

HOSTS for STSM –

Grenoble Ecole de Management, Grenoble France

Work on Anosmia – Comparison with deaf

Anosmia refers to a complete loss of the sense of smell and it affects around 5% of the population. People with anosmia are facing major challenges in everyday life which can make them physically and socially vulnerable. They cannot sense gas leak or fire or spoiled food. It affects eating behavior and eating habits. Anosmia is also found to be related to other diseases such as Parkinson's or Alzheimer's.

However, compared to other disabilities related to senses, such as deafness or loss of sight, anosmia is not widely recognized as a disability and it can be referred to as invisible disability. There is no cure for anosmia. There are just a few patient advocacy organizations. The market for *smelling aid* is just starting to emerge.

To address the problem of anosmia as an *invisible disability* and identify different aspects of creating market for *smelling aid*, we do a study on the history of deafness and *hearing aid* market. Our research questions are related to how deafness was recognized as a disability which influences personal and private lives of individuals and society in general, with special attention on what legal aspects make the disability recognized. Also, we ask how different actors, institutions and companies were engaged in finding and implementing solutions to the problems of deaf and hard of hearing people. Finally, we look at how hearing aid market and hearing aid industry emerged and which events led to the establishment of the big companies.

If you join the team for a short period, you will work on Anosmia from a comparative perspective with other invisible disability, deaf.

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Legal and regulation of e-health

Legal Elements: in December 2010, the EU and the US signed a MoU on cooperation surrounding eHealth to which the EC just added a third pillar: IT innovation Ecosystems. Therefore, there is a need to take stock of the latest trends and developments in eHealth/Health IT (i.e. the growing importance of mobile health including software and apps) and building transatlantic partnerships and alliances between EU regions/cities and US States/cities that are interested in solving similar/related challenges. The task may also include recognition of complementary EU and US strengths and business/trade opportunities and working out on how

to best emphasize them in a collaborative manner. It also includes a collection of data about experimentation on e-health.

If you join the team for a short period, you will work on one or two specific cases which have been involving legal and regulatory debates and disputes.

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WORK ON MYDATA

"Come and join the Digital Health Revolution (see www.digitalhealthrevolution.fi<<http://www.digitalhealthrevolution.fi>>; http://bit.ly/dhr_presentation) and explore hands-on what MyData principles (<http://urn.fi/URN:ISBN:978-952-243-455-5>) will be realised in real business or technology environment, and how we are building up new knowledge and business on Preventive Connected Health services. You will join the inspiring research teams and have access the recent breakthroughs on the MyData a.k.a. Personal Information Management Services domain. This novel approach aims to create human-centered data management and processing combined with value creation based service development. You might join the ongoing programme's research work on MyData, which includes the Technology & Regulatory and the Service & Business tracks. Research is conducted based from Finland but our international collaboration network is multinational, with focus on EU, US and Australia.

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A connected health taxonomy

Connected health is a new promise for the restructuring of health care models, towards more patient-centered care and more integrated care. It also has the chance to set a framework for citizens' wellness, and fill the gap between wellness and care. In addition, the wealth of connected health data is an attractive example of big data that can produce value in terms of new knowledge, evidence and services and towards new policies.

Yet, the galaxy of connected health efforts is not well mapped. For health impact to be achieved, the connected health has to be better understood and disambiguated, as regards its potential, its gaps, its dimensions, its outcome and evaluation, etc.

In this context, we invite an STSM to work with us, at the Lab of Medical Informatics, AUTH, towards a taxonomy of connected health. The outcome of this research will be a model and a report that will

set the scene on connected health and CH data, and the way to describe and achieve its impact. For that, the researcher can interact also with different experts.

This STSM could be combined with another one (in AUTH or UCD) for the interactive visual exploration (and comparison) of different CH efforts/components/dimensions and mapping of eHealth/CH, whether via quantitative metrics (a set of KPIs for CH) or qualitative data.

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Scalable Visualizations of Big Public Health Data

Geospatial information can be visualized on maps. A lot of visualization methods/techniques deal with geospatial visualization, but traditional methods do not scale well for big data. There are problems associated with the visual perception, the screen size limits and also the computational efficiency (for instance, an interaction of the user with a visualization in a big data context, might require calculations/transformations of the data to the displayed that cannot be executed in real-time)

A proof-of-concept is needed: a software module based on open-source technologies that will allow a number of interactive visualizations of big data from the domain of public health without affecting the user experience (i.e., near real-time user interactions need to be supported).

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Self-Management for COPD and comorbidities in a Connected Health scenario

Restructuring of care depends also on chronic patients taking care of their own health, and deciding on a series of actions, in a self-management framework. The extent to which such efforts have been implemented, their relevance with CH, existing evidence, knowledge and gaps, as well as challenges (ie with respect to clinical governance and ethical issues) needs to be studied.

This STSM will examine COPD and comorbidities as a case of connected health technologies for chronic disease self-management, and will have interaction with the team that is involved in ongoing efforts at AUTH, while interaction with other parts of the enject network is also possible.

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Connected Health data: making impact in Public Health

Connected Health data promise an unprecedented wealth of health data during the whole journey of a person through health and care. This data can be repurposed towards generating evidence for public health.

The purpose of this STSM is to a) elaborate on a scenario focusing on diabetes knowledge network (e.g. encompassing for nutrition, exercise and sleep aspects at minimum), b) review current technological frameworks and governance models and propose solutions. The outcome will be a report.

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