

A surgeon in a blue scrub suit and purple cap is operating in an OR. A Philips C-arm is visible in the background, and a large monitor displays a medical image. The Philips logo is visible on the C-arm.

PHILIPS

Position paper

Strong partnerships can make greater efficiency and **better outcomes possible for cardiovascular service lines**



Introduction

In 2020, millions of elective procedures were delayed, causing a chain reaction of complex issues.

In 2021 – as the pandemic recedes and more patients seek care – health systems will face more complex patient pathology due to the delayed procedures as well as mounting deficits that will accelerate the need to reduce costs and shift to value-based care. As a result, health system and clinical service line leaders are grappling with how to manage effectively amidst uncertainty and are considering such questions as:

Thriving amidst cost containment

- With financial pressures mounting, how can we work differently to preserve, or even enhance, care quality while controlling costs, particularly in higher-cost service lines?

Uncovering cost savings

- Which areas are ripe for cost savings?
- What, if anything, are we overlooking – and what can we learn from others who have done this differently?

Leveraging partnerships

- How can we form partnerships to help us?
- How do we identify the right organization to partner with?

It is clear that these questions have no single answer and that, given the magnitude of the challenges, point-by-point adjustments are insufficient. Rather, health system and service line leaders need to look at multiple areas – improved clinical outcomes, workflow efficiencies and business model innovation – to be positioned to proactively manage their own destiny.

Service lines with high capital and, importantly, high operational costs, such as cardiovascular (CV) care, are particularly ripe for change as health systems look to boost efficiency while improving outcomes.

Dynamics at play in healthcare and CV care

In the evolving landscape of value-based care, pressing dynamics are at play.

Patients continue to get older and are presenting sicker. Many patients have avoided hospitals in the pandemic, delaying needed care and leading to a more complex treatment pathway.¹ Where, indeed, have all the heart attacks gone?²

Reimbursement is shifting from a volume to a value model in which health systems are incentivized to focus more on fostering wellness and prevention, improving outcomes, avoiding readmissions or admission altogether and shifting care to lower-cost settings, all worthwhile goals that are more urgently needed and more challenging than ever to achieve.

Hospital margins are razor-thin to begin with and are now stretched all the more due to pandemic-related delays of elective care.

Existing hospital technology is aging and more vulnerable to cyberattack. And while providers (with their referral patients) are drawn to health systems offering the latest technological innovation to help improve outcomes, many health systems may struggle to do so given the aforementioned financial constraints.

Partnerships can make a **difference** in CV care

Built on common goals and earned trust, partnerships with companies that provide innovative technology and services can help health systems:

- Reduce care variation
- Address technology obsolescence, cybersecurity concerns and the high cost of disposables
- Navigate the shift to population-based reimbursement models and outpatient care

These challenges necessitate taking a bigger-picture view, including:

- Seeing opportunities to connect care throughout the continuum from prehospital preventative care to hospital acute care to home care management
- Identifying ways to promote wellness and prevent illness as well providing care at home or in lower-acuity settings where possible

CV care is essential to the health of patients and, with its consistent revenue generation, to the success of health systems. However, given that CV care is costly, it is scrutinized by payers looking to control costs by, among other measures, shifting care to ambulatory surgery centers and other settings.³

The consequences of changing reimbursement models are vast. A 2019 industry session at the Biennial

"In our health system, we have seen many examples of how **a systems approach to cardiac care can be meaningful**, not just for the patient, which is the primary goal, but also at the system level in terms of delivery of care, cost of care, program development, capital purchasing, even research."

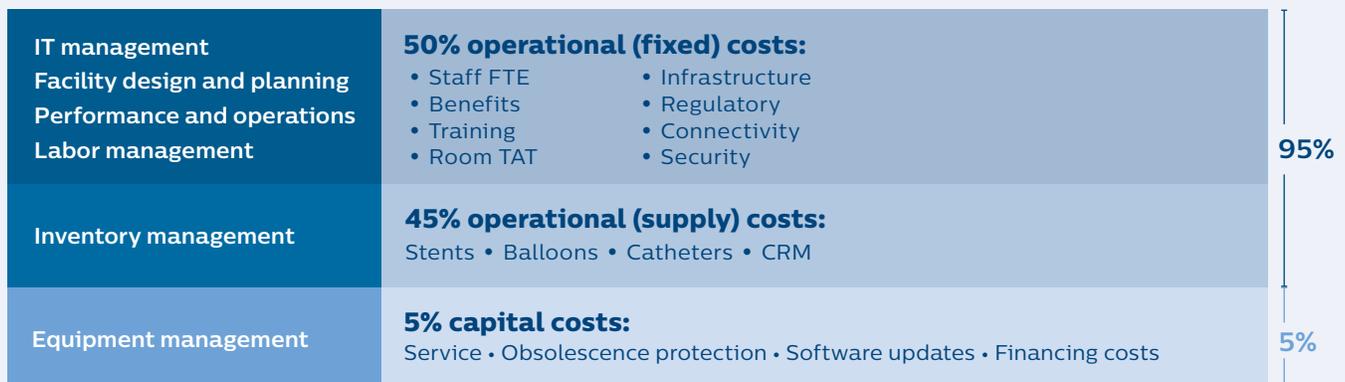
-William A. Gray, MD System Chief, Division of Cardiovascular Disease, Main Line Health President, Lankenau Heart Institute, Pennsylvania

International Andreas Gruentzig Society Meeting described shifting reimbursement models as threats that are likely to "significantly reduce hospital operating margins by reducing payments for the high acuity, high cost treatments common in acute cardiovascular care. Allowing cardiovascular services to become a cost center (consuming more revenue than is generated) would cause collapse of nearly all hospital organizations."⁴

As a direct result, many health systems are starting to organize their CV service lines across the organization so they can reduce variation of care across multiple hospitals and geographies. They are looking at CV line costs, too, where roughly 95% of costs are operational and 5% relate to capital. This prompts the need for operational efficiency as well as for new business models that optimize operational costs.

Cardiovascular service line costs

The breakdown of costs warrants a closer look, as capital costs comprise only 5% of the total.⁵





Health systems need not do it alone

As health systems examine their CV service lines and overall CV costs – the lion’s share of which are operational expenditures (OpEx) – they will seek ways to improve their performance. All too often, they are forced to go it alone, trying to extract value at every turn. But health systems can benefit from working collaboratively with companies providing both innovative technology and services, so together they can solve the problems of today and prepare to address the problems of tomorrow. For example, today there is a need to collaborate on standardizing and modernizing technology while looking ahead to tomorrow’s challenges, which requires deep expertise as well as faster innovation cycles. In short, health systems need everyone – the full ecosystem of healthcare stakeholders – to do everything they can to make more possible in CV care.

True partners do not implement episodic changes that only partially address challenges or that result in interoperability challenges or additional complexity. Instead, they move beyond transactional arrangements to provide integrated solutions over the long term. This allows the health system and innovation partner

Consider what potential partners have to offer

In the CV space, companies well suited to be long-term partners are those that have offerings aligned to the critical CV cost areas (capital, fixed OpEx, supply OpEx) and provide:

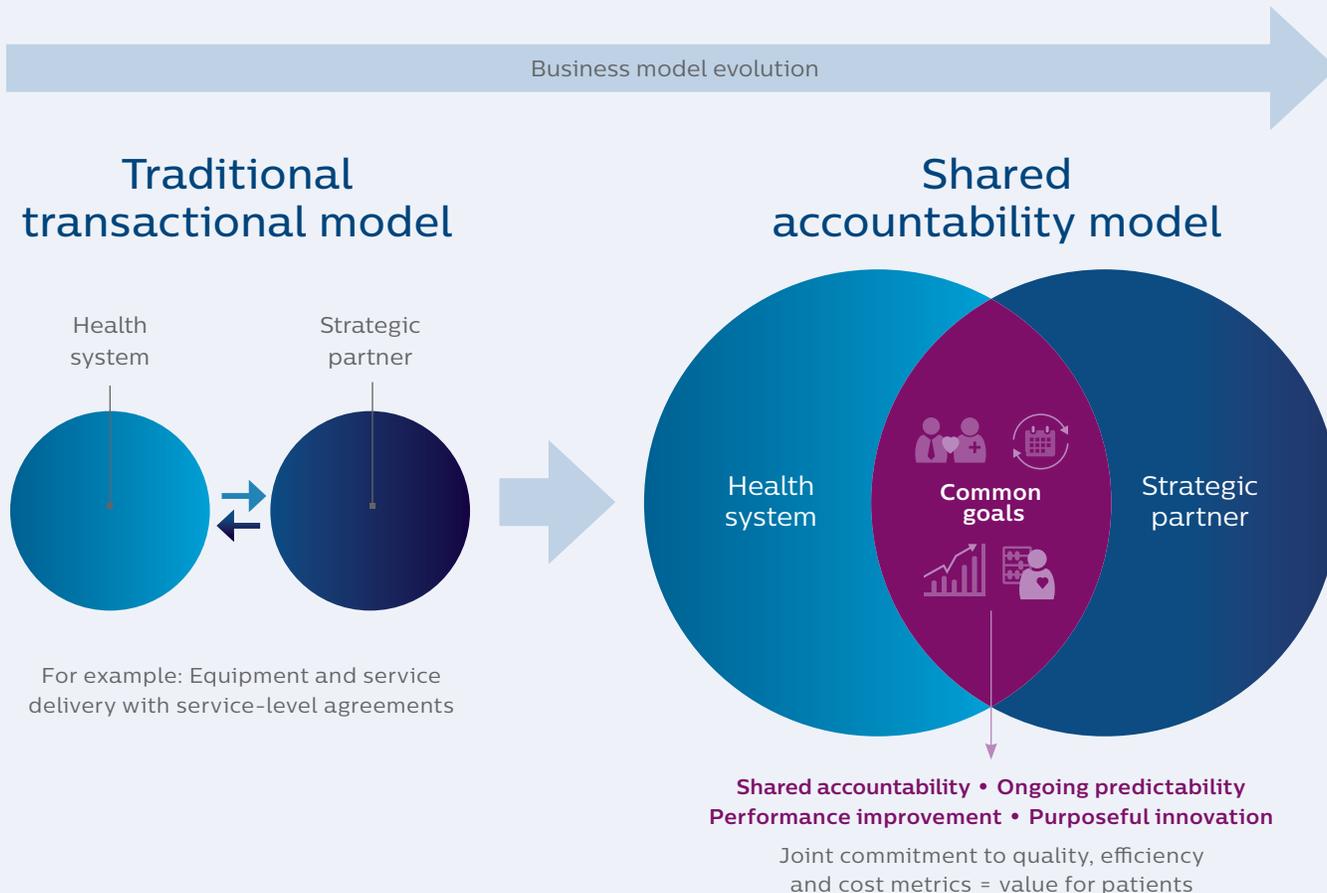
-  A comprehensive CV portfolio of products (disposables, devices and ‘big irons’)
-  A deeply experienced consultancy offering
-  A robust IT ecosystem

to demonstrate shared accountability and, sometimes, shared risk, where the success of the partnership is measured against mutually agreed-upon clinical and operational KPIs and guided by ongoing measurement that fosters data-driven improvements.

Without leveraging the breadth and depth a strategic partner can provide, health systems may limit their potential to realize efficiencies and cost savings that would otherwise be possible, all the while improving outcomes as well as patient and staff experiences.

New challenges require new ways of working

From a transactional to a shared accountability model that fosters continuous engagement and commitment to outcomes



Shared accountability

Partners create a trusting relationship based on shared accountability, shared reward and, often, shared risk, as well as on transparency. Where possible, the relationship is also enhanced by embedded Philips experts who work alongside teams within the healthcare organization.



Ongoing predictability

Partners enter into agreements and working relationships with clearly defined strategic goals, key performance indicators, ongoing assessment and predictable spend, providing greater clarity from the start and throughout the engagement.



Performance improvement

Partners collaborate by taking a stepwise approach to modernizing and standardizing technology to address current challenges and then optimizing and enhancing to continue improving clinical, operational and financial performance.



Purposeful innovation

Partners discover and co-create tailored and innovative solutions to help the organization solve complex challenges and be well positioned to deliver on the quadruple aim of healthcare, creating sustainable value for multiple stakeholders.



Azurion image-guided therapy platform allows customers to easily and confidently perform a wide range of routine and complex coronary procedures helping to optimize lab performance and provide superior care.

Leveraging a strategic partnership to expand potential in CV care

Philips Integrated Cardiovascular Solutions (ICS) is a dynamic, long-term strategic partnership in which health systems work collaboratively with dedicated and sometimes embedded teams of Philips solution architects to identify root causes of challenges and tailor a unique approach to address them. A long-term relationship comprised of building on common goals and earning each other's trust, a Philips ICS partnership combines an integrated ecosystem of proven CV products along with services and financial models to address these complex challenges and achieve operational excellence.

Relationships with health systems often start with Philips providing needed technologies but evolve to help health systems achieve the quadruple aim through three crucial specialties:

- **Clinical innovation:** Philips has a heritage of deep clinical expertise and of providing

leading-edge technology in CV care. Our CV solutions help drive outcomes both inside and outside the hospital, from pre-care, intra-care, and post-care while providing IT integration that brings the solutions together.

- **Workflow innovation:** Philips provides advanced services that include world-class facility planning and design, intelligent technology implementation, data analytics and IT integration and education management, as well as workflow and performance optimization.
- **Business model innovation:** Philips also offers innovative business models that are based upon shared accountability, shared rewards and, in some instances, shared risk. The partnership's performance is measured on an ongoing basis and is aligned to mutually agreed-upon KPIs to help health systems achieve operational excellence.

ICS objectives

When partnering together to achieve clinical, workflow and business model innovation, these core objectives help define our efforts.



Elevate clinical performance



Boost efficiency



Deliver data-driven change

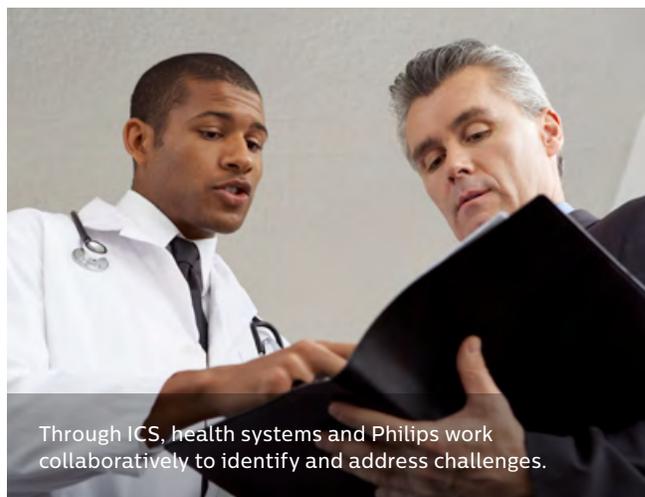


Strategize for the long term

ICS is a collaborative relationship that takes a bigger-picture view

This is achieved by not simply asking tactical questions, such as what equipment should be replaced, but instead addressing larger strategic concerns, such as how we might optimize services and workflows, including technology use, to mitigate the fixed and variable OpEx costs.

The goal is to develop a multi-year plan that addresses those operating expenses, where equipment purchases are a consequence of broader strategic decisions. The partnership evolves through the phases of explore, assess, define and drive outcomes, as depicted below.



Integrated Cardiovascular Solutions (ICS)

As we build our collaborative relationship, we uncover deep insights to define actionable, tailored and flexible solutions.



"If you have something truly at stake in a partnership and you are in it together, it's going to generate **real and meaningful results beyond simple contracts** and transactional elements. We're in a world that requires as many resources coming together as possible, all investing resources and sharing risk, in a shared mission and value system. It just feels like the right way to do it."

- Mark Chang, MD, MBA, President, CVA Heart Institute, Ballad Health, Tennessee



Through collaborative consulting, Philips Healthcare Transformation Services helps improve health system performance and patient outcomes.

Taking a closer look at what is possible with ICS

Through ICS partnerships, Philips provides strategic recommendations that go beyond technology to address clinical and workflow models. For example:

- An ICS team might work with a customer to determine whether they can replace two cath labs with a single, more extensible cath lab that uses updated technology, which would run more tests at a lower supply cost.
- A customer might work with Philips globally renowned design teams to implement new patient throughput and flow inside an updated facility, increasing testing speed and decreasing average patient wait times.

Operational improvements in the CV service line

Philips ICS helps health systems make operational improvements in their CV service lines, bringing clinical experts – RNs, former cardiology service line directors, cardiologists and more – who are deployed to help customers achieve both clinical excellence and operational efficiency while improving financial performance and delivering quality patient care. These clinical experts join their Philips consulting, education and design colleagues to address not only technology needs but also the clinical contexts in which that

technology operates. Together, they seek to help health system leaders understand the root causes of operational challenges and leverage strategic healthcare design thinking, as well as a robust data underpinning, to create innovative and efficient healthcare environments.

ICS engagements often begin with a dedicated co-create process to frame and ideate solutions aligned to customer needs and put to productive use customer data, on-the-ground interviews with frontline care workers and executives alike, direct observations of care settings and deep clinical expertise to develop strategies that improve efficiency. Beyond simply being a collaborative idea shop, ICS partnerships also provide change management in which Philips personnel serve as staff multipliers to assist or even guide the implementation of workflow solutions.

Innovative business model based on measurable and shared success

In each partnership, Philips believes the key is to create a trusting relationship based on shared, measurable goals as well as transparency into all facets of the relationship. To this end, Philips works with partners to implement joint governance and innovative business models, such as value-based risk sharing, where both parties are incentivized to develop measurable and clearly defined metrics, such as those listed below.

Operational KPIs, such as:

- Reduced room turnaround time
- Reduced intraprocedure time
- Reduced variable supply costs
- Reduced patient wait times
- Improved room utilization

Clinical operations KPIs, such as:

- Reduced procedural complication rate: CIN
- Reduced CABG graft failure rates at 30 days
- Reduced conscious sedation rate
- Reduced unscheduled PCI readmissions
- Reduced AKI rate

Three helpful criteria for creating successful metrics



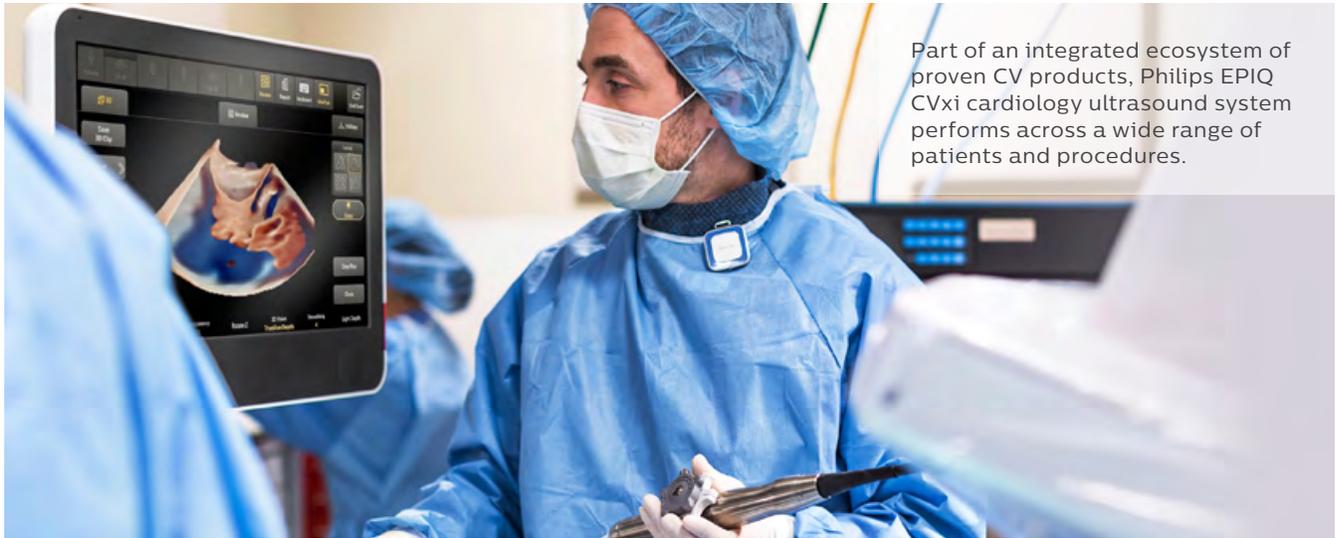
Agreeing to metrics that are definable, measurable and meaningful



Investing in data extraction and analysis



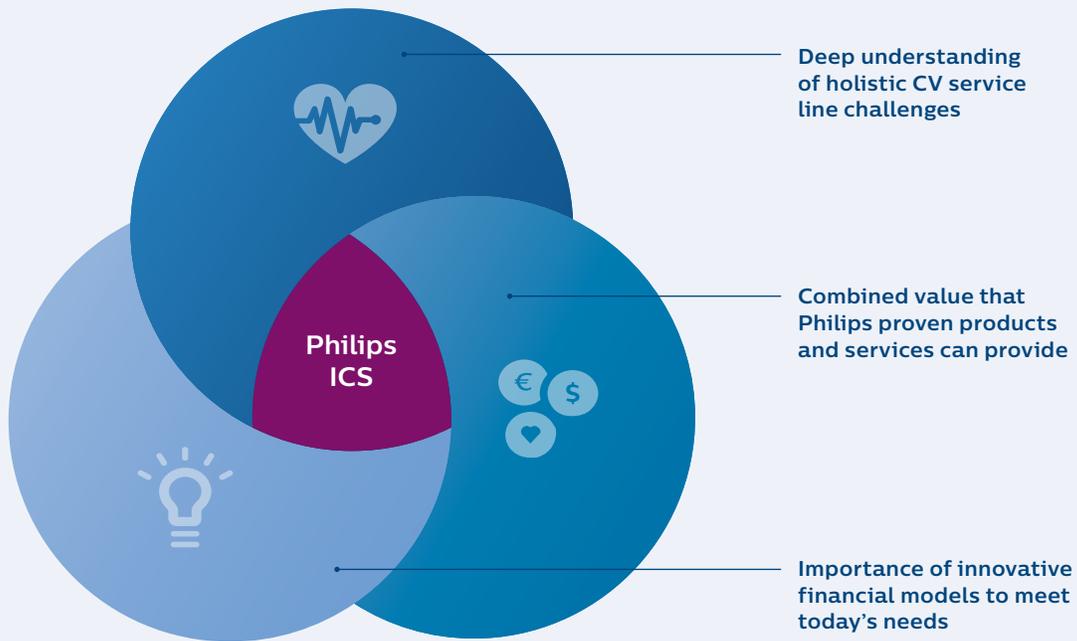
Making a long-term commitment to achieving success



Part of an integrated ecosystem of proven CV products, Philips EPIQ CVxi cardiology ultrasound system performs across a wide range of patients and procedures.

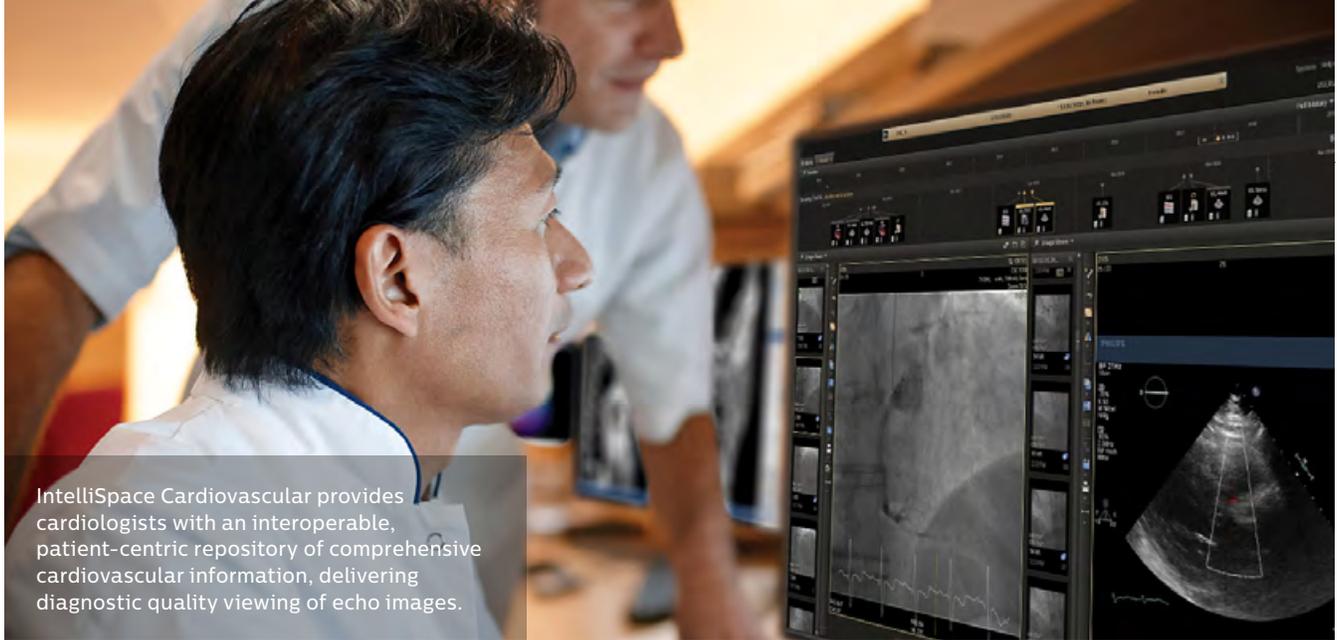
ICS brings together Philips proven CV product ecosystem and services – plus innovative financial models – to create value for CV service lines

To address the evolving clinical, operational and financial challenges CV service lines face, Philips ICS has emerged at the intersection of these compelling factors:



“Real-time assessment of our indicators for cross-platform comparisons is incredibly useful because it could be up to 100 systems all with similar KPIs. **This enables us to look across the systems at a macro level and identify who has the best practice and why.** That type of multiple sampling is where the power of Philips as a partner can be meaningful.”

- William A. Gray, MD System Chief, Division of Cardiovascular Disease, Main Line Health President, Lankenau Heart Institute, Pennsylvania



IntelliSpace Cardiovascular provides cardiologists with an interoperable, patient-centric repository of comprehensive cardiovascular information, delivering diagnostic quality viewing of echo images.

Delivering the combined value of Philips proven products, services and more

Transforming the catheterization suite



97%

overall patient satisfaction after a Philips and Chicago cardiac catheterization suite transformation⁶

Through a partnership with Philips, a Chicago cardiac catheterization suite was transformed into a more efficient, forward-thinking and customer-friendly environment. The suite is truly a lab built for tomorrow and a state-of-the-art referral center for the region, offering an exceptional patient and family experience. Compared to the previous suite, the new center resulted in^{6,*}:

- 97% overall patient satisfaction
- 7% increase in procedure volume
- 22% reduction in staff steps
- 75% facility satisfaction score

Providing a holistic view of cardiovascular data



Seamless access to EMR data with Philips IntelliSpace Cardiovascular

Taking advantage of Philips solutions like **IntelliSpace Cardiovascular** while providing a patient-centric repository of comprehensive cardiovascular information in a single point of access. IntelliSpace Cardiovascular delivers seamless access to EMR data, scheduling systems and any web-based application while providing customers with easier access to third-party applications. The care team benefits from a holistic view into a patient's history, which can improve patient care.

Reducing exam and procedure time for improved efficiency



82%

Philips EPIQ Heart Model^{A1} reduction in exam time⁷

Philips offers proven solutions for CV service lines. For example, the **EPIQ HeartModel^{A1}** is a 3D tool that provides robust, reproducible ejection fraction in seconds, with a range of benefits including:

- 82% reduction in exam time⁷
- Exam reproduction in seconds
- Efficient measurement of cardiac function

Another proven solution, Philips **Azurion**, is an innovative, image-guided therapy platform. Workflow study results in a leading interventional department in the Netherlands showed^{8,*}:

- 17% reduction in procedure time
- 29% reduction in staff movement
- 25% reduction in planned cases finished late

Optimizing cardiology services



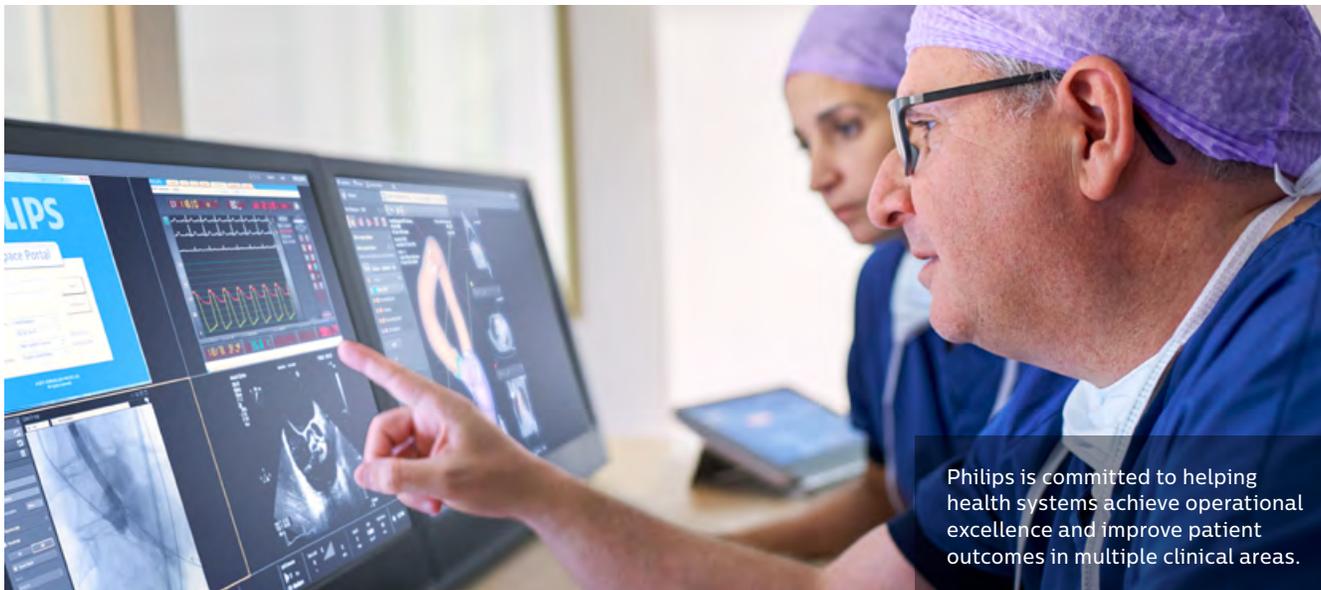
20%

reduction in patient wait time⁹

Working with Philips consultants, a prominent New York health network optimized their cardiology services, including strategic guidance and hands-on implementation support. This resulted in*:

- 20% reduction in patient wait times⁹
- Enhanced patient experience
- Earlier first-case starts
- Improved staff satisfaction

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



Philips is committed to helping health systems achieve operational excellence and improve patient outcomes in multiple clinical areas.

Summary

True progress happens when healthcare innovation organizations and health systems collaborate as partners and each have a clear understanding of what success means. As a global leader in CV care, Philips can help be a partner to health systems, helping them transform their CV service lines by providing clinical, operational and business innovation.

Integrated Cardiovascular Solutions (ICS), a dynamic, long-term strategic relationship, combines advanced products, services and financial model development in a customized offering to achieve operational excellence and improve patient outcomes. ICS does this work in a governance model of shared purpose and, sometimes, shared risk, with full transparency on costs as well as on measurable and mutually defined KPIs and milestones.

Ultimately, as the healthcare industry continues to transform, Philips ICS model is extensible to other service lines undergoing rapid change.

Because Philips understands the market forces surrounding health systems and the specific challenges service lines face, we can assist in the transformation of care in multiple clinical areas. Partnering together, we can build a stronger health system, ready to face the challenges of today - and tomorrow.

[Request a consultation](#)

Results from case studies mentioned in this paper are not predictive of results in other cases. Results in other cases may vary.

“To do better as a health system, we need knowledge and good, usable information to guide us. We also need new technology - meaning not just equipment and computer systems, but also new ways of doing things. When it comes to this kind of innovation, as well as capital purchases, large organizations are often reluctant to take risks without adequate knowledge to help guide them. Industry leaders like Philips have resources and leading-edge experience along these lines, and partnering can benefit us tremendously.”

- Mark Chang, MD, MBA, President, CVA Heart Institute, Ballad Health, Tennessee



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