

# Middle East HEALTH

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November - December 2017

**SUPPLEMENT**

## Welcome to the United States

Inbound health travel  
continues upwards trend  
with persistent demand  
for world's best health care

### The US NIH

The National Institutes of Health plays  
a crucial role in global biomedical research

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In the U.S. News & World Report rankings of top hospitals, Mayo Clinic is the #1 hospital overall, as well as #1 in more specialties than any other hospital in the USA. Our world-class experts work together to provide comprehensive care for patients with even the most complex conditions.

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Rochester, Minnesota, USA

Based on U.S. News & World Report Best Hospitals Honor Roll, 2017-2018. © 2017 Mayo Clinic.

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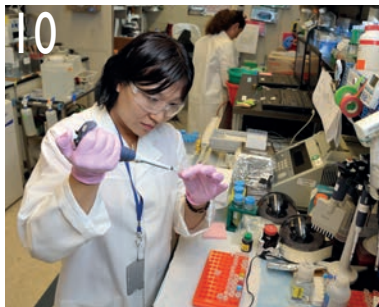
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# Inbound medical travel to the United States

Although research shows inbound medical tourism to the US is on an upwards trend, factors such as visa restrictions may hamper this growth, particularly from countries in the Middle East. *Middle East Health* reports.

Inbound medical tourism to the United States has grown steadily in recent years, according to a 2015 report by the US International Trade Commission (USITC).

The report notes that despite rising costs, the US health system continues to attract foreigners because of its high-quality services. The author points out, however, that the main barrier to increasing medical tourism are visa restrictions for travellers from certain countries entering the United States.

According to the USITC report, in 2013, US cross-border exports of health-related personal travel services (i.e. inbound medical travellers to the United States) were US\$3.3 billion, up from \$1.6 billion in 2003, which equates to a 7.7% compound annual growth rate (CAGR).

Foreign patients most often cite access to advanced medical care as their reason for travelling to the US for treatment.

According to the report, the three largest source markets for foreign travellers visiting the United States for health treatment in 2011 were the Caribbean (with 44% of arrivals), Europe (24%), and Central America (10%). The author notes that restrictive visa requirements have





reduced the number of patients who are able to enter the United States from certain countries and as a result many health travellers, for example from the Middle East, have opted instead to seek treatment in Southeast Asia.

Globally, growth in cross-border trade in healthcare services has been driven by demand from high-income countries, often in Asia and the Middle East, that have not built up a network of high-quality hospitals.

### Global medical tourism market

According to a report on Skift.com (“Medical Tourism Is Big Business But Still an Emerging Market” – March 2017) – estimates of the global medical tourism market range from \$40 billion to \$60 billion annually with 12 to 14 million travellers taking medical trips each year for things such as dentistry, cancer treatment and reproductive health.

The report notes that medical travellers are profitable for destinations because they typically stay longer than the average tourist. In general, a tourist that travels to a country for medical travel is going to spend five to six times more on average during their trip than a regular tourist.

A research paper (Demand for international medical travel to the USA, *Tourism Economics*, 2015, doi: 10.5367) notes that International medical travellers also may bring their family members or other travel companions, representing additional contributions to the local economy through spending on lodging, food, entertainment and transportation among other items.

### Marketing

Some US health facilities, such as the Mayo Clinic, specialise in providing high-quality medical care to foreigners, particularly from the Middle East and Asia. These facilities actively market their services overseas, offering offices abroad and ‘concierge’ services for medical travellers.

However, the authors of the research paper note that although many US hospitals with established international patient programmes track the countries of home origin for their patients, an



## Observations

Although slightly dated, the findings from a 2010 survey on inbound medical tourism to the United States are still significant. The survey was carried out by Stackpole & Associates in an effort to throw some light on the trends in this segment of tourism.

Managers of international patient departments throughout the United States were invited to participate.

The survey covered various topics relating to medical tourism and international patient departments including: Staffing and financial resources; international relationships including referral sources; international patient volume and medical services utilized; current and projected flow of international patients; international patients served by country or region; support services provided directly or by third parties; training for international patient department staff; obstacles to attracting international patients; and interest in a professional association.

### Observations

Respondents reported that their International Patient departments bring prestige to their institutions. Below are some of the findings.

- “International” was by far the most frequent descriptor used in the departments’ names.
- Most departments are staffed with full time personnel.
- When asked to describe the most important reasons their departments were founded, respondents reported “revenue” frequently, as well as “demand”; “international relations” and “market service” factors.
- Only 17% of responding institutions reported operating or managing hospitals outside the United States, while 67% reported having referral relationships with hospitals outside the US, with 4-5 being the most frequently reported number of such relationships.
- Regarding total international patient volume, the highest percentages were Oncology (31.69), Cardiovascular (14.17) and Neurological (11.75). “Other” at 23.26% was the second highest category, and this was further reported as a wide array of surgical and medical specialties.
- Regarding international patients’ countries / locations of origin (sources), there was a wide range of answers, reflecting regional location and clinical specialization of the respondents. The largest percentages of patients were derived from Mexico (21.18%), followed by Middle East (14.07%), South America (12.33%), Central America (excluding Mexico - 11.25%) and Europe (11.23%).
- Most International Patient Departments responding to this survey (66% or more) reported providing additional services such as interpreter / translator, pre-arrival medical assessment, assistance with hotel reservations or housing options, special dietary



understanding of current medical travel patterns is not sufficient to determine where to target efforts to develop new markets. Targeting countries based on current travel patterns to the US may simply serve to redistribute patients to different hospitals within the country, rather than increase the total number travelling to the country. Patterns of medical travel to the US are likely to change over time due to factors not commonly captured in current tourism motivation models. For example, Qatar, a country from which a substantial volume of medical travellers currently originate, is investing heavily in the development of its tertiary hospitals, attracting Western-trained physicians and healthcare managers. Local capacity to provide advanced medical care may reduce the future need for its residents to travel abroad; if so, American hospitals will need to concurrently develop new markets to maintain their programmes.

The skift.com report notes that in an effort to promote medical tourism there have been initiatives whereby hospitals and hotels create combined packages for medical tourists.

David Vequist, founder and director of the Center for Medical Tourism Research at the University of the Incarnate Word in San Antonio, Texas is quoted as saying: “In the US one of the most frequented medical travel locations for foreigners is Houston and the city is really one of the best examples in the world for a strategy that gets everyone on the same page about medical travel.”

More than 60% of hotel bookings in downtown Houston – an area concentrated with hospital and healthcare facilities – are medical tourism related, he said.

“In Houston, they have an international patient advisory committee that includes members of the local government, city restaurants, hotels, airport personnel and hospitals. They all get together every couple of months and talk about the impact of medical tourism on the downtown Houston economy.”

However, medical tourism, as an industry, is still relatively young with some areas requiring further development. For example, booking medical travel online can still be difficult as many online travel agencies and travel agents don’t offer medical travel packages.

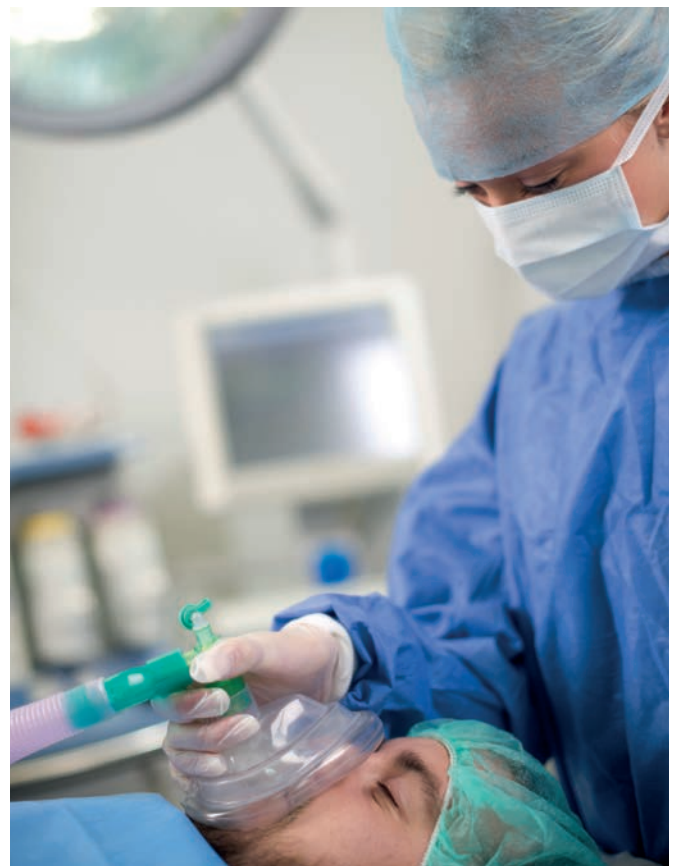
In this regard, Josef Woodman, the CEO of Patients Beyond Borders, an organisation that connects travellers to accredited hospitals, doctors, and specialists around the world, is quoted as saying: “Third parties are starting to bundle medical travel packages together but there’s still not a critical mass of these packages.

“There’s not a TripAdvisor for medical travel, but that world is building,” he says. MEH

► (continued...)

needs and coordination of aftercare services. Fewer (less than half) reported providing assistance with transportation and / or tourism related services.

- Support services most frequently outsourced were transportation (70%), home care / companion (50%), while fewer respondents outsource local tours and activities (30%). Given that 69% of respondents indicated that they provide local lodging assistance directly, and another 20% outsource assistance with hotel reservations it appears that international patient departments participating in this survey are covering travelling patients’ lodging quite thoroughly.
- It appears that local tours, sightseeing and recreation are not part of what is being offered by respondents either directly or as an outsourced service. This indicates more “medical” and less “tourism” as a difference with foreign destination providers which often feature tourism.
- Over half (56%) of respondents reported that direct patient care staff do not receive specialized training in caring for international patients, although those which did offer such training rated it highly (8.4, where 1 = poor, 10 = excellent).
- Sixty two percent (62%) reported that the staff of the international patient department had received specialized training (cultural awareness) and this training was rated significantly less positively (7.22) than the training provided the direct care staff (8.40).
- The price of US healthcare was rated as the greatest obstacle to international patients (6.57, where 1 = very easy, 10 = very difficult) and obtaining a visa was the second most difficult (5.21).
- Regarding marketing, respondents rated word of mouth from patients and families as the most important source of patients (8.77, where 1 = not at all, 10 = extremely) and physician referrals as second (8.08). The hospitals web site was third (6.83) and public relations fourth (5.62)



# Mayo Clinic Ranked No. 1 Hospital in the United States

Mayo Clinic was again named the best hospital in the United States in *U.S. News & World Report's* annual list of top hospitals. Mayo Clinic was also ranked the No.1 hospital in Arizona, Florida and Minnesota.

Mayo Clinic has ranked at or near the top of “Honor Roll” hospitals throughout the history of *U.S. News & World Report's* Best Hospitals rankings.

## ‘Breadth of excellence’

Mayo Clinic is part of a select group on the *U.S. News* Honor Roll recognized for “breadth of excellence”, according to the magazine. The Honor Roll consists of 20 hospitals with the highest combined overall scores in 16 medical and surgical specialties. Hospitals are measured for various factors, including safety, survival, patient services and reputation with other specialists.

Mayo Clinic is No. 1 overall in the magazine’s annual Honor Roll ranking of its 2017-18 Best Hospitals list. Mayo Clinic also ranked No. 1 in six specialties:

- Diabetes and endocrinology
- Gastroenterology (GI) and GI surgery
- Geriatrics
- Gynecology
- Nephrology
- Neurology and neurosurgery

Mayo Clinic ranked No. 2 in four specialties: cardiology and heart surgery, orthopedics, pulmonology and urology.

Mayo Clinic ranked No. 3 in cancer and No. 4 in ear, nose and throat.

Mayo Clinic has more No. 1 rankings than any other provider based on factors such as reputation, mortality index, patient safety, nurse staffing and Magnet status, patient services, and technology. Mayo Clinic staff work to deliver the highest standards of care and transform scientific discoveries into critical advances for unmet patient needs.

## Consistently top ranked

“Mayo Clinic is consistently top ranked more often than any other hospital because of the thousands of people here who shared a vision,” says John Noseworthy, M.D., president and CEO, Mayo Clinic. “Our physicians, scientists, researchers, educators and allied health staff bring their expertise to focus on the individual needs of each patient.”



More than 1.3 million patients from around the world seek Mayo Clinic’s expertise each year. Mayo Clinic’s physicians are salaried to eliminate any financial pressure from patient care decisions.

## More than 150 years of quality


Mayo Clinic’s commitment to quality dates back more than 150 years to when the Mayo brothers invented the team-based approach to medicine – an approach that is continually evolving. Mayo Clinic’s experts work across specialties to provide comprehensive and coordinated care for patients with the most serious and complex conditions.

This *U.S. News & World Report* honor follows a recent Mayo Clinic report, Remarkable Moments of Sharing, which provides insight into what makes a top hospital and highlights Mayo’s effect on the economy, health system and patients.

“Our patients tell us that the Mayo Clinic experience is unparalleled, offering answers quickly and giving them confidence and hope,” Dr. Noseworthy says. “Our unwavering focus on the patient is the bedrock on which Mayo Clinic is built.”

Many outside agencies rate quality in health care. Mayo Clinic is the only healthcare organization that consistently ranks among the top providers in the U.S. regardless of the quality measure used.

This is the 28th year that *U.S. News & World Report* conducted a rankings list, which encompasses 16 medical specialties. *U.S. News & World Report* analyzed data for 4,500 medical centers to determine the rankings.

■ For more information or to make an appointment, visit [mayoclinic.org](http://mayoclinic.org) or [mayoclinic.org/arabic](http://mayoclinic.org/arabic). 

# A new era in healthcare

The world-renowned Texas Medical Center (TMC) – the largest medical complex in the world with more than 10 million patient encounters per year – is home to Baylor St. Luke's Medical Center (Baylor St. Luke's). Baylor St. Luke's is a quaternary care facility in Houston that is dedicated to a mission of enhancing community health through high-quality patient care. The hospital is part of Catholic Health Initiatives (CHI), one of the nation's largest health systems.

## History of making history\*

\*Baylor St. Luke's Medical Center, home of the Texas Heart<sup>®</sup> Institute (THI), is internationally recognized as a leader for cardiovascular care. Since 1962, Texas Heart Institute, founded by Denton A. Cooley, MD, has been leading world-class physicians and scientists in performing research to better understand the diagnosis and treatment of cardiovascular disease. Now, Baylor St. Luke's is continuing to make life-changing breakthroughs to eliminate heart and vascular disease, discover the best methods of prevention, and save more lives than in any other era in medical history.

## Texas Heart Institute

- **FIRST** successful heart transplantation in the United States
- **FIRST** implantation in the world of an artificial heart in a human
- More than 100,000 open-heart procedures performed
- **FIRST** in the United States to implant a pacemaker enclosed in a mesh envelope embedded with two antibiotic agents that provide site-specific antibiotic protection
- **FIRST** FDA-approved clinical trial of adult stem cell therapy for congestive heart failure in the United States
- **FIRST** clinical trial to treat heart attack patients with a special type of adult stem cell to promote better healing and to prevent congestive heart failure
- THI Surgeon, Dr. O.H. "Bud" Frazier has performed more heart transplants and left ventricular assist device implantations than any other surgeon in the world

## Heart care

Together, Baylor St. Luke's Medical Center and THI form one of the largest cardiovascular centers on the globe that offers a full range of specialty heart programs.

Our programs – ranging from vascular and emergency services to interventional and thoracic surgeries – feature some of the most experienced cardiovascular and cardiology specialists operating in one of the most respected research and educational settings in the world.

Our physicians are leaders in innovative, ground-breaking research, including the use of adult stem-cell therapy to create new heart muscle and vascular cells, testing prototypes for a total artificial heart, and improving left ventricular assist devices (LVADs), and other heart pumps. In January 2017, Baylor St. Luke's welcomed internationally-known cardiothoracic surgeon, Joseph Lamelas, MD. Dr. Lamelas is considered an expert in the most advanced forms of minimally invasive cardiac surgery, completing more than 14,000 cardiac surgical operations in his career.

## Transplant

Since 1982, Baylor St. Luke's Medical Center has been providing exceptional healthcare to patients referred for heart, lung, kidney and liver transplantation as well as implantation of Left Ventricular Assist Devices. The Transplant Department provides a complete continuum of patient care, from initial counseling to post-transplant medical follow-up. Baylor St. Luke's is continuously recognized for its successful outcomes.

## Cancer care

Baylor St. Luke's in partnership with The Dan L Duncan Comprehensive Cancer (DLDC) at Baylor College of Medicine brings together clinical, research, educational and community-oriented cancer initiatives under one umbrella. The DLDC is one of only three NCI-designated Comprehensive Cancer Centers in Texas, and one of 47 in the country, indicating an elite class of excellence in the areas of research and patient care.

As a comprehensive cancer center, The DLDC at Baylor St. Luke's is able to develop and conduct clinical trials as well as offer research-based treatment options using a patient's own genetic makeup to



identify their potential for cancer, prevent its onset, more effectively diagnose, and treat the disease when it does occur.

Baylor St. Luke's Medical Center employs a full range of sub-specialists in pathology, radiology, anesthesiology, emergency medicine, and other disciplines. Together, Baylor St. Luke's and the Dan L Duncan Cancer Center at Baylor College of Medicine offer patients complete cancer care.

## Lung Institute

Baylor St. Luke's has developed the first comprehensive, multi-specialty Lung Institute in Texas, with a team of specialists led by world-renowned lung disease expert and surgeon David Sugarbaker, MD. From asthma to lung cancer, the Institute offers advanced technology and individualized treatment, backed by Baylor's top-ranked genetics program, to patients from all over the world.

The Institute combines experts from more than a dozen pulmonary, surgery and related specialties at


Baylor College of Medicine and Baylor St. Luke's and taps into the resources of internationally recognized genetics and genome sequencing programs. This collaborative approach to lung disease treatment means that patients are provided more options for a course of treatment.

## International services

International Services at Baylor St. Luke's extends a gracious welcome to patients and families from around the world. Our multilingual professional team stands ready to manage all your medical services needs and related matters to make your stay with us more pleasant.

Services include but not limited to second opinion, physician appointments, language assistance, hotel and airline reservations and spiritual support for all faiths.

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- [www.stlukesinternational.org](http://www.stlukesinternational.org) 





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Medical Center**

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**in Houston**



**in Texas**



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Discover the advantages of getting your medical care in Philadelphia, a welcoming, World Heritage city easily located between New York and Washington, D.C.

Philadelphia, the birthplace of American freedom, is known as a city of firsts, including the first American hospital. Philadelphia continues to lead the way in medical innovation, high-quality patient care and physician training. Home of the famous Independence Hall, Philadelphia is also home to many of the top hospitals, medical schools and research institutions in the world.

You can access the medical excellence of Philadelphia with one-stop ease by becoming a patient through Philadelphia International Medicine ([www.philadelphiamedicine.com](http://www.philadelphiamedicine.com)), a network of academic medical centers, specialty hospitals and an impressive lineup of doctors.

Philadelphia International Medicine has a track record of providing positive outcomes to thousands of patients annually who travel from around the globe for the very best medical and surgical care. Cardiology, cardiothoracic surgery, orthopedics, neurology, eye care and cancer therapy are just a few of the many services offered.

Each patient receives a personalized care plan and a care manager who tends to every detail to make sure the process is thorough and efficient, from scheduling to arrival to completion of treatment. Our staff will nurture your well-being in a private, comfortable environment removed from the everyday demands and familiarities of life.

Philadelphia International Medicine includes these centers of excellence:

- **Fox Chase Cancer Center.** Designated as a Comprehensive Cancer Center by the National Cancer Institute. Expertise in radiation oncology, immunotherapy and genetics, cancers of the skin, women's cancers and cancers of the lung, prostate, colon and blood. Fox Chase is also a center for cancer prevention.
- **Temple University Hospital.** A leader in robotic surgery, cardiac care and surgery, organ transplants, lung care,



Fox Chase Center



Temple Hospital



emergency and trauma services and burn treatment.

- **Thomas Jefferson University Hospital.** Experts in neurology, oncology, orthopedics, hepatitis and other liver diseases and gastrointestinal (GI) disorders. Jefferson is also a center for liver and kidney transplants.
- **Will's Eye Hospital.** Ranked by *U. S. News & World Report* as one of the top two U.S. hospitals for clinical care, research and training in eye health.
- **The Rothman Institute.** Internationally recognized orthopedics program offering advanced treatment methods and technologies. Sports medicine and joint replacement among its specialties.
- **Vincera Institute.** Medical specialty center dedicated to core medicine, including hip and pelvic pain in athletes. Vincera also specializes in the treatment of severe, chronic pain.
- **Magee Rehabilitation Hospital.** Experts in treating spinal cord injury, brain injury and stroke. Cardiac and oncology rehabilitation services also offered.
- **The Renfrew Center.** World-re-

nowned center for treating women with eating disorders, including anorexia, bulimia and binge eating, and related behavioral health issues.

Prevention is another key focus at Philadelphia International Medicine. You can choose to undergo a **Personal Health Evaluation**, a comprehensive package of services to measure your risk for heart disease, diabetes, cancer and other illnesses. You'll gain insight into your health status and a plan for staying vital going forward.

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More details on Philadelphia International Medicine can be found at: [www.philadelphiamedicine.com](http://www.philadelphiamedicine.com)

You can also get more information or schedule an appointment by: calling 215-563-4473

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# The US NIH plays a crucial role in advancing biomedical research

The United States' National Institutes of Health (NIH) is the largest public funder of biomedical research in the world, investing more than \$30 billion every year in taxpayer dollars to achieve its mission to enhance health, lengthen life, and reduce illness and disability. It is part of the US Department of Health and Human Services.

The NIH began in 1887 when a one-room laboratory was created within the Marine Hospital Service, the predecessor agency to the US Public Health Service. For more than a century, NIH scientists have paved the way for important biomedical discoveries. Some 153 Nobel Prize winners have received support from the NIH, which is testament to the important role this agency plays in advancing healthcare, not only in the US but around the world.

The NIH plays a key role in the expansion of biomedical knowledge. NIH-funded research leads to tens of thousands of new scientific findings every year. These fundamental advances and technological developments expand our understanding of health and living systems, and form the building blocks required for translational and clinical advances to occur. NIH also fosters the generation of new knowledge within the scientific community by supporting training within the research workforce.

The NIH is made up of 27 different components called Institutes and Centers. Each has its own specific research agenda, often focusing on particular diseases or body systems. All but three of these components receive their funding directly from the US Congress, and administrate their own budgets. The Office of the Director is the central office, responsible for setting policy for NIH and for planning, managing, and coordinating the programs and activities of all the NIH components. Headquarters for the Office of the Director and the Institutes and Centers are located in Bethesda, Maryland. Some research is performed on campus in state-of-the-art laboratory facilities, although more than 80% of research activities are conducted by scientists working in every state and around the world.



National Institute of Arthritis and Musculoskeletal and Skin Diseases, National Institutes of Health

The NIAMS Cartilage Biology and Orthopaedics Branch. Youngmi Ji, Ph.D., research fellow, conducts research in the NIAMS Cartilage Biology and Orthopaedics Branch. The lab's research focuses on understanding specific orthopaedic pathologies to better facilitate clinical translation of lab results to medical therapies.

## Ground-breaking research

The NIH has launched and funds several remarkable research initiatives, among these are The BRAIN Initiative and Cancer Moonshot.

## The BRAIN initiative

The 'Brain Research through Advancing Innovative Neurotechnologies' (BRAIN) Initiative is aimed at revolutionizing our understanding of the human brain. By accelerating the development and application of innovative technologies, researchers will be able to produce a revolutionary new dynamic picture of the brain that, for the first time, shows how individual cells and complex neural circuits interact in both time and space. It will enable researchers to find new ways to treat, cure, and even prevent brain disorders. It will provide unprecedented opportunities for exploring exactly how the brain enables the human body to record, process, utilize, store, and retrieve vast quantities of information, all at the speed of thought.

In 2013, President Obama launched the BRAIN Initiative as a large-scale effort to equip researchers with insights necessary for treating a wide variety of brain disorders

like Alzheimer's, schizophrenia, autism, epilepsy, and traumatic brain injury. The World Health Organization estimates that devastating brain disorders affect more than one billion people worldwide.

"There are very few effective cures for neurological and neuropsychiatric disorders," said Walter J. Koroshetz, M.D., director of NIH's National Institute of Neurological Disorders and Stroke. "By pushing the boundaries of fundamental neuroscience research, NIH BRAIN Initiative scientists are providing the insights researchers will need to develop 21st century treatments."

## Cancer Moonshot

Cancer Moonshot is an initiative to accelerate cancer research with the aim of making more therapies available to more patients, while also improving our ability to prevent cancer and detect it at an early stage.

Congress passed the 21st Century Cures Act in December 2016 authorizing \$1.8 billion in funding for the Cancer Moonshot over 7 years. An initial \$300 million has been appropriated in fiscal year 2017 to fund Moonshot initiatives.

■ Source: National Institutes of Health ([www.nih.gov](http://www.nih.gov)) NIH

A promise to children and families around the world.



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Children deserve the best care possible, no matter where they live. That's why doctors and families around the world turn to Nemours Alfred I. duPont Hospital for Children. As an internationally recognized children's health organization—and renowned for our pediatric orthopedic expertise—we provide highly specialized care with respect for each family's unique health, cultural and financial needs.

Nemours/Alfred I. duPont Hospital for Children is consistently rated among the best children's hospitals in the nation by *U.S. News & World Report*. And while this level of pediatric care is not always available around the globe, it is the Nemours promise to help every child, everywhere, have a healthier future.

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Your child. Our promise.

# Precision Medicine: Care designed for you

At the heart of precision medicine is the understanding that each of us has unique characteristics that set us apart. Our family history, genetic makeup and lifestyle are an essential part of who we are and key to understanding our overall health.

At Johns Hopkins, experts across various disciplines have come together to achieve a new level of precision in health care. Combining the knowledge of specialists from one of the world's pre-eminent academic medical centers, renowned public health scholars and some of the best systems engineers on the planet – Johns Hopkins is continuing to explore and develop precision medicine approaches that will lead to quicker diagnoses, improved treatment and better outcomes.

Precision medicine is driven in part by innovative patient care and new ways of measuring disease. Our researchers are developing novel measures to further our understanding of each individual's health status and likely health trajectory based on family history, genetic makeup and needs. Our investigators are testing the implementation of new processes that will improve patient care and seamlessly integrate new medical knowledge into clinical practice.

## Precision Medicine Center of Excellence for prostate cancer

Using rapidly developing advances in precision medicine technology and data analysis, our multidisciplinary team of experts can precisely target specific types of prostate cancer and identify which ones will progress malignantly, which will respond to certain treatments, and which may best be managed through "active surveillance".

## Precision Medicine Center of Excellence for multiple sclerosis

Our experts are dedicated to improving diagnosis, treatment and overall understanding of multiple sclerosis, a debilitating neurological disease. A simple imaging test of the retina – the light-sensitive tissue that lines the back of the



eye – enables Johns Hopkins physicians to identify the likelihood of rapid disease progression, and may also help determine the best course of treatment. This test, called optical coherence tomography, has been fine-tuned and validated here at Johns Hopkins. Along with innovative diagnostic tests that help our team precisely identify the type of multiple sclerosis, patients at the Precision Medicine Center of Excellence receive extensive imaging, lifestyle assessments and reviews of their medical history.


## Customized care for international patients

Johns Hopkins Medicine International's team of more than 100 care experts from over 30 countries serves as the patient's guide to Johns Hopkins' leading-edge medicine and individualized treatment options. We provide the highest level of service in a compassionate, personalized, culturally appropriate manner and have decades of experience in caring for families traveling from the Middle East.

Our dedicated team seamlessly combines medical needs, individual preferences and cultural expectations into a tailored experience that makes Johns Hopkins feel as close to home as possible. We serve as the patient's personal liaison before the

visit to coordinate medical services and accommodations. Throughout the stay, we guide the patient to medical appointments, provide interpretation and offer support to make the visit smooth and comfortable.

We take care of our patients' needs before, during and after their visit by fulfilling the promise of high-quality service that allows patients and families to focus on their health and recovery.

- Appointments and referrals:  
+1-410-402-5041
- [hopkinsmedicine.org/international](https://hopkinsmedicine.org/international)
- [hopkinsmedicine.org/arabic](https://hopkinsmedicine.org/arabic) 

Top-ranked hospital  
combined for both adult  
and pediatric care

*U.S. News & World Report* has ranked The Johns Hopkins Hospital #3 in the nation and #1 in the state of Maryland for 2017–18. This – coupled with the recent pediatric ranking in which *U.S. News* named Johns Hopkins Children's Center #5 nationally – makes Johns Hopkins the United States' top-ranked hospital combined for both adult and pediatric care.

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OF MEDICINE®



# How far would you go?

For an accurate diagnosis.  
For unparalleled expertise.  
For groundbreaking treatment.

**Your life is worth the trip.**

When it comes to your life, distance should never be a factor. As soon as you know you need help, come to Johns Hopkins Medicine. We've been innovating patient care at every point of the journey for over a century. That includes making your journey to us as easy as possible. Let us help you plan your trip. The sooner, the better the outcome.

For appointments, trip planning and more  
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## Giving new hope to children with metabolic disease

**Children's Hospital of Pittsburgh of UPMC is a leading international center for liver transplantation as a treatment for metabolic disease.**

As one of the top ten pediatric hospitals in the United States, as ranked by *U.S. News & World Report*, Children's Hospital of Pittsburgh of UPMC is a pioneer in the field of liver transplantation, which has proven to be a life-changing solution for patients with metabolic disease.

**Liver transplantation can dramatically reduce symptoms, and in cases like maple syrup urine disease (MSUD), can provide a cure.**

Liver transplantation is more than a lifesaving procedure; it's also an attractive approach for improving quality of life for many patients with metabolic disease. In 2004, we developed the protocol for liver transplantation for MSUD. Today, we've performed more transplants on patients with MSUD than any other center in the world. That's more than 65 patients with a 100-percent survival rate. All of these patients show normal liver function, have avoided the risk of neurological complications, and enjoy an unrestricted diet.

**We've performed more liver transplants for patients with metabolic disease than any other transplant center.**

Since the inception of our program in 1981, our world-renowned experts have performed more than 1,700 liver transplants — that's more than any other center in the United States — with survival rates that exceed national averages. Additionally, we've performed more than 320 liver transplants for patients with metabolic disease, which is more than any other center, including adult facilities. Also, we're leaders in living-donor liver transplants, which eliminate wait times for a deceased donor and can provide excellent outcomes.

**Find out more about our excellent outcomes and extraordinary care.**

Our experience, expertise, and commitment to innovation and compassionate care are reasons why patients and families from around the world travel to Children's Hospital of Pittsburgh of UPMC. For a free phone consultation with one of our experts on liver transplantation as a therapeutic option for metabolic disease, please visit [www.chp.edu/metabolic](http://www.chp.edu/metabolic) or send an email to [international@chp.edu](mailto:international@chp.edu)

Sources: Internal data, Hillman Center for Pediatric Transplantation; Scientific Registry of Transplant Recipients ([www.srtr.org](http://www.srtr.org)), December 2015 release.

