WELLBEING

Health | Pharmaceutical

Who wants to live forever? Maybe this will be a future question to ask. Health is the most complex concept of subjective experience that on the one hand is the fundament of our life and on the other, a phenomenon that does not exist in our thoughts until we get ill. Health means a good, long and happy life!

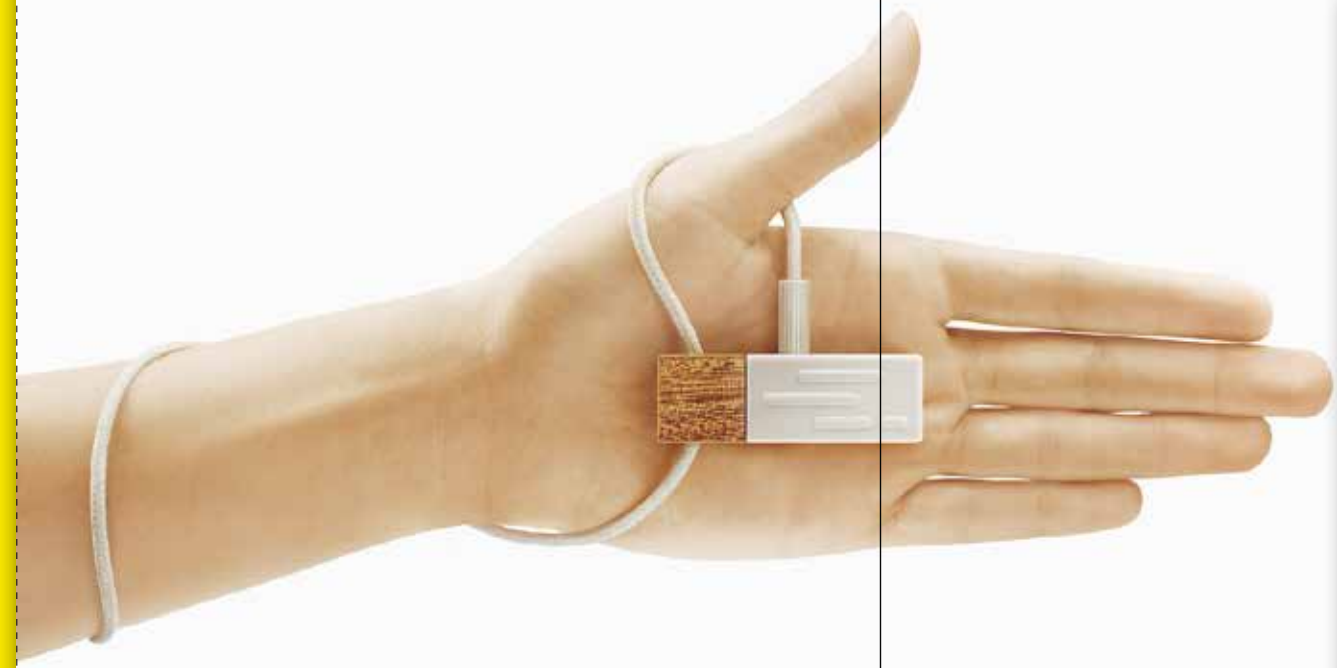


Photo: Lapka

Joost Maltha | The Netherlands
Philips | Senior Communications Manager
www.philips.com

Co-creating the future of healthcare

Photo: The increase of information flows in the intervention room ensures treatments to be more precise, safer, faster and less complex.

Between now and 2050, the world population will increase from seven to nine billion people. Given the ageing population, about fifty percent will in the future suffer from some form of chronic disease, such as diabetes, cancer or COPD. The demand for high-quality accessible healthcare will grow explosively. To meet this demand, we will need financial and human resources and it is highly questionable whether there will be enough of both available.

New technology plays a key role in the supply of healthcare that is more effective, of better quality and sustainable. To achieve this, care should be seen as a total cycle: from prevention to diagnosis and from treatment to aftercare. The patient is central within the same cycle.

To ensure sustainable healthcare, the focus should shift from treating an illness to maintaining good health: healthy ageing. In this age of information technology, it is easier and ultimately more natural for patients to take responsibility themselves.

The 'one size fits all' approach should be replaced by custom-made solutions optimised to the personal situation. Here, medical technology can play an important role through 'precision diagnostics' and more targeted treatments.

The rapid digitization of healthcare enables a true transformation in this area. It makes large amounts of information accessible, regardless of place and time; it brings information flows together, and makes large data useful and usable in the form of integrated interconnected care solutions facilitating prevention and diagnostics and achieving better treatment results.

For example, it enables optimum patient monitoring, and thus groundbreaking new care settings aimed at the development of preterm infants and the recovery of adults. The gap between hospital and home, home and family doctor can be bridged, leading to more effective support for the chronically ill.

From this perspective, clinical needs and human needs should be the starting principles. Innovation is collaboration or even co-creation. Together you reach the best solutions, beyond pure technology, accelerate the creation and promote the acceptance of innovative solutions for the sustainability of healthcare.

Thomas Bade | **Germany**
Managing Director, iF – UNIVERSAL DESIGN GmbH
www.if-universaldesign.eu

No well-being without (universal) design

Photo: Solithera therapy table by Frei AG, design N+P Industrial Design

The dimension of demographic change around the globe can be perceived across generations. Young people with postural defects, 40-year-olds with hearing loss and 80-year-olds with fitness issues are coining a new global image of humankind. A healthy diet, exercise and intellectual challenges are the key parameters of a more mobile and global society. Universal design is the key to integrating technologies and home and living environments into user-accepted structures. The future of design no longer lies exclusively in new products, but rather in the moderation and design of scenarios that sensibly, sustainably and in a user-oriented fashion shape the lives and work of societies.

Mind you, if they relied on engineering alone, smart technologies such as ambient assisted living, sensorial cross-links for homes for the elderly, modern prosthetics and health apps so far have missed their targets.

The boundaries between products and environments related to wellbeing are blurred. Today, gyms offer courses in fitness, prevention and rehabilitation that are aligned with the training methods of both professional athletes and coronary patients. Pimp your Wheelchair stands for a new generation of physically challenged people. Wheelchairs and leg prostheses have turned into high-performance technical products that owe their promotion to lifestyle or must-have products exclusively to individual design. In this segment, good universal design has opened up to customized user options. Especially in environments such as hospitals, rehabilitation clinics or senior citizens homes, the issue of wellbeing challenges design in numerous ways. The tasks at hand are to design therapists' workspaces simply and ergonomically and, at the same time, implement customers' requirements regarding emotional security.

Very few have penetrated the "flagship category" of holistic concepts that incorporate the required assistance systems in an invisible manner. One of them is the Belgian multi-professional approach titled prof projects for which the design, care and industrial sectors have cooperated "invisibly". Multi-professional, trans-disciplinary … whatever we call it, wellbeing does not happen without design!

Dr. Ralph Boch | **Germany**
Director of Hans Sauer Foundation
www.hanssauerstiftung.de

Hygiene as a cultural technology

Every year, between 400,000 and 600,000 people contract infections while in hospitals in Germany. Insufficient therapeutic constancy is a universal problem in our healthcare sector. What we need is design that addresses conscious behavior in the relationship between medicine, care and patients.
A project conducted jointly by a clinic in Germany and the Department of Design at Bauhaus University has demonstrated that the key is to make the importance of hygiene in hospitals and in the care sector demonstrably clearer using all means and strategies available and to address a large number of target groups.
New clothing for clinical environments, novel dispensers for liquid sanitizers and a campaign have been developed to enhance hygienic conditions and allocate a higher priority to the issue of cleanliness in everyday clinic life. In part, the images and language are very dramatic, touching the boundaries of the acceptable and common.
The strong formal and contextual connection of verbal and visual elements was chosen deliberately to ensure that the issue of hygiene is given the required sustainable attention and that the audience is galvanized.

Stefan Brodbeck | **Germany**
Industrial designer, owner of brodbeck design
www.brodbeckdesign.de

Agreeable security

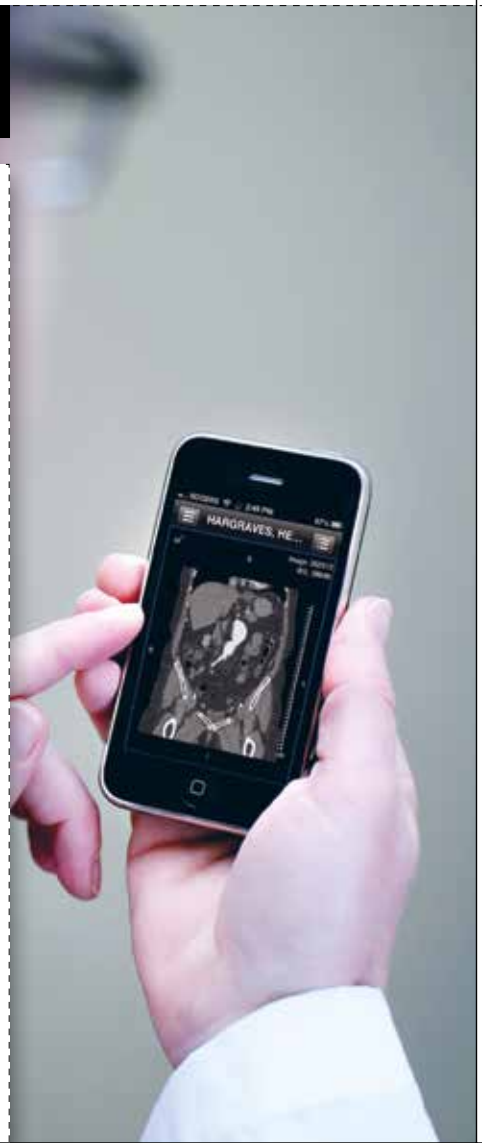
In view of current demographic developments, there is no alternative but to explore further and address the specific issues of the target group defined as Generation Plus. I believe the future lies in product strategies focused on developing and creating functional products that meet the needs of the elderly and – thanks to their aesthetics and focus on user-friendliness – are attractive to other generations as well. Product and market strategies going in this direction evoke the credibility required to address experienced and critical consumers at the emotional level and convince them of the benefits of the products and services offered. The brodbeck design team is sensitive, feels a connection with the target group and bases its work on its interdisciplinary know-how regarding this highly attractive market. We currently are developing system solutions for the bath and healthcare segment. The functions of the elements of the new series will be convincing as well as being a surprise to the emotions. They provide agreeable security and, at the same time, can be transferred easily to other contexts. We are interested in providing innovations that simplify the complexities of everyday life and enhance it, delivering "agreeably sensual functionality."

Photo left: Concept by Stefan Brodbeck
Photo right: Steelcase Qivi

Prof. Guus van Dongen | The Netherlands
VU University Medical Centre Amsterdam | Medical Imaging &
Project leader Vumc Imaging Centre Amsterdam | www.vumc.com

Looking under the bonnet of man

At the end of last millennium, scientific biomedical research gained momentum when the order of 3 billion base pairs of the human DNA was unravelled. Optimists immediately claimed that this knowledge would lead to the elimination of most diseases. This has proved naive hubris; the human body is just too complex. While the human exterior has been the subject of study and fascination for centuries, the human interior in particular has been found a rather impenetrable domain.
However, a change is on its way. Soon we will not only be able to image the skeleton and the organs with scanners, we will also be able to see if biologically they function at their best. We can also image medicines in the body and determine whether they are effective. In addition to diseases, also the human frame of mind can be visualised.
The individual person will have no more secrets, and 'tailored therapy' becomes an option. Will you opt for such therapy? Will you allow your soul to be investigated on the basis of the belief in makeability and perfection?



Photos: Calgary Scientific

Dennis Geuenich | The Netherlands
Maxima Medical Centre | Corporate journalist
www.mmc.nl

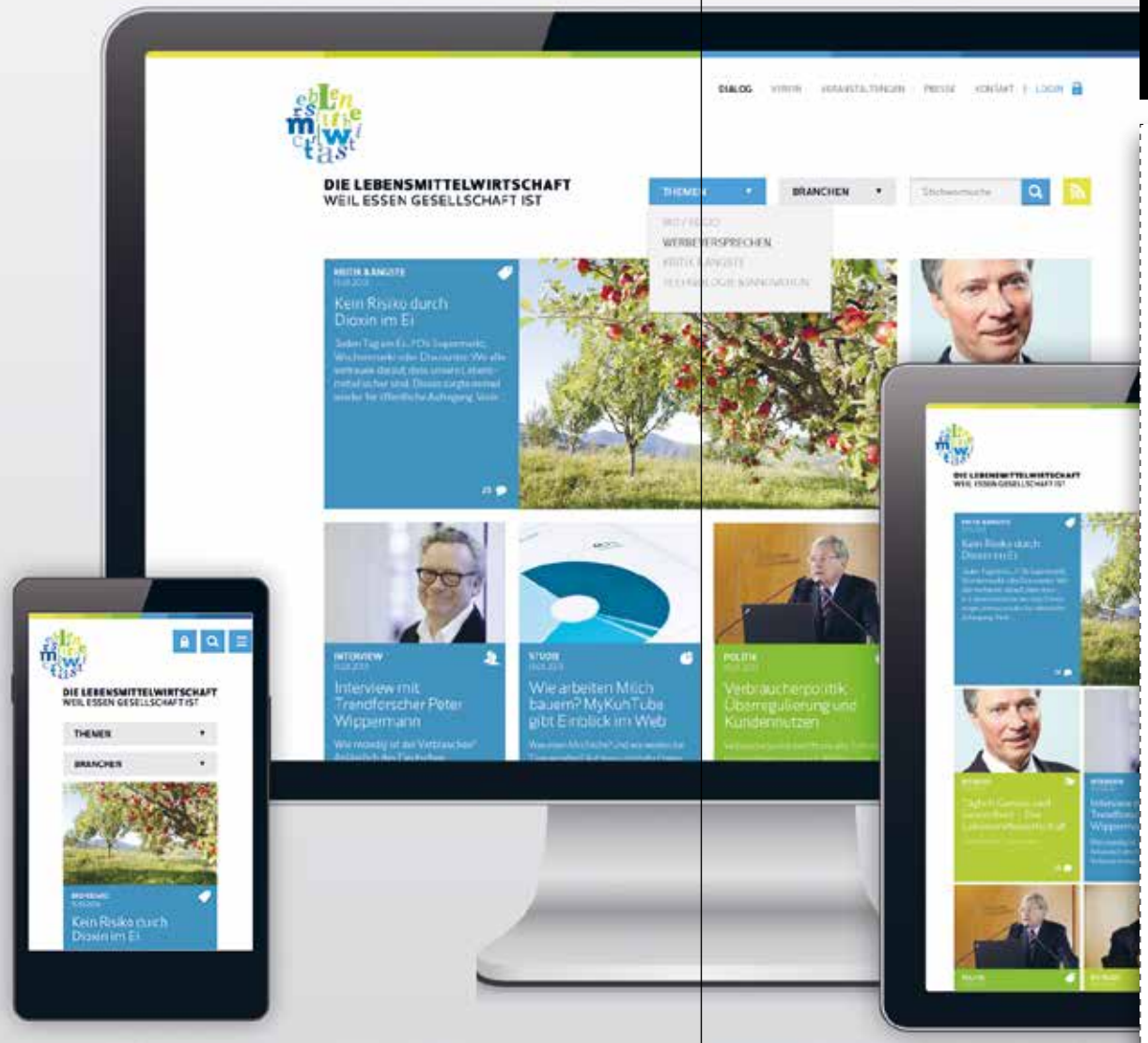
Everything revolves around the family

Máxima Medical Centre (MMC) is the largest hospital in Eindhoven region, occupying a special position. As a non-academic hospital, MMC has an intensive care unit for premature children (Neonatal Intensive Care Unit) and a tertiary (academic) function for women with a complicated pregnancy. This is why on September 20, 2012, MMC brought paediatrics, neonatology, gynaecology and obstetrics together in one centre: the Vrouw Moeder Kind-centrum (Women Mother Child Centre) in Veldhoven.

Care is based on the Family Centred Care principle: everything revolves around the family. Mother and child stay together all the time. The medical specialists come to them to treat them. Máxima has extended this principle up to the sickest children: those in the intensive care unit (NICU). This is unique in an international perspective. Family Centred Care does not only imply excellent medical care, but also a pleasant stay in the hospital: for instance, the kids can play in several places, brothers and sisters can come and visit, dad can stay the night and even an approved pet is welcome.

Photo by Edwin in't Zandt

Martina Grabovszky | Germany
KOCHAN & PARTNER GmbH, Brand Design Development
www.kochan.de



Eating is a convivial event

Most news about the food industry not only is negative, it is scandalous. Rotten meat, horse meat, incorrect labeling – the players in the food industry are connected mainly by one thing: people have stopped believing them. Can this negative image be undone? The association Die Lebensmittelwirtschaft (The Food Industry) recently was established by seven of the food industry's umbrella associations as a forum for discussion and to provide information. Its aim is to bring about sustainable change. Along with intensive workshops and the exchange of opinions and ideas, the results of the organization's own research have provided the foundation for the implementation of its tasks. These tasks include providing consultation services regarding corporate communications, positioning, brand development together with logos and corporate design, and claims that complement the company's name as well as translating the design into diverse media.

Dr. Peter de Jager | The Netherlands
Het Jeroen Bosch Ziekenhuis | Internist-intensivist Intensive Care | www.jeroenboschziekenhuis.nl

Dynamic lighting in the Jeroen Bosch Ziekenhuis

The new Jeroen Bosch Hospital aims to be a healing environment for its patients. Light, colour, indoor gardens and art should contribute to the healing process. The rooms of the patients at the Intensive Care Unit (ICU), for instance, are equipped with dynamic lighting, which improves the right amount, strength and tone of light in a fixed, daily pattern simulating the natural exposure to daylight. As dynamic lighting improves the day-night rhythm of both patient and staff, it may prevent delirium (an acute state of confusion) in very ill patients. Delirium leads to higher mortality and longer hospital stays. Intensivist Koen Simons is currently doing research to gather scientific evidence. Does dynamic lighting indeed have beneficial effects in preventing delirium? "Our patients have inspired us to introduce this dynamic lighting", says intensivist Peter de Jager. "With this research, we are zooming in on one of the most influential environmental factors there are: light."

Photo: Dynamic light during the day in a patient's room at the ICU

Pieter Jeekel | The Netherlands
Stichting Zorg Binnen Bereik | Director
www.zorgbinnenbereik.nl

Photo: Infographic by Help Remedies Inc.

Telecare is coming closer

Healthcare is on the threshold of great changes, and telecare is going to play an increasingly important role. The total group of older people with chronic diseases increases while the number of people who can provide care decreases. The new generation is more accustomed to interactive forms of communication and searches for ways in which to apply these in dealing with their health.
The latest means of communication enable people to check and improve their health in pleasant collaboration with their healthcare provider. Via a tablet, they can check their physical condition quickly and easily and learn what actions they can take in which ways and by which means.
In the coming years, we will see a tremendous increase in products and apps with which people can monitor and improve their health even more easily. For this process to be successful, it needs to be an integral part of the care process because the cooperation between patient, caregiver and healthcare is of vital importance.

Hans van Laarhoven | The Netherlands
Heart & Vascular Group | Policy Advisor
www.hartenvaatgroep.nl

New behaviour

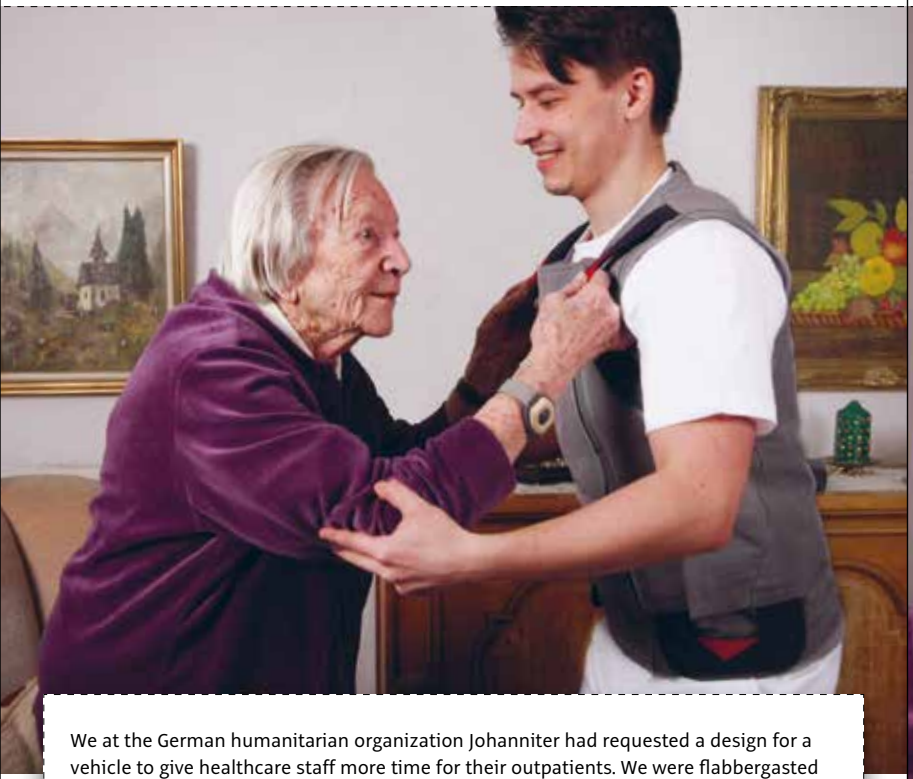
Innovation and change in healthcare are multilayered. The upper or outer layer is the layer of medical knowledge and technology, such as tools that take over functions, drugs that are highly personalised and procedures with great recovery power. Clearly visible, often spectacular and lifesaving.
The second layer is innovation in the implementation and organisation of daily care, such as e-health applications and on-line communication, new forms of the organisation of care, the concentration of specialist medical care. Noticeable in the everyday course of business; not very exciting.
The third one is the layer of innovation in behaviour and actions of caregivers, patients and citizens, such as shared decision-making, shared responsibility, self-management and control, healthy behaviour. Meaningful only to those involved; no exposure; long-term process.
The speed at which innovations find acceptance seems inversely proportional to the technical content and the outward show. Whereas eventually the health benefits of the least visible innovations are much larger indeed.

Photo: Nutri, design by Sebastiaan Wolzak

Kiyoharu Nakajima | Germany
Coburg University, Department of Product Design
www.kiyoharunakajima.com

These finger orthoses are designed for use on extended or flexor tendon injuries in middle and end joints. The injured finger is scanned with a 3D scanner so the digital data can be used with a CAD program to shape a finger orthosis, perfectly adapted to the injured finger. This CAD model then can be printed with a 3D-plotter in a variety of material densities and in various colors.
According to the rehabilitation plan, the orthosis gets printed repeatedly in different degrees of density to support the healing process step by step.
This new technology not only allows a design to be used that it was not possible to produce until now, but also offers maximum individualization.
The idea arose from the experience that finger orthoses do not always fit comfortably on the finger. As a result, patients often make mistakes and put the orthoses on incorrectly. An orthosis should be adjusted to the patient and not the other way around. Rapid-Manufacturing Technology can cater to these individual needs.

Mila Schwerd | Germany
Manager of the Social Services Division at the Bavarian Chapter of Johanniter-Unfall-Hilfe e.V.| www.johanniter.de



We at the German humanitarian organization Johanniter had requested a design for a vehicle to give healthcare staff more time for their outpatients. We were flabbergasted by the quality of the ideas' the students of Industrial Design at Munich Technical University developed.
The students' impartial view of the daily routines of nurses who take care of outpatients in their homes opened up new opportunities to save time and revealed a number of health risks. Our staff contributed to the development of the vehicle and specified its needs. The students quickly developed functional solutions, for example, the care vest, which facilitates the daily work of our staff and at the same time enhances the image of healthcare professionals.
We experienced design as an all-encompassing process that results in concrete products which patients, staff and employers have found to be stunningly simple, practice-oriented and attractive.

Photos: The care vest in action by Malte Pliszewski, Munich Technical University, Department of Industrial Design

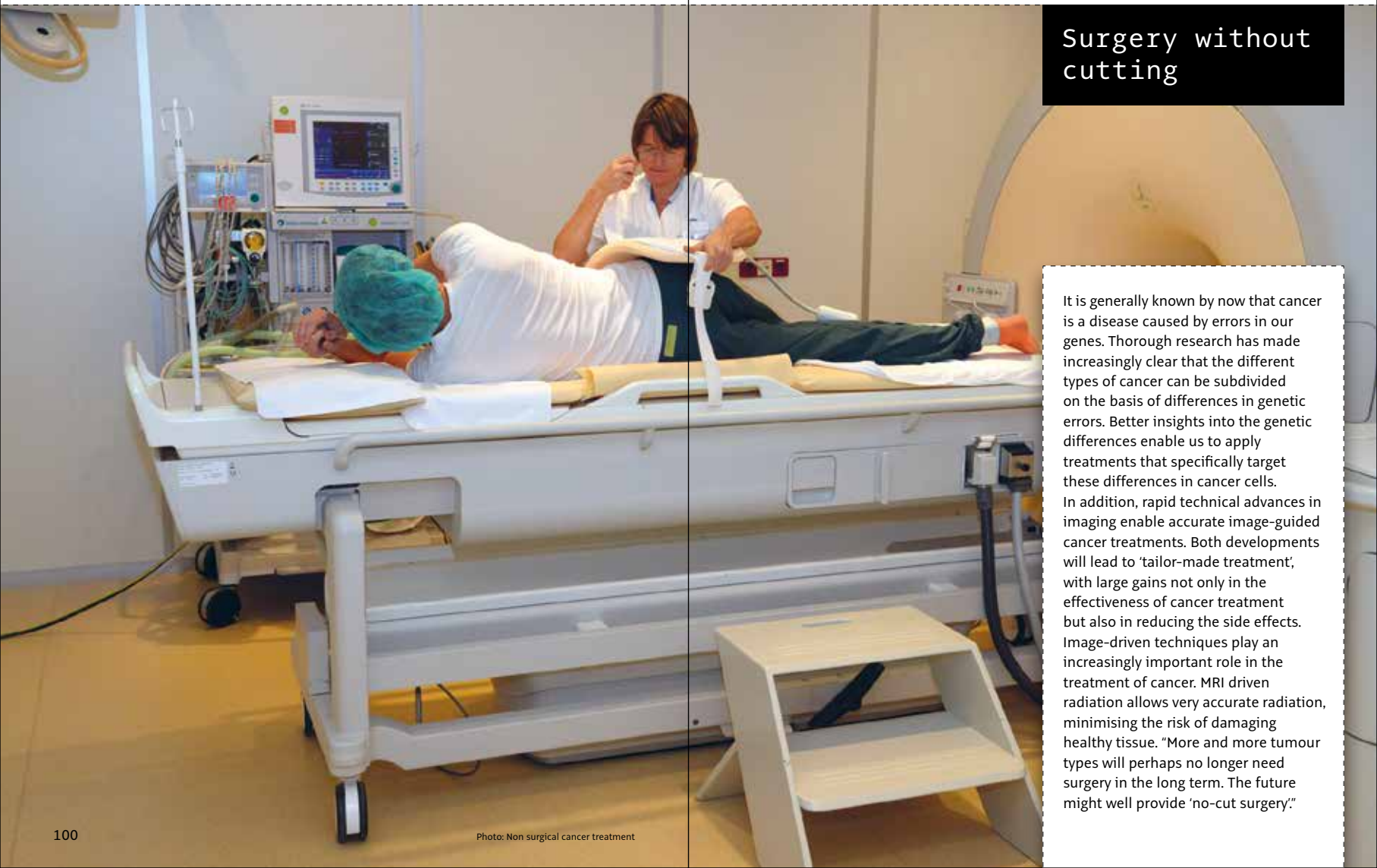
Karen Ostertag | Germany
Ganymed GmbH
www.ganymed.eu

Photo: Karen Ostertag, Prussian Cultural Assets Foundation

Design offers changes to things that already exist, not least because modifications often are mandated by evolving science and new materials. However, some things "always have been this way" and never have been questioned either scientifically or because of the new materials they incorporate.
Crutches have looked the same for approximately the last 3000 years. The only addition to the armpit support at some point was the lower-arm support which, however, has not been modified since its introduction. Finally, a temporarily disabled designer looked critically at her crutches. She wanted a device that would be stable and not fall all the time, hurt her hands, or strain her back. The ideal crutch would have a point of connection with the ground that would be within the user's view and the crutch would help the user to walk in an upright position. She also wanted the crutch to facilitate walking on "four feet" without requiring a lot of strength. All of these aspects have been implemented in GANYMEDs. They are made of cutting-edge materials that even facilitate bionic construction. GANYMEDs look sporty and are significantly lighter than their conventional counterparts.

Prof. Elsken van der Wall | The Netherlands
University Medical Centre Utrecht | Medical Oncologist,
Chair UMC Utrecht Cancer Center | www.umcutrecht.nl

Surgery without cutting



It is generally known by now that cancer is a disease caused by errors in our genes. Thorough research has made increasingly clear that the different types of cancer can be subdivided on the basis of differences in genetic errors. Better insights into the genetic differences enable us to apply treatments that specifically target these differences in cancer cells.
In addition, rapid technical advances in imaging enable accurate image-guided cancer treatments. Both developments will lead to 'tailor-made treatment', with large gains not only in the effectiveness of cancer treatment but also in reducing the side effects. Image-driven techniques play an increasingly important role in the treatment of cancer. MRI driven radiation allows very accurate radiation, minimising the risk of damaging healthy tissue. "More and more tumour types will perhaps no longer need surgery in the long term. The future might well provide 'no-cut surgery'."

Photo: Non surgical cancer treatment