PEOPLE
TEACHING
RESEARCH
CHARITÉ OFFERS OUTSTANDING HEALTH CARE. CHARITÉ’S STAFF MEMBERS DELIVER CLINICAL CARE, RESEARCH, AND TEACHING TO THE HIGHEST INTERNATIONAL STANDARD. ALL OF THEIR EFFORTS COMBINE EXCEPTIONAL EXPERTISE WITH SOCIAL RESPONSIBILITY.

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Charité – Universitätsmedizin Berlin, which recently marked its 300-year anniversary, is now the largest university hospital in Europe. Throughout its history, Charité has been dedicated to research, teaching, and medical care. We hope that our brochure ‘People – Teaching – Research’ will provide an insight into the numerous facets of our organization.

Welcome to Charité. For over 300 years, we have been attracting people and interest, not simply from within the Berlin area and the rest of Germany, but also from all over the world. Whether patients, physicians, researchers or nursing staff, people come to us because they share a faith in Charité’s expertise and reputation, both of which were built on modern treatment methods, internationally-renowned research facilities, and innovative teaching concepts. People are at the center of everything we do. The well-being of our patients is our motivation, and we are not happy unless we know you and your family members are comfortable.

Charité is not merely a center of excellence in research, teaching and medical care. Within the wider Berlin-Brandenburg area, Charité also acts as a driving force within the health care industry, with many businesses choosing to position themselves nearby, and thus creating a large number of jobs. Charité also acts as a driver of innovation within the life sciences, a role regularly reinforced through its involvement in a diverse range of cooperative projects with industrial partners and non-university-based research organizations. Naturally, Charité also plays an important role within the social care arena. Aside from being responsible for the well-being of its patients, Charité is also actively involved in supporting victims of violence. In an effort to find solutions to current and future challenges within the field of medicine, Charité is also leading the current debate on developments within the national and international health care systems.

Although intended to provide an insight into the various facets that make up Europe’s largest university hospital, this brochure cannot claim to provide a true representation of an organization of this size and complexity. We sincerely hope that, after reading this brochure, you will want to discover our strengths first-hand, and you are hereby cordially invited to visit us at any time.
Charité’s long tradition of excellence in medical care, research, and teaching dates back hundreds of years. Time and again, Charité’s outstanding staff members have pioneered new scientific developments that have been, and continue to be, instrumental to modern medicine.

Its history, stretching back more than three hundred years, has become intricately linked with that of Berlin, Germany, and Europe. Having been shaped by political, societal, and social influences and developments, Charité’s history, makes for a particularly interesting read.

Today, Charité is the largest university hospital in Europe, and enjoys an outstanding international reputation within the fields of both medicine and academia.

From ‘pest house’ to a hospital for the poor
Rather than being driven by ambitions of clinical excellence, Charité’s foundation (in 1710) was a direct result of a general fear of the ‘black death’, which was gradually advancing toward Berlin from Northeastern Europe. In response to the threat of an epidemic, King Frederick I, King of Prussia, ordered a ‘pest house’ to be built outside the Berlin city walls, which would serve as an isolation unit for anyone infected with the disease.

Although the disease was highly contagious, Berlin managed to escape unscathed, leaving a search to find a new use for the now superfluous pest house. Initially, the building was used both as a home for the poor and a military hospital for ill and injured soldiers. In 1726, a district medical officer by the name of Christian Habermaass suggested to the king that the building could be converted into a care home for the poor. As the move would also allow army physicians to gain some desperately needed clinical experience, King Frederick I agreed. As part of a move that would grant the institution tax-free status, the king named the building Charité — after the French word for ‘compassion’.

Charité, which established itself as the city’s hospital for the poor, provided care to a wide range of patients, including soldiers, the poor, unmarried pregnant women, and prostitutes. Overuse and overcrowding soon led to a marked decline in the quality of medical care available; modifications were necessary. 1785 marked the beginning of construction work on an imposing new building. A further extension to this building, which was constructed in the style of the late Baroque era, was added in 1834.

Charité’s first Golden Age
During the same period, the delivery of medical care also became more professional. Initially, army physicians were assisted by former patients — an arrangement that allowed patients to pay off the cost of their hospital stay and treatment. This situation changed in 1832 with the foundation of Charité’s School of Nursing, which led to the use of trained nursing staff.

Medical training also improved. Prior to 1810, and the transfer of medical training to the higher education sector, all of Charité’s physicians were practice-oriented professionals.
who relied on, and were guided by, their own professional experience. The first training course offered by the newly-founded University of Berlin (now Humboldt-Universität zu Berlin) attracted a total of 117 new students in its first semester.

The event also marked the beginning of Charité’s triumphant successes within the field of research. Many famous researchers (including, at a later stage, female scientists) made groundbreaking discoveries while working at Charité – invaluable contributions to both its growing international reputation and the history of modern medicine. The years between 1840 and 1920 represent a first Golden Age in the history of Charité, and include the contributions of eminent researchers such as the pathologist Rudolf Virchow, the physician Ludwig Traube, the psychiatrist Wilhelm Griesinger, and the internist Rahel Hirsch. The groundbreaking discoveries by Nobel Prize laureates Emil von Behring, Paul Ehrlich, and Robert Koch are also intricately linked with Charité’s history. In total, Charité can lay claim to more than half of all German Nobel Prize winners in Physiology or Medicine.

Transformation into a modern university hospital

Although Charité was able to celebrate previously unknown levels of success within the field of research; the hospital was also receiving criticism for its falling standards of hygiene. Toward the end of the 19th Century, many of its wards were overcrowded or in a state of disrepair. Having assessed Charité’s facilities, the Workers’ Hygiene Committee (Arbeiter-Sanitätskommission) – a committee tasked with monitoring standards of hygiene – demanded that all buildings be comprehensively renovated and modernized. They also demanded improvements to medical care. The committee’s call for a boycott of Charité was heeded by all Berlin-based health insurance providers, and resulted in a rapid drop in the hospital’s overall revenue. In 1896, the Prussian parliament finally approved the funding required for a comprehensive building and renovation program. Construction lasted until 1917, and resulted in the iconic red brick hospital complex that is still a characteristic feature of the Charité’s Berlin-Mitte campus, and which covers 133,000 square meters (nearly 1.5 million square feet). During the first third of the 20th Century, improved treatment conditions allowed Charité to develop into a modern general hospital.

Charité during the 20th Century – history reflected

The hospital’s first Golden Age was followed by the darkest chapter in German history. The Nazi era spelled disaster for the German scientific community and cultural life in general. Charité did not escape untarnished. ‘Racial hygiene’ measures and ‘political reasons’ led to the dismissal of at least 145 physicians and scientists across Charité, including Selmar Aschheim and Bernhard Zondek, two internationally-renowned gynecologists who had developed the first-ever biological pregnancy test. While many of Charité’s former members of staff went into exile, large numbers of researchers were unable to get to safety and perished in concentration camps.

Of the staff members who remained, the majority adapted to the new political pressures, but there were also some instances of active resistance against the Nazi regime. Among those who followed their conscience was Georg Groscurth, a lecturer in Internal Medicine, who was arrested and sentenced to death; he was executed at the prison in Brandenburg on May 8, 1944. Charité staff members who were implicated in the crimes perpetrated by the Nazi regime included: Maximilian de Crinis, a psychiatrist, who was actively involved in organizing ‘Action T4’, a forced euthanasia program for mentally-ill patients; Fritz Lenz, an expert in ‘racial hygiene’; and Lothar Kreuz, an orthopedic surgeon.
From ‘pest house’ to Europe’s largest university hospital

Discovering the marvels of medical history

Berlin’s Museum of Medical History at Charité offers visitors an insight into the workings of the human body and the history of the medical sciences over the past 300 years. The museum’s permanent exhibition Dem Leben auf der Spur (‘tracking the path of life’) includes Rudolf Virchow’s famous specimen collection, medical wax models and instruments, as well as a historical medical ward. With its collection of 1,400 objects, the museum attracts approximately 70,000 visitors a year, including both experts and members of the general public.

Further information: www.bmm-charite.de

The Nazi regime and the war it initiated spelled ruin for Charité, including financially. By 1945, 20% of its buildings had been completely destroyed, 40% had sustained severe damage, and minor damage had been caused to a further 30%. Only 10% of the hospital’s buildings were left virtually unaffected.

In an effort to confront its Nazi past, Charité has been actively involved in supporting research and has initiated a series of relevant events. Insights and findings are being made available to the public, including at the Berlin Museum of Medical History. During the time of the GDR (German Democratic Republic), Charité became a flagship institution of the socialist regime. By 1960, the majority of its characteristic red brick buildings, which had been largely destroyed during the war, had been completely rebuilt. The years between 1976 and 1982 saw the completion of a 21-storey, specialist surgical center (COZ). This new-build provided ideal conditions for first-class health care services for patients from all over the country, as well as offering first-class facilities for research and teaching. Once again, Charité achieved international recognition for its work in certain fields of research, including neuroscience.

A new quest to regain old strength
The Fall of the Berlin Wall (1989) and the reunification of the two German states (1990) once again heralded an era of fundamental change. Despite its rich tradition, Charité now faced the challenge of successfully positioning itself within the new health care market, which arose from the reunification of Berlin. This required major restructuring, the reorganization of many of Charité’s Departments and Institutes, and a process of rationalization, which would allow the organization to meet the economic challenges of the 21st Century. Contemporaneously, Charité initiated efforts to secure its international standing in research, teaching, and medical care. All of these ambitious targets were met when Charité merged with the university hospitals in West Berlin.

Charité’s merger with Rudolf-Virchow-Krankenhaus
In 1997/98, Charité merged with Rudolf-Virchow-Krankenhaus, a hospital whose construction (approximately 100 years previously) had been prompted by its eponymous founder. Situated in Berlin-Wedding, a former working man’s district in northwest Berlin, and built in the ‘pavilion-style’, it was one of the most beautiful hospitals ever constructed. The hospital complex, which comprised 57 separate buildings situated along a 500-meter long avenue lined with chestnut trees, also provided accommodation for approximately 700 staff members, physicians, nurses, and service personnel. Prior to suffering severe damage during the Second World War, the imposing pavilion-style complex had a park-like appearance, with generous lawn areas, flower beds, a fountain, and a multitude of park benches. Only a few of the original buildings remained intact. New structural features were added toward the end of the 1980s when the complex, which is now protected as a historical monument, was turned into a university hospital. The merger in 1997/98 saw Rudolf-Virchow-Krankenhaus become part of Humboldt University’s Medical Faculty.

Presence in Berlin-Buch
2001 saw the acquisition of two further hospitals, both of which are situated on...
From ‘pest house’ to Europe’s largest university hospital

Charité’s merger with the Benjamin Franklin University Hospital

A further merger was completed in 2003, when Charité acquired the Benjamin Franklin University Hospital (UKBF), a hospital with approximately 1,200 beds and 36 separate research facilities. UKBF, which was situated in the southwestern part of Berlin, was effectively a product of the partition of Germany. The foundation of Freie Universität in 1948 was the direct result of efforts by the Western sectors to match developments in the Eastern sector. The new medical faculty, which had been founded at the same time, was initially based across numerous municipal hospitals, as Klinikum Steglitz, the new university hospital complex, was not built until the 1960s. The United States Government provided a considerable portion of the funding required for the project, and set up the Benjamin Franklin Foundation to administer this funding. In recognition of this support, the hospital was later named after one of the founding fathers of the United States of America – Benjamin Franklin.

Four campuses – one identity

These three mergers resulted in all of Berlin’s university-based medical institutions and facilities being combined under one roof; that of Charité – Universitätsmedizin Berlin. Thus, over the course of only a few, short years, Charité had become not simply one of the largest, but also one of the leading university hospitals in Europe. Closer integration of the different sites also coincided with a reorganization and rationalization of existing structures. This process allowed Berlin’s university-based medicine to recapture its former glory, and resulted in many of its constituent institutions returning to top position within ranking schemes for research, teaching, and medical care.

Charité’s first female professor

Initially not permitted to study at a German university because of her gender, Rahel Hirsch began her medical studies at Zurich University in 1898, later moving to Leipzig and then Strasbourg. Following the completion of her doctoral degree, she moved to Charité, where she started her research into metabolic processes in 1903. She was the first researcher to prove that undissolved substances such as starch particles can be eliminated, not only via the intestine, but also via the kidneys. Despite being mocked by many of her male colleagues when she presented her findings in 1907, she remained unperturbed and continued with her research. Her persistence was rewarded when, in 1913, she became Charité’s first female professor.
Commitment to innovation and a deep sense of responsibility
Charité holds the remarkable position of being both steeped in tradition and at the forefront of modern medicine. Having long since found a way to allow the two to co-exist in harmony, its progress continues to be shaped by its long and proud history, even during the first part of the 21st Century. As the birthplace of many pioneering innovations, Charité has developed into an easily-recognizable brand, whose reputation has grown well beyond Germany’s borders.

In an effort to maintain its current status, Charité continues to rely on the two pillars of success that have always played a crucial role in its overall development and positioning. One of these pillars, and the reason why Charité continues to stand out from its competitors, is a reliable track record of producing innovative developments capable of setting new standards. Furthermore, Charité’s achievements are not limited to just one discipline, or even a handful of disciplines, but rather include almost every single medical specialty. The second pillar is Charité’s commitment to addressing current and future developments within the health care market, and to finding solutions for the most pressing challenges of the day. Its efforts are fueled by a desire to work for the benefit of its patients and staff, and are guided by a commitment to contributing to ongoing developments within the health care systems in place for Berlin, the rest of Germany, and the world. Clearly, Charité’s strategic approach offers a unique combination of social responsibility, scientific credibility, and entrepreneurial spirit.

Medical care, research, and teaching of outstanding quality
Despite being a university hospital with a caseload of approximately 800,000 patients per year, Charité is much more than a place offering outstanding medical care. In addition to a student body of approximately 7,000 medical students (including 20% foreign students), the hospital is also home to approximately 3,700 researchers, all of whom are actively engaged in addressing some of the most pressing issues within the field of medicine. Conscious of the challenges of providing training for the next generation of physicians, Charité introduced a new medical curriculum in 2010. This training program, which remains unique within Germany, is characterized by a close inter-linking of the areas of medical care, research, and teaching. For patients, this means that research findings are transferred more quickly from bench to bedside, a process that actively enhances the availability of new treatment options. Researchers and their various research projects also benefit from this close link with clinical application, as do young physicians who are still in training.

In order to maintain and enhance its current position as a leader in the fields of research and medical care, Charité is concentrating its efforts on six main areas of clinical focus that have already garnered international attention: neuroscience, oncology, regenerative therapies, cardiology, immunology, and genetics. A combination of strategic vision and targeted support will ensure that current levels of excellence are maintained in these areas, and will allow Charité to further enhance its position and reputation on both a national and international level.

Refining the spectrum of services
For some time, Charité has been much more than a traditional hospital. An internationally-renowned health care organization with a hugely diverse business portfolio, it offers a multitude of additional services that are aimed at a range of different target groups. These include cooperative projects with external partners, which are aimed at developing new drugs and medical devices. Charité Research Organisation (CRO), a Charité spin-off company that conducts clinical trials on behalf of renowned pharmaceutical companies, plays an important role in this particular area, and makes an important contribution to Charité’s overall business performance. Charité’s Preventive Medicine Center represents a very different concept. With its comprehensive range of services, from simple health checks to burnout prevention, it allows companies to offer attractive incentives to their managerial staff. Charité’s International Health Care Office, on the other hand, offers organizational and administrative support to international patients hoping to travel to the German capital for medical treatment. Its services, which are available to both patients and their...
families, include assistance with documentation and formalities, as well as arranging accommodation and interpreters. As part of the Adlon Health Care Programme, Charité is able to offer an exclusive health care package that includes a comprehensive program of health checks and a stay at the famous Hotel Adlon Kempinski near the Brandenburg Gate. The package includes special discounted flights with Lufthansa and Emirates airlines.

**A driver of growth in the Berlin-Brandenburg area**

Despite receiving a great deal of recognition on both the national and international stage, Charité has always remained committed to serving the people of Berlin. Charité plays a major role within the regional health care sector. With a total of more than 250,000 employees, health care is Berlin’s growth sector, and Charité is one of its biggest players. While its capacity for innovation produces groundbreaking developments in research and medical care, it is also a place of highly-concentrated skill and expertise. Charité effectively acts as a magnet for health care-based companies and service providers, many of which have settled nearby. This process has contributed significantly to strengthening the capital’s business environment. As a result, Charité has been a crucial factor in defining the regional economy, especially following the mergers of the past few decades. Having secured an impressive 25% of the capital’s health care market share, Charité is now one of the biggest players in terms of turnover. Similarly, with more than 13,100 employees, Charité is also one of the largest employers in Berlin. In addition, it consistently secures the highest level of third-party funding of any German institution. Aside from creating an additional 2,000 jobs, this has also resulted in a corresponding increase in the city’s tax revenue. In short, Charité has become one of the major drivers of growth and employment within the region. According to results from a study by the German Institute for Economic Research (DIW Berlin), the Berlin state government recoups half of all of its investments in Charité in the form of tax revenues.

**Social responsibility toward patients and public health**

In its role as a hospital, Charité holds responsibility for the well-being of its patients. Internal quality management statistics confirm that the hospital – which records more than 5,000 births and more than 70,000 surgeries per year – is generally rated as ‘very good’ by inpatients following their stay. For cases that require more detailed attention, Charité has put in place additional services and facilities. These allow the hospital to address the specific needs of non-routine cases, while also fulfilling its social responsibilities with respect to the remainder of its patients. As part of these efforts, Charité has set up an interdisciplinary child protection group, which offers protection and support to victims of violence, abuse, and neglect. It also provides invaluable support to victims of torture who, as a result of having been subjected to extreme violence, suffer from post-traumatic stress disorder. The services offered are available to victims of torture regardless of their nationality, and include psychological therapy, physiotherapy, and occupational therapy, as well as training in how to cope with the challenges of everyday life, and language courses. Other projects initiated by Charité are aimed at victims of domestic and sexual violence.

Charité also has a center dedicated to providing social pediatric services to chronically ill children and adolescents. The center, which offers a special program of services to children and their parents, reflects a holistic and multidisciplinary approach. The ‘Teddy Bear Hospital’, another project aimed at children, uses a play-based approach to help children lose their fear of doctors and the hospital environment. Through gentle prompting, ‘teddy doctors’ encourage children to tell them what is wrong with their furry friends before explaining, in easy language, what treatments should be given. Another aim of the project is to provide information on healthy eating and dental hygiene.
From ‘pest house’ to Europe’s largest university hospital

The rise of the female physician

The beginning of the 20th Century brought about a major upheaval in employment conditions at Charité. In contrast to the situation in many other countries, Prussia upheld its ban on women attending university for a long time; it was not until 1896 that women were finally permitted to enroll as guests and, even then, the decision was greeted with displeasure by many of their male contemporaries. In 1908, Prussia decided to finally allow women to enroll as regular students, and paved the way for women entering the medical profession. While the following years have seen a steady increase in the proportion of women in medicine, Charité continues to pursue its aim of matching this development with a comparable increase in the number of its female professors.

In addition to meeting its social responsibilities with regard to the well-being of individual patients, Charité is also committed to addressing the big system-related issues within the health care sector. What are the medical challenges of an aging population, and what adaptations will have to be made to current structures in order to allow our health care system to meet future challenges? What can be done to promote global health? And will health care be affected by an ever-expanding pool of technological opportunities? As a major stakeholder within the health care sector, Charité is committed to promoting the public debate around these questions, and to finding solutions to these and many of the other challenges facing us today. The annual World Health Summit represents one of the ways in which it hopes to contribute to this process.

A highly sought after partner for pioneering cooperative projects

The outstanding quality of its health care, research, and teaching render Charité a reliable partner for both research organizations and private companies. This sought-after status has resulted in Charité being able to pioneer new types of cooperative partnerships, which highlight the inherent innovative potential of Berlin’s university-based medical institutions.

Its cooperation with the Max Delbrück Center for Molecular Medicine (MDC) has broken new ground. In an effort to achieve a closer inter-linking of basic and clinical research, the two partners founded the Experimental and Clinical Research Center (ECRC) and the Berlin Institute of Health (BIH). Charité has also entered into other innovative partnerships, which involve both university-based and non-university-based research establishments. One example of such an innovative partnership is Charité’s collaboration with Helmholtz-Zentrum Geesthacht (HZG), which has resulted in the foundation of the Berlin-Brandenburg Center for Regenerative Therapies (BCRT), a translational research center dedicated to studying the body’s own regenerative processes and how these might be stimulated. Another example is the long-term cooperative agreement between Charité and the Max Planck Society for the Advancement of Science, which includes the creation of joint professorships. Charité is also regarded as a highly attractive and sought-after partner within the business community, and is involved in various forms of cooperative partnerships with companies from the health care industry, such as medical care providers and biomedical companies.

In addition to various cooperative partnerships with pharmaceutical companies, which are aimed at developing and marketing new medicinal products, Charité has also teamed up with Vivantes, a partnership that has resulted in the largest hospital-based laboratory in Europe.

Strategies aimed at enhancing Charité’s attractiveness to employees

Demographic changes currently affecting our society have not only led to an increase in age-related diseases, but have also had a major impact on the employment market, with health care institutions in no way exempt. Having accepted these changes as a sign of the times, and been aware of the current shortage of skilled professionals, Charité has begun promoting its status as an attractive employer.

Aside from presenting itself as attractive to potential employees, Charité is also actively committed to investing in the continuing professional development of existing members of staff, which allows it to ensure that levels of training and qualification meet the requirements of day-to-day clinical practice. Another important issue is the balance between work and family commitments. This is particularly relevant in the medical profession, which is being increasingly shaped by its female members. In an effort to make the organization more family-friendly, Charité has, for some time now, been actively involved in promoting services and incentives specifically aimed at the staff members with families. As the organization’s central point of contact, the Office of Family Affairs has overseen the implementation and further development of all existing services since 2010. The Office, whose services are available to both staff and students, provides advice on how to better balance work/studies and family commitments. As family commitments are defined as having responsibility for dependents, the Office also provides information and advice for carers. The subject ‘family-friendly leadership’ also plays an important role in this regard, with efforts aimed at increasing awareness among the staff members in management positions.
Charité has implemented many family-friendly initiatives, two of the most successful being the appointment of Germany’s first-ever Representative for Fathers, and a competition aimed at recognizing the organization’s most family-friendly unit. Another example is the comprehensive level of child care services available to staff members, which include several day care centers with opening hours that strive to match parental shift patterns. The next few years will see the introduction of additional measures, which will further enhance the organization’s status as a family-friendly employer.

**Investing in infrastructure**

Substantial investments, aimed at optimizing the organization’s infrastructure, form part of Charité’s strategic development. As part of a program that has been carefully timed to avoid disruption to services, some of Charité’s most famous buildings (such as the ‘Bettenhochhaus’ ward building on Campus Mitte) have undergone substantial renovation and modernization. In addition to funding the maintenance and renovation of historical buildings, Charité has also invested in new, state-of-the-art research and treatment facilities – an essential move in ensuring that Charité continues to provide the highest levels of medical care available.

The most appropriate example is the Charité Cross Over building on Campus Mitte, a research center that encourages the synergistic collaboration of different disciplines by placing particular emphasis on interdisciplinary exchange. Current investments in state-of-the-art facilities are crucial if the working environment is to support members of staff in their efforts to deliver first-class services and remain at the forefront of modern medicine. Charité’s advanced infrastructure is also of direct benefit to patients, who have access to the latest modern technology and medical devices. Continuous investment in Charité’s infrastructure ensures that Europe’s largest university hospital can continue to offer the highest standards of medical care, research, and teaching.

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**Some of the numerous specialist clinics available at Charité**

- ALS clinic
- Coeliac disease
- Autism clinic for adults
- Pancreas clinic
- Memory clinic
- Musicians’ clinic
- Short bowel syndrome
- Polyposis syndrome clinic
- Psoriatic arthritis clinic
- Immune disorders clinic
- Facial prosthetics clinic
- Muscular disorders clinic
As the leading university hospital in the heart of Europe, Charité is renowned for its consistently high quality across all areas of activity. Every day, its staff members provide an excellent standard of medical care, demonstrate outstanding competence in nursing, conduct research that gains international recognition, and train the next generation of health care professionals using innovative teaching concepts.

Charité maintains an exceptionally close interconnection between these four areas of activity, which have an excellent reputation throughout Germany and beyond. This close interconnection becomes apparent in many different ways, and represents a major reason why Charité is counted among the top-ranked institutions in Europe.

A full spectrum of treatment options
As a tertiary care institution comprising more than 100 different clinics and departments, and covering the entire spectrum of modern medicine, Charité is able to offer treatments for a diverse range of medical conditions. From allergy and immunology to vascular surgery, our diagnostic and treatment options set the standards for other health care providers.

The sheer size of Charité alone brings considerable benefits to its patients. With a large number of world-class experts and an extraordinary breadth of expertise, the hospital is able to offer the very highest standards across many of its specialties. This is because different departments are not led by just one qualified specialist, but benefit from the joint expertise of a number of leading experts, all of whom share responsibility for the well-being of their patients. It is thanks to this pool of specialists that Charité has earned its outstanding reputation—one that reaches well beyond local, regional, and national borders. This excellent reputation for a high standard of care is also reflected in its treatment figures, which indicate that a large proportion of its inpatients are from beyond the local area. For these patients, the decision to undergo treatment at Charité is a conscious one, and one made in careful consultation with their general practitioners.

Defining complementary research priorities
In 2003, three previously independent university hospitals successfully joined together to become what is now known as Charité. This development resulted in the duplication of services in a number of specialties, and called for an urgent structural reorganization in order to ensure the efficiency of this new large-scale operation and maintain its high professional standards. The hospital’s management team responded to this challenge by developing a strategy that would organize the different areas of clinical focus in a coordinated and complementary fashion. The concept behind this strategy was based on the analysis of population data to identify the most important medical conditions and diseases affecting the general population. Results from these analyses were then used to guide the reorganization of the three...
Emergencies — when time is of the essence

When someone is having a heart attack or stroke, or have been seriously injured, every minute counts. Immediate transfer to the nearest emergency department is essential in order to avoid delays in initiating the correct treatment. This means that emergency departments have to be open 24/7, with qualified personnel available around-the-clock, including at weekends and on bank holidays. At Charité, all three campuses have emergency departments that offer interdisciplinary care around-the-clock. In 2014, Charité’s emergency care teams — who deal with all types of emergencies, regardless of whether or not patients are seriously ill as a result of illness or injury — treated a total of 191,465 patients. At Charité, emergency care is led by a core team of specialists, and has close links with all other specialist medical departments.

In order to ensure that critically-ill or injured patients have prompt access to medical care at the site of the emergency itself, Charité also supports a range of First Responder services, that are staffed with suitably-qualified experts. With its fleet of emergency response vehicles, an air ambulance and a stroke emergency response vehicle (‘Stroke-Einsatz-Mobil’ or STEMO), Charité ensures that emergency physicians reach their patients as quickly as possible, and that treatment can be initiated even prior to the patient’s arrival at hospital. The fleet’s latest addition, the STEMO, is fitted with a CT scanner and a point-of-care laboratory. This allows patients with stroke to be treated even earlier, and ensures they have immediate access to treatments which, in the past, only became available once they had reached hospital.

With its early emergency response teams at the site of the accident or emergency, followed by seamless emergency care delivered by an interdisciplinary care team at the hospital, Charité is able to optimize both continuity of care and outcomes.

Further information: notfallmedizin.charite.de

Outstanding infection prevention and hygiene

Hospital hygiene forms an important component of any hospital’s quality management strategy. Even minor shortcomings or carelessness can lead to infections that pose a risk to the health of both staff and patients. On each of the campuses, specialists in Hygiene and Environmental Medicine, as well as full-time hygiene experts, monitor the implementation of hygiene measures, and ensure that staff receive regular infection prevention and control training. Charité’s hand hygiene initiative ‘Aktion Saubere Hände’ regularly earns the hospital re-certification as a leader in hand hygiene. In 2013, The World Health Organization (WHO recognized Charité as a ‘Global Hand Hygiene Expert Centre’.

Areas of clinical focus – an overview

Campus Charité Mitte houses Charité’s experts in the fields of Neuroscience, ENT, Immunology, and Infectious Diseases, while the Spine Center adds the combined expertise of specialists from Orthopedics and Neurosurgery. Campus Virchow-Klinikum’s main focus is on Women’s Health, Pediatrics, and Adolescent Medicine. The campus is also home to Charité’s interdisciplinary cancer services, whose efforts in the fight against cancer are optimized by combining the expertise of experts from Internal Medicine, Surgery, Gynecology, and Radiation Therapy. The third area of clinical focus is the field of Cardiovascular Medicine. The core competencies on Campus Benjamin Franklin center around degenerative diseases, and issues affecting people in the second half of life. Rather than exclusively focusing on issues traditionally associated with gerontology and geriatric medicine, Charité’s experts specialize in the treatment of degenerative brain diseases and dementia.

Constant Quality Management

Patients rightfully to expect their hospital to meet the highest standards of quality across the board. Charité uses a comprehensive quality management system to ensure that patients benefit from consistently high standards. A wide range of measures ensure that the highest standards of care are maintained, while areas of improvement are quickly identified and addressed in a targeted manner. Proud of its commitment to the highest standards of quality, Charité is a member of the quality in medicine initiative, ‘Initiative Qualitätsmedizin (IQM)’, whose member institutions represent the paragons of best practice in medicine and patient safety. Charité’s quality management system enforces standards that go well beyond legal requirements. Approximately half of Charité’s facilities already comply with either ISO 9001 (one of the most highly-regarded quality management standards) or other similar standards. Results of the certification process – which includes a comprehensive assessment of departmental processes and procedures, and of the measures aimed at ensuring consistent improvements in quality – confirmed that all of the relevant facilities meet very high standards of quality.
Nursing competence

Patient-centered care as our guiding principle
Expert patient care and support is one of Charité’s defining features. Every day, Charité’s nursing staff members prove that, even in a hospital as large as Charité, which deals with approximately 800,000 inpatient and outpatient cases a year, it is possible to achieve patient-centered care. Charité’s nursing staff members strive to create an atmosphere that will allow both patients and their family members to feel actively supported and involved at all times. While all of the staff members have a high level of expertise in nursing, they constantly work at further enhancing their skills through regular continued professional development. Nursing quality forms part of the core areas regularly monitored and assessed as part of Charité’s quality management program. Measures aimed at evaluating patient satisfaction represent one of the main sources of information in this regard. At the end of their stay in the hospital, all inpatients are asked to complete a questionnaire that aims at ascertaining their level of satisfaction with treatment. In order to ensure that the views of international patients are also represented, the questionnaire is available in ten different languages, including Arabic and Vietnamese. Systematic analysis of all responses allows results (including instances of both praise or criticism, and suggestions) to be used to inform future quality assurance measures. This ensures that results contribute directly to measures aimed at consistent and sustained improvements in patient satisfaction.

Maintaining and enhancing nursing competence
In an effort to maintain and enhance current high standards in nursing, Charité offers a comprehensive program of continuing education and training that is organized by the Health Care Academy and available to all members of staff. Courses allow staff members to enhance specific nursing-related skill sets, but also offer training in communication, management, and teaching. Staff members also have the option of studying for nationally-recognized qualifications, including in the fields of critical care nursing and anesthesia care, psychiatry, surgery, oncology, and hygiene. Shorter-term courses are available for those hoping to gain additional certifications, which include qualifications in respiratory care nursing, mentoring in nursing practice, and as a health care quality representative. In addition to offering continuing education and training for existing nursing staff members, the Health Care Academy also offers courses for the next generation of health care professionals. The Academy offers more than 600 training places across 8 separate health care professions, with approximately 350 training places available for those hoping to enter the nursing profession. This makes Charité one of the three largest training institutions for health care professionals within the region, and allows it to almost single-handedly meet the demand for new nurses within the Berlin-Brandenburg area.

University-based nursing programs
Charité places particular emphasis on the professionalization of nursing. In Germany, current demographic changes within the population, coupled with increasingly rapid advances in medicine, mean that there is a growing need for qualified nurses, and nurses in managerial roles. In response to this growing need for highly-qualified nursing staff, Charité is actively committed to promoting the transfer of nursing education to the higher education sector. As early as 2004, Charité joined forces with Evangelische Fachhochschule Berlin, a protestant technical college offering a ‘dual’ Bachelor’s degree program in Nursing, i.e. a program that combines both theory and practice. Seven years later, a private technical college, Akkon-Hochschule für Humanwissenschaften, welcomed its first nursing students onto its dual Health Care and Nursing Management degree program. Both of these degree options prepare students for managerial roles within health care and nursing. Aside from being involved in these cooperative arrangements, Charité is also in the process of developing a Bachelor of Nursing program. This will allow Charité to maintain the highest standards of expertise in nursing, and help resolve the current shortage in qualified nursing staff members.

Who cares?
The history of nursing is the subject of a current exhibition at Berlin’s Museum of Medical History at Charité. Under the title ‘Who cares?’, the exhibition explores the history of nursing at Charité, and how the profession has changed since the hospital’s foundation. The exhibition also explores the question of the future of nursing in light of an ever-increasing demand for nursing and care services. After an extremely successful start in Berlin, the exhibition has traveled to many other locations in Germany and abroad. It has been very well received, and has attracted large numbers of visitors.

Further information: www.bmm-charite.de/114.html
Excellence in research

Research of international significance
Charité has succeeded in carving out an excellent reputation for research, both nationally and internationally. Its position as one of the leading medical schools is the result of the outstanding work of nearly 4,000 researchers across more than 1,000 research projects and working groups. In order to strengthen this position, Charité rewards strong performance and supports areas of special research focus through targeted resource use. A major part of Charité’s research strategy is a focus on harnessing the potential of research that bridges disciplines. As this is the area most likely to yield significant scientific developments over the next few years, Charité places particular emphasis on interdisciplinary cooperation, including projects that involve different clinical facilities, and studies that combine basic and clinical research. All of this is evidence of Charité’s ongoing commitment to further developing its areas of special research focus, which were first identified by Charité’s senior management in 2004, and which will be discussed in more detail in section 4.

Listed at the top of various rankings
The German Research Foundation’s (DFG) annual funding report – which lists instances of research successes already accomplished, as well as highlighting the future potential of university-based facilities – is evidence that Charité commands a unique position among national research organizations. A simple glance at the various DFG performance indicators is enough to prove that Charité – Universitätsmedizin Berlin comes out as the clear winner overall. Charité also commands first place in terms of the level of federal funding it has been able to secure for health care-related research and innovation. Similarly, the organization comes top in terms of health care funding received as part of the European Commission’s framework programs for research. Charité’s success during the second phase of The German Excellence Initiative, which is organized by the German federal and state governments, and provides support for the country’s best university-based research facilities, is further evidence of the outstanding quality of research at Charité. While one of Charité’s Graduate Schools, ‘Berlin-Brandenburg School for Regenerative Therapies’, and the NeuroCure Cluster of Excellence were able to defend their previous positions, the second phase of the program also saw the Berlin School for Integrative Oncology successfully apply for the status of approved graduate school. In addition to managing these three projects, Charité also has a major involvement in two further Excellence Initiative-approved ventures. These include the ‘Mind and Brain’ Graduate School, as well as substantial contributions toward a project currently in the planning stages at Humboldt-Universität zu Berlin, which includes the development of an interdisciplinary research institute for the life sciences.

Targeting translational research
The concept of ‘translational research’ is at the heart of research at Charité, and refers to the transfer of knowledge from laboratory to clinical application (translation from bench to bedside). Charité is committed to actively promoting this process, in order to allow patients to benefit more quickly from major advances within the area of basic research at Charité. Researchers and physicians are working together closely to ensure that theoretical findings can be translated into promising new treatments. Charité’s commitment to patient-centered research is evident in the sheer number of its translational research projects, as well as its involvement in three different health care centers that are dedicated to the organization’s chosen areas of research focus. One beacon of translational research at Charité that deserves mentioning is the Experimental and Clinical Research Center (ECRC), which was established in 2007 as a joint venture between Charité and the Max Delbrück Center for Molecular Medicine (MDC). At the ECRC, both basic and clinical researchers work together in pursuit of a common goal, namely to ensure that patients will be able to benefit as quickly as possible from the new methods of diagnosis, prevention, and treatment developed at the center. Coupled with the technological advances achieved through systematic research into the molecular changes associated with a wide range of diseases, this approach has been instrumental in shaping the area of systems medicine over the past few years. This new, pioneering concept is at the heart of Charité’s decision to go down the path of an institutional collaboration with the MDC, which resulted
in the Berlin Institute of Health (BIH). Between 2013 and 2018, €300 million of state and federal funding will allow the BIH to develop into what will be a unique new structure within the biomedical research arena.

**A comprehensive service portfolio for research-based pharmaceutical companies**

Clinical trials, which are aimed at investigating the tolerability, safety, and efficacy of new medicines, represent an important stage in the development of new treatment options. University hospitals, such as Charité, are ideal venues for this particular stage in the research and development process. This is because they are uniquely well-positioned in terms of their access to large numbers of potential study participants. The foundation of Charité Research Organisation (CRO) created a support services platform for research-based (originator) companies that are looking for expert assistance in the planning and conduct of clinical trials. The CRO, which specializes in the early phase of clinical drug development and has its own clinical trial facilities, offers companies the support necessary to ensure the quick and efficient completion of the various mandatory stages of clinical drug development. With its full spectrum of services, the CRO is particularly well-placed to ensure the timely and successful completion of studies that form part of the early phase of clinical drug development.

**Latest trends in teaching and learning**

Charité is one of the most prestigious medical training institutions in the world. One of the main reasons why Charité stands out from its competitors, both at home and abroad, is its ongoing commitment to improving the outstanding quality of its curriculum through the incorporation of new teaching concepts. The ability to respond to societal changes is particularly important in this regard, and allows the curriculum to acknowledge significant developments, such as the impact of an aging population, and changes in the physician-patient relationship (which is now marked by a trend toward an increased emphasis on the provision of information and advice). A conscious drive to ensure that such changes are reflected in the curriculum ensures that medical training at Charité remains both relevant and up to date.

**The New Revised Medical Curriculum — restructuring medical education**

The New Revised Medical Curriculum (Modellstudiengang) is the crown jewel of medical teaching at Charité. Since the fall of 2010/2011, all new medical students have been enrolled on this new curriculum program. In contrast to other degree programs, the new curriculum allows students to gain practical medical experience as early as their first semester. The first few semesters of traditional degree courses focus exclusively on the teaching of theoretical knowledge, with students not being allowed to even come into contact with patients. In contrast, the new curriculum allows students to gain clinical experience from the outset.

While this represents a truly innovative structure, which allows students to put theoretical knowledge into practice, the scheduling of theoretical and practical modules is not the only exceptional feature. The taught components have been completely reorganized and new components added. While previous scheduling saw course modules divided according to medical specialties, the New Revised Medical Curriculum has replaced these with cross-subject modules. Aside from attending traditional lectures and seminars, students also learn, and practice what they have learned, in small groups. From the very beginning of the course, students also receive training in other important skills, such as how to communicate effectively with both patients and their family members. Research-related training starts as early as
Medicine in all its facets — Charité’s pillars of excellence

the second semester, and includes mandatory research-based modules and practicals.

Germany’s first center to specialize in medical teaching and educational research

One of the highest priorities at Charité is the quality of medical teaching. This is why, since its conception, the New Revised Medical Curriculum has received expert support from the Dieter Scheffner Fachzentrum, a research center that is dedicated to medical teaching and evidence-based education research. The center — which was founded by Charité in 2009 to support the professionalization of medical training, and is the first of its kind in Germany — represents a beacon of progress in medical teaching. This innovative facility is being supported by the Bologna Process’ Future of Higher Education initiative, which is funded by the Volkswagen Foundation and the Merkator Foundation, and aims to strengthen standards of teaching in higher education.

The center supports teaching staff in implementing course curricula, and offers a wide range of services to support and enhance teaching competence. The center is also dedicated to the continued development of measures that are aimed at improving the quality of teaching, thereby allowing Charité to retain its number one position in the rankings. In these efforts, they have the support of leading medical education professionals who sit on the center’s scientific advisory board.

Additional courses

Aside from its degree course in medicine, Charité also offers a wide range of other courses, including dentistry and a Bachelor’s Degree in Health Care Sciences. The latter, which is open to applicants who have already completed training in care- or therapy-based professions, combines elements of the biosciences, social sciences, and human sciences, and teaches a broad range of methodological skills. To enroll in this course, candidates must have completed relevant professional training, in addition to holding a qualification for entrance to higher education.

Applicants who already hold a degree, and would like to gain the skills required to pursue highly-specialist roles within the field of health care sciences, have the option of pursuing further study at the master’s degree level. The sheer range and variety of courses offered, which include degrees in International Health, Molecular Medicine, and Consumer Health Care, means that Charité holds a unique position among medical schools.

Learning Center — supporting students and teaching staff

In the spring of 2012, Charité opened its first Learning Center — a learning support facility specifically designed to provide students with adequate learning spaces. The Center, which also aims to support teaching staff through an optimized teaching environment, extends over 1,200 m², and provides students and teaching staff members with facilities that are ideally suited to supporting both independent study and course-based learning.

The Learning Center also offers role-play-based training in clinical communication, which helps students improve their communication and diagnostic skills. Good interpersonal skills allow physicians to communicate more effectively with patients. From the very start of the course, these play a central role in the training of the next generation of physicians.

Further information: lernzentrum.charite.de

New Revised Medical Curriculum modules (by semester)

<table>
<thead>
<tr>
<th>Semester</th>
<th>Course</th>
<th>Objectives</th>
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<tr>
<td>1</td>
<td>Introduction</td>
<td>The building blocks of life, Cell biology, Signaling and information transmission</td>
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<tr>
<td>2</td>
<td>Growth, tissues, organs</td>
<td>Health and society, Blood and the immune system, Good research practice I</td>
</tr>
<tr>
<td>3</td>
<td>Skin</td>
<td>Movement, Cardiovascular system, Nutrition, digestion, metabolism</td>
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<td>4</td>
<td>Respiration</td>
<td>Kidneys, electrolytes, Nervous system, Sensory organs</td>
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<tr>
<td>6</td>
<td>Final module</td>
<td>Sexuality and the endocrine system, Good research practice II, Consolidation/mandatory option I</td>
</tr>
<tr>
<td>7</td>
<td>Thoracic diseases</td>
<td>Abdominal disorders, Disorders of the upper/lower extremities, Consolidation/mandatory option II</td>
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<tr>
<td>8</td>
<td>Diseases of the head, neck, and endocrine system</td>
<td>Neurological disorders, Psychiatric disorders, Consolidation/mandatory option III</td>
</tr>
<tr>
<td>9</td>
<td>Pregnancy, birth, newborns, infants</td>
<td>Diseases affecting children and adolescents, Gender-specific diseases, Consolidation/mandatory option IV</td>
</tr>
<tr>
<td>10</td>
<td>Aging, death and dying, intensive care, palliative care</td>
<td>General medicine, ‘paperwork’, emergency medicine, areas of overlap, Block rotations in Internal Medicine, Surgery, Gynecology, and Pediatrics, Good research practice III</td>
</tr>
<tr>
<td>11</td>
<td>Final year rotation</td>
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As a result not only of its history but also its sheer size, Charité covers all medical specialties. In order to ensure that it can maintain and enhance its current position as an international leader in medical care and research, Charité is now focusing its efforts on six areas of clinical focus, namely cardiology, oncology, neuroscience, regenerative therapies, genetics, and immunology.

Aside from implementing a strategy of targeted investment within these areas, Charité also actively pursues cooperation with influential external partners. High priority is given to research areas that offer an interdisciplinary approach and close integration of basic and clinical research. While one of the aims is to ensure that new research findings are quickly translated into clinical practice, the training of the next generation of physicians and researchers also plays a significant role in these areas.

Transdisciplinary and translational priorities
In terms of research and treatment, Charité is one of the top university hospitals in the field of neurological disorders. It offers a distinctly translational and transdisciplinary approach, with many of its excellent neuroscience-based research projects managing to closely integrate patient-oriented and basic research. These projects embody the ideals of translational research, providing a seamless transfer of knowledge from bedside to bench, and back to bedside. Successful collaborations between neuroscience researchers and experts from cardiology and immunology reflect the transdisciplinary priorities within Charité’s neuroscience division, and include research projects into complex disorders such as stroke, Alzheimer’s disease, heart failure, and Parkinson’s disease.

The CSB — a track record of outstanding research
One of Charité’s leading neuroscience-based research facilities is the Center for Stroke Research Berlin (CSB). Co-founded by Charité and the Max Delbrück Center for Molecular Medicine (MDC) in 2005, the CSB aims to reduce the mortality and morbidity associated with stroke — a condition that, in Germany, affects approximately 270,000 people every year. As an integrated research and treatment center, the CSB has been receiving funding from the Federal Ministry of Education and Research since 2008. This funding has allowed it to produce high-quality patient-oriented and clinical research into stroke. Ten different research groups are currently concentrating their efforts on developing and/or refining new treatment methods within three major topic areas: how to protect the brain, how to prevent complications, and how to achieve the functional rehabilitation of people with stroke.

In an effort to improve conditions for research, CSB has introduced its own organizational infrastructure, which consists of different functional units (referred to as ‘Modules’). One example is the Trial Team, also referred to as the ‘Study Team’, which has been ISO 9001 certified since 2012, and that supports the planning and conduct of stroke-based research studies. The Trial Team has specific expertise in the management of clinical trials, and coordinates these on
The Stroke Alliance has permanent treatment and support services for patients with stroke. The Stroke Alliance, which has been registered as a non-profit organization since early 2015, has resulted in an infrastructure that puts in place permanent and implementation of new stroke treatment concepts. Establishment of the BSA, working toward improving the treatment of patients with stroke.

The course, which is taught in English by renowned international experts, provides students with the necessary theoretical and practical skills to allow them to successfully plan and conduct research studies.

This course is evidence of Charité’s commitment to promoting the development of young researchers interested in specializing in the area of stroke research.

The Stroke Alliance covers Berlin and its surrounding areas, comprising approximately 40 members ranging from acute treatment centers to centers providing rehabilitation and follow-up care.

The NeuroCure Cluster of Excellence

The NeuroCure Cluster of Excellence is another example of Charité’s outstanding neuroscience facilities. NeuroCure is a research consortium established as part of the German Excellence Initiative, and in receipt of both federal and state funding. Its main aim is the transfer of knowledge from basic neuroscience to clinical application (bench to bedside), but also back to the laboratory (bedside to bench). Its overall research focus centers on the study of neurological disorders, such as stroke and epilepsy, as well as other disorders affecting brain development. NeuroCure researchers are also committed to mental health research, studying a range of conditions from autism and depression to schizophrenia. Over 45 NeuroCure working groups are involved in research aimed at gaining a better understanding of how the nervous system works. All of these are based on a translational approach, and set up in such a way as to ensure that the overall responsibility for the relevant research area is shared between a basic science researcher and a practicing physician. In order to speed up the translation of research developments into clinical practice, Charité set up the NeuroCure Clinical Research Center (NCRC). Through clinical trials that are either initiated by NeuroCure researchers or industrial partners, the NCRC is able to offer patients access to new treatments and diagnostic methods.

NeuroCure is a joint initiative of Charité and its two constituent universities (Humboldt Universität zu Berlin and Freie Universität Berlin) as well as three highly prestigious, non-university-based establishments. These include the Max Delbrück Center for Molecular Medicine Berlin-Buch (MDC), the Leibniz-Institut für Molekulare Pharmakologie (FMP), and the German Rheumatism Research Center (DRFZ). Together, these partners work toward the common aim of neuroscience-based research endeavors becoming more closely intertwined. They also actively promote the expansion of neuroscience research capacity by launching, and providing support to, new professorships and groups of young researchers, and by providing researchers with highly-modern infrastructure.

The seven NeuroCure research areas: Research area A: Mechanisms of damage; Research area B: Endogenous CNS protection; Research area C: Regeneration; Research area D: Interactions between the nervous and immune systems; Research area E: Disorders of nervous system development; Research area F: Molecular mechanisms affecting ion channels and transporters; Research area G: Plasticity.
Oncology

Fighting cancer together
Charité’s oncology division is extremely highly regarded, both within Germany and beyond. This reputation is the result of a particularly close interlinking of all aspects of oncology-based medical care and research. Patients diagnosed with cancer benefit from the highest standard of care, an achievement that is the direct result of combining an interdisciplinary treatment approach with the latest research findings and state-of-the-art technology. Our researchers tackle the most pressing challenges in oncology research, including treatment resistance and the development of tailored cancer treatment through molecular analysis. This approach ensures that experimental laboratory-based projects and clinical studies can benefit from each other’s advances.

Interdisciplinary care
As early as 2007, Charité began the process of reorganizing the clinical and research activities of specialists involved in the treatment of patients with cancer. The process culminated in the creation of one of the first comprehensive cancer treatment centers in Germany – the Charité Comprehensive Cancer Center (CCCC). The CCCC is the first German cancer center to have been certified by The German Cancer Society as a treatment center for all common and rare cancers. The center’s oncology expertise has also been recognized by German Cancer Aid, which classed the CCCC as an Oncology Center of Excellence, and has been providing financial support since 2009.

All stages of a patient’s treatment are coordinated by the CCCC. This means that from diagnosis and treatment planning to the delivery and completion of treatment, patients enjoy the care and support of an interdisciplinary team of specialists. Treatment planning is done on a case-by-case basis that, depending on the individual patient’s needs, may include surgery, radiation therapy, and/or drug-based treatment. Psycho-oncology and social support will also be offered. In the case of patients with advanced disease, where the cancer is no longer treatable, it also addresses palliative care needs. The aim of individualized treatment planning is to alleviate the severity of the patient’s pain and any other disease- or treatment-related symptoms. It focuses on improving the patient’s quality of life, including the patient’s psychological and physical health, and considers his/her needs in terms of social and spiritual support. It also specifically addresses the need for involving members of the patient’s family.

Patients who are treated at the CCCC benefit from the center’s close links to research, including its involvement in a range of clinical trials and translational research projects. This enables the CCCC to offer the most up-to-date treatment methods available, both nationally and internationally, since the majority of its clinical oncologists are also actively involved in cancer research. Follow-up care, cooperation with the patient’s non-hospital-based physicians, and access to self-help groups all have an important role to play as part of the CCCC’s integrative treatment concept.

A platform for molecular oncology research
In 2006, as part of an effort to promote basic oncology research, Charité founded the Molecular Cancer Research Center (MKFZ). The MKFZ is a centralized research facility, combining all of Charité’s experimental research groups with an interest in molecular oncology under one roof. It is a networking platform particularly aimed at externally-funded projects (by groups or individuals) that are involved in the development of potential new treatment methods for a wide range of different cancers.

The MKFZ also offers all oncology-based research centers in the Greater Berlin area opportunities to get involved in an intra-regional exchange of knowledge. This includes seminars, workshops, conferences, and symposia, some of which are held in collaboration with the CCCC, and are also aimed at supporting the training and continuing education of MKFZ’s next generation of cancer researchers.

Excellence Project ‘Berlin School of Integrative Oncology (BSIO)’
The Berlin School of Integrative Oncology (BSIO) is the flagship of Charité’s oncology-based further education and training program. The BSIO – which is a joint initiative of Charité, Humboldt Universität, Freie Universität, the Max Debrück Center for Molecular Medicine, and other partner organizations – offers a three-year, oncology-based integrative doctoral program that is aimed at talented young life sciences researchers, physicians, and social sciences experts. The Graduate School is at the interface of biological sciences research and clinical application. By combining the expertise of hematologists, oncologists, molecular biologists, surgeons, and other experts, it is able to offer the next generation of talented researchers the necessary theoretical training and practical experience that will enable them to contribute to the development of new diagnostic and treatment methods. What is special about this postgraduate degree course, which has a truly international focus, is the academic composition of its students. The fact that life sciences researchers and physicians are taught together is the result of a conscious decision, and the belief that early exposure to interdisciplinary thinking is likely to foster a new research culture that will embrace interdisciplinary exchange. In addition to this, students benefit from excellent research opportunities, a mentoring and coaching program, and technological facilities that are second to none.

The merits of the BSIO’s unorthodox approach to promoting the interdisciplinary training of oncology researchers have been recognized by both the federal and state governments, who are providing funding support as part of the Excellence Initiative program, and in recognition of Charité’s commitment to developing an internationally-renowned research environment dedicated to fostering top-quality research.
**Interdisciplinary research in action**

One of Charité’s important areas of research focus, and one that has garnered international recognition, is the area of regenerative therapies. Regenerative medicine is a relatively young discipline that is dedicated to treating disease through strengthening the body’s own self-healing and regenerative potential. The central question is how biologically active factors, cells, and biological materials can be used to stimulate and enhance the body’s regenerative processes. Charité-based research exploring the body’s natural regenerative potential brings together experts from a wide range of medical specialties. Their aim is to develop treatments that can repair diseased or damaged tissues and, by restoring their function, improve and maintain the patient’s quality of life. Researchers use diagnostic markers to produce treatments that are tailored to the individual patient. These are known as personalized treatments.

Since its foundation in 2006, the **Berlin-Brandenburg Center for Regenerative Therapies (BCRT)** has brought together the expertise of all Charité staff members involved in this pioneering field of research. An internationally-renowned translational research center, the BCRT is the result of an alliance between Charité and Helmholtz-Zentrum Geesthacht, which specializes in the development of biological materials. BCRT boasts a team of over 250 staff, who complement each other in terms of skills and expertise, and include medical specialists in addition to specialists from engineering and the natural sciences. The center combines basic research, clinical research areas, and technology platforms, in an innovative research structure that sets new standards for the field of regenerative therapies and related research areas.

BCRT staff, who represent a wide range of qualifications and expertise, are based across two different sites, namely the institute’s southern site on Campus Virchow-Klinikum, where staff work in close proximity to Charité’s various Departments and research facilities, and the Institute of Biomaterial Science, a second BCRT site, which is located on Helmholtz-Zentrum Geesthacht’s Teltow Campus in Berlin-Brandenburg.

**Translational research center with an innovative approach**

The translational center’s research focuses on disorders affecting the immune, musculoskeletal, and cardiovascular systems, for which current treatment options remain wholly inadequate. At the BCRT, clinicians and researcher work together to develop innovative approaches, treatments, and products that can be used to manipulate the body’s own regenerative processes. Their work is based around the use of immune cells, adult stem cells, biological materials, and bioactive factors, which are used either on their own or in combination. The aim of the BCRT is to develop treatment methods that will meet the needs of the individual patient. In this manner, Charité is promoting a distinctly patient-oriented approach to treatment, which takes into account the individual patient’s regenerative potential.

In addition to its three main research areas, which deal with disorders of the immune, musculoskeletal, and cardiovascular systems, the BCRT also has a number of interdisciplinary technology platforms. Interdisciplinary cooperation is the guiding principle behind the work of its more than 30 different research groups and areas. This approach ensures the efficient translation of research findings into diagnostic methods, as well as medical treatments and products. The center has a dedicated staff with a remit for identifying research ideas with high marketing potential. They are also responsible for providing intensive project and quality management support throughout every stage of the project. With its innovative organizational structures, the BCRT sets new standards for translational research in regenerative therapies. The BCRT’s close partnership with other institutions from the fields of health care, life sciences, and health economics has been a particularly important factor in the center’s success, and sees it work closely with statutory health insurance providers, monitoring and regulatory authorities, as well as companies from the biotechnology, medical technology, and pharmaceutical sectors. Involvement in regional, national, and international networks ensures that the center’s researchers are in constant exchange with other research organizations from the field of regenerative therapies. Charité also ensures that its experts contribute to the public dialog.
regarding the risks and potential benefits of new treatment methods (such as stem cell therapy). Aside from ensuring that Charité meets its social responsibilities, its commitment to providing information about potential applications also allows it to advance the ongoing debate about regenerative therapies.

BSRT — training the next generation
The fact that each of the scientific disciplines seems to have its own unique language can easily turn into a stumbling block for interdisciplinary research. The Berlin-Brandenburg School for Regenerative Therapies (BSRT) — which is based on the concept of the BCRT, and was a joint initiative of Charité and Humboldt-Universität Berlin, Freie Universität Berlin, Technische Universität Berlin, the University of Potsdam, as well as other research institutes within the Berlin and Brandenburg areas — was founded in order to ensure that future generations of researchers receive the best training to prepare them for successful careers within the field of translational research. The BSRT is a graduate school that has garnered international recognition, and which provides training not merely within the field of regenerative medicine, but also in other subject areas.

For students pursuing doctoral degrees within the natural or materials sciences, the BSRT provides ideal training opportunities to prepare them for a career in either academia or industry. Physicians pursuing postgraduate qualifications can enroll on the BSRT’s ‘Clinical Scientist’ training scheme. This scheme, which combines ample research-based opportunities with training in one of the medical specialties, places particular emphasis on a translational approach to research in order to enable the next generation of clinical researchers to overcome the stumbling blocks traditionally associated with interdisciplinary research. The BSRT is an interdisciplinary training center of international renown, and has been recognized as an approved graduate school as part of the German Excellence Initiative.

Further information: www.b-crt.de and www.bsrt.de

Cardiology

Medical care and research of outstanding quality
One of the best examples of why Charité has such an outstanding reputation within the medical field, both nationally and internationally, is its cardiology division, where both medical care and research benefit from the contributions of leading experts in the field of cardiovascular medicine. Within clinical cardiology, Charité’s staff members have access to treatment methods that are so up to date that they remain unavailable at most other university hospitals, while research endeavors are characteristically integrative, combining the contributions of different specialties.

First-class treatment methods
Charité offers treatments for all types of cardiovascular disorders. Treatments offered include conventional, but also interventional and minimally-invasive, procedures, with the latter including treatments that are currently only available at a small number of selected university hospitals. These include catheter-based, minimally-invasive interventions to replace aortic valves or treat mitral valve disease, which means that heart valves can be replaced using a catheter, and without the need for cardiopulmonary bypass (a heart-lung machine). Even in cases where open heart surgery is contraindicated, these techniques ensure that patients can receive state-of-the-art heart valves, which can be chosen to perfectly match the individual requirements. Other treatments used include minimally-invasive interventions involving the coronary arteries, and innovative procedures such as left atrial appendage closure. In strict adherence to all national and international recommendations, all of these procedures are carried out in hybrid operating theaters. The sheer number of patients receiving treatment at Charité, combined with the ongoing drive to develop and refine existing procedures, allows Charité to continue to develop and expand its expertise in the field of interventional treatments.

This commitment to expertise is also illustrated by Charité’s close cooperation with the German Heart Center Berlin (DHZB), and the steady drive toward a ‘university heart center’. Allowing both institutions to focus on
Visualizing the beating heart

Researchers from Charité and MDC are currently working on another challenge — finding a way of watching the human heart at work in fascinating detail, as a result of high resolution imaging. Their efforts center around one of the most powerful MRI scanners in the world. The scanner, which was acquired by the MDC with support from Charité, offers researchers a host of new possibilities.

There are only four other centers in the world that have managed to produce images of the beating heart using comparable field strength. There is hope that new technological developments produced by the MDC’s Experimental Physics Working Group will soon make it possible to produce images of the heart at the microscopic scale. The joint research efforts of cardiologists and physicists from Charité and MDC may be able to open new doors in this field.

their respective areas of expertise, this venture also involves a degree of restructuring, which will see Charité focus exclusively on cardiology, while DHZB will take over all surgical interventions.

The center’s specialist Arrhythmia Unit focuses on different types of cardiac arrhythmia. At Charité, the majority of patients with known arrhythmias, such as atrial fibrillation or ventricular arrhythmia, are treated with minimally-invasive electrophysiology interventions, which use catheter-based techniques to manage arrhythmias.

Last but not least, Charité is also known for its innovative device-based therapy. In addition to implantable cardioverter defibrillators (ICDs) – which are used in patients with life-threatening arrhythmias – and the latest in pacemaker technology, this also includes the use of devices that can monitor cardiac rhythm and detect atrial fibrillation, as well as devices that are used to stimulate the heart in patients who need treatment for high-blood pressure or heart failure.

At Charité, the area of cardiovascular imaging, which is used to accurately diagnose and classify types of heart disease, produces first-class results in cardiac MRI imaging. The Campus Berlin Buch-based cardiac MRI working group (AG Kardiale MRT) has successfully developed a number of new techniques that allow the exact evaluation of damage to the heart muscle (myocardium). Having since been incorporated into international guidelines, these techniques are setting new standards in clinical practice.

In cooperation with the German Heart Center, the group is in the process of developing new echocardiography procedures, which include real-time 3-D echocardiography. Close proximity to the Experimental Clinical Research Center (ECRC) – which is jointly operated by Charité and the Max Delbrück Center for Molecular Medicine (MDC) – as well as the outstanding quality of existing translational research structures, have proved highly profitable.

Cutting-edge developments in cardiovascular research

The Charité Center for Cardiovascular Research (CCR), which has been in operation since 2003, is home to both experts from cardiology and numerous internal medicine-based specialties, including nephrology and angiology. Researchers from more than 20 working groups are conducting research into the causes of particularly common cardiovascular disorders, while concurrently developing innovative treatment methods.

The outstanding expertise of Charité’s cardiovascular division has recently received the official endorsement of the Federal Ministry of Education and Research. Alongside partners such as the MDC, Charité’s cardiovascular research division succeeded in securing this endorsement, following an open competition aimed at promoting strategic cooperation between leading researchers. Under the name Cardio Berlin, the Berlin-based team’s current efforts center around the development of methods of prevention.

These include a long-term study involving 5,000 patients, which is aimed at investigating gender-related differences in patients with cardiovascular disease.

Unique in Germany

Cardiologists at Charité are using a unique technique to treat patients with thromboangiitis obliterans (Buerger’s disease). This disorder, which typically occurs in young, male smokers, is characterized by inflammation that causes vascular changes in the blood vessels of the arms and legs.

By using immune absorption – a specialist blood purification technology – physicians at Charité can remove the antibodies from the blood that are responsible for causing the disease. Charité is the only university hospital in Germany to offer this treatment to patients with Buerger’s disease.
Immunology

International focus and interdisciplinary approach
Charité’s work in the field of immunology makes it stand out from other German research establishments. In this particular area of medicine, which deals with disorders of the immune system, it has distinguished itself through its strong international focus and interdisciplinary approach. Both of these have created opportunities that help Charité provide the latest in diagnosis, treatment and care. With an enviable level of expertise in both basic and clinical research, and its current research structures, Charité can ensure that research findings are quickly translated into clinical practice.

Competence in the fight against inflammatory bowel disorders
Chronic inflammatory bowel disease (IBD) is one of the main areas of research focus within the field of immunology. In the areas of diagnosis, treatment, and research, Charité is, therefore, able to offer something that very few other centers in Germany can compete with. This is one of the reasons why Charité can call itself one of the three pillars of the IBD Competence Network – a nationwide network of departments, university-based institutes, and private specialists that have joined together to conduct research into two chronic inflammatory bowel diseases, Crohn’s disease and ulcerative colitis.

At Charité, IBD patients have access to the best medical care available, with internal medicine specialists ably supported by experts from its various specialist surgical facilities. Charité is also committed to promoting the dissemination of IBD-related knowledge and information within both the professional community and the general public. This involves close cooperation and exchange with other hospitals, private specialists, and patient organizations as well as the organization of information and training events that are aimed both at specialists and patients. Charité is also committed to the development and successful long-term implementation of evidence-based clinical guidelines for the treatment of both of these disorders.

All of these activities are a direct result of Charité’s commitment to research in the field of chronic inflammatory bowel disorders, which are conducted under the auspices of its dedicated Collaborative Research Center. Research priorities include the bowel’s immune system, as well as studies that investigate the way in which the gastrointestinal tract protects the body against potential contamination by pathogens. The aim of this research is to apply new research findings to help strengthen the body’s own defense mechanisms, thus preventing chronic inflammation. The close cooperation between basic research, clinical research, and patient-oriented research allows new research findings to be quickly translated into clinical practice. This, in turn, ensures that Charité is always able to offer the very latest treatment options available.

Specialist expertise in rheumatology
Charité also boasts a wealth of expertise in the field of rheumatology, where its special areas of research focus include inflammatory joint disorders and systemic autoimmune diseases, such as rheumatoid arthritis, as well as spondyloarthritides (inflammatory disorders of the spine), systemic lupus erythematosus (SLE), and systemic sclerosis. Aside from causing considerable impairment, these disorders also have a significant socio-economic impact; the fact that they tend to occur in younger people means that there are also implications for health care policy. In the field of rheumatology, Charité is highly interested in the areas of diagnosis, treatment, and research. Charité’s staff members boast a high level of specialist experience and expertise in these areas, which is of particular advantage given the highly variable nature and degree of severity of the symptoms associated with these types of diseases.

In addition to providing general rheumatology-based diagnosis and treatment services through both its inpatient and outpatient facilities, Charité also offers the option of participation in national and international clinical trials, thereby giving patients access to innovative new treatment methods.

Charité boasts a large number of investigator-initiated trials. These trials, which are both planned and conducted at Charité, build on findings from Charité’s basic research endeavors, which in turn benefit from Charité’s close links with the German Rheumatism Research Center. The compelling link-up between all of these different areas is evidence of a distinctly translational focus within rheumatology-based immunology research at Charité. Given the plethora of relevant research conducted at Charité, patients are guaranteed treatments that incorporate the very latest research findings. The sheer quality of research conducted is evidenced by the wealth of support received from funders such as the German Research Foundation (DFG), the Federal Ministry of Education and Research, and the EU, as well as other foundations and industrial partners. This funding plays a major role in ensuring that Charité can maintain its position as a leader in rheumatology- and immunology-based research on both the national and international stage.
Genetics

Tracking genes
Charité’s genetics division exemplifies the benefits associated with combining high-quality research with a hospital of Charité’s high standing. Here, researchers and physicians work together to track the genes responsible for hereditary diseases, in the hope of improving diagnosis and translating research findings into clinical practice. Charité’s Institute of Medical Genetics and Human Genetics has a close working relationship with the Max Planck Institute (MPI) for Molecular Genetics. Together, they have succeeded in developing pioneering diagnostic methods and have successfully decoded complex genetic processes.

Close cooperation between research and diagnostics has been of particular benefit to patients with rare hereditary diseases, as any progress made is directly translated into clinical practice. Charité’s genetics division therefore manages to combine basic research and clinical practice in an exemplary fashion.

New diagnostic methods
The hospital runs various outpatient clinics, which aim to provide both patients and their families with adequate support throughout the diagnostic process. In addition to comprehensive information and counseling, patients have also had access to the innovative laboratory-based genetic testing on offer at Labor Berlin – Charité Vivantes GmbH since 2011. Genetics researchers are working in close cooperation with the Departments of Pediatrics and Adolescent Medicine, the Breast Center, and many other units. Research findings are translated into new diagnostic methods, some of which are then used within Charité’s departments, including those relating to pediatrics and adolescent medicine. Charité’s geneticists count among the leading experts in the field of high-throughput genome analysis, a method that allows the comprehensive sequencing of nearly all currently-known genetic diseases.

A new program, developed by researchers from Charité, Labor Berlin – Charité Vivantes GmbH, and MPI, combines the results of genetic testing with information from a symptoms database. This Human Phenotype Ontology database contains the symptoms of all known genetic diseases (approximately 3,000 in total), storing them in digital format. A new program, by the name of ‘PhenIX’, uses these data to produce a list of possible diagnoses, thereby making a major contribution to the early detection and diagnosis of rare genetic diseases.

Phenotyping method finds international approval
Charité is producing unique results within the fields of modern genomics and bioinformatics. The Human Phenotype Ontology (HPO) database, which is used by the PhenIX program to screen for rare diseases, and which is now used by researchers across the globe, was the result of the combined efforts of researchers from Charité and MPI. The HPO database, which lists the symptoms of all known – and primarily hereditary – diseases affecting human beings, is intended as a tool for investigating phenotypic expression, and is an example of the tools available from the field of bioinformatics and computer analysis.

Pioneers in decoding hereditary diseases
Within the field of genetics, Charité’s main research interests include the identification and analysis of disease mechanisms, biocomputational analysis, and the analysis and linking of clinical symptoms (phenotype) with genetic variants. Also included in this list is the development of genetic testing systems and their implementation in clinical practice. One particularly important area of research, and one in which Charité researchers are at the forefront, is the regulation of gene expression and its investigation using animal models. New techniques have been developed that allow researchers to recreate, within the mouse genome, genetic changes affecting human genes. This method of using mice as models for the study of rare human genetic disorders is often the only way for researchers to find out more about the disease and develop treatments.

A defining feature of genetics research at Charité is its close cooperation with the MPI. At the MPI, for instance, the Development & Disease Research Group is investigating the fundamental mechanisms of skeletal development, and the way in which this process is influenced by gene regulatory elements. The team is also investigating the mechanisms underlying gene mutation, and their effects on bone development. The strength of this research lies in the close interplay between basic research into the regulation of gene expression, and the use of modern genome analysis methods in the screening of patients with different skeletal disorders. By untangling and identifying the causes of skeletal malformations, these researchers are creating the basis for new treatment approaches in patients with genetic disorders. They are also gaining a deeper understanding of the interplay between regulatory elements of the human genome, whose exact mechanisms and dynamics remain a mystery.

Close cooperation with BCRT
Charité’s genetics expertise also extends to the field of regenerative medicine, where it has forged a close cooperation with the Berlin-Brandenburg Center for Regenerative Therapies (BCRT). Genetic testing methods, such as high-throughput genome analysis and the analysis of mechanisms involved in stem cell differentiation, are used to develop new, personalized treatments that target specific molecular defects. One particularly important area of collaboration has been the study of skeletal and connective tissue disorders and the regenerative potential of affected tissues.
Charité’s efforts to maintain and enhance its role as a leader in the areas of medical care, research, and teaching also form an integral part of its overall corporate strategy. In order to meet these aims, Charité is focusing its efforts on specific areas of research focus, seeking to cooperate with competent partners from other university hospitals, non-university based research organizations, and industry.

Charité’s carefully selected measures allow it to combine its own wide range of expertise with that of its partners. In doing so, Charité is able to initiate projects with huge innovative potential that will influence the direction of medical care and research within Germany and beyond.

Collaborations of mutual benefit
Close collaborations with industrial partners, which exist across a wide range of areas, form an integral part of Charité’s corporate strategy. Aside from its strategic Research and Development partnerships with pharmaceutical companies, Charité is also actively committed to promoting partnerships with information and communications technology companies, as well as medical technology companies. Charité’s sheer size makes it an ideal partner for Research and Development partnerships. This is because, for many of the medical conditions treated at Charité, the numbers of patients treated exceed those seen at other German hospitals. The level of skill and expertise displayed by Charité researchers across many different subject areas is another reason why Charité is such an attractive partner.

By developing new types of cooperative projects, Charité is hoping to convince those who still harbor reservations as to the benefits of cooperative arrangements between science and industry. The reason why some still have doubts is that, traditionally, these two sectors have pursued very different strategies: the majority of university-based research is basic research, with an emphasis on prompt dissemination and publication of findings. In contrast, when private companies invest large sums in Research and Development, they are usually interested in keeping findings secret until such a time as they are ready to market their new drug or innovative medical devices. Committed to overcoming these traditional barriers, Charité pursues a strategy that allows both partners to achieve satisfactory results, as well as ensuring that their respective strengths can complement each other. Aside from increasing the innovative potential of both partners, this strategy ensures a smoother translation of research findings, and allows patients to benefit much sooner.

Charité’s flagship projects
The fact that it is possible for both partners to benefit from such cooperative arrangements is evidenced by various projects that Charité has entered into with industrial partners. A pioneering example of such a cooperative arrangement is Charité’s Research and Development partnership with Sanofi-Aventis. This cooperative partnership, which
is aimed at the joint development and marketing of drugs, sees researchers from Sanofi and Charité work side-by-side in a new diabetes laboratory. The aim of the arrangement is to work together to better understand the needs of patients with diabetes, and how these can be addressed through different treatment approaches. Joint follow-on projects ensure faster translation into clinical practice, meaning patients can benefit much sooner. Provisions in place include a ‘Think Tank’, which allows researchers from both parties to discuss issues related to research and treatment, as well as the impact of relevant social and economic factors. Through this knowledge exchange platform, researchers from both parties have the opportunity to gain an insight into how the other partner operates. Researchers from Charité and Sanofi-Aventis also benefit from easy access to resources such as components of active ingredients, biomarkers, instruments and devices.

Promoting technology transfer
Close cooperation with selected industrial partners is of immense importance if Charité is to fully exploit the high innovative potential of its research activities. The Technology Transfer Office, which was founded in order to support this aim, is dedicated to supporting researchers hoping to protect their research findings through patents, and assists them in turning their research into marketable products. The Technology Transfer Office provides advice on topics such as inventions and patents, cooperative arrangements with private companies, and spin-offs. It is responsible for overseeing the commercial exploitation of inventions, and facilitates contacts between researchers and external companies. By doing so, the Office actively supports Charité’s commitment to bench-to-bedside translation and the practical application of research findings. This allows Charité to maintain and enhance its role as one of the main players within the health care sector.

Living diversity
Charité staff and students hail from every continent and, more specifically, 89 different countries. Many of our patients also come to us from abroad, making the trip in order to be treated by specialists who are world-leading in their fields. Charité is committed to promoting this diversity, fostering international exchange programs, and maintaining the organization’s multi-faceted nature. In an effort to achieve these aims, Charité has put in place a myriad of customizable options for its patients, students, and staff. This ensures that the different target groups receive the support they need.

Health Care Services for International Patients
The thought of going abroad for medical treatment usually prompts many questions: How does one go about organizing such a trip? What documentation and formalities are necessary? How much will treatment cost? How would a patient or members of his/her family communicate with the treating physician? Members of the Charité International Health Care team are happy to help with these and similar questions.

For many years, the Charité International Health Care Office has been providing international patients with support before, during, and after their treatment; it is ideally placed to answer any questions that might arise in relation to the subject of medical treatment abroad.

Following in-depth discussions with the patient, members of the team will coordinate the relevant components of the patient’s treatment plan to ensure that they receive personalized support which reflects their medical needs. Members of the Charité International Health Care Office will consult with specialists from the relevant departments in order to provide prospective patients with individualized treatment estimates, including details of treatment costs and the maximum duration of treatment. Charité International Health Care Office will also provide support with immigration formalities, and arrange transport to and from the hospital, as requested. If necessary, the Office will arrange for an interpreter, and will arrange suitable accommodations for anyone accompanying the patient. All services offered will reflect Charité’s commitment to ensuring that

Charité’s commitment to ensuring that

Charité International Academy
Since 2009, Charité International Academy has been running training events aimed at health care professionals from Germany and abroad. These cover a wide spectrum, ranging from courses that help develop communication skills, such as German as a Foreign Language and Medical English, to courses in Intercultural Competence, as well as research-related topics such as Scientific Writing and Fundraising for Research.

The course program, which remains unique in Germany, offers targeted training to prepare staff members for the challenges associated with the globalization of the education and job markets.

Further information: chia.charite.de

Truly international
Charité Welcome Center

The Charité Welcome Center offers a range of services for professionals hoping to join the organization from abroad. The Office provides information and advice on the topic of ‘working at Charité’, and useful tips on life in Berlin. Prior to arrival, prospective staff members receive support in dealing with immigration formalities, registering as a resident, and advice on how to find accommodation. International staff members can also contact the Office for advice on financial and health-related matters. This service is available throughout their stay at Charité.

Further information: welcome.charite.de

Charité International Cooperation

Charité International Cooperation (ChIC) is an administrative unit responsible for coordinating and organizing international activities involving the Faculty of Medicine. This includes support for Charité students hoping to spend part of their training abroad, be it as part of a student exchange program, a practical placement, or as part of their final year rotation. ChIC is also an ideal point of contact for international students hoping to attend a Charité Summer School, and those planning to spend a semester or even their entire degree course at Charité. Thanks to its close links with numerous international partner universities, Charité can also offer a wide range of opportunities for Charité students hoping to gain experience abroad.

Charité Foundation — promoting innovation

Promoting entrepreneurial thinking, enabling change

An organization like Charité, which is hoping to maintain its position as one of the leading university hospitals in the world, cannot afford to rest on its laurels. This is why Charité is committed to actively promoting the values of innovation, entrepreneurship, and a willingness to implement change, among its staff members. How can an organization like Charité ensure that new ideas are successfully translated into clinical practice, and prompt positive changes? The answers to these challenging questions are manifold. Since 2005, they have formed one of the main areas of interest of the Charité Foundation. The Foundation, which was founded by the entrepreneur Johanna Quandt, promotes entrepreneurial thinking at Charité, rewards innovative ideas, and provides support in bringing these to fruition.

The Charité Foundation currently focuses on the following five areas of activity:

• Project teams whose project in basic or applied research has produced promising findings can apply to the Foundation for gap funding, a type of funding that can be used to turn their findings into clinical application, i.e. take them from ‘bench to bedside’. This type of funding allows theories and ideas to be tested in a practical setting, with a view to developing new active ingredients or medical devices further down the line.

• The Max Rubner-Preis, an annual award aimed at individuals who actively promote positive change, is presented in recognition of efforts aimed at improving conditions for staff, patients and students. The prize is named after Johanna Quandt’s grandfather, an expert in occupational physiology and nutrition, who was behind the introduction of numerous highly innovative developments at Charité.

• Physicians who are training to become specialists do not usually have (much) time for research. The ‘Friedrich C. Luft’ Clinical Scientist Pilot Program, which was developed in conjunction with the foundation VolkswagenStiftung and Ärzteinitiative Junge Charité, allows selected young physicians to dedicate a minimum of 25% of their...
working time to research. The program also provides complementary training modules, such as training in management and leadership skills.

• With its Charité Entrepreneurship Summit, the Charité Foundation has developed an event that is encouraging innovative physicians to discuss their ideas with experts from the technology transfer and financial sectors. The Summit, which is held on an annual basis, also provides a platform for an exchange of knowledge with successful entrepreneurs.

• Another annual event is Workshop Unternehmerische Charité, which is a workshop aimed at physicians, researchers, and students, and offers training in business management, encourages spin-offs, and provides networking opportunities for individuals interested in creating new companies. The workshop, which is truly interactive in nature, focuses on case studies, business simulation games, and group discussions.

As an independent legal entity, the Charité Foundation commands the enviable position of being able to test innovative ideas across the full range of activities it supports. The Foundation aims to support entrepreneurial efforts and hopes to influence the changes currently shaping the medical sector in order to ensure that Charité remains one of the leading university hospitals. The Foundation’s involvement is of immense importance to Charité, allowing it to remain adaptable, and a veritable cradle of innovation.

Answers to current and future health care challenges
Health care providers of the 21st Century are facing an increasing number of challenges, with new problems adding to many existing ones that remain unsolved despite astonishing medical advances. While a rapidly aging population is resulting in an increase in chronic and degenerative diseases, new epidemics such as EHEC and swine flu are joining an army of known epidemics such as HIV, TB, and malaria. When Charité initiated the foundation of the M8 Alliance of Academic Health Centers, Universities, and National Academies, the intention was to create a network of relevant stakeholders to complement and support the G8’s political initiatives. The World Health Summit, which was launched to provide the Alliance with an appropriate forum, brings together policy makers from all areas of the health care sector, and promotes the dialog on issues that are likely to hold importance for the whole of society.

International decision-makers identifying solutions
When Charité hosted the first World Health Summit in 2009, the event was organized under the auspices of the Federal Chancellor Angela Merkel and the French President Nicolas Sarkozy. The event was presided over by its founding president, Professor Detlev Ganten, who had been Chairman of the Board at Charité from 2004 to 2008. Once a year, the World Health Summit brings together, in Berlin, high-level decision-makers and thought leaders from the fields of science, politics, business and civil society. They come together to discuss the problems most likely to dominate the medical world over the next few years, and to identify solutions to these problems. The list of challenges facing the health care sector is a substantial one: climate change and associated health risks, the increase in chronic diseases, the persistent lack of adequate medical care that continues to affect many countries, and the increasing costs associated with providing medical care. All of these challenges represent grave threats to world health, and place enormous pressure on the world’s health care systems. Diseases do not respect...
national borders, which is why Charité is particularly committed to pursuing an international approach to solving these problems.

Pioneering efforts from teams of leading experts

Ever since the successful launch of the World Health Summit, Charité has been seeking to establish close links with large numbers of decision-makers from all around the world. The Summit, which now attracts approximately 1,300 people from over 90 different countries, always aims to offer excellent speakers, including senior representatives from politics (including a large number of Ministers for Health from many European and non-European countries, as well as representatives from the European Commission), leading researchers (including many Nobel Prize Laureates), Members of the Board of research-based pharmaceutical companies, and senior representatives from international health organizations such as the WHO and other UN-sponsored programs such as UNAIDS. As the Summit offers opportunities for strategic exchange, it also attracts representatives from foundations, such as the Bill and Melinda Gates Foundation and the World Economic Forum. It also attracts representatives from large research organizations such as Helmholtz Association, Max Planck Society, and Leibniz Association. During their discussions, delegates also take into consideration any political, social, economic, and geographical factors that are likely to have a significant impact on health care provision. Given the strongly inter-linked nature of these issues, it becomes clear that the world needs a broad-based alliance for health if it is to tackle the major medical issues of the 21st Century. This is why the pioneering efforts of Charité and its World Health Summit are of such immense importance.

M8 Alliance of Academic Health Centers, Universities and National Academies

Comprising 23 members from 16 different countries, the M8 Alliance is a network of outstanding medical institutions that are committed to improving global health. Members of the Alliance share a common aim, namely that of promoting the prompt translation of research from bench to bedside. Members agree that, in order to achieve this aim, there will need to be an increased focus on interdisciplinary research and cross-sector collaboration. The purpose of the Alliance is to place health care at the top of the political, social, and academic agendas. The World Health Summit, which is organized on an annual basis, supports these aims.

Further information: www.worldhealthsummit.org/m8-alliance
Berlin Institute of Health – a model facility for translational research

Institutional cooperation with the Max Delbrück Center
When Charité and the Max Delbrück Center for Molecular Medicine (MDC) joined forces to create the Berlin Institute of Health (BIH), the result was the meeting of two giants of biomedical research, and the combination of their respective strengths and expertise under one roof. As an entity, BIH is unique: Germany’s first-ever joint venture between a university-based and a non-university-based research organization, the BIH stands for a close interlinking of basic and clinical research. It has a strong focus on the pursuit of translational research, which is closely intertwined with systems medicine, a field of study with a characteristically interdisciplinary approach to research, which centers around the nature and interactions of different mechanisms of disease and organ systems. Bench-to-bedside-to-bench translation of research findings can happen faster and in a more targeted manner. This allows patients to benefit from new methods of preventing, diagnosing, and treating disease, while practical experience feeds back into further research.

The BIH, which intends to set new standards for translational research – both nationally and internationally – is also of immense benefit to the city of Berlin. Aside from strengthening its reputation as an international center of biomedical research, the city is also able to attract an increasing number of outstanding researchers. This is made possible through generous funding support. Both the federal and state governments have pledged a total of €300 million until 2018, while the entrepreneur Johanna Quandt is providing a total of up to €40 million.

Joint research endeavors and outstanding infrastructure
As long-standing partners, Charité and MDC have many years of experience in cooperating on a range of projects, which include the Experimental and Clinical Research Center (ECRD) and the German Center for Cardiovascular Disease (DZHK). In addition to these, there are a number of outstanding projects which are being conducted by different Collaborative Research Centers, or have been established as part of the German Excellence Initiative. It is this level of experience that the BIH can now draw upon. Over the next few years, the BIH will place a particular focus on the creation of the Clinical Research Unit, a research center with a patient- and participant-oriented approach to research. Aside from highly modern research structures, the unit, which is aimed at facilitating translational research, will also offer the support facilities required for the conduct of high-quality clinical studies.

Technology platforms, which facilitate outstanding research, are another one of BIH’s core elements. As repositories of bioinformatics algorithms and computer models, these platforms offer an effective and reliable way to analyze the vast amounts of research data on cellular molecules or tissues now routinely collected using high-throughput technologies. As a result, these platforms ensure that data can be used to benefit and inform clinical practice.

As far as support for young researchers is concerned, BIH is placing its faith in new programs that support a finely-balanced combination of theory and practice. For physicians who are receiving support as part of the Clinical Scientist Program, for instance, this means that they are able to set aside 50% of their working time for research activities.

Advances in systems medicine
The BIH addresses instances of overlap between systems and processes that can have an impact on human health and disease. Results from this type of research can then be used to develop new methods of prevention, diagnosis, and treatment. One of the BIH’s research groups, for instance, is dedicated to developing a new type of cancer treatment. The treatment involves genetic engineering, which enables the patient’s own T-cells to recognize and destroy cancer cells. Another research group is investigating the complex interactions of proteins in the nerve cells of patients with Alzheimer’s disease. The aim is to develop new treatment options and to find new therapeutic indications for existing medicines. As part of another research project, researchers and physicians are working together to investigate how to diagnose hereditary diseases in children. This involves individual patients undergoing extensive examination, as well as comprehensive genome analysis to identify mutations. It is hoped that an improved understanding of the underlying causes and disease mechanisms will result in the development of new treatment options.
Facts and figures can also help paint a picture of Charité. As the largest university hospital in Europe, Charité covers a total of 540,000 square meters (over 5.8 million square feet) and extends over four campuses. The hospital has approximately 3,000 beds and more than 5,000 babies are born here every year. All figures are from July 2015.