

White paper

Operational Excellence in Healthcare

How comprehensive engagement
management can identify challenges
and opportunities to streamline
operational complexity

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Value
Partnerships

Edition #09



Executive Summary

Healthcare operations management takes place in the context of a rapidly evolving regulatory and economic environment. Healthcare leaders must stay current with new technology, scientific advances, privacy issues, and data protection concerns to ensure the health and safety of patients. Strong partnerships for shared responsibilities and benefits, planning, implementation, and ongoing operations have helped many healthcare providers retain their focus on clinical excellence by shifting key operational management duties to specialists.

This kind of comprehensive, end-to-end solution management is essential to executing large or complex projects in healthcare. Everything from the layout of patient rooms to the procurement of medical technology to staff training and workflows must be carefully planned and expertly executed to maximize the potential of projects like hospital expansions. Healthcare provider organizations benefit from partnerships that help them understand the current environment and plan for the opportunities that will arise tomorrow, while preserving the flexibility to react to unforeseeable events. In addition, wide-ranging operational management enables sustained excellence by continually streamlining operational complexity and optimizing processes.

Siemens Healthineers is a uniquely qualified, trusted partner for healthcare providers with comprehensive operational excellence. A combination of clinical insight, medical technology innovation, strategic vision, implementation expertise, and process optimization capability helps healthcare providers develop and realize their key strategic goals and avoid unnecessary risks. Value Partnerships ensure that Siemens Healthineers is there for the “long haul” to ensure a successful engagement from planning through implementation to ongoing operation.

Siemens Healthineers partners with healthcare providers to streamline operations for rapid, yet sustainable results through expertise in workflow advisory and departmental performance optimization. Healthcare providers can benefit from improvements in patient experience and staff satisfaction.

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An increasingly complex healthcare landscape calls for best in class qualified partners

As healthcare grows ever more complex, procurement, education, medical technology management, project management and other non-clinical tasks place increasing demands on the time of healthcare organizations' leaders. Many administrators of hospitals and other healthcare enterprises are turning to partners who offer solutions to help their organizations keep pace with and integrate new developments in technology, policy, reimbursement, and patient demographics. These partnerships allow healthcare providers to shift focus on achieving clinical outcomes.

The COVID-19 pandemic has intensified some already existing issues in many countries, leading to waiting lists for elective care reaching unprecedented levels. These long backlogs necessitate workflow optimization that allows higher patient throughput and reduction of the time patients spend in waiting rooms. Additionally, improved quality of care achieved through operational excellence can reduce the number of re-admissions and rates of surgical complications. Failing to address these issues does not only have performance and financial implications, but also leads to patient and staff dissatisfaction.

Against this background, healthcare leaders are seeking partners that will also help them realize operational excellence throughout their organizations. Ideal partners can add value at every step of the project lifecycle, from initial feasibility studies through design planning to implementation and ongoing process optimization.

Identifying, prioritizing, and proactively managing risks and opportunities contributes substantially to that desired flexibility. Seizing opportunities, such as completing implementation ahead of schedule or addressing a greater demand for services than initially planned, can be as significant as monitoring and mitigating project risks. Healthcare administrators benefit from partnerships that help them address both, opportunities and risks, throughout the whole project's lifecycle, meaning, in the case of large complex healthcare projects, several years of guidance after implementation.



Comprehensive project management in healthcare

The expertise to effectively characterize and quantify these factors across the project lifecycle, from right-sizing solutions to meet future patient demand to permitting and licensure, to legal compliance, to ensuring medical technology performance, may not reside within the healthcare organization.

Companies that excel in both the planning and implementation phases of healthcare projects give their healthcare provider partners a significant advantage in terms of meeting their goals on time, on budget, and at the desired quality level.

Building upon the careful strategic planning done in the early phases of the project, careful and methodical strategic implementation planning ensure that everything goes right, and that contingencies are anticipated and planned for. Disruptions during the project implementation can be avoided or minimized. This kind of implementation expertise is extremely valuable, especially in the context of comprehensive, end-to-end operational excellence.

Transition management

Medical technology partners like Siemens Healthineers offer experience and expertise to aid health systems in adopting new technologies and anticipating potential needs. Using feedback from providers to develop customer focused strategies and bring projects to life, Siemens Healthineers provide a safety net tailored to support organizations throughout the implementation process. These project management solutions include optimizing and designing layout, training and educating staff, full implementation of the technology roadmap, and embedding technology management to establish reliable processes, as well as guiding long-term financial and logistical considerations.

One example for successful scale-up is the partnership of Siemens Healthineers and the Ministry of Health, Murcia, in Spain. The 15-year partnership achieved to reduce patient re-scheduling due to technical failure from 15% to 0%, removed the need for a waiting list of previously two years to zero for mammography, and doubled the number of exams performed.

Operational excellence spotlight

Customer: Ministry of Health Murcia – Spain

- 838 beds across two hospitals, Santa Lucía Hospital in Cartagena and Los Arcos del Mar Menor Hospital in San Javier
- Both hospitals together serve a population of more than 380,000
- Key specialties at Santa Lucía Hospital are endocrinology, respiratory, hematology and oncology
- Key specialties at Los Arcos del Mar Menor Hospital are cardiology, neurology, rehab and internal medicine

Contract length: 15 years

Services provided:

- ActExcell advisory program to maximize workflow efficiency based on data-driven decisions
- Procurement, installation, and management of >20,000 multi-vendor medical devices for both hospitals
- Covering mammography, ultrasound, computed tomography, laboratory, IT, and third-party equipment
- Streamlined management of maintenance, upgrades and replacements through an on-site expert

“Having a single contract is a substantial improvement. This Value Partnership framework provides a value-add which has enabled an exceptional technological advancement in both hospitals.”

Francisco Agulló, Former General Director

Streamlining complexity in operations

Operational excellence spotlight

Customer: HMI Group – Malaysia and Singapore

- Private regional healthcare provider with locations in Singapore, Malaysia, and Indonesia
- Founded in 1998, HMI currently has 850 beds
- As part of HMI Group, Mahkota Medical Centre and Regency Hospital in Malaysia are prioritizing patient experience with high-quality care in oncology, cardiovascular, and neuroscience specialties

Contract length: 5 years

Services provided:

- Technology Management, operations managers, and advisory services across two hospitals in Malaysia
- Capacity optimization, digital innovation, and marketing support
- Patient experience and care delivery improvement
- Guided development of the oncology, cardiovascular and neuroscience Centers of Excellence

“With Siemens Healthineers global expertise, combining strategic and operational insights, we will work together to design new patient journeys and drive high quality and personalized care pathways, starting with our Oncology Center of Excellence.”

Chin Wei Yao, CCO, HMI Group

Operations and technology management throughout the project lifecycle

In the past, projects that involved expanding clinical services, adding facilities, or procuring medical technology could be adequately addressed through vendor relationships. As the healthcare industry has grown more complex, many healthcare leaders have moved away from traditional vendor relationships in favor of benefit- and value-oriented partnerships. For example, instead of looking for a new imaging fleet that meets certain performance measures, administrators now look for partners that can help them dig deeper: How can I best meet the needs of my current patients? How will those needs differ in 5 years? How can I integrate imaging with other enterprise-wide concerns like EMR systems? And how can I ensure that this fleet stays up and running with minimal workflow interruptions over its life-time? The right partner can help healthcare leaders focus on the desired outcomes and benefits, and less on detailed equipment or facility specifications and requirements.

At the HMI Group, Siemens Healthineers supports to prepare for the future for example by embracing digital technologies to improve access and quality of care. Artificial Intelligence (AI), remote monitoring, and telehealth are some of the current and future trends in the healthcare industry which the Centers of Excellence at HMI want to embrace. Siemens Healthineers Biomatrix technology supported by AI in its MRI scanner, allows scanning of every patient type by automatically adjusting to each individual patient, resulting in a higher diagnostic confidence, fewer rescans and more predictable scheduling. With its teamplay performance management applications and healthcare advisory services, HMI Group can make quick and well-informed decisions to further improve the overall patient journey by eliminating bottlenecks like patient waiting times and quick reporting, among others.

Siemens Healthineers: A trusted partner for end-to-end operational excellence

Siemens Healthineers builds Value Partnerships with healthcare providers in order to address pressing needs or challenges, and unveil high-care value. Value Partnerships are enduring, performance-oriented relationships that help providers optimize processes, expand capabilities, and advance the level of innovation within their organizations.

Value Partnerships reduce operational complexity and enhance capabilities

In terms of operations management, Value Partnerships operate in two complementary ways: they can supplement what the customer is currently doing, and they can expand and enhance the range of activities within that customer's capabilities. Many Value Partnerships deliver both of these benefits simultaneously.

"The supplemental activities such as medical technology management are often the foundations of a Value Partnership. We streamline complexity and enable our customers to focus on their core responsibilities of providing quality care," explained Nicola O'Keefe, Global Head of Delivery Support, ES Operations at Siemens Healthineers.

"Maintaining the customer's technology fleet might be the initial ask, the start of the partnership, then there is a natural extension," she continued.

"Value Partnerships have been our driving force to evolve from being 'providers of technology' to 'partners in health.' Operational Excellence to us means excellence in all aspects of performance delivery: Customer Experience, Project Management, Operational Delivery and Performance Improvements. These core aspects set a solid foundation to achieve our common goals within our partnerships," said Franca Piepenbrock, Senior Vice President ES Operations at Siemens Healthineers.



Siemens Healthineers Operations Management key domains

- Operations Management
- Operations Optimization
- Operations Support



Success story: Guy's and St Thomas's, UK

Operational excellence spotlight

Customer: Guy's and St Thomas' – United Kingdom

- Teaching and full service hospital
- Around 1,300 beds and 16,200 staff
- 2.4 million patient contacts per year
- Annual turnover of almost \$2 billion

Contract length: 4 years

Services provided:

- Usage of lean principles to realize ongoing improvements with sustainable results
- Series of Rapid Improvement Events (RIEs) to achieve effective lean transformation
- Leveraging knowledge and experience of all staff to accelerate culture change
- Clear definition of staff responsibilities enhances process efficiency and staff satisfaction
- Establishment of integrated KPI-dashboard to visualize impact of implanted measures

"Working with Siemens Healthineers has been a really positive experience for both the service and individual staff. This partnership will deliver a legacy of knowledge, skills and experience in service improvement which will support the design and provision of high value services for patients."

Nicholas Bultitude, Guy's and St Thomas',
Transformation Program Manager, Radiology Department

Guy's and St Thomas' NHS Foundation Trust (GSTT) demonstrates well the difference the right partner can make in achieving the desired outcomes quickly and sustainably. Simpler Advisory, a partner of Siemens Healthineers Value Advisory Services, conducted a series of Rapid Improvement Events (RIEs) with the radiology team at GSTT. RIEs are five-day workshops that leverage the knowledge and experience of all staff to managers, administrators, radiographers, radiologists and supporting staff. They accelerate the culture change required for an effective Lean transformation.

Performance optimization was rapid and resulted in improved clinical operations almost immediately. Workforce productivity and patient satisfaction indicators also increased promptly. Best of all, improvements have been durable – they are still evident one year after the initial RIEs. To date, through the Performance Excellence program the trust has achieved total financial and efficiency benefits of \$1.2m (full year effect) across various modalities and operations, representing a return on investment of 5:1.

One of the challenges the trust sought to address were the increases in demand in radiology. With MR demand up by 15-18%, CT demand between 20-30% and the demand for cancer and urgent referrals increasing even more significantly, the task was to complete more work in less time. A Rapid Improvement Event was conducted around the department's scheduling procedures, outlining every step of the pathway, and highlighting the number of touchpoints with different people. "We went from the pathway being 69 steps to being 11 steps, which is a huge improvement. And that reduction in waste has enabled outpatients to have a smoother journey through our department," explained Dr. Asif Mazumder, Neuroradiologist at GSTT.

As a result, a streamlined and convenient scheduling process was established, resulting in a 21% reduction of DNA ("did not attend") rate and a 17% reduction in the booking time for a patient. This enabled the trust to improve their planning and capacity utilization, as well as patient satisfaction.

Key strategic roles for Value Partnerships

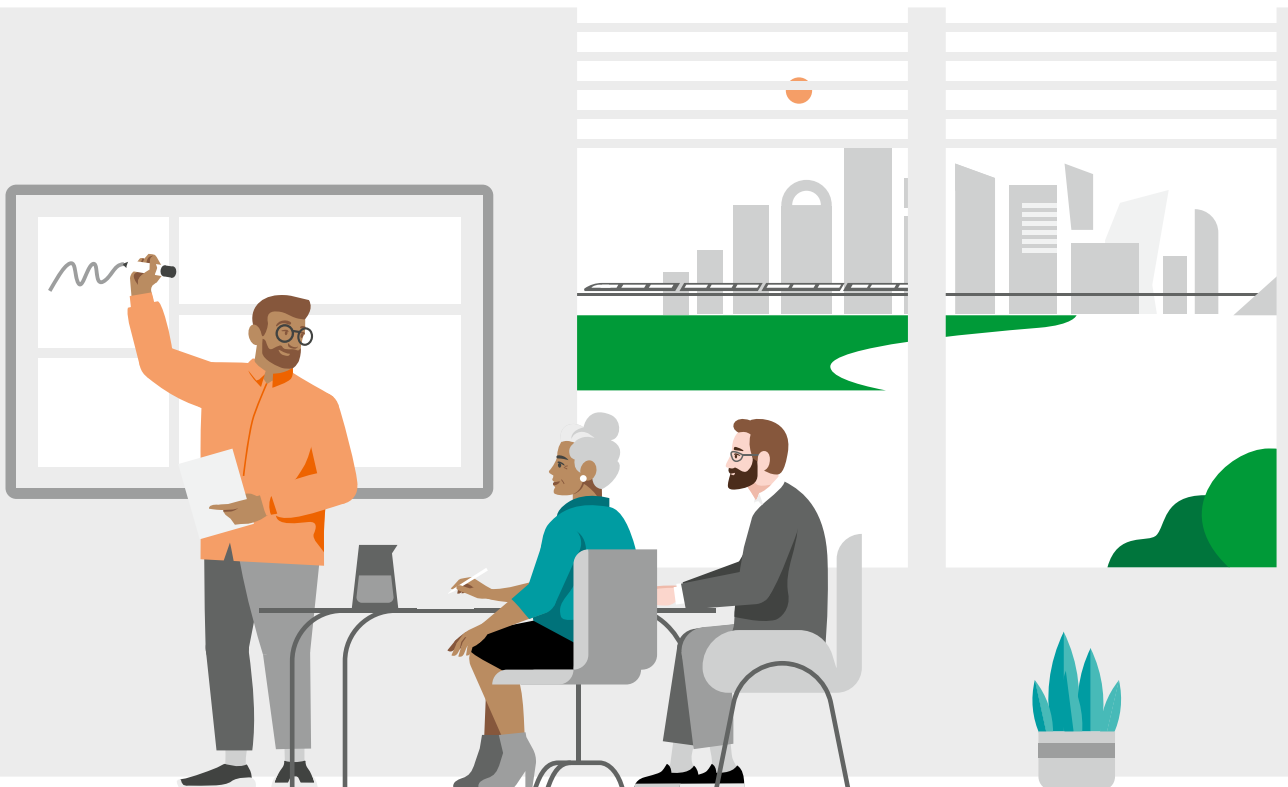
Partnerships built around the customer's goals

The idea of co-creation is central to the Siemens Healthineers operations management approach. Value Partnerships are built around a customer's unique context and goals, and are benefit-oriented. "We realize that it's less important to a customer to know all the ins and outs of how we plan to do something than it is to know that it's going to move them toward their goals. They don't want to know how to build the car, so to speak; they want to know that it's going to get them to their destination. So together we create solutions around that customer's goals and their needs," said Ms. Piepenbrock.

Operational excellence evolved: new directions for Siemens Healthineers

Siemens Healthineers continues to develop its operations management capabilities. The company is in the process of leveraging data from its enterprise application management platform to enable more robust competitive benchmarking and to identify and mitigate risks by detecting patterns or indicators of risks identified in other projects. In addition, the company is working to broaden its partnerships with providers. For example, research and development partnerships can help drive efficiency by co-creating novel clinical operational delivery models.

This type of partnership represents a deep commitment to long-term goals that benefit all partners, and Siemens Healthineers has been gaining insights into new developments from many of such a partnership.



Operational excellence spotlight

Customer: CHRISTUS Health

- Not-for-profit health system with locations in three states in the USA
- Six comprehensive cancer centers treat more than 2,000 patients annually

Contract length: 7 years

Services provided:

- Deploying latest medical technology and software to improve operational efficiency
- Standardizing care delivery and clinical communication to increase use of available resources
- Ongoing support and maintenance on system technology while fostering the adoption of new technologies
- Leveraging digitalization to address staff shortage and provide consistent high-quality patient care

"This partnership offers our patients access to more advanced technology and the clinical benefits from centralized management of our oncology network."

David Benner, MD, Chief Ancillary Office

Value Partnerships | Oncology

The acquisition of Varian Medical Systems has opened new opportunities to build Value Partnerships with cancer care providers. Siemens Healthineers offers expertise that spans the entire lifecycle of an oncology department, from feasibility and planning through partnerships and innovation programs to elevate the value and quality of care delivered.

Varian, a Siemens Healthineers Company, and Christus Health have entered into such an Advanced Oncology Solution partnership, which has accelerated the adoption of tech-enabled radiation-oncology services. These include an integrated oncology network platform for secure collaboration between oncologists across the health system, paperless forms to optimize the electronic health record, cloud-based remote and on-site treatment planning, and coding and compliance review services.

Conclusion

The modern healthcare industry presents unprecedented opportunities to improve the lives of the patients it serves. At the same time, healthcare has grown incredibly complex. Healthcare providers can benefit from partnerships that help them deliver higher quality care by easing the burdens of technology, facility, and training management that can overwhelm administrators. Providers also seek partners who will help them realize their longer-term strategic goals, through a combination of strategic vision, proactive risk and opportunity management, and end-to-end operational excellence.

Siemens Healthineers builds customer-centric, benefit-oriented Value Partnerships to help healthcare providers optimize their current processes and activities while expanding their range of clinical capabilities and advancing the pace of innovation within their organizations.

Do you want to learn more about how Value Partnerships can help you achieve operational excellence now, and in the years to come?

Contact Siemens Healthineers Enterprise Services to see how we can help you streamline complexity in operations:

 siemens-healthineers.com/value-partnerships

 eshq.team@siemens-healthineers.com

Reach your desired KPIs with Value Partnerships

+25% **CTs per month**

... based on insights from utilization management



Zaans Medisch Centrum,
The Netherlands

5:1 **Return on Investment**

... generated by the program for the trust



Guy's and St Thomas' NHS
Foundation Trust, United Kingdom

-7% **Inpatient length of stay**

... for ischemic stroke



Medical University of South Carolina
(MUSC), USA

100% **paperless processes**

... throughout entire imaging department



Center for Diagnostic Imaging,
Switzerland

1 **partner**

... for medical and building technologies



Jakarta Heart Center (JHC),
Indonesia

+60k **mammograms/year**

... thanks to new caravans

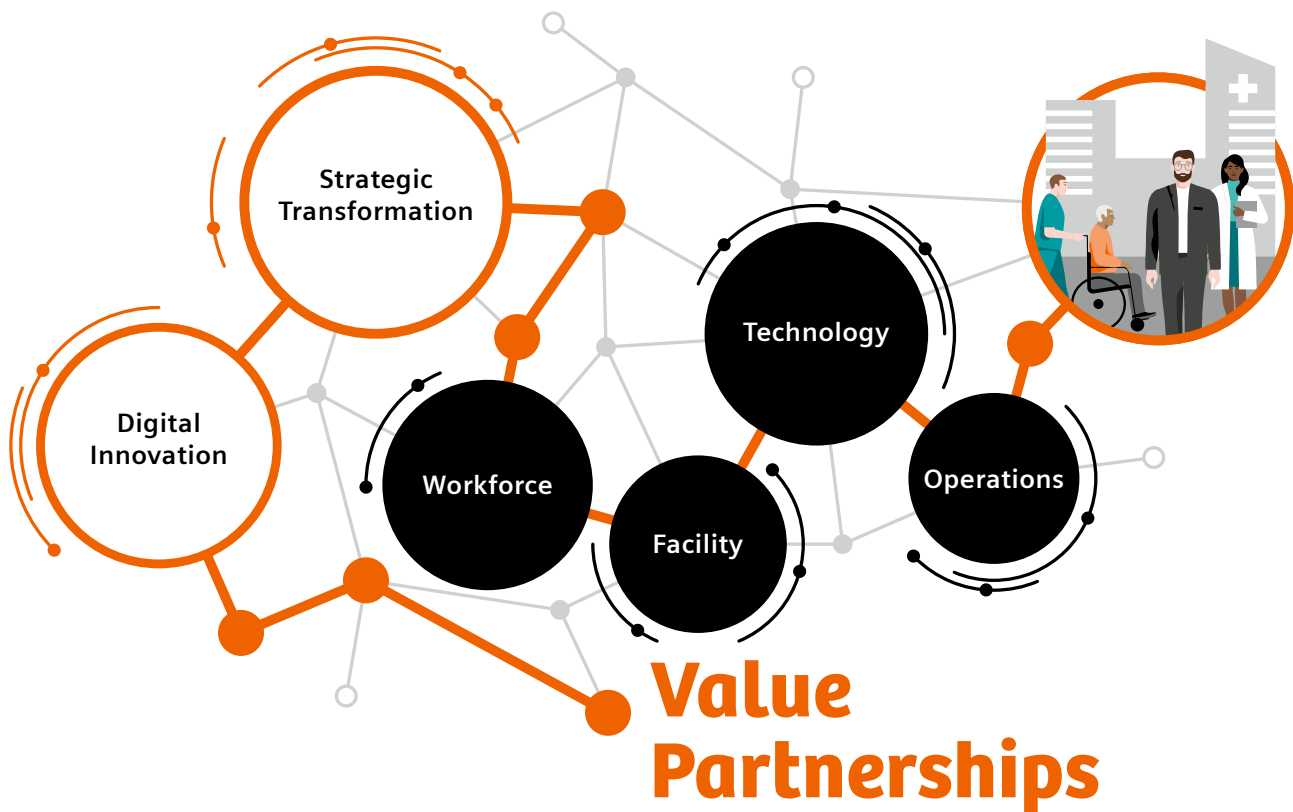


Portuguese League Against Cancer,
Portugal

About Value Partnerships

Siemens Healthineers Value Partnerships are long-term, performance-oriented, collaborative engagements. We bring a combination of clinical insight, medical technology innovation, strategic vision, implementation expertise, and operational excellence to the table for you. As trusted partners, we help you formulate and achieve your strategic goals, increasing enterprise-wide value.

Value Partnerships drive value across your entire enterprise with focus on four domains: Technology, Operations, Workforce and Facility. Furthermore, together we enable breakthroughs through holistic and transformative initiatives such as Strategic Transformation and Digital Innovation.



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The products/features and/or service offerings (here mentioned) are not commercially available in all countries and/or for all modalities. If the services are not marketed in countries due to regulatory or other reasons, the service offering cannot be guaranteed. Please contact your local Siemens Healthineers organization for more details.

The results described herein by customers of Siemens Healthineers were achieved in the customer's unique setting. Since there is no "typical" hospital and many variables exist (e.g., hospital size, case mix, level of IT adoption), there can be no guarantee that other customers will achieve the same results.

Siemens Healthineers Headquarters

Siemens Healthineers AG
Siemensstr. 3
91301 Forchheim, Germany
Phone: +49 9191 18-0
[siemens-healthineers.com](https://www.siemens-healthineers.com)