

How To Make e-Health Successful A Microeconomic Perspective

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A Microeconomic Perspective

Introduction

As the populations of many industrialized nations grow increasingly older, chronic diseases are becoming more prevalent. Higher demand for healthcare, including new medical diagnostics and treatment options, is triggering higher spending, while medical skills are becoming increasingly scarce—especially in rural areas.

This dilemma can be resolved by adopting an approach that emphasizes prevention and better scaling of medical resources. This transformation, however, will require a massive deployment of state-of-the-art information and communications technology (ICT).

Governments have initiated ambitious e-health projects, such as the NHS National Programme for IT in the United Kingdom,¹ e-health card in Germany,² sundhed.dk in Denmark³, and e-health strategy in Sweden.⁴ In 2007, the EU Commission issued an e-health taskforce report titled “Accelerating the Development of the eHealth Market in Europe.” At the same time, new ways of monitoring patient health and delivering medical advice to remote patients are being evaluated in telemedicine projects.

Despite the potential benefits for the healthcare system, not all of the large national programs are widely accepted by all stakeholders. Likewise, some telemedicine projects don't make it past the pilot stage, even when they've demonstrated the ability to improve the quality of medical care and save costs.

In this paper, we will explore why certain e-health projects lack acceptance, along with the factors that characterize successful projects.

Business Model

New e-health applications will, in many cases, impact existing business models. Stakeholder support of these applications will depend on how existing business models are affected.

Here are some questions that need to be answered to make any e-health project successful:

Is the Patient's Physician or a Local Hospital Part of the New Model?

If a new model negatively affects physicians' or hospitals' existing revenue streams, these stakeholders will obviously oppose it.

If stakeholders are needed for delivery of the new service, the new model must bring a financial benefit that is equal to or larger than that of the old model. If local resources are not needed for a telemedicine project, a medical service center with healthcare professionals can be set up somewhere else.

¹ http://en.wikipedia.org/wiki/National_Programme_for_IT

² http://de.wikipedia.org/wiki/Elektronische_Gesundheitskarte

³ www.sundhed.dk

⁴ http://www.ehealthurope.net/news/3617/sweden_launches_national_e-health_strategy

Who Has an Influence on Reimbursement?

Public health insurance systems often have catalogs of medical procedures and services with assigned reimbursement values. New procedures such as telemedicine may not be in the catalogs and, therefore, are not reimbursed. If stakeholders negatively affected by telemedicine are on the committee that makes decisions about new catalog entries, they will vote against including telemedicine procedures for reimbursement.

For example, in Germany, the Joint Federal Committee (Gemeinsamer Bundesausschuss GBA) is responsible for this process. GBA's membership includes representatives of physicians and public health insurance companies. As long as there is a fixed budget for health services, physicians have no incentive for increasing the number of catalog entries because it doesn't bring them more income. They will oppose a new entry if it takes money from a doctor's practice or a hospital and redirects it to a telemedicine organization (for example, when instead of visiting a doctor in his or her office, the patient is cared for by a remote medical service center).

In this case, it becomes necessary to secure the support of other interested parties on the committee who see the benefits of an e-health model. The alternative to reimbursement by public health insurance is creating a business model where patients are willing to pay for a new service out of their own pockets.

Who Is Needed To Convince Patients?

This is a question of how an e-health offering is marketed. Is it being done by a sales organization, direct marketing, advertising, via the Internet, or through other channels? If doctors and hospitals are needed to convince patients to enroll in a disease management program, use a personal health record, or subscribe to a telemedicine service, then they need to be fairly compensated for their efforts.

Cost versus Benefit

Governments that initiate health telematics projects often argue that they bring huge benefits for the healthcare system:

- With e-prescriptions, costs for paper printing, distribution, and scanning can be saved, errors in the process can be eliminated, and by checking an e-prescribed drug against the patient's existing medication, adverse interactions can be avoided.
- An electronic patient record helps avoid costly, redundant medical testing.
- A new e-health card provides more security for electronic transactions and minimizes abuse.
- Telemedical monitoring of patients with chronic conditions enables a large percentage of them to be discharged a couple of days earlier from the hospital, saving costly inpatient days and improving quality of life for the patients.

With all those benefits, why aren't payers and providers in the healthcare system happily adopting the new technologies?

To answer this question, it helps to take a closer look at who saves money and who has to invest.

E-Prescription

By minimizing process costs and avoiding costly adverse drug interactions, e-prescriptions provide direct financial benefits for payers. If providers have to upgrade their IT systems and buy new equipment, they will support this approach only if they feel adequately reimbursed for their investments. Another valuable resource is time; if it takes much longer to issue an e-prescription than to write a paper prescription, it will not be accepted unless there is a monetary compensation.

Electronic Patient Record

Again, the financial benefit is with the payer. Providers have to invest in new software and transfer data from their hospital or practice information systems to the EPR system. A financial incentive is clearly needed for providers.

E-Health Card

Costs are being saved on a macroeconomic level. On a microeconomic level, new hardware (PCs, card readers, telematic-connectors) are needed at the provider's site. When Germany announced its plan for a new e-health card, providers were expected to pay for the new equipment themselves. Only after months of protests and boycotts by providers did payers agree to pay a certain amount for the necessary devices.

When Denmark introduced its e-health platform, sundhed.dk, at the end of 2003 (includes patient medical history, medicine profiles, e-prescription, organ donation preferences, appointment booking, and electronic consultations), physicians were paid to help hospitals communicate better with physician practices. According to a Gartner Case Study,⁵ one of the critical success factors was "financial incentives to physicians to adopt EMR systems Physicians who adopted EMR systems and used the MedCom standards received faster reimbursement. Also, MedCom gave physicians EURO€1,500 per year to spend on EMR systems."

A similar approach led to a success in Germany. When Germany wanted doctors to submit their reimbursement data on floppy disks instead of paper in the 1990s, it became necessary for doctors to buy computer systems. At first they were reluctant to do so. They argued that the complexities of medical documentation could not be handled by a computer system. They changed their minds only when a new policy ruled that doctors would receive more money, and get it faster, when they used floppy disks.

Telemedical Monitoring

The financial benefit here depends on the reimbursement scheme. If a provider is paid in proportion to the length of a patient's stay, the provider won't be motivated to discharge a patient earlier unless he or she can make more money by playing a part in remote care. If the provider is paid a fixed amount based on the diagnosis or the procedure, as in some DRG-based systems, he or she might be able to save internal costs through earlier discharge. If the DRG system contains a rule like "minimum inpatient time" to avoid early discharge, however, then telemedicine might become unattractive because the hospital gets less money for this case. Acceptance is based on the bottom line of the process for the provider.

⁵ Gartner Industry Research ID Number: G00139713, "Case Study: Denmark's Achievements With Healthcare Information Exchange".

When the main benefit of an e-health solution is on the payer's side, it is important to create financial incentives for providers so that they are more willing to support the e-health process.

Mandatory versus Optional

When governments introduce new systems, they usually choose between two modes of implementation:

- **Optional:** Government provides a new system and each stakeholder decides whether he or she wants to participate or not. Denmark used this approach when introducing electronic data exchange among providers, and when opening the sundhed.dk portal. Doctors were free to choose whether to use e-prescriptions, exchange laboratory data electronically, access patient histories, and so forth. Patients decided whether they wanted an electronic signature to access the portal or not (the signature is provided to patients free of charge). This approach generated high acceptance of the new functionalities. According to MedCom, in May 2006, 98 percent of general practitioners and all hospitals and pharmacies used EDI communications. The network transmits 52 percent of referrals, 95 percent of lab results, and approximately 100 percent of discharge letters.
- **Mandatory:** Every party involved has to use the new system. This is the way Germany wants to implement its healthcare telematics infrastructure. Every provider must use the mandatory applications, possess a health professional smartcard, and buy new card readers, an e-health connector, and so on. In addition, every patient must have a new electronic health card. The original German project plan intended to have the card rollout completed in 2006. Now, in 2010, the project is still in its early testing phase and faces strong resistance from many stakeholders.

Conclusion

For an e-health project to become successful in the long run, it is not sufficient simply to produce cost savings on a macroeconomic level, improve quality of patient care, and demonstrate the reliability and security of the technical infrastructure.

A critical success factor is the *microeconomy*:

- Financial benefits and investment/operating costs must be aligned. Those who benefit must invest.
- Each individual stakeholder that plays a critical role in the process must have a financial benefit. From this point of view, the new e-health model must be more attractive than the old process.
- The financing process should be transparent to everyone involved right at the beginning of the project. This avoids the build-up of strong negative emotions toward the project that are hard to reverse later on.
- The new business process should also save time for key stakeholders. Otherwise, financial compensation should be provided.
- Choose carefully between the optional and mandatory implementation approach.

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More Information

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