

RETHINKING DENTAL HEALTHCARE

SCENARIOS FOR A PATIENT CENTRIC LANDSCAPE



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TOWARDS A PATIENT CENTRIC DENTAL HEALTHCARE

As many industries, the dental healthcare market faces continuous and comprehensive changes. While the digital transformation is certainly a key driver and fuels predictions of major disruptions across all sectors, an exclusive focus on technology is not sufficient to understand the future market environment. As all technological progress is embedded in societal and demographic changes, a holistic and more nuanced understanding of framework conditions is required to develop a realistic perspective of dental care. Most of all, true innovation is not a result of pure technological potentials – on the contrary it is defined by benefits and values it provides for users, patients and the society.

FROM BLOCKBUSTERS TO NICHE BUSTERS

One of the key changes that have fundamentally altered consumer markets and will redefine healthcare is the shift towards personalised products and services. An increasing focus on individual values and expectations of patients and health consumers results in more tailored solutions and procedures – also in dental healthcare. The broadening patient base with more elderly patients, more diverse cultural backgrounds, the polarisation of incomes and most of all the more holistic understanding of health including social and mental wellbeing lead to a more diverse healthcare system. This creates growth opportunities for individualised solutions and indicates a shift from blockbusters to niche busters.

Advances in medical diagnostics both in vivo and in vitro are setting the stage for a tailored and differentiated approach that will define dental healthcare and the corresponding ecosystems. This development will gain potential in combination with digital solutions from algorithms that help to analyse diagnostic images, search for the right cure in a large number of treatment options and use decentralised printing to manufacture individualised implants at lower costs beyond economies of scale. However, the potentials of digital transformation have to be critically reviewed: While repetitive and standardized tasks might be automated in the future, more complex and socially demanding activities will predominantly remain with the human workforce.

THE AGE OF PATIENT-CENTRIC DENTAL HEALTHCARE

Looking ahead, the transformation of healthcare will be enabled by technological progress in the areas of biomedical research, material sciences and

digital solutions. However, as innovation is linked to a clear benefit for patients, health consumers and society, the way forward is defined by future needs. Only a combination of technology and an alignment of solutions with future patient needs will lead to sustainable innovation. In response to the diverse lifestyles and biographies within the population, a greater variety of health care products and services will evolve over time. Increased demands for autonomy will potentially gain relevance, as patients wish to be self-determined and attempt to limit control and interference by others. Individual attractiveness and the desire to be perceived as significant and appreciated by others represent another future patient need. At the same time the consumer mindset of patients drives the need for improved convenience and access to dental health care services. The evaluation of multiple treatment options and the search for high quality dental care reflect the increasingly demanding attitude of patients. This stands in contrast to the pressure on public and private health care budgets that trigger cost-cutting efforts around the globe. The need for affordable dental care solutions will represent a fundamental aspect of the future dental care landscape.

KEY AREAS TO REDEFINE DENTAL HEALTHCARE

Based on an in-depth understanding of future needs and a differentiated understanding of chances and risks of the market environment of tomorrow a number of key areas of action path the way into the future of dental healthcare. A fundamental part will be based on access to high quality and integrated patient data to tap into the benefits of a smart dental care infrastructure. Furthermore, the interrelation between oral and systemic health leads to a more comprehensive understanding of health care provisioning which offers opportunities to engage in promising partnerships that complement own core competencies. Lastly, the continuous and rapid changes within the dental care market require the creation of lifelong educational offerings with new spaces for sustainable innovation. A clear long-term positioning with regards to these innovation areas supports strategic decision-making and facilitates credibility in a rapidly changing environment.



SMART CLINIC

The improved data availability within the health care system and advancements in the area of analytics and robotics promise a higher degree of automation across the entire dental care value chain. In case of more complex medical procedures, patients increasingly ask for high quality dental care treatments and a high level of specialization. In this context, automation may allow to perform treatments with very high precision, minimal human intervention and limited physical impairments in the sequel of dental care procedure. In the future, «smart clinics» may be characterised by improved efficiency based on automation of patient handling, diagnostics and dental treatments across the entire patient journey. The use of machine learning and new technologies like additive manufacturing and virtualisation optimise the precision and quality of the dental care provisioning. The role of the dentist would shift towards an orchestrator who supervises semi-automated treatments and diagnostics. A precondition would be an improved data availability across the dental care value chain. This would mean that patient data is integrated from various sources such as from decentralised dental hygiene offices and prevention and self-care activities that may be carried out by the patient at home. The aggregated data might be monitored at «smart clinics» to gain insights into the overall health status and to make improved health care decisions that take into consideration all the relevant physical, psychological and behavioural characteristics of the patient. Despite the high degree of specialisation of dental care provisioning, the potential integration of the «smart clinic» into a joint practice guarantees an overarching health care experience connected to offerings from other disciplines.

HOLISTIC HEALTH CENTRE

The awareness of the importance and benefits of a healthy and sustainable lifestyle is rising in the public. As a consequence, future patients wish to be perceived as attractive in accordance with a more holistic understanding of health. The individual compliance with the social norms to maintain a healthy and attractive appearance evolves into a fundamental lifestyle choice. In the future, this could imply a higher demand for more comprehensive health care solutions which also include treatments with a focus on aesthetics. Expanding demand could then facilitate access to such treatments for a major part of patients. In general, the significance of health and wellbeing also has implications on the expectations of future patients. In order to meet the high patient expectations, interdisciplinary treatments and wellbeing offerings could be merged into holistic health centres that offer an extraordinary customer experience. The provided services would rely on close human relationships and high touch health advisory to create personalised offerings. The central touchpoint for the patient might be represented by a holistic health advisor who consults and connects the patient with specialists from different health care disciplines such as dental, nutrition, plastic surgery and dermatology. In addition, technology may enable patients to evaluate and choose among different treatment options by virtually showing the expected results prior to treatment. Dental technicians could play an important role in the modelling of dental products that would be manufactured on-site. Before, in between and after treatments the patients may engage in activities that fit to their lifestyle such as wellness, relaxation and sports. New revenue models could combine long-term club-like memberships with out of pocket spending for specific aesthetic treatments.

NEAR PATIENT CARE

The decentralisation of health care service provisioning and the improved consumer-orientation lead to better access for patients. Given the assumption that future patients demand convenient and time-efficient health care solutions, mobile dental offices could bring basic dental care closer to the patient. Compact and decentralised practices would allow to embed regular controls or dental hygiene treatments into the workaday life of patients. In urban areas, the dental offices could be located at highly frequented places that grant easy access, such as train stations, airports, office buildings and central retail districts. In rural areas, the decentralised dental care model could complement limited permanent dental care resources. The aim would be to increase the visibility of services with a clear focus on dental hygiene. Dental hygienists may treat patients who can either arrange appointments or consume the services on-demand. Furthermore, dentists may provide basic treatments, emergencies and simple aesthetic interventions that do not rely on heavy infrastructure. Besides providing patients with professional assistance, the mobile dental offices would be well-equipped with technologies such as additive manufacturing and scanners which would allow patients to perform dental care activities based on a self-service approach. The provision of basic services could be combined with new revenue models such as subscriptions for dental hygiene to incentivise patients to consume services on a regular basis or dynamic pricing measures to control demand.

HOME CARE

The economisation of health care delivery incentivises activities that contribute to cost-cutting and promote transparency within the health care system. In this context, patients may aspire to substantially reduce their expenditures for dental care by performing prevention activities and basic dental treatments by themselves at home. The aggregation of health-related information and the automated analysis of the patient's overall health status build the foundation for an effective prevention and individualised dental self-care. Moreover, given the interdependence of systemic and oral health, «home care» builds on a holistic understanding of health that connects dental care with general practice. In the future, a smart mirror could serve as a cockpit which displays data on the current health status in real time. The mirror might collect and analyse data from several connected diagnostic tools, such as a robotic-enabled smart toothbrush, image recognition technology, mouthwashes with microensors and other novel means that monitor dental and general health. Connected to scientific databases and the patient's medical records, the system could improve health analytics and early recognition significantly and provide valuable and personalised insights on a daily basis. Moreover, data generated in the course of dental hygiene or other medical treatments, e.g. information on particular teeth at risks or other body parts that require special care could be made accessible to patients. The option to virtually interact with a dentist grants the patient quick and convenient access to remote diagnoses, further guidance on best-practise or other sorts of medical expertise. From a business model perspective, prevention and self-care activities could be rewarded with benefit programs or premium reductions for supplementary insurance policies.

FUTURE LANDSCAPE OF DENTAL HEALTHCARE

DRIVERS OF CHANGE

Healthy Lifestyle

People become more aware of the importance and benefits of a holistic understanding of health and increasingly adopt a sustainable and healthy life style.

Decentralisation

Distributed models of health care delivery based on new technologies and business model innovation facilitate patients' access to medical care.

Democratisation

Improved access to medical information and the accompanying power shift generate participatory health care structures which empower patients and let them get more involved in decision-making processes.

Polarisation

Socio-economic inequality fosters the emergence of a multi-tier health care system. As a consequence, dental care beyond basic treatments will largely remain an out-of-pocket market.

Individualisation

Patients perceive themselves as consumers and individuals with distinct needs and expectations. This increases demand for personalised health care offerings.

Quantification & Automation

Improved data availability, advanced analytics, and progress in robotics support the automation of activities and promise efficiency gains in research & development, diagnosis, monitoring, and treatment.

Health as Status Symbol

Increasing performance pressure triggers ambitions to improve the individual health status and to maximise physical attractiveness, also in response to competition among peers.

Economisation

Increasing pressure on health care budgets promotes transparency, cost-cutting measures, and consumer-orientation. This will lead to a higher variety of dental products and services.



HIGHEST QUALITY
Patients evaluate multiple treatment options and search for high quality services.

CONVENIENCE
Patients demand easy access to simplified and time-saving healthcare services.

ATTRACTIVITY
Patients desire to be perceived as significant and appreciated by others.

AFFORDABILITY
Patients ask for affordable healthcare solutions which are aligned with their financial means.

AUTONOMY
Patients wish to be self-determined and thus attempt to limit control and interference by others.

LIFELONG EDUCATION

Digitisation and the development of new technologies enable improvements of quality, efficiency, and accessibility of dental healthcare. In turn, existing activities and processes in dental healthcare will continue to change and require new skills from dental healthcare professionals and the whole industry. These continuous changes require lifelong learning to cope with new developments. Moreover, increasingly health aware patients need to be educated to enable an effective dental health prevention.

EMPOWERED PATIENT

Improved patient access to information and education combined with an increased consumer expectation transferred from other industries lead to a shift of power from dentists towards patients. As a result, patients want to be involved in the decision-making process for dental treatments to ensure that their expectations are met. At the same time, this increases complexity which in turn creates a need for guidance due to information overload. This makes it crucial to develop a sophisticated understanding of patient needs and potential shifts in the future.

INTEGRATED CARE

New research insights, the interrelation of oral and systemic health, and an increased awareness enhance a holistic understanding of individual health. This more comprehensive concept of health leads to an expansion of services in the healthcare market and increases complexity. Due to additional increased specialization most dental healthcare providers will not be able to deliver all relevant services by themselves. This makes it crucial for every healthcare provider to think about their current and future core competencies – and to engage in promising partnerships which extend the value proposition.

SMART INFRASTRUCTURE

The increased availability of data prepares the ground for the digital transformation of dental healthcare and the automation of processes, personalization of treatments, and effective dental health prevention. A new smart infrastructure is needed to integrate data from multiple internal and external sources, which makes advanced data analytics and improvements in dental healthcare provisioning possible.

INNOVATION AREAS

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