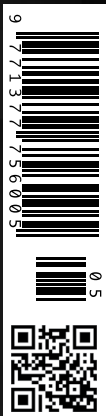




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Health Data Innovation Perspectives

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Prof Paul Timmers at the University of Oxford and European University Cyprus speaks about the importance of protecting European interests and sovereignty in health data innovation.



Key Points

- Protecting health data as digital assets is vital for safeguarding European sovereignty.
- National health innovation policies should view the European Health Data Space (EHDS) as a sovereign asset.
- EU national innovation plans for health data innovations like digital twins and AI should benefit Europe.

Let me start at a fairly high level about future innovation with health data by addressing the political and policy dimension of sovereignty.

Over the past years, Europe's strategic autonomy has become Chefsache. This is because we feel threatened by other geopolitical powers and by the power of large digital platforms. It is worsened by the constant undermining of our economy, society and democracy by foreign states and cyber-criminals (Timmers 2018).

Strategic autonomy is about control to guarantee our sovereignty. And sovereignty is about our territory, people, values, natural resources, and digital assets. Health data are digital assets that belong to us: sovereign assets. Aren't they so for you personally and also for a country? We want to control our health data, who can access them, make money with them, use them for the common good. This is considered all part of health sovereignty.

Now sovereignty is not the same as resilience. The COVID-19 pandemic has indeed made painfully clear that we lacked health resilience in masks, ventilators, and hospital capacity. Health resilience is the capacity to withstand and recover from shocks and disturbances in public health. Health systems must keep running. But health sovereignty is about our freedom to determine our future in health. So, resilience is a necessary but not sufficient condition for sovereignty.

I mention this because we need to be motivated by both

sovereignty and resilience when we design technology and laws. This certainly holds for the European Health Data Space for health innovation with data, the EHDS (European Commission 2021).

National health innovation policies should best see EHDS as a European sovereign asset. It is a triple win. One: each country on its own is too small, but together, they each get the full benefits. Two: the EHDS is a new asset owned by all Europeans. A richer Europe means more credibility of governments in the eyes of citizens. Thirdly, with a robust European health data asset, the EU has a stronger position in the world. Good for sovereignty. Good for resilience.

So we want control over health infrastructure, data, algorithms and apps. But we also need to share control. We do that by interoperability-by-design and sharing innovation across the EU. We must combine that with flexible EU legislative and governance frameworks that are favourable for Europeans. A national innovation plan without European interoperability should be a no go. And static EHDS legislation is no good either.

One more comment: sovereignty does not mean that we do it all on our own. We are not in Fortress Europe. Of course, we work with others! But not unconditionally and not by naively putting sovereignty at risk.

Briefly, a second point for future health data innovation. Science and technology have their own momentum. We want

the full benefits. I am inspired by the potential of AI combined with digital twins. Digital twins contain important information about your real self. In health, a digital twin is used to simulate and anticipate treatment effects like medication, therapy or even surgery.

With AI, we can combine data from many digital twins for better diagnosis and predictive treatment. Digital twins with AI are coming up in industrial, IT systems, and recently in the circular economy. By 2026 over 90% of all Internet of Things (IoT) platforms will contain some form of digital twinning capa-

IT policy, and human-centred and ethical AI. It is a big and promising effort. So here too, our national R&I plans should join forces and align.

In summary, EU national innovation plans should contribute to health data innovation from the perspective that together we stand and divided we fall. That is divided we fall victim to other states and big tech. And they should jointly in Europe make a winner out of AI and digital twins for personal and public health.

Sovereignty does not mean that we do it all on our own. We are not in Fortress Europe. Of course, we work with others! But not unconditionally and not by naively putting sovereignty at risk.

bility (ResearchandMarkets.com 2021). EU-funded research on Virtual Physiological Human (VPH) was an early form of digital twins for organ models and surgery.

Personal health is now becoming par excellence the area for digital twins and AI. Of course, we want to deal with this intelligently. This means integrating policies to meet all requirements, including those on health, innovation, data protection,

Conflict of Interest

None.

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