

The quantified self: New opportunities for pharma and healthcare companies

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Fitness wristbands record heart rate, smart watches monitor calorie consumption, and the smartphone monitors sleep. Measuring complex body parameters with apps, fitness trackers and other devices is very common today. This has given rise to a movement of its own: The Quantified Self.

The impulse to seek new information and gain knowledge is a basic human attribute. Throughout history, our curiosity to understand the world led us to look at ourselves. "Know Thyself" is a famous expression by the Ancient Greeks that has not lost its meaning until today. While the methods and tools available to the Ancient Greeks were rather primitive, advances in technology in recent years facilitate deeper methods of self-tracking and exploration. Sensors enable us to gain information that was previously invisible. The internet allows us to analyze and share information and mobile technologies make it possible to track information wherever we are and at any time. In fact, today seven in ten U.S. adults say they track at least one health indicator (see statistics by the PEW Research Center below). As the

data, which is collected by self-tracking, comes from a variety of different devices and several parameters are tracked simultaneously, converging those data points for deeper analyses is a complex process that needs to be managed.

Benefits of the quantified self movement

The benefits of quantifying oneself are manifold: On the personal level, healthcare technology and medical apps help with the proactive management of a healthy lifestyle. As such, quantifying oneself encourages healthy behavior and helps people to stay in good physical shape.

60 % of U.S. adults say they track their diet, weight, or exercise routine.

33 % of U.S. adults track health parameters or symptoms, like blood pressure, blood sugar, or sleep patterns.

12 % of U.S. adults track a health indicator on behalf of someone they care for.

Added together, **7 in 10** U.S. adults indicate they track at least one health indicator.



On the macro level applying advanced analytics to the quantified self enables the analysis of data that was previously unavailable to R&D. As such, self-tracking is an immense opportunity for the healthcare system in general and for healthcare companies supporting a wide range of unprecedented opportunities and use cases specifically. The acquired data could for example be used to analyze the efficacy of drugs and enhance future drug sales. Products that can track healthcare data may also add value to the customer. An example are devices that can monitor healthcare parameters and use those data for personalized treatment or will increase patients' adherence to their prescriptions. Ultimately, using data analytics to create value to the customer will lead to higher customer satisfaction and will be a competitive advantage for healthcare companies.

The quantity of healthcare data sets that are available electronically through "The Quantified Self" movement will present companies with major challenges as data is increased in terms of complexity, diversity and timeliness. Driven by mandatory regulations and the need for privacy regarding healthcare information, there are special requirements in order to track and use healthcare data.

Successful data usage in healthcare – a complex challenge

For companies to successfully apply healthcare data some complex preconditions have to be fulfilled that are summarized in Figure 1:

Data security

Given the sensitive nature of healthcare data it is vital for healthcare providers to have a robust data security service in place. The data should be protected, which means that any assaults launched by cyber criminals should be predicted and prevented.

Data autonomy

In order to increase trust regarding the storage and analysis of healthcare parameters, people should be put in charge of their data. That means that the autonomy of data lies solely in oneself and people have the full flexibility to store, run, and handle their data.

Data integrity

Data integrity refers to the completeness, consistency, and accuracy of data. Complete, consistent, and accurate data should be attributable, legible, contemporaneously recorded, original or a true copy, and accurate.

Data distinction

In terms of devices and applications, a legal distinction is made between products with a medical purpose and those that do not have a medical purpose. The suppliers of medical devices must comply with legal requirements to ensure that only high-quality, safe and effective products are placed on the market. The remaining lifestyle, fitness and health products are subject to general consumer law. Therefore, it must be clearly identifiable which data belongs to which category.

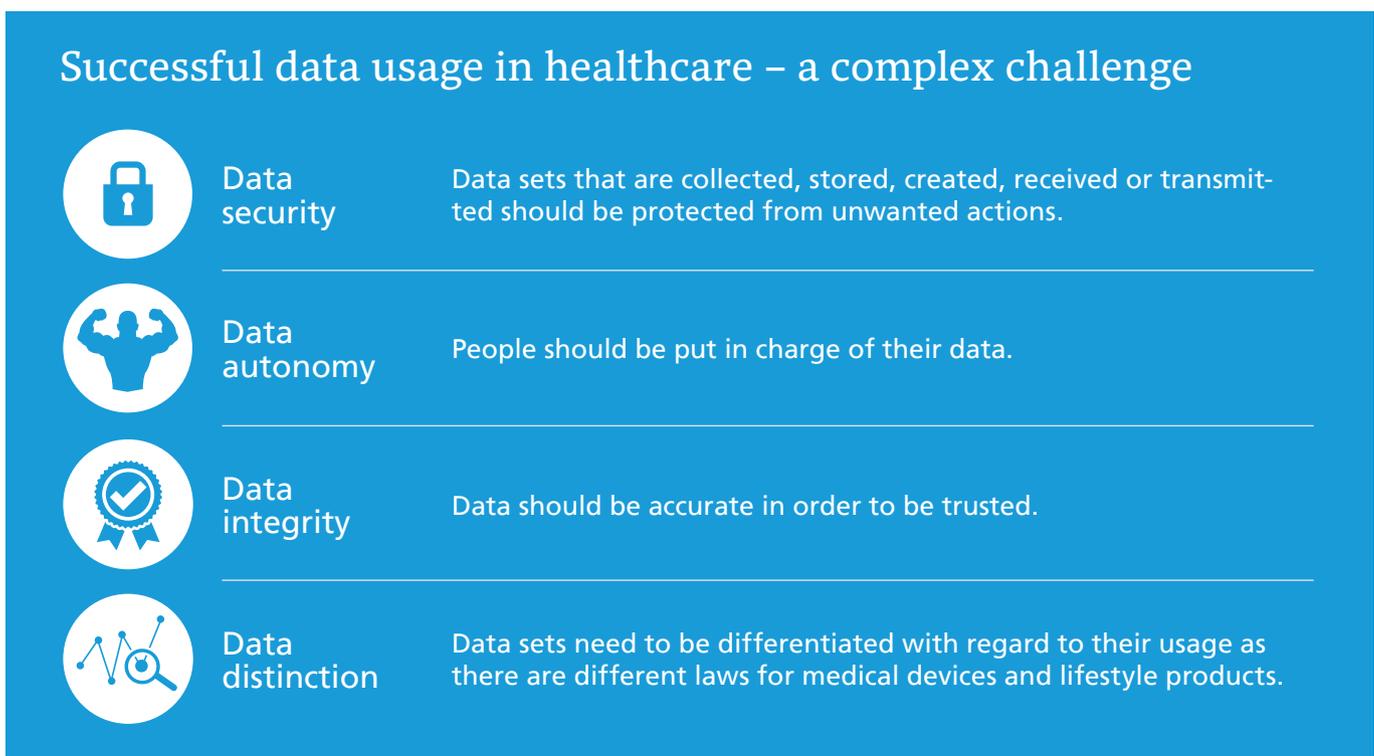


Fig. 1: Required standards for data usage in pharma and healthcare

Innovations out of the quantified self movement



Data platforms

Large amounts of data are unused by health care providers that could be located in data platforms and be used for advanced analytics to improve patient care.



M&A

In order to provide more personalized medicine, companies are engaging in M&A to acquire new capabilities that provide better services for customers.



Value-based contracting

Value-based pricing models (e.g. only paying if the treatment works) are discussed now that there is more individualized medicine that happens to be extremely expensive.

Fig. 2: Innovations out of “The Quantified Self” movement

Trends in pharma and healthcare

The quantified self movement and the related advanced analytics of data give rise to important transitions regarding the healthcare system. If the stated requirements concerning data usage in healthcare can be met, they open the way to new types of innovations, which need to be managed regarding their complexity. We see three battlefields that might gain in importance and will be drivers for competitive advantages:

Data platforms

When people have given their consent for the use of their health data, many health care providers are sitting on top of large amounts of data that are relatively underused for advancing patient care. Large firms such as Microsoft, Google, Amazon, and Apple are among some of the companies that are exploring how to best apply health care data for example predictive analytics. Companies, which take advantage of all the benefits data analytics has to offer, will be emerging as winners in their industries.

M&A

Companies also strive to personalize interactions precisely to their consumers and patients needs. In order to provide more personalized medicine, companies are engaging in M&A to acquire new capabilities that provide better services for customers. Solutions that cover the whole workflow, such as pharmaceutical companies that also offer an app to track drug use, are great examples.

Value-Based contracting

As pharmaceutical companies come up with more individualized drugs, which also happen to be extremely expensive, they are rethinking their pricing models. Some payers are experimenting with patients and only paying if the treatment works. Other payers are considering spreading out pricing over five years.

Conclusion

In summary, “The Quantified Self” movement was a starting point for analytics regarding personal healthcare parameters and gave rise to more advanced analytics. In order to manage the complex challenge of using data successfully, companies need to know which data to use and where to look for it. They have to be able to handle data analytics and translate the insights acquired for future opportunities.

If your company is interested in learning more about the storage and analysis of health-related data and managing its complexity, we invite you to contact us.

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