



The Oral Healthcare Industry

Value-based healthcare strategies in the oral healthcare industry

Creating sustainable competitive advantage



Preface

Healthcare systems worldwide are under pressure due to demographic changes in combination with evolving healthcare needs. In response, measures are taken to actively move towards value-based healthcare systems, with payers typically considered to be the driving force.

This publication highlights various initiatives driven by Dental Service Organizations (DSOs) which are in line with value-based healthcare. We argue that DSOs are already facilitating the shift towards value-based models and, therefore, can contribute further to the implementation of value-based healthcare in the dental care sector. By doing this, DSOs create the much needed benefits to patients, providers and society at large.

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Specific characteristics of dental care make it well suited for value-based healthcare implementation

Value-based healthcare concepts challenge the central principle of most Western healthcare systems. Oral healthcare is highly suitable for value-based healthcare models

As part of the ongoing desire of societies to control healthcare costs while maximizing outcomes, internationally a trend towards value-based healthcare (VBHC) is observed¹.

While both costs and demand for treatments continue to increase due to staff shortages and aging populations, VBHC focuses on the value of outcomes rather than treatments delivered and aims to achieve the highest health outcomes at the lowest costs.

In various fields of healthcare, measures are taken to actively move towards VBHC, such as implementation of population health programs (e.g., for diabetes patients or other chronic patient groups) or introduction of value-based payment models. In dental care we see various initiatives across markets, often driven by DSOs, which are in line with VBHC and we see several benefits of VBHC implementation in dentistry for patients, payers and providers.

We therefore argue that the dental care market is highly suitable for VBHC implementation as the key levers for implementation are present in DSOs (direct impact measurement, integrated care, professional organizations, focus on prevention).



Implementation of VBHC is dependent on several key levers, most of which are often already present in operating models of oral healthcare providers

Consolidation / professionalization

In our previous publications (see The dental chain opportunity I and II, KPMG), we evaluated the ongoing consolidation trend in dental sectors globally^{2,3}. In addition to the previously described benefits dental chains can generate for investors, dentists and patients, consolidation is also favourable for VBHC implementation.

Consolidation has led to the emergence of professional dental service organizations (DSOs), which are better equipped to adapt to the various (technological and regulatory) changes in the overall healthcare landscape than the traditional smaller-scale solo or group practices. Successful implementation requires that VBHC concepts are embedded in the operating model of the organization, and we see that several important conditions for implementation of VBHC are already present in DSOs.

Direct impact measurement

An important cornerstone of VBHC implementation is defining and measuring outcomes. This refers to both measurement of clinical outcomes and costs at a patient level. In order to evaluate these factors, data must be continuously collected and monitored by healthcare providers.

DSOs have often implemented KPI-driven operational steering in their practices by measuring and tracking factors such as periodontal indices as well as the share of curative treatments vs. preventive. Direct impact measurement by capturing data about patient health and practice performance allows DSOs to identify, analyse and implement improvement opportunities in their clinics and labs, thereby embedding continuous optimization and learning.

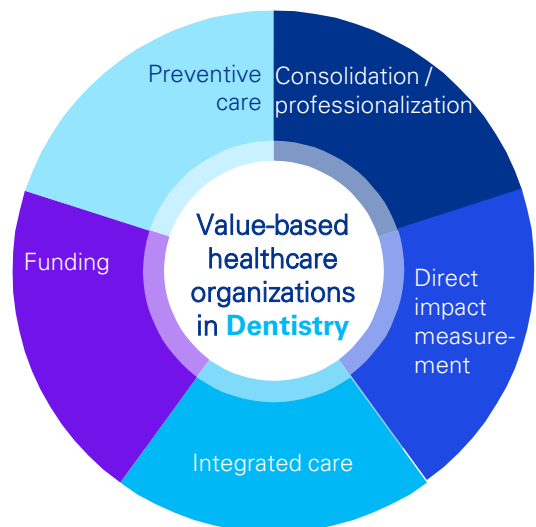
Integrated care

Another important enabler of VBHC is integrated care, which means that related care activities must be coordinated between various providers in order to provide the required level and quality of care with a multidisciplinary team, regardless of individual financial or other incentives for each of the parties

involved. DSOs are well equipped for this and often already make use of multidisciplinary teams (e.g., general dentists, dental hygienists, prevention assistants, specialist dentists and prostheticians).

With these disciplines working in the same DSO, interests are aligned, resulting in better outcomes for patients and avoidance of inefficiencies in treatments.

The five characteristics of value-based healthcare organizations¹ applied to the dental industry



The pricing of services and products based on outcomes or value created is another intrinsic element of the future of healthcare⁴

Funding

New funding structures such as subscription-based models can also be an enabler for implementation of VBHC models. Subscription-based reimbursement is not driven by treatments performed, but instead incentivizes providers to optimize patient health outcomes while minimizing their cost levels.

For DSOs, a subscription-based model can have multiple benefits. Firstly, cash flows are more predictable. Secondly, it can drive higher volumes attracting patients that would have otherwise never opted for preventive treatments. And lastly, patient satisfaction is likely to increase since patients undergo less invasive treatments, resulting in higher patient retention rates. We see that subscription models are already implemented by multiple DSOs.



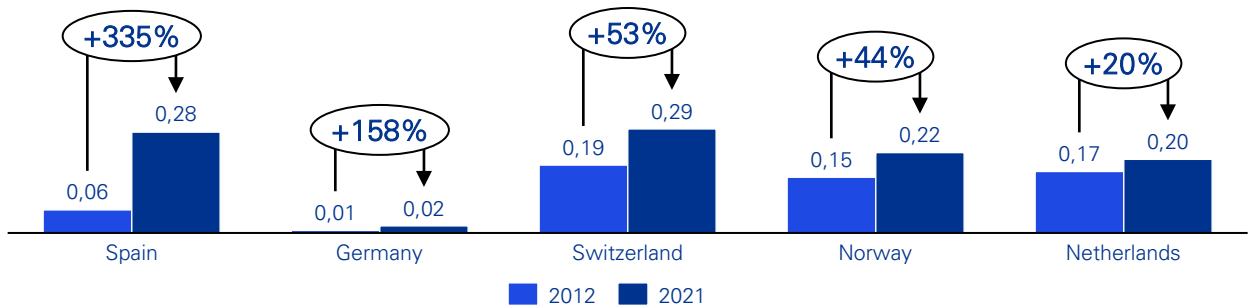
Preventive care

For obvious reasons, prevention is an important element of VBHC as it aims to improve healthcare outcomes for populations while preventing expensive individual restorative treatments at a later stage. As dental care should theoretically be provided to everyone, including individuals with good oral health, prevention and preservation are already major objectives in Western dentistry. The positive effect of prevention in oral health is reflected in the declining DMFT values^(a) of children aged 12 over the period 2012-2020. The fact that prevention has

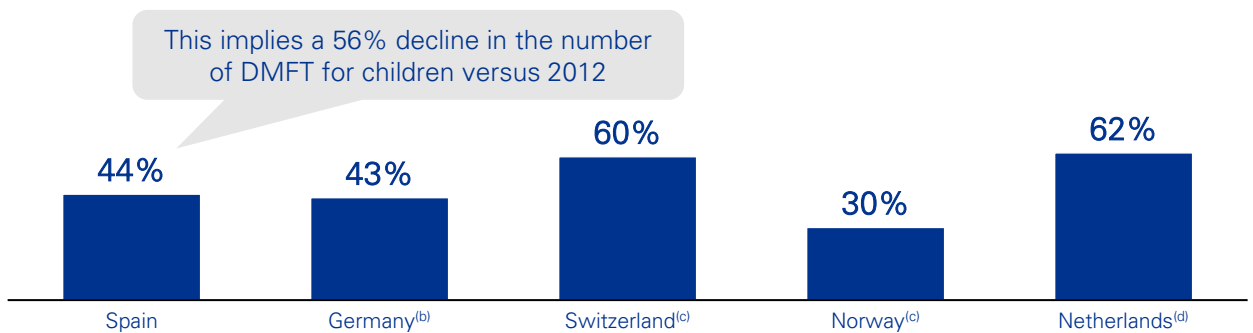
taken flight in recent years is also underpinned by a significant growth in the number of registered dental hygienists over the period 2012-2021.

Generally at DSOs, patients with relatively good oral health are regularly seen by a dental hygienist for preventive cleaning, but less often by a dentist, unless they develop dental complaints or diseases. This is in line with the VBHC principle that patients receive personalized care based on their needs and health status.

Number of registered dental hygienists per capita for selected European countries^{5,6}, 2012-2021, #000



Improvement of Decayed, Missing, Filled Teeth values of children for selected European countries^{5,6}, indexed growth (decline) 2012-2020 (2012=100%)



Research indicates that in addition to the availability of dental professionals, paediatric dental health is related to gross national income levels. As a result, some of the higher disposable income countries show a relatively strong decline in the DMFT-12 index.^{7,8}

Note: (a) DMFT is defined as the average of the sum of decayed, missing and filled teeth, a commonly used indicator of oral health
 (b) Data from 2019
 (c) Data from 2018
 (d) Data from 2017

Value-based dental care benefits patients and society as it improves both oral and overall health at lower costs

Indirect effects of oral health are known and significant and therefore beneficial to society at large

In light of an increasing number of studies concluding that dental health contributes significantly to overall health, implementation of VBHC in dental care will have a positive impact on society. Several studies^{9,10,11} have proven risk factor sharing between oral diseases and leading general diseases, e.g., cancer. Generally speaking, regular dentist visits allow for better monitoring and prevention of dental complaints as well as related general health issues. Ultimately, this is beneficial for both patients and society. On the one hand, patients are better off with better dental (and hence overall) health, and on the other hand, increased prevention alleviates the cost burden on society.

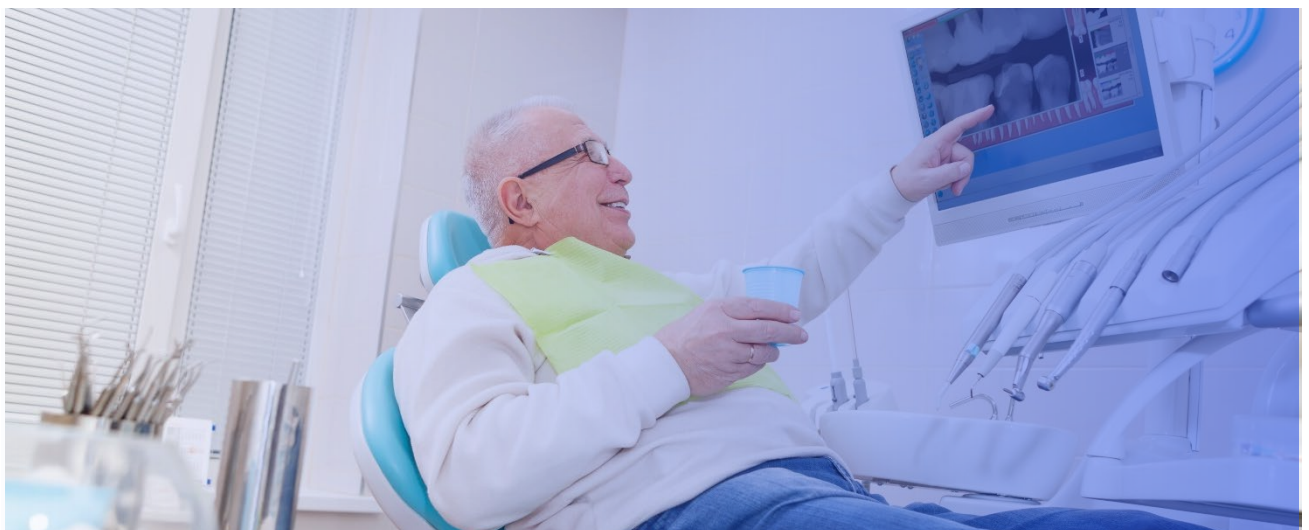


“There does appear to be increasing evidence that a relationship exists between dental health and coronary heart disease.” – Seymour and Steele, **British Dental Journal**¹¹

“Oral health is an integral part of overall health. When children are not healthy, this affects their ability to learn, thrive, and develop.” – **Public Health England**¹²

“We conclude that poor oral hygiene due to infrequent tooth brushing and sores caused by dentures are risk factors for cancer of the mouth.”
– Velly, Franco, Schlecht, Pintos, Kowalski, Oliveira and Curado, **Oral Oncology**¹⁰

“Most oral diseases and conditions share modifiable risk factors with leading diseases: Cardiovascular diseases, Cancer, Chronic respiratory diseases, Diabetes.” – **World Health Organization**¹³

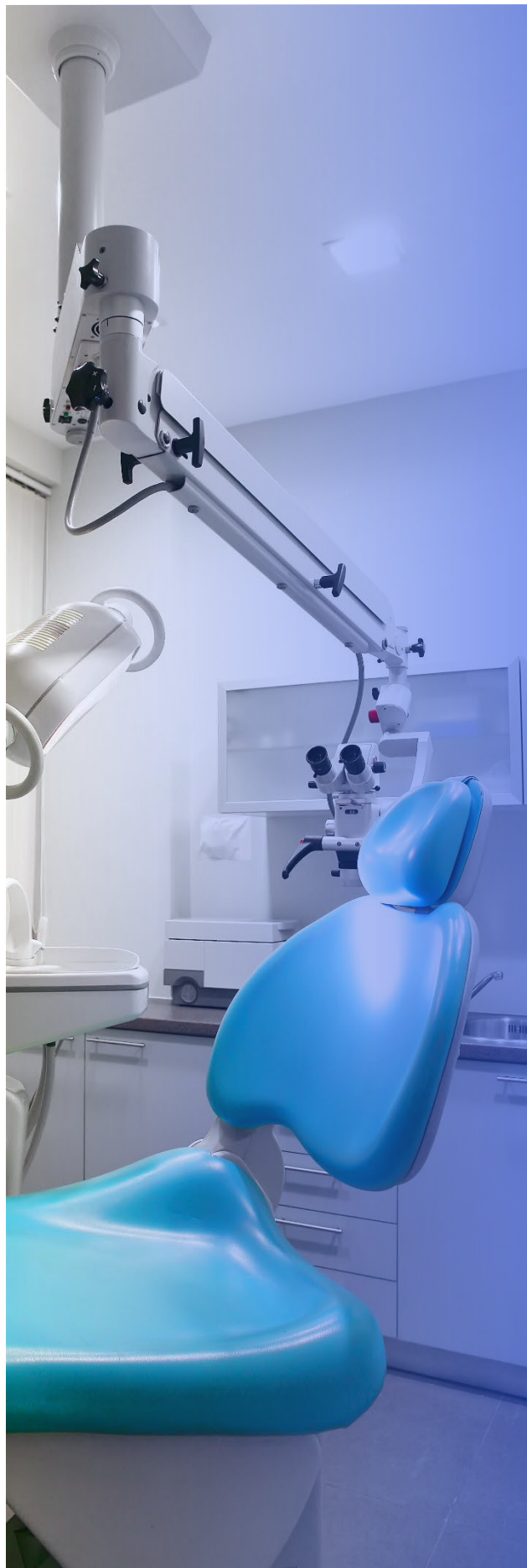


DSO strategies would benefit from implementation of VBHC and CLTV concepts, which strongly overlap and logically enforce each other

Customer Lifetime Value-based strategies place the patient at the centre of business model choices

Customer Lifetime Value (CLTV) is a concept that is typically used by organizations with large recurring customer populations to measure performance and guide strategic choices. In dentistry, Customer Lifetime Value (CLTV) measures the (financial) value of a patient based on the present value of her/his projected future expenditures, not just the current year's contribution margin. The retention factor is very significant in the formula and VBHC will have a positive impact on this variable. By making CLTV an integral part of their strategies, DSOs place the patient at the centre of their business model choices as initiatives will be aimed at optimizing factors that determine CLTV. Although there are many increasingly sophisticated ways to calculate the CLTV, its base formula is:

$$\text{CLTV} = \frac{(\text{Revenue} - \text{Costs}) \times \text{Retention}}{1 + \text{Discount Rate} - \text{Retention}}$$



Revenue

For DSOs includes the total expected annual revenue from preventive as well as curative treatments, adjacent activities and lab work.

VBHC impact

With an increased focus on prevention, treatments performed by dental hygienists increase and at the same time dentists can focus on more complex (higher revenue) procedures. Revenue levels will be more predictable.

Retention

Calculated as 1 minus the expected yearly patient turnover rate. Estimated turnover rates factor in the number of interactions, the acquisition channel and churn rates of customers with similar characteristics.

VBHC impact

Implementation of value-based models in DSOs is likely to enhance outcomes and hence patient satisfaction and reduce churn, thereby positively affecting CLTV.

Costs

Mainly includes personnel costs and technical costs, which relate to materials used. Personnel costs can be minimized by optimal allocation of resources (i.e., use of dental hygienist or prevention assistant) and automation of administrative procedures (i.e., planning, invoicing).

VBHC impact

VBHC models focus on matching appropriate and long-term care activities and costs per patient.

Discount rate (weighted average costs of capital)

Takes into account the time value of money. Is an indicator for the return shareholders and lenders expect to receive.

VBHC impact

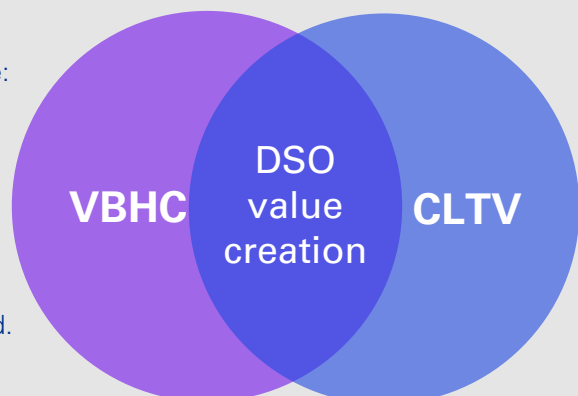
Impact can be significant as lower churn drives predictability and hence improves the risk profile. It can lead to lower costs of capital.

VBHC and CLTV

The two concepts, VBHC and CLTV, strongly overlap and logically enforce each other as both have long-term improved health objectives at lower costs. By making CLTV and VBHC an integral part of their strategies, DSOs can achieve:

- higher margins (due to more preventive treatments);
- higher retention rates;
- lower costs of capital.

In the next section we explain how various elements of the concepts are currently introduced.



DSOs are implementing (elements of) VBHC to create additional value in several aspects of current organizational set-ups and strategies

Five cases of the implementation of elements of VBHC

We describe 5 areas of VBHC currently implemented by DSOs, providing immediate benefits to CLTV:

	Why?	VBHC impact	Benefits to DSO	
1	Introducing operational steering beyond short-term financial and utilisation metrics	Allows for measurement and improvement of outcomes, better distribution of resources, e.g., by increasing usage of dental hygienists and margin optimization for DSOs.	By redefining KPIs based on outcome measurements, incentives of DSOs and individual care providers will shift and, among other things, the share of preventive treatments (periodic check-ups, dental cleaning) versus curative treatments will increase.	Increasing preventive visits reduces complications for which dentists are needed, providing room for dentists to focus on complex and more profitable treatments. Preventive treatments performed by a dental hygienist or prevention assistant, generally, have a higher margin than 'regular' dentist visits.
2	Offering integrated oral health services	Incentivizing the dentist to offer the most appropriate in-house treatment, and not necessarily the most profitable one.	DSOs are uniquely positioned for coordinated, multidisciplinary practices and treatments, which result in better outcomes of procedures (both preventive and curative).	The ability to offer patients a full range of in-house treatments without having to involve external parties increases patient satisfaction and engagement. Offering a broader suite of services enhances revenue, thereby driving CLTV.
3	Driving patient engagement	Driving trust and loyalty to the organization, enabling better treatment even though it may involve higher spending for the DSO.	Optimizing the relationship with the patient, resulting in better information sharing, monitoring, and hence the ability to optimize care pathways and prevention activities.	Patient engagement drives the number of visits and hence the oral health services demand. Additionally, increased patient engagement reduces dependency on the dentist-patient relation, thereby lowering churn.
4	Integration in the governance set-up	Governance sets the principles for implementation of the strategy and operations, pivotal in capturing value from VBHC. Board attention is critical for successful implementation.	VBHC needs to be embraced throughout the organization and embedded in the organization's governance. Services offered and incentive schemes should defer from being based on revenue or treatment volumes but on overall patient health, e.g., by setting patient health outcome targets.	Although short-term impact could be slightly negative, longer-term impact develops into a sustainable advantage, as patient outcomes improve and relations are longer and stronger.
5	Realizing scale and density (through M&A) to operate at lowest cost-to-serve	Dentistry will continue to involve physical locations and contact with professionals, hence involving significant cost base and capital requirements.	Effective allocation due to a larger pool of resources will improve cost ratios, positively impacting DSO profitability. Furthermore, larger, diversified practices allow for better learning opportunities and achieving standardized procedures across the organization, resulting in higher and consistent quality levels.	Many benefits in scale, which have been extensively discussed in our prior publications on dental care.

Combining the concepts of CLTV and VBHC provides an effective strategy to mitigate market and operational challenges

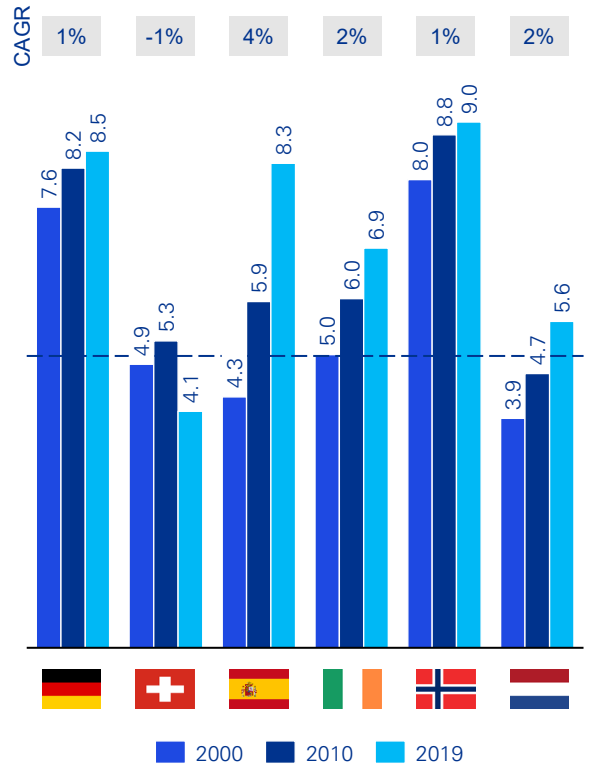
Organic growth difficulties

Many countries in Europe suffer from a dentist shortage, creating significant difficulties for DSOs to achieve organic growth. Although there is a general increase observed in dentists per capita over the period 2000-2019, more recently, numbers have stabilized, resulting in the number of dentists growing at a slower rate than the increasing demand for dental care. Studies show that a minimum of 5 dentists per 10,000 citizens is required to effectively serve populations¹⁴. If the country average approaches this minimum level, dentist shortages are likely to exist, particularly in more rural areas. Moreover, the supply of newly graduated dentists per capita is not even one-tenth of current dentists per capita, further aggravating supply shortages.

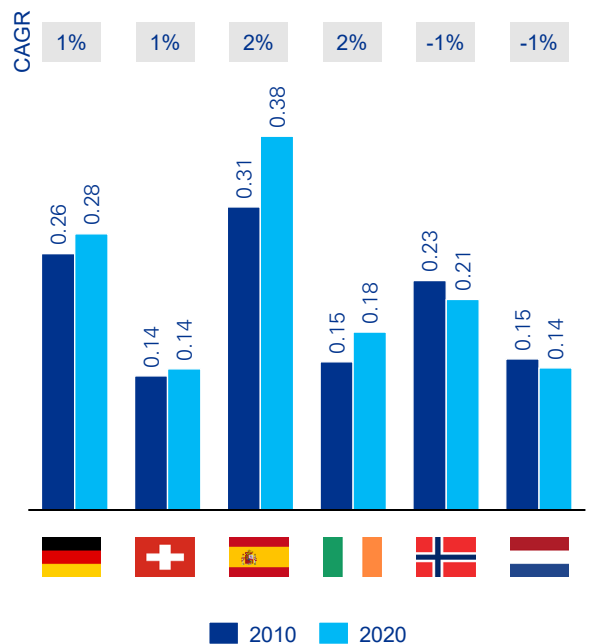
Together with a shortage of dental hygienists and assistants, this could lead to consumers visiting less regularly.

VBHC can play an important role in alleviating the shortage as it 1) can enhance utilisation of staff; 2) results in improved allocation of resources due to the relatively high share of treatments performed by dental hygienists and assistants; 3) lowers the overall burden.

Number of dentists per 10,000 citizens in selected countries¹⁵, 2000-2019



Dentist graduates per 10,000 citizens in selected countries¹⁶, 2010-2020



Long-term, sustainable strategy

As healthcare insurers and governments are focused on controlling and minimizing overall healthcare expenditures, margins of DSOs may come under pressure. Implementation of VBHC can support in maintaining healthy margins that can be restored by prioritization of preventive treatments for dental hygienists and making dentist time available for more complex, higher-value curative or aesthetic treatments.

Case example: How 'Fresh dentists' embeds prevention in their culture

Focus on prevention

Fresh Tandartsen ('Fresh Dentists') is the third largest DSO in the Netherlands and a leading example of how DSOs successfully shift towards VBHC models. Fresh has a strong focus on prevention and aims to improve and maintain their patient's oral health at the highest possible level, starting with children at a very young age. As research indicates that using role models, humor, storytelling and rewards work well in teaching healthy behavior, Fresh uses entertainment and educational initiatives to actively educate children (and their parents), elderly patients and care providers. In order to embed prevention in the DNA of the organization, training is provided on an ongoing basis by a dedicated prevention department. As a result, in some Fresh practices more than 40% of revenues are generated with preventive treatments.

Business intelligence as guidance

Dental caries is the most common multifactorial lifestyle disease in the world. With a prevention program, already initiated when a child goes to the dentist for the first time, Fresh aims to reduce the total expenditures resulting from dental diseases during a person's lifetime. By continuously collecting data and measuring outcomes, Fresh tries to succeed in showing that the prevention program demonstrably reduces the number of restorative/curative interventions. A steering mechanism is implemented which focuses on improving the quality of dental care using the data collected. This is already observed and valued by insurance companies, universities and other stakeholders, with whom Fresh actively seeks collaboration.

Integrated care

Fresh aims to establish long-term relationships with patients by focusing on their long-term interests and on the trust relationship between the care provider and the patient. Fresh professionals work in multidisciplinary care teams including dentists and specialists, and a large group of dental hygienists and prevention assistants.

VBHC in dentistry benefits patients, providers and society at large

In times where the end of rising healthcare demand and costs is nowhere near being seen, the concepts of VBHC together with CLTV are pivotal for future healthcare strategies. Combining both concepts enables DSOs to optimize results and at the same time maximize patient outcomes at minimum costs for society.

Specifically in dental care, conditions are favourable for VBHC implementation as levers are present that facilitate introduction, such as consolidation of practices, focus on prevention, impact measurement and integrated care.

We have seen that the first initiatives and pilots have been introduced successfully. However challenges remain for payers, governments and DSOs.

For insurers it is key to redesign their reimbursement models and increase willingness to cover preventive treatments in order to reduce the volume of expensive curative medical procedures. Additionally, for VBHC to be successful, government policies must provide room for the different aspects of VBHC (i.e., subscription models and information sharing between healthcare providers).

The main challenge for DSOs is to drive the cultural change required for VBHC implementation. In our previous publication we stated that success is likely to be achieved by DSOs that are able to embed a culture of patient lifetime engagement and supporting infrastructure in their organization. We now argue that aligning patient care pathways with the concepts of CLTV and VBHC provides an effective strategy to deliver the best outcomes for patients and will result in a loyal (if not growing) and valuable customer base.



Sourcing and notes

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