PHILIPS

Interoperability Solutions

Seamless data exchange.
Better patient care.

Enabling care collaboration across multiple care settings

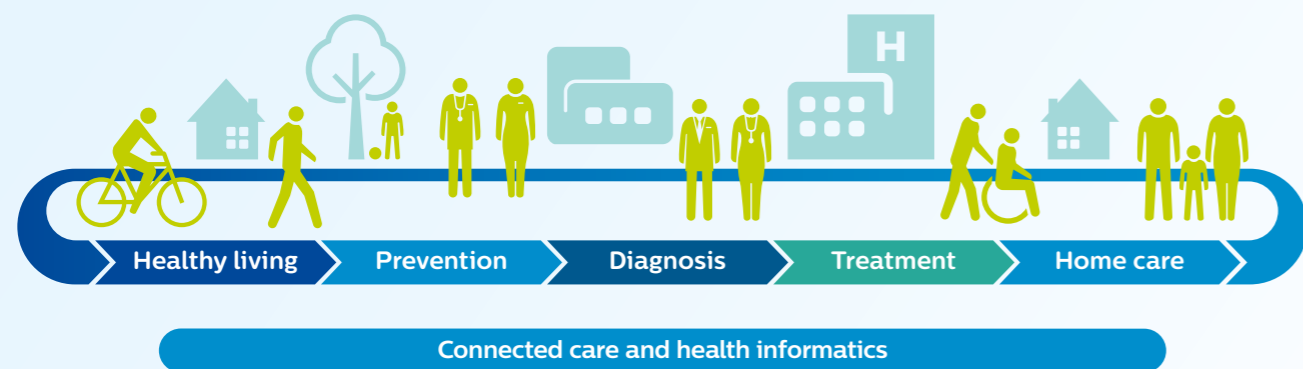# Better patient care and collaboration start with end-to-end interoperability

During their life, people experience a variety of care moments that happen across different hospital settings. While it seems only natural that patient data should flow seamlessly across these care settings, many factors, like the sheer volume and diversity of data in multi-vendor environments, have kept this from happening in healthcare. At Philips, we believe the future of care will be about connecting the dots and fixing broken workflows so care givers can freely share images, results, reports and notes with each other along the clinical pathway.

We made a conscious decision to overcome these barriers by adopting a strategy that is built on using standards-based interoperability to enable clinical information exchange and improve care collaboration for our customers. Together with our customers and their technology partners, we develop tailored, multi-vendor interoperability solutions based on open standards[1] that enable seamless data exchange within and across enterprises, enabling the right clinical information to get to the right people at the right time.

"As an industry leader in healthcare IT and interoperability, we believe the future will be formed by multiple parties sharing data across programs, practitioners and patients."

Andries Hamster, Senior Product Manager, Interoperability Solutions

Promoting care collaboration across the health continuum

Healthy living → Prevention → Diagnosis → Treatment → Home care

Connected care and health informatics

Interoperability is the foundation of the Philips health continuum vision. At Philips Interoperability Solutions, we bring together patient clinical information as people travel through the stages of the health continuum to improve care.

The hidden costs of poor interoperability

· Three out of every ten tests are reordered because results can't be found[1]

· About 80% of all serious medical errors involve miscommunication during care transitions (to different departments/hospitals)[2]

· The average ratio of staff handling paperwork to doctors handling paperwork (FAX/CD/DVD) can be as high as 4.23 FTE[3]

· Over half of enterprise-wide IT projects for hospital systems come in late and over budget [ref TBD][4]

· 56% of family physicians surveyed say that too many bureaucratic tasks contribute to their job stress[5]

Interoperability in healthcare is the ability for two or more healthcare providers to share and exchange clinical information to support shared patient care.

1. A healthy system. How improved information management can transform the quality, efficiency and value of Americans' health care. Report published by The Technology CEO Council. 2006.
2. Joint Commission Perspectives®, August 2012, Volume 32, Issue 8 Copyright 2012. Joint Commission on Accreditation of Healthcare Organizations.
3. Voltz D. (January 6, 2017). The cost of interoperability. healthcare innovation Retrieved from https://www.hcinnovationgroup.com/interoperability-hie/article/13008122/the-cost-of-interoperability
4. Medscape National Physician Burnout, Depression and Suicide Report 2018
5. Refers to IHE (Integrating the Healthcare Enterprise) standards, such as XDS, XDW, HL7, FHIR and DICOM.
6. Medscape National Physician Burnout, Depression and Suicide Report 2018

1. Refers to IHE (Integrating the Healthcare Enterprise) standards, such as XDS, XDW, HL7, FHIR and DICOM.

"I think we have all had the experience of sitting across from a doctor who literally knew nothing about you, not even your blood group.
How can he do his job if he continually has to start over from scratch?

That is the problem we are fixing. We are trying to make sure that all the relevant healthcare data about you that is there, is actually safely and securely available to all healthcare professionals."

Harm-Jan Wessels
Business Leader, Interoperability Solutions

Seeing the bigger picture

By making clinical information available everywhere, we reduce the time physicians spend searching for information, fix broken clinical workflows and ultimately to alleviate clinician burnout and improve clinical decisions.
Philips Interoperability Solutions offers a complete suite of scalable software modules and project support services to help healthcare networks and professionals improve patient care and the staff experience, while decreasing costs.
We work closely with customers and their technology partners across the healthcare ecosystem to provide interoperability solutions that empower your flow of clinical information and care processes. Our solutions are based on relevant IHE (Integrating the Healthcare Enterprise) profiles that allow healthcare professionals to access a comprehensive view of patients' medical records, share clinical information, enjoy collaborative care and connect healthcare networks.

To find out more about our vision towards care collaboration, download our White Paper "Care that connects. Interoperability and collaboration are essential to today's healthcare IT ecosystems".

Better outcomes
Care givers can see relevant patient information across institutions, increasing confidence in clinical decision making and and improve patient care

Improved patient experience
An effective interoperability solution can help avoid unnecessary rescans, safeguards patient privacy and forms a basis for patient participation

Improved clinician experience
Care givers can access a comprehensive view of the patient's virtual medical record across care settings from a single location to reduce their administrative burden and thereby improve their decision making

Lower costs
Overall project costs are reduced by enabling that the proposed interoperability solution is delivered on time, while allowing the existing IT architecture to smoothly continue operating

Build the foundation for care collaboration and growth

Philips Interoperability Platform provides the foundation for patient-empowered care collaboration and growth, seamlessly exchanging patient data across multiple care settings.

Our sophisticated healthcare sharing platform lets you bring data from multiple sources and multiple vendors together, simplifying exchange and communication between different systems.

What makes our solutions unique?

Our approach to interoperability allows systems, departments and stakeholders to communicate with each other and exchange clinical information. Based on IHE (Integrating the Healthcare Enterprise) global standards, it offers a future-focused and positive answer to today's interoperability challenges.
Open, established standards, such as XDS, XDW, HL7, FHIR and DICOM, make our solution multi-vendor positive. We welcome and support vendors at every level, giving you more freedom and choice to empower the flow of information inside and outside your enterprise. Moreover, high-level security protects your sensitive data and provides peace of mind.

• **Based on IHE global standards**
• **Multi-vendor positive**
• **Scalable**
• **Reliable**
• **Secure**
• **Future-proof platform**

Customizable by design
· Access a wide range of workflow support solutions to meet your specific workflow needs and domain challenges
· Choose on-premise or SaaS (software as a service) models to suit your requirements*

Scalable by design
· Build a foundation that's future-ready to evolve with your organization
· Share information within and beyond your organization and adapt to changing needs
· Integrate systems and support your network as it develops

Secure by design
· Improve data security with configurable role- based access control
· Consider and document patient consent when deciding who can access medical records
· Allow secure access to clinical documents
· Support secure processes with a separate audit log for transactions involving medical data

· Ask your Philips representative for market availability

IHE Interoperability Platform **FHIR**

| HL7 | DICOM | FHIR |

Based on open standards and the latest security mechanisms, Philips Interoperability Solutions helps you make the right connections in healthcare. IHE is a globally recognized approach that is designed to improve the way IT systems in healthcare share information. By refining existing standards and developing dedicated profiles, IHE is driving faster, smoother and secure exchange of information.

Interoperability as a service?

Bring information and people together with interoperability as a service
As your enterprise shifts to value-based care, how can you ensure that care providers have the information when and where they need it – without exposing your enterprise to financial risk? Instead of wondering how your hardware will manage data in multiple formats from multiple sources, create an environment of data exchange that's always on, always working. Since these services are hosted, you get all the benefits of an open-standards based information model – without the burden of investing in and maintaining your own hardware. There's no vendor lock-in, so you're always free to decide whom to partner with as your enterprise evolves. Our solution allows collaborating care providers to exchange all kinds of healthcare information seamlessly and with all the security that sensitive patient data demands.

Multi-vendor positive?

**We're not just vendor neutral.
We're multi-vendor positive.**
You've invested time and money in your infrastructure – and for good reason. We welcome and support vendors of every variety, including our competition, to empower the flow of information across care settings. We do this by implementing open standards in every aspect of our platform.
This has enabled us to build strong relationships with major healthcare IT and clinical players, based on mutual trust and goals. Our knowledge of the applications and technologies used by major vendors helps us in turn build efficiencies of scale to benefit customers. That means you're always free to continue to work with your current technology partners and add new partners as your enterprise evolves. By embracing all vendors, we help you do more with what you have, working collaboratively to achieve what matters to you.

Discover & Frame
Understanding the entire experience. Unlock insight from all perspectives.

Ideate
Co-create solutions using existing infrastructure to reduce cost and unknowns

Plan & Prepare
Plan installation phases and prepare test environment to identify bottlenecks and critical issues

Test
Transfer data to test environment to resolve issues before going operational.

Train
Train all users to accelerate learning curve and adoption of new way of working.

Go live
Transfer solution to production environment. Run old and new system in parallel to minimize delays and avoid downtime.

Our way of working
Our project team takes a systematic co-creation approach to each interoperability solution to ensure your success.

Feedback - Evaluate successes and identify areas for improvement

Closure and lessons learned

Helping you achieve a successful enterprise-wide IT solution
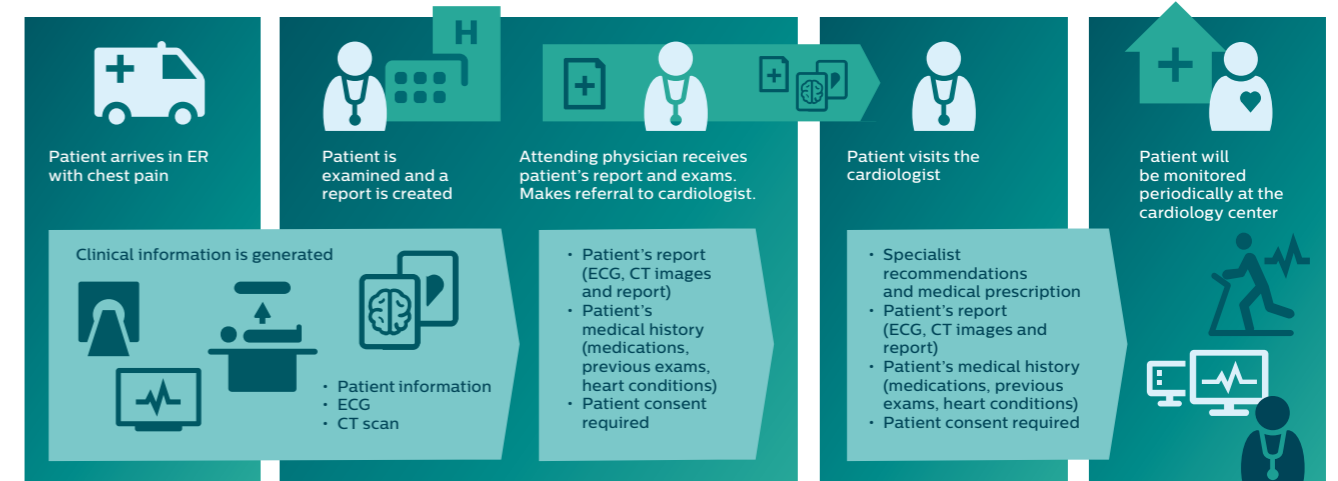
Philips Interoperability Solutions enables a new level of connectivity and information availability by supporting processes that enhance healthy living, promote prevention and better support population health management and accountable care. As we walk the path of healthcare transformation with our clients, we experience the challenges of interoperability firsthand. Multiple stakeholders with different interests, changing clinical pathways, shifting payment and governance structures, and unprecedented levels of patient self-management require a different approach. To help you minimize the risk involved with such a project, Philips provides support from defining the project scope and designing efficient care and IT processes to implementing the solution in phases and training your staff to easily adapt it in clinical practice.

Our services are based on:
- Over two decades of experience in the domain of digital and integrated healthcare
- Deep insights into user experiences of consumers and clinicians over Philips 100 year history
- A world class innovation center with 30 years of experience in custom healthcare application development
- Proven tools and processes to design, develop, implement and maintain modern healthcare platforms and ecosystems

A holistic, longitudinal view of your patient's medical record presented in a meaningful way

Patient arrives in ER with chest pain

Patient is examined and a report is created

Attending physician receives patient's report and exams. Makes referral to cardiologist.

Patient visits the cardiologist

Patient will be monitored periodically at the cardiology center

Clinical information is generated
- Patient information
- ECG
- CT scan

- Patient's report (ECG, CT images and report)
- Patient's medical history (medications, previous exams, heart conditions)
- Patient consent required

- Specialist recommendations and medical prescription
- Patient's report (ECG, CT images and report)
- Patient's medical history (medications, previous exams, heart conditions)
- Patient consent required

Bringing it all together

At the end of the day, it's our customers who determine the impact of our approach. We've carried out a range of large and small projects for health systems over the years. Here are three examples of the successes our customers have achieved working with Philips Interoperability Solutions.

Improving efficiency of referral flows for Radiation Therapy[1]
Effective management of radiation therapy (RT) involves a complex interplay between people, processes and resources across the care pathway. For one customer, Philips Interoperability Solutions implemented a sharing platform that facilitates a regional multi-disciplinary oncology meeting in which 3 hospitals participate. It provides a structured way to collect data for the consultation and facilitates the RT referral process. As a result of this new way of working, the multi-disciplinary team has shortened its process by one week.

Saving critical time for stroke patients[1]
Neurologists in a regional group of hospitals have experienced the advantages of using a multi-site XDS image sharing network from Philips Interoperability Solutions for their stroke patients. The system is used by 12 hospitals spread over 3 provinces to transfer 160,000 studies per year between each other. One neurologist said that, thanks to the digital imaging exchange, they can now review the patient's images and plan the treatment before the patient arrives. This saves up to 30 minutes for stroke cases compared to the old process.

Seamless exchange of billions of records across a regional health system[1]
For a large regional health system, Philips Interoperability Solutions facilitated the development of a public digital health record system. It uses 14 local health integration networks to connect 145 hospitals at 232 locations with each other. About 40 million reports and studies per year are shared. In partnership with the region, Philips provides multiple components to support patients in the region to view their medical records, diagnostic imaging common services as well as sharing of primary care data. This solution has empowered healthcare practitioners across a region with 14 million patients to view and share all kinds of clinical documents quickly and easily.

As we move from transactional care to value-based care, patient outcomes, interoperability, and usability will continue to push the industry forward. It is exciting to think of what is possible when care providers have the right tools and technologies to lead the way to a fully integrated and transformed healthcare system. Philips has both the technology and the expertise to help and would welcome the opportunity to be your partner on your journey to interoperability.

There's always a way to make life better

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Please contact your local Philips representative or visit our website to find out how your facility can benefit from our interoperability solutions.