



I feel better now

Philips and healthcare

“Until the doctors could find out what was wrong with me, I was really scared. I tried to be brave but it was really hard. Then my Mom and my best friend went with me to a different hospital. The doctors let us put my favorite toy in a ‘kitten scanner’ for an exam. Because I’m a big girl, I can use the regular ‘cat scanner.’ And I was just as brave as my toy!”

Philips Ambient Experience can help to reduce anxiety by inviting patients to do their own scans on the “kitten scanner” before they go in for their own exam.



Changes and challenges

Everywhere we look, we see contradictions. Between the aspirations of patients and the funding necessary to make them a reality. Between the brilliance of scientific breakthroughs and their universal availability. Between those who can afford the very best that healthcare can offer and those who have no access and can afford nothing. Between the ease of delivery in large cities and the seemingly insurmountable challenges of reaching out to far-distant rural regions.

Everyone working in healthcare does so under the growing reality and burden of demographic and epidemiological change, rising costs and medical and scientific advances.

Demographic demands

Healthcare costs have been rising inexorably in developed and developing countries, and there is no sign that this trend can be reversed. The numbers tell the story.

The predicted world population for the year 2020 is 7.5 billion and is on track to surpass 9 billion by 2050, according to the latest official United Nations population estimates and projections. If so, spending on healthcare in 2050 would equate to EUR 8 trillion – if growth rates remain stable from 2020.

Right now, the global population is not only growing, it's also getting older, which puts greater pressure on the world's healthcare

providers. Since 1950 the proportion of older persons (those aged 60 or older) has been rising steadily, moving from 8% in 1950 to 11% in 2007, and is expected to reach 22% in 2050. That's 2 billion people.

A global issue

This is not just a problem for developed countries. While population aging may be less advanced in developing countries, the UN reports that the populations of a majority of them are set to enter a period of rapid population aging.

Older and sicker populations will push up healthcare costs in China, India and elsewhere dramatically over the coming years. In developing countries as a whole, just 8% of the population is today aged 60 years or over but by 2050, 20% of their population is expected to be in that age range.

And what's more, as populations in emerging economies adopt western lifestyles and diets, chronic diseases will begin to affect and claim more lives. In fact, this is already happening.

The rise of chronic diseases

According to the World Health Organization (WHO), chronic diseases, such as heart disease, stroke, cancer, chronic respiratory diseases and diabetes, are by far the leading cause of mortality in the world, representing 60% of all deaths. WHO says this "invisible

epidemic is an under-appreciated cause of poverty that hinders the economic development of many countries. Contrary to common perception, 80% of chronic disease deaths occur in low and middle income countries." This is both a human tragedy and a financial burden, as the management of chronic diseases is very expensive.

The Institute for Healthcare Improvement, a non-profit organization based in Cambridge, Massachusetts, US, forecasts that such trends mean "many healthcare systems around the world will become unsustainable by 2015."

We know what's happening to populations and the resulting impact on healthcare costs. We see changes in diseases patterns as chronic conditions become manageable and more pervasive worldwide. We can also be certain that medical researchers will continue to roll back the frontiers of knowledge and practice in technology, pharmacology, equipment and procedures, creating new opportunities to prevent, cure and decelerate disease.

The truth of the matter

It is easy to be overwhelmed by the complexity of such a scenario. But then it is ever more important to state simple truths.

And here it is: we must deliver better quality care at lower cost – all as efficiently as possible.

9 billion

Population growth

World population is likely to surpass 9 billion by 2050

60+

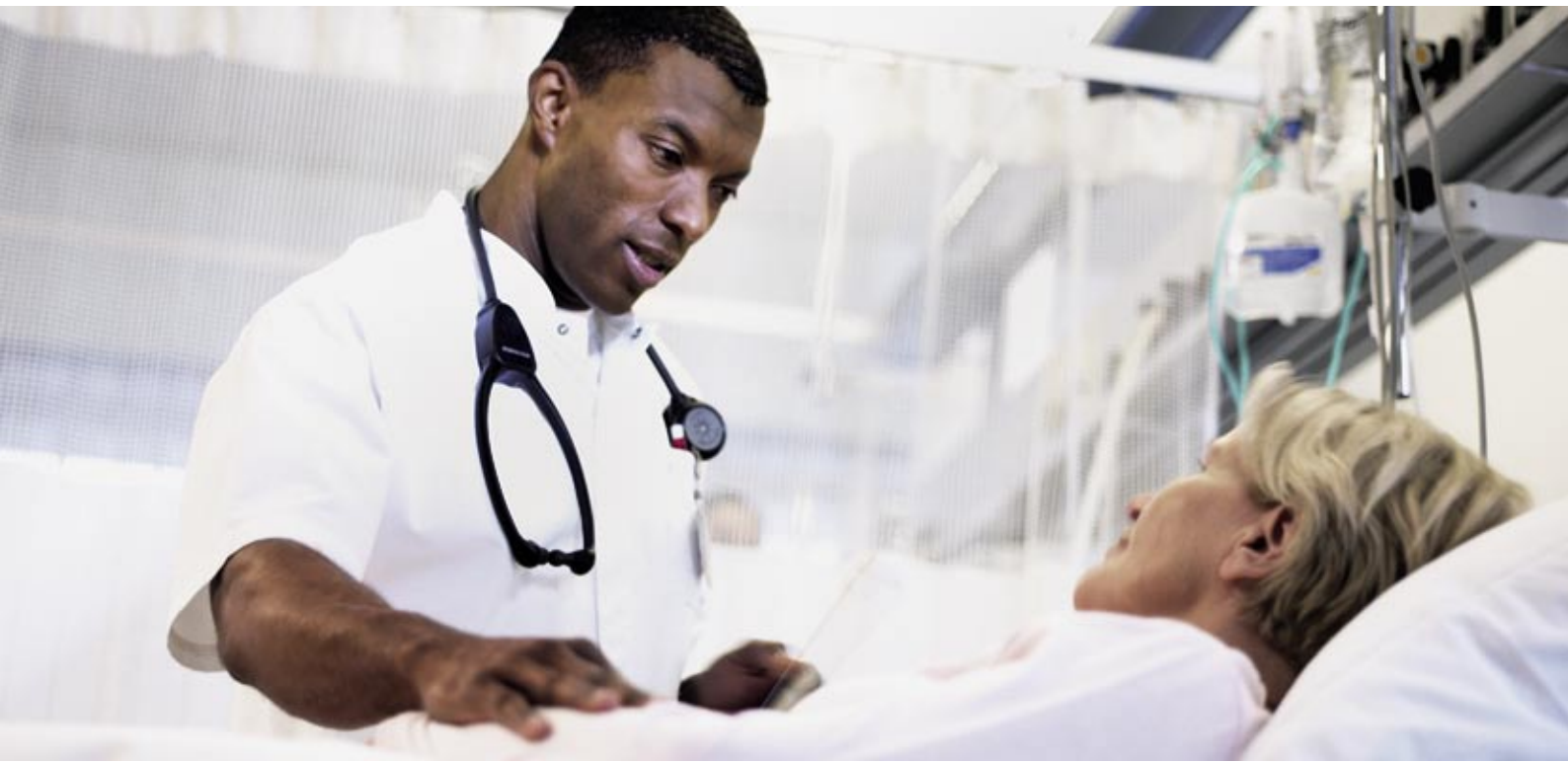
Unprecedented aging

By 2050 there will be 2 billion people aged 60 or older

€8 trillion

Projected spending

Global healthcare costs will increase with the population

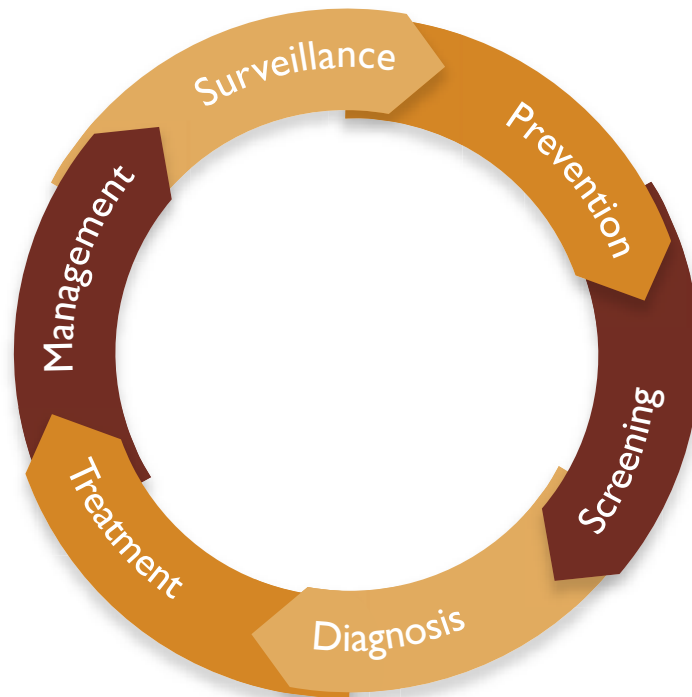


What we believe

As a global business we are acutely aware of our duties as a citizen of the world and the role we can play in improving people's lives.

We believe concerted action in healthcare is a social responsibility. Realizing real and immediate differences in the way the world thinks and acts in healthcare is our passion. We believe healthcare is a fundamental right to which every human is entitled.

At Philips we advance healthcare by making a difference to people. Partnering with the broader healthcare community, we seek to facilitate new solutions for change to drive better health outcomes.



Putting people front and center

At Philips we are proud to be at the cutting edge of medical technological advancement. But technical expertise isn't the only thing a healthcare company needs to make a difference – each new innovation we develop should also be useful and meaningful. To do that, we focus on the people at the center of healthcare – the patient and the care provider. Globally we deliver innovative healthcare solutions designed to address the needs of patients as well as healthcare professionals.

#1

Global killer

More people die from cardiovascular diseases than from any other cause

We listen

Seeking insight

We focus on the needs of our customers and the people they take care of

Our focus is to bring innovations that will reduce the incidence and severity of many of today's deadly and debilitating diseases with a particular focus on the fields of cardiology, oncology, critical care and women's healthcare. Whether it is in the hospital or in the home, we seek to improve patient outcomes throughout the entire course of care – from prevention and screening to diagnosis, treatment, management and surveillance. It's about looking beyond the traditional areas of diagnosis and treatment.

"Both patients and caregivers struggle with a complex, fragmented healthcare system," explains Steve Rusckowski, CEO, Philips Healthcare. "We believe the best way to reduce this complexity is by addressing the needs of the healthcare industry from the perspective of patients and their health problems."

We listen to the people who use our products, our customers and their patients. And at the same time, we examine every aspect of the disease management process, from home to hospital. This human insight combined with a solid clinical understanding enables us to create integrated offerings across the cycle of care.

One holistic process

"To provide better, more cost efficient healthcare we focus on our customers and the people they take care of – the patients. This sets us apart," says Rusckowski. "We view every single aspect of each patient's treatment, from the initial diagnosis, to testing, monitoring and aftercare, as part of one holistic process: the care cycle. That's why Philips provides healthcare solutions for the home as well as for hospitals, including personal alarms, home defibrillators and devices that monitor chronic diseases, like congestive heart failure."

Indeed, this way of working supports clinical excellence. "This approach doesn't just let us put our customers



Steve Rusckowski, CEO, Philips Healthcare

and patients first, it also allows clinicians and care providers to spend more time doing what they do best – treating and managing their patients' conditions. We want to help build high quality, patient-centered healthcare systems. And to do this, we need to provide integrated, innovative solutions for every stage of the care cycle," Rusckowski says.

In the following pages, you will see how we are doing just that in the field of cardiology. Through our approach we can really make a difference in the worldwide cardiovascular disease (CVD) burden. The number one cause of death globally, CVD is projected to remain the leading cause of death and is a major cause of disability. The World Health Organization believes that if appropriate action is not taken by 2015, an estimated 20 million people will die from cardiovascular disease every year, mainly from heart attacks and stroke.

A global burden

Cardiovascular disease

Caused by disorders of the heart (cardio) and blood vessels (vascular), cardiovascular disease includes heart attacks, stroke, raised blood pressure, peripheral artery disease, rheumatic heart disease, congenital heart disease and heart failure. Once associated only with overweight, overworked middle-aged men, heart disease has no boundaries. It affects men, women and children in all socio-economic groups, everywhere in the world.

World Health Organization (WHO) statistics reveal that at least 20 million people survive heart attacks and stroke every year.

A significant proportion of them require costly clinical care, which puts a huge burden on long-term care resources. CVD affects people in their mid-life years, undermining the socioeconomic development, not only of affected individuals, but families and nations.

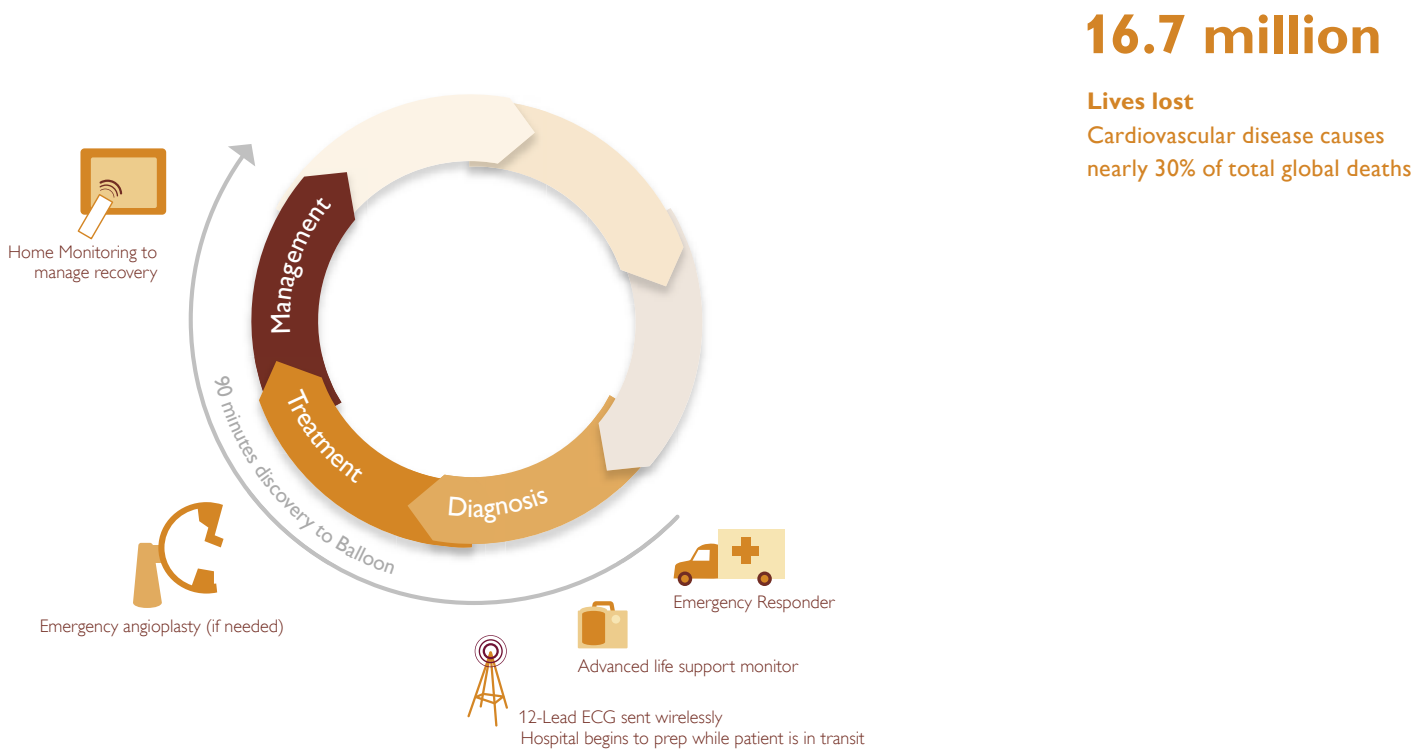
High costs

The costs are high in human and financial terms. A few examples: According to the American Heart Association the estimated cost of cardiovascular disease for 2007 in the United States is nearly EUR 300 billion, including health care services, medications and lost productivity. Overall CVD is

estimated to cost the European Union economy some EUR 240 billion a year. WHO estimates that between 2006 and 2015, China will lose EUR 380 billion in foregone national income due to the combination of heart disease, stroke and diabetes.

“We simply cannot afford to focus only on extremely costly and traumatic surgical interventions. We have to concentrate on prevention, early diagnostics and remote patient management,” says Gerard Kleisterlee. “Our goal is centered on our customer’s goal – the delivery of better, more efficient care through earlier diagnosis, fewer disabilities, faster recoveries, and in cases of long-term care, slower progression of disease.”





Speeding time and treatment

Our focus on the cycle of care – An example

Every minute counts for a heart attack victim. As soon as a heart attack occurs, the heart muscle starts to die. That's why reducing the time between heart attack and treatment has been proven to have a big impact on a patient's long-term recovery.

"As a result, the American College of Cardiology, in partnership with the American Heart Association and other organizations around the world, has launched the 'Door to Balloon' campaign. It aims to reduce the amount of time from the arrival of the patient at the hospital to angioplasty – known as balloon – to 90 minutes or less," explains Joris van den Hurk, Vice President of Cardiology Care Cycles for Philips Healthcare.

This goal addresses the single most critical challenge tied to treatment at the onset of

cardiac arrest – length of time elapsing before the blocked artery is reopened. With speed the goal, it is critical that emergency responders shorten the time from arrival at the emergency department to the time of treatment.

Philips HeartStart MRx Monitor/Defibrillator enables the "Door to Balloon" process to begin before the patient gets to the hospital. With the MRx a paramedic can transmit a patient's electrocardiogram (ECG) data from the ambulance to a hospital's emergency department. Clinicians can use the ECG to begin assessing what treatment the incoming patient will need.

Since the MRx allows a hospital to begin organizing its resources – before a patient even arrives – it can dramatically reduce the


delay to treatment. Another benefit is the ability to potentially divert the patient to a specialized hospital. Patients can bypass the emergency department and go directly to the cardiac catheterization lab for angioplasty. This, too, can clearly speed time to treatment.

In the "Door to Balloon" protocol, the clock starts when a patient is brought into the hospital. The MRx allows hospitals and EMS to start the clock earlier, offering a "Discovery to Balloon" solution. All the prep, scheduling, diagnostic and routing activities – which usually start once the patient arrives – can now begin while the patient is en route, saving valuable time.

After hospital treatment, the patient can be remotely monitored in their home with our telehealth solutions detailed on pages 62-63.

Raising awareness

A key ingredient in preventing cardiovascular disease is raising awareness – alerting people to the fact that heart disease poses the greatest health risk and is more likely to kill than any other disease. Research shows that those who recognize this are more likely to take action to protect themselves and their families.



Simplicity is knowing she can push herself to the limit.
 The Philips Save an Athlete® program uses advanced cardiac diagnostic equipment to check for hidden heart problems to help ensure young athletes are fit for sports and for life. Want to know more about your health & wellbeing? Visit: www.philips.com/simplicity

PHILIPS
 sense and simplicity

Simple tests for student athletes

Our Save an Athlete program aims to improve health and wellness by educating student athletes, their families, doctors, athletic directors and coaches about preventing sudden death through early cardiac testing. Launched in 2006 in the US, the program offers free screening of student athletes for potentially lethal heart conditions using ultrasound technology.

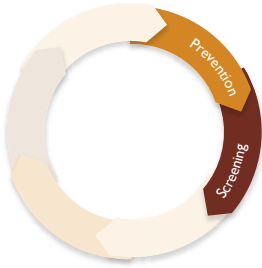
“The use of cardiac testing with ECG and echo exams in sports physicals can help identify heart conditions that could trigger sudden death that would not be otherwise identified through an ordinary examination or medical history,” says William Rappoport, M.D., F.A.C.C., Arizona Heart Institute.

During the second quarter of 2007 we launched a branding campaign showcasing a range of solutions that empower consumers to manage their health and wellbeing. One of the advertisements focused on Save an Athlete, which has been extended to the UK.

Your Mouth, Your Heart

The Philips Sonicare website educates consumers about the strong link between oral health and overall health, and heart health in particular.

Recent studies have revealed that people with periodontal disease very often have heart disease as well. Researchers believe that this is due to oral bacteria present in gum disease, which can affect the heart if they enter the bloodstream. It has been shown that these bacteria can attach to fatty deposits in the coronary arteries and



€35 million

The Philips-led MyHeart consortium

One of the largest biomedical research projects in the EU, MyHeart is focused on preventing and managing heart disease

contribute to arterial clot formation. Such clots can dislodge and are responsible for heart attacks and stroke.

While periodontal disease doesn't necessarily cause heart disease, it is nevertheless a good risk indicator. Fortunately, elimination of the gum infection by thorough professional care can eliminate the bulk of those bacteria and may actually lower the risk to the heart. Excellent plaque control through good oral hygiene will decrease the risk of re-infection and ultimately may help improve overall health.

➔ www.sonicare.com



Educating people in Eastern Taiwan

The largely mountainous and densely forested terrain in Eastern Taiwan makes its populated areas difficult to reach. As a result, the standard of living there is generally lower. People are often poorly educated and less aware of health issues. To help change that, in 2005 we launched a four-year educational campaign with the theme "We care for your health."

Called Naruwan – translated "How are you?" in aboriginal Taiwanese – this program focuses on improving oral health. In 2007 we worked with the Hua-Lien County Health Bureau, conducting 16 seminars on preventing gum disease attended by more than 700 people. We also supported the Tai Tung Health Bureau in training 85 school nurses on how to teach children about oral health.

Early detection

The Philips-led MyHeart consortium has identified four key product concepts that are likely to bring the most benefit to the prevention and management of chronic cardiovascular disease:

- Activity Coach – to maximize the enjoyment and health benefits of regular exercise, targeted primarily at healthy individuals.
- Take Care – to assess and reduce risk factors for cardiovascular disease through vital body sign monitoring, lifestyle coaching and motivation, targeted at those who are at risk of developing cardiovascular disease.
- Neuro Rehab – to improve and shorten the rehabilitation period through physical and mental exercises, targeted primarily at heart attack and stroke victims.
- Heart Failure Management – to improve quality of life and life expectancy for heart failure patients through early detection of deterioration in their condition and improved patient management.

The principal technology development common to all of these applications are body sensors and wearable electronics that can unobtrusively detect and measure vital body signs, communicate and analyze



the acquired data and provide feedback to users or health providers.

Prototype disease management systems for heart failure patients will enter clinical evaluation in 2008 in Germany and Spain. This will include an electronic weight scale and blood pressure monitor, a zip-up body vest with integrated electrodes and control electronics to measure the patients electrocardiogram, and sensors placed in the patient's normal bed to measure heart- and breathing-rate, and body movement while sleeping.

The MyHeart project, one of the largest biomedical and healthcare research projects within the European Union, has a budget of about EUR 35 million, of which EUR 16 million is funded by the European Union. The consortium comprises 33 industrial, research, academic and medical organizations from 10 European countries.

Earlier diagnosis

At Philips we believe that the world simply cannot afford to focus only on extremely costly and often traumatic surgical interventions. We also look at prevention, early diagnostics and remote patient management. This is essential to better patient outcomes.

Better in many ways

“Stunning three-dimensional images of the inner workings of the body.”

That’s how media reports describe our new 256-slice Brilliance iCT scanner, which has been specifically designed to make the job of the clinician easier and improve the experience of the patient. How? By allowing radiologists to produce high-quality images with

exceptional speed, including complete coverage of the heart and brain, and can also show changes over time. It’s so powerful it can capture an image of the entire heart in just two beats, while incorporating Philips technology that has reduced radiation doses by up to 80%.



Our DoseWise Radiation Safety program includes techniques, programs and practices that ensure optimal image quality, while protecting people in X-ray environments. This is an important parameter we consider at every level of new product design and development. Therefore we have expanded the definition of our Green Focal Area on hazardous substances to include this topic.

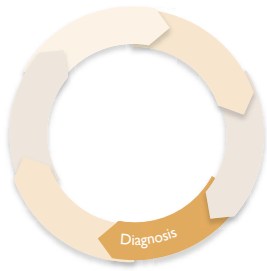
Education for dose reduction methods is delivered through operator documentation, on-site application training, off-site training and specific publications.

Strengthening our position in emerging markets

In line with the strategy to bolster our healthcare presence in emerging markets, we acquired Brazil’s leading general X-ray manufacturer, VMI-Sistemas Medicos, expanding our local position in the Latin American market. With the ability to

produce X-ray equipment in Brazil we will be able to offer more affordable solutions to the local market. And the impact of this acquisition goes beyond Brazil as we plan to boost VMI’s Brazilian exports to other countries in Latin America.

We also entered a number of strategic agreements, including a contract with Ascent Profit, a Chinese medical equipment wholesaler, to deliver high-end radiography systems in China.



€250 million

Professional Healthcare Solutions turnover

We have implemented projects in Ghana, India, Indonesia, Jordan, Kenya, Morocco, Tanzania and Uganda

Access

Bringing healthcare to remote areas

Our innovations make healthcare available to people who were beyond the reach of centralized facilities

Connecting cardiac centers

Patients in rural areas of the Philippines are benefiting from the advanced medical treatment available for degenerative diseases of the heart, lungs and kidney thanks to Philips and our partners who participated in a seven-year project partially funded by the Dutch government and the Philippines Department of Health.

Our EasyWeb Healthcare System connects three satellite hospitals to the Philippines Heart Center in Manila. This Internet-based system allows online referral and diagnosis of patients from remote provinces by healthcare experts in Manila. Now health screening and healthcare access are available to thousands of people outside Metro Manila who were previously beyond the reach of the modern healthcare system. Because clinical images, along with voice and real-time images of the doctor and patients can be transmitted quickly, diagnosis and a plan of action for therapy can be agreed upon faster.

Making quality services available

Dr. Criselda Abesamis, Director of the Philippines National Center for Health Facilities Development, says: "The project is to make sure that the quality of health services that are centralized in Metro Manila are now decentralized and available in the rest of the Philippines."

This EasyWeb system will help the Philippines Heart Center and the regional hospitals to be more productive and efficient. The system also offers research and education applications for physicians as patient studies can be shared across hospitals.

Plus, specialists can now work with the same quality of medical equipment as their counterparts in the West, which makes it much more attractive for them to remain and work in the Philippines. Dr. Abesamis says the project is a "strategic solution to solve the outward migration of our specialists."

Professional Healthcare Solutions

Projects like the work at the Philippines Heart Center are managed by Professional Healthcare Solutions, a dedicated group within our Multi Country Region Sales and Service organization. This group focuses on healthcare projects for emerging markets.

The team has unique experience in combining our Healthcare products and service portfolio with financing solutions and value-added services such as consultancy, facility services, training and education. Integral hospital solutions are offered in cooperation with partners for construction and installation.

Since 1993 we have carried out healthcare projects in developing countries representing a turnover of more than EUR 250 million. We have implemented large-scale projects in Ghana, India, Indonesia, Jordan, Kenya, Morocco, Tanzania and Uganda, and are currently working in China, the Philippines, Uganda and Zambia.





Changing diagnostics

Medicine as it is practiced today focuses on how the human body functions at the level of individual organs like the heart, liver or lungs. This is addressed well with traditional imaging and patient monitoring solutions. But with advancements in the life sciences, such as the unraveling of the human genome, we now understand that diseases have their origin at the molecular level. Due, for example, to errors at the DNA or protein level. Our aim with next generation diagnostics is to detect these errors.

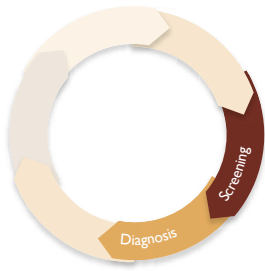
Diagnosing disease at the molecular level

Modern in vitro diagnostic tests are based upon the patient's DNA, proteins or other biomolecules. These tests are carried out on a sample of a patient's blood or other body fluids, such as urine or saliva, or a cervical or oral swab.

Molecular diagnostic tests can detect DNA. This allows clinicians to determine whether a person is at risk of getting a certain disease, detect the presence of foreign DNA in the bloodstream originating from bacteria or detect mutations in a person's DNA that may be associated with cancer.

Screening and diagnosis

With novel protein-based tests, it is possible to determine how a person's immune system reacts to disease. Or whether a person is at risk of getting a heart attack. Or suffers from a metabolic disorder.



DNA

Molecular medicine

Tests based upon a patient's DNA, proteins or other biomolecules can determine whether a person is at risk of getting a certain disease, like stroke or heart attack

Decentralized rapid diagnostic testing



Early diagnosis of cardiovascular disease

Next generation in vitro diagnostic tests will radically change the field of cardiology. As illustrated above, tests will be performed not only in centralized laboratories but also at the patient's bedside – at the point-of-need.

In many cases, the equipment used in centralized laboratories and decentralized near-patient in vitro diagnostic testing will be connected via wired or wireless networks into sophisticated healthcare informatics systems to provide clinical decision support and data storage facilities.

Identifying disease

Once a patient is taken ill and enters the hospital, it's all about rapid diagnostics, identifying the cause of disease and then supporting the clinicians in deciding what treatment to apply.

A very important ultimate goal is to change that with early diagnosis. This will allow us to deal with diseases essentially before they lead to serious symptoms. Genetic risk assessment for stroke or a heart attack, or early detection of molecular disease markers for cardiovascular disease will be possible right in the doctor's office. A patient entering the emergency room can immediately be tested to decide whether he or she has suffered a heart attack, or to decide what type of stroke he or she has suffered.

Open Innovation

We think and act beyond our own boundaries. In a spirit of what is called Open Innovation, we choose best-in-class academic and industrial partners who have competencies and interests that complement our own – creating competitive advantage for each party.

Molecular Medicine

Philips is one of the major Dutch companies in a consortium that initiated the Center for Translational Molecular Medicine (CTMM), headquartered at the High Tech Campus in Eindhoven, the Netherlands. The CTMM is dedicated to the development of medical technologies that enable early and precise diagnosis, and design of new and "personalized" treatments for the main diseases causing mortality and diminished quality of life: cancer, cardiovascular diseases, infectious diseases and neurodegenerative diseases like Alzheimer's.

The CTMM is a public-private partnership that comprises a multidisciplinary group of parties – universities, academic medical centers, medical technology enterprises, and chemical and pharmaceutical companies. The Dutch government provides a substantial contribution.

Collaboration in Shanghai

In December 2007, Philips and the Institute of Health Sciences (IHS) established a joint research laboratory within the IHS in Shanghai, China. The IHS is part of the Shanghai Institutes for Biological Sciences and is also affiliated with the Shanghai Jiao Tong University School of Medicine.

The joint laboratory will conduct advanced research in the field of molecular medicine, with the ultimate aim of creating new solutions for the early diagnosis of disease and for monitoring the effectiveness of subsequent treatment.

Making treatment less traumatic

We believe it is critical to concentrate on prevention, early diagnostics and remote patient management, yet clearly there are times when treatment is necessary. The goal is to provide the best possible care.

Minimally invasive interventions

Under the increasing pressures to both lower healthcare costs and improve outcomes, minimally invasive methods are replacing traditional surgical procedures as quickly as the technology allows. Many treatments that would previously have needed open surgery can be carried out using endoscopes, catheters and needles. Such minimally invasive approaches reduce trauma, thus minimizing damage to healthy tissue and requiring less pain medication. This is better for the patient and shortens recovery times.

Many minimally invasive procedures can even be carried out in an outpatient setting and

generally, these procedures are less costly for the hospital. Yet, there are challenges. During open surgery, surgeons can see where they are and what they are doing. For minimally invasive interventions, specialists need other information sources to view their actions. That's where imaging comes in.

Seeing and treating the heart

Cardiac catheterization laboratories have been leading the move to minimally invasive interventions for several years. Cardiologists diagnose and treat coronary artery disease using a catheter inserted into the groin and threaded through the arterial vessel tree to

reach the heart. To guide the passage of the catheter they use fluoroscopy (live X-ray imaging), usually from a C-arm system that can be moved and angled to get images from any position.

An injected contrast agent, which is opaque to X-rays, reveals the structure of the vessel through which the catheter passes and pinpoints narrowed arteries or blockages that need treatment. Treatment may be in the form of a balloon angioplasty (compressing the plaque against the wall of the vessel), stenting (inserting a small wire tube) or rotablation ("drilling" through plaque).

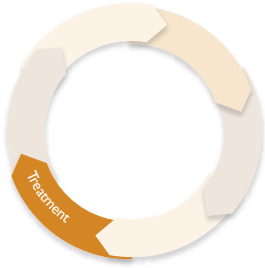


Streamlining procedures for cardiac rhythm disorders

Electrophysiology (EP) is one of the fastest growing markets in cardiology. However, EP procedures are highly specialized and require specific equipment and facilities. The procedures, which deal with the heart's electrical conduction system, are often performed in surroundings not specifically designed for this purpose. Taking this into consideration, Philips developed an integrated solution, which provides EP specialists with a comfortable and efficient working environment – the EP cockpit.

A new workflow concept for electrophysiology labs, EP cockpit enables physicians to streamline procedures to treat cardiac rhythm disorders.

The first Philips ambient electrophysiology cockpit opened in Berlin's German Heart Institute. It is the first catheterization lab in the world to have the unique EP cockpit.



300 doctors

Training for rural doctors

With the Chinese Red Cross we are educating village doctors in Beijing, Shanghai and Guangzhou

Training healthcare workers in China



World Health Organization data show that health workers are inequitably distributed throughout the world, with severe imbalances between developed and developing countries. We believe health education is essential in making healthcare accessible to medically underserved communities.

In partnership with the Chinese Red Cross Foundation, we launched the Philips Rural Healthcare Program in 2006. This three-year initiative will educate 300 village doctors in Beijing, Shanghai and Guangzhou and includes sponsoring a train-the-trainer program for those who will work with the rural doctors.

Our Rural Healthcare Program will also establish 10 Philips clinics and hospitals. So far five rural clinics have been established. In 2007 we invited well-known doctors to go to the clinic we sponsored in Guizhou with Philips volunteers. We provided medicine and two days of free diagnosis to the local villagers.

Personalized therapy

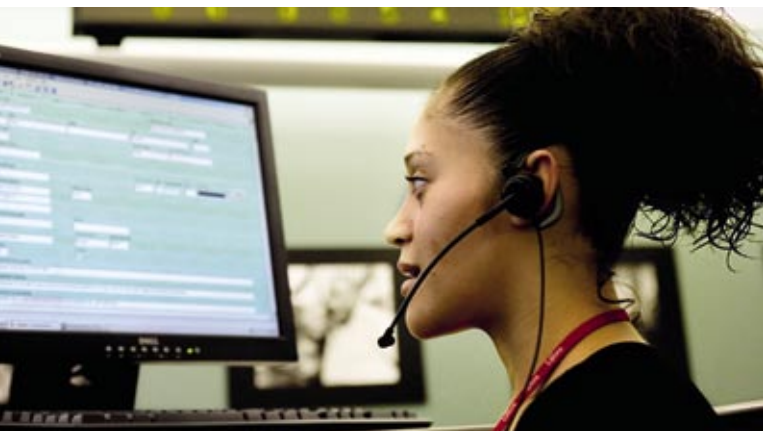
We are working on next generation tests that aim to eliminate the “trial and error” approach to medicine. Molecular tests can be used to select the appropriate drug therapy, based on genetic profiling, and to monitor therapy response. The key is that a patient will not receive a drug if it will not be effective. Plus, molecular tests can be used to monitor disease progression, or to maintain the appropriate level of drug taking.

At the Radiological Society of North America Annual Congress and Expo in November 2007, the research

projects we showcased demonstrated where imaging technology for diagnosis and treatment planning for heart disease and cancer is heading. These included patient-specific organ models for personalized radiology planning, therapy and reporting. Also shown was a project dealing with new image analysis techniques to enhance the image resolution and quality of PET and SPECT scans and extract quantitative information relating to localized tissue processes, such as reduced oxygen levels in tissue.

Bringing remote care closer

Research consistently shows that elderly patients or those with chronic illness would much rather be at home than in an institutional setting. Home care is far less costly too. Plus, the increasingly aging population in many countries simply will not be able to be cared for in traditional facilities.



Philips has been active in telehealth for more than seven years, enabling disease management firms, home care agencies and healthcare providers to remotely monitor chronic disease patients in their homes. And protecting their way of life.

2007 brought acquisitions to strengthen our portfolio in the growing telemonitoring area. We acquired Raytel Cardiac Services to expand into US home cardiac monitoring, and by acquiring HealthWatch we are extending our medical alert services, which began with the 2006 acquisition of Lifeline.

Living with heart-related ailments

In addition to providing help in the event of a fall, Lifeline provides extra protection from ailments unrelated to falls – particularly for those coping with heart disease. There are many situations in which someone may need immediate assistance but is unable to call for help themselves: a serious heart arrhythmia, chest pain, difficulty breathing, general fatigue, muscle weakness or other serious forms of distress. Among Lifeline's educational tools is a list of self management tips for heart failure.

Frequent hospital admissions is another common problem for patients with heart failure. That's because managing heart failure at home is a complex task requiring people to remember to take medications, weigh themselves on a regular basis (an indication of fluid retention) and follow a low sodium diet and exercise plan.

Remote patient monitoring

With Philips Telemonitoring Services, clinicians can remotely monitor patients' vital signs data and send them short surveys about their health status. This combination of objective data and subjective responses enables the clinician to make more timely care decisions and helps prevent unnecessary hospitalizations.

Every day, patients take their own vital signs measurements as prescribed by their doctor: weight, blood pressure, pulse, glucose level, blood oxygen level and/or ECG rhythm. They also answer survey questions sent by their clinician, which may include general health assessment questions and/or targeted follow-up questions, and enter self-reported data as directed. The information is then automatically transmitted through an ordinary phone line via modem to secure web-based Clinical Review Software. Clinicians can track daily patient measurements, store and retrieve historical data in both tabular and graphical format, and generate reports – promoting faster follow-up and intervention.

“I yelled for help and thank goodness you heard me. I had congestive heart failure, pneumonia, bronchitis and a minor heart attack...all at once.”

Joan D., Lifeline subscriber



40%

Most falls happen at home
 Every year seniors fall, but with Lifeline they are never alone

Key strategic acquisition

On December 21, 2007, we announced one of our most important strategic acquisitions in recent years: Respironics, a leading US-based provider of innovative respiratory and sleep therapy solutions. This transaction will firmly place Philips as a global leader in the home healthcare market by adding new product categories in obstructive sleep apnea and home respiratory care to our existing businesses in this field. In addition, this acquisition will be highly complementary to our patient monitoring businesses in the hospital setting.

Respironics is a global leader in the treatment of Obstructive Sleep Apnea (OSA), a condition characterized by the repeated cessation of breathing

during sleep. It is estimated that in the United States alone there are 18-20 million sufferers of moderate or severe OSA of which only 15-20% have been diagnosed. Research in recent years has shown a link between OSA, heart disease, stroke and diabetes.

Additionally, the company has a leading position in non-invasive ventilation and has recently introduced new home oxygen technologies to serve the needs of respiratory impaired patients in the home. The remainder of its business is focused on the hospital channel and includes non-invasive and invasive ventilation, respiratory monitoring, neonatal products and respiratory drug delivery technologies for the treatment of respiratory diseases.

There's no place like home

Amsterdam's Sint Lucas Andreas Hospital has implemented our Motiva telemonitoring heart care system, enabling 100 chronic heart patients to be cared for in the comfort of their own homes instead of the hospital. This is the first time such a system has been used outside a clinical trial.

We developed the Motiva personal healthcare platform, which uses broadband technology and vital signs measurement devices to connect patients to their healthcare providers and medical support teams. Patients access personalized content via an easy-to-use interactive television interface. A nurse care manager at the hospital can then monitor the patient's condition, send reminders to take medication, offer lifestyle and diet tips, review data before a doctor's appointment and be alerted if follow-up is necessary. Our partnership with Sint Lucas is a new step in our strategy to increase home healthcare, lower health costs and increase patients' quality of life.

