Building a Leading Transplant Center in Sicily, Italy: Cross-Continental Partnership Meets Local Needs and Drives Economic Growth
Istituto Mediterraneo per i Trapianti e Terapie ad Alta Specializzazione (ISMETT), a public-private partnership between the Cervello and Civico hospitals of Palermo and the Region of Sicily, is a leading transplant center in Italy. With UPMC’s collaboration, ISMETT was designed and built to meet the urgent need for a specialized hospital and transplantation center in the region. Beginning with liver transplantation, including the more cost-effective live donor liver transplant, ISMETT has grown into a leading European health and research center that not only provides clinical excellence, but has also served as a major economic driver for Sicily.
ISMETT started with a conversation between two passionate and dedicated doctors on a beach in northern Sicily in 1995. The chairman of medicine at the University of Palermo in Sicily and a highly respected hematologist at Cervello Hospital shared his vision with an Italian-born surgeon and the chief of the transplant division at UPMC’s Thomas E. Starzl Transplantation Institute in Pittsburgh, Pennsylvania.

At that time, Sicily had a population of more than 5 million, but did not have a comprehensive organ transplant facility. Due to high incidences of disease and a low level of cadaveric organs, deaths of patients waiting for organs in Sicily were significantly higher than the national average; some 2,200 Sicilians were dying every year from liver diseases alone. Further, the government was incurring significant patient migration costs each year.

Cervello Hospital was highly regarded for treating end-of-life liver disease and attracted patients from across the region. But often, the medical staff had to transfer patients for transplant surgery to other sites in northern Italy or even to France, Belgium, Germany or England. The increasingly frustrated medical team at Cervello began to consider if other options might be available to them and their patients.

Meanwhile, in Pittsburgh, PA, USA, UPMC had invested heavily in creating the most active organ transplant program in the world, training doctors and treating patients from around the globe in western Pennsylvania. For UPMC, collaborating to share its successful transplant hospital model expanded its renowned organ transplant work and demonstrated its capacity to make the service effective and viable.

Two events worked in favor of the collaborative consultation. Italy’s Minister of Health had recently passed a new health care reform law allowing for public-private partnerships called Sperimentazione Gestionale. At the same time, Palermo’s mayor was promoting a “Palermo Renaissance,” recognizing the important role that better health care could play in revitalizing the city.
To meet the challenges of working in a new region of the world — including navigating unwritten rules, cultural and language challenges, contractual complexities, strong personalities and political agendas — UPMC worked closely with Cervello Hospital to translate best practices from the United States into practical solutions for Sicily.

As with all of its projects, the UPMC team took a unique approach that focused on getting to know their partner, rolling up their sleeves and working side-by-side to co-create the new transplant center. It aligned its best-in-class research, teaching and patient care teams with experts in hospital management in order to build outstanding care while holding down costs. Every detail of the project was carefully considered — from construction, to hiring and training of staff, from proprietary software and an organ procurement program, to proven methods and models for setting outcomes measurements — all customized for ISMETT.

UPMC established mutual trust early on and helped the team navigate the myriad of challenges often inherent in international projects. Practical elements undertaken included the training of dozens of Italian doctors and nurses on clinical and managerial practices and new technologies. In turn, the Italians schooled UPMC in the art and practice of integrated medical rounding, a process that allows a patient’s medical team to function optimally and seamlessly with the patient at the center.

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Dr. Bruno Gridelli, CEO of ISMETT and Executive Vice President of UPMC International Services
UPMC CEO Jeffrey Romoff later attributed the success of the venture to the expertise, professionalism and tenacity of UPMC’s management team.

“Palermo was a perfect microcosm of all the kinds of forces that UPMC has faced in the United States,” he noted. “We would have never succeeded in Palermo if we hadn’t trained for it here in Pittsburgh.”

“For us, being part of the UPMC network meant having access to an enormous amount of knowledge, in addition to the latest technology and equipment,” said Dr. Bruno Gridelli, CEO of ISMETT and Executive Vice President of UPMC International Services. “UPMC offers expert financial and organizational management to its international partners. They know how to create efficiencies... [They] always consider the sustainability of the treatment... [and] adapt well to the local culture.”
ISMETT’s first organ transplant was performed in Palermo on July 30, 1999, in a wing of Cervello Hospital. A year later, *The Wall Street Journal* reported that ISMETT represented “a new frontier for American high-tech exports,” describing the initiative as the “most ambitious effort” by a U.S. medical center.

By 2004, a new $58 million (€51 million), 70-bed hospital was opened, designed to accommodate the most advanced technology and equipment and ensure the highest level of comfort for patients and their families.

The 130,000 square-foot facility featured a 14-bed comprehensive intensive care unit, four operating rooms, microbiology and virology laboratories, a state-of-the-art imaging center, a pathology department, outpatient clinic, comprehensive diagnostic facilities, pharmacy, dialysis, comprehensive endoscopy, interventional radiology units and accommodations for international patients’ cultural and linguistic needs.

ISMETT had fulfilled its promise: Sicilian patients could at last receive care in their home region, avoiding the challenges and disruptions that can occur when traveling for medical treatments. By 2006, the hospital was performing more than a hundred transplants per year, attracting patients from South America, Israel, Greece, Malta and Arab countries.

But still more was needed.

“We knew we couldn’t limit our work to liver transplantation; we had to expand our clinical service line,” explained Dr. Gridelli. “Almost immediately, we added surgical oncology, a strong cardiac surgery program, and began doing lung, kidney and pancreas transplantation. We also began caring for patients with chest, abdominal and other complex diseases.”

“ISMETT’s location and unique situation allows us to serve an extremely diverse patient base and still produce the best medical outcomes,” Dr. Gridelli added. “To accomplish this, we focus on two objectives — first, we treat as many
patients as possible, irrespective of economics. And second, we try to provide an environment where professionals can express their potential.”

“The partnership with UPMC has been extraordinary. ... I think everyone, not only the patients but also the doctors, regarded Pittsburgh as a safe haven in a storm,” said Salvatore Camiolo, manager of the Sicilian Liver Transplant Association that operates at ISMETT. “To develop an institute of this kind where you can be treated to the same standard as in the United States of America is the most we could have hoped for. And it has happened.”

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For ISMETT, the numbers speak for themselves. The center is repeatedly ranked by the National Transplantation Center as among the Italian centers with the best patient outcomes; results for one-year survival following liver transplant remain consistently above 85 percent, five-year survival above 75 percent, and 10 years, above 60 percent. According to a 2014 independent study by Battelle Memorial Institute, ISMETT’s outcomes are “comparable to the best transplant centers in the world.”

Beyond the statistics, ISMETT is also building a reputation for excellence in Sicily — for science, technological advancement, research and specialty medical training including regenerative medicine.

In cooperation with UPMC’s Peter M. Winter Institute for Simulation, Education and Research, ISMETT operates the Renato Fiandaca Simulation Center, allowing the hospital to train health care providers, improve quality of care, reduce medical errors and increase safety standards. The center is equipped with five simulators: high-tech life-size mannequins, capable of simulating signs and symptoms of actual patients.

In 2007, ISMETT opened its Regenerative Medicine and Cell Therapy Unit (or Cell Factory), dedicated to advancing regenerative approaches to the repair and support of damaged organs. The Cell Factory is proactive in research trials using stem cells, hepatocytes and pancreatic islet cells to treat patients.

Perhaps most significantly, the success of ISMETT propelled the creation of a $398 million (€352 million) Biomedical Research and Biotechnology Center (BRBC) in Palermo. The 269,000 square foot (25,000 square meter) center managed by Research in the Mediterranean (Ri.MED), is a foundation comprised of the Italian government, the Region of Sicily, the National Research Council, the University of Pittsburgh and UPMC. With plans to employ more than 600 people, the BRBC pursues a range of biomedical research topics ranging from drug discovery and vaccine development to molecular imaging, tissue engineering and regenerative medicine.
“Ri.MED’s impact on this region will be enormous,” predicts Dr. Gridelli. “This work ensures that a problem identified in clinical practice is solved in the research laboratories and that its solution simultaneously implemented in patient treatment. Beyond the immediate patient benefit, research can be transformed into products with commercial value that benefit the whole community.”

“Ri.MED is the most important project to be developed in Sicily in recent years,” said Umberto Seretti, director general of Banca Nuova. “Not only does the center bring prestige to the region, but it is a significant opportunity for job creation and for scientists to be able to work in their own country.”

With the combined capability of Ri.MED and ISMETT, Sicily is poised to become a globally competitive location for bioscience, supported by the application of state-of-the-art information technology and health system management. In 2014, ISMETT was recognized by the Italian Minister of Health as an Istituto di Ricovero e Cura a Carattere Scientifico (IRCCS). This coveted designation recognizes the scientific excellence delivered by the hospital and will help to secure sustained support and funding from the government.

Every three years, ISMETT will participate in a reaccreditation process with the Joint Commission International (JCI) and undergo an extensive review of the hospital’s patient safety and quality standards and processes. The JCI is the recognized leader in international health care accreditation and is considered the gold standard in global health care. Demonstrating ongoing compliance with JCI standards serves as validation of an organization’s commitment to an internationally recognized, time-tested and comprehensive level of quality. ISMETT’s continued success in maintaining JCI accreditation reflects the ongoing efforts of the staff and their dedication to continuing to provide a quality service to all transplant patients in southern Italy and across the Mediterranean Basin.

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Lucia Borsellino, Health Assessor for the Region of Sicily
As for impact on the local economy, a recent study titled “The Impact of ISMETT”, prepared by Battelle Memorial Institute shows that ISMETT made a measurable contribution to the economic output of Sicily — adding up to an estimated $150 million (€132 million) in 2013, while generating nearly 1,800 jobs. Additionally, the modeling data shows that revenues generated by ISMETT flow back to the Italian national government, the region of Sicily and other local economies — a total estimated revenue of $22.3 million (€19.6 million).

“ISMETT has had an amazing impact on the region,” said Lucia Borsellino, health assessor for the region of Sicily. “It serves as a great example of how health can be seen not solely as a cost, but also a development opportunity.”

“Our local industrial and commercial communities have always been supportive and view the institute as a real motor of scientific, clinical and economic development,” noted Dr. Gridelli. “We have seen consistent support from the government because they understand its importance to patients and the region in general. With this acknowledgement, ISMETT becomes part of the national network of research hospitals and has access to research programs directly funded by the Ministry of Health.”

A decade into the partnership, the story of success continues with significant expansion plans underway to more than double the center’s 2014 capacity.

“The creation of ISMETT has proven to be a high-impact investment for Italy and the region of Sicily,” states the study. “Originally envisioned as an institution filling a gap in clinical service provision in Italy, ISMETT has grown to fulfill that mission (and establish a well-founded reputation for excellence in clinical care) and become a major economic engine for the Sicilian economy.”

What started as a conversation on a beach has been translated to a vision shared by clinical and political leaders. The ISMETT partnership has demonstrated that with willing partners, UPMC can deliver life-saving, community-changing medicine.
ABOUT UPMC

UPMC’s objective is to share our clinical, technological and managerial knowledge and expertise with partners around the world, customizing solutions so that patients and regions benefit and thrive. We believe everyone should have access to the best possible care, without having to leave their country or region.

About Us

UPMC, an academic medical center affiliated with the University of Pittsburgh, is a recognized leader in providing health care services in the United States and internationally.

Through UPMC International Services, we are able to offer a full range of health consulting services. By collaborating with UPMC, our multi-disciplinary team can provide customized solutions, on-the-ground support and direct access to deep clinical expertise and operational knowledge.

Our goal is to work side-by-side with our partners from start to finish, until we both agree that the work is done. We can assess needs, build the right hospital and infrastructure, provide education and design customized clinical programs. We can also work with our partners’ doctors and staff to ensure that entire team understands their roles in building and maintaining an excellent health care system.

By working with UPMC to identify and implement customized solutions, our partners’ give patients in their area access to the best possible health care, become a magnet for patients from other regions and support growth of their local economies.

You can learn more about the services we offer here: www.UPMCInternational.com.
ABOUT UPMC IN ITALY

**ISMETT (Palermo, Sicily)**

The Istituto Mediterraneo per i Trapianti e Terapie ad Alta Specializzazione (ISMETT) is a joint public-private partnership between the Region of Sicily, through Civico Hospital in Palermo and UPMC.

The partnership has brought together resources, intellectual capital and advanced technologies to offer state-of-the-art treatment.

Over the past decade, ISMETT has become one of the leading organ transplant centers in Europe and a major referral center for other Mediterranean countries. More than 1,500 transplant procedures have been performed at ISMETT with outstanding clinical results.

**Ri.MED Foundation (Palermo, Sicily)**

The Ri.MED Foundation was established in 2006 with an international partnership between the Italian Government, the Region of Sicily, the Italian National Research Council (CNR), the University of Pittsburgh and UPMC. The Foundation, based in Palermo, promotes, supports and leads biomedical and biotechnological research projects, with emphasis on the translation of innovative results into clinical practice.

The Foundation is currently focused on the creation of the Biomedical Research and Biotechnology Centre, a 25,000 square meter research center in Carini, close to Palermo, which will be a reference point for researchers from all over the world, placing Sicily at the avant-garde of the biomedical and biotechnological research field.

**UPMC San Pietro FBF Advanced Radiotherapy Center (Rome, Lazio)**

The highly specialized UPMC San Pietro FBF Advanced Radiotherapy Center in Rome, Italy, offers patients innovative radiotherapy treatments and advanced care protocols, such as image-guided radiotherapy (IGRT/IMRT) and stereotactic radiotherapy. The Center uses the newest and most sophisticated technologies, ensuring the highest possible accuracy of care. The Center was the first one in Rome providing stereotactic radiosurgery capabilities for patients close to their homes. The Center is also equipped with a state-of-the-art CT scan for diagnostics.

**UPMC Institute for Health Chianciano Terme (Siena, Tuscany)**

The UPMC medical center at the Terme di Chianciano Spa in Tuscany provides outpatient diagnostic services for liver and digestive disorders, cardiovascular diseases, metabolic syndrome and diabetes. It is a preventive medicine center located in Central Italy and it attracts patients from major towns as well as from other countries.

Learn more about the services offered in Italy at www.ISMETT.edu and www.FondazioneRiMed.eu.
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