



Building bridges across continents: neurology leaders forge global partnerships

Departments & Centers / Innovations / Neurology & Neurosurgery Innovations / Building bridges across continents: neurology leaders forge global partnerships

The Ohio State University Wexner Medical Center and King Faisal Specialist Hospital collaborate to advance translational neuroscience research.

The Ohio State University Wexner Medical Center is partnering with King Faisal Specialist Hospital and Research Centre (KFSH&RC) in Riyadh, Saudi Arabia, to drive advancements in neurological research, develop innovative educational opportunities and enrich population data for clinical studies and trials.

In October 2024, leaders and faculty from the neurology departments at the Ohio State Wexner Medical Center and KFSH&RC convened in Riyadh for the inaugural "Frontiers in Translational Neuroscience Symposium." This landmark event brought together experts from diverse subspecialties at both institutions to address pressing clinical challenges, share groundbreaking developments and explore avenues for collaboration.

Following the symposium, an interactive brainstorming session fostered discussions on joint research initiatives, including cross-institutional projects, shared biospecimen and clinical data resources and the development of academic programs. These dynamic exchanges culminated in the forging of a memorandum of understanding, formalizing an enduring partnership between the two institutions.

This alliance marks the second major initiative under the Wexner Medical Center Department of Neurology's burgeoning Global Neurology Outreach Program. The program's inaugural partnership, launched in 2023 with Addis Ababa University in Ethiopia, introduced a rotating case conference series that unites neurology residents and faculty from both institutions. These sessions offer valuable insights into the variations of neurological diseases and their perception across different geographic and cultural contexts. In addition, our Ohio State Neurology team supported the Addis Ababa neurology residency program by donating reflex hammers, tuning forks and other tools to enhance training and patient care. Most recently, we're in the process of donating an EMG machine.

The collaboration with KFSH&RC builds and expands on this foundation, employing a multifaceted strategy to advance neurological research and education. It aspires to emulate our Neurology team's remarkable trajectory – a meteoric rise in research capabilities, clinical innovation and international prestige achieved in just five years under the visionary leadership of [Benjamin Segal, MD](#), chair of the Department of Neurology, director of the Neuroscience Research Institute and co-director of the Neurological Institute.

This partnership is coordinated by Milly Valverde, director of Ohio State Destination Global Health Care, and aims to replicate our Neurology program's extraordinary growth in investigator-initiated research, clinical trials and global recognition. By uniting strengths, we and KFSH&RC are poised to accelerate translational neuroscience research, create enriching educational programs and forge enduring relationships that transcend continents.



Blueprint for an accelerated rise to the top

"Dr. Segal joined Ohio State as chair of the Department Neurology in 2019, and he has made major strides in transforming the department's environment and culture, particularly in advancing scholarship, translational research and cutting-edge clinical investigations," says [Bakri Elsheikh, MBBS](#), clinical professor of Neurology and director of the Neuromuscular Division at Ohio State.

A neuroimmunologist and multiple sclerosis specialist, Dr. Segal now oversees a dynamic team of 82 faculty members, including 14 fundamental and translational scientists directing wet bench laboratory programs. During fiscal year 2024, more than half of the clinical faculty served as principal investigators on more than 350 clinical trials and studies.

Ohio State's rapid progress has not gone unnoticed.

"Ohio State now boasts a mind-boggling roster of MDs, PhDs and MD/PhDs in neurology," says Najeeb Qadi, MD, MBA, director of the Neuroscience Centre at KFSH&RC and associate professor in the College of Medicine at Alfaisal University. "They are leading the way in translational research, particularly in fields like neurodegenerative diseases, neuromuscular disorders and neuroimmunology. This kind of bench-to-bedside innovation is exactly the model we aspire to achieve here."

Dr. Qadi further emphasized the significance of Ohio State's rapid ascent.

"We have achieved excellence in value-based clinical care, but we seek to enhance our capabilities as physician-scientists. While we've worked with top-tier institutions like Johns Hopkins and Cleveland Clinic for years, Ohio State has gone from good to great in just five years under Dr. Segal's leadership. This dynamic growth aligns perfectly with our goals."

Bridging borders through collaboration

The partnership between Ohio State and KFSH&RC underscores a global effort to share the principles and strategies needed to build robust translational research programs. Yet, the benefits extend both ways.

"We anticipate a vibrant exchange between bench researchers and clinicians at both centers," says [Stephen Kolb, MD, PhD](#), professor of Neurology and director of the ALS Multidisciplinary Clinical and Translational Research Program at Ohio State. "We'll gain access to diverse population data that will enrich our clinical studies while also creating new educational opportunities abroad for Ohio State faculty and learners."

Ripe for advancement

Riyadh, a bustling city of 8 million people in a nation of 38 million, is at the heart of a trillion-dollar economy driving rapid growth. Over the past two decades, KFSH&RC has evolved from a 150-bed facility in the early 2000s into a 500-bed tertiary care center today, housing centers of excellence in cardiovascular disease, organ transplantation and neurology. Showcasing its technological innovation, King Faisal performed the world's first fully robotic heart transplantation.

Edward Cupler, MD, executive director of Research and Innovation at KFSH&RC, is spearheading the institution's collaboration with the Wexner Medical Center, alongside Dr. Qadi.

"We're transitioning to an education-based economy driven by science and technology, making this an incredibly progressive time," Dr. Cupler says.

With a diverse team of world-class professionals, KFSH&RC has established itself as a global hub for excellence in diagnosis and patient care.

"Our staff are deeply patient-centric," Dr. Cupler says. "Our patients are lovely and truly appreciative of the care they receive."

Laying the foundation for a bi-institutional relationship

The Frontiers in Translational Neuroscience Symposium was the culmination of months of meticulous planning and dialogue. For eight months leading up to the in-person meeting, leaders from both institutions engaged in regular virtual discussions, laying the groundwork for partnerships and fostering synergies between faculty with shared subspecialties and research interests.

"Zoom is a fantastic tool, but having Ohio State faculty visit here in person makes all the difference," Dr. Cupler says. "When we meet face-to-face, we gain a clearer understanding of how they work at Ohio State, and it builds personal connections. It's much easier to collaborate with people you know rather than with strangers. Milly [Valverde] is here regularly, and others have visited many times over the past three years. This consistency caught my attention. By returning again and again, they are signaling a genuine commitment to something long-term."

Sharing discoveries and strategic plans

The first day of the two-day symposium showcased a rich exchange of ideas and breakthroughs, featuring presentations on original research and recent discoveries by neurology investigators from Ohio State.

These were complemented by talks from King Faisal faculty on the latest advances in neurotherapeutics on a global scale, as well as on insights into the genetic, environmental and clinical factors unique to neurological diseases in the Saudi population.

Dr. Kolb, a renowned translational researcher whose work contributed to the development of a groundbreaking curative treatment for spinal muscular atrophy (SMA), spoke about the promise of targeted gene therapy in amyotrophic lateral sclerosis (ALS). "We've entered an era of targeted gene therapy for ALS and motor neuron diseases, which was really initiated by the SMA story," Dr. Kolb says. "I'm optimistic about our ability to transform outcomes for patients with ALS. In fact, we are now one of the largest administrators of a new gene therapy that may slow disease progression."

Dr. Elsheikh shared updates on novel agents under FDA consideration for treating adult SMA, while [Oscar Harari, PhD](#), associate professor of Neurology and director of Neurogenetics, presented on the use of multi-omics testing for earlier detection of Alzheimer's disease. Among the most exciting programs discussed was Dr. Segal's pioneering research into immune-mediated neurorepair. His team's discoveries are paving the way for immune-based, pro-regenerative cell therapies with the potential to restore neurological function in conditions such as spinal cord injury, multiple sclerosis and optic nerve damage.

[Nandini Acharya, PhD](#), assistant professor of Neurology at Ohio State, presented her laboratory's work on the role of sensory neurons in modulating anti-tumor immunity in glioblastoma (GBM) – one of the most aggressive and lethal brain tumors. Her findings hold promise for developing novel treatments that target neuropeptides to enhance the immune system's ability to reject GBM.

Mossaed Alyahya, MBBS, consultant neuro-oncologist at KFSH&RC, highlighted emerging therapies for diffuse glioma and GBM, while Dr. Segal provided insights into how biological aging influences the immunopathogenesis and clinical progression of multiple sclerosis.

Nora Alfugham, MBBS, consultant neuroimmunologist at KFSH&RC, shared the latest findings from clinical studies and trials on MS and neuromyelitis optica spectrum disorder.

"This is an extraordinary time for neurological diseases that once had no treatment prospects," Dr. Qadi says. "We are witnessing breakthroughs that offer real hope to families. There is nothing more beautiful than giving an entire family reason to believe that a once-lethal disease may now be curable."

The symposium attracted 258 in-person and more than 150 online attendees. More than 21,000 social media posts alerted others to the highlights of the meeting.

Building bonds

The second day of the symposium focused on laying the groundwork for a sustainable framework to drive joint research initiatives, bolster Ohio State's neurology research portfolio and advance KFSH&RC's translational research aspirations. Roundtable discussions explored critical themes, including cultivating a culture of scholarship within academic clinical departments, integrating clinical excellence with translational research in careers in neurology and designing innovative, multidisciplinary neurology clinics that provide holistic patient care while serving as platforms for pioneering research. Additionally, participants addressed the need to develop a robust infrastructure to support cutting-edge neuroscience research with a strong translational focus.

A cornerstone of this partnership will be the establishment of a visiting scholar program, enabling fellows and junior faculty from KFSH&RC to gain hands-on experience in translational and health sciences research at the Wexner Medical Center. These scholars will work closely with seasoned basic and translational neuroscience investigators or health services researchers, further advancing their skills and careers.

[Erica Bell, PhD](#), associate director of the Neuroscience Research Institute at Ohio State and clinical associate professor of Neurology, made significant contributions to the discussions on research infrastructure, drawing from her expertise in managing the Neuroscience Research Institute's Biorepository and Brain Bank.

"These strong collaborations enable us to accelerate the process, learn from one another, and create synergistic effects," Dr. Qadi says.

Dr. Cupler highlighted a key priority: establishing subspecialty holistic neurology clinics similar to the 27 newly established clinics at Ohio State. These clinics provide a "one-stop shop" experience for patients, integrating care from multidisciplinary teams, including social workers, pharmacists, therapists and physicians. Such an approach not only delivers seamless, personalized care but also drives research by enabling the systematic collection of clinical and paraclinical outcome data and biospecimens and enrolling well-characterized patient populations in investigator-initiated biomarker studies and interventional trials.

Yeast needed to rise

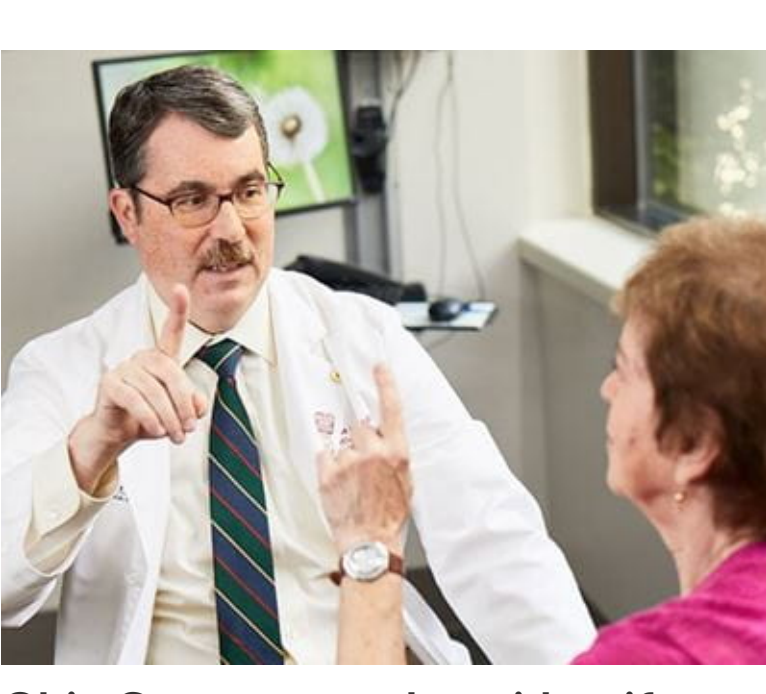
Post-symposium, the teams are working on a proposal for the next steps. This includes developing a more granular plan on how the collaboration will look, cementing the pairings formed at the symposium to drive each area of infrastructure change and identifying visiting scholar opportunities.

"With this foundation, and under Dr. Cupler's bedside-to-bench-to-bedside mission, we will develop a strong liaison between the clinical aspects and the research aspects here, giving us the full spectrum of capabilities we need," Dr. Qadi says.

This will include yearly educational workshops and conferences, at the highest level, and not only center-to-center discussions, but different sections and departments at KFSH&RC having ready access to their own counterparts at the Ohio State Wexner Medical Center.

"Dr. Segal brought his neurological research program to a top 2% program over five years, which is impressive. We want to adopt what helped them accomplish this. It's not one spice, you know, it's the yeast, and that high-order process and structural transformation is what we are emulating," Dr. Cupler says.

More from Ohio State



Ohio State researchers identify new biomarkers that differentiate Lewy body dementia from Alzheimer's and Parkinson's



Biomarker breakthroughs at Ohio State transform disease diagnosis, predictability and treatment



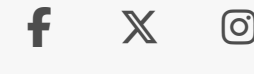
The Ohio State University Wexner Medical Center pushes boundaries for neurological care

Related

- Brain & Spine Patient Care
- Department of Neurology
- Department of Neurosurgery
- Explore Careers

Subscribe. Get just the right amount of health and wellness in your inbox.

SUBSCRIBE



FOR PATIENTS

- Appointments
- Pay a Bill
- MyChart
- Find a Doctor
- Healthcare Services
- Locations
- Patient and Visitor Guide
- Price Transparency
- Health and Wellness
- About Us
- MyHealth

FOR PROVIDERS

- Refer a Patient
- Ohio State CareLink
- Departments
- HELPFUL LINKS
- Careers
- Media Room
- Ways To Give
- Quality and Safety
- Contact Us

RELATED SITES

- OSUCCC - James
- College of Medicine
- The Ohio State University
- Ohio State Health & Discovery
- MyChart

