

TRUST IN HEALTHCARE
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THE MEDICAL FUTURIST
PREPARING FOR DIGITAL HEALTHCARE

HEALTHCARE

IMPACT

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HEALTH EQUITY
A MORAL IMPERATIVE

CREATING AN
EXTRA DECADE
OF HEALTHY LIFE
A CORE CALL TO ACTION

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Japan is home to the world's oldest population, with 80,450 centenarians – a rise of 9,176 since 2019.

SOURCE: JAPANESE MINISTRY OF HEALTH AND WELFARE



An attendee at Ceatec Japan 2019 wears 3D glasses to try out the new Orbeye surgical microscope system.

↘ Kato. “However, gradually they have changed their minds to accept private sector researchers.” The legislation is subject to revision every three years. Acceptance of the policy is high among Japanese citizens as they can see the potential benefits. “Most of those coming into hospital want their data to be used for medical advancement,” says Kuroda. “Importantly, people also have the right to opt out, but in our experience less than 1 percent want to. This says quite a lot.”

What is crucial, however, is that the data is consistent, well-organized, detailed and universal, so it can be pooled with other datasets to offer far greater insights than those available from a single study. “This is what makes it precious,” says Kato. “Other countries that want to use healthcare data to improve their healthcare need to make sure they gather it systematically and from universal coverage – then later generations can enjoy the fruits.”

CHANGE OF DIRECTION

Many sectors have been transformed through new technologies, but the healthcare sector has generally, for a number of reasons, been relatively slow. “We are late in implementing some technologies because there are all sorts of regulatory barriers and issues around approval and reimbursement,” says Claude Clément, President of BioAlps, an organization that works to support and represent the growing cluster of life sciences companies and institutions in western Switzerland. “Also, people in the field of health are intrinsically conservative, especially doctors – the mindset of the health industry is not naturally adapted to the changing world.”

Clément believes, however, that there is enormous potential. A good example is the field of neuroscience. “We are really at the very beginning of trying to understand the brain and how it works,” he says. With aging populations,

Alzheimer’s, Parkinson’s and epilepsy are more prevalent than they were 50 years ago, yet while billions have been invested in seeking new drugs to tackle these diseases, little has come of it. “We need to go another way,” says Clément. “While in the past we mainly relied on pharma, increasingly we are looking to med tech for solutions. That means looking at electricity, light, ultrasound.”

As well as benefiting patients, this shift could also help to ease the burden of healthcare costs. “The cost of developing drugs is enormous, sometimes well over \$1 billion. In some special cases, like rare diseases, the price charged can reach \$1 million a year for treating a single patient. Should we develop such a drug, or should we focus on how to treat other unmet medical needs that have a big impact on society? These are fundamental questions,” says Clément. “We need to find better healthcare solutions at a lower cost. We need to redirect our efforts



Digital therapies support neurorehabilitation for stroke or Parkinson's patients. Mindmaze, a Swiss company, enables patients to practice movements with their healthy side, while giving the brain the illusion that the paralyzed side is moving.

toward affordable healthcare that is available more widely.”

MAKING TECHNOLOGY MAKE A DIFFERENCE

Developments in smart health or digital health have wider implications. “Up to now we have always tried to keep health data private, between your doctor and you. Now we are trying to gather data to find trends and treatments using AI and big data. It is a collective approach, instead of the private approach we have had in the past,” says Clément. “But the results will be more treatments that are better tailored to individual needs. In the future, new data technologies will lead us to pursue personalized medicine, but this will only be possible if we have first collected a mass of information. Diseases propagate everywhere in the world. Covid-19 is a good example. There are no continental or national borders. So, we need to think in a different way.”

PHOTO: MINDMAZE

CALL TO IMPACT

1 Food companies should put more effort into encouraging consumers to eat fruit, vegetables and whole grains, for example by making these more affordable.

2 Governments must find ways to alleviate privacy concerns around the collection of mass data as this will enable the development of more personalized treatments.

3 New technologies should be used to develop affordable healthcare that is widely available, not to develop solutions that are only accessible to those who can afford them.

Some progress is being made in this direction with global initiatives working to remove the obstacles to data sharing across borders. Among them are the International Rare Diseases Research Collaboration, the Global Alliance for Genomics and Health, and Neurodata Without Borders. Research into the brain is one area where global collaboration on sharing data and infrastructure has great potential.

For Clément, this new approach could bring huge benefits not just to patients in developed countries but around the world. “The approach we have today is very selfish. You treat yourself, your own disease, by going to your personal doctor. Individual treatment like this is reserved for rich countries. But disease does not only affect the wealthy,” he says. “We should focus on what the population needs. If our technological dreams are not in line with this, we should not develop them.” ■