

Healthcare

LAB

Science and technology are pushing healthcare forward at a fast pace, and spaces devoted to healthcare need to follow suit. As the effects of a patient's physical surroundings become more and more evident, traditionally designed medical facilities are being replaced by **HUMAN-CENTRIC, SERVICE-ORIENTATED HEALING ENVIRONMENTS** that are created to ease treatment and, ultimately, to stimulate recovery.

Healing in Time

Using design as a tool, a new generation of innovators is radically reshaping healthcare.

Words
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'THE ROLE OF DESIGN in healthcare is much more than making a product, service or interior aesthetically appealing. It's about something deeper, which starts from design research and design thinking,' says Sabine Wildevuur, curator of the Embassy of Health exhibition at Dutch Design Week 2017 and director of Waag Society's Creative Care Lab.

News agency Reuters reports that the healthcare industry – currently worth US\$23 billion – is estimated to rise at a compound annual growth rate of more than 35 per cent over the next three years. As the health industry advances and new start-ups demand a piece of the market, what was once seen as a clinical sector is now being injected with excitement. A new generation of innovators is stepping in where governmental systems are failing to radically reshape the future of healthcare design. The work of young designers ranges from digital healthcare services and healing spaces to robotics and wellness architecture.

Today, with a plethora of products and services on the market that promise healthier minds and bodies – together with over 165,000 health-related apps available

on the Apple store, including those that monitor blood pressure, calculate insulin doses for diabetics and encourage mindfulness – it's surprising that we're so often sick. In the UK, the National Health Service is making progress with the introduction of health campuses around the country, locations with swimming pools, aerobics and exercise classes, and de-stressing beauty treatments such as facials. Nonetheless, such efforts are a far cry from a whole-body approach to long-term health. 'The National Health Service is the most powerful brand that we have, but the focus has always been on illness not health,' says Duncan Selbie, CEO of Public Health England.

The call for a more holistic view of health is evident in the size of the nutraceuticals market. According to Mintel, UK sales of vitamins and supplements increased by 2 per cent to £421 million in 2016, following a 2 per cent rise between 2014 and 2015.

Bridging the gap between the pharmacy and the health store, new retail concept Supple aims to educate consumers who are looking for mind-body solutions. The concept store displays a range of nutraceuticals on modular, interchangeable units that provide clear descriptions of the products and their benefits for physical and mental wellbeing. In-house nutritionists and practitioners help customers to find the right products, and for even more information, visitors can scan labels with the use of NFC (near-field communication) technology. The convergence of health and wellness is prompting consumers to take an active role in their journey to health, says James Shaw, founder of Supple, who mentions 'clinics, surgeries, hospitals, gyms and health-food stores' as 'places associated with health'.

Although an on-demand culture fostered by Amazon and Uber has changed our attitudes and expectations about health, the pursuit of instant gratification goes hand in hand with a desire for healthy living. Part of the picture is the convenience that occurs when the middleman is eliminated. Pharmaceutical start-ups are streamlining the process of obtaining prescription drugs both digitally and physically. Gone are the days of endless queuing, only to reach the counter and find that the medication you want has to be ordered. New York pharmacy Capsule does away with the frustration by inviting you to chat with a pharmacist online (using an app) and to have your prescriptions delivered – or to drop by Capsule's bricks-and-mortar location and speak to the pharmacist face to face. World Urbanization Prospects, a UN report revised in 2014, estimates the number of people living in cities at 54 per cent, a figure that is expected to hit 66 per cent by 2050. A growing urban population, coupled with a strong desire to control our own wellbeing, means that convenience is more important than ever.

Convenience taken to the extreme defines Aim, Artefact's portable, self-driving AI clinic, which comes straight to your door. Although just a concept at the moment, the vehicle may be a portent of a more efficient healthcare system – in a future that sees AI able to diagnose health problems and to prescribe specific medications. A product like Aim could support a patient's self-assessment with built-in 'bridge diagnostics' like thermography, imaging and breath analysis.

As the healthcare sector expands into retail spaces and gyms, both consumers and designers are paying more attention to the subject. This was evident at Dutch Design Week, where the Embassy of Health presented »

EMPOWERED PATIENTS

As hospital environments become increasingly humanized, healthcare aids should follow suit. Designer Alissa Rees, who was diagnosed with leukaemia at 19, came up with IV-Walk a wearable IV stand that enables patients to move around more easily. She knows that stimulating a patient's mobility can be crucial in the recovery process.



Chronic Health: Designing a Healthy Future, an exhibition featuring projects that help patients to take greater control of their treatments. Wildevuur sees a shift from healthcare agencies and laboratory analyses to self-monitoring and self-diagnosis. 'The roles of hospitals, caregivers, patients and designers are changing,' she says, 'accompanied by strong bottom-up forces.'

Taking matters into her own hands, Alissa Rees, who was diagnosed with leukaemia at the age of 19, showed IV-Walk at the exhibition, a portable IV stand that allows patients to move around more easily. Rejecting cold metal, Rees made IV-Walk from a soft flexible material. Instead of hiding the pole or trying to ignore it, you 'wear' it as part of your outfit.

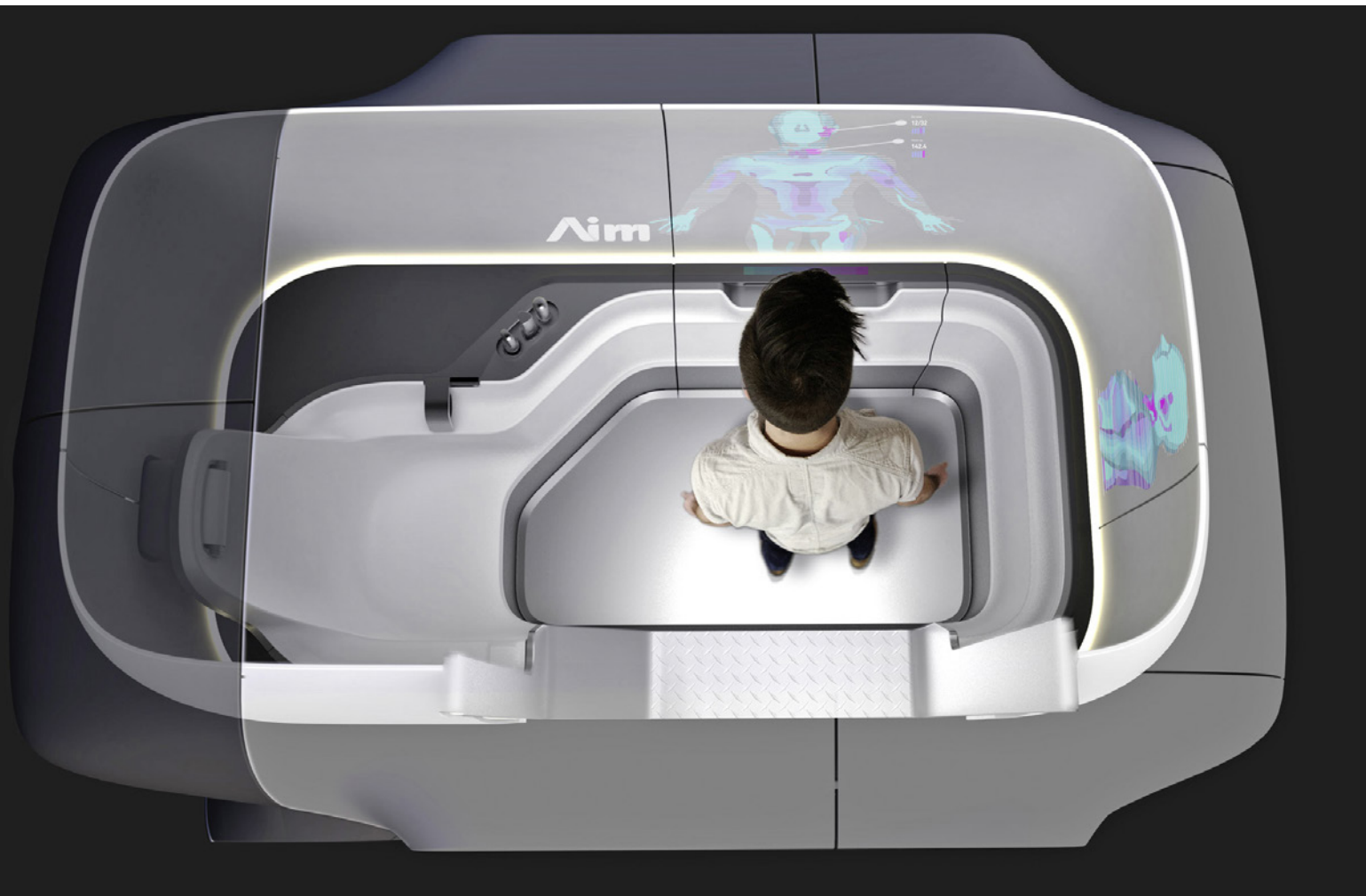
As health and wellness become entrenched in our everyday lives, authenticity is seen as vital in the race to compete. A lack of regulation in the wellness sector has enabled any brand to tap into this lucrative market without having to prove that its product or service has physical or psychological benefits. Science-led, evidence-

based design is becoming more and more of a necessity.

In recent years a mountain of research has gone into spatial design and its effect on the human brain and behaviour. Much of this research has targeted workplace wellness. Modern companies understand that by changing the office environment, you can change your work culture. Scientific studies aimed at healthcare take this one step further, and rather than just simply adding greenery to optimize a sense of wellbeing, architects are considering how neuroscience and the use of neuro-architectural principles can play a pivotal role in shaping human behaviour. 'Our studies of light colour and intensity showed that heart-rate variability, a sensitive indicator of mental engagement and health risk, changed after only 15 minutes of different electrical light conditions in a controlled space,' says Eve Edelstein, research director of the Perkins+Will Human Experience Lab. Methodical exploration of the influence of certain materials, lights and colours on health and wellbeing may evolve into a long-term approach to our spaces and cities.

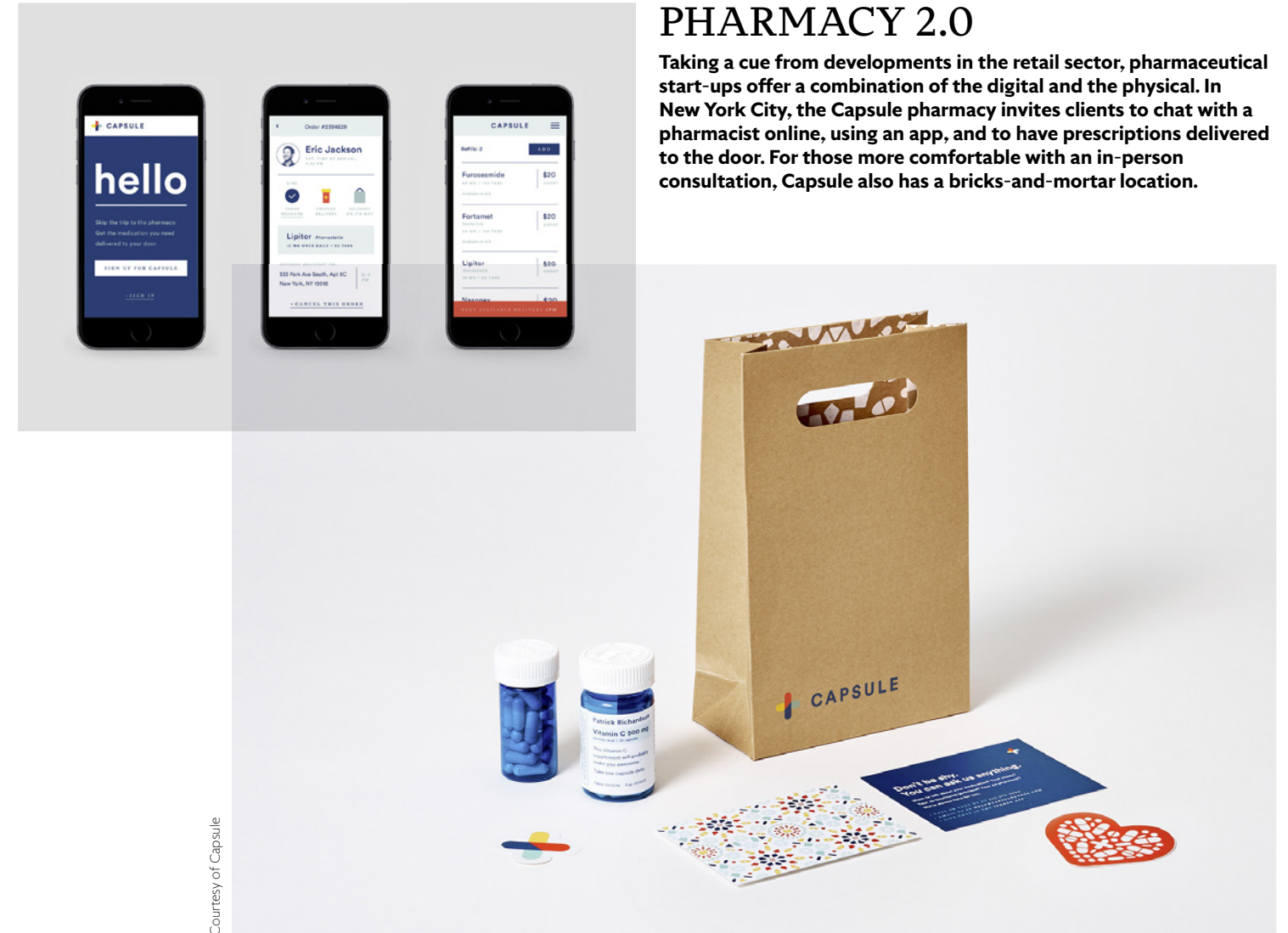
CONVENIENCE HEALTH

As a result of an on-demand culture fostered by Amazon and Uber, convenience in all sectors, including healthcare, is becoming more important. Artefact's Aim is a portable, self-driving clinic that comes straight to your door. Currently a concept, Aim relies on AI to diagnose health problems, and the product's built-in 'bridge diagnostics' – thermography, imaging and breath analysis – support a patient's self-assessment.



PHARMACY 2.0

Taking a cue from developments in the retail sector, pharmaceutical start-ups offer a combination of the digital and the physical. In New York City, the Capsule pharmacy invites clients to chat with a pharmacist online, using an app, and to have prescriptions delivered to the door. For those more comfortable with an in-person consultation, Capsule also has a bricks-and-mortar location.



The convergence of health and wellness is prompting consumers to take an active role in their journey to health

The design of a neurological and psychiatric care centre for the University of Cincinnati in Ohio exemplifies the work of Perkins+Will. Scheduled to open in 2019, the institute will cater for patients suffering from neurological disorders, including Parkinson's, Alzheimer's, migraine disorder and traumatic brain injury. The team worked with a committee of doctors, patients and families to address each step of a patient's journey. Neurological research on lighting, acoustics, colours and building orientation led to design elements that are intended to

improve the lives of patients with cognitive dysfunction and other brain conditions.

In the majority of countries throughout the world, heart disease, stroke and diabetes are on the rise, and healthcare today is insufficient to stem the tide. In addition to the growth in non-communicable diseases, the percentage of the world's population aged 65 or over is predicted to double from 8.5 to 17 per cent by 2050, according to the US National Institutes of Health, leading to an increase in health issues linked to old age.

In light of this information, healthcare design should be adaptive and able to face whatever the future may bring. Edelstein rejects the notion of 'separate spaces for separate people'. She wants to see flexibility in healthcare design, so that patients can adapt spaces to their personal needs. 'I'm a very different person when I'm about to take an exam or under undue stress than when I'm fully relaxed,' she says. 'I want my environment to be responsive to my dynamically changing mental and biological state.' Perhaps the convergence of spatial design and neuroscience will lead to health and healthcare becoming an ingrained part of our global landscape, manifested in everything from interiors to blueprints for the city. ●