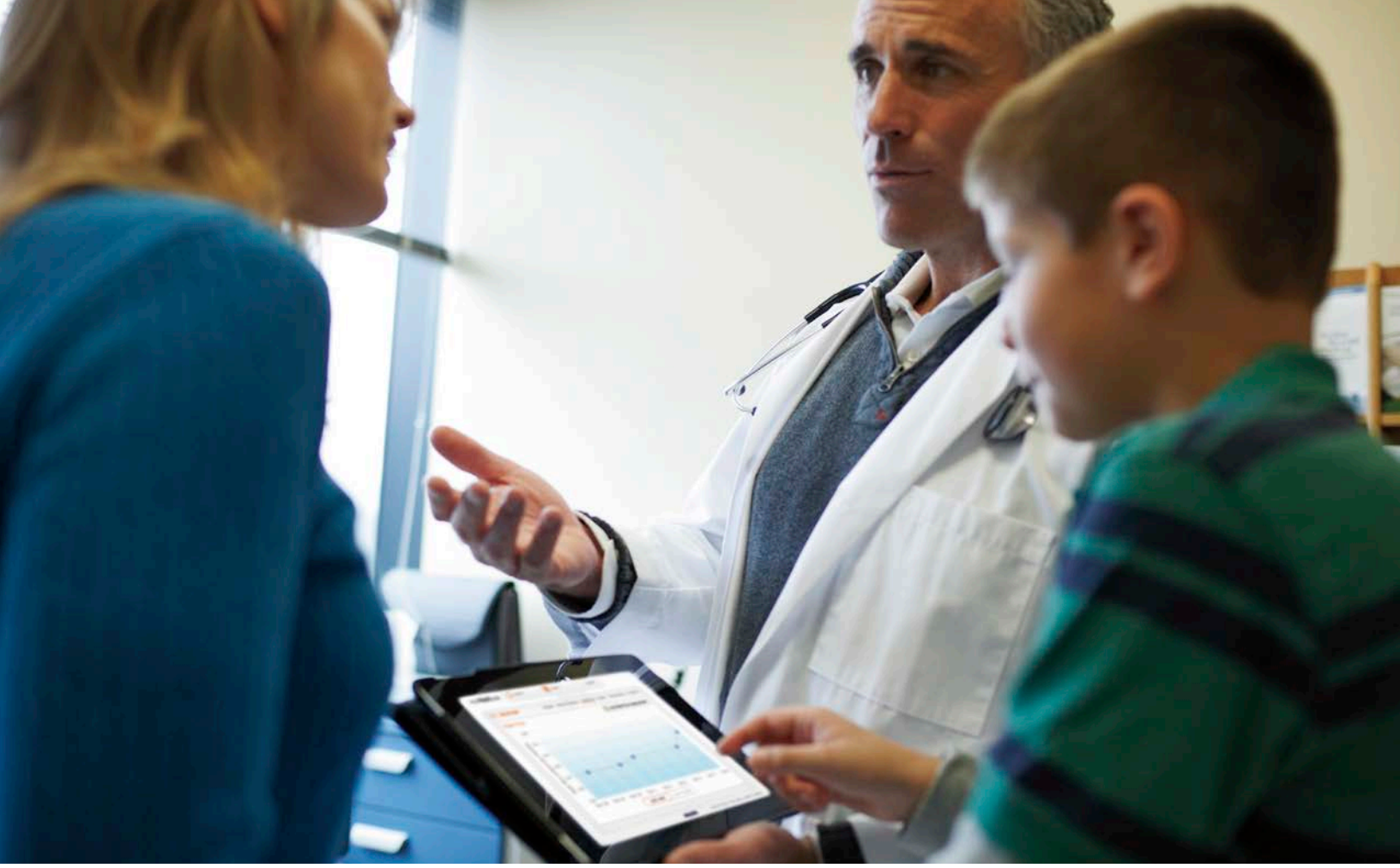
PHILIPS

Healthcare

Transformation Services

Toward patient-centered population health: **The Philips approach**

October 2014



Population health today

It's no secret the U.S. health care system needs to change. The Affordable Care Act (ACA) introduced a focus on new health care payment models, which placed clear economic incentives on providers while also striving for better outcomes. Today, we see an emphasis on preventing hospital readmissions, reducing emergency room visits and avoiding unnecessary health care utilization while enhancing quality and the patient experience.

As a result, health care stakeholders are rethinking the way care is delivered, how data is used and how people collaborate and communicate in more preventive, proactive ways. This means moving from episodic, fee-for-service, disease treatment models toward value-based care delivery to improve outcomes, better utilize resources and expand access to care. Improved population health has become the Holy Grail of U.S. health care, with many early experiments and some promising successes – and some cautionary tales.

From the highly scientific to the completely whimsical, as the following quotes illustrate, there may be as many definitions of population health as there are people trying to define it – and even more possible approaches to improving it.

With this complex array of issues and opportunities for improving population health, tinkering with or attempting to optimize existing care delivery models will not work. What's required is a wholesale transformation of care delivery: from episodic to continuous; from fragmented to collaborative; from volume to value; and, from a focus on acute care in the hospital setting to increasing use of outpatient, community, home, mobile, telehealth, virtual, and other more timely and cost-effective care models and venues.

Drivers of the shift to population health management in the U.S.

Health care spending

- **$3+ trillion** for 2014[1] (roughly one in six GDP dollars, and almost equal to Germany's entire GDP)
- **$4.5 trillion** projected by 2020[2]

Chronic diseases[3]

- **133 million** in 2013
- **157 million** projected by 2020 (approximately half the population)
- **81 million** will have multiple chronic conditions
- Proportion of aging population (60 years and older) is expected to **increase from 11% (2009) to 22%**[4] **(2050)**, creating large additional demands for health care services

Primary care provider shortage

- **52,000** additional primary care physicians will be needed by 2025[5]
- **20,400** – shortage of primary care physicians if the system for delivering primary care in 2020 were to remain fundamentally the same as today[6]

Emerging and evolving care models

- **41 to 600+** - Growth of ACOs from 2010 to 2013

Focusing on process improvements for individual service lines and experimenting with payment models and provider contracts will not achieve the necessary transformation toward patient-centric, end-to-end models across the care continuum. Nor will the implementation of technology alone enable the realignment of how providers, payers, patients and families interact and collaborate to support prevention and meaningfully improve the health of individuals and populations. Providers today need a committed partner to work across the health continuum and put people – patients, clinicians and families – at the center of care.

Defining population health:

"Health outcomes of a group of individuals, including the distribution of such outcomes within the group."

– David Kindig, MD, PhD

"I'm a clown, which could be a public health role. I find just walking around in colorful clothes, people smile."

– Robin Williams as Patch Adams (1998)

The Philips approach

When it comes to population health management, there are many companies capable of offering narrow slices of the solution. A consulting company might spend months dissecting and reporting and running up large fees, and then deliver a complex plan it has no ability to implement. A medical device vendor may help modernize monitoring and workflow. An EMR vendor may bring pieces of the technology solution and underlying infrastructure. But providers need all that and more.

Philips brings rich clinical expertise combined with 100+ years as a global technology innovator, and an understanding of how clinical processes work, to create population health management solutions for each health system that provide direct clinical, financial and people benefits.

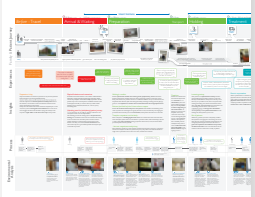
Because of our experience working across the health continuum, we're able to take the best practices we've learned – whether it's in transformation consulting, design, technology, clinical workflow or patient engagement – and work with each health system to develop and implement sustainable population health solutions, so that patients actually feel the difference in their care. The Philips approach is different because we bring the human element to health care.

The Philips approach is a holistic one, and follows a rigorous and comprehensive path, bringing to bear all the resources providers require – resources that only Philips can deliver as a single-source partner.

Philips partners with health systems throughout the process and sees it through to success. We understand what's necessary to effect change and make it stick – with a focus on both consumers and clinicians every step of the way.

Understand the context

Flow mapping lays out clinical and business processes



Experience flow mapping displays and documents opportunities for improvement

Give stakeholders a voice

Clinicians, managers, and patients contribute input and insights

Soliciting broad stakeholder input captures the insights needed to effect deep, meaningful change

Leverage the power of data

Dedicated tools assess performance across the continuum of care

Analysis of multiple data sources offers fact-based underpinning for recommendations and tracking

Co-create the solutions

Clinicians and managers work to co-define solutions

Mutual "ownership of the recommendation" improves the implementation of improved processes

Implement and transform

Outcomes-driven implementation models

Expert program and change management resources oversee thorough and effective deployment

Getting from here to there: **Align, Engage, Integrate**

Every health system is unique, and all are at different stages in developing their strategies, aligning incentives and resources, and implementing the changes required to transition to value-based care. Each system has its own challenges: one might be struggling to work with a physician group that is resistant to change; another might lack the capabilities or resources to expand care management outside the hospital walls; another might have an antiquated IT infrastructure that's buckling due to a lack of interoperability; and yet another might be just beginning to approach patient and community engagement in a meaningful way.

The enormity and scope of the overall task are daunting. But the truth is: even for institutions with a solid head-start, the transformation process will be protracted, incremental and carried out on multiple fronts. In spite of enthusiastic claims by technology vendors to the contrary, there is no silver bullet.

Achieving alignment: transforming to people-centered neonatal care

The challenge: TriHealth needed to align NICU clinicians looking to bring more attention to improving neonatal care, premature babies and their families. The organization understood the benefits of developmentally appropriate care but faced the challenge of translating research findings into a family-centered practical program of care management.

The Philips approach: Philips has worked with more than 60 hospitals to integrate a new approach to NICU care – an approach that goes well beyond nursing processes and workflow. We begin with an evidence-based framework with core measures proven to address the physical, psychological and emotional vulnerabilities of preemies and their families.

The Philips solution: We helped operationalize this family-centered approach to managing care by engaging and aligning the multidisciplinary team, parents, and all staff who touch the NICU. This includes not only nurses and physicians, but also phlebotomists, radiology and laboratory technologists and physical and occupational therapists. We educated and provided ongoing coaching of stakeholders together as a team about the effects of sensory inputs – such as noise, light, feeding and positioning – that critically impact the baby's initial development, stress level and quality of sleep. Beyond coordinating support for parents from admission to discharge and beyond, we worked with clinicians to make the cultural change to include and accept the role of parents as part of the care team. This helped parents become more comfortable interacting with their tiny baby in the hospital and better prepared them to take care of their infant at home.

The outcome: Over a two year period, parent satisfaction expressed in exit interviews increased, and length of stay was reduced by 22 to 32 percent based on gestational categories.[7] Additionally, increased compliance was achieved with proven methods, such as reduction in sound and light levels that support improved developmental outcomes in these most vulnerable infants.[8]

Step one – **Align**

In order to effect meaningful change, any population health program must align the interests and incentives of all the players: health care providers, payers and patients/consumers.

In aligning providers and payers, constructs such as Accountable Care Organizations (ACOs) are just one approach. This partnering among health systems, physician groups and payers has begun to shift and reapportion risk and reward, and is certainly a part of the equation. But this is just one of many approaches we advise our health system partners to consider.

Financial risk is certainly an important element to operationalizing mature value-based care systems, but there are more fundamental elements needed to align health care delivery to support population health. Value-based care transformation requires an *innovative* and *revolutionary* move toward prevention-focused and highly coordinated care across the continuum. Philips utilizes design and experience flow methodologies to engage stakeholders to redesign and realign across settings and sites of care, and develop shared incentives, metrics and clinical and operational processes. Our process breaks down barriers, fosters robust collaboration and refocuses the "why" of health care around the patient experience.

Alignment among clinicians across settings of care and the community is critical to achieving meaningful results. Population health initiatives focused on improving health outcomes for a population such as senior patients with congestive heart failure provide a tactical focus for this transformational relationship of clinicians and patients. Philips works with hospital leadership, nurses, clinicians and other team members to enable everyone to move toward a new model together. We establish core governance structures, redesign care management programs, utilize innovative telehealth programs and develop and implement enabling technologies to support a continuum of care approach to care delivery, collaboration and communication.

Step two – **Engage**

While it may seem obvious, for population health to be realized, the "population" must be actively engaged in improving its own health. In the past, health care consumers were referred to as "patients"; they were part of the equation only when they were sick, needed treatment and generated billing for reimbursement.

Today they must be engaged throughout their lives, from prenatal care through early childhood, adolescence, adulthood and maturity. Our experience will point the way to the most effective programs for consumer engagement, based on local populations, current health baselines, chronic disease burden, demographics, provider skill sets and more.

The Philips approach identifies the best clinical pathways to pursue based on patient needs and preferences. We utilize data and information from multiple sources to derive insights that enable providers and patients to help prevent the escalation of disease, support health and wellness and enable patients and families to be more active participants in the health care process. We build well-designed patient-centered tools, decision support for provider and patient, and personalized dashboards using proprietary and far-reaching predictive analytics to set clear expectations and foster greater communication with patients.

Enabling engagement: patient participatory decision-making

The challenge: Urologists looked to engage men with early prostate cancer by providing patient-tailored information with feedback for the physician. Many of these patients face several daunting choices. Some of the most common treatment options may have a significant negative impact on a patient's quality of life, such as frequent, unpredictable incontinence and sexual dysfunction. Alternatives to active treatment, such as monitoring the cancer periodically (active surveillance), may create stress and anxiety as a man fears that his cancer is progressing more rapidly than anticipated. Men look to their physicians for guidance, but physicians are challenged to know which treatments may have severe, lasting side effects in a particular patient and are often uncomfortable initiating and engaging in these difficult conversations. Patients also seek alternate sources of advice from family, friends, and neighbors who have experienced prostate cancer, as well as variety of web-based sources. None of these brings a truly personalized view to help a man navigate his choices to make his own best decision.

The Philips approach: What these men needed was a way to base these potentially life-altering decisions on their personal values and circumstances, along with evidence-based medical guidance tailored to their personal condition and comorbidities. Shared decision-making holds the promise of helping a prostate cancer patient feel he has some control at a very stressful time in his life. Experiences at Philips pilot clinical sites, such as Erasmus Medical Center in the Netherlands, suggest that by engaging and empowering the patient, clinicians can enhance the quality of and satisfaction with his choices and with his provider, so he receives the treatment best suited to his circumstances and preferences.

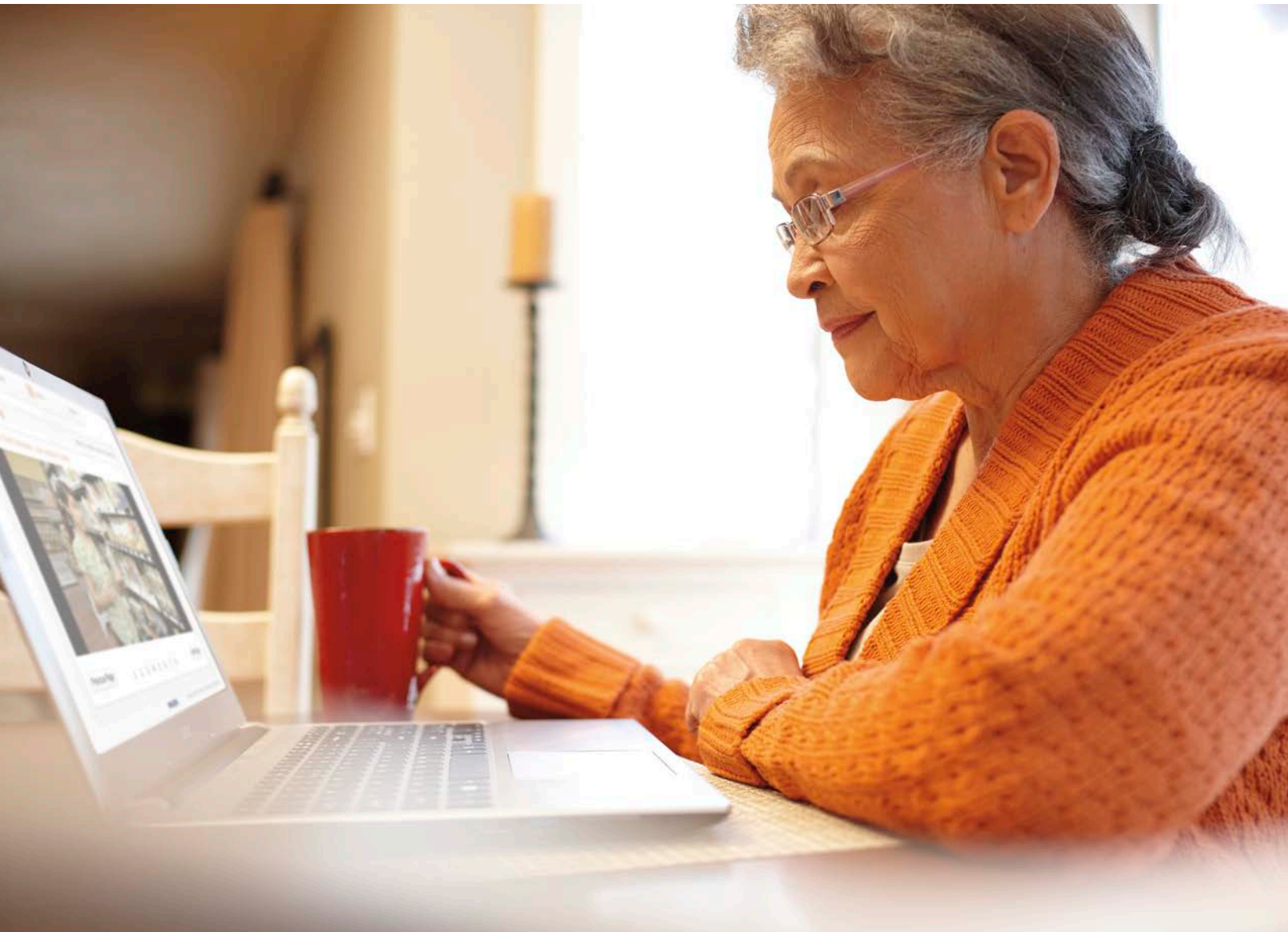
The Philips solution: Working with leading cancer centers around the world, Philips created a decision support system for men with prostate cancer that enables shared decision making among a man, his family and his physician. Using a simple, interactive interface, the web-based system captures patient preferences about quality of life factors and combines this information with medical data, such as current diagnosis, preexisting conditions, and evidence drawn from a wider population of cancer patients. The patient-friendly displays help the man absorb essential information about his situation and personalized pathways in the familiar surroundings of his home, preparing him for a collaborative conversation with his physician.

The outcome: Philips' shared decision support system integrates easily into the physician's clinic workflow and helps the physician prepare for discussions about treatment options. This approach may potentially increase clinic productivity due to the improved quality of patient-physician interactions and fewer miscommunications.

Step three – **Integrate**

This is where "the rubber meets the road" and the hard work of gaining alignment and engaging any patient/consumer base comes to fruition. In this final step in the process, we work with providers to build highly coordinated, multidisciplinary teams for patient-centered care across the entire health continuum. This enterprise-wide approach to care coordination across sites of care and entities allows providers to tackle improvements of populations and clinical conditions through workflow redesign and collaboration between providers and patients. Data connectivity, analytics and enabling technology provide essential tools to translate this broad, population-wide view into personalized and patient-specific interventions. Whereas traditional disease management programs utilize "triggers" of episodic events – usually an escalation of the condition – refined risk stratification and analytics open up new opportunities for intervention to help *prevent* trigger events and support patients in self-care, behavior change and better adherence to treatment plans.

To make any population health program work, health systems need to maintain tight connections between people, their health programs and the devices and data needed to be successful. The "Internet of Things" will be populated with a wide variety of devices, only some of which we can see today: home health equipment, wearables, mobile devices, equipment in physicians' offices, mobile health records. This means marrying patient data – whether collected at home, in an outpatient setting, in motion or in the hospital – with clinical and professional data and deriving insights from those data to support the health of individuals and populations.



The Philips Digital Health Platform (DHP)

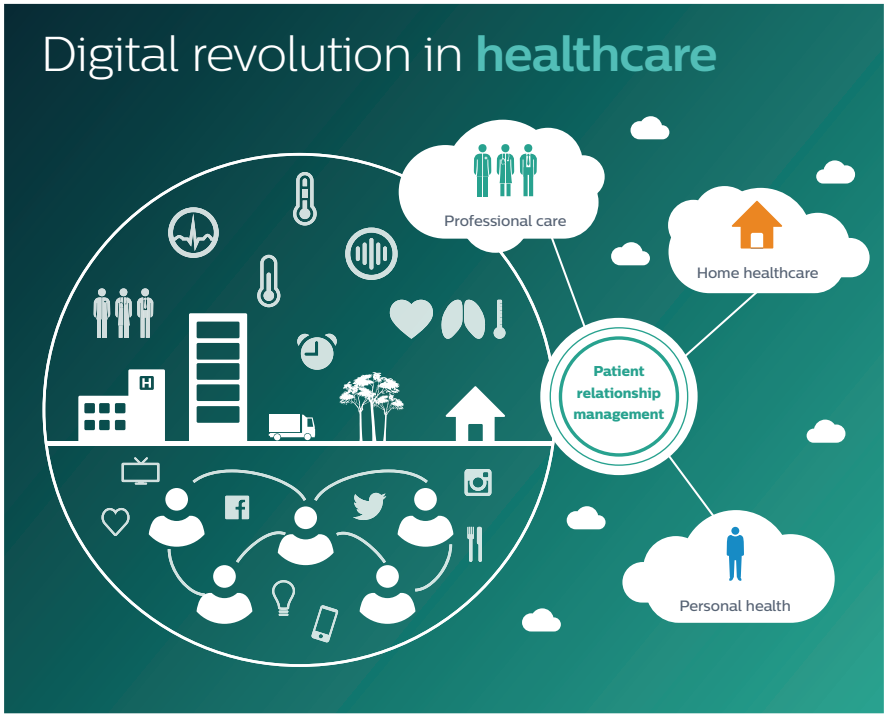
The all-important underlying technology for enabling population health is the Philips Digital Health Platform (DHP).

Health care information technology is a fundamental element in the shift to population health management and will be the engine to support true collaboration and proactive engagement across the continuum of care. The Philips Digital Health Platform will enable providers to better manage patient care via secure capture, analysis and collaboration around health information.

Data integration
In addition to the data pertinent to inpatient care, there will be a growing need to collect and correlate information from multiple outpatient and community environments, personal health devices and applications to track the efficiency and efficacy of treatment management. The sophistication of the Digital Health Platform makes this wide-ranging data capture possible.

Analysis
Advances in technology and the ability to connect data from multiple sources have made health care analytics an important area of potential differentiation for providers. A robust technology infrastructure and suite of analytics products are critical for success in today's smart health care delivery domain. Philips Analytics for Population Health is the core engine that drives the necessary intelligence to target the right patient at the right time and at the right place.

Collaboration
Engagement across the care ecosystem with pertinent information sharing and workflow coordination is key to achieving patient activation and care coordination. This requires the availability and integration of data across the continuum, coupled with communication and collaboration tools for virtual care teams across sites of care and patient homes. As a result, providers can manage transitions of care, reduce readmissions and improve proactive and targeted interventions aimed at preventing the escalation of conditions through robust care management programs.



Intense integration: a holistic transformation of the stroke continuum

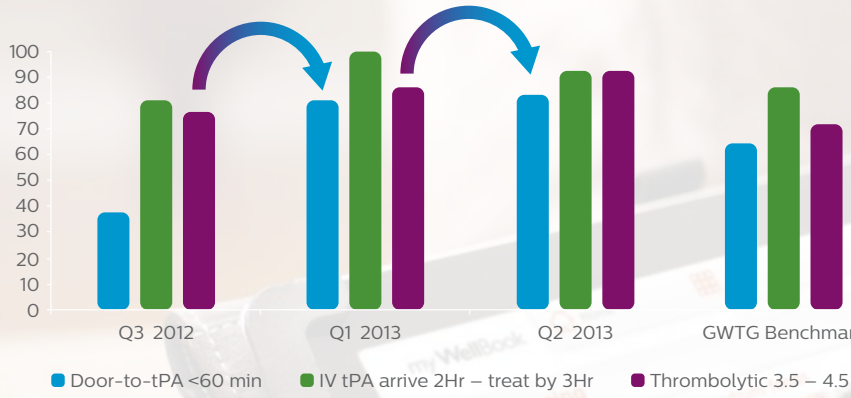
The challenge: In order to improve population health and improve stroke outcomes, integrated care for stroke patients needs to start with better detection and diagnosis. Communication and collaboration among clinicians, patients and families across inpatient, rehabilitation and home settings is a common challenge to patient adherence to care regimens; access to analytics to support and target interventions is also a challenge.

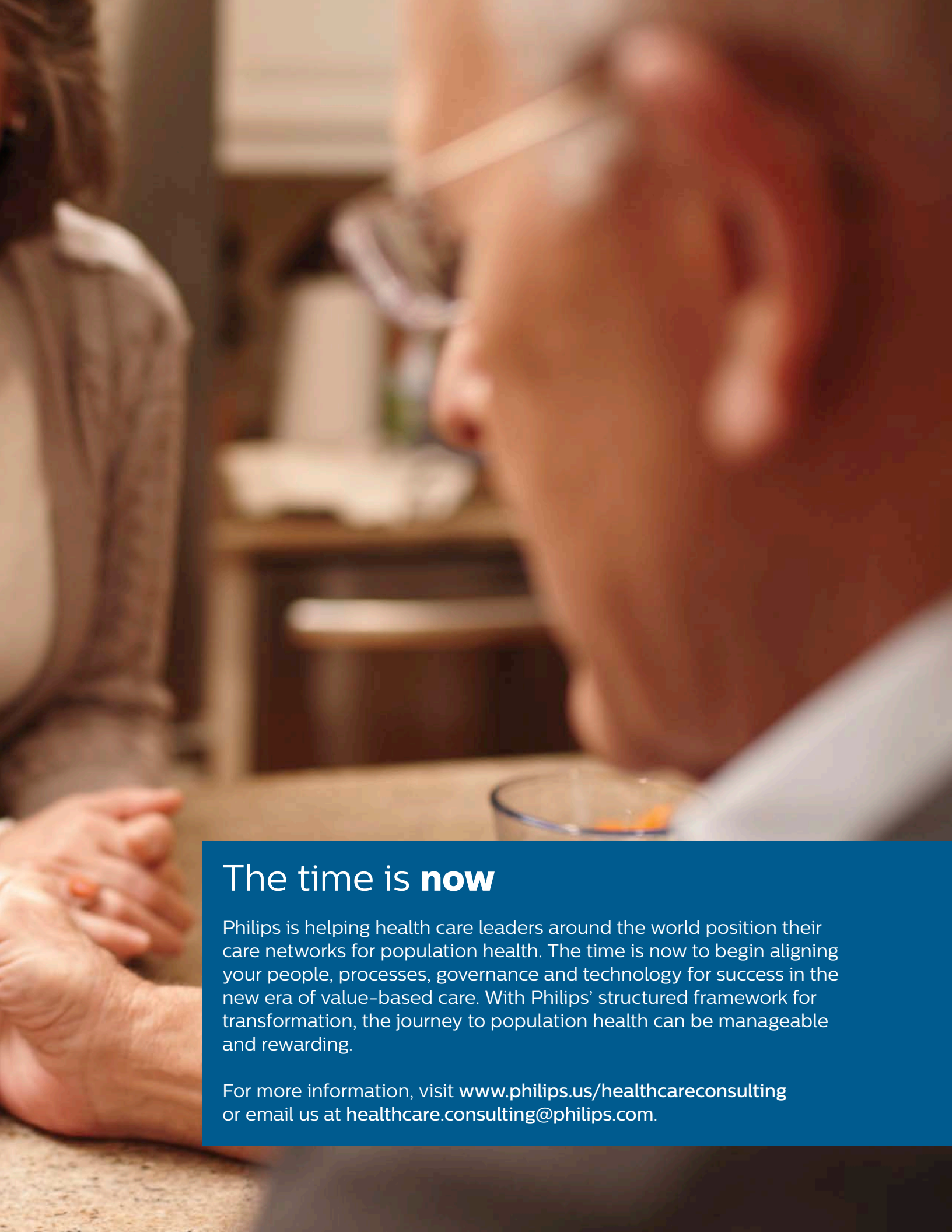
The Philips approach: Philips designs and implements processes, systems and technologies that connect providers at the time-critical diagnosis and acute treatment phase of care, but also interactively address the physical and emotional care needs of each stroke patient. As a result, clinicians can better support healing, reduce confusion and facilitate care needs between settings beyond the hospital and stay attuned to the patient's particular progress and recovery pathway.

The Philips solution: Our Telestroke initiative can have a marked impact on metrics of care quality by connecting the expert resources across a distributed care network to facilitate timely interventions. Beyond the initial response and treatment, interactive healing environments in the hospital and rehabilitation settings can have a profound effect on a patient's overall recovery. Patients, family and care providers access the same tools and information through unique user interfaces, portals and software applications to create an integrated care management model from hospital to home.

The outcome: Our Telestroke initiative has enhanced results for the American Heart Association (AHA) core measures around timely tissue plasminogen activator (tPA) administration in the early acute phase of care.[9] Research shows that Philips interactive healing environments will positively impact a patient's pain tolerance, stress and mental fatigue and overall quality of life. Readily available shared information across patients, families, and providers will support the patient's efforts to comply with medication regimens and health lifestyle choices.

Telestroke initiative: October 2012 – TeleICU scribing for RNs: May 2013





The time is **now**

Philips is helping health care leaders around the world position their care networks for population health. The time is now to begin aligning your people, processes, governance and technology for success in the new era of value-based care. With Philips' structured framework for transformation, the journey to population health can be manageable and rewarding.

For more information, visit **www.philips.us/healthcareconsulting** or email us at **healthcare.consulting@philips.com**.

References

1 Annual U.S. Healthcare Spending Hits $3.8 Trillion, Dan Munroe, Forbes.com, 2 Feb 2014.
2 The hidden costs of U.S. health care, Deloitte Center for Health Solutions, 2012.
3 About chronic diseases, National Health Council, 4 Nov 2013.
4 World Population Aging – Department of Economic and Social Affairs, United Nations.
5 Petterson SM, Liaw WR, Phillips RL, Rabin DL, Meyers DS, Bazemore AW. Projecting US Primary Care Physician Workforce Needs: 2010-2025. Annals of Family Medicine. 2012; 10(6): 503-509.
6 http://bhpr.hrsa.gov/healthworkforce/supplydemand/usworkforce/primarycare/.
7 Neonatal Intensive Care, Vol. 17, No. 2. March/April 2004. Altimier, Eichel, Warner, Tedeschi, Brown: Developmental Care: Changing the NICU Physically and Behaviorally to Promote Patient Outcomes and Contain Costs.
8 Neonatal Intensive Care. Vol. 17, No. 2.
9 Philips Telestroke Solutions: Moving the Needle in a Primary Stroke Center: Telestroke Care Becomes Personal at John Muir Health System Case Study.

www.philips.com/healthcare
healthcare@philips.com

4522 991 06571 * OCT 2014