



The European Institute For
Innovation Through Health Data

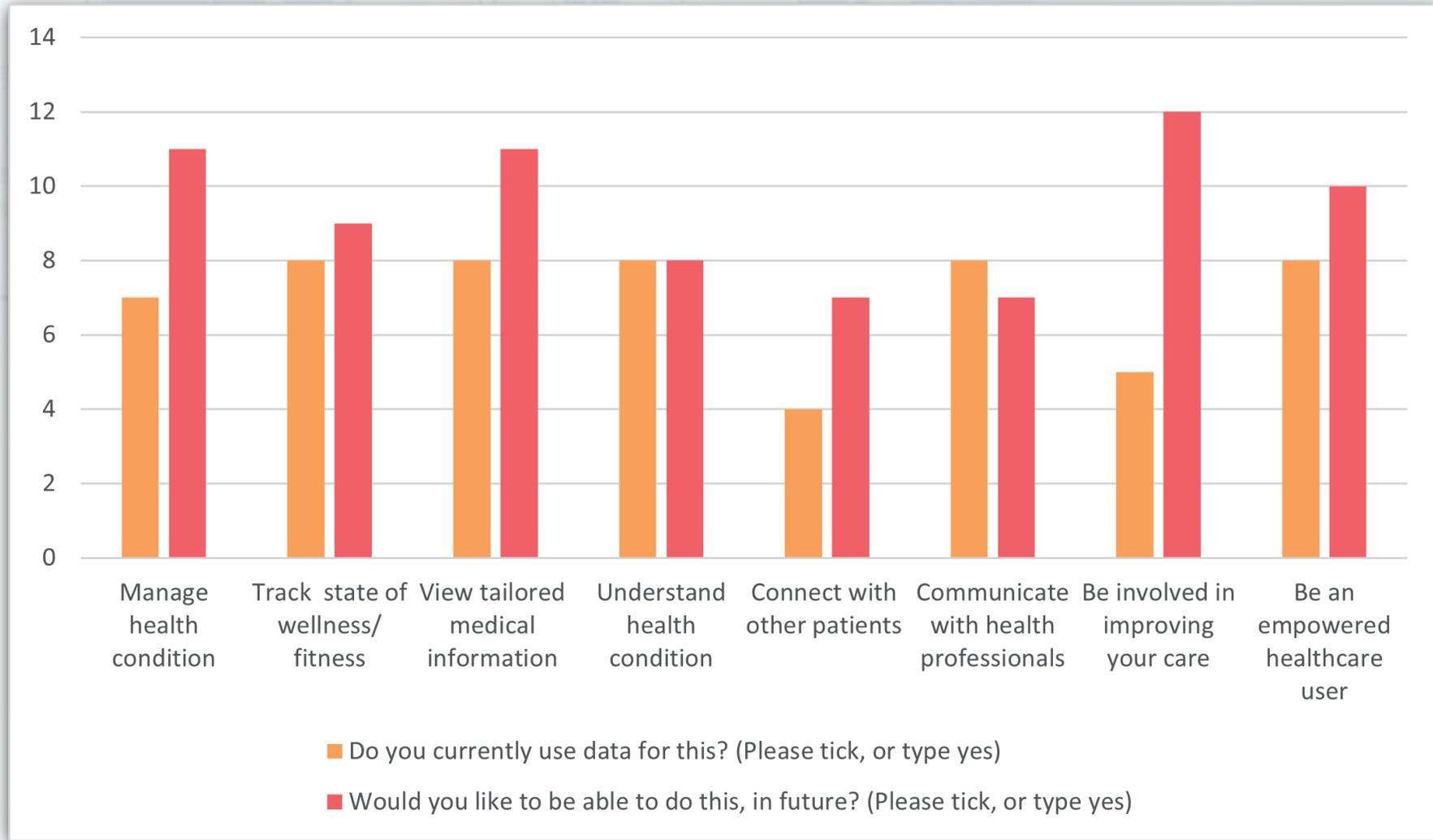
WFIPP World Continence Week 2021

**MAKING SURE THAT WE LEARN
FROM OUR HEALTH DATA, TO
OPTIMISE CARE AND
ACCELERATE RESEARCH**

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Why do patients want to make more use of their own health data?



How do patients use digital health today?

Learn about health conditions, treatment options

Track health state

Compare with others

Set personal goals

Track progress towards targets

Track bodily function

Adjust dosage to fit lifestyle

Monitor symptoms

Prevention and wellbeing

Assess impact of treatment

Better able to share decision making

Activity, sleep, diet

Document side effects

Contribute their own collected data to research

Know what to discuss with clinical team

Allow their clinical data to be used for research

What it covers



Why it is important



mHealth market

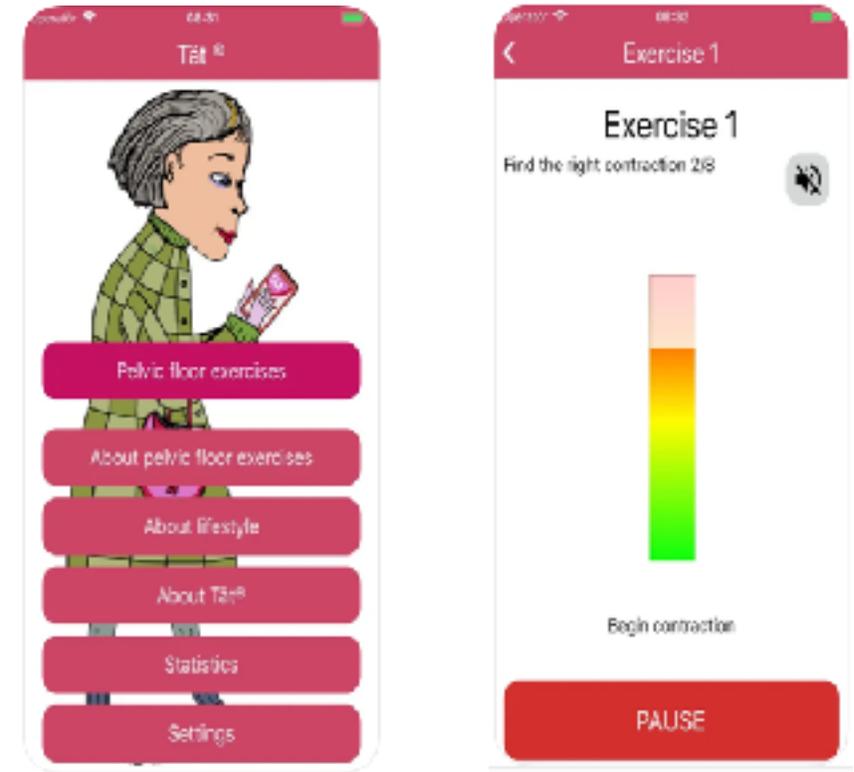


What is the EU doing about this? Targeting potential issues & barriers, such as



mHealth is effective

- Remote tele-monitoring of patients with heart failure reduces hospitalisation, improves cardiac function, reduces heart failure severity and improves patients' physical and emotional well-being, improves quality of life and reduces future hospitalisations
- In COVID-19, mHealth apps can estimate the probability of infection and help to prioritise diagnostic testing in individuals whose data suggests a moderate to high probability of infection



Efficacy demonstrated in a randomised controlled trial with clinically important improvements regarding symptoms, quality of life and leakage after three months.

Now used by >140 000 women in more than 100 countries



<https://tät.nu/>

Many kinds of health data are useful for research



All this data brings opportunities for large scale research studies to uncover new knowledge about disease, insights into health needs and novel ways to improve health outcomes

Consider a patient newly diagnosed with a raised blood pressure

- Which blood pressure treatment is the best one to start with?
- There are several kinds of blood pressure lowering treatment a doctor could choose from



Thiazide or thiazide-like diuretics



Angiotensin-converting enzyme inhibitors,
angiotensin receptor blockers



Dihydropyridine or non-dihydropyridine
calcium channel blockers

- Which kind is most likely to protect a patient from complications, like having heart attack, a stroke or developing heart failure?

The challenge with finding out

- All of these drugs have some benefit
- The difference between them is small
- It may take many years for a patient develop a complication from raised blood pressure
- So, a large number of patients need to be studied over a long period to discover if one of these drug categories is better than the others

ARTICLES | [VOLUME 394, ISSUE 10211](#), P1816-1826, NOVEMBER 16, 2019

Comprehensive comparative effectiveness and safety of first-line antihypertensive drug classes: a systematic, multinational, large-scale analysis

[Prof Marc A Suchard, MD](#)   • [Martijn J Schuemie, PhD](#) • [Prof Harlan M Krumholz, MD](#) • [Seng Chan You, MD](#) • [RuiJun Chen, MD](#) • [Nicole Pratt, PhD](#) • et al. [Show all authors](#)

Published: October 24, 2019 • DOI: [https://doi.org/10.1016/S0140-6736\(19\)32317-7](https://doi.org/10.1016/S0140-6736(19)32317-7) •



The best choice?



Thiazide or thiazide-like diuretics



Angiotensin-converting enzyme inhibitors,
angiotensin receptor blockers



Dihydropyridine or non-dihydropyridine
calcium channel blockers



What made this research possible?

- 4.9 million records of patients treated for high blood pressure
- 9 large patient data bases in the US, Japan, South Korea and Germany
- Able to look back at the records over several years
- Able to extract data on 55 health and disease facts about each patient

- It would have taken 22,000 conventional clinical trials to generate this much data!
- The research took months rather than many years!
- Low cost of conducting that research

Some other research findings from real world data

>700 million patient records

new cancer risk prediction

200 new clinical measurements

better cardiac prevention

8,000 leukaemia outcomes

stronger case for treating elderly

174,000 prescriptions

quality of respiratory treatments

How have research results been used by companies?

- A new drug to tackle a cancer that is difficult to treat, developed by a pharmaceutical company
- An infusion pump that delivers a controlled dose of medication to somebody continuously while they are at work or home, developed by a medical device manufacturer
- A smart monitoring system that gives the patient an alert on their mobile phone when a blood measurement needs urgent attention, developed by a health software company

We need to conduct more research from health data

The roles for prophylactic versus symptomatic antibiotics

What is the optimal use of urodynamic testing?

What is the most effective treatment for urinary frequency and urgency?

What are the best pelvic floor muscle training protocols?

Which are the most effective catheter regimes?



If we are to scale up health data research, by many organisations, across many countries

We all need trust

- Patients and the public
 - Health and care organisations, and systems
 - Research users - public and private
 - Society as a whole
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- **We need to find the right balance between protecting the individual and benefits for the individual - and society**
 - **This requires transparency with the public and engagement of the public**