes

SATISFACTION WITH CARE

12 **Mean NPS for the last 3 years**

Patients hospitalized for acute myocardial infarction

99

WHAT IS BEING DONE TO IMPROVE RESULTS

Einstein Cardiology always seeks the best treatment options and the best results for its patients. The result: Einstein is constantly improving. Technology is used to support the decisions and skillsets of the multidisciplinary team. This combination ensures safe healthcare based on the latest evidence. All quality indicators are reviewed quarterly and compared with results from leading cardiology centers affiliated with the American College of Cardiology. If an indicator is outside the expected range, specific actions are taken, such as clinical meetings to update the cardiology team and adjustments to the electronic medical records system to facilitate conduct related to the indicator. One of Einstein Cardiology's standout features is that its multidisciplinary team is trained through realistic simulations.

To ensure our institutional practices remain in line with the latest scientific evidence, monthly meetings are held with cardiology leaders to update institutional protocols, in addition to interactions between clinical staff and the multidisciplinary team at the meetings of Medical Care Groups (MCGs). Another fundamental aspect is the active participation of members of the clinical staff at international conferences.

Understanding the cardiology indicators

APPROPRIATE CARE

1 Measures the quality of care for patients with acute myocardial infarction, from admission to discharge, based on a set of 15 individually assessed indicators that impact clinical evolution and determine good healthcare.

2 Percentage of patients given an electrocardiogram within 10 minutes of arrival at the hospital with suspected acute myocardial infarction.

3 Median time interval between arrival at the emergency room of a patient diagnosed with acute myocardial infarction with total occlusion of the coronary artery (ST-elevation) and execution of a coronary angioplasty (to open the artery).

4 Medications classified as ACEIs (angiotensin-converting enzyme inhibitors) and ARBs (angiotensin receptor blockers) are used to improve heart muscle function. Guidelines issued by Brazilian, American, and European heart failure associations recommend the use of these drugs in patients with moderate to severe left ventricular ejection fraction (LVEF) impairment (less than 40% on an echocardiogram).

COSTS & AVOIDABLE COMPLICATIONS

5 6 Percentage of patients admitted with acute myocardial infarction or heart failure who needed to be readmitted to hospital for any unplanned reason within 30 days of discharge.

TREATMENT SATISFACTION

7 8 Patient satisfaction at Einstein is measured by the Outcomes Team via a post-discharge interview, which includes a question about how satisfied the patient feels with the outcome of the treatment they received at the hospital. Responses range from “very satisfied” to “very dissatisfied.” This dossier reports on the percentage of “satisfied” and “very satisfied” respondents.

SURVIVAL & PATIENT-REPORTED OUTCOME MEASURES

9 This indicator expresses the severity-adjusted survival rate for acute myocardial infarction, as defined in the American College of Cardiology’s National Cardiovascular Data Registry (NCDR)

10 Quality of life is measured by validated questionnaires. For heart failure patients, we use the *Kansas City Cardiomyopathy Questionnaire* (KCCQ-12), which has 12 questions that measure quality of life, physical and social limitations, and symptom frequency.

11 Quality of life, physical limitation, and frequency of angina after patients are hospitalized with myocardial infarction at Einstein are measured using the Seattle Angina Questionnaire, a sensitive tool specifically for assessing the health status of patients with coronary artery disease. Score changes of 10 or more points were considered as the minimum clinically important difference, in accordance with REF: JAMA Cardiol. 2021 May 1; 6(5): 593–599.

SATISFACTION WITH CARE

12 Satisfaction is a measurable result of a patient's perception of the service and care they receive from professionals and the quality of the services provided during their time in the hospital. It can be measured by the Net Promoter Score (NPS), a metric used to assess customer loyalty and satisfaction with a given company. The NPS is calculated using the following formula: NPS = Promoters – Detractors / Total number of respondents. The following parameters are generally used as benchmarks: Excellent NPS: 75–100. Very good NPS: 50–74. Reasonable NPS: 0–49.

10

HOW THE KCCQ-12 INDICATOR IS CALCULATED

The KCCQ-12 questionnaire gives a score on a scale from 0 to 100. Lower scores represent more severe symptoms and/or limitations, while a score of 100 indicates no symptoms, no limitations, and excellent quality of life.

VERY BAD TO BAD
0–24
BAD TO REASONABLE
25–49
REASONABLE TO GOOD
50–74
GOOD TO EXCELLENT
75–100

11

HOW THE SCORE IS CALCULATED

The final score on the Seattle Angina Questionnaire ranges from 0 to 100 points – the higher, the better. Scores are classified as follows:

MUCH BETTER
76–100
SLIGHTLY BETTER
51–75
UNCHANGED
50
SLIGHTLY WORSE
25–49
MUCH WORSE
0–24

Score changes of 10 or more points were considered as the minimum clinically important difference, in accordance with REF: JAMA Cardiol. 2021 May 1; 6(5): 593–599.

SPECIALTIES

Neurology

Results – 2022

⟶ Einstein's internationally recognized Stroke Neurology Program uses the very best of available resources for diagnosis and treatment

CONSULTATIONS

15,022

PROCEDURES

898

Interventional medicine: 279
Neurosurgery: 619

REGISTERED SPECIALIST PHYSICIANS

422

Neurologists: 242
Neurosurgeons: 180

LINES OF CARE

- Strokes
- Multiple Sclerosis and other demyelinating diseases of the central nervous system
- Cephalalgia
- Alzheimer's disease and other memory-related conditions

SCIENTIFIC PRODUCTION

85

ARTICLES PUBLISHED

★ ★ ★ ★ ★

49 in journals with an Impact Factor > 1

SEALS & CERTIFICATIONS

RANKING NEWSWEEK 2023
57th best hospital in the world in neurology and 35th best in neurosurgery

ADVANCED STROKE CENTER
by the World Stroke Organization/Ibero-American Society of Cerebrovascular Diseases (2021)

INAUGURATED In September 2004, Einstein's Stroke Neurology Program was the first in Latin America to be certified by the Joint Commission International.

Providing excellent care in accordance with strict protocols and using the best available resources for diagnoses and treatment, it was also recognized as an Advanced Stroke Center by the World Stroke Organization/ Ibero-American Society of Cerebrovascular Diseases (WSO/SIECV) in 2021. In addition to intra-hospital care, the certification focuses on patient rehabilitation, such as physiotherapy, occupational therapy, and speech therapy.

The program's main objective is to improve clinical outcomes for patients, with less time spent in hospital and a better quality of life after discharge. A multidisciplinary team operates on this front 24 hours a day.

The Interventional Neuroradiology service uses state-of-the-art technology to treat acute ischemic strokes, cerebral aneurysms, cerebral and spinal arteriovenous malformations, tumors, atheromatous plaque in the carotid, vertebral, and intracranial circulation, vasospasm, and other diseases.

Services

Center of Excellence – Memory

Center of Excellence – Multiple Sclerosis

Center for Deep Brain Stimulation for Parkinson's

Espaço Einstein & Rehabilitation Center

Brain Institute

Center for Advanced Clinical Research in Neurology

Precision Medicine – Neurogenetics Interventional

Neuroradiology

Education

POSTGRADUATE
5 programs

317
students

MEDICAL RESIDENCIES

9
students

Program highlights

Interventional Neuroradiology: Emergency and elective treatment options that follow respected international protocols, including state-of-the-art devices for treating aneurysms, dissections, stenosis, stroke, and others.

Precision Medicine: Neurogenetics with whole exome sequencing (WES), which can help identify various rare and hereditary diseases through analysis of the approximately 20,000 genes that make up the human genome.

There are several other services that add unique value to the program:

Center of Excellence – Memory (Nemo): Provides highly specialized care using cutting-edge technologies for early diagnosis of Alzheimer's disease and other memory-related conditions, with the aim of giving patients a better quality of life.

Center of Excellence – Multiple Sclerosis and other demyelinating diseases of the central nervous system: Making use of advances in knowledge and growing treatment options, especially for multiple sclerosis, the center is designed to put the latest scientific discoveries in the field into clinical practice.

Center for Deep Brain Stimulation for Parkinson's: Specializes in the treatment for Parkinson's disease, including drug management and deep brain stimulation, which can provide significant improvements for patients. The benefits of the surgery include reduced impacts of the disease, fewer side-effects and increased duration of the medication, and an improvement in the disease's primary symptoms, such as tremors, stiffness, and involuntary movements.

Giséle and Jacques Szlezynger Rehabilitation Center: The rehabilitation center, which opened in 2003, was the first in Brazil to be integrated into the services of a high-complexity general hospital. To this day it is renowned nationwide in low- and high-complexity rehabilitation, ensuring continuous and integrated care for Einstein patients. Top-quality care is guaranteed thanks to the multidisciplinary team (physicians, physiotherapists, occupational therapists, speech therapists, psychologists, nurses, nutritionists, physical educators), state-of-the-art equipment, and continuously updated techniques and protocols..

Brain Institute (InCe): A research center that brings together all of the neuroscience platforms available at the institution. Since 2003, InCe has been paving the way with respect to integration between basic and applied clinical research, seeking international recognition as a leading center in education and the generation of knowledge.

EINSTEIN RESULTS – 2022

● BETTER THAN TARGET ● CLOSE TO TARGET ● TARGET NOT REACHED

NEUROLOGY

▲ The higher, the better ▼ The lower, the better

APPROPRIATE CARE

1 Antithrombotic Therapy Prescribed at Discharge

●

99%

▲

BENCHMARK (A)
85%

2 Antithrombotic prescription rate in first 48 hours

●

99%

▲

BENCHMARK (A)
85%

3 Anticoagulant Prescription Rate for Patients with Ischemic Stroke and Atrial Fibrillation

●

100%

▲

BENCHMARK (A)
85%

4 Discharge Statin Prescription Rate

●

93%

▲

BENCHMARK (A)
85%

5 Median door-to-needle time

●

48 MIN

▼

BENCHMARK (B)
< 60 min

6 Median door-to-report time

●

42 MIN

▼

BENCHMARK (B)
< 45 min

7 Door-to-Groin Puncture Time

●

95 MIN

▼

BENCHMARK (B)
< 120 min

TREATMENT SATISFACTION

8

94%

of patients admitted with stroke reported being satisfied or very satisfied with the treatment outcome

BENCHMARK: (A) Targets based on the American Heart Association's Get with the Guidelines-Stroke Program (B) American Stroke Association (C) ANAHP (D) BMJ Neurology Open 2021;3:e000177

EINSTEIN RESULTS – 2022

● BETTER THAN TARGET ● CLOSE TO TARGET ● TARGET NOT REACHED

NEUROLOGY

▲ The higher, the better ▼ The lower, the better

COSTS & AVOIDABLE COMPLICATIONS

9 Median length of stay in hospital

●

7 DIAS

▼

BENCHMARK (C)
6 days

SURVIVAL & PATIENT-REPORTED OUTCOME MEASURES

11 Percentage of Patients with Rankin Scale ≤ 2 at 90 Days after Stroke

●

77%

▲

BENCHMARK (D)
54%

SATISFACTION WITH CARE

10 **Mean NPS for the last 3 years**

Patients Hospitalized for Stroke

92

WHAT IS BEING DONE TO IMPROVE RESULTS

The Neurology Program always strives to provide patients with the best care and to continuously improve the results of its indicators. This objective is achieved through ongoing medical and multidisciplinary education, real-time management of all stroke cases at the institution, daily meetings to discuss cases and align responses across our neurology units, and periodic scientific meetings with the clinical staff.

Actions taken in response to indicators outside the expected range include reviews of protocols and procedures, meetings with all teams to update good practices, and on-site training at key units. To maintain best practices and results, all indicators are monitored monthly, presented to the teams, and entered into national and international databases so that they can be compared against the best hospitals in Brazil and worldwide.

Monthly meetings of the six neurology medical care groups (neuro-oncology; neuro-immunology; neuro-vascular; headaches and dizziness; sleep; memory and cognition) play a fundamental role in the development of processes for improving indicators related to the respective health conditions.

Understanding the neurology indicators

APPROPRIATE CARE

1 The prescription of antithrombotics, including antiplatelet drugs and anticoagulants, is recommended—as long as there are no contraindications—to reduce stroke mortality, recurrence, and morbidities.

2 The prescription of antiplatelet drugs and/or anticoagulants within 48 hours of admission for patients with ischemic stroke—as long as there are no contraindications—is effective at reducing mortality and morbidity rates.

3 Atrial fibrillation (AF) is a common arrhythmia and a major risk factor for stroke. The administration of anticoagulants—as long as there are no contraindications—is an effective strategy for preventing recurrence in patients with AF who are at high risk of a new event.

4 Evidence has shown that intensive reduction of LDL cholesterol levels using statin therapy leads to a considerable reduction in stroke recurrence and coronary event rates. This approach is therefore recommended for all stroke or transient ischemic attack ("mini stroke") patients with LDL > 100 mg/dl (or with LDL < 100 due to lipid-lowering therapy prior to hospitalization).

5 The sooner intravenous thrombolytic therapy is performed, the better the potential clinical outcome. The stroke treatment, widely used around the world for several years,

can be performed with the drug alteplase (rt-PA), which has the ability to dissolve blood clots in the cerebral artery that cause ischemia. It is recommended that IV thrombolysis be carried out within 60 minutes of admission to the emergency room for patients diagnosed with ischemic stroke.

6 The door-to-report time is the time between a patient diagnosed with stroke arriving at the emergency and a cranial CT scan being performed. The optimal time frame for this to occur is within 45 minutes, calculated as the time between admission to the hospital and receipt of the imaging report.

7 The endovascular procedure for treating ischemic stroke aims to clear the affected cerebral artery, and when indicated it can be performed within 24 hours of the onset of symptoms. As with intravenous thrombolysis, the sooner the procedure is performed, the better the patient's clinical outcome. The door-to-groin-puncture time is defined as the time between a patient diagnosed with ischemic stroke arriving at the hospital and the time an arterial puncture is made for mechanical thrombectomy, ideally within 120 minutes.

TREATMENT SATISFACTION

8 Patient satisfaction at Einstein is measured by the Outcomes Team via a post-discharge interview, which includes a question about how satisfied the patient feels with the outcome of the treatment they received at the hospital. Responses range from "very satisfied" to "very dissatisfied." This dossier reports on the percentage of "satisfied" and "very satisfied" respondents.

COSTS & AVOIDABLE COMPLICATIONS

9 The average length of hospital stay is a classic indicator related to good clinical practices, demonstrating whether hospital beds are being efficiently managed.

SATISFACTION WITH CARE

10 Satisfaction is a measurable result of a patient's perception of the service and care they receive from professionals and the quality of the services provided during their time in the hospital. It can be measured by the Net Promoter Score (NPS), a metric used to assess customer loyalty and satisfaction with a given company. The NPS is calculated using the following formula: NPS = Promoters – Detractors / Total number of respondents. The following parameters are generally used as benchmarks: Excellent NPS: 75–100. Very good NPS: 50–74. Reasonable NPS: 0–49.

11

HOW THE INDICATORS ARE CALCULATED

The degree of disability and dependence during daily activities among ischemic stroke patients is assessed using the Modified Rankin Scale, which ranges from 0 to 6.

Patients are classified as follows:

0 or 1:
independent, with no or minimal sequela

2 or 3:
experience some sequelae, but with certain adaptations, they are able to carry out activities as beforehand and walk by themselves

4 or 5:
cannot walk unassisted and may be bedridden, requiring 24-hour care

6: death

SPECIALTIES

Oncology and Hematology

Results from 2022

Center of Excellence

⟶ *Centro de Oncologia e Hematologia Einstein Família Dayan-Daycoval* (Einstein Família Dayan-Daycoval Oncology and Hematology Center) is an internationally accredited center that provides integrated, people-centered care and has plenty of success stories to share.

LINES OF CARE

Head and neck cancer and Thyroid cancer
Thymoma and thymic carcinomas
Central nervous system tumors
Breast cancer
Lung cancer
Esophageal and stomach cancer
Liver and biliary tract tumors
Pancreas tumors
Small intestine tumors, Intestine and rectal cancer
Prostate and kidney cancer
Bladder and urothelial cancer
Cervical cancer
Endometrium cancer
Ovary cancer
Lymphoma
Leukemia
Multiple Myeloma
Non-melanoma skin cancer
Sarcomas
Neuroendocrine tumors
Mesotheliomas

CONSULTATIONS

27,524

PROCEDURES

5,700
Surgical Oncology

CREDENTIALED SPECIALIZED PHYSICIANS

177
Clinical Oncologist 137
Surgical Oncologist 40

SCIENTIFIC PRODUCTION

132
PUBLICATIONS IN ONCOLOGY, HEMATOLOGY AND HEMOTHERAPY
★ ★ ★ ★ ★
71 in journals with Impact Factor > 1

ACCREDITATIONS ANDCERTIFICATIONS

RANKING NEWSWEEK 2023
Ranked as the 16th best oncology hospital in the world

RECERTIFICATION
The Foundation for the Accreditation of Cellular Therapy (FACT), BMT and Cord Blood

EINSTEIN FAMILIA DAYAN-DAYCOVAL ONCOLOGY AND HEMATOLOGY CENTER

is a center of excellence in care of oncology patients and it gathers under the same area all pillars for continued care: from prevention and diagnosis to different treatment modalities, in addition to a broad range of multidisciplinary services to cope with the disease, contributing to better outcomes and maximizing quality of life of the patients.

The center has a medical team of excellence, with expertise in all different types of cancer and focus on facing the disease. Counting on specialized multidisciplinary professionals and advanced technological resources, the center provides integrated and person-centered care and has numerous success stories to share.

SEE BELOW THE KEY HIGHLIGHTS:

Oncology and Hematology

Offering dedicated areas for oncology and hematology care, the Oncology and Hematology Center provides to patients the most advanced treatment approaches, developing a journey with multidisciplinary view, focused on maximum clinical benefit and innovation. Thus, the center combines in its therapeutic approaches the most detailed molecular techniques in diagnosing solid tumors and hematological diseases with cell therapy.

Recognized as a reference center in bone marrow transplant, Einstein has been internationally accredited by the Foundation for the Accreditation of Cellular Therapy (FACT). Committed with clinical quality and access to therapies of excellence, it provides customized treatment for each case, with better outcomes and gains in quality of life.

Precision Oncology and Hematology

The areas of Molecular Biology and Genetics offer a wide range of laboratory tests based on DNA, RNA and proteomic analyses to diagnose hereditary syndromes and the study of the somatic mutations in cancer and molecular diagnosis, enabling the development of personalized approaches.

In case of characterization of the somatic mutation profile of hematological neoplasms and solid tumors the results are jointly analyzed by the areas of Oncology, Hematology, Anatomical Pathology, Flow Cytometry and Cytogenetics. There are weekly meetings to integrate information for better diagnostic definition of each case and customization of care.

Pediatric Oncology

The Pediatric Oncology has designated areas for care, including hospital facility, nursing, nutrition department and social areas specially developed for children, to provide complete care to the small ones. All facilities are planned to provide child-centered care and closeness with physicians used to treat children, providing a comfortable experience to families.

A highly qualified multidisciplinary team increases family confidence on the treatment. The hospital has a broad range of support offered to family members, including psychological support, working in alignment with integrative medicine to promote all levels of care to the child and the family, as needed.

Education

GRADUATE STUDIES

NON-DEGREE GRADUATE STUDIES

6 programs

142

students

ADVANCED LEARNING

2 programs

3

students

MEDICAL RESIDENCY PROGRAM

Clinical oncology
12 students

Hematology and hemotherapy
6 students

Bone Marrow Transplant
2 students

MULTIPROFESSIONAL RESIDENCY PROGRAM

6

students

Services

Clinical oncology

Surgical Oncology

Antineoplastic Therapy

Radiotherapy

Immunotherapy

Bone Marrow Transplant

Cellular Therapy

Geriatric Oncology

Cardio Oncology

Precision Oncology

Supportive Therapies

Dentistry

Survivorship (Post-oncology treatment support program to patients and family members)


BOARD MASTER
Lucas Nácon Malta
Radioterapia
Saúde
Dr Renato C. Ghelfond

Points of Differentiation of the Program

Care Pathways: treatment of solid tumors and hematological neoplasms is based on clinical, endoscopic, anatomical pathology and molecular genetic variables. The Molecular Care Pathways are recommendations and guidelines widely discussed and agreed by the specialized clinical staff and are available through Einstein portals. These guidelines are frequently updated based on technology innovations.

Tumor Boards: Einstein clinical staff meets every week to discuss new cancer cases, based on subspecialties, addressing the most complex cases and the scientific updates on breast, chest (lung) tumors, hematology, bone marrow transplant, pediatric oncology, gastroenterology, head and neck cancer and rare tumors. In some of the meetings, in addition to Einstein clinical staff, invited medical specialists from national and international organizations participate through videoconference.

Precision Oncology Forum: clinical meetings for update on precision oncology, genetics and genomics.

Survivorship Program: Einstein Oncology Program that provides support to patients who are cancer survivals offering them specialized services to meet their physical, emotional and social demands in this phase of their lives. They include monitoring of recurrence and support in preventing new tumors, screening for late adverse events from treatment and counselling on the emotional effects of cancer and its treatment.

Alliance with the City of Hope Comprehensive Cancer Center: it includes training programs and exchange of information for the development of research studies and therapies in oncology.

Interventional radiology: focused on diagnosis and minimally invasive treatment, its main application is minimally invasive computed tomography-guided biopsies. It also offers therapeutic procedures such as ablative treatment and tumor irreversible electroporation, which is employed in the treatment of malignant pancreas neoplasm and in some cases of liver metastases.

Nuclear Medicine: it includes oncology PET CT with FDG, PET PSMA (Prostate), PET CT Choline (prostate) and, more recently, PET CT FES (breast cancer), and theragnostic procedures, such as Lutecium-PSMA for metastatic prostate cancer.

HIFU - High Intensity Focus Ultrasound Program: high-intensive ultrasound technology that provides focal treatment of prostate cancer.

EINSTEIN RESULTS 2022 ● BETTER THAN THE GOAL ● CLOSE TO THE GOAL ● WORSE THAN THE GOAL

ONCOLOGY and HEMATOLOGY

▲ The higher, the better ▼ The lower, the better

APPROPRIATE CARE

2 Total of patients who received <90% or > 110% of the dose of radiotherapy prescribed

●

0%

▼

GOAL (G)
0%

COSTS AND AVOIDABLE COMPLICATIONS

2 Rate of central venous catheter-associated (1,000 cat/day) bloodstream Infection in oncology unit

●

0,33

▼

BENCHMARK (A)
0,93

3 Rate of extravasation of chemotherapy

●

0%

▼

GOAL (G)
0%

4 Rate of breast radiodermatitis grades III and IV

●

0%

▼

BENCHMARK (B)
2%

SATISFACTION WITH TREATMENT (mean of BREAST-Q score in Breast Cancer)

5 Breast sparing reconstructive breast

77

▲

BENCHMARK (D)
>70

is the average score 12 months after the procedure

6 Mastectomy with reconstruction preservation

74

▲

BENCHMARK (D)
>70

is the average score 12 months after the procedure

BENCHMARK: (A) National Database of Nursing Quality Indicators (NDNQI) (B) RADIAT ONCOL 13, 218 (2018)
(C) Pol Arch Intern Med. 2022; 132: 16220 (D) Health at a Glance 2019 : OECD indicators (E) Hospital Martini Klinik
T = Institutional Target **HSCT =** Hematopoietic stem cell transplantation

EINSTEIN RESULTS 2022

● BETTER THAN THE GOAL ● CLOSE TO THE GOAL ● WORSE THAN THE GOAL

ONCOLOGY and HEMATOLOGY

▲ The higher, the better

▼ The lower, the better

SURVIVAL AND PATIENT-REPORTED OUTCOME MEASURES

7 Overall 2-year % of 2-year overall survival after autologous HSCT (>18 years) adult Patients - malignant diseases

●

86%

▲

BENCHMARK (C)
61%

8 Quality of life of patients submitted to prostatectomy for treating prostate cancer

PRESERVED URINARY CONTINENCE* AND SEXUAL FUNCTION AFTER 12 MONTHS OF TREATMENT

● Fully Continent	● Preserved Sexual Function
96%	**88%**
▲	▲
BENCHMARK (E) **90%**	BENCHMARK (E) **81%**

SATISFACTION WITH CLINICAL CARE

9 Mean NPS for the past 3 years

Admitted breast cancer patients	Admitted prostate cancer patients
89	**92**

WHAT IS BEING DONE TO IMPROVE RESULTS

The Oncology Program is constantly reviewing its own indicators to detect opportunities to generate improvement in processes and outcomes to positively impact the life of Einstein patients.

We count on continuing medical and multiprofessional education, rational antibiotic use in all oncology inpatients, periodic medical meetings for case discussion and alignment of the management approach with the oncology strategies, in addition to frequent scientific meetings held with the clinical staff.

The medical clinical groups of Oncology regularly address review and update the clinical protocols, seeking for continuous improvement and patient safety.

As of 2021, specific strategies have been implemented to reduce central venous catheter-associated bloodstream infection at the oncology units, which were effective to meet the goals. Among the initiatives, we can include:

• Use of new technologies (Site-Scrub, ChloraPrep and Curus stop);

• Review of the chemotherapy administration process;

Validation of the nursing team to start chemotherapy administration and to handle the central venous catheter;

Hand hygiene audit and observation of central venous catheter handling subject to immediate feedback;

Weekly visits to the oncology units for multiprofessional discussions on relevant points for prevention of healthcare-associated infections;

Development and application of the strategy SOMOS to oncology units, strengthening prevention of infections thanks to the active role of clinical nurses in constantly seeking for best practices.

Understanding the Oncology and Hematology Indicators

APPROPRIATE CARE

1 Radiotherapy is one of the modalities of cancer treatment, which may be administered in isolation or combined with other treatments. The administrated dose follows strict calculations made by the multiprofessional team (physicians and physicists), as any changes may lead to reduction in efficacy and increase of toxicity. Monitoring this indicator is essential to prevent dose-related events.

AVOIDABLE COSTS AND COMPLICATIONS

2 Analysis of the incidence of central venous catheter-associated bloodstream infections in oncology patients that have had a CVC for more than two calendar days and have signs and symptoms defined to detect this complication.

3 Chemotherapy extravasation is the accident leak of vesicating drugs from the blood vessels to the adjacent tissues. Monitoring extravasation rate is highly recommended as infusion of antineoplastic agents is a high-risk procedure, sensitive to Oncology Nursing Care.

4 Radiodermatitis is characterized by skin lesion resulting from cumulative exposure to ionizing radiation. By monitoring this indicator, the team can learn about the numbers and define preventive actions.

TREATMENT SATISFACTION

5 6 BreastQ is a broadly use questionnaire, employed internationally, to measure the results reported by breast cancer patients that have undergone surgery. The scales of breast satisfaction are divided into items, including questions about breast appearance (size, symmetry and texture), dressing issues (bra adjustment, for example); wearing tight clothes, and the presence of scars. The scales can be transformed into scores that enable comparison and assessment of surgical outcomes according to type of procedure. The score is presented in a scale from 0 (absence of satisfaction) to 100 (maximum satisfaction) used to rate the surgery.

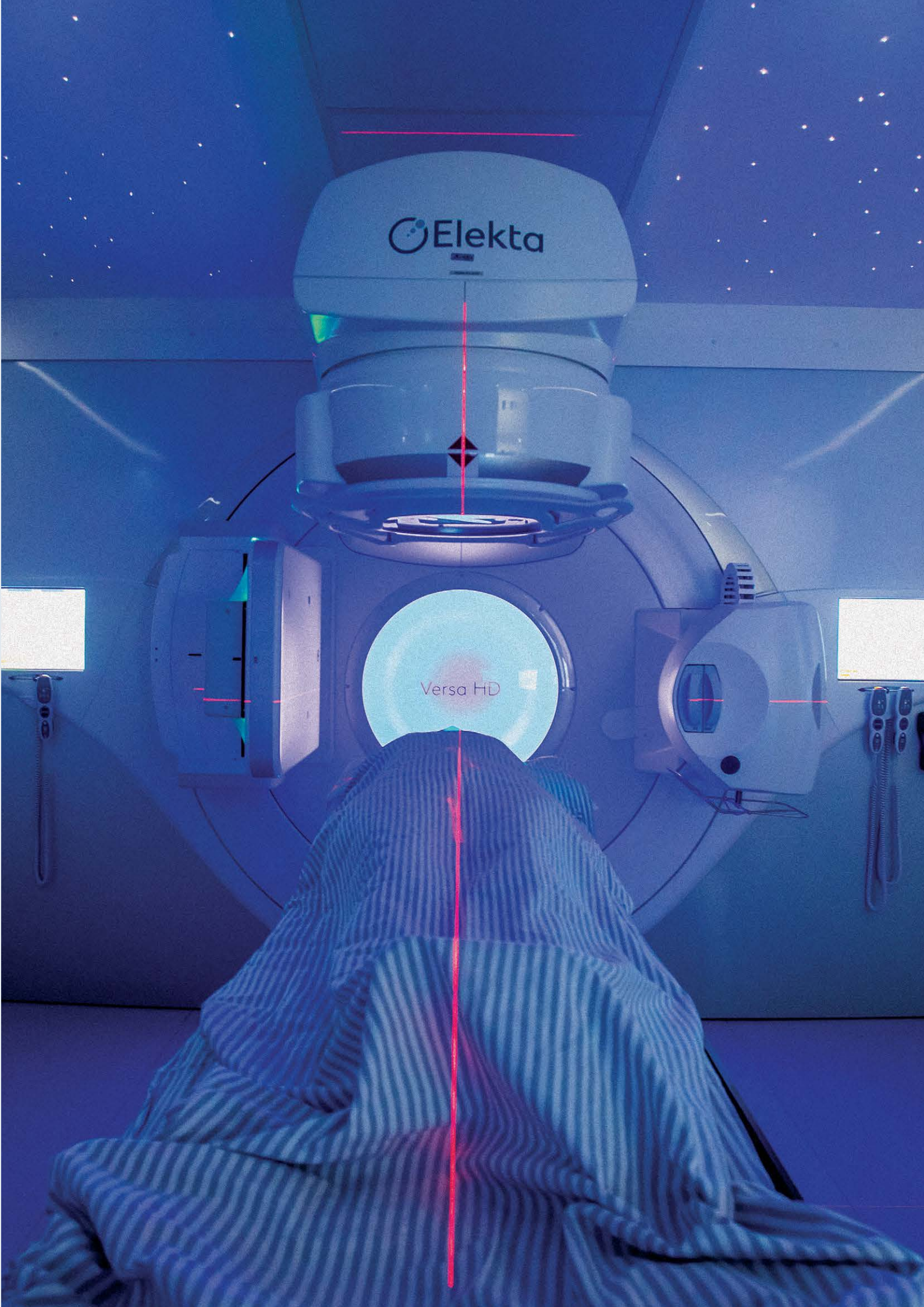
PATIENT-REPORTED SURVIVAL AND OUTCOMES

7 Overall survival is a type of outcome indicator. Outcome indicators are essential to support the patient and clinical team decision-making process when indicating a specific procedure, in addition to providing data to critically analyze the clinical performance of the HSCT program.

8 The impact of treatment on quality of life of patients with prostate cancer is assessed through the EPIC-CP questionnaire. The selected indicators of urinary continence and sexual potency were measured 12 months after surgery.

SATISFACTION WITH CLINICAL CARE

9 Satisfaction is a measurable results of the patient's perceptions about the received care and assistance provided by the professionals and the quality of services received during the hospital stay. It may be measured through the Net Promoter Score (NPS), an assessment metric that measures the loyalty and satisfaction of the clients with the organization. The NPS calculation is made through the following formula: NPS = Promotors - Detractors/ Total Number of responders. In general, the following parameters are used for benchmarking: Excellent NPS - between 75 and 100. Very Good NPS - between 50 and 74 Fair NPS - between 0 and 49.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SPECIALTIES

Orthopedics

Results – 2022

⟶ Encompassing diagnostic medicine, outpatient care, teaching, and research, Einstein's Orthopedics department focuses on quality of care and patient safety, as well as clinical staff management, social responsibility, and innovation.

CONSULTATIONS

63,807

PROCEDURES

6,774

Orthopedic surgeries

REGISTERED SPECIALIST PHYSICIANS

869

Orthopedists

SCIENTIFIC PRODUCTION

38

ARTICLES PUBLISHED

★ ★ ★ ★ ★

12 in journals with an Impact Factor > 1

LINES OF CARE

Hip arthroplasty
Knee arthroplasty
Spine (arthrodesis and decompression)
Shoulder arthroscopy
Anterior cruciate ligament reconstruction

SEALS & CERTIFICATIONS

RANKING NEWSWEEK 2023
Named the 24th best hospital in the world for orthopedics

COMPOSED OF specialist physicians, nurses, and multidisciplinary professionals, Einstein's Orthopedics team operates in synergy with all of the hospital's other departments: Diagnostic Medicine, Outpatient Care, Education, and Research. The area's objective is to manage orthopedic patients by designing and implementing institutional protocols, monitoring indicators, and developing strategies for ongoing improvement, in addition to managing innovative projects, such as the second opinion program for spinal, craniomaxillofacial, and robot-assisted surgeries.

All orthopedics care at Einstein is rooted in the pursuit of quality and patient safety, clinical staff management, social responsibility, sustainability, education, research, and innovation.

THE KEY PROTOCOLS AND INNOVATIONS AT EINSTEIN ORTHOPEDICS ARE OUTLINED BELOW:

Hip Arthroplasty Managed Protocol

Einstein Orthopedics has been managing patients undergoing total hip arthroplasty (THA) since 2008, with the aim of ensuring safety and quality and monitoring their pre-, intra-, and post-hospital progress. Based on best practices and evidence from the scientific literature, the protocol was designed and reviewed by orthopedic physicians, nurses, physiotherapists, and occupational therapists[15].

Knee Arthroplasty Managed Protocol

The managed protocol for total knee arthroplasty (TKA) was implemented in 2009, one year after the Hip Arthroplasty Managed Protocol, and follows the same premises. This management process, which focuses on early rehabilitation, has contributed to a reduction in average length of time in hospital and costs[16].

Spinal Surgery Managed Protocol

From diagnosis to complete rehabilitation, Einstein patients requiring spinal surgery have access to a specialized multidisciplinary team composed of orthopedists, neurosurgeons, rheumatologists, physiatrists, physicians specializing in acupuncture, physiotherapists, and occupational therapists. Our framework provides patients with complete and individualized care.

All patients undergoing surgical treatment at Einstein are managed by the Orthopedics team. The management process started with our Second Opinion program, which has been recognized as the gold standard for accurately assessing the needs for spinal surgery.

Patients are seen by a physiatrist, an orthopedist, and if necessary, a spinal surgeon. If the need for surgery is confirmed, the case is discussed by the *Spine Board*, a group of Einstein specialists who aim to reach a consensus on the best procedure for the patient[16,17,18].

Einstein's Orthopedics department also uses the First Opinion program, where patients can be examined by specialist physicians.

Anterior Cruciate Ligament Reconstruction Managed Protocol

Based on scientific evidence and established in 2014, the protocol standardized care for patients undergoing anterior cruciate ligament (ACL) reconstruction procedures, ensuring optimal outcomes[18].

Often damaged by people playing sports such as basketball, skiing, and soccer, ACL injuries mainly affect young and active patients. All patients with ACL injuries that require surgical reconstruction are covered by this protocol.

Shoulder Surgery Managed Protocol

This protocol standardized the care of patients undergoing shoulder arthroscopy for the following diagnoses: rotator cuff syndrome, glenohumeral instability, or arthrosis.

Robot-Assisted Surgery

In 2021, Einstein Orthopedics acquired its first robot for use in orthopedic knee surgeries, the *ROSA® Knee System.* In 2022, the department purchased *Mako SmartRobotics*™ for knee and hip specialties. With these innovative solutions, which use

surgical planning software based on CT scans to generate 3D images of the patient's anatomy, intraoperative data are made more accurate and surgeons are better able to perform procedures exactly as planned.

The robotic tool enables surgeons to create a tailored joint replacement plan, benefiting the patient's recovery.

In hip arthroplasty, the technology helps lower the rate of dislocations and the incidence of dysmetria (difference in length) between limbs. In knee arthroplasty, it results in less postoperative pain, reduced bone loss, and shorter hospital stays.

Einstein Home Care Program

Since 2012, patients undergoing THA or TKA surgery receive a visit from the Home Care team before the surgical procedure, which provides general guidelines on the surgery and any necessary home adaptations.

After the patient has been discharged, the same team makes two postoperative visits, an additional measure to ensure the patient's recovery progresses smoothly. This patient management process reduces the average length of time spent in hospital and helps maintain care quality and safety factors, as shown by the best hospitals in Europe and the USA.

Education

POSTGRADUATE
2 programs

69
students

ADVANCED LEARNING
7 programs

8
students

MEDICAL RESIDENCIES

7
students


GETINGE
MAKO
stryker

Program highlights

Second Opinion Program for Spinal Surgeries

Spine Board: Einstein's *Spine Board* is composed of specialists tasked with ensuring all processes remain up to date, discussing cases, and managing courses and training, all with the aim of achieving the best outcomes based on the latest scientific evidence.

Robot-Assisted Surgery: *ROSA® Knee System* (knee surgery) and *Mako SmartRobotics™* (hip and knee surgery).

Einstein Home Care Program: Einstein comes to you. For patients undergoing THA or TKA surgery.

2

days is the average length of time patients spend in the hospital for arthrodesis or spinal decompression surgeries – the reference average is 3 days

0,3%

is the 30-day unplanned readmission rate (THA/TKA), versus the benchmark of 3%

EINSTEIN RESULTS – 2022

BETTER THAN TARGET · CLOSE TO TARGET · TARGET NOT REACHED

ARTHRODESIS & SPINAL DECOMPRESSION SURGERIES

▲ The higher, the better.

▼ The lower, the better

APPROPRIATE CARE

1 Rate of Antibiotic Administration within 60 Minutes before Surgical Incision

87%

▲ TARGET (T)
95%

COSTS & AVOIDABLE COMPLICATIONS

2 Average length of stay from procedure to discharge

2 DIAS

▼ BENCHMARK (A)
3 dias

3 30-day readmission rate

3%

▼ BENCHMARK (B)
8%

4 Surgical site infection rate

0,2%

▼ BENCHMARK (C)
3%

5 Complication rate

1%

▼ BENCHMARK (D)
1%

6 Six-month reoperation rate

5%

▼ BENCHMARK (B)
10%

PATIENT-REPORTED OUTCOME MEASURES

12-MONTH SUCCESS RATE:

7

88%

reported functional improvement in relation to the **lumbar spine**

Of 526 patients, 65% answered the questionnaire

8

73%

reported functional improvement in relation to the **cervical spine**

Of 84 patients, 70% answered the questionnaire

BENCHMARK: (A) J Neurosurg Spine 29:286–291, 2018 (B) Neurosurgery 80(3):355-36, 2017 (C) J Bone Joint Surg Am. 2012;94(4):335-42. (D) Centers for Medicare & Medicaid Services (CMS) Care Compare **(T)=** Institutional Target

Understanding the Spinal Arthrodesis & Decompression Surgery Indicators

APPROPRIATE CARE

1 The administration of antibiotics up to 60 minutes before making a surgical incision is an established measure for preventing surgical site infection. The longer the time between administration and incision, the greater the risk of infection. The higher the indicator's percentage, the more cases followed the institutional protocol.

COSTS & AVOIDABLE COMPLICATIONS

2 Indicates the amount of time patients spend in hospital for hip arthroplasty, knee arthroplasty, and spinal surgery (decompression or arthrodesis). It is a measure of central tendency, reflecting the average length of stay in the hospital. A classic indicator related to good clinical practices, demonstrating whether hospital beds are being managed efficiently.

3 Refers to patient readmissions after procedure-related complications. Early hospital readmission is associated with higher morbidity and mortality and increased costs. Monitoring this index can help identify points for improvement and verify whether or not the procedures were successful.

4 By monitoring the surgical site infection rate in clean surgeries, we can verify the impact of measures adopted to reduce infection risk and plan appropriate antibiotic prophylaxis responses to provide greater safety to patients during their time in hospital.

5 The complication rate refers to unexpected events that occur after the surgical procedure, during the same period in hospital, such as hypovolemic shock, pulmonary thromboembolism, venous thrombosis, bleeding, or any other event that hinders the patient's expected recovery. Post-surgical complications increase the risk of reoperation, length of stay in hospital, and morbidity and mortality. Monitoring this index can help identify points for improvement and verify whether or not the procedures were successful.

6 Reoperation within six months is associated with higher morbidity and mortality and increased costs. Ongoing assessment of these rates has enabled us to continuously improve our services and identify opportunities to take action in the pursuit of healthcare excellence.

SURVIVAL & PATIENT-REPORTED OUTCOME MEASURES

How the indicators are calculated

7

The lumbar spine functional disability index in patients undergoing arthrodesis and decompression is evaluated using the Oswestry Disability Index (ODI). Patients answer the Oswestry Low Back Pain Questionnaire before the surgery is performed and again 90, 180, and 365 days post-operation[19].

The questionnaire consists of ten questions, each with six possible answers that give a value from 0 to 5. One question is about the intensity of the pain and the other nine about its effect on daily life. The score is presented on a scale from 0 (no dysfunction) to 100 (maximum dysfunction). This index has a minimum clinically important difference (MCID) of 10 points.

The score is interpreted as follows:
0% to 20% (no disability)
21% to 40% (mild disability)
41% to 60% (moderate disability)
61% to 80% (severe disability)
81% to 100% (completely disabled)

8

The cervical spine functional disability index in patients undergoing arthrodesis and decompression is evaluated using the Neck Disability Index (NDI). Patients answer the questionnaire before the surgery is performed and again 90, 180, and 365 days post-operation[20].

The NDI consists of ten questions, each with six possible answers that give a value from 0 to 5. One question is about the intensity of the pain and the other nine about its effect on daily life. The score is presented on a scale from 0 (no dysfunction) to 50 (maximum dysfunction). This index has a minimum clinically important difference (MCID) of 10 points.

The score is interpreted as follows:
0–4 points (no disability)
5–14 points (mild disability)
15–24 points (moderate disability)
25–34 points (severe disability)
35–50 points (completely disabled)

EINSTEIN RESULTS – 2022 ● BETTER THAN TARGET ● CLOSE TO TARGET ● TARGET NOT REACHED

HIP & KNEE SURGERIES

▲ The higher, the better ▼ The lower, the better

APPROPRIATE CARE

9 Rate of Antibiotic Administration within 60 Minutes before Surgical Incision (THA/TKA)

81%

TARGET (T)
95%

10 Rate of Antibiotic Administration within 60 Minutes before Surgical Incision (ACL reconstruction)

89%

TARGET (T)
95%

COSTS & AVOIDABLE COMPLICATIONS

11 30-day readmission rate (THA/TKA)

0,3%

BENCHMARK (A)
3%

14 Surgical site infection rate after open surgery TKA

0%

BENCHMARK (C)
0,3%

12 30-day readmission rate (ACL reconstruction)

0%

BENCHMARK (B)
0,8%

15 Surgical site infection rate (ACL reconstruction)

0%

BENCHMARK (B)
0,4%

13 Surgical site infection rate after open surgery THA

0,5%

BENCHMARK (C)
1,4%

16 Complication rate (THA/TKA)

0,5%

BENCHMARK (A)
2%º

BENCHMARK: (A) Hospital for Special Surgery – melhor hospital em Ortopedia 2022 pelo ranking da Newsweek (B) Sports Health. 2016;8(2):187–189
(C) Associação Nacional dos Hospitais privados (ANAHP) (D) Australia's Arthroplasty Clinical Outcomes Registry National (ACORN) **(T)=** Intitutional Target

EINSTEIN RESULTS – 2022

BETTER THAN TARGET · CLOSE TO TARGET · TARGET NOT REACHED

HIP & KNEE SURGERIES

▲ The higher, the better ▼ The lower, the better

COSTS & AVOIDABLE COMPLICATIONS

17 Complication rate (ACL reconstruction)

0%

BENCHMARK (B) 0,2%

18 Six-month reoperation rate (THA)

1%

BENCHMARK (D) 2%

19 Six-month reoperation rate (TKA)

0%

BENCHMARK (D) 2,5%

20 Six-month reoperation rate (ACL reconstruction)

0%

BENCHMARK (B) 8%

SURVIVAL & PATIENT-REPORTED OUTCOME MEASURES

12-MONTH SUCCESS RATE:

21

83%

of patients who underwent **hip** arthroplasty reported improved functionality 12 months after the procedure

Of 205 patients, 74% answered the questionnaire

22

64%

of patients who underwent **knee** arthroplasty reported improved functionality 12 months after the procedure

Of 128 patients, 68% answered the questionnaire

EINSTEIN RESULTS – 2022

HIP & KNEE SURGERIES

TREATMENT SATISFACTION

23

98%

of patients who had a **hip arthroplasty** reported that they were satisfied or very satisfied with the outcome of the surgery

24

92%

of patients who had a **knee arthroplasty** reported that they were satisfied or very satisfied with the outcome of the surgery

SATISFACTION WITH CARE

25 **Mean NPS for the last 3 years**

Patients who underwent THA

90

Patients who underwent TKA

92

Patients who underwent ACL reconstruction

83


stryker
Case Planning
Pre-Op RIO Check
Bone Registration
Intra-Op Planning
Bone Preparation
Case Completion
Varus
0.0°
External
1.6°
PCA
External
0.0°
TEA
Flexion
2.5°
1.5
10.0
L
M
7.0
8.0
L
M
1.5
7.0
7.0
Bone Resection
0.0°
Varus
0.0°
P. Slope
DELL

Understanding the Hip & Knee Surgery Indicators

APPROPRIATE CARE

9 10 The administration of antibiotics up to 60 minutes before making a surgical incision is an established measure for preventing surgical site infection. When administered within this time frame, the rate of postoperative infection is reduced. The longer the time between administration and incision, the greater the risk of infection. The higher the indicator's percentage, the more cases followed the institutional protocol.

COSTS & AVOIDABLE COMPLICATIONS

11 12 Refers to patient readmissions after procedure-related complications. Early hospital readmission is associated with higher morbidity and mortality and increased costs. Monitoring this index can help identify points for improvement and verify whether or not the procedures were successful.

13 14 15 By monitoring the surgical site infection rate in clean surgeries, we can verify the impact of measures adopted to reduce infection risk and plan appropriate antibiotic prophylaxis responses to provide greater safety to patients during their time in hospital.

16 17 The complication rate refers to unexpected events that occur after the surgical procedure, during the same period in hospital, such as hypovolemic shock, pulmonary thromboembolism, venous thrombosis, bleeding, or any other event that hinders the patient's expected recovery. Postsurgical complications increase the risk of reoperation, length of stay in hospital, and morbidity and mortality. Monitoring this index can help identify points for improvement and verify whether or not the procedures were successful.

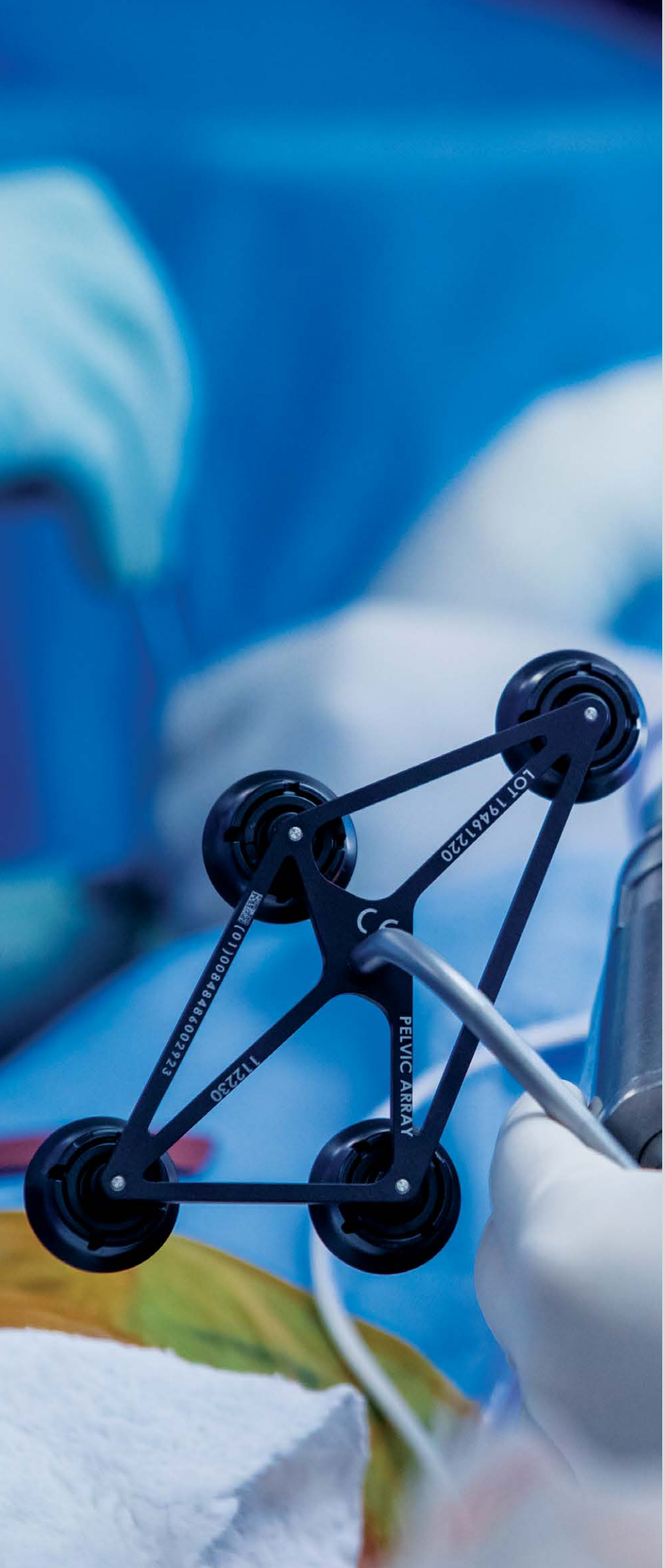
18 19 20 Reoperation within six months is associated with higher morbidity and mortality and increased costs. Ongoing assessment of these rates has enabled us to continuously improve our services and identify opportunities to take action in the pursuit of healthcare excellence.

TREATMENT SATISFACTION

23 24 Patient satisfaction at Einstein is measured by the Outcomes Team via a post-discharge interview, which includes a question about how satisfied the patient feels with the outcome of the treatment they received at the hospital. Responses range from "very satisfied" to "very dissatisfied." This dossier reports on the percentage of "satisfied" and "very satisfied" respondents.

SATISFACTION WITH CARE

25 Satisfaction is a measurable result of the patient's perception of the service and care they received from healthcare professionals and the quality of services provided during their time in hospital. It can be measured by the Net Promoter Score (NPS), a metric used to assess customer loyalty and satisfaction with a given company. The NPS is calculated using the following formula: NPS = Promoters – Detractors / Total number of respondents. The following parameters are generally used as benchmarks: Excellent NPS: 75–100. Very good NPS: 50–74. Reasonable NPS: 0–49.



SURVIVAL & PATIENT-REPORTED OUTCOME MEASURES

How the indicators are calculated

21 The functional disability index of knee arthroplasty patients is evaluated using the validated survey KOOS-PS[21].

This tool is designed to assess changes in the physical function of the knee that make it more difficult to perform everyday tasks and activities. It comprises five sections: pain, other symptoms, function in daily life, function in sports and recreational activities, and quality of life. The KOOS-PS survey result reflects the patient's own perception.

The score is presented on a scale of 0 to 100, with 0 signifying extreme problems and 100 no problems. Patients respond to the questionnaire before starting treatment and the other questionnaires are applied postoperatively after 90 and 365 days. The minimum clinically important difference is 10 points between the preoperative and postoperative periods.

22 The functional disability index of hip arthroplasty patients is evaluated using the validated survey HOOS-PS[22].

This tool is designed to assess changes in the physical function of the hip that make it more difficult to perform everyday tasks and activities. It comprises five sections: pain, other symptoms, function in daily life, function in sports and recreational activities, and quality of life.

The HOOS-PS survey result reflects the patient's own opinions. The score is presented on a scale of 0 to 100, with 0 signifying extreme problems and 100 no problems. Patients answer the questionnaire before the surgery is performed and again 90, 180, and 365 days post-operation. The minimum clinically important difference is 10 points between the preoperative and postoperative periods.

EINSTEIN RESULTS – 2022

BETTER THAN TARGET · CLOSE TO TARGET · TARGET NOT REACHED

SHOULDER SURGERIES

▲ The higher, the better ▼ The lower, the better

COSTS & AVOIDABLE COMPLICATIONS

23 Thirty-day readmission rate (shoulder arthroscopy)

0,2%

▼ BENCHMARK (A) 1%

24 Surgical site infection rate (shoulder arthroscopy)

0%

▼ BENCHMARK (A) 0,2%

25 Complication rate (shoulder arthroscopy)

0,4%

▼ BENCHMARK (B) 0,6%

26 Six-month reoperation rate (shoulder arthroscopy)

0,5%

▼ BENCHMARK (A) 6%

APPROPRIATE CARE

27 Rate of Antibiotic Administration within 60 Minutes before Surgical Incision (Shoulder arthroscopy)

90%

▲ TARGET (T) 95%

SURVIVAL & PATIENT-REPORTED OUTCOME MEASURES

28 Functional disability index for the shoulder (QuickDASH score)

86%

of patients who underwent shoulder arthroscopy to treat rotator cuff syndrome reported improved functionality 12 months after the procedure.

*Of 344 patients, 70% answered the questionnaire

BENCHMARK: (A) Arthroscopy. 2017 Jan;33(1):55-61 (B) Hospital for Special Surgery – best hospital in orthopedics 2022 according to Newsweek Ranking
(T)= Institutional Target

Understanding the Shoulder Surgery Indicators

COSTS & AVOIDABLE COMPLICATIONS

23 Refers to patient readmissions after procedure-related complications. Early hospital readmission is associated with higher morbidity and mortality and increased costs. Monitoring this index can help identify points for improvement and verify whether or not the procedures were successful.

24 By monitoring the surgical site infection rate in clean surgeries, we can verify the impact of measures adopted to reduce infection risk and plan appropriate antibiotic prophylaxis responses to provide greater safety to patients during their time in hospital.

25 The complication rate refers to unexpected events that occur after the surgical procedure, during the same period in hospital, such as hypovolemic shock, pulmonary thromboembolism, venous thrombosis, bleeding, or any other event that hinders the patient's expected recovery. Postsurgical complications increase the risk of reoperation, length of stay in hospital, and morbidity and mortality. Monitoring this rate can help identify points for improvement and verify whether or not the procedures were successful.

26 Reoperation within six months is associated with higher morbidity and mortality and increased costs. Ongoing assessment of these rates has enabled us to continuously improve our services and identify opportunities to take action in the pursuit of healthcare excellence.

APPROPRIATE CARE

27 The administration of antibiotics up to 60 minutes before making a surgical incision is an established measure for preventing surgical site infection. The longer the time between administration and incision, the greater the risk of infection. The higher the indicator's percentage, the more cases followed the institutional protocol.

SURVIVAL & PATIENT-REPORTED OUTCOME MEASURES

27 The functional disability index was measured using QuickDASH (Quick Disabilities of the Arm, Shoulder, and Hand). The score is presented on a scale from 0 (maximum functioning) to 100 (maximum disability) with a minimum clinically important difference of 12.8 points.

WHAT IS BEING DONE TO IMPROVE RESULTS

Our Orthopedics department works tirelessly to improve the quality and safety of patient care. The key actions to achieve this include:

1.
Continuous feedback for clinical staff, following up on patient outcomes and opportunities for improvement;

2.
Managed protocols and patient education to reflect good clinical practices.

SPECIALTIES

Surgical Network

Results – 2022

⟶ Created in 2009 to engage the clinical staff and develop key specialties, the Einstein Surgical Network is now an established center specializing in high-complexity surgeries, innovation, and technology, making use of robotics and training that have changed the course of the specialty in Brazil.

PROCEDURES

36,690

Surgeries at the Morumbi Unit in 2022

ROBOTIC SURGERIES: 1,678
BARIATRIC SURGERIES: 353

REGISTERED SPECIALIST PHYSICIANS

3,921

surgeons in a wide range of specialties

SCIENTIFIC PRODUCTION

100

ARTICLES PUBLISHED

★ ★ ★ ★ ★

49 in journals with an impact factor > 1

LINES OF CARE

Robotic surgery

Bariatric surgery

SEALS & CERTIFICATIONS

RANKING NEWSWEEK 2023
Considered the 10th best Hospital in the world for gastroenterology

Program highlights

Advanced Trauma Life Support (ATLS) Center

First Brazilian health center to perform abdominal surgery using augmented reality in a hybrid operating room (Siemens partnership)

Education

POSTGRADUATE
7 programs

224
students

ADVANCED LEARNING
14 programs

24
students

MEDICAL RESIDENCIES
General Surgery:
14 students

Gynecology & Obstetrics:
17 students

Vascular Surgery:
4 students

Urology:
6 students

WHEN IT WAS ESTABLISHED IN 2009, the primary role of the Surgical Network, initially named the Integrated Surgery Program (PRIC), was engagement of the clinical staff to develop strategic surgical specialties, create and manage protocols and indicators, and propose and implement improvement plans, in addition to incorporating technologies and fostering the development of teaching, research, and social responsibility.

In 2021, the PRIC expanded its operations and changed its name to the Einstein Surgery Network—Einstein Surgery for short—designed to encompass every surgical unit in the Einstein Health System, with a focus on the pillars of operational excellence, safe surgery, and all strategic surgical specialties, together with the surgical patients team.

The program was recognized for its surgical process design at the Einstein Unit in Goiânia (Marista) and Hospital Municipal de Aparecida de Goiânia, which conveys the model of operational excellence through patient flow, centralized surgical scheduling, a sterilized materials center, a pharmacy, and clinical engineering.

It should be mentioned that through the Safe Surgery Committee, composed of leaders and representatives from all units, the program has created unified, system-wide management protocols that respect the individual characteristics of each hospital while maintaining quality and patient safety. The aim is to develop a Safe Surgery Integrated Dashboard and then apply for international accreditation from the American College of Surgeons.

Einstein's pioneering Robotic Surgery program, started in 2008, supported the strategic surgical specialties with a focus on high complexity procedures, oncology, and precision medicine. Einstein Hospital was also named an Official Certifying Center by Intuitive in 2019, receiving the first Si platform dedicated to training. Following the success of the graduate program for Nursing And Multidisciplinary Teams in Robotic Surgery, our Robotic Surgery in Urology graduate course began in 2020.

In 2021, the program received 350 students from Latin America and Asia, in 5 specialties: Urology, Gynecology, Thoracic Surgery, Head and Neck Surgery, and Surgery of the Digestive Apparatus and Coloproctology. The Einstein Center of Excellence in Robotic Surgery was thus recognized as an international center for training surgeons in robotics, introducing the robotic surgery curriculum into its surgical medical residencies and undergraduate medical degree and establishing itself as the first Academic Center in Latin America.

The achievements do not stop there. Later in 2021, it was the first program in Brazil to earn Intuitive's Official Certification in Robotic Thoracic Surgery, previously performed only in the United States. It also offered the first Certification in Robotic Thoracic Surgery in Latin America, a model that has completely changed the course of the specialty, with increased access to training for all thoracic surgeons in Brazil and Latin America.

The Einstein Center of Excellence in Robotic Surgery is expanding and will soon begin procedures at the Goiânia Unit (Marista), in addition to offering robotic surgery to patients in the public system at Hospital Municipal Vila Santa Catarina, in association with excellence in healthcare and teaching.

Managed Protocol in Robot-Assisted Surgery

Minimally invasive robotic surgery, which can be used to treat various pathologies, can provide benefits such as decreased postoperative pain and discomfort, reduced blood loss during the procedure, and a shorter hospital stay, often allowing patients to return more quickly to daily activity.

Einstein's pioneering spirit and contributions to the development of robotic surgery were essential to its recognition as a Robotic Urology Surgery Epicenter in Latin America by Intuitive Surgical® in 2016. The next step is to include the Einstein Center of Excellence in Robotic Surgery as an international Academic Center to share the institution's best practices.

Managed Protocol in Bariatric Surgery and Einstein Center for the Prevention and Treatment of Obesity (CPTOE)

The Managed Protocol in Bariatric Surgery establishes appropriate procedures for diagnosing, classifying, and treating severe obesity in patients at the Einstein Obesity Surgery Center. The Einstein Center for the Prevention and Treatment of Obesity (CPTOE) is available to obese patients who wish to lose weight and/or control associated diseases through clinical or surgical treatment, with each case assessed individually. The center is formed by a team of professionals that specialize in treating weight problems, including endocrinologists, nurses, physiotherapists, nutritionists, and psychologists.

The treatment offered by CPTOE is divided into three phases—the initial phase, clinical treatment, and surgical treatment—providing comprehensive care and monitoring of the patients' individual needs.

EINSTEIN RESULTS – 2022 ● BETTER THAN TARGET ● CLOSE TO TARGET ● TARGET NOT REACHED

SURGICAL NETWORK

▲ The higher, the better ▼ The lower, the better

APPROPRIATE CARE

1 Conversion rate from robotic techniques – General Surgery

●

0%

▼

TARGET (T)
0,7%

2 Conversion rate from robotic techniques - Thoracic Surgery

●

1%

▼

BENCHMARK (A)
0,6%

3 Conversion rate from robotic techniques - Gynecology & Obstetrics

●

0%

▼

TARGET (T)
0,2%

4 Conversion rate from robotic techniques - Urology

●

0,1%

▼

TARGET (T)
0,1%

COSTS & AVOIDABLE COMPLICATIONS

5 Unplanned 30-day readmission rate for patients undergoing robotic surgery – General Surgery

●

4%

▼

TARGET (T)
5%

6 Unplanned 30-day readmission rate for patients undergoing robotic surgery – Thoracic Surgery

●

7%

▼

BENCHMARK (A)
7%

7 Unplanned 30-day readmission rate for patients undergoing robotic surgery – Gynecology & Obstetrics

●

3%

▼

TARGET (T)
3%

8 Unplanned 30-day readmission rate for patients undergoing robotic surgery – Urology

●

3%

▼

TARGET (T)
3%

BENCHMARK: (A) The Society Of Thoracic Surgeons General Thoracic Surgery Database: Update On Outcomes And Research| Volume 115, Issue 1, P43-49, January 2023 (B) Obes Surg 27, 226–235 (2017); (C) IFSO Global Registry 2019 **(T)=** Institutional target based on historical trends (2019-2021)

EINSTEIN RESULTS – 2022 ● BETTER THAN TARGET ● CLOSE TO TARGET ● TARGET NOT REACHED

SURGICAL NETWORK

▲ The higher, the better ▼ The lower, the better

COSTS & AVOIDABLE COMPLICATIONS

9 Thirty-day reoperation rate with robotic technique – General Surgery

●

1%

▼

TARGET (T)
2%

10 Thirty-day reoperation rate with robotic technique – Thoracic Surgery

●

2%

▼

BENCHMARK (A)
2%

11 Thirty-day reoperation rate with robotic technique – Gynecology & Obstetrics

●

0,3%

▼

TARGET (T)
0,5%

12 Thirty-day reoperation rate with robotic technique – Urology

●

0,4%

▼

META (M)
0,8%

13 Average Length of Hospital Stay for Patients Undergoing Robotic Surgery – General Surgery

●

3 DAYS

▼

TARGET (T)
4 days

14 Average Length of Hospital Stay for Patients Undergoing Robotic Surgery – Thoracic Surgery

●

4 DAYS

▼

BENCHMARK (A)
5 days

15 Average Length of Hospital Stay for Patients Undergoing Robotic Surgery – Gynecology & Obstetrics

●

1 DAY

▼

TARGET (T)
1 day

16 Average Length of Hospital Stay for Patients Undergoing Robotic Surgery – Urology

●

2 DAYS

▼

META (M)
2 dias

EINSTEIN RESULTS – 2022

BETTER THAN TARGET · CLOSE TO TARGET · TARGET NOT REACHED

SURGICAL NETWORK

▲ The higher, the better ▼ The lower, the better

COSTS & AVOIDABLE COMPLICATIONS

17 Average Postoperative Hospital Stay for Bariatric Surgery

2 DAYS

▼

BENCHMARK (B)
3 days

TREATMENT SATISFACTION

18

86%

of patients who underwent bariatric surgery reported being satisfied or very satisfied with the treatment outcome

SATISFACTION WITH CARE

22 **Average NPS over the last 3 years**

Patients who underwent bariatric surgery

83

Patients who underwent robotic surgery

90

PATIENT-REPORTED OUTCOME MEASURES

19 Rate of Hypertension Prevalence Reduction after 12 Months of Bariatric Surgery

-20%

▼

BENCHMARK (C)
-11%

20 Rate of Dyslipidemia Prevalence Reduction after 12 Months of Bariatric Surgery

-9%

▼

BENCHMARK (C)
-4%

21 Rate of Diabetes Mellitus Prevalence Reduction after 12 Months of Bariatric Surgery

-9%

▼

BENCHMARK (C)
-10%

BENCHMARK: (A) The Society Of Thoracic Surgeons General Thoracic Surgery Database: Update On Outcomes And Research| Volume 115, Issue 1, P43-49, January 2023 (B) Obes Surg 27, 226–235 (2017); (C) IFSO Global Registry 2019 **(T)=** Institutional Target based on historical trends (2019–2021)

Understanding the Surgical Network Indicators

APPROPRIATE CARE

1 2 3 4 Measures the conversion rate from robotic techniques to video-laparoscopy or laparotomy in patients undergoing robotic surgery. The indicator is used to assess the reasons and plan ways of preventing complications where possible, in addition to evaluating the impact of existing preventive measures.

For this indicator, the aim is for the result to be lower than the institutional target.

COSTS & AVOIDABLE COMPLICATIONS

5 6 7 8 The program monitors patients for 30 days post surgery to assess the clinical outcomes of robotic surgery and analyze cases of readmission to hospital for reasons related to the surgical procedure within this period. If an unexpected readmission to hospital occurs, the case is evaluated by specialists in the area to identify opportunities for improvement in surgical patient care.

9 10 11 12 Measures the reoperation rate within 30 days of a robotic surgery, with the aim of assessing the reasons for the reoperation and planning ways to prevent complications where possible, in addition to evaluating the impact of existing preventive measures.

13 14 15 16 Shows the time spent in hospital by patients undergoing robotic surgery, measured as a way of assessing the care and guidance given to the patient and their family, empowering them with regard to their care and resulting in a safer and more efficient recovery process. For this indicator, the aim is for the result to be lower than the institutional target.

17 Measures the average number of days spent in hospital in the postoperative period after bariatric surgery, with the aim of assessing patient guidance and care plans, empowering them with regard to their care and resulting in a safer and more efficient recovery process. The average number of days is expected to be less than the institutional target.

TREATMENT SATISFACTION

18 Patient satisfaction at Einstein Hospital is measured by the Outcomes Team via a post-discharge interview, which includes a question about how satisfied the patient feels with the outcome of the treatment they received at the hospital. Responses range from "very satisfied" to "very dissatisfied." This dossier reports on the percentage of "satisfied" and "very satisfied" respondents.

GENERAL & PATIENT-REPORTED OUTCOME MEASURES

19 20 21 Obesity is linked to several chronic/acute diseases, such as hypertension, type 2 diabetes, and dyslipidemia. Bariatric surgery can improve or help control these diseases when they are related to obesity.

Therefore, in order to assess the impact of bariatric surgery on the patient's quality of life, we monitor the presence of long-term comorbidities after the surgical procedure.

SATISFACTION WITH CARE

22 Satisfaction is a measurable result of a patient's perception of the service and care they receive from professionals and the quality of the services provided during their time in the hospital. It can be measured by the Net Promoter Score (NPS), a metric used to assess customer loyalty and satisfaction with a given company. The NPS is calculated using the following formula: NPS = Promoters – Detractors / Total number of respondents. The following parameters are generally used as benchmarks: Excellent NPS: 75–100. Very good NPS: 50–74. Reasonable NPS: 0–49.

WHAT IS BEING DONE TO IMPROVE RESULTS

The Einstein Surgical Network always strives to improve surgical outcomes. Below are the key actions taken in this regard:

1) Development of evidence-based protocols for surgery, with the aim of standardizing surgical care and consequently improving outcomes

2) Feedback for physicians

3) Use of healthcare crisis resource management (HCRM) in robotic surgery to assess technical and nontechnical skill

4) Implementation of accelerated recovery protocol in some specialties for faster and safer patient recovery

5) Pursuit of international certifications

6) Analysis of reoperations to identify opportunities for improvement.

SPECIALTIES

Transplants

Results – 2022

HEART TRANSPLANTS

18

PROADI-SUS: 15
Private: 3

KIDNEY TRANSPLANTS

71

PROADI-SUS: 53
Private: 18

LIVER TRANSPLANTS

79

PROADI-SUS: 77
Private: 2

MULTIVISCERAL TRANSPLANT

1

PROADI-SUS: 1

LUNG TRANSPLANTS

25

PROADI-SUS: 21
Private: 4

⟶ As one of the most prestigious centers for solid organ transplantation, the Einstein Transplant Program is the only one in Brazil to perform double heart-lung, heart-liver, heart-kidney, and high-complexity kidney transplants. It also provides training to thousands of professionals and has partnered with Brazil's national health system (SUS) for more than 20 years

TOTAL TRANSPLANTS

194

SCIENTIFIC PRODUCTION

31

ARTICLES PUBLISHED

★ ★ ★ ★ ★

19 in journals with an impact factor > 1

Program highlights

The second largest transplant center in the state of São Paulo for heart, lung, and liver transplants.

A pioneer in creating protocols for and using machine perfusion in kidney transplants. The only center in Latin America to perform heart-lung transplants.

The Kidney Transplant Program has the largest number of patients in Brazil with ABO blood type incompatibility.

Education

ADVANCED LEARNING
2 programs

3
students

THROUGH AN AGREEMENT
Brazil's Ministry of Health established in 2002, Einstein has become one of the largest solid organ transplant centers in the country, performing liver, kidney, pancreas-kidney, heart, lung, intestine, and multivisceral transplantation. In the last 20 years, we have performed 4,500 transplants, 92% through the country's public health system (SUS) and 8% via the private network. In 2022 alone, we carried out a total of 194 solid organ transplants through the private network and the PROADI-SUS Program combined.

In addition to providing care and rehabilitation activities for individuals with organ dysfunction, the Einstein Transplant Program has trained more than 6,000 professionals in organ procurement, donation, and transplantation. It has also incorporated new technologies and carried out clinical and basic research in areas such as management.

The program's primary objective is to care for public and private patients who need organ transplants (liver, kidney, pancreas-kidney, heart, lung, intestine, and multivisceral).

The care process covers from the initial assessment, through the procedure itself, and into the postoperative period, offering specialized and comprehensive multidisciplinary care.

Some highly complex transplants in Brazil are performed only at Einstein, such as double heart-lung, heart-liver, and heart-kidney transplants, as well as kidney transplants for hypersensitized patients or patients with ABO incompatibility.

EINSTEIN TRANSPLANT HIGHLIGHTS

Heart Transplant Program

According to data from the Brazilian Transplant Registry, Einstein is currently the second largest heart transplant center in the state of São Paulo, with survival results superior to even the best American heart transplant centers, such as the Cleveland Clinic.

In 2014, Einstein's Heart Transplant Program incorporated ventricular assist devices into its therapeutic arsenal, allowing patients with severe heart failure to be kept alive while awaiting transplant. Since then, more than 179 ventricular assist devices have been implanted.

Kidney Transplant Program

The successful outcomes seen in this complex group of patients is the result of the experience of the Kidney Transplant team and the modern infrastructure that supports them.

These results are only possible thanks to:

Prepared support areas for plasmapheresis

Administration of specific medications (immunoglobulins, Bortezomib, and other immunosuppressants)

Frequent monitoring of antibodies by the histocompatibility laboratory and blood bank

Accessible and specialized pathology sector

Another feat was achieved by the department that is important to highlight. In 2011, Einstein's kidney transplant group started the Desensitization Program, the objective of which is to enable transplants for candidates with immunological barriers to the procedure, such as ABO incompatibility or specific antibodies against potential donors. Due to these obstacles and a shortage of donors, these individuals can end up waiting for a transplant for the rest of their lives. Desensitization is a clinical treatment that can remove these barriers and enable transplantation.

Since the program began, more than 43 patients (38 via SUS) have undergone successful treatment, with organ and patient survival rates similar to those seen among other transplant patients. The Einstein Kidney Transplant Program currently has the highest number of transplant patients in Brazil with ABO blood type incompatibility.

Another highlight was the kidney perfusion machines acquired in 2013. Scientific evidence shows that in addition to improving the quality of the kidney to be transplanted, these machines increase the organ survival rate. Einstein Hospital pioneered their use as a standard protocol In the state of São Paulo

The device, similar to a thermal bag, protects the kidney to be transplanted from ischemic damage (organ or tissue damage caused by oxygen deprivation) and helps increase recovery time. They have now been used with 421 patients, 373 through SUS. The results are highly encouraging, showing a lower rate of delayed graft function, less need for dialysis after transplantation, and less time spent in hospita[23].

Liver Transplant Program

According to the latest data from the Brazilian Transplant Registry, Einstein is the second largest center for liver transplants in the state of São Paulo. It is also one of the centers with the most experience in treating patients with familial amyloid polyneuropathy (FAP), a rare and progressive hereditary disease that affects the peripheral nervous system, compromising neurological functions. The institution recently pioneered salivary gland biopsy as a diagnostic method for FAP, finding it to be a highly sensitive method. The liver transplant team also has extensive experience caring for patients with fulminant Hepatitis and hepatitis C, a major cause of liver failure.

Einstein provides the entire line of care for hepatocellular carcinoma patients, from conventional clinical and surgical treatments to chemoembolization and alcohol radioablation, which can reduce tumor size to make liver transplantation possible.

Lung Transplant Program

Einstein is the second largest center in the state of São Paulo for lung transplants and in 2021 was the first to successfully transplant patients suffering respiratory failure as a consequence of COVID-19. It is the only center in Brazil qualified to perform heart-lung transplants, having performed three successful such procedures for SUS patients in 2022.

It has extensive experience in the use of ECMO as a bridge for transplantation and as part of the treatment of primary lung graft dysfunction.

Intestinal Failure & Abdominal Catastrophes

Intestinal failure is a serious and highly complex clinical condition, characterized by a reduced ability to absorb liquids and nutrients through the small intestine, requiring the use of parenteral nutrition (“intravenous feeding”) to maintain life and to promote development and growth in children.

Short bowel syndrome is the leading cause of intestinal failure. In addition to short bowel syndrome, bowel failure can also be caused by intestinal motility disorders, intestinal cell diseases, and multiple intestinal fistulas.

Intestinal failure can require long and complex multidisciplinary treatment involving surgeons, gastroenterologists, nutrologists, nutritionists, nurses, psychologists, and physiotherapists. An approach called intestinal rehabilitation is used to attempt to suspend parenteral nutrition and promote nutritional autonomy.

There is no precise definition of an abdominal catastrophe, but the term generally covers any condition that causes severe functional and/or anatomical impairment of the abdomen.

These can be the result of acute abdominal diseases (acute pancreatitis, complicated appendicitis, mesenteric ischemia, etc.), complications from abdominal surgery, or abdominal trauma.

Examples of abdominal catastrophes include: multiple intestinal fistulas to the abdominal wall; "frozen abdomen," leading to chronic bowel obstruction; open abdomen with exposed organs. Multivisceral transplantation is often the only option for restoring abdominal normality.

Intestinal & Multivisceral Transplantation

Intestinal and multivisceral transplants are among the most complex. They are rare procedures and represent the final option for a number of conditions.

Usually, intestinal transplantation is indicated for patients with irreversible intestinal failure who are experiencing severe complications of parenteral nutrition, including: liver damage secondary to parenteral nutrition; catheter-associated infections; severe recurrent and refractory dehydration; thromboses in vascular access for nutrition; children unable to grow and develop.

A multivisceral transplant may be indicated for the following conditions: complicated intestinal failure with irreversible liver failure; complex portomesenteric thromboses; unresectable, well-differentiated tumors of the mesenteric-portal axis; abdominal catastrophes.

Einstein Intestinal Rehabilitation and Intestinal & Multivisceral Transplant Program

Einstein's Intestinal & Multivisceral Transplant Program, the first to perform the procedure in Brazil, began in 2012.

Since 2012, a total of 11 transplants have been performed, one of which was an isolated small intestine transplant and 10 of which were multivisceral transplants. The program can be divided into two distinct eras in which the team compositions and clinical protocols differed:

- ERA 1 (April 2012 to May 2016), during which 3 multivisceral and 1 small intestine transplants were performed, with 0% graft survival.

- ERA 2 (June 2016 to the present day), during which 7 multivisceral transplants were performed, with patient survival of 100% and graft survival of 86% in the follow-up periods of between 2 and 6.5 years.

The Intestinal Failure Program officially started in May 2022. Since its inception, it has dealt with two pediatric cases and four adult cases, but many patients were already being monitored before the program official started.

- **Patients undergoing treatment/monitoring by the program: 20**
- **Withdrawal from total parenteral nutrition (TPN) treatment at home: 1**
- **Patients admitted: 4**
- **Patients undergoing TPN: 6, including 2 at home;**
- **Patients on the transplant list: 5, of which 4 are via PROADI and 1 court-ordered**

92%

of transplants were performed via SUS

EINSTEIN RESULTS – 2022 ● BETTER THAN TARGET ● CLOSE TO TARGET ● TARGET NOT REACHED

TRANSPLANTS

▲ The higher, the better ▼ The lower, the better

SURVIVAL & PATIENT-REPORTED OUTCOME MEASURES

1 One-year survival rate – Heart transplant

87%

▲ BENCHMARK (A) 72%

2 One-year survival rate – Liver transplant

81%

▲ BENCHMARK (A) 70%

3 One-year survival rate – Lung transplant

79%

▲ BENCHMARK (A) 68%

4 One-year survival rate – Kidney transplant (deceased donor)

93%

▲ BENCHMARK (A) 84%

5 **80%** of patients experienced an improvement in their quality of life 6 months after **heart transplantation**

6 **78%** of patients experienced an improvement in their quality of life 6 months after **liver transplantation**

7 **82%** of patients experienced an improvement in their quality of life 6 months after **lung transplantation**

8 **88%** of patients experienced an improvement in their quality of life 6 months after **kidney transplantation**

 BENCHMARK: (A) State of São Paulo (2009–2021) vs. Einstein (2013–2021)

SATISFACTION WITH CARE

9 Average NPS for the last 3 years

Liver, lung, and kidney transplant patients	Heart transplant patients
100	80

Understanding the Transplant Indicators

SURVIVAL & PATIENT-REPORTED OUTCOME MEASURES

1 2 3 4 The one-year survival rate refers to the percentage of patients who live for at least one year after transplantation

5 6 7 8
The quality of life, in terms of health, of patients undergoing liver, kidney, lung, or heart transplants, measured by the EQ-5D-3L tool, which generates an index representing the patient's health status. The EQ-5D-3L is composed of five dimensions (mobility, self-care, usual activities, pain/discomfort, and anxiety/depression), each with three levels (no problem, some problems, and extreme problems). The level for each dimension can be combined to generate a score that ranges from -0.716 to 1. The higher the score, the better the quality of life. Patients respond to several questionnaires, one before starting treatment and then annually after the surgery.

SATISFACTION WITH CARE

9 Satisfaction is a measurable result of a patient's perception of the service and care they receive from professionals and the quality of the services provided during their time in the hospital. It can be measured by the Net Promoter Score (NPS), a metric used to assess customer loyalty and satisfaction with a given company. The NPS is calculated using the following formula: NPS = Promoters – Detractors / Total number of respondents. The following parameters are generally used as benchmarks: Excellent NPS: 75–100. Very good NPS: 50–74. Reasonable NPS: 0–49.

WHAT IS BEING DONE TO IMPROVE RESULTS

The Einstein Transplant Program operates both in the private system and in the public system through the PROADI-SUS partnership, guaranteeing the best survival results in Brazil in all types of transplantation. Einstein has an important role with Brazil's Ministry of Health and the National Transplantation System, training transplant centers and designing organ donation and transplant courses for SUS professionals.

Our fellowship programs require the institution and our professionals to be at the forefront of the development and incorporation of technologies, research, and refinement of transplantation management tools. Excellence in care, innovation, teaching, and research culminates in healthcare (survival, quality of life) and operational (efficiency, quality, patient safety) outcomes that give the program even greater international prestige. The team strives to continuously improve operational quality, safety, and efficiency processes. There are currently three Lean Six Sigma projects designed to continuously improve processes and increase practice cost-effectiveness and the patient experience in the public and private spheres.

The program carries out high-complexity transplants and is the only center performing certain procedures in Brazil, including double transplants (heart-lungs, heart-liver, liver-kidney), transplants involving hypersensitive and ABO incompatible (kidney) patients, multivisceral transplants, use of short- and long-term circulatory assistance devices as a bridge to heart transplantation, use of ECMO as a bridge to lung transplantation, and liver transplantation for severe acute liver failure (fulminant hepatitis).

SPECIALTIES

Maternity

Results – 2022

⟶ Reopened in 2020, the Einstein Maternity Center has a multidisciplinary team dedicated to caring for pregnant women and babies from prenatal care to delivery. It was one of the founders of the Appropriate Childbirth program, which has prevented more than 20,000 unnecessary cesarean sections since its implementation in 2021.

DELIVERIES

3,932

VAGINAL: 1,277
CESAREAN: 2,541
FORCEPS: 114

REGISTERED SPECIALIST PHYSICIANS

1,290

Gynecologists/Obstetricians

SCIENTIFIC PRODUCTION

38

ARTICLES PUBLISHED IN GYNECOLOGY & OBSTETRICS

★ ★ ★ ★ ★

24 in journals with an Impact Factor > 1

Program highlights

• **EngraVIDA Einstein Project** - prenatal care through structured consultations by the Primary Healthcare team and teams of obstetricians

• **Shared care**

• **Adequate Childbirth Project**

Education

POSTGRADUATE
2 programs

257
students

ADVANCED LEARNING
4 programs

12
students

MEDICAL RESIDENCIES

17
students

EINSTEIN'S NATIONALLY RENOWNED Maternity Center was reopened in April 2020. The physical infrastructure was extended and renovated, and its acclaimed technical and structural capacity, staff, and expertise was maintained. The complexity of the equipment was increased, allowing for obstetric surgical procedures of any level, including intrauterine fetal surgeries, laparoscopic or otherwise.

To ensure patient safety, the Maternity Center is staffed by the very best obstetrics professionals and specialists in diseases that can occur during pregnancy. It is supported by an adult ICU, a neonatal ICU, a 24-hour internal blood bank, and all the services of the general hospital to provide support and safety for mothers and babies.

All of the delivery rooms are private and have cardiotocography machines (to assess fetal health) connected to a central computer, which transmits data via telemetry (data transmission technology).

Thus, every delivery is safely monitored by the medical and nursing staff.

Adequate Childbirth Project

Adequate Childbirth Project was created in 2015 in response to a lawsuit filed against National Supplementary Health Agency (Agência Nacional de Saúde Suplementar – ANS) by the country's Federal Public Prosecutor, urging it to take greater measures to reduce the high percentage of unnecessary cesarean sections.

The lawsuit, motivated by the exceedingly high number of cesarean sections performed in the Brazilian supplementary health sector (well above globally accepted levels), led to development of the Adequate Childbirth project by the ANS in partnership with Einstein and the IHI, with support from the Ministry of Health. The purpose was to identify innovative and viable childbirth approaches that put an emphasis on safe vaginal delivery and reduced the percentage of cesarean sections that are not medically necessary in supplementary healthcare.

The initiative was designed to spread information and offer women and babies the right care at the right time throughout pregnancy, labor, and postpartum, while at all times considering the structure and preparation of multidisciplinary teams, evidence-based medicine, and the sociocultural and emotional conditions of pregnant women and their families.

As a result, vaginal births increased from 33% to 37% between 2017 and 2019, accompanied by an 18% reduction in admissions to the NICU.

In absolute numbers, the Adequate Childbirth project prevented more than 20,000 unnecessary cesarean sections between its implementation and 2021.

Shared Care

Strengthening the emotional bond, encouraging breastfeeding, and involving parents in the care of their newborn are some of the benefits of shared care — a model advocated by the World Health Organization (WHO) and the United Nations Children's Fund (UNICEF).

In line with best practices in healthcare, the Einstein Maternity Center follows the model by encouraging physical contact and keeping mothers and babies together during their entire stay under the care of the nursing team. It is important to note that there are circumstances when a newborn is unable to stay in the same room as the mother.

EINSTEIN RESULTS – 2022

● BETTER THAN TARGET ● CLOSE TO TARGET ● TARGET NOT REACHED

MATERNITY

▲ The higher, the better ▼ The lower, the better

COSTS & AVOIDABLE COMPLICATIONS

1 Misdiagnosis and treatment of severe postpartum hemorrhage

●

0%

▼

TARGET (T)
0%

2 Misdiagnosis and treatment of severe postpartum sepsis (need for ICU with orotracheal intubation/hemodialysis)

●

0%

▼

TARGET (T)
0%

3 Reoperation within 30 days (vaginal delivery + cesarean)

●

0,4%

▼

TARGET (T)
0,7% (T)

4 Surgical site infection post-cesarean

●

0,2%

▼

BENCHMARK (A)
0,3%

5 Preventable neonatal anoxia resulting in severe birth-related injury

●

0,03%

▼

TARGET (T)
0%

20,000

unnecessary cesarean sections in Brazil were prevented by the Appropriate Childbirth project

 BENCHMARK: (A) Associação Nacional dos Hospitais Privados (ANAHP) – observatory 2022 **(T) =** Institutional Target based on historical trends

EINSTEIN RESULTS – 2022

BETTER THAN TARGET · CLOSE TO TARGET · TARGET NOT REACHED

MATERNITY

▲ The higher, the better ▼ The lower, the better

APPROPRIATE CARE

6 Vaginal delivery rate – Robson 1–4

48%

TARGET (T)
52%

7 Overall vaginal delivery rate

35%

BENCHMARK (A)
22%

18%

the reduction in the number of admissions to neonatal ICU in Brazil between 2017 and 2019 due to the Adequate Childbirth project

WHAT IS BEING DONE TO IMPROVE RESULTS

Maternity is characterized by high resilience, constant changes, and a continuous search for better quality care. The safety of the mother and baby thus remains the focus. Actions taken include:

• The creation of an algorithm, based on historical data, to automatically identify (via the Cerner Millennium electronic health record) the risk of clinical decompensation in pregnant women for admission to the Severe Illness Department, alerting the Healthcare Monitoring Center (CMOA);

• Implementation of system for double-checking cardiotocography exams, with auditing and feedback; Testing of the automated cardiotocography reading system as a means of decision support;

• Resumption of Health Corporate Resource Management (training to establish a high-performance team);

• Improvement project to reduce surgical site infection after cesarean sections;

• Pursuit of international certifications to validate the aforementioned safety actions.

Understanding the Maternity indicators

COSTS & AVOIDABLE COMPLICATIONS

1 Postpartum hemorrhage is one of the leading causes of maternal mortality and morbidity worldwide. The purpose of this indicator is monthly monitoring of unscheduled blood transfusions due to postpartum hemorrhages that resulted in serious injury, as well as the results of actions designed to improve care during delivery and application of a protocol to prevent postpartum hemorrhage.

2 Rapid identification and immediate and suitable treatment of sepsis are key to patient survival. Serious adverse events related to misdiagnosis are defined as unexpected and potentially avoidable events (because they are not related to the natural course of the disease, treatment, or underlying condition). These events cause patients serious physical harm due to errors in the diagnostic process and/or appropriate treatment. The consequences of these errors also include failures in patient allocation or adherence to protocols implemented at the institution (such as for sepsis).

3 Measures the reoperation rate within 30 days of vaginal delivery or cesarean section, with the aim of assessing the reasons and planning measures to prevent complications where possible, in addition to evaluating the impact of existing preventive measures.

4 Surgical site infection after a cesarean section can occur up to 30 days after the surgery and consists of an inflammatory infectious process at the site of the incision, with purulent drainage, which may or may not test positive for bacteria. The occurrence of such infections is related to an increase in post-cesarean hospitalizations and the maternal mortality rate. This metric is important to creating essential action plans for improving patient safety and care.

5 This indicator includes all babies born in the hospital with an Apgar score lower than 6 at the 5th minute of life and in need of ventilatory support, denoting severe avoidable anoxia related to their birth. The purpose of this measurement is monthly surveillance of the number of newborns (NBs) with neonatal anoxia related to delivery, observing the results of measures taken to improve childbirth care.

APPROPRIATE CARE

6 Robson classification 1 to 4 comprises pregnant women who have not previously had a cesarean section and whose fetuses are at term (over 37 weeks) and in cephalic presentation. These women are considered to have a lower gestational risk and are therefore better suited to vaginal deliveries. Avoiding cesarean sections in this group makes it easier to sustain vaginal delivery rates in the long term, as the chances of an abdominal delivery increase significantly in women who have had a cesarean section in the past. The importance of this indicator lies in the fact that cesarean sections are associated with greater maternal risk but do not reduce perinatal risk.

7 The World Health Organization estimates that cesarean sections are used in more than 1 in 5 births worldwide. In some cases, it is an essential and life-saving surgery, but when performed without a proper medical need, it can put pregnant women and babies at unnecessary short- and long-term health risks. The vaginal delivery rate therefore expresses a health system's level of concern with safety in healthcare. The higher the number, the better.


ALBERT EINSTEIN
HOSPITAL ISRAELITA

SPECIALTIES

Pediatrics

Results – 2022

⟶ Einstein Hospital's Pediatrics Center provides a specialized structure for child treatment and care, including an intensive care unit (ICU), an exclusive immunization clinic, and an emergency room, in addition to multidisciplinary teams that treat chronic, complex, and difficult-to-control diseases with great efficiency.

CONSULTATIONS (2022)

23,428

PEDIATRIC SURGERIES

4,344

< 18 years of age

REGISTERED SPECIALIST PHYSICIANS

997

pediatricians

SCIENTIFIC PRODUCTION

66

ARTICLES PUBLISHED

★ ★ ★ ★ ★

9 in journals with an impact factor > 1

SEALS & CERTIFICATIONS

RANKING NEWSWEEK 2023
Named the 78th best hospital in the world for pediatrics

Program highlights

Cincinnati Children's

Partnership with Cincinnati Children's Hospital – Including training and annual symposium on specialties

Vermont Oxford NETWORK

Cooperative agreement with Vermont Oxford Network (VON) for neonatologists

CARE FOR newborns, children, and adolescents is provided through a specialized structure, with a professional team that continuously strives to ensure excellence in patient care quality. The objective of all our pediatrics services is to work in harmony with the physicians treating every patient and to attend to the personal needs of every child, parent, and family member whenever possible.

THE HIGHLIGHTS ARE DETAILED BELOW:

Pediatric Emergency Room

Einstein's pediatric emergency room, which operates 24 hours a day, 7 days a week, is staffed by pediatricians trained in emergency healthcare for children of all ages, from newborns to teenagers. The team works together with orthopedists, surgeons, and physicians from a range of specialties (such as otorhinolaryngologists, ophthalmologists, and endoscopists) whenever necessary.

Neonatal Intensive Care Unit (NICU)

The Einstein NICU's technological and professional infrastructure allows for the care of extremely premature and critically ill newborns, offering humanized and integrated care from the moment of birth until discharge.

Our multidisciplinary team has specialist training in caring for this age group and engages in programs to encourage breastfeeding and to educate parents, whose participation in the care process makes a huge difference.

The NICU is part of the Vermont Oxford Network, putting it on an equal footing with the best neonatal units in the world and giving patients access to the best clinical outcomes at the end of the pediatric care journey.

Pediatric Intensive Care Unit (PICU)

The PICU has run an ISO 9002–certified quality program since May 1998, prioritizing frequent training of all teams involved in patient care and investment in state-of-the-art medical technology.

Einstein's PICU professionals believe in the importance of family participation throughout the therapeutic process of hospitalized children. This involvement is encouraged throughout the patient's time in hospital, at all PICU units, ensuring conditions are created for parents to stay at their children's side, providing the emotional support needed for a full recovery and reducing trauma, which is common to this type of hospitalization.

Immunization Clinics

All of the Immunization Clinic's work is carried out with maximum rigor, from the careful choice of vaccine sources and the development of ideal conservation conditions to their administration by experienced professionals. It offers all of the vaccines listed by the São Paulo State Health Department (official immunization schedule), in addition to others suggested by the Brazilian Society of Pediatrics and international immunization centers.

Pediatric Specialties Clinic

Einstein's Pediatric Specialties Clinic offers integrated and specialized medical care for children and adolescents with chronic, complex, or difficult-to-control diseases.

It also runs several programs that involve evaluation by a multidisciplinary team, such as:

Multidisciplinary Monitoring of Child Development

Development, Behavior, and Learning Assessment

Childhood Diabetes

Voiding Dysfunction & Enuresis

Fetal Surgery

The biggest differentials are diagnosis and treatment efficiency and precision, supported by the multidisciplinary approach and participation of specialists.

The specialties include allergies and immunology, cardiology, heart surgery, pneumology, neurology, plastic surgery, dermatology, sleep disorders, endocrinology and growth disorders, nutrology, physiatry, orthopedics, rheumatology, gastroenterology, clinical genetics, herbal medicine, hepatology, infectious diseases, nephrology, urology, pediatric otorhinolaryngology, oncology, hematology, psychiatry, and child psychology.

Education

POSTGRADUATE
5 programs

216
students

MEDICAL RESIDENCIES
Pediatric intensive care:
3 students

Neonatology:
2 students

Pediatrics:
11 students

EINSTEIN RESULTS – 2022 ● BETTER THAN TARGET ● CLOSE TO TARGET ● TARGET NOT REACHED

PEDIATRICS

▲ The higher, the better ▼ The lower, the better

COSTS & AVOIDABLE COMPLICATIONS

1 Infant bloodstream infection rate (per 1,000 central venous catheter days) – (NICU, PICU, and pediatric ward)

0,27 ▼

BENCHMARK (A) 1,11

2 Mechanical ventilator–associated pneumonia rate (NICU and PICU)

0,00 ▼

BENCHMARK (A) 0,69

3 Chronic lung disease rate in newborns weighing < 1500 grams or born < 30 weeks

16% ▼

BENCHMARK (B) 29%

4 Late-onset neonatal infection rate in newborns weighing < 1500 grams or born < 30 weeks

0% ▼

BENCHMARK (B) 11%

APPROPRIATE CARE

5 Exclusive breastfeeding rate until hospital discharge in newborns weighing < 1500 grams or born < 30 weeks

23% ▲

BENCHMARK (B) 3,7%

SURVIVAL & PATIENT-REPORTED OUTCOME MEASURES

6 Morbidity-free survival rate in newborns weighing < 1500 grams or born < 30 weeks

55% ▲

BENCHMARK (B) 52%

7 Neonatal mortality rate in newborns weighing < 1500 grams or born < 30 weeks

18% ▼

BENCHMARK (B) 14%

8 Mortality or morbidity rate in newborns weighing < 1500 grams or born < 30 weeks

45% ▼

BENCHMARK (B) 48%

BENCHMARK: (A) Associação Nacional dos Hospitais Privados (ANAHP) (B) Vermont Oxford Network (VON) – Data from 2021 **NB =** newborn

Understanding the Pediatrics indicators

COSTS & AVOIDABLE COMPLICATIONS

1 This indicator is used for epidemiological surveillance of bloodstream infections associated with a central venous catheter (CVC) in neonatal and pediatric patients. Infection occurs when bacteria or other germs present at the insertion site reach the bloodstream, resulting in bacteremia, which if not treated properly can lead to sepsis.

2 Measures the incidence of mechanical ventilator–associated pneumonia in neonatal and pediatric ICUs among patients who used invasive mechanical ventilation (IMV) for more than two days and presented the defining signs and symptoms of the condition.

3 Chronic pulmonary disease is one of the most serious clinical complications observed in survivors of neonatal ventilatory diseases, diagnosed as a prolonged need for oxygen and specific radiological alterations. Monitoring this indicator allows measures to be implemented to improve neonatal care by reducing the risks of its occurrence.

4 Neonatal infection is classified as early- or late-onset, depending on when it occurs. Late-onset neonatal infection is one that begins more than 72 hours after the baby is born and is more frequent in very low birth-weight newborns who remain in the NICU for a long time. It is also more associated with hospital germs. Knowledge of this indicator is important to defining procedural changes to improve care quality.

APPROPRIATE CARE

5 Exclusive breastfeeding means the newborn consumes breast milk only. Providing nutrition exclusively from human milk is a major objective for the overall health of preterm babies. The support of an interdisciplinary team whose care focuses on the needs of the child and family is fundamental to this process during the stay in hospital. By monitoring this metric, measures can be adopted to optimize exclusive breastfeeding at the moment of discharge.

SURVIVAL & PATIENT-REPORTED OUTCOME MEASURES

6 Indicator that measures the number of newborns that weigh < 1,500 grams or are born age < 30 weeks and present no morbidities until the moment of discharge.

7 This indicator reflects the number of newborns that die weighing < 1,500 g or aged < 30 weeks. The risk of neonatal mortality in preterm infants with birth weight ≤ 1500 g is associated with several maternal, obstetric, and neonatal factors, some of which are preventable, which is why it is so important to monitor this indicator.

8 Morbidity is the rate of individuals with a given disease within a given group. This indicator expresses the number of newborns that die weighing < 1,500 grams or aged < 30 weeks, or survive with one or more morbidities.

WHAT IS BEING DONE TO IMPROVE RESULTS

In Pediatrics and the PICU, therapeutic toys are used to reduce anxiety and fear during hospitalization. This technique has a positive influence on children and their families, resulting in more humanized care, improving communication and consequently reducing suffering. Other recreational activities are also offered, such as visits from comic book characters, pets, magicians, and clowns. The Einstein nursing staff has been trained in ultrasound-guided venipuncture and exam collection to increase the effectiveness of the puncture process and consequently reduce the number of negative experiences.

* In 2021, of 38 babies born at 22–30 weeks of gestation or weighing less than 1,500 grams, there were 7 deaths, five of which were extreme cases (born at the viability limit of 22 weeks), one was born at 23 weeks weighing 395 grams, and one was born at 27 weeks with severe intrauterine intracranial hypertension.

SPECIALTIES

Intensive Care

Results – 2022

⟶ With 149 beds, Einstein's Intensive Care Unit serves a more complex patient profile than other internationally accredited hospitals. Despite this fact, excellent care quality is maintained thanks to the dedication of a multidisciplinary team that constantly works toward safer and more individualized processes

DISCHARGES FROM ICU

11.278

REGISTERED SPECIALIST PHYSICIANS

92

74 Intensive care physicians
9 Cardiologists
9 Neurologists

SCIENTIFIC PRODUCTION

119

ARTICLES PUBLISHED

★ ★ ★ ★ ★

47 in journals with an impact factor > 1

SEALS & CERTIFICATIONS

TOP Performer
AMIB/Epimed®

Education

POSTGRADUATE
4 programs

546
students

MEDICAL RESIDENCIES

10
students

RESIDENCIES – MULTIPROFESSIONAL

12
students

THE INTENSIVE CARE CENTER (ICC) at Einstein Hospital encompasses the Adult Intensive Care Unit and Transplantation Center, the Semi-Intensive Unit, the Cardiac Semi-Intensive Care Unit, and the Neurological Semi-Intensive Care Unit. In total, there are 149 dedicated beds.

The Intensive Care Unit, which currently has 47 beds, is used for the critical care of the most serious and complex cases. Our benchmarking process identified that the severity of patients treated at the Einstein ICU is higher than in other internationally accredited ICUs. The SAPS 3 Score (used to predict the mortality rate of patients admitted to ICU) of patients treated at Einstein averaged 43.9 in 2022, compared to 41.7 at other internationally accredited hospitals. The SOFA score (used to quantify ICU morbidity) of patients treated at Einstein averaged 3.1, compared to 1.5 at other internationally accredited hospitals, reflecting the greater severity of cases treated at Einstein's adult ICU.

In addition to greater severity, the patients also undergo greater changes in the *Charlson Comorbidity* Index compared to patients treated at other internationally accredited ICUs (2.1 at Einstein versus 1.4 at other hospitals). This index reflects a patient's preexisting diseases and comorbidities, which further increase the risk of death. Despite attending to more complex cases, Einstein's ICU is considered a *Top Performer* by AMIB and *Epimed Solutions*® based on the high level of clinical outcomes and efficient and sustainable allocation of resources.

Cases are discussed by specialists and intensive care physicians in daily multidisciplinary meetings, promoting safe and individualized care for every patient.

Objectives and targets are constantly proposed and pursued. Family members can actively participate, with visits extended and one person allowed to stay 24 hours a day, ensuring patients and their families receive a more humanized approach to care. Comprising 58 beds, the Semi-Intensive Care Unit is for patients with cases of moderate severity or those recovering from critical conditions. The Cardiac Semi-Intensive Care Unit is specifically for patients with cardiac alterations who need the support of a specialized semi-intensive care unit.

The Neurological Semi-Intensive Care Unit provides this level of care to patients with neurological impairments, such as post-stroke patients, people with neuromuscular diseases, or patients undergoing neurosurgery. These two units are responsible for 44 beds, all overseen by a monitoring center that identifies clinical changes in real time.

EINSTEIN RESULTS – 2022 ● BETTER THAN TARGET ● CLOSE TO TARGET ● TARGET NOT REACHED

GENERAL INTENSIVE CARE UNIT

▲ The higher, the better ▼ The lower, the better

COSTS & AVOIDABLE COMPLICATIONS

1 Central line-associated bloodstream infection rate (per 1,000 central venous catheter days)

0,13

▼ BENCHMARK (B) 1,95

2 Mechanical ventilator–associated pneumonia rate (per 1,000 days of mechanical ventilation)

0,50

▼ BENCHMARK (B) 4,44

3 Catheter-associated urinary tract infection Rate (per 1,000 indwelling urinary catheter days)

0,00

▼ BENCHMARK (B) 1,00

4 ICU readmission rate within 48 hours of discharge

2%

▼ BENCHMARK (A) 2%

5 Average length of stay in ICU

4 DAYS

▼ BENCHMARK (A) 6 days

APPROPRIATE CARE

6 Standardized resource utilization rate (SRUR)

0,68

▼ BENCHMARK (A) 0,73

 BENCHMARK: (A) Epimed solutions – filter: hospitals with international accreditation. (B) Associação Nacional dos Hospitais Privados (ANAHP)

EINSTEIN RESULTS – 2022

BETTER THAN TARGET · CLOSE TO TARGET · TARGET NOT REACHED

GENERAL INTENSIVE CARE UNIT

▲ The higher, the better ▼ The lower, the better

SURVIVAL & PATIENT-REPORTED OUTCOME MEASURES

7 ICU mortality rate

5,9% ▼

BENCHMARK Ⓐ
6%

8 Standardized mortality rate (SMR)

0,73 ▼

BENCHMARK Ⓐ
0,72

RISK SCORES

SAPS 3

43,9

BENCHMARK Ⓐ
41,7

SOFA

3,1

BENCHMARK Ⓐ
1,5

Charlson Comorbidity Index

2,1

BENCHMARK Ⓐ
1,4

WHAT IS BEING DONE TO IMPROVE RESULTS

High-performance intensive care units continuously strive for greater patient safety and more humanized and patient-centered forms of care.

With the aim of becoming a highly trusted ICU, Einstein has developed and implemented several improvement projects. One highlight is the early identification and management of patients who require constant, rigorous monitoring due to being at greater risk of serious or catastrophic adverse events ("watcher patients"), in addition to the establishment of a second layer of remote monitoring at the Healthcare Monitoring Center (CMOA), where vital signs, laboratory data, and images of all semi-intensive care unit patients are monitored 24 hours a day.

Understanding the General Intensive Care Unit indicators

COSTS & AVOIDABLE COMPLICATIONS

1 Catheter-associated bloodstream infections occur when bacteria or other germs present at the insertion site reach the bloodstream, resulting in bacteremia, which if not treated properly can lead to sepsis. This indicator analyzes the incidence of bloodstream infections associated with the use of a central venous catheter (CVC) in patients who used a CVC for more than two days and presented the defining signs and symptoms of the condition.

2 Measures the incidence of mechanical ventilator–associated pneumonia in adult ICUs among patients who used invasive mechanical ventilation (IMV) for more than two days and presented the defining signs and symptoms of the condition.

3 Analyzes the incidence of urinary tract infections associated with the use of an indwelling venous catheter (IVC) in patients who used an IVC for more than two days and presented the defining signs and symptoms of the condition.

4 Due to the severity of cases admitted to the ICU, readmissions during the same stay in hospital and in a short period of time are associated with higher morbidity and mortality. Patient readmission and mortality after discharge from the ICU are considered indicators of healthcare quality. These metrics are useful for indicating service performance and improvement measures and strengthening decision making.

5 A health indicator that identifies the average amount of time patients spend in hospital. It is a classic indicator related to good clinical practices, demonstrating whether hospital beds are being managed efficiently.

APPROPRIATE CARE

6 The SRUR is the ratio of the observed length of stay (in days) for all ICU patients and the severity-adjusted length of stay. Thus, an SRUR of more than 1 (one) is interpreted as the use of more resources than expected for that ICU (considering only the number of patients who survive their stay in hospital). An SRUR of less than or equal to 1 (one) indicates that the use of the resources was consistent with expectations, suggesting the ICU is efficient at allocating and using its resources.

SURVIVAL & PATIENT-REPORTED OUTCOME MEASURES

7 Patient readmission and mortality after discharge from the ICU are considered indicators of healthcare quality. These metrics are useful for indicating service performance and guiding improvement measures, strengthening decision making.

8 The standardized mortality rate (SMR) is the ratio between observed mortality (numerator) and expected mortality (denominator), which is estimated by one of the predictive equations of SAPS 3: the current prognosis score.


B BRAUN
MATERIAIS
RESPIRATÓRIO

SPECIALTIES

Emergency Care

Results – 2022

⟶ Einstein's Emergency Care is certified by the Joint Commission International, the world's most respected medical certifying body, and has all the resources needed to handle highly complex cases.

NUMBER OF PATIENTS

344,264

(Morumbi EC Advanced Units)

ER PHYSICIANS

254

SCIENTIFIC PRODUCTION

5

ARTICLES PUBLISHED

★ ★ ★ ★ ★

1 in journals with an impact factor > 1

LINES OF CARE

Emergency

Program highlights

- 5 EC departments in São Paulo
- 24-hour service
- Medical clinic, Pediatrics, Orthopedics, and Surgery
- Mobile Emergency Unit

Education

POSTGRADUATE
4 simultaneous classes with

176
students

MEDICAL RESIDENCIES
(Emergency Medicine)

6
students

ANNUAL EINSTEIN EMERGENCY CONGRESS WITH NPS OF 97
and roughly 700 participants

5,7%

the rate of hospitalizations from the Emergency Care

THE 24-HOUR ER DEPARTMENT'S
care team is trained to respond to emergencies in accordance with institutional protocols based on the best scientific evidence.

It has all the resources needed to deal with highly complex cases, offering healthcare services in clinical medicine, general surgery, pediatrics, and orthopedics. Patients admitted to hospital are supported by physicians from a wide range of specialties.

EINSTEIN RESULTS – 2022 ● BETTER THAN TARGET ● CLOSE TO TARGET ● TARGET NOT REACHED

EMERGENCY CARE

▲ The higher, the better ▼ The lower, the better

APPROPRIATE CARE

1 Door-to-triage time

●

6 MIN

▼

TARGET (T)
5 min

2 Door-to-doctor time

●

33 MIN

▼

TARGET (T)
25 min

3 Percentage of patients who left the ER before being seen

●

1,0%

▼

BENCHMARK (A)
2,0%

4 Percentage of patients admitted to hospital from the EC

●

5,7%

▼

BENCHMARK (B)
11%

5 Adherence to the 1st hour sepsis bundle by the EC units

●

86%

▲

TARGET (T)
90%

6 Choosing Wisely Index

●

5,6

▼

TARGET (T)
6,9

COSTS & AVOIDABLE COMPLICATIONS

7 Average length of stay in EC

●

143 MIN

▼

BENCHMARK (A)
143 min

8 72-hours readmission from intensive or semi-intensive care or a surgical center

●

3,2%

▼

TARGET (T)
3,9%

 BENCHMARK: (A) The Centers For Medicare & Medicaid Services (B) ANAHP – DADO HOSPITAIS DO SUDESTE **(T) =** Institutional Target

Understanding the Emergency Care indicators

APPROPRIATE CARE

1 Time between the patient arriving at the ER and being triaged by the nursing team. The "door" time is the moment a patient arrives at the EC and the "triage" time is the moment a nurse completes the triage process and refers the patient to medical care. The door-to-triage time for serious emergencies where the patient is sent for immediate medical care with no triage is counted as 00:00.

2 Time between the patient arriving at the EC and being examined by a physician. The "door" time is the moment a patient arrives at the ER and the "doctor" time is the moment a medical professional indicates on electronic medical record that the consultation began. The door-to-doctor time for serious emergencies where the patient is sent for immediate medical care is counted as 00:00.

3 This indicator shows the number of patients who left the EC before receiving medical care, as a percentage of the total number of consultations at all EC units on that same day.

4 Shows the total number of hospital admissions via EC departments from the total number of EC visits.

5 This indicator measures the percentage of EC patients with signs of sepsis who were treated in accordance with the 1st hour bundle. In the 1st hour bundle, serum lactate must be collected within 30 minutes and cultures must be collected and intravenous antibiotics initiated within 1 hour. Patients with arterial hypotension or tissue hypoperfusion (serum lactate greater than or equal to 36 mg/d) should undergo volume expansion, preferably with Ringer's lactate solution. In addition to starting antibiotic therapy, surgical procedures to control the focus of infection may be necessary, such as drainage of abscesses, removal of invasive devices, wound debridement, etc.

6 The Choosing Wisely guidelines aim to avoid unnecessary tests, procedures, and treatments based on current recommendations from the world's best-known medical organizations, thus reducing patient exposure to risks. In 2015, Einstein implemented the Choosing Wisely recommendations based on the potential patient benefit of using these resources more stringently. This indicator expresses the total number of cases that did not comply with the recommendations included in the Choosing Wisely index, divided by the total number of ER visits (with specialty filter x 10,000). Cases that follow the Choosing Wisely indicators include:

- **CT scans in children under 2 years of age with low-risk TBI CT request**
- **Uncomplicated rhinosinusitis**
- **Appropriate indication for angio-coronary-tomography - Low and intermediate risk chest pain**
- **CT request - Low back pain**
- **Non-prescription of anti-flu and/or cough suppressants for cough and common cold in children and adolescents**

COSTS & AVOIDABLE COMPLICATIONS

7 Measures the average length of stay, in minutes from arrival to the end of emergency care, of patients admitted to the ER.

8 Patients who visited the ER and had to return within 72 hours and whose outcome during this period (regardless of the number of return visits) is admission to intensive or semi-intensive care or referral to the operating room for surgery, with non-compliances identified in the diagnosis, treatment, and/or continuity of care, divided by the number of ER visits x 10,000.

WHAT IS BEING DONE TO IMPROVE RESULTS

The COVID-19 pandemic has created numerous challenges for the healthcare system, with ER departments around the world facing immense pressure. Einstein's Emergency Room was one of the most impacted. The high demand for emergency care and the new profile of ER patients have led to long waiting times for care and admission. Einstein Hospital has been endeavoring to expand and hire new professionals for the team, maintaining its focus on improving care quality. Constant training, revision of care protocols, and hiring of professionals with expertise in emergency medicine have helped improve quality and safety indicators.

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EXECUTION

Concept & direction:
Healthcare Economy – Einstein

Editorial coordination:
Institutional Communication – Einstein

Design: Estúdio Nono
Text production: Doxa Conteúdo

ALBERT EINSTEIN

SOCIEDADE BENEFICENTE ISRAELITA BRASILEIRA