Building a Highly Specialized 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 Civico Hospital of Palermo, the Region of Sicily, and UPMC, 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 living-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 began with a conversation between two doctors on a beach in northern Sicily in 1995. The first doctor was a highly respected hepatologist at the local Cervello Hospital and chairman of medicine at the University of Palermo; the other, an Italian surgeon now in the United States leading the transplantation division at UPMC’s Thomas E. Starzl Transplantation Institute in Pittsburgh, Pennsylvania.

At the time, Sicily had a population of more than 5 million, but did not have a comprehensive organ transplant facility. Due to high disease incidence and a low level of cadaveric organs, transplant wait list mortality rates in Sicily were significantly higher than the national average; an estimated 2,200 Sicilians were dying every year from liver diseases alone. Further, the government was incurring significant patient migration costs each year as patients traveled elsewhere to receive the necessary medical care.

Cervello Hospital was highly regarded for treating end-stage 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, 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, the prospect of collaborating with an overseas hospital to share its successful transplant hospital model would expand its renowned organ transplant work; it would also demonstrate UPMC’s capacity to make the service effective and viable in an international setting.

Two events worked in favor of translating the two doctors’ vision into reality: Italy’s Minister of Health had recently passed a new health care reform law that allowed 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.
TRANSLATING AMERICAN MEDICINE INTO INTERNATIONAL SETTINGS

To meet the challenges of working in a new region of the world — including navigating unwritten rules, cultural and language challenges, contractual complexities, and strong personalities — UPMC worked closely with Cervello Hospital and another local public hospital, Civico Hospital, to translate best practices from the United States into practical solutions for Sicily. Immediately following the establishment of the ISMETT partnership, clinical activities were initiated in a wing of Civico Hospital, which eventually integrated Cervello Hospital.

As with all of its projects, the UPMC team took an approach that focused on working side-by-side with its partner. It aligned best-in-class research, teaching, and patient care teams with experts in hospital management in order to build outstanding care, while also holding down costs.

Every detail of the project was carefully considered — from construction to hiring and training of staff, from facilitating the establishment of an organ procurement program to instituting proven methods for setting outcome measurements — all customized for the local context.

UPMC established mutual trust early on and helped the team in Italy to navigate the myriad challenges often inherent in international projects. Practical elements undertaken included training dozens of Italian doctors and nurses on clinical and managerial practices, as well as the introduction of new technologies. In turn, the Italians introduced UPMC to 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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Jeffrey Romoff, chief executive officer of UPMC, 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 ISMETT, being part of the UPMC network means having access to an enormous amount of knowledge, in addition to the latest technology and equipment,” said Bruno Gridelli, MD, chief executive officer of ISMETT and executive vice president of UPMC International. “UPMC offers expert financial and organizational management to its international partners.”
REALIZING THE DREAM

ISMETT’s first organ transplant was performed in a wing of Civico Hospital on July 30, 1999. 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, the collaboration had resulted in the opening of a $58 million (€51 million), 70-bed hospital, designed to accommodate the most advanced technology and equipment, and to ensure the highest level of comfort for patients and their families.

The 130,000-square-foot (39,624-square-meter) 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, an outpatient clinic, comprehensive diagnostic facilities and pharmacy, dialysis services, and, comprehensive endoscopy and interventional radiology units. ISMETT also supplied accommodations for international patients’ cultural and linguistic needs. The Institute 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, it was performing more than one hundred transplants per year, attracting patients from South America, Israel, Greece, Malta, and Arab countries.

But there was still more potential.

“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 and a strong cardiac surgery program. We also began doing lung, kidney, and pancreas transplantation and 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 their financial situations. And second, we try to provide an environment where professionals can achieve 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 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 the 2014 independent study titled *The Impact of ISMETT*, compiled by Battelle Memorial Institute, ISMETT’s outcomes are “comparable to the best transplant centers in the world.”

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.

The success of ISMETT propelled the creation of a $267 million (€310 million) Biomedical Research and Biotechnology Center (BRBC) in Palermo. Progress is under way for the construction of the 269,000-square-foot (25,000-square-meter) facility. With plans to employ more than 600 people, the BRBC will pursue a range of biomedical research topics ranging from drug discovery and vaccine development to molecular imaging, tissue engineering, and regenerative medicine. Further, this new facility will be managed by the Research in the Mediterranean Foundation (Ri.MED), established in 2006 to reignite Italy’s competitiveness in research, development, and transfer of innovation, and comprised of the Italian government, the Region of Sicily, the National Research Council, the University of Pittsburgh, and UPMC.

**POSITIVE OUTCOMES FUEL RESEARCH, EDUCATION, INVESTMENT, AND EXPANSION**
“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 then we ensure the solution is simultaneously implemented in patient treatment. Beyond the immediate patient benefit, research can be transformed into products with commercial value that benefit the whole community.”

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

With the combined capabilities 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 Institute and will help to secure sustained support and funding from the government.

Every three years, ISMETT will participate in a reaccreditation process with Joint Commission International (JCI) and undergo an extensive review of the hospital’s patient safety and quality standards and processes. 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 staff’s dedication to continuing to provide a quality service to all transplant patients in southern Italy and across the Mediterranean Basin.

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As for impact on the local economy, the Battelle Memorial Institute study further shows that ISMETT has 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 a total estimated revenue of $22.3 million (€19.6 million) generated by ISMETT has been returned back to the Italian national government, the region of Sicily, and other local economies.

“ISMETT has had an amazing impact on the region,” said Lucia Borsellino, former 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 as 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 Battelle 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 into 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, 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.

UPMC International offers a full range of health care consulting and management services focused on advancing care in communities and regions across the globe. Working in-country with its partners, UPMC’s multidisciplinary team helps in assessing what is needed to achieve clinical or operational success to ultimately build a high-quality health system. Utilizing knowledge and best practices that are grounded in years of experience, UPMC provides expertise in areas such as facility and construction planning, education and training for all levels of clinical staff, clinical program design and customization, and health information technology infrastructure development.

By working with UPMC to identify and implement customized solutions, countries can reshape their local economies and give patients access to the best-possible health care, close to home.

You can learn more about the services we offer here: www.UPMCInternational.com.

UPMC policy prohibits discrimination or harassment on the basis of race, color, religion, ancestry, national origin, age, sex, genetics, sexual orientation, gender identity, marital status, familial status, disability, veteran status, or any other legally protected group status. Further, UPMC will continue to support and promote equal employment opportunity, human dignity, and racial, ethnic, and cultural diversity. This policy applies to admissions, employment, and access to and treatment in UPMC programs and activities. This commitment is made by UPMC in accordance with federal, state, and/or local laws and regulations.
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 high-quality 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, 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 Center, a 269,000-square-foot (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 forefront 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 in Rome to provide 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, which 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.
FOR MORE INFORMATION, PLEASE CONTACT:

Headquarters
UPMC International
U.S. Steel Tower, Floor 62
600 Grant St.
Pittsburgh, PA 15219
USA
Telephone: +1-412-647-6351

UPMC Italy
UPMC International
Via del Tritone 169
00187 Rome
Italy
Telephone: +39 06 2039 3300
info@upmc.it

UPMCInternational@upmc.edu
UPMCInternational.com