Life Science Zurich Impact Conference 2023

The value of data

The 3rd Life Science Zurich Impact Conference was dedicated to the topic «Data for Health» on May 23. Around 350 participants took the opportunity to learn about current trends and to network.

Artificial intelligence is making tremendous progress and digitalization is also advancing in healthcare. Today, it is clearer than ever that data will play a central role in the medicine of the future. Health data from healthy and sick people makes it possible to better understand diseases and develop new therapies. But the use of data is not just a technical matter; it affects society as a whole. «We need to create a culture that enables data to be used well», said Professor Sven Hirsch, head of the ZHAW Digital Health Lab and moderator of the conference, in his introductory words.

The opportunities and challenges of data-based medicine were discussed at the conference in keynote speeches, parallel sessions, and a panel discussion. In addition, networking meetings - organized by Enterprise Europe Network (Innosuisse) - and an exhibition space enabled networking between representatives from research, healthcare, and business. An Investor Track organized by the ZHAW School of Life Sciences & Facility Management also offered start-ups the opportunity to present themselves to potential investors and cooperation partners.

More precise therapies

The development in the direction of precision medicine was at the center as a fundamental trend. More and more accurate data, as well as new technologies, are helpful in better tailoring treatments to individuals. Technological innovations include organoids, as Professor Hans Clevers, Head of Research and Early Development and a member of the extended Corporate Executive Committee at Roche, explained. He is one of the pioneers of 3D cell cultures. According to Clevers, such simplified «copies» of real organs or, for example, tumors are ideal for testing the effectiveness of cancer therapies for individual patients. While intensive research on organoids is being conducted in laboratories around the world, certain applications have already arrived in everyday clinical practice. In the Netherlands, for example, the new technology is helping to determine the appropriate therapy for patients with cystic fibrosis.

Bernd Bodenmiller, Professor of Quantitative Biomedicine at ETH and the University of Zurich, then provided insights into data-based methods for more precise tumor diagnostics. His team is working - in the meantime also within the framework of the start-up Navignostics - on the incorporation of single-cell data into «digital tumors» in order to simulate the course of the disease and the effects of therapy.

Data have to be useful

In the parallel sessions, numerous projects were presented that aim to improve medicine with the help of data. Dr. Samuel Wehrli from the ZHAW presented a project in which wearables are used to monitor patients. He sees great potential in this to automate certain work in hospitals. At the same time, he cautioned, «You can measure as much as you want. What's important is that the data is really useful for hospital employees».

The challenges repeatedly mentioned were data management, data interoperability and privacy protection - or the question of who should own the data. Common, cross-institutional data standards are all the more important, the conference emphasized. This is the only way to overcome the isolated «data silos» that have existed up to now.

Professor Philipp Fürnstahl and Dr. Sebastiano Caprara reported on how such data standardization is to be achieved at Balgrist University Hospital in Zurich. With the OR-X project, a surgical research and learning center will also be available at the clinic from August 2023. Among other things, new surgical technologies such as augmented reality, robotics and artificial intelligence will be tested there. The project is correspondingly digitized and data-based.

When data is missing

The importance of data becomes clear at the latest when it is missing. This is the case, for example, in the field of gender medicine, as Catherine Gebhard, professor at the Inselspital in Bern, reported. The «gender data gap» can be seen, for example, in the fact that men are

usually overrepresented in studies and women suffer more often from the side effects of treatments.

According to Susanne Gedamke, executive director of the Swiss Patients' Organization, there are also blind spots with regard to patients' perspectives. Little is known, for example, about how they evaluate medical services. «In the health care system, people often talk *about* patients rather than *with* them. » For example, little is known about how patients rate medical services. According to the SPO's experience, patients have a fundamentally positive attitude toward digitization - chronically ill patients in particular, for example, clearly express a desire for an electronic patient dossier. There is also hope that digitized processes will allow more time for consultations. However, data sovereignty must remain with the patients, according to Gedamke.

Resources needed

In the panel discussion, it became clear once again that it's about more than just data. Dr. Kathrin Crameri, Director of the Swiss Personalized Health Network (SPHN), emphasized that in order to use data, a good infrastructure, a governance framework and a social understanding of data sharing are needed. Professor Christian Baumann, medical co-director of Zurich University Hospital, identified a lack of financial resources for relevant innovations at universities and university hospitals. General practitioner and professor Barbara Biedermann put it pointedly: «The development of a data infrastructure should be understood as a public task, like the construction of the railroad network once was». Overall, the panelists were confident that much will be achieved in the next few years to further digitize healthcare and make profitable use of data in medicine.

At the end of the conference, the two start-ups aiEndoscopic and Positrigo had the pleasure to receive an award for the best presentations of their companies. The closing remarks belonged to the conference partner institutions. Professor Claudia Witt, Co-Director of the Digital Society Initiative at the University of Zurich, Dr. Silvio Bonaccio, Director ETH Zurich Transfer and Professor Sven Hirsch from ZHAW once again emphasized the value of cooperation between their institutions on the way to the future of medicine.

3. Life Science Zurich Impact Conference

The conference took place on May 23 at Technopark Zurich. It was organized by the Life Science Zurich Business Network, the Location Promotion Department of the Office of Economic Affairs and Labor of the Canton of Zurich and the Bio-Technopark Schlieren-Zurich. Partners of the conference were Life Science Zurich, the City of Zurich, ETH Zurich, University of Zurich, ZHAW as well as Innosuisse. The conference was supported by the following sponsors: Horgen Labs Innovation Campus, Roche, Swiss Institute of Bioinformatics, Superlab Suisse, University Hospital Zurich and Wyss Zurich.

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