PHILIPS

Position paper

Value-based care

Turning healthcare theory into a dynamic and patient-focused reality

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Quality over quantity, at lower cost

Faced with an aging population, increasing incidence of multiple chronic diseases, innovative technologies and new powerful drugs, alarming rates of physician dissatisfaction, and an unsustainable cost explosion, healthcare stakeholders agree that our global health systems are under extreme pressure.

Today's healthcare delivery is fragmented, with high levels of clinical waste and unexplained variance in treatment and outcomes – repeat procedures, gaps in information and long waiting times tell the story of overburdened and under-resourced hospitals. Adding to the challenge are worryingly high staff burnout rates, administrative complexity and excessive and widely varying prices.

Another complicating factor: our healthcare systems tend to place their focus on acute and emergency episodes – there are limited existing financial incentives for prevention, longitudinal chronic disease management, and population health. Add access constraints and increasingly unhealthy lifestyles in developing and industrialized countries to this mix, and it is clear that healthcare delivery and financing need to change.

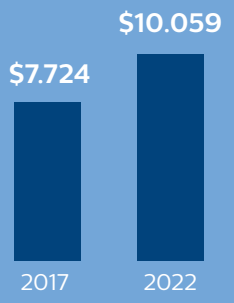
As a priority, the global healthcare community is urgently seeking strategies and solutions to challenge the status quo – transforming from healthcare systems that are characterized by silos and waste towards integrated, patient-centric and efficient care delivery models.

Global healthcare spending is projected to increase at an

annual rate of 5.4%

in 2017–2022, from USD $7.724 trillion to

USD $10.059 trillion[1]



Transforming healthcare delivery and financing has gone

from important to essential

It is estimated that

$3 trillion

goes to waste every year in healthcare with the USA alone accounting for

$1 trillion[2]

Value-based care – paying for value rather than volume

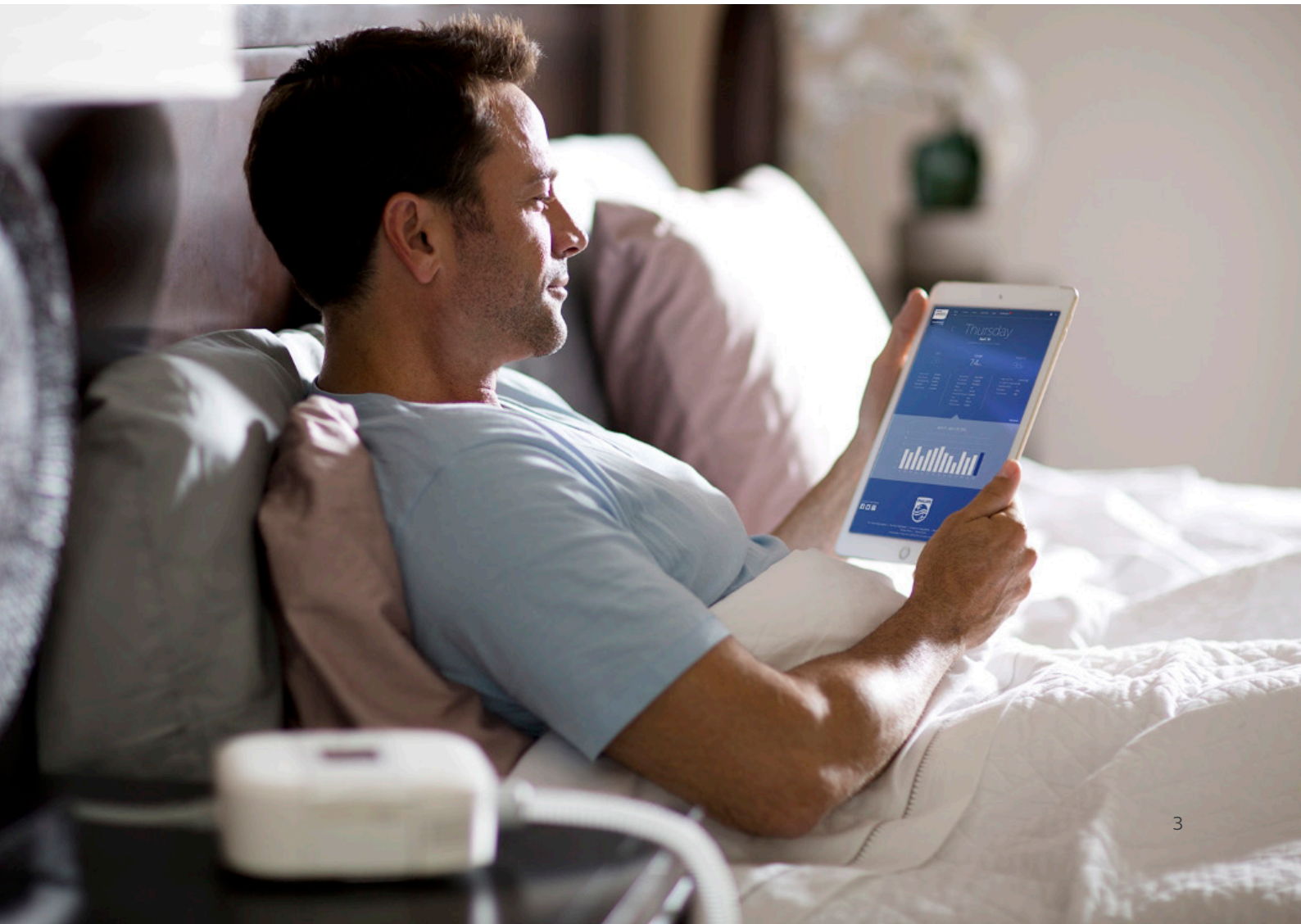
At Philips, we believe that value-based care models are the answer. In contrast to traditional fee-for-service (FFS) systems, value-based care aims to pay for value rather than volume, by incentivizing providers and other stakeholders to improve access to care and health outcomes, while reducing the cost of care.

We see value-based care as a delivery framework to improve health outcomes at lower cost. It focuses on what patients value, and allocates resources according to the health outcomes delivered by the system. Therefore, when put into practice to drive efficiency and raise quality standards, value-based care attaches incentives and payments to outcomes for patients and the population, not system workload.

As a result, it encourages elements like quality, safety, the patient experience and patient empowerment. Most importantly, value-based care seeks to avoid unnecessary diagnostic and therapeutic interventions.

With the right execution, it supports cost-effective care delivery in a standardized way, compliant with evidence-based guidelines.

Compare this with the traditional fee-for-service model where every time you see a doctor or undergo a medical test or procedure, you (or your insurance provider) pay for every step in the process. This payment (or reward) happens regardless of whether a diagnosis or procedure is successful or not, and whether or not the steps taken are high-quality or even considered as best practice. In other words, traditional healthcare is not necessarily working in the best interests of the patient.



Our approach to value-based care

While some may view the value-based model as enabling individual healthcare institutions to become more competitive and generate more revenue, based on value, we believe that all stakeholders – including industry and policy makers – will need to work together and share risk in order to build a successful and sustainable future for healthcare.

At Philips, we make value-based care principles actionable by addressing the *Quadruple Aim* – better health outcomes, improved patient experience, improved staff experience, and lower cost of care.

In our view, people's health journey should be a seamless, integrated and highly personalized experience. A journey where every single bit of information adds to a greater body of knowledge which patients, their care professionals, and science and society can benefit from. Our strategy revolves around the health continuum: helping consumers to live a healthy life and take necessary preventive measures when at risk for disease; enabling doctors and providers to make a precise diagnosis and to provide minimally invasive personalized therapy whenever possible; and finally driving monitoring and chronic care in low-cost settings and the home of our patients.

We believe that strong informatics and population health platforms, integrated data management and adaptive intelligence enable breaking the silos between the different parts of the system, empower patients to take ownership for their own health, and offer new business models to payers.

To create the right support system for value-based care models, we need to open up and collaborate with each other to create just the right ecosystem that can thrive and grow in a flexible way, to adjust to the ever-changing healthcare landscape. That takes courage and a focus on partnerships, collaboration and co-creation. In the domain of information technology, it means interoperability, standardization, open platforms, safety and security of sensitive data, and privacy.

Through careful investments in continuous learning, innovation and collaboration, we can help build a healthier and more sustainable future for care across the globe.

Quadruple Aim

Improved patient experience

Improving the patient experience of care (including quality and satisfaction)

Better health outcomes

Improving the health of individuals and populations

Improved staff experience

Improving the work life of health professionals

Lower cost of care

Reducing the per capita cost of healthcare

What are the essential building blocks of value-based care?

Clearly defined outcomes and measurement standards

To align processes and incentives, one of the initial steps towards value-based care is the standardized measurement of (patient-reported) outcomes related to costs per capita.

Care providers and stakeholders need to start by measuring outcomes that matter to a particular population segment, and then apply those insights to tailor and improve interventions across the care pathway for many similar patients. This forms the basis for promising care pathway innovation and lean process optimization that is really gaining momentum in healthcare.

However, the all-important final piece of the puzzle comes in allocating an objective payment that is weighted according to how well the system performed for the patient. Historically, in health systems defined by silos, fragmented ways of working, and legacy IT systems, this approach has been difficult to implement.

Health informatics and digital innovation – connecting clinical processes and workflows end-to-end

As health systems and medical processes first went digital with electronic health records, clinicians soon found themselves overwhelmed by data that was difficult to understand and interpret. With the steady integration of sophisticated health informatics however, a golden opportunity arises to standardize and bring meaningful scale to value-based care.

Best characterized as powerful data analytics networks, health informatics connects clinical processes and workflows *end-to-end*. With the right configuration and data visualization capabilities, informatics can enable clinicians to interpret information from *multiple* sources and inform decision-making in real time.

At Philips, we believe that the positive impact of health informatics for a value-based approach is three-fold:

Firstly, integrated health informatics can support medical staff in their decision-making, teamwork and communication – driving clinical excellence to new heights.

Secondly, health informatics helps connect operational processes – system administrators can analyze and optimize almost every operational aspect of the health system.

Finally, and significantly for value-based payments, health informatics can support the systematic measurement of patient-reported outcomes. This is critical to drive the performance-based payments and to incentivize much needed gains in quality, safety, and patient-centricity.

It is complex work that requires *all stakeholders* in the system (clinicians, administrators, technicians, technology partners and supply-chain partners, as well as policy makers and governments) to commit to the *"measure, optimize, repeat"* lean methodology. Only together we can overcome the many and difficult platform and systems integration challenges.

By connecting people, data and systems through health informatics, we can create a network that allows information to flow seamlessly across care providers, locations and systems. Eventually, it is through data that the outcomes that define value are tracked, measured and improved.

Artificial intelligence – making sense of overwhelming data in healthcare

Aside from accelerating value-based care, health informatics and digital innovation are enabling vital data aggregation and analytics that are changing the ways in which healthcare is accessed and experienced by patient and staff.

In this context, artificial intelligence (AI) is an undeniably exciting trend. AI applications are already helping clinicians and health systems to quantify and make sense of more data than ever before, making healthcare more personal, preventive, predictive, precise, and productive.

At the same time, we need to be sensitive to the fact that there is a relentless demand on people – professionals, patients, and consumers alike – to keep adapting to new technology. AI-enabled solutions should make things easier for them, not more complicated.

It is time for technology to adapt to people, instead of the other way around. At Philips, we call this adaptive intelligence.

Adaptive intelligence combines the power of AI with human domain knowledge to create solutions that adapt to people's needs and environments – helping consumers to live healthy lifestyles and helping healthcare providers to achieve the Quadruple Aim of improving patient experiences and the work life of care providers, alongside improved health outcomes for a lower cost of care.

Adaptive intelligence augments people, rather than replacing them. It acts like a personal assistant that can learn and adapt to the skills and preferences of the person that uses it, and to the situation he or she is in. The technology doesn't call attention to itself, but runs in the background – deeply integrated into the interfaces and workflows of hospitals, and almost invisibly embedded into solutions for the consumer environment.

Some examples of our informatics- and AI-enabled health technology solutions:

- **Personal health coaching** – thanks to increasingly sophisticated medical devices and sensors linked to health apps, patients can better understand and proactively manage their own health and wellness. There have been impressive advances since the first generation of pedometers and heart-rate monitors that generated so much buzz when they first came to market. Providers can now utilize behavioral and clinical-grade insights across a number of challenging health spaces, including diabetes, heart health and elderly care. For example, connected personal health solutions can help providers to manage patient compliance and therapy, spot usage patterns, and take action if and when needed.

  Across its global user base, Philips has collected over 2.7 billion nights of sleep data for analysis in the cloud[3]. As valuable population health data, this helps stratify and continuously improve Philips innovation in sleep and respiratory care.

- **Precision diagnosis and treatments** – access to affordable genome profiling is another trend bringing positive disruption as health systems challenge themselves to deliver first-time right precision diagnosis and treatments. Take cancer diagnosis as an example: clinicians can build a 'complete view' of the patient by integrating a patient's genetic information alongside the patient's history and data from multiple modalities and specialisms like image acquisition, digital pathology and immunology. Whilst supporting more accurate diagnosis and increased collaboration between clinical departments and care teams, this kind of oncology informatics also aids research in personalized treatment selection by honing algorithms on specific disease states. It is a promising field, but to help make this kind of healthcare more inclusive, we must ensure that research teams have access to large volumes of high-quality and secure patient data.

- **Predictive monitoring** – data aggregation and analytics is another key innovation theme in high-acuity patient monitoring. For example, in high-dependency wards, nursing staff can find themselves as overburdened as they track patient progress against a number of vital metrics – blood pressure, heart rate, temperature and so on. With algorithmic analysis, solutions like our Philips IntelliVue Guardian early warning software can help to combine, identify and predict deviations in a patient's vital signs. Verifying the accuracy of the trend, the solution then translates this information to an early warning score that notifies caregivers in the event of concerning deterioration.

- **Telehealth** – as the underlying technology supporting 'hospital to home' and care delivery in lower-cost settings, telehealth is a fast-growing field helping to expand access to high-quality and specialized healthcare. Relying on powerful digital communications networks and remote monitoring capabilities, telehealth is also transforming care inside the hospital. Take the eICU where centralized patient monitoring and care coordination can raise quality and efficiency for the most vulnerable patients. A 5-year study that examined the impact of an eICU program on 118,990 critical care patients across 56 ICUs, 32 hospitals and 19 health systems, found that response times to alarms, length of stay, and mortality were reduced[4].

  Meantime, in ambulatory settings, secondary prevention is another promising telehealth innovation area. For example, monitoring and treating at-risk patients at home – like those living with multiple morbidities. Typically, this patient subset accounts for disproportionate costs and drain system resources, but remote monitoring and telehealth consultations can help patients better manage their condition. This can help reduce emergency episodes and limit hospitalizations in a more proactive and sustainable approach.

Next steps – bringing scale to value-based care

Value-based programs are being introduced incrementally, but the overall pace of adoption is slower than previously expected. In a recent survey, held with 364 hospital executives in the US[5] – representing hospitals in every region of the country and a wide range of sizes – only a third of respondents said they were currently participating in some form of value-based payment model. This demonstrates that hospital executives are proceeding with caution.

Although there are a number of exciting projects and visible pockets of excellence, the urgent need for large-scale and accelerated healthcare transformation only increases by the day. Yet, given the highly complex, fragmented and personal nature of healthcare, the risk is real that we spend too much time talking about the need for change, rather than taking action to develop and scale a future-fit approach.

The main obstacles in the transformation towards value-based care: how traditional health systems are organized, financed and regulated today, and how financial and non-financial incentives are structured.

To address these challenges, we need a more concrete discussion that

focuses on the 'how' rather than the 'why'

– how will we move towards value-based healthcare in our day-to-day systems, what are the key blockers, and how can we overcome them?

If we are to really accelerate and bring scale to value-based care, there are clear priorities to tackle:

Clearly defined outcomes and measurement standards – the industry needs to settle on clear definitions for patient-reported outcomes, and agree on common protocols for measuring performance to then identify and eliminate variance. This is a baseline requirement. Pre-competitive agreements between all healthcare stakeholders will help to enable the automatic capture of outcome data from multiple sources, whilst also boosting the sharing of data among systems. This will allow differentiated reimbursement according to quality to be administered with consistency and transparency.

Open data standards – interoperable and secure data platforms are the basis for high-impact and scalable health informatics, also fueling further innovation and research. The transparent capture and reporting of data between systems, processes and stakeholders is vital for value-based care. Moreover, the challenge and stakes are so significant that it requires a full-ecosystem approach. To accelerate adoption, open and vendor-neutral digital networks must become the rule, not the exception.

Reimbursements reform – one of the most significant barriers to value-based care is that an incremental move away from the fee-for-service model that providers, clinicians and system payers have come to rely on is required. Given the unmet potential and pressing need to make healthcare more sustainable, we must seek out and experiment with innovative payments that share the risk and align incentives across care pathways and providers. Health insurance providers and government payers have a major role to play in expanding value-based care from pilot projects into an operational model that can scale.

Turning healthcare theory into a dynamic, patient-focused reality

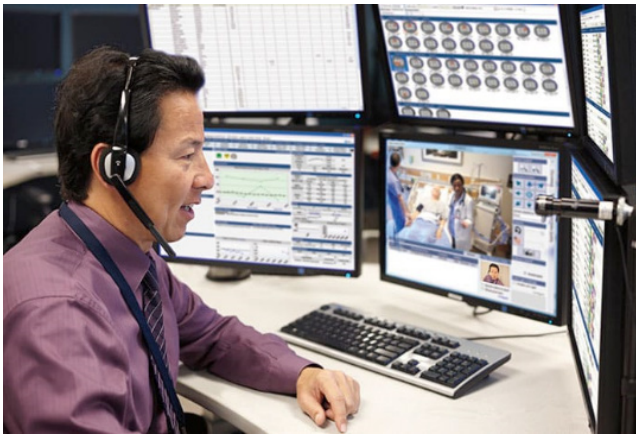
Ultimately, the widespread adoption of value-based care requires openness, trust and strong collaboration and partnerships between all healthcare stakeholder groups.

Technology and IT deployments, legal and regulatory frameworks, clinical skills, training and payment reform must each be managed in a comprehensive and progressive approach. This will be the only way to turn what was once just healthcare theory into a dynamic, patient-focused reality.

It is a demanding and long road ahead, but it is vital that we seize the opportunity before us, together – we have what it takes!

Value-based care – case studies

These examples demonstrate how we are already enabling our customers to implement value-based care strategies.

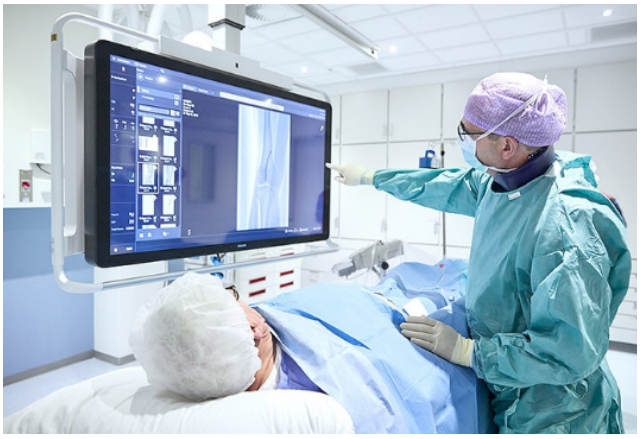


Cost savings and improved patient outcomes in rural areas with Philips eICU program

Avera Health, a South-Dakota-based integrated health system in the US, recently achieved significant cost savings of $62 million and improved patient outcomes in rural areas with the Philips eICU program – it reduced nearly 11,000 bed days in the ICU, with more than 260 lives saved in one year, and saved $62 million in healthcare costs by reducing ICU and hospital length of stay[6].

Clinical workflow and staff experience benefits of Philips Azurion

The St. Antonius Hospital in Nieuwegein, the Netherlands, was one of the first hospitals worldwide to install Philips Azurion when replacing one of their catheterization and intervention laboratories. Using this next-generation image-guided therapy platform, the average interventional procedure time was reduced by 17%, which made it possible to treat one extra patient per day in the same intervention room. In addition, a 12% reduction of in-lab patient preparation time, and a 28% reduction of post-procedure lab time was achieved[7].



Translating patient information into actionable data

Eastside Health Network (EHN) is working with Philips to build a comprehensive view of their patients and translate that into actionable data. A clinically integrated network, with 10 payer feeds, more than 40 practice billing systems and around 20 EHR feeds across two large health systems, has aggregated data from 1,380 physicians across 185 practice locations – helping EHN reduce their employee medical plan costs[8].

Expanding access to critical care services

Emory Healthcare (Georgia, US), a comprehensive, academic health system, enhanced its critical care to improve outcomes while saving money with the Philips eICU program. Emory saved $4.6 million over 15 months – or $1,486 in Medicare spending per patient; discharged more patients to home healthcare (+4.9%) rather than nursing homes or long-term care hospitals (-6.9%); and realized a 2.1% decrease in 60-day inpatient readmission[9].

Helping radiologists to diagnose and follow-up on treatment of diseases

Augusta University Health (AU Health) in the US designed a new radiology workflow with Philips IntelliSpace Portal at its core. Radiologists can sit down at virtually any machine in the hospital at multiple clinical sites across Georgia, or even at home, to access current and prior studies of their patients, perform advanced visualization tasks, and view relevant clinical information. Turnaround times have decreased by 22%, and the procedural volumes for CR, MR, and AMI studies have increased by 17%[10].

Delivering predictive care for at-risk patients in their homes

Philips CareSage is a predictive analytics technology that identifies patients at risk for transport in the upcoming 30-day period, thereby helping to prevent avoidable hospital admissions and emergency room visits among the frail and elderly. A recent study by Partners Connected Health, a division of non-profit US healthcare group Partners Healthcare of Boston, MA, projected potential for savings in a retrospective evaluation of the Philips CareSage predictive analytics engine. In an analysis of five years of data from their population of 2,318 Philips Lifeline subscribers, Partners projected that 224 hospital admissions could potentially be avoided each year, equal to a 40% reduction or $2.2 million in potential net savings[11].

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

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