

# Co-design: Hönnun og þróun hugbúnaðar sem nota á í heilbrigðiskerfinu í samstarfi með heilbrigðisstarfsfólki og sjúklingum

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Lektor í tölvunarfræðideild

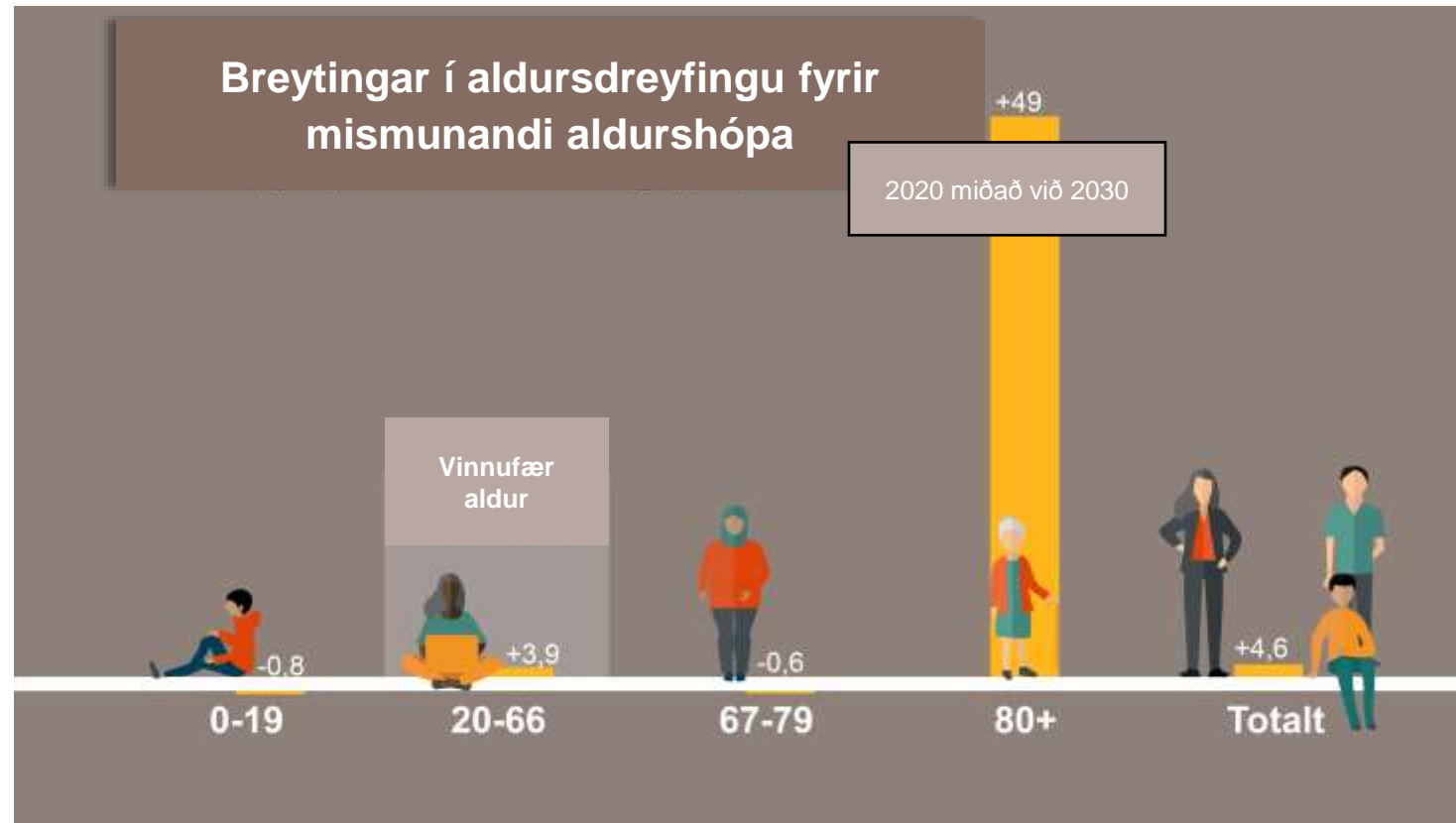
Háskólinn í Reykjavík



# My mission in life: meaningful work, meaningful topics & grand challenges



- With that as core value I entered the meaningful sector of healthcare



# „Enginn kemst yfir nema fuglinn fljúgandi”



- When it comes to digitalization in healthcare, there is this myth that in healthcare, there is a systemic resistance to change – its only a myth
- The security issues and the legal issues are overwhelming – from my experience one foot in front of the other solves most issues and working in multi-disciplinary teams is key

**Everything should be made  
as simple as possible, but  
not simpler.**

**ALBERT EINSTEIN**

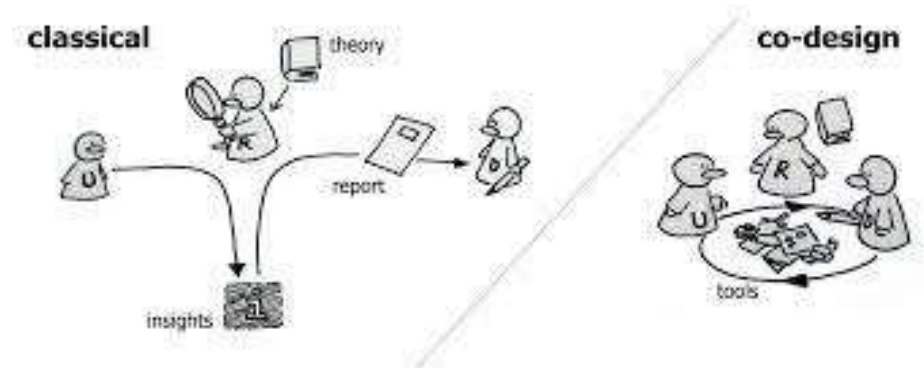
Data is knowledge, and knowledge is power



**Data is the new oil!**



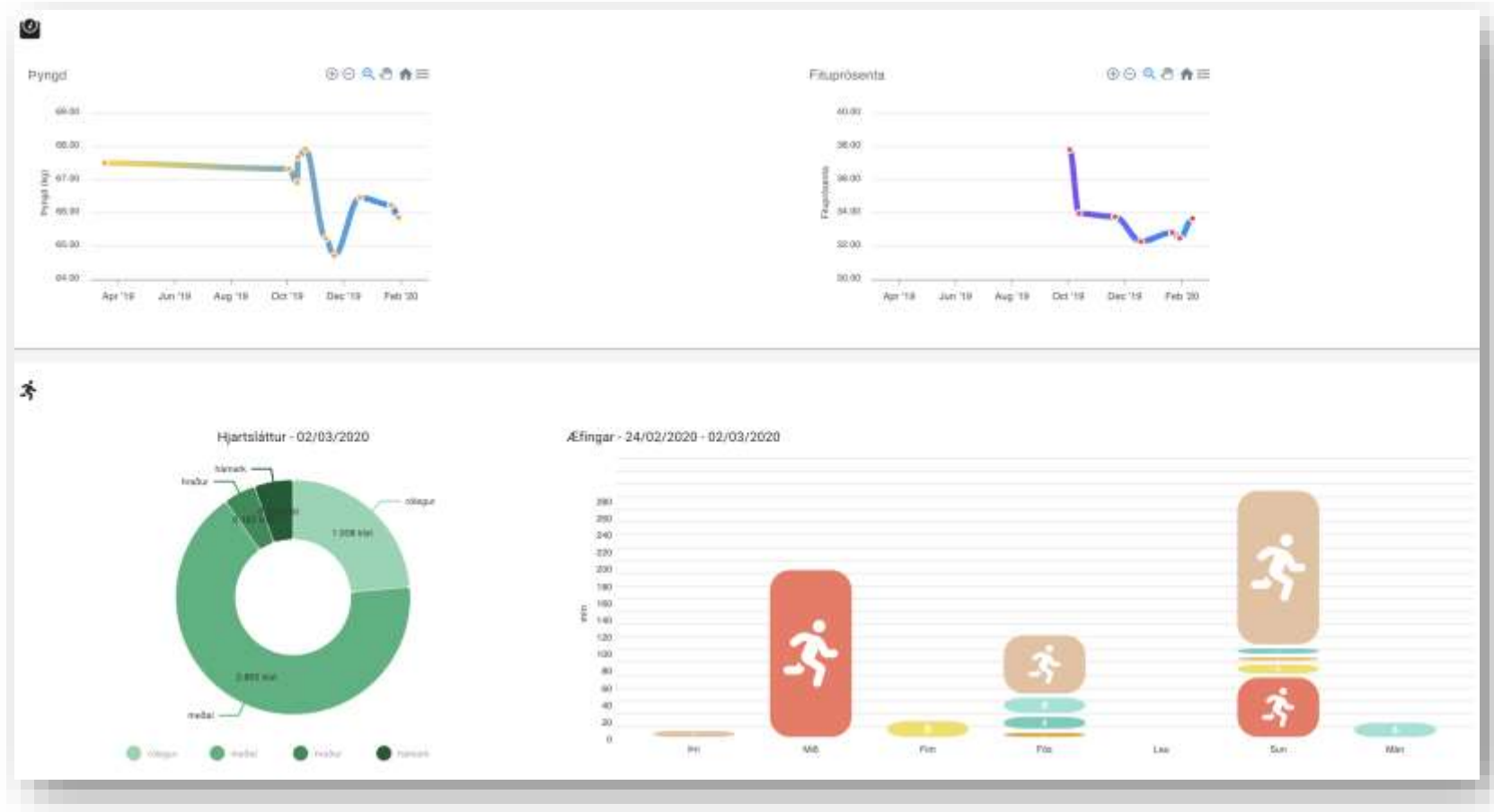
# Involving healthcare professionals and patients in co-design



Islind, A. S., & Lundh Snis, U. (2018). From co-design to co-care: designing a collaborative practice in care. *Systems, Signs & Actions*, 11(1), 1-24.

Grisot, M., Lindroth, T., & Islind, A. S. (2020). Digital Infrastructures for Patient Centered Care: Examining Two Strategies for Recombinability. In *Exploring Digital Ecosystems* (pp. 289-300). Springer.

# Digital platforms that are complex digital infrastructures that take in data from wearable devices & mobile apps



Islind, A. S. (2018). Platformization: co-designing digital platforms in practice (University West).

Islind, A. S., Lindroth, T., Snis, U. L., & Sørensen, C. (2016). Co-creation and fine-tuning of boundary resources in small-scale platformization. In *Scandinavian conference on information systems* (pp. 149-162). Springer.



# Case 1: Cancer rehabilitation at Sahlgrenska University Hospital (2015-2020)

eftercancer SYMPTOM LÖSNINGAR FAKTA OM OSS BERÄTTELSE FORUM SVARA PÅ ENKÄT

"Alla vill att det ska vara som vanligt, men för mig kommer det aldrig att bli det. För med vanligt menar de att allt ska vara som förr och det går inte."

Den här sidan handlar om cancerrehabilitering och är till för dig som behandlats för cancer i nedre delen av buken. Här ger vi dig information och tips för att hjälpa dig med de problem som kan uppstå efter avslutad behandling. Vi tar upp problem som rör urin, avföring och smärta i buken eller det som brukar kallas lilla bäckenet.

[Vilka symptom har jag?](#) [Ta del av lösningar.](#)

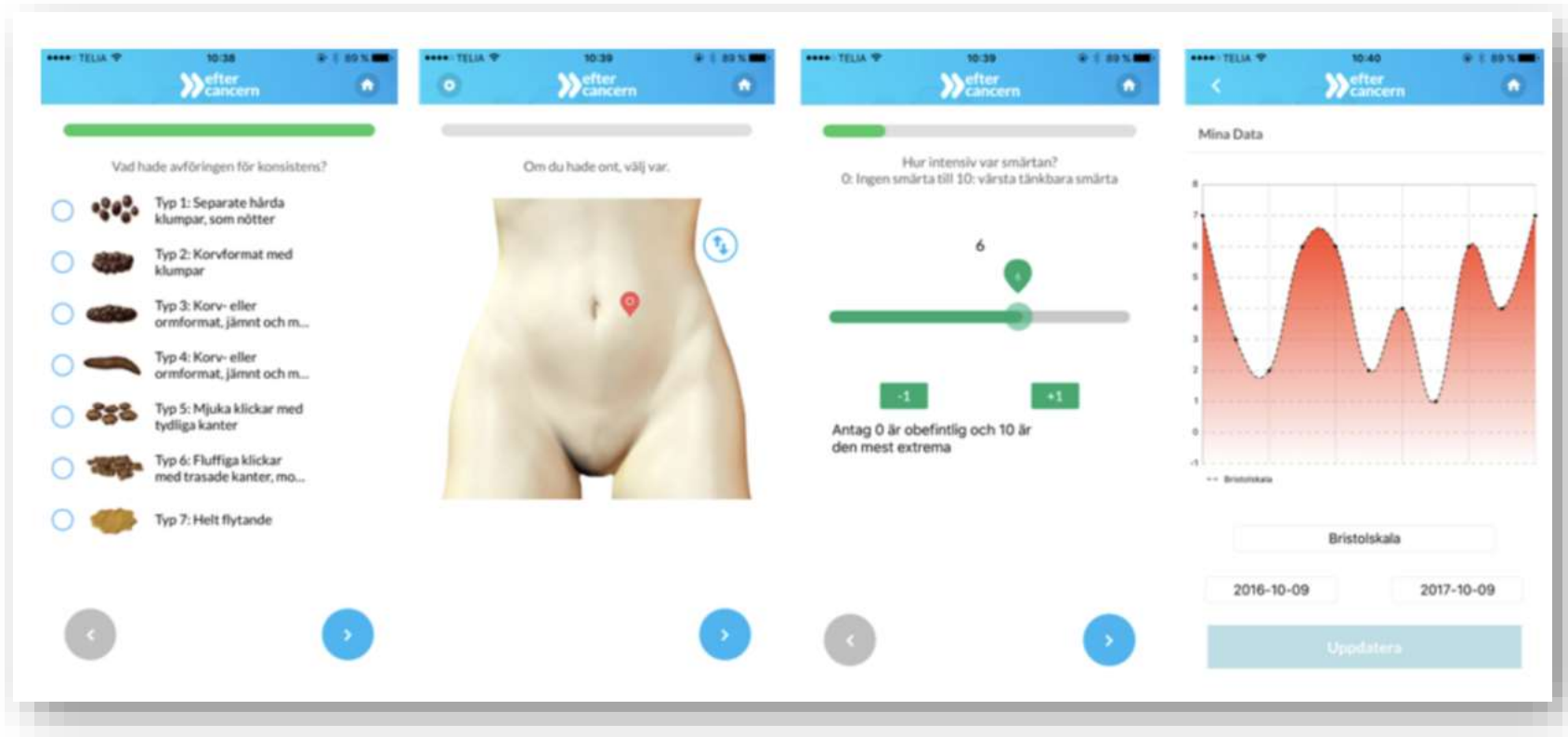
**i** Vi ger dig information och förutsättningar för att du bättre ska förstå dig på din kropp och vad som händer.

**📄** Därefter får du förslag på tänkbara lösningar och tips på hur du kan göra för att öka din livskvalitet.

**👍** Det kanske inte blir precis som innan men vi ska göra vårt yttersta för att det ska bli så bra som möjligt!



# Engaging in self-care through self-monitoring leads to patient empowerment



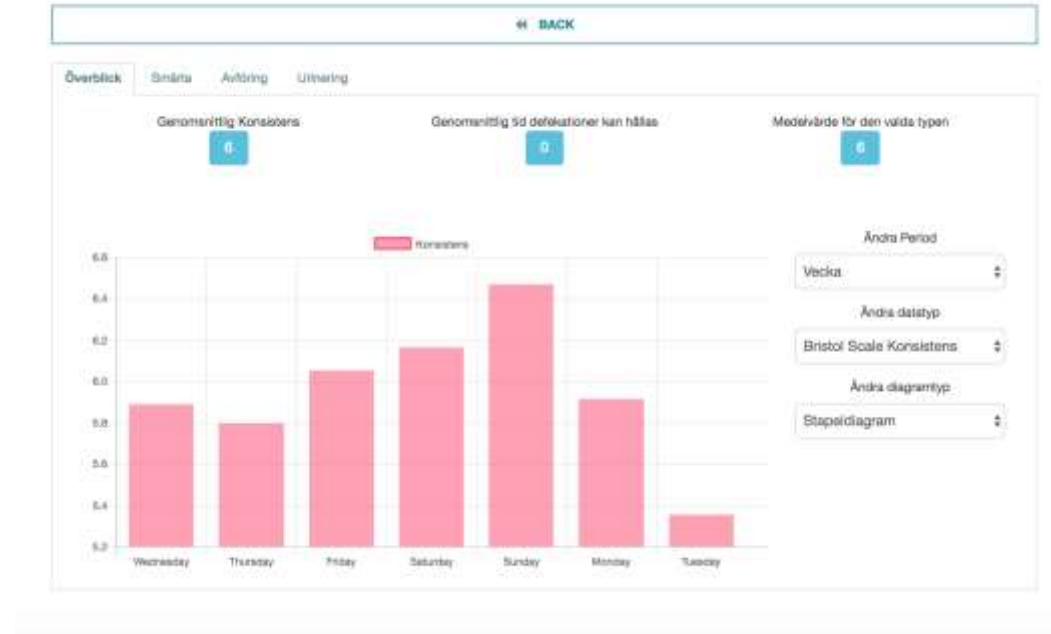
Lindroth, T., Islind, A. S., Steineck, G., & Lundin, J. (2018). From narratives to numbers: Data work and patient-generated health data in consultations. In *Building Continents of Knowledge in Oceans of Data: The Future of Co-Created eHealth* (pp. 491-495).

Islind, A. S., Johansson, V., Hult, H. V., Alsén, P., Andreasson, E., Angenete, E., & Gellerstedt, M. (2021). Individualized blended care for patients with colorectal cancer: the patient's view on informational support. *Supportive Care in Cancer*, 29(6), 3061-3067.

Johansson, V., Islind, A. S., Lindroth, T., Angenete, E., & Gellerstedt, M. (2021). Online Communities as a Driver for Patient Empowerment: Systematic Review. *Journal of medical Internet research*, 23(2).



# Real-time data over time acts as a decision-support in complex cases

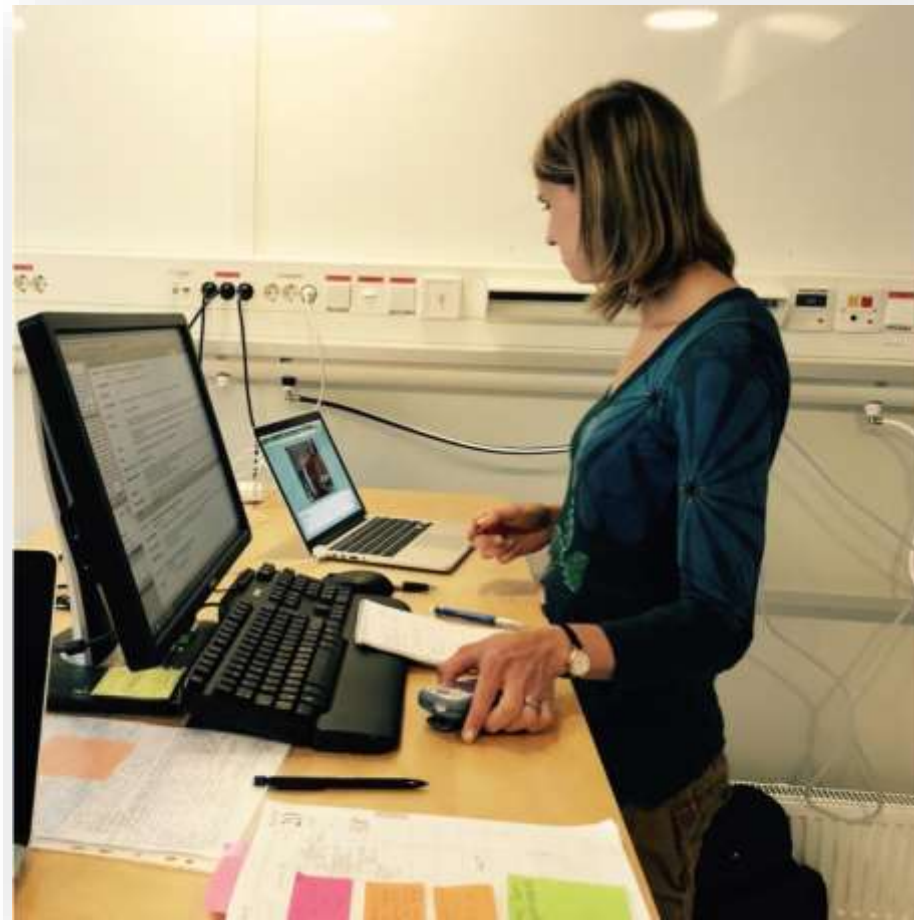


Islind, A. S., Lindroth, T., Lundin, J., & Steineck, G. (2019). Shift in translations: Data work with patient-generated health data in clinical practice. *Health informatics journal*, 25(3), 577-586.

Islind, A. S., Lindroth, T., Lundin, J., & Steineck, G. (2019). Co-designing a digital platform with boundary objects: bringing together heterogeneous users in healthcare. *Health and Technology*, 9(4), 425-438.

Cerna, K., Islind, A. S., Lundin, J., & Steineck, G. (2018). Decision-support system for cancer rehabilitation: designing for incorporating of quantified data into an existing practice. In *Proceedings of the 10th Nordic Conference on Human-Computer Interaction (NordiCHI)*.

# Data-driven healthcare



Islind, A. S., Snis, U. L., Lindroth, T., Lundin, J., Cerna, K., & Steineck, G. (2019). The virtual clinic: two-sided affordances in consultation practice. *Computer supported cooperative work (CSCW)*, 28(3), 435-468.

# Case 2: Schizophrenia & bipolar disorder at Landspítalinn (2020-2025)

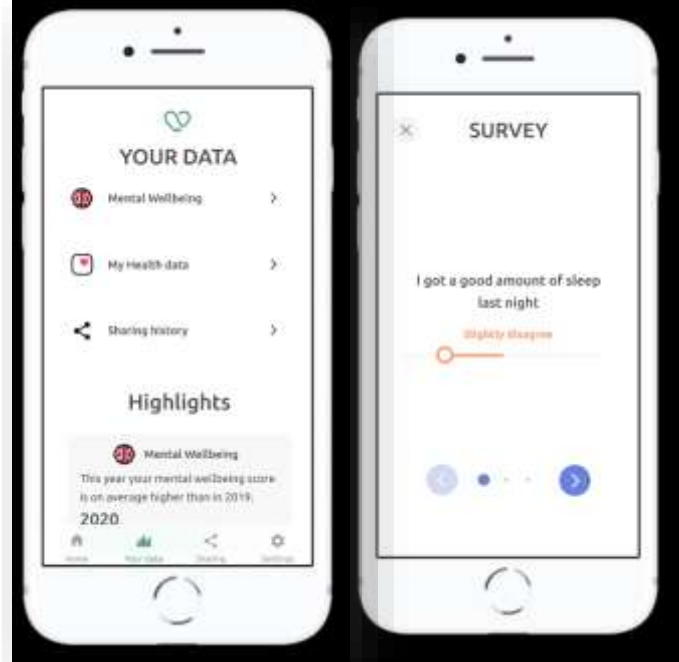


- Designing and developing a Digital Platform to support Treatment of Schizophrenia and Bipolar Disorder to function both as a decision-support for healthcare professionals and to engage patients in self-care





Yfirlit mælinga

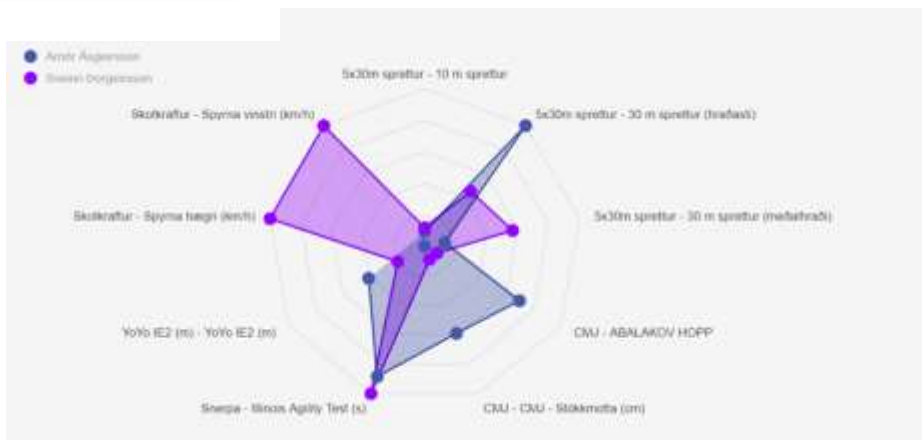
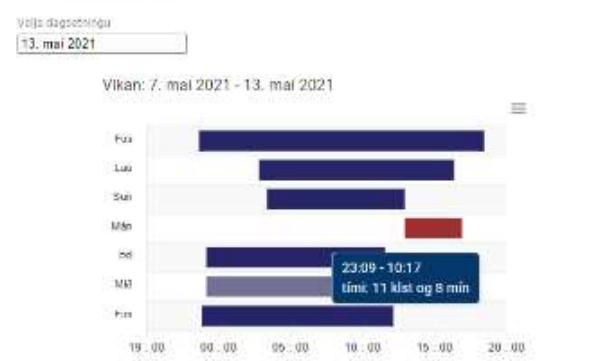


Co-design and development of a digital platform that supports various stakeholders of psychiatric care:



- The patients
  - The loved ones
  - The healthcare professionals
- 
- 18 patients so far
  - 20 healthcare professionals so far

Nafn	Svefn (klst)							Skref (þúsund)							MindPoints (stig)						
	7/9	6/9	5/9	4/9	3/9	2/9	1/9	7/9	6/9	5/9	4/9	3/9	2/9	1/9	7/9	6/9	5/9	4/9	3/9	2/9	1/9
Hörður	8.3	8.0	9.9	7.7	5.7	8.2	7.6	5.2	5.1	5.2	5.5	8.3	3.5	4.4	-	-	-	-	-	-	-



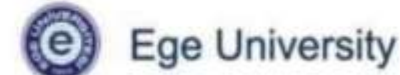
# Case 3: Sleep Revolution (2021-2025)



## Universities & hospitals



## The ESADA network



## Industry partners



## Expert Societies

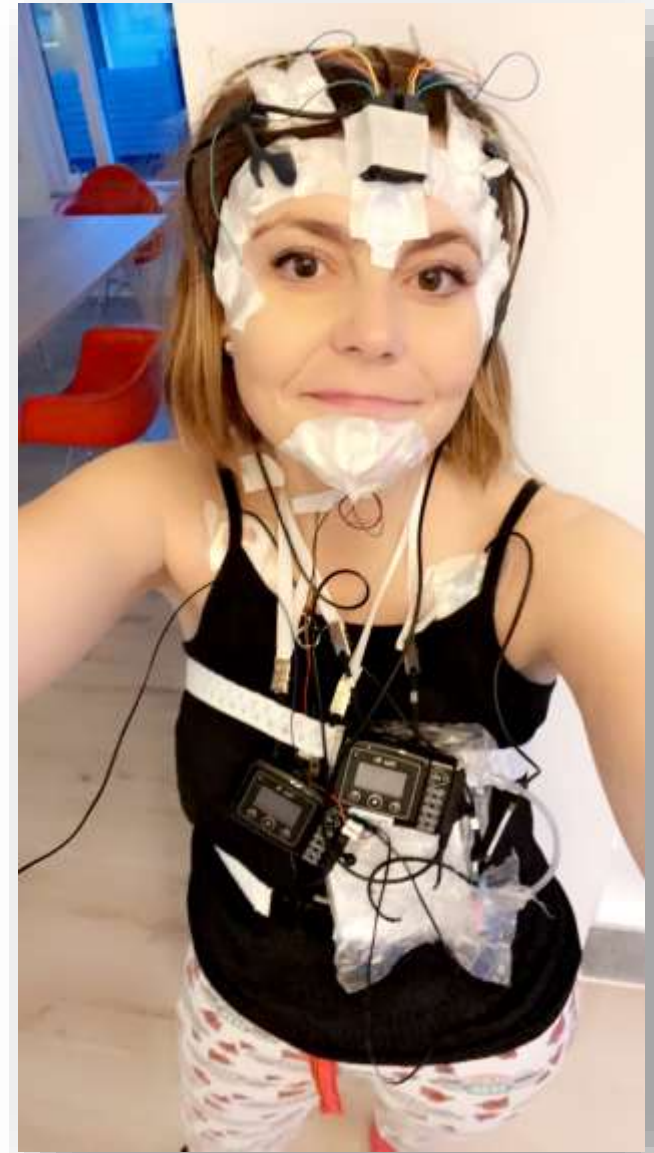


The Sleep Revolution project  
15 million euros, we are on month 6 now  
37 partners, 24 countries

## Supported by



# Sensor-based patient-generated data

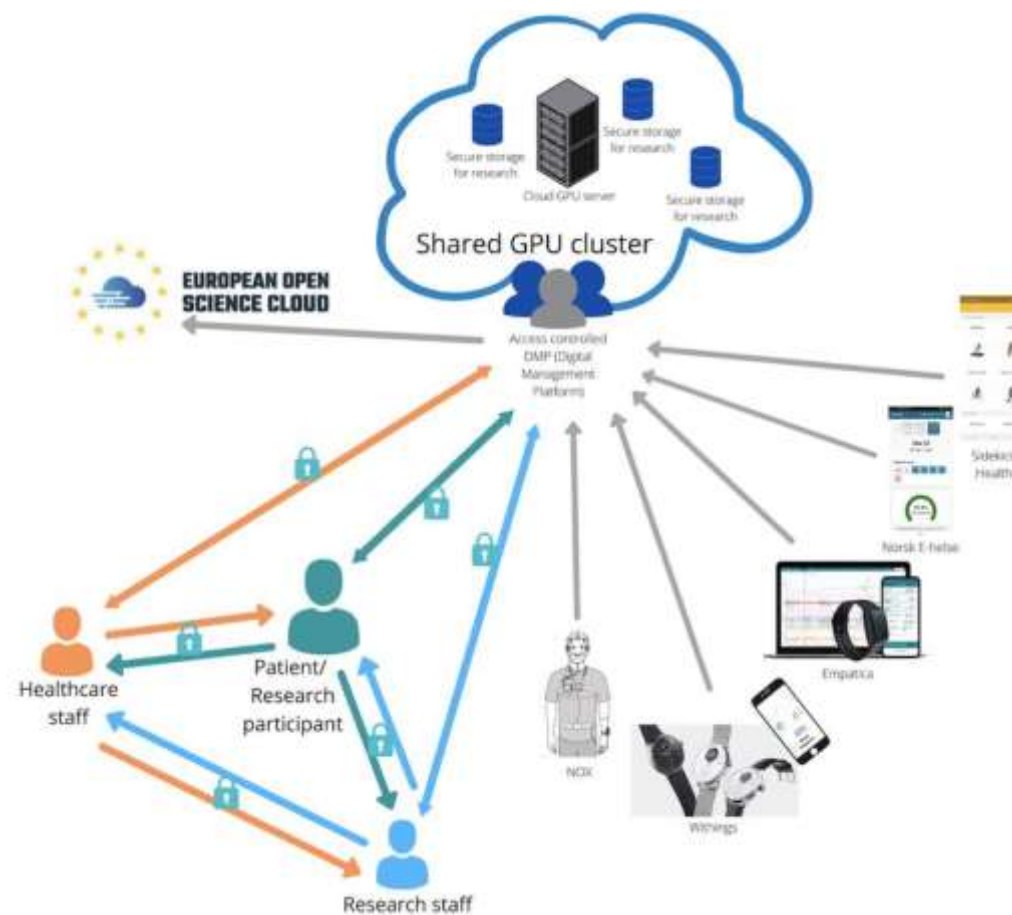
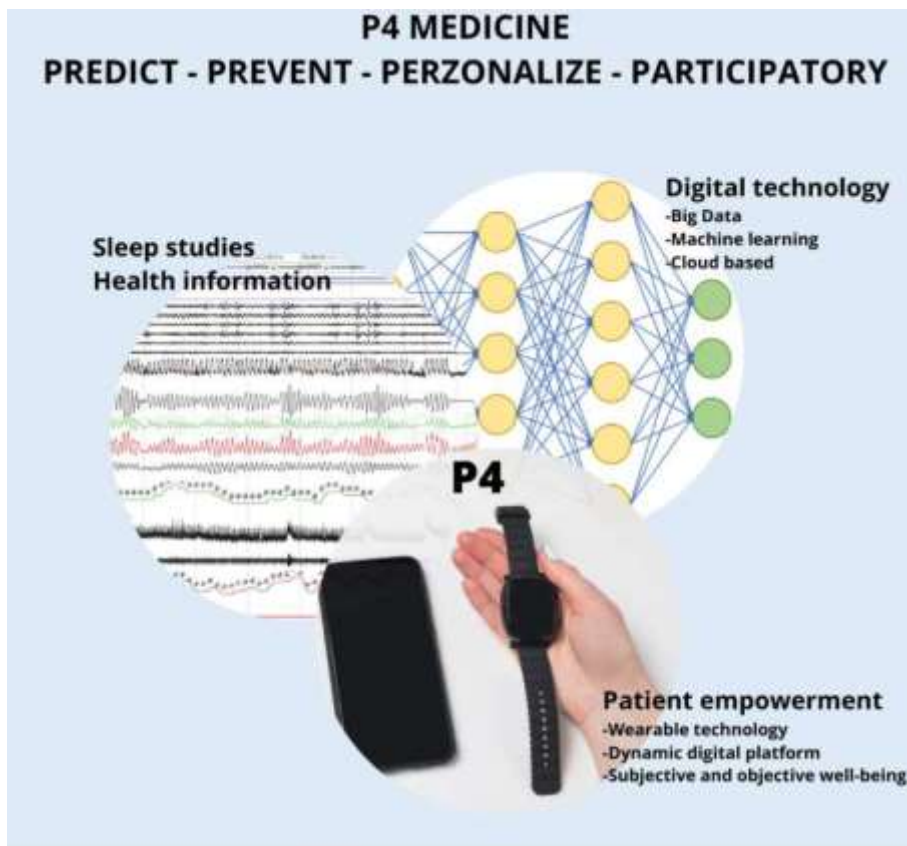


This project has received funding from the European Union's Horizon 2020 research and Innovation programme under grant agreement no. 965417



SLEEP  
REVOLUTION

# Digital platform & complex infrastructure



Arnardottir, E. S., Islind, A. S., & Óskarsdóttir, M. (2021). The Future of Sleep Measurements: A Review and Perspective. *Sleep Medicine Clinics*.



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**SLEEP  
 REVOLUTION**

# Key take away points



- My research is focused on co-designing digital platforms and digital infrastructures in healthcare to benefit the work of the healthcare professionals, and life of the patients

If we involve people again and again, throughout the process:

1. the digital infrastructure will become an embedded part of healthcare
2. it will be designed for those that contributed to the co-design process
3. acceptance will be high and resistance will be low
4. it will lead to informed decisions by the healthcare professionals
5. it will lead to empowerment for the patients





# Thank you



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