



Building a Partnership from the Ground Up

The Imbanaco Medical Center in Cali, Columbia, has enjoyed ever-increasing demand for its services since its founding three decades ago. But in the process, its physical facilities have become a logistical nightmare. Now, Imbanaco has teamed up with Siemens Healthcare to plan and build a new, completely integrated facility that will improve workflow, lower costs, and provide even better patient services.

By Chris Kraul

Starting out in 1976 as a small clinic with a laboratory and X-ray system, the Imbanaco Medical Center (Centro Médico Imbanaco) has become one of south-western Colombia's largest, most dynamic and distinguished full-service hospitals.

It is currently spread out over three city blocks, includes a 13-story and an 11-story tower, and offers the full panoply of medical services – from neurosurgery and angioplasties to neonatal care and kidney transplants. An average of 17,000

patients, family members, medical staff, and support employees flow through its doors every day. "We're like a stadium in terms of the numbers of people who come and go," says Armando Gonzalez, MD, CEO of Imbanaco and one of 28



The new building concept of the restructured Imbanaco Medical Center supports optimized workflows across departments.

result, efficiency has suffered and costs have soared. On top of it all, the hospital hit a wall on further expansion long ago: More than half of its 37 clinical services are saturated, with no room for growth.

Intelligent Planning

Understandably, when Imbanaco's shareholders decided to build a new hospital to consolidate its archipelago of facilities under one roof, their priorities included state-of-the-art workflow design and medical technology; but they also wanted to position Imbanaco for future growth in Colombia's fast-moving medical environment.

Those goals led Imbanaco to Siemens Healthcare's Turnkey & Planning group, which in June of this year delivered floor plans for the new Imbanaco Health Clinic, a seven-story, US\$80-million structure that will double the hospital's current bed count to 300 and expand its floor space to 800,000 square feet (ca. 74,322 square meters). Construction of the distinctive triangular design, which includes two interior courtyards, is to begin by the end of 2009 and be completed in 2012.

The partnership is a milestone for both parties. Imbanaco acquired access to Siemens' "best practices" database, which the company has accumulated in consulting 200 other hospitals around the globe. A core element is the Siemens "workflow-optimized space concept," which uses intelligent architecture and floor planning to minimize the time and maximize the efficiency of services hospitals give to patients.

"Siemens offered us what no other hospital services company did," says Gonzalez. "Other medical supply and consulting companies sell sophisticated equipment and advice on how to profitably operate them, but none match Siemens' ability to hand over a turnkey design that integrates all hospital functions." The design also incorporates Imbanaco's ecological imperatives, which include having sunlight in nearly every patient room and a plan for efficient processing of biowaste.

Imbanaco is the first project of its kind from Siemens Healthcare in South America, which, upon successful completion, will be an entrée into the region's hospital design and consulting market. "Imbanaco is a perfect initial project in this region because it is committed to quality and has a solid reputation and patient base. We think it can be a model not just for Colombia, but for all of South America," says Mauricio Lombana, Vice President of Siemens Healthcare South America.

Pursuing Quality

Several factors have contributed to Imbanaco's rise to prominence on the Colombian medical landscape. Since 1990, Cali's population has doubled to three million, making it Colombia's third largest city after Bogotá and Medellín. This has, of course, led to an increasing demand for health services.

Other factors include Colombia's landmark 1993 healthcare reforms, which mandated universal healthcare coverage. "The government is now reimbursing for some services to an extent that makes it profitable for private hospitals like Imbanaco to add them," says Imbanaco's Clinical Chief William Duarte, MD. And then there is Imbanaco's sterling medical reputation, capped by the 2007 Colombian award. "No dividends from the hospital's profits have ever been paid out to the owners. Instead, all profits have been reinvested in new equipment and services as part of our single-minded pursuit of quality," says Gonzalez.

The hospital's commitment to quality made Siemens' executives all the more eager to launch its South American Healthcare Consulting, with Imbanaco as its poster child. The project started in the fall of 2008 by putting Siemens Healthcare's consultants to work, analyzing Imbanaco's existing layout and workflow practices. They spent four months analyzing the delivery of clinical services to find out which were most cost effective and assessed future trends so that the new facility's design would be better

doctors who cofounded the clinic. However, Imbanaco hasn't sacrificed quality to growth. In fact, it has set local and national healthcare standards. In November 2007, Colombian President Alvaro Uribe awarded Dr. Gonzalez the national quality prize, declaring Imbanaco "an example for all of us."¹ The previous year, it became one of only five Colombian hospitals to receive the health ministry's highest accreditation.

Nonetheless, Imbanaco has had to improvise its physical expansion. To keep pace with the rising flow of patients, over the years, the administration bought 21 separate properties around the original site. Today, many hospital functions are several minutes walk and two city streets away from Imbanaco's core services, such as the emergency room, the intensive care unit, and the imaging center. As a

¹ Press Release, Colombia National Quality Award, Nov. 20, 2007



Claudia Velez, Chief Financial Officer, Imbanaco Medical Center, Cali, Colombia



William Duarte, MD, Chief Medical Officer, Imbanaco Medical Center, Cali, Colombia



Alfredo Almario, Siemens Healthcare, Colombia



Armando Gonzalez, MD, Chief Executive Officer, Imbanaco Medical Center, Cali, Colombia

Summary

Challenge:

- Dispersion of Imbanaco's services over wide area due to rapid growth
- Inefficiency and duplication of basic support services
- Cramped waiting rooms of "saturated" clinics
- Infrastructure problems threatened reputation and potential for continued growth

Solution:

- Strategic deal with Siemens for design of a new US\$80-million clinic
- Analysis of hospital's workflow and overhead, technology trends, and impact of universal healthcare on bottom line
- Workflow-optimized layout plan emphasizing "clinical centers of gravity"

Result:

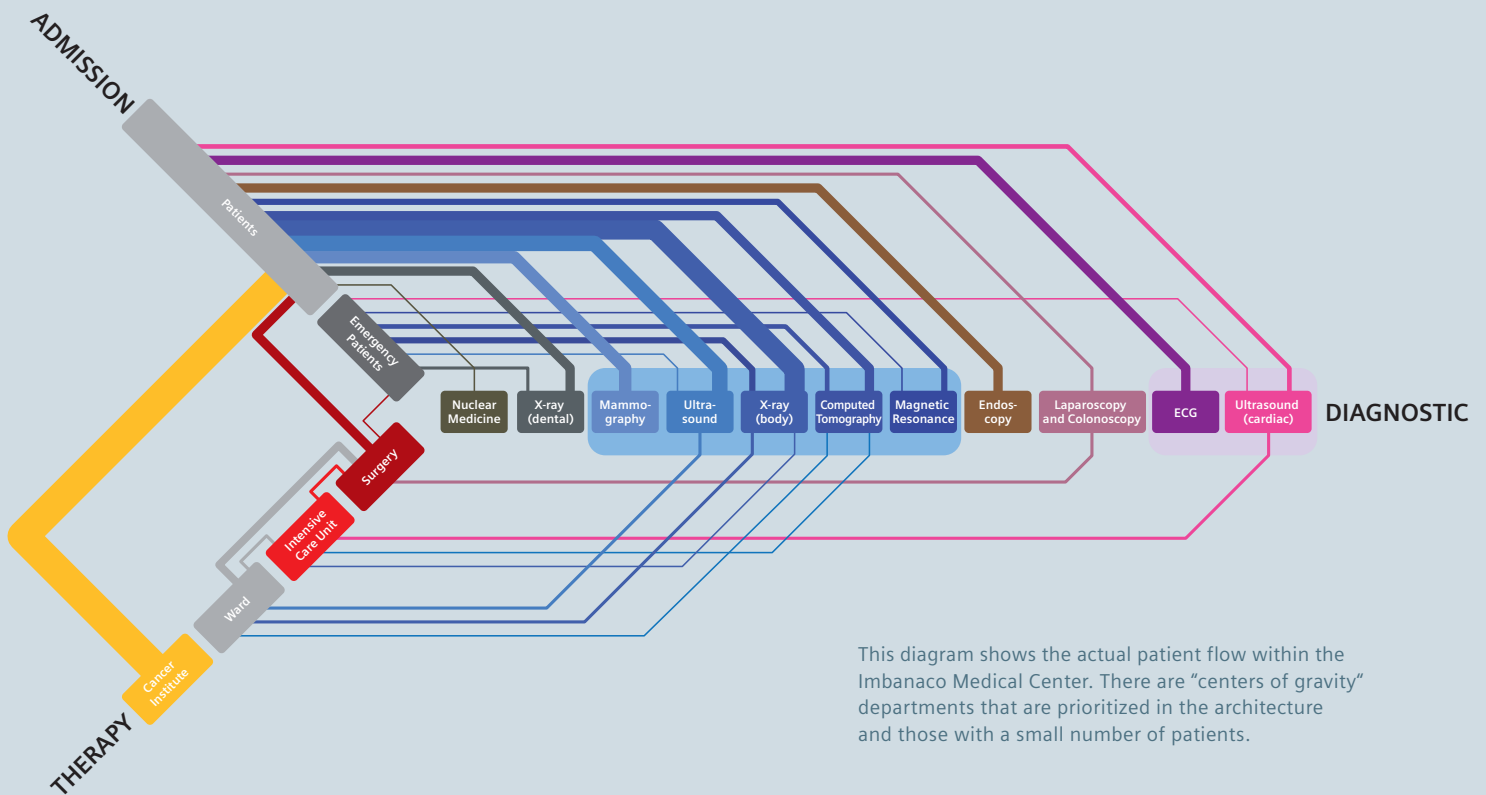
- Dedicated space allotted for current needs and future growth in services
- Environmental concerns and wishes accommodated
- Triangular, two-courtyard design for maximum natural light in patient rooms
- Hospital positioned for possible influx of foreign medical tourists
- Construction to begin in late 2009, with completion scheduled for 2012

able to adapt to developing healthcare markets.

The analysis confirmed that there was an enormous waste of hospital resources and squandered opportunities for growth. The spreading out of clinical functions was causing costly duplication of security, laundry, maintenance, orderlies, messengers, and other services, not to mention multiple inefficiencies and added stress for patients and staff.

Efficiencies by Design

Disorder was particularly evident in the cramped emergency room, where patients' families struggled to make room for incoming gurneys with car accident and gunshot victims. Outpatients and their families shared elevators with trauma victims and maintenance workers. Overcrowding in the oncology clinic's waiting room forced patients and family members to spend hours sitting in an adjacent stairwell.



“Our team members at Imbanaco achieve an enormous level of quality and patient satisfaction in spite of a physical structure that is bringing them problems,” says Siemens Project Manager Alfredo Almario. “They don’t have a single square meter to grow and allow extra storage, and families, doctors, and nurses too often share space with functions that should be separated. It’s a serious logistical problem.”

The Siemens market assessment found that four percent of Imbanaco’s patients – those with complex conditions like cancer or HIV, or those needing neurosurgery or transplants – produced 30 percent of the hospital’s revenue, but there was no way to increase capacity of those services because all of the clinic’s space was taken.

Almario says accommodating those patients is a critical factor in the new hospital’s design. The design that Siemens delivered lays out “clinical centers of grav-

ity” – areas where the highest numbers of patients are diagnosed or treated – and positions them close to related services via a network of pathways to make workflow and space use as efficient as possible. The floor plan also makes room for several areas of future growth, from cancer treatment – which is now essentially topped out because of space limitations – to kidney dialysis, now limited to 48 patients at a time. Eventually, this will also allow Imbanaco to increase the number of doctors on its staff from the current 250 to over 400.

“As a market first-mover, Imbanaco realized the advantage of involving a medical technology provider from the conception phase on. This early involvement is essential to drive the hospital’s future performance with an integrated concept that synchronizes workflow, layout, and technology,” says Dr. Maik Kuehnhoff, General Manager, Siemens Healthcare Turnkey & Planning.

By partnering with Siemens from the very beginning in planning the new facility, Imbanaco Medical Center hopes to expand and retain its market leadership, open itself up for highly complex cases, take care of more emergencies, and establish new standards in the areas of cardiology, neurosurgery, dialysis, and chemotherapy.

Chris Kraul is a freelance writer based in Bogotá, Colombia, covering stories about a wide range of topics. A reporter for the Los Angeles Times for 22 years, he was most recently the Latin American bureau chief at the newspaper’s Bogotá office.

Further Information

www.siemens.com/healthcare-turnkey