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**What are some of the latest trends in e-health?**

One particular trend in healthcare is Big Data. Patient care is creating ever-larger quantities of data. This applies, on the one hand, to data from medical documentation, on the other, to results from imaging tests, such as X-rays, CT and MRI scans. Genetic data is playing an increasingly important role. Big Data technologies are enabling this vast amount of data to be useful. The potential of data-driven applications is tremendous and will revolutionize the field of healthcare in the coming years. These include, to list just a few examples, assistance in medical decision-making, detection of previously unknown side effects of medications or treatments, data-driven patient recruitment for clinical trials, and discovery of new biomarkers in clinical research.

**What untapped potential does unstructured data offer to healthcare?**

Studies have shown that roughly 85% of patient information exists in the form of unstructured data. This starts with the acquisition of a patient's medical history and extends to the issuing of a patient's discharge summary. The amount of unstructured data will increase in the coming years through the widespread introduction of speech recognition software in hospitals. The analysis of unstructured data and the extraction of relevant facts from this data will therefore act as a determining factor for the future success of Big Data in healthcare.

**Please elaborate on Averbis GmbH's role in developing smart data technologies and text analytics software for the healthcare market.**

Averbis is one of Europe's most innovative Big Data providers within the healthcare realm. In recent years, in collaboration with numerous partner hospitals, we have put many different Big Data applications into effect. At several German hospitals, we have been supporting physicians in the diagnosis of rare diseases. Together with various European hospitals, we have been comparing patient data with current cardiology guidelines to identify which patients need a pacemaker.

As a commercial enterprise, we are always interested in the profitability of innovative applications. We are carrying out applications, which are relevant for both hospitals and sponsors, such as pharmaceutical and medical technology companies. One typical example is patient recruitment for clinical trials. Currently,

less than 20 percent of clinical trials in Europe are able to complete patient recruitment in time; resulting in losses in the billions. Big Data technologies are capable of providing assistance in this situation by using matches in data analysis to assign suitable patients to clinical trials.

### **What makes your company's data mining capabilities so unique?**

We have been involved with the analysis of medical data for more than 15 years. The combination of in-depth medical insight and IT expertise is certainly a unique selling point. Not even the big players like IBM or SAP are able to compete with this strength of our company, which is why we are a sought-after partner for large corporations. In addition, we have consistently made significant investments in research and development in order to constantly foster new, innovative applications. Finally, we select our staff very carefully; they are among the best in the market.

### **What are some of the main challenges facing e-health efforts in Germany and the U.S.?**

In this regard, I would like to address one single issue, namely data protection. In recent years, a lot of faith has been lost as a result of various spy and surveillance scandals. It is extremely difficult for Big Data companies in the healthcare sector to obtain medical data. This is the reason that Big Data in healthcare is a few years behind Big Data in other industries. Of course, as a patient, I am interested in the best possible protection of medical data. Nevertheless, I am convinced that restrictive data protection regulations cause more harm than good and endanger patients' lives. The drug Vioxx alone led to hundreds of thousands of serious heart incidents several years ago before it was taken off the market. For many years, the relationship of such harmful effects was recognizable in the data, but there was no software to analyze this data.

In the U.S., data protection regulations are less strict – which has both advantages and disadvantages. I would thus welcome uniform and research-friendly privacy policies worldwide for managing medical data.