

Transforming

the old on the way to the new

Marin General Hospital (MGH) is an independent hospital in Marin County, CA, that is deeply committed to the health of its community and to providing connected, patient-centered care. A key challenge for MGH? Bridging from an aging facility to a leading-edge new hospital during the years in which the new facility is under construction.

Delivering value through integrated enterprise partnership

In 2016 MGH and Philips embarked on a 15-year, \$90M enterprise partnership aimed at transforming care in the current and new facilities. Philips is supplying MGH with a broad range of connected health technologies and services, including imaging systems, patient monitoring, telehealth, and clinical informatics solutions, as well as clinical education and consulting services. The arrangement, which is one of the reasons MGH has been able to remain independent, is allowing for high-quality, patient-centric care to be delivered in the community, including strides in cost reduction and patient and provider satisfaction.

A vital healing place

The San Francisco Bay Area is an extremely competitive healthcare environment. MGH believes its strategic partnership with Philips lets it maintain an edge in innovative technologies far into the future while focusing on treating the whole patient – mind, body, and spirit.

Shared decision-making on strategy and delivery

The enterprise partnership provides MGH with a strong governance structure focused on collaborative planning and delivery of equipment, services, clinical education, and business

consulting projects. Together, Philips and MGH set out to break down barriers and complexity. The first step was a careful assessment of MGH needs in order to create a strategic roadmap. Senior executives from both MGH and Philips meet to review quarterly progress and annual key performance indicators and financial metrics against that strategic roadmap. MGH has found that a Philips onsite client director, onsite field service engineer and dedicated clinical education manager exceed expectations and performance targets, allowing MGH to experience greater efficiencies and contributing to the overall success of the relationship.

The partnership also allows MGH the flexibility to have one contact for any service needs for Philips and 3rd party equipment. The consolidation to one service contract in addition to the embedded resources allows for optimal equipment uptime, and greater efficiency when it comes to overall service.

Working together with a shared sense of purpose has shaped the first few years of the partnership, moving it beyond transactional to transformational and laying the groundwork for a successful, trust-based partnership with the aim of seamless patient care.



"We picked Philips and jointly built much of the bridge plan. We've been able to do significantly more than we had intended, which is a huge positive."

Mark Zielazinski
 Chief Information & Technology Integration Officer



From the ground up

Paul Fisher, Philips onsite client director at MGH, fosters the success of the relationship day to day.

In addition, working groups for technology, finance and services facilitate the development and implementation of the 15-year organizational outlook by reviewing, prioritizing, and managing the deployment of equipment, upgrades, service contracts, and consulting activities.

Helping Marin stay healthy since 1952

MGH opened its doors in 1952 and has been a mainstay of Marin County healthcare ever since. The county has experienced a five-fold increase in population during that time, and today the community counts on the hospital more than ever. MGH has the only labor and delivery unit in this county of 250,000. Its Level III Trauma Center and emergency department receive 70% of the county's ambulance traffic. Plans for the new hospital include a four-story, 260,000 sq. ft. hospital replacement building, a five-story, 100,000 sq. ft. ambulatory services building, and a parking structure. Every aspect of the hospital will meet or exceed the latest state-mandated standards for earthquake safety.



One of only 750 hospitals nationwide to receive an "A" ranking for safety.

Deeply collaborative

Marin General Hospital (MGH) and Philips teams partner closely to drive continuous progress and quantifiable results across agreed-upon strategic goals. This enterprise partnership model has allowed MGH to access over \$3.5 million in accelerated technology due to the structured payment plan. This also has resulted in reductions in capital spend variation, improved budgeting efficiencies and improved cash flow management. The agreement allows for early and ongoing access to the latest healthcare technology, education, design services, and consulting. It also laid the groundwork for something deeper: a collaborative relationship in which MGH and Philips work together day to day for the success of the hospital.

Delivering premium education

In addition to extensive technology improvements, the technology working group oversaw the delivery of hundreds of hours of clinical education programs. Clinical education is not handled as an afterthought, but rather as an integral part of the overall plan allowing for purposeful planning with no interruption to patient care and no additional costs for temporary staffing.

Partnering for the good of Marin County

Since the start of the partnership, the team has delivered on many significant projects that demonstrate value across care delivery, cost reduction, patient and staff satisfaction, and staff development.



"The number one advantage to all of this is that we have a Philips representative onsite who you can talk to face to face during almost any part of the day and who will take action."

Adam Nevitt, MD
 Medical Director of Interventional Radiology



MGH and Philips by the numbers



8

Total number of vendors managed by the partnership



38

New projects implemented



New technolo



Equipment, technology replaced or



Clinical educationa hours "Partnership is a concept a lot of companies don't really understand. Philips does. We're a standalone community hospital that does a lot of big hospital things. I want someone to be invested in what we need."

Ken Cortes
 Director of Imaging and Biomedical Engineering



Leading the way

Transforming the Breast Health Center

A stellar example of the Marin General Hospital (MGH) commitment to the community is the new state-of-the-art Breast Health Center, which opened in 2017. As Kristine Schaefer, Manager of Outpatient Imaging and the Breast Health Center, says, "Volume was a big issue. We could only see so many patients with the prior space and number of rooms. The new center has a spa-like feel and the latest and greatest technology."

Challenge

The former breast center was a small facility without adequate parking or the technology required to address expected volume growth required to meet the need for breast health services.

Solution

Philips partnered with MGH and its architectural firm to develop a plan for a world-class center that reflects the beauty of Marin County. The new center offers exceptional patient- and family-centered care, including digital breast tomosynthesis, with a greatly enhanced experience.

Results

Successful launch of the new center in June, 2017 has resulted in volume that quickly exceeded that of the old center. Positive patient distractors



include patient-centered design. Additionally, the partnership continues

to focus on improving clinical and operational workflows.

Unlocking insights to enhance cath lab performance and the patient experience

Challenge

The MGH invasive imaging department includes interventional, catheterization and electrophysiology labs; all are focused on the need to optimize workflow and improve departmental throughput and overall communication. MGH desired to best use these resources in a non-specialized way so that the labs could productively serve as many types of patients as possible. To optimize use of the space, MGH updated the lab and turned it into something that can be used by multiple service lines.

Solution

MGH and Philips used a co-creation consulting workshop to collect comprehensive patient and system data, review lab scheduling guidelines and rules of engagement for use, observe staff workflow, and analyze the facility layout. The Philips team then translated these insights into suggestions for actionable performance improvement at lower cost, increased patient and staff satisfaction and improved patient outcomes. Overall, the working group identified 23 unique opportunities, prioritized by potential impact and implementation effort. Of these 23 opportunities, 8 were implemented including developing an action committee and newsletter, standardization of physical order forms and documentation of workflows, and implementing daily staff huddles and scheduling improvements.

Results

To date, the initiative has resulted in a 19% increase in procedural volume and an overall increase in EP, cath, and IR lab utilization. Surveys are underway to track additional



improvements in morale and employee engagement.1



The Breast Health Center welcomes patients in a calm and healing space.

Streamlining imaging workflow

Challenge

For confident diagnoses and efficient workflow, radiologists need access to up-to-date patient information and advanced visualization and analysis software. MGH was challenged with disparate imaging visualization systems from multiple vendors with limited capabilities and decision support tools, in addition to rising service costs in order to maintain separate systems.

Solution

MGH and Philips designed, created, and implemented an integrated workflow with IntelliSpace Portal (ISP) advanced analysis platform.
Collaborating closely, radiologists and IT professionals at MGH worked with Philips to install ISP across the enterprise for advanced imaging visualization, eliminating the need for dedicated workstations and optimizing clinical workflow.

Results

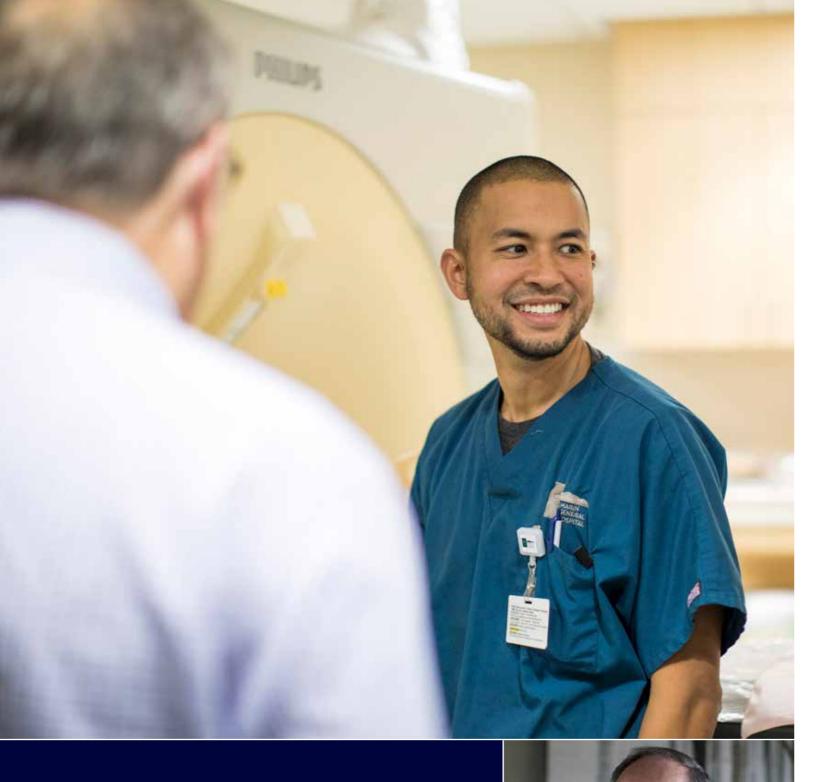
expect to s

For the first time, clinical teams are able to perform new advanced PET studies, and they

expect to see savings in turnaround time per procedure. In addition, the team no longer needs dedicated workstations, reducing the need from 6 dedicated stations, and was also able to reduce reliance on multiple vendors. This eliminated the need for multiple service contracts and vendors, adding to cost-savings. In the early months the increased visualization



capabilities have already led to a 4% increased throughput in imaging workflow.¹



"Without this partnership I don't really think we could keep up with the technology or be competitive in this market. It helps with physician and staff recruitment, and it brings a better experience for patients."

Mike Watson
 Radiology Manager

Creating the future

Investing in CT and fluoroscopy technology

Challenge

As the designated trauma center of Marin County, Marin General Hospital (MGH) needed to add a second CT to its diagnostic imaging department and turn unused workspace into a secondary advanced CT procedure room. The unused space was surrounded by thick concrete walls, which had literally blocked a similar initiative in the past. Adding to the complexity was the fact that the current facility is 60 years old, posing power, heating and cooling challenges that needed to be addressed to accommodate the new technology.

Solution

a new layout for the procedure room, install a secondary advanced CT, and train staff on the equipment.

The imaging department will offer streamlined care for stroke, trauma, and interventional cases. Early and ongoing access to the latest technology helps create an improved patient experience for the residents of Marin County. The addition of this equipment and the cross-training of clinical staff will allow the department to make the most of its resources for greater efficiency.

Results

The secondary CT scanner is expected to allow the clinical team to perform new types

of studies as well as increase patient volume and reduce scan time. "Without



this partnership I don't really think we could keep up with the technology or be

competitive in this market. It helps with physician and staff recruitment, and it brings a better experience for patients," says Mike Watson, Radiology Manager.

Building a sustainable radiation safety program

Challenge

MGH wanted to give providers access to centralized tools and capabilities for comprehensive oversight of patient and staff radiation exposure. This enterprise management across imaging departments helps meet the Joint Commission revised regulatory requirements for diagnostic imaging services.

Solution

The team wanted to make radiation safety a seamless part of the MGH workflow to keep the organization compliant and offer the highest level of safety for staff and patients. Philips DoseAware has been implemented in exam rooms to better manage and track provider radiation dose exposure to drive real-time workflow changes. DoseWise Portal has been installed on scanners across the organization for appropriate dosage exposure. The Philips team collaborated with MGH to provide insight, education and training, all of which was designed to start MGH on its journey in building a state-of-the-art radiation safety program. In fact, there are eleven e-learning modules for anytime anywhere access to education

Results



The team started by documenting radiation dose index by exam and by

machine. Because measuring dose is just the beginning, the team is using the data to create a structured, sustainable culture of safety. Physicians have



changed practice patterns in CT for abdomen, head, and pediatric procedures,

reducing unnecessary dosage exposure to patients. Improved protocols for study types have been developed to crosstrain technologists on equipment.

Delivering value every day

Improving efficiency and achieving Level III trauma services verification

Marin General Hospital (MGH) is a Level III Trauma Center and had retained that designation for more than 12 years. When it came time for reverification the Trauma team needed expert resources to not only prepare for the survey but begin preparing for their move into the new hospital, MGH 2.0.

Solution

Philips completed a comprehensive performance assessment of the trauma program to help prepare for the 2016 ACS review. Philips provided a performance improvement consulting team with a subject matter expert acting as the trauma program manager to help MGH in leading an all-inclusive process improvement implementation for its trauma services. Activities included data analysis, onsite observations, staff and stakeholder interviews, and more. An action plan included a deep dive on each deficiency identified by ACS. On collaborating with Philips, Michelle Tracy, Director of Emergency and Trauma Services, says, "All of these projects have a common theme: collaboration with experts who know what they're doing and put the right people where we need them to be. We don't work in silos anymore; we truly work together across departments."

Results



The hospital is once again a Level III Trauma Center with ACS verification. Performance made possible by new policies and procedures resulted

in a successful reverification in April, 2016. The hospital's new trauma program manager and medical director are working with staff as an integrated team.

A new collaborative culture has emerged within the entire facility. There is improved communication across the unit, approximately

\$2 million in increased trauma center revenue has been realized. The unit exceeds physician response time on full activations and has increased patient volume by > 9% while maintaining length of stay. The trauma center leadership feels 100% ready for the next ACS reverification scheduled for July, 2018.

Instilling a culture of continuous improvement with LEAN

Challenge

MGH leadership is focused on increasing patient satisfaction and staff engagement as well as controlling costs. MGH leadership wanted to instill continuous improvement thinking at all levels of the organization, equipping staff along with senior leaders with LEAN ways of working to create a downstream impact of LEAN culture throughout the organization to reduce waste, reduce cycle time, improve workflow, and standardize processes and communications.

Solution

MGH and Philips developed a focused, on-site LEAN Six Sigma training initiative, which is a multi-phased approach to transforming MGH into a LEAN-focused organization. The key to this project was to not just train a few individuals, but rather to introduce the concept of LEAN throughout the organization so that everyone was speaking the same language and working together to effect an overall culture of change. Through the LEAN process, eight projects were identified and are being initiated. Projects range from operational improvements to introducing new employee programs.

Results

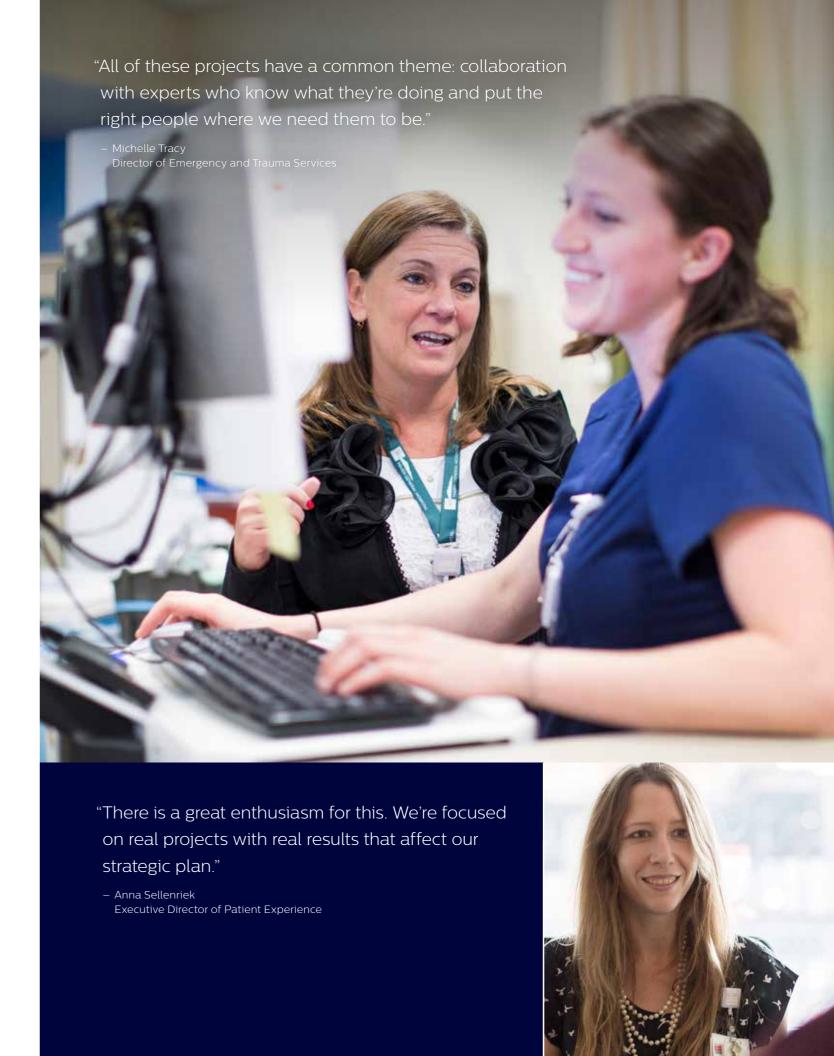


Through the first two phases of the LEAN initiative, LEAN methodologies and practices have been introduced along with identification and prioritization of projects that can increase throughput

or improve patient access to timely procedures, such as reducing the admit time from the ED to a hospital bed. So far, 48 Green Belts and 13 Yellow Belts have been trained.

Phase 3 is underway and will include organizationwide deployment to increase success of projects. Through the eight projects in process, a \$1.6M **1.6M** impact on the organization has been identified.

"Creating a LEAN culture has involved getting the entire organization to see and embrace LEAN, to see waste in the system and remove it, to question things we do, to act only on facts and not opinion, and work together, not in silos," says Scott Panicacci, Director of the Project Management Office.



1. Self-reported by this institution (Marin General Hospital). May not reflect the results achievable at other institutions.

Working together for the good of Marin County

Marin General Hospital (MGH) is committed to the values and needs of the Marin community. Both MGH and Philips are looking forward to the continuing partnership to keep MGH at the forefront of exceptional care in an exceptionally healing environment.



Numbers reported are self-reported from Marin General Hospital.

^{*} Results are specific to the institution where they are obtained and may not reflect the results achievable at other institutions.