

Integration of a personalized health care model into health systems and policies in Europe

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Valorization



The dissertation started with the following paragraph:

“Every day, we read about new scientific discoveries and technological advancements in the newspapers. The news are very promising for medicine and health, in particular in reference to ‘genetics’ in the past 15-20 years: “Diabetes gene is found!”, “Heart attack gene is found!”, “Cancer gene is found”, “We’ll be able to prevent diabetes in 10 years!”... However, we don’t see these ‘genes’ in health services. Somehow, they don’t complete their journey from the laboratory to the society”

This journey is actually a winding road, as it involves in science, technology, health and society domains and various hurdles in each. The innovations are usually envisaged to be transferred from one domain to the other in this order. However, as presented in Chapter 4, **innovation does not follow a simplified linear process or a ‘pipeline’, which ends when the ‘product’ is out in the market. Innovations co-evolve with the involvement of different domains.**

The health domain, which includes the health system, plays a crucial role in effective integration of innovations. Therefore, this PhD research focused on this domain, and tried to answer the question how a personalized health care model can be integrated into health systems in Europe. While answering it, a real life practice model, i.e. Gentest, was used as the case. Thus, the topic of this dissertation was involved with developing guidance for valorization of scientific and technological developments in the field of personalized medicine and personalized health care.

Use of a **case to investigate integration issues provided a novel approach that hasn’t been applied in this field before.** As the starting point was a real life example that was seeking for integration into new health systems, the research was highly practice oriented rather **than being solely a theoretical one. Thus, the ‘valorization’** has already been an inherent priority of this research.

The implications of the dissertation are two folds. On one hand, the dissertation may facilitate the fields of personalized medicine and health care and health systems to learn to talk to each other and work together. On the other hand, the dissertation provides a useful tool, i.e. the systematic approach presented in Chapter 7, to guide integration of personalized practices into different health systems.

Implications for the fields of personalized medicine and health care and health systems

As the topic of the dissertation was involved with valorization of personalized practices, several implications have been presented in Chapters 7 and 8. Here, these will not be

repeated, but concrete messages for the fields of personalized medicine and health care and health systems will be put forward.

Health systems are facing a huge problem with the rapidly increasing burden of chronic complex diseases. They need to shift towards proactive and health oriented services focused on prevention as well as chronic cure and care, covering the whole spectrum of health care (not only medicine). Rather than running separate programs for each lifestyle/disease area, holistic approaches to disease prevention and health promotion should be developed. Personalized health care practices can be the answer of health services to these needs. At this point, the practice model used in this dissertation, Gentest, can inspire integrative and holistic programmes not only for prevention of late onset chronic diseases, but also in other fields such as child and youth health care, with a life course perspective.

To achieve integrative and holistic approaches to health, innovations in the fields of personalized medicine and health care, and health systems need to co-evolve. To do that, people working in these fields should first start talking to each other, learning one another's language, and developing ways to collaborate. This doesn't simply mean making conferences or meetings that bring people from these fields together, and provide 'networking' opportunities. Moreover, many of the so-called 'collaborative' projects that bring different fields together do not always help them collaborate. Most of such projects assign specific tasks or work packages to groups that are from the same discipline or field. Thus, each discipline does **its own work; they don't** necessarily *work together* in a cross-disciplinary way.

To facilitate co-evolution, a coherent and concrete agenda should be provided to people in the fields of personalized medicine and health care, and health systems. They should first start working on smaller and simpler projects, where they can start learning each other's languages and priorities. Then, they can move towards bigger and more complex projects.

These fields should also be made aware of the differences in their perspectives and jargons. As provided in Chapter 4 with a bottom-up approach, personalization may mean different things for the practices. Therefore, special effort should be paid towards harmonization of the language. As provided in Chapter 8, personalization cannot simply mean use of molecular technologies, or any technology. The harmonization of the language should include clarification of the purpose and means of personalization.

Implications for personalized practices which will be integrated into different health systems

The PhD research has implications for personalized practices in general, as well as the specific practice model that was used in this dissertation: Gentest.

In general, the science and technology (including academia and industry) domains seem to have a quest for using the knowledge and tools they are developing to personalize medicine and health care. These domains take leadership roles as thought leaders or entrepreneurs. To successfully integrate the knowledge and tools they generate, they first need to **understand that ‘personalization’ is not only about genetics, or technology. It involves ‘practices’, as well as health systems that surround them.** At this point, the dissertation provides a valuable perspective to them to understand what is relevant in health systems.

For personalized practices which seek for integration into health systems, the dissertation provides a systematic approach (Chapter 7) which can be applied to different cases. It can **be used not only for ‘personalized medicine and health care’, but also in general for innovations in health.** The author of the dissertation is currently presenting this approach to various organizations involved in scientific and technological innovations in health. When it is picked up by others and applied on different cases, it may evolve into a practical tool for investigation of integration issues for innovations in health.

The dissertation also has several implications for the case of Gentest, as provided in Chapters 7 and 8. For successful valorization of Gentest, it is important to find a country where the health system supports the crucial areas, as well as most of the priority areas, described in Chapter 7. Then, right partnerships should be developed within the academia, (local) health authorities, industry, and civil society, possibly leading to a public private partnership initiative. This partnership should agree on a roadmap which includes adaptation and further development of the model within the target country, software development, piloting, and evaluation phases.

Overall, this dissertation has large potential for valorization. It can be used to facilitate co-evolution of health systems and personalized health care practices. The research also has profound implications on integration of personalized practices into health systems. The practice model used in the dissertation, i.e. Gentest, can inspire holistic and integrative programmes not only for prevention of chronic diseases, but also for other health fields such as child and youth health care with a life course perspective.

İlim ilim bilmektir
İlim kendin bilmektir
Sen kendini bilmezsen
Ya nice okumaktır

Knowledge should mean a full grasp of the path to knowledge
Knowledge means to know yourself, heart and soul.
If you have failed to understand yourself,
Then all of your reading has missed its call.

Okumaktan mana ne
Kişi Hakk'ı bilmektir
Çün okudun bilmezsin
Ha bir kuru emektir

What is the purpose of reading those books?
So that Man can know the God/ the Truth
If you have read, but failed to understand,
Then your efforts are just a barren soil.

Okudum bildim deme
Çok taat kıldım deme
Eri Hak bilmez isen
Abes yere yelmektir

Don't boast of reading, mastering science
Or of all your prayers and obeisance.
If you don't identify Man as God,
All your learning is of no use at all.

Dört kitabın manası
Bellidir bir elifte
Sen elif dersin hoca
Manası ne demektir

The true meaning of the four holy books
Is found in the alphabet's first letter.
You talk about that first letter, teacher;
What is the meaning of that - could you tell?

Yunus Emre der hoca
Gerekse var bin hacca
Hepsinden iyice
Bir gönüle girmektir

Yunus Emre says to you, teacher,
Make the holy pilgrimage if need be
A hundred times - but if you ask me,
To win a heart is the best of all.

Yunus Emre¹

¹ Yunus Emre was a Turkish poet and Sufi mystic who lived in the 13-14th centuries in Anatolia.