Introduction

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The term digital healthcare encompasses a wide range of innovative fields that extends far beyond regional and national borders. Spurred on by striving to improve the individual's state of health, research is being performed to implement ideas based on modern technologies, to develop optimization potentials and to make these usable for the benefit of all those involved (and beyond).

Against the backdrop of an aging society, the shortage of skilled workers and in general scarce resources for health services, there is a need for active action in almost all conceivable areas to maintain and improve the future quality of healthcare for people affected. In addition to other benefits, digitalization in the healthcare system offers people from structurally weak and remote regions, and those who do not have sufficient mobility, the potential for equitable and targeted healthcare.

From an economic perspective, innovations can be at the level of new products, optimized processes and organizational improvements (Chapter "Innovation, Incentives, and Information Technology in the Healthcare Industry"). Theoretically, information technology (IT) has the potential to have a positive impact on innovations in all these areas. Which innovations will ultimately prevail, however, depends, in addition to financial influencing factors, in particular on the interests of the institutions involved and groups of people involved or affected.

The path from the idea to actually implemented innovation is long and requires, in addition to the commitment of all actors involved, in particular an adequate legal foundation (Chapter "Digital Health Applications: DiGAs: Pathway to Reimbursement"). In the outpatient setting, this foundation has been implemented as part of the

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Digital Healthcare Act (DVG) in Germany to pave the market's way towards these new approaches as part of a "fast-track market access process".

Despite the increasing number of initiatives, it cannot be overlooked that Germany more or less missed the go-ahead for digitization in the healthcare system until 2020 (Chapter "Inpatient Market Access for Digital Health"). This was expressed by a digital infrastructure in the extensive hospital landscape that could be classified as inadequate, especially in comparison to other countries. The key word here is funding. While short-term hospital funding at the federal macro level usually failed due to bureaucratic hurdles and insufficient resources being made available at the meso level of federal states, optimization with regard to digital health remained at the micro level; and therefore primarily at hospitals themselves. Against the backdrop of competitiveness and adequate patient care, there was an urgent need for action in the digital health field in Germany.

In future, it is to be expected that, especially in nursing, an increasing number of tasks, with regard to inpatient and outpatient care, will be taken over by innovations from the fields of robotics and digitization (Chapter "Digitalization of Nursing to Overcome Staffing Shortages? Categorization and Market Access of Digital Applications"). Possible uses here are varied and range from interactive offers to technical aids and documentation options. However, despite all the euphoria and all the possibilities in the context of digital health, it must also be recognized that active support in the area of standard care services is still a long way off.

The profitability of a digital health application is defined by its price, which must be carefully planned in advance by the respective manufacturer. The price must be either cost-oriented, value-added or strategically determined (Chapter "Reimbursement and Pricing").

But how does Germany measure up against other countries potentially at the forefront of digital healthcare, namely Japan and the United States of America? While Australia, China and the USA are considered to be pioneers in the field of telemedicine, the example of Japan makes it clear that for further growth, the technological readiness of both the elderly and geriatricians are especially relevant (Chapter "Telemedicine in Japan: Challenges and Opportunities"). In addition, although Japan is one of the few countries in which digital health apps are reimbursed by health insurance companies as the market access pathway is the same as for drugs and medical devices. Furthermore, the reimbursement rates for telemedical applications are relatively low compared to conventional face-to-face consultations with physicians. While an increased demand for telemedicine services was observed during the COVID-19 pandemic, face-to-face interactions with physicians are still the norm.

In the USA, several companies are developing digital health applications for patients, nurses and providers that have the potential to optimize processes while reducing costs (Chapter "Barriers and Opportunities for Digital Therapeutics in the United States"). The framework for this is a legal basis that focuses on value creation in the provision of services and is particularly useful in the case of chronic diseases. While there is a benefit, a significant impact on patient care has not yet been demonstrated. To optimize the situation, an integrative approach is sought, in

which the acceptance of useful technologies is to be promoted by supporting the cooperation of the actors involved. An essential point for the lack of acceptance is due to uncertainty regarding the costs, effectiveness and efficiency of health applications. In addition to obtaining regulatory approval, ensuring reimbursement is a central issue in the US. In any case, there are different pathways available to collect reimbursement such as the patient's out-of-pocket expenses, employer reimbursement and hospital funding.