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From smartphone supported Citizen Health Science to Cooperative Citizen Test Lab

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From smartphone supported Citizen Health Science to Cooperative Citizen Test Lab

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The wide dissemination of smartphones provides new opportunities for Citizen Health Science, based on citizen value creation of P4 Health (Participatory, Preventive, Predictive and Personalized). In the best case this may lead to better prediction and prevention of diseases and personalised support and treatment of citizen and patient to great clinical benefit and cost reduction. However, there is at the same time a risk of 'O4 medicine' (overtesting, overdiagnosis, overtreatment, overcharging). In this workshop we contribute with our experiences from three projects that aim to bridge personal health and population health by combining 24/7 data from smartphones with other kinds of health data:

HealthD360 - Health data that creates value for the citizen

In HealthD360 we investigate the possibilities for creating better health for the citizens by gathering data from the public healthcare system and linking them with data from the citizens' smartphones and wearables. The ambition is to promote more personal, secure, and coherent treatment in collaboration with patients and healthcare professionals.

We will share experiences with developing solutions to monitor diabetic foot ulcers and to support mental health in schoolchildren.

FEMaLe – Finding Endometriosis using Machine Learning

The EU-funded FEMaLe project is working on a machine-learning multi-omics platform that can analyse omics data sets and feed the information into a personalised predictive model. The focus of the project is to improve intervention for individuals with endometriosis, a condition where tissue normally lining the uterus grows outside the uterus. A combination of tools, such as a mobile application and augmented reality surgery software, will be co-created, facilitating improved disease management and the delivery of precision medicine.

We will share experiences with co-creating a consensus study survey as well as the Lucy Application, which is your personal gynecological virtual assistant, helping to take care of your female health.

CoronaLytics: A 360 degree mobile/wearable data household approach to guide shared precision health and decision-making during the COVID-19 epidemic

In the research project CoronaLytics citizen could contribute to with personal data gathered on a smartphone. Both automatic data collection of activity and heartrate data and data bases on questionnaires was used. The project worked with the citizen perspective and focused on daily impact on everyday life during the pandemic.

We will share our gained experiences in how to engage patients and citizens in the design, development, and implementation processes.

Workshop focus

Based on these experiences and those of the workshop participants, we will discuss how governance, design and analytic methods can support the development of the citizen health

science concept to secure citizen value creation of P4 Health. We will discuss the idea of a cooperative governance model to secure data solidarity. And how Citizen Health Science in combination with Denmark's unique potential can secure a democratic health model, where the partnership between citizens and researchers forms a population test lab. This may be the framework for the next generation of population-based research, including development and testing of personal health solutions based on motivated consent and participation from Danish citizens.