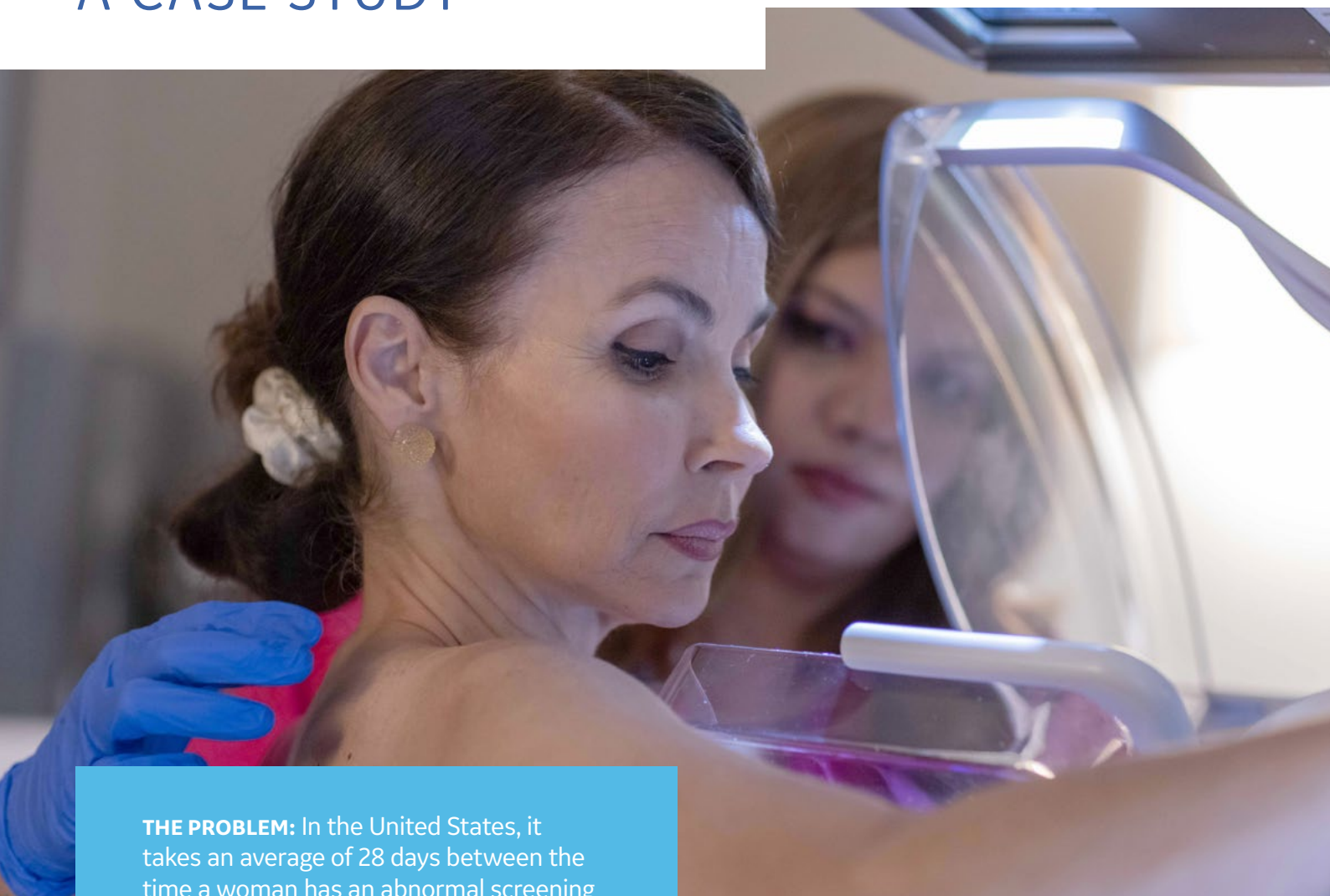




Bringing the One-Stop Breast Clinic to the United States:

A CASE STUDY



THE PROBLEM: In the United States, it takes an average of 28 days between the time a woman has an abnormal screening mammogram and receives a biopsy; 31.6 days for the first surgeon visit; and 52.6 days for breast surgery, with far higher delays for women of color. This, in turn, leads to significant anxiety and stress for women and their families and may even affect prognosis.

THE SOLUTION: Completely re-engineer the breast health pathway to reduce the time from abnormal screening mammogram to diagnosis to 36 hours or less.

THE ORGANIZATIONS: GE Healthcare, St. Luke's University Health Network, and Premier Applied Sciences, Inc.

Here's how they did it.

Building Off a Successful Model



In 2004, Gustave Roussy Cancer Center in Villejuif, France, one of the leading cancer centers in the world, found its median time between screening mammogram and cancer diagnosis was nearly 60 days, which it considered unacceptable.

That year, associate professor of medical oncology and head of the Breast Cancer Department at Gustave Roussy, Dr. Suzette Delalogue, MD, MSc, launched the One-Stop Clinic. The multi-modality approach was designed to provide patients with a coordinated journey in one location from the initial appointment through diagnosis and treatment plan, with one team in one day.

Less than 10 years later, an analysis of the nearly 11,000 women seen at Gustave Roussy found that 75 percent received same-day results with highly accurate diagnoses; 21 percent had their diagnosis and treatment strategy changed; and 10 percent avoided biopsies. Those results were possible because of a consolidated group of multi-disciplinary experts and access to advanced multimodality imaging technology all in one clinic.

GE Healthcare partnered with Gustave Roussy and Dr. Delalogue to expand the concept throughout the world. They first opened a clinic in Medellin, Colombia in 2017, and now have four other clinics there in Barranquilla, Bucaramanga, Bogota, and Cali.

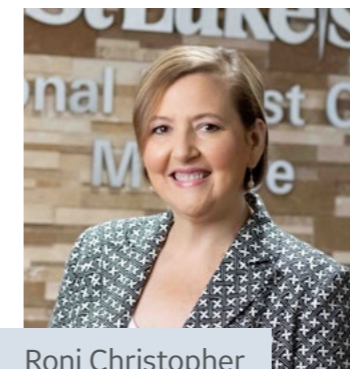
Then, in 2019, they brought the One-Stop Breast Clinic (OSBC) to the United States – just prior to the global pandemic.

Addressing a Major Challenge

One of the major challenges in replicating the French system to the US was that Gustave Roussy relied on fine needle aspiration (FNA) biopsy to validate the diagnosis.

While studies find it can provide more rapid confirmation of a malignancy, it may also lead to higher rates of false negatives and inadequate samples for laboratory analysis. Thus, it is not the standard of care in the US.

To address this issue and develop a US-centric model, GE contracted with Premier Applied Sciences, a healthcare consultancy based in Charlotte, NC. Premier Applied Sciences helps its members conduct research, test and analyze process changes, adopt new therapies, and redefine their current approaches to delivering care.



Roni Christopher

The OSBC was the perfect fit.

The Premier Applied Sciences team conducted a rapid evidence review, one of the first comprehensive evaluations of expedited diagnosis for patients with breast cancer in the US.

They also convened an advisory board to provide insight on the model as well as guidance and counsel on best approaches to redesign it for the US market.

The first challenge was the FNA biopsy issue. They considered several options, including evaluating the possibility of influencing existing guidelines and identifying early adopters of FNA to target. Led by Roni Christopher, Vice President of Design and Implementation, the team ultimately decided to focus on the foundational underpinnings of the OSBC: going from diagnostic work up to diagnosis in one day and thus moving faster from uncertainty to what's next.

Premier then put the word out to its GPO members that it was looking for a health system to pilot the program.

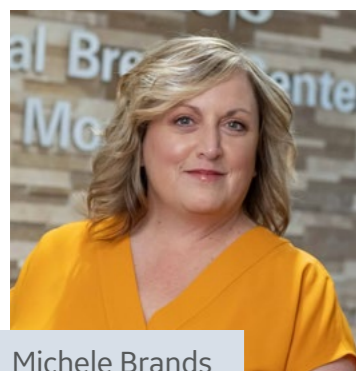


St. Luke's University Health Network Becomes a Premier Test Site

A non-profit, fully integrated, nationally recognized health system, St. Luke's University Health Network provides services at 12 hospitals and more than 300 outpatient sites in Pennsylvania and parts of New Jersey.

St. Luke's flagship University Hospital has earned the 100 Top Major Teaching Hospital designation from IBM Watson Health nine times, including seven years in a row. In 2021, it earned the designation as the top teaching hospital in the country. That year, IBM Watson Health also named St. Luke's as one of the top 15 health systems in the country.

St. Luke's performs more than 60,000 mammograms a year. The system is also one of five healthcare networks in the country that are international show sites for GE Healthcare, with physicians from throughout the world visiting to observe procedures using GE products.



Michele Brands

In 2008, St. Luke's realized it took 28 days from mammography screening to pathology, an "unacceptable turnaround," said Women's Imaging Network Director Michele Brands. "Any time I tell a woman she needs further evaluation, her first question is, 'When can I do it?'" said St. Luke's radiologist Joseph Russo, MD. "She wants to come as soon as possible. So, we approached the challenge to build a better system with that thought in mind."

St. Luke's implemented a hub-and-spoke model that allows for central control of policies and procedures while creating a similar experience at other regional centers. If any woman seen in its 20 screening clinics needs a second-level screening or diagnostic workup, she goes to a consolidated center where clinicians, technologists, and nurses work together to offer same-day biopsy to the highest-risk patients. "It's a truly patient-centered process," Dr. Russo said.

By 2019, St. Luke's slashed the time between screening and pathology to 11 days and the time between diagnostic imaging to pathology to five days. "That was still long," Brands said, especially if a weekend adds additional days."

Indeed, said Dr. Russo: "Once a woman has that callback or that recommendation for a biopsy, the same-day biopsy is really the most valuable thing you could do."

Since St. Luke's is a Premier member of Applied Sciences, Russo and Brands were invited to an October 2019 meeting about the OSBC model. "We thought we should have a seat at the table," Brands said, because of the system's success at improving turnaround time and their desire to continue that progress. Just minutes after the meeting ended, before they even left the building, she and Russo committed to becoming the Premier test site. "We felt we not only had a perspective to offer, but also great passion and vision," Brands said.

Creating the Processes

Premier Applied Sciences quickly embraced St. Luke's as its first location. "It is a progressive health system with the right commitment from its administration and clinical leadership," Christopher said.

It was also committed to getting women from screening to pathology in less than 36 hours.

Identifying the current bottlenecks to this goal required a holistic approach addressing every aspect of the process. That included conducting a current state assessment to understand where care was provided and assess variations in clinical protocols. Collectively, St. Luke's and Premier Applied Sciences worked to co-locate services and clinicians to provide care; developed scheduling and care coordination protocols to ensure patients can be seen within 36 hours; ensured all staff had the necessary skill set to meet the initiative; and confirmed buy in from the highest level of leadership.

The administrative support was critical given the capital resources required for new equipment since technology and process redesign are foundational to the success of an OSBC. But the equipment is more than just machines.



"It requires a full-time employee to expedite readings, improve accuracy, and make the entire process seamless and comfortable for the patient," Christopher said. Think of Rosey from the TV show *The Jetsons*, she said. Rosey wasn't just a machine; she played a key role in building an efficient, reliable, and friendly atmosphere for the family she served.

"We want patients to have a similar experience and to have confidence in the whole process whether it's interacting with the staff, completing their testing, or waiting for and receiving their results," she said. "It's about creating an environment for the right patient, at the right time, with the right equipment."

Launching St. Luke's



Dr. Karl Yaeger

The pilot launched in the summer of 2020 in the midst of the pandemic with a new chief of women's imaging, Dr. Karl Yaeger.

Nonetheless, the team moved forward. Phase one was defining the processes and designing the clinic. During this phase, the team tested and tweaked the processes while beginning to see patients.

By late February 2021, St. Luke's flagship Regional Breast Center in Center Valley, PA had seen 39 patients. The first was an international patient whose family brought her to the US for healthcare treatment. In one day, she had diagnostic imaging and biopsy and the next day received a positive pathology report. The second patient was a 36-year-old mother of four with what looked to be an extremely aggressive cancer. However, she received a negative pathology within 24 hours, providing immediate relief to her and her family.

Today, the OSBC clinic provides same-day biopsies and results in less than 48 hours one day a week at St. Luke's Center Valley location.

The next step for St. Luke's is to add contrast-enhanced spectral mammography (CESM) to the One-Stop Clinic to help visualize malignancy in dense breast tissue. This will help with their other immediate goal of improving the time from pathology to surgery.

St. Luke's is also the ambassador for the US and Canada OSBC model to help other health systems develop their own clinics. "We have already seen a lot of US facilities and Premier members interested in this model," Christopher said. There is also the opportunity to expand the model to other therapeutic areas, including oncology, she said.



The One-Stop Breast Clinic and the Pandemic

St. Luke's piloted OSBC model in the midst of the worst pandemic in modern history.

When shelter-in-place orders hit in March 2020, St. Luke's, like most healthcare facilities, cancelled all elective medical care and procedures, including screening mammograms. However, they operated the OSBC, even while it was under development, two days a week for women with palpable lesions who could not delay care. That's when they realized the full potential of the model.

The need for speed is even more important today given that hundreds of thousands of women skipped screening mammograms in 2020, and thousands of undiagnosed cancers are expected to be found in the coming months. One recent study found that women diagnosed with breast cancer in 2020 were more likely to have symptomatic disease than a similar cohort diagnosed in 2019 (78% vs 37%), and to have more advanced tumors (78% vs 64%). Seven percent of women in the study presented with metastatic disease in 2020, compared to 2 percent the previous year. The findings parallel what St. Luke's is seeing.



Key Lessons Learned

- The OSBC must be a true partnership with clinical, administrative, and industry working synergistically.
- Clinician buy-in is key. Physicians should understand that the model means changes in their workflow and even work environment. For instance, most radiologists are used to working alone in a dark room. This model is more patient-facing. For some, that can be energizing. For others, it can be draining. "Be ready to support them however you can," Christopher said.
- Administrative staff will have to develop new skills to ensure a smooth patient flow through the clinic.
- An administrative lead or nurse navigator is critical to champion rapid testing and helping the staff balance the emotions, stress, and anxiety that comes with the intensity of this work. This person also serves as the connecting point between clinical and operational needs.
- The new processes impact surgical oncology given that patients will move onto surgery more quickly.
- All staff must have the right balance of empathy and efficiency. Too much empathy means the staff member will spend too much time with the patient, slowing the process. Too little means they might not recognize the stress physicians, patients, and other staff experience. Most important, said Brands: "There has to be a desire to improve the process for your patients and a willingness to take an honest inventory of your current process and determine a clear plan on how to improve."
- Staff and the administration must also have a desire to improve the process for patients, beginning with a willingness to conduct a very honest inventory of the current process and outcomes.
- The team should realize they are treating the health system's most important customer: women. Providing an environment in which patients feel well taken care of creates a long-term relationship between them and the health system.
- Balance the schedule. Seeing patients with BIRAD 5 all day can lead to staff burnout.

On the Financial Side

The OSBC offers several opportunities for cost savings given improved efficiencies, said Brands. For instance, because radiologists see the patient immediately after diagnostic workup, they don't have to continue to review the case throughout the patient care pathway. Patients only check in once and require a single set of vitals because they undergo all tests and procedures the same day.

Additionally, a Gustave Roussy's study found that 10 percent of women evaluated with GE's CESM were able to avoid biopsies. It also reported cost savings of up to 50 percent in benign cases and 33 percent in malignant cases, a vital consideration in today's world of value-based care.



Building a world that works

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