Successes and barriers for innovation in healthcare

-experiences from three countries

Seminar 7th of March 2018

Forum för Health Policy

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Introduction

Innovation in healthcare is necessary to successfully provide healthcare at a lower cost with higher quality for an increasing number of patients. In Europe, each country has its own healthcare and innovation system with different characteristics, but they often face similar problems – technological, sociological, systemic and legal. Patients and patient associations are engaged in innovation, entrepreneurs are eager to participate and improve the system and in many healthcare systems try new ways of stimulating innovation.

Sweden, the Netherlands and Switzerland are three countries that often have a high ranking both when it comes to results in the healthcare sector as well as regarding innovation in general.

Which are the barriers for innovation in healthcare, what makes it successful and what can we learn from each other? These were the main issues on an exclusive seminar, organized by Forum for Health Policy on the 7th of March, in collaboration with the embassies and chambers of commerce of the Netherlands and Switzerland.

Researchers, entrepreneurs, patient representatives and officials from all three countries were invited to give their view on innovation in healthcare from different experiences and perspectives.

Använd gärna vårt material men var vänlig uppge källa. Allt ursprungligt material finns på www.healthpolicy.se

Participants

- Ines Coppoolse, Ambassador of the Netherlands
- Christian Schoenenberger Ambassador of Switzerland
- Peter Graf, Chairman of Forum for Health Policy
- Björn Arvidsson, Head of Policy and Communications, Roche AB
- Eskil Degsell, Chairman of the Swedish Brain Tumor Association
- Robert Winroth, Commissioner for Innovation and Sustainable Healthcare, County Administrative Board of Västerbotten
- Maaike Wijnhoud, Senior policy officer at the Ministry of Health and Core faculty of the Health Innovation School
- Antoine Geissbühler, professor, Director Telemedicine and Cyberhealth, Director innovation center, Geneva University Hospitals
- Tomas Mora Morrison, Head of Business Innovation, Cambio Healthcare Systems
- Laurens Leurink, CEO, MinDoktor
- Peter Ruff, CEO, Exploris SA
- Jenni Nordborg, Director, Vinnova
- Anders Blanck, Administrative director, LIF

Moderator: Emma Frans, PhD Medical Epidemiology, Author, Columnist

Innovation in healthcare

Globally, most countries are facing similar challenges; an ageing population, an increased share of chronic diseases and mental illness. The advent of new consumer technologies opens up for new possibilities but also new challenges, and brings older ones to the fore. These disruptive technologies promote greater patient power and raise demands for improved accessibility and better treatments. How can the existing healthcare systems develop and transform to meet new expectations from patients?

Innovation in healthcare was discussed from three perspectives; patients, entrepreneurs and the system (the governing level).

Following speakers participated:

The patient perspective

Name: Eskil Degsell
Title: chairman of the Swedish Brain Tumor Association

Degsell presented interesting projects in Sweden, developed in close collaboration with several patient organisations and within several diagnosis pathways. Read more about these on page 11.

The entrepreneurial perspective

Name: Tomas Mora Morrisson
Title: Head of Business Innovation, Cambio Healthcare Systems,
Presented Cambios Electronic Health Care Records, the introduction of Ipads for doctors and the innovative application for preventing stroke with atrial fibrillation.

Name: Laurence Leurink
Title: CEO MinDoktor
Presented MinDoktor - an online health care provider which was founded in 2014.

Name: Peter Ruff
Title: CEO Exploris SA
Presented a collaboration with the University Hospital in Basel for the joint development of a novel, noninvasive eDiagnostic test for timely detection of coronary artery disease, artificial intelligence based diagnostic.

Name: Antonie Geissbühler

Title: Director Telemedicine and Cyberhealth, Director innovation center, Geneva University

Presented several national initiatives in Switzerland such as EPR (Electronic patient record), SPHN (Swiss personalized Health Network) and SBP (Swiss biobanking platform).

Name: Maaike Wijnhoud

Title: Senior policy officer at the Ministry of Health and Core faculty of the Health Innovation School

Presented the Dutch healthcare system and emphasized major issues to speed up innovation.

Name: Robert Winroth

Title: Commissioner for Innovation and Sustainable Healthcare, County Administrative Board of Västerbotten

Presented a partnership model for innovation mainly between private and public healthcare, partly financed by Vinnova - the Swedish innovation agency.

Several barriers for innovation

Several barriers for innovation were brought up by the speakers, who all agreed that there are both organisational and cultural reasons to why innovation in healthcare is slow. Below is a list of barriers that were discussed.

- **Old systems, old infrastructure, old regulations and old reimbursement systems** are not compatible with patients' needs and the rapid technological development. Rules, regulations and protocols are important in order to guarantee safety and quality but there must be ways for more rapid innovations, much needed by patients. On an average, it takes 14 years before insights reach implementation which makes it difficult to introduce new technologies.

- **Fragmentation and institutional silos.** Political fragmentation as well as highly fragmented systems hinder innovation, long-term planning and coordination.

- **Lack of knowledge and cultural skepticism.** Most doctors do not know what AI is and there is a fear that AI will replace doctors or that they will be paid less. The process of introducing new knowledge into the system is slow. Guidelines usually takes 3 years to develop.

- **Implementation is difficult**, often even more complicated than coming up with the actual innovation. Sweden, Switzerland and the Netherlands are innovative countries that produces innovations and solutions within both life science and healthcare. However, when it comes to implementation, it takes many years to test an idea before it can be adopted. Antonie Geissbühler gave an example from Switzerland and said that when implementing information systems for hospitals it was evident that the technology wasn't the challenge. It was all about people.

So what is needed?

A common denominator, irrespective of whose perspective is taken into account, is that more cooperation is required. Patients want to be more actively involved in innovation processes, entrepreneurs need closer contacts with both clinics and patients in order to design products and services according to needs. Healthcare providers need the expertise and knowledge from both entrepreneurs and patients. On an organisational level it is clear that coordination and a systematic approach to innovation is needed.

- **Collaboration and joint efforts.** Clinics, societies, industry and academia all need to work together for a more efficient and fruitful innovation system. To make these platforms meet, networking and learning from each other are needed.

- **Co-creation with patients, citizens and informal caregivers, for patients.** By seeing the patients and their close ones as equal partners in the innovation processes and respecting their knowledge, the speed of innovation can increase. Eskil Degsell presented a study from ASCO, the American Society of Clinical Oncology. It showed that if patients were involved in their treatments there was not only a positive change in survival rates but also in quality of life. As long as patients were listened to and healthcare professionals acted on the results life-expectancy and quality of life could increase. Eskil's message was that: *it doesn´t have to be complicated as long as one keeps in mind that "one size does not always fit all"*.

- **Engaged and empowered ambassadors within the healthcare organisation** as well as support from the top-management level.

- **Nationwide and regional initiatives.**

- **A systematic process for implementation.** In the County Council of Västerbotten they have developed a step- by-step process to full implementation, easy to follow both by the public healthcare providers and the entrepreneurs. The process includes pilots and proof of concept. Västerbotten has also appointed specific innovation clinics. Within the project three pillars for successful innovation were identified:
✓ One point of contact (VLL innovation AB) with a clear responsibility.
✓ A transparent step-by-step process (idea to clinic) that is generic and scalable.
✓ Integration with reimbursement model (gamechanger)
✓ Generic and scalable incentive model that visualizes, captures and distributes the value of the innovation to all collaboration parties (reimbursement models)

- **Comparisons to ensure medical quality and identify irregularities.** Digital platforms such as "Min Doktor" facilitates such comparisons as doctors, through the platform, easily can ask for second opinions from colleagues and behaviour can be monitored by

peers, for example when and how often doctors prescribe antibiotics.

- **Making research and knowledge more accessible.** Studies exist but it is hard to find people with enough knowledge. Also, incentives to do research and development work is needed.

- **Facilitate clinical trials** by improving communication between entrepreneurs and clinics, as well as making sure that research and development is part of healthcare providers' assignments.

- **Flexible reimbursement models** that fosters innovation and new technologies.

- **Development and understanding for the need of new professions** in the digital age (such as wearable technology therapist, healthcare navigators etc.)

- **Financial support,** from public as well as private funds.

- Integration and better use of data, and systems to filter information. We need to use health data systemically and holistically and find correlations that can give guidelines for health predictions. With early access to patient data doctors can make better diagnoses.

- **More focus on prevention.** Less than 5% of total healthcare spending is allocated to preventive health. Firefighters spend 80% of their time preventing fire. That can be a lesson for healthcare. Reimbursement systems should be designed so that doctors get paid for keeping patients healthy.

- **Learning from each other.** We need not copy/paste, but learn from both national initiatives and other countries' systemic changes. In the learning process we need to engage consumers and patients.

- **An innovative culture and a culture of curiosity.**

To summarize there are both legal and cultural barriers that need to be overcome. Sweden and Europe as a whole also need to attract talents. Encouraging intrapreneurs, entrepreneurs and companies to test new solutions, creating an innovative culture that includes both patients and healthcare professionals, and designing reimbursement systems that reward quality are a few importants factors on how to stimulate innovation.

... and what does the future look like?

When it comes to eHealth in Sweden there are several national initiatives with impact. The national vision for eHealth 2025 is about Sweden being "best in the world" at using the opportunities offered by digitalisation and eHealth to make it easier for people to achieve good and equal health and welfare. Inera, a national platform for eHealth, coordinates the development and management of joint digital solutions. Vinnova, the Swedish innovation agency, has the goal to contribute to sustainable growth by improving the conditions for innovation, through supporting strategic innovation programs. All initiatives have one thing in common; emphasizing the need of collaboration between industry, healthcare and academia.

Björn Arvidsson, head of policy and communications at Roche, pointed out that we need to imagine the impossible - more often. The speed of change is unprecedented. Human knowledge is now growing exponentially compared to previous linear growth. He presented three future trends;

➢ Everything will be upgraded - fast, and that causes change. The technical development causes change that we need to learn how to adapt to.
➢ Everything will be smart - and connected, which enables surveillance and monitoring.
➢ Everything will be predictable - and preventable. When we have all the knowledge, death and disease will be a technical issue which can be solved with technology. We will solve more problems.

Imagine what can be done with:
- Gene sequencing
- Artificial intelligence
- 3D Bioprinting
- Facial recognition
- Augmented / mixed reality
- Quantum computer
- Anti-ageing
- Internet of things
- Nanosized machines
- Data integration
- Big fresh real time data

Some of the above innovations are already being implemented and considering the pace of change it is clear that the future is already here. What we need is more collaboration, a systematic approach to implementation and a modern and flexible governing system, in order to maximise the benefits of innovation for patients, their close ones and healthcare professionals.

Policy Recommendations

- **Strengthen dialogue and collaboration between patient organisations, healthcare providers, society, industry and academia.** All need to work together towards a more efficient and fruitful innovation system. To do this we need platforms to meet, network and learn from each other.

- **Involve patients in innovation and implementation.** By regarding patients as partners in the innovation processes and respecting their knowledge and perception, the speed of innovation can increase.

- **Enhance reimbursement systems** that foster innovation and new technology.

- **Strengthen the IT infrastructure** to facilitate integration and better use of data, and systems that filter information. We need to use health data systematically and holistically and find patterns and algorithms that can give guidelines for prediction of health. With early access to patient data doctors can succeed with better diagnoses and more finely tuned treatment.

- **Facilitate clinical trials** by improving communication between entrepreneurs and clinics. It is important that research and development is part of healthcare providers' assignments.

- **Use innovation and new technology to increase the focus on prevention.** Reimbursement systems should be redesigned so that work processes and innovation that promote general health is encouraged.

- **Make it easier for healthcare professionals and entrepreneurs to work together,** for example by using transparent and systematic models for implementations of new ideas (see example from Västerbotten above).

Examples of collaboration projects for co-creation with patients:

"What matters"? A joint collaboration between several patient organizations.

"Get to know me tool" A joint collaboration between serval diagnosis pathways at Karolinska University Hospital, Regional Cancer Center Stockholm Gotland, Karolinska Institutet and Mayo Clinic.

"Who cares" A joint collaboration between serval diagnosis pathways at Karolinska University Hospital, Regional Cancer Center Stockholm Gotland, Karolinska Institutet.

"Patient education in a new way" A joint collaboration between serval diagnosis pathways at Karolinska University Hospital.

"Selfcare" A joint collaboration between patient organizations, Regional Cancer Center Stockholm Gotland and Karolinska Institutet.

"React and sometimes act" A joint collaboration between serval diagnosis pathways at Karolinska University Hospital, Regional Cancer Center Stockholm Gotland.

"Lead users" A project with several partners (Sara Riggare) and funded by Vinnova.

"BISAM" A fantastic project with former patients working side by side with health care professionals in psychiatry in Stockholm County Council.

Summary

What are the barriers for innovation in healthcare, what makes it successful and what can we learn from each other? These were the main issues on an exclusive seminar, organised by Forum for Health Policy on the 7th of March, in collaboration with the embassies and chambers of commerce of the Netherlands and Switzerland.

Innovation in healthcare is necessary to successfully provide healthcare at a lower cost with higher quality for an increasing number of patients. In Europe, each country has its own healthcare and innovation system with different characteristics, but they often face similar problems – technological, sociological, systemic and legal. Patients and patient associations are engaged in innovation, entrepreneurs are eager to participate and improve the system and many healthcare systems try new ways of stimulating innovation.

During the seminar researchers, entrepreneurs, patient representatives and officials from all three countries were invited to give their view on innovation in healthcare from their experiences and different perspectives.

A common denominator, irrespective of whose perspective, is that more cooperation is required. Patients want to be more actively involved in innovation processes, entrepreneurs need closer contacts with both clinics and patients in order to design products and services according to needs and health care providers need the expertise and knowledge from both entrepreneurs and patients. On an organisational level it is clear that the system is lagging behind and needs to be modernised, for example when it comes to regulations and reimbursement systems. There is also a need for more coordination and a systematic approach to both the innovation and the implementation process.

Policy recommendations:

- **Strengthen dialogue and collaboration between different actors**
- **Involve patients in innovation and implementation**
- **Enhance reimbursement systems**
- **Strengthen the IT infrastructure**
- **Facilitate clinical trials**
- **Use innovation and new technologies to focus more on prevention**
- **Make it easier for healthcare and entrepreneurs to work together**

Svensk sammanfattning

Vad finns det för hinder och vilka är framgångsfaktorerna för innovation inom hälso-
och sjukvården? Denna fråga ställdes vid ett seminarium, arrangerat av Forum för Health
Policy, den 7 mars 2018, i samarbete med Nederländerna och Schweiz ambassader och
handelskamrar.

Innovation är en nödvändighet för att framgångsrikt tillhandahålla vård till en lägre
kostnad med högre kvalitet för allt fler patienter. I Europa har varje land sitt eget sjukvårds-
och innovationssystem med olika egenskaper, men de står ofta inför liknande utmaningar
- tekniska, juridiska och kulturella. Patienter och patientföreningar är engagerade i inno-
vationsarbetet, entreprenörer är angelägna om att delta och förbättra systemet och inom
många sjukvårdssystem försöker man finna nya vägar till att stimulera innovation.

Till seminariet bjöds forskare, entreprenörer, patientrepresentanter och tjänstemän från
alla tre länderna in för att ge syn på innovation i hälso- och sjukvården utifrån olika
erfarenheter och perspektiv.

Samtliga talare lyfte behovet av utökat samarbete mellan olika aktörer; patienter vill och
bör vara aktiva parter i innovationsarbetet, entreprenörer behöver närmare kontakter
med både kliniker och patienter för att kunna utforma produkter och tjänster utifrån
behov och vårdgivare behöver den kompetens och kunskap som både företag och
patienter kan bidra med.

På systemnivå är det uppenbart att systemet inte hänger med och att det behöver
moderniseras, till exempel vad gäller regler och ersättningssystem. Det finns dessutom
ett behov av bättre samordning samt systematiska innovations- och implementerings-
processer.

Policyrekommendationer:

- **Stärk dialogen och samarbetet mellan olika aktörer**
- **Involvera patienter i innovation och implementering**
- **Utveckla ersättningssystemen**
- **Stärk IT-infrastrukturen**
- **Underlätta för kliniska prövningar**
- **Använd innovation och ny teknik för prevention**
- **Underlätta samarbetet mellan vårdgivare och entreprenörer**

All material and presentations available on www.healthpolicy.se