



# Value-Based Care in Pediatric Dentistry

## Executive Summary

The value-based care (**VBC**) model, under study in implementation projects in medicine across the U.S., generates interest but remains little used in dentistry. The emerging benefits and risks of VBC are helping to shape a different health care model, intended to improve health and reduce costs. The longstanding differences between the systems of dental and medical care preclude a simple tag-along as the general health care system evolves toward the VBC concept. Dentistry's largely solo or small group practices, different payment systems, separate insurance coverage, and lack of comprehensive electronic health records are just some of the challenges facing VBC's application to dentistry.

Pediatric dentists have developed a care system that offers a single high standard of care to all children, including those from low socio-economic backgrounds and those with special health care needs. A VBC conversion or modification hoping to address pediatric oral health will not only have to mount the challenges listed above, but also offer assurance of continuing the provision of a single high standard of care, an interdisciplinary provider network, and an early dental home for all children.

This brief defines key terms related to VBC and describes in detail challenges and cautions in re-engineering the pediatric oral health care system to a VBC model. It proposes 15 recommendations for VBC programs to be successful in providing oral health services for children, and describes the Delphi methodology used to determine the most important criteria for a strong pediatric dental model.



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## Introduction

For more than a decade, especially following the passage of the Patient Protection and Affordable Care Act, healthcare systems in the United States have experimented with the concept of value-based care (VBC). VBC, with its many definitions and versions, attempts to change how care is delivered, and consequently how providers are reimbursed, away from the volume of procedures and toward value of procedures related to health and cost. VBC challenges the system, providers, and patients to change how health care delivery and health itself are perceived.

One way to think about the goal of VBC is that it incentivizes both providers and patients to maintain and support health, rather than merely to treat disease. This monumental shift is not easy! It requires changing decades of institutional memory and social norms to make VBC reasonable for patients, providers and payers alike. It also assumes that health care providers bear considerable responsibility for successful health outcomes, regardless of behavioral/compliance challenges with patients.

Recent evidence illustrates the difficulty in shifting major systems. Measuring change brought about by VBC highlights success and failures. Oral health care delivery is no exception. A variety of approaches have been proposed to introduce value into oral health care. Whether it's medical and dental integration efforts, care coordination pilots, community health worker examples, teledentistry, or something different, most oral health VBC pilots are limited by key logistical challenges.

## Different Models Defined

### Fee-For-Service (FFS) Model

Under the FFS model, an external source, such as Medicaid or private insurers, pays clinicians a set amount for each procedure; in this model, providers do not bear financial risks.<sup>1</sup> Proponents of this model point to the ways in which the FFS model grants financial stability to the provider who will have a general estimate of expected income. Critics of this model point to the fact that FFS prioritizes “quantity over quality” and can potentially place financial gains of the system (and the provider) over the well-being of the patient.

### Capitation or Managed Care Model

In the capitation model, providers are paid a set amount based on the number of individuals they agree to serve over a set period of time, rather than being paid for the number of services rendered. This means that a provider will be paid whether a patient actually requires care or not. For example, a dentist might be paid \$20 per month for every patient under age 5, \$15 per month for patients ages 5-12, and \$12 per month for patients 13 and older. Providers are typically paid by managed care organizations (MCOs); often, providers are incentivized to meet certain quality and cost targets, and penalized for failing to meet these targets. Critics of the capitation model claim that capitation incentivizes under-care; providers might be less willing to take on higher-risk patients because they might require increased care, for which the provider would not be reimbursed. Further, insurers' financial incentives skew toward a denial of services.

### Value-Based Care (VBC) Model

The VBC model attempts to address the “volume over value” problem created by FFS and the problematic ways in which capitation incentivizes under-care by paying providers based on the overall *quality* of care they provide, not the number of services rendered or the number of patients served.

According to the Centers for Medicare & Medicaid services (CMS), value-based care has three goals: “better care for individuals, better health for populations, and lower cost.” The value-based care model aims to provide quality care at a reduced cost, as well as to provide preventive, rather than restorative, care.<sup>2</sup> Ultimately, preventive care will lower costs and improve patient health outcomes; in dentistry, numerous studies point to the reduced costs and better oral health of children whose first dental visit occurred before age four.<sup>3</sup>

There is a series of hybrid VBC-FFS-Capitation models, in which existing FFS models incorporate incentives for achieving quality metrics that promote value. However, definitions of what “value” means vary. Some define value as “quality divided by cost,”<sup>4,5</sup> whereas others find this definition too subjective.<sup>6</sup>

In this brief, we define value as improved quality care at a similar or reduced cost. In other words, VBC occurs when the patient's health improves, and at comparatively no additional cost to whomever is paying for the procedure (whether that be the patient, Medicaid or private insurance).

Proponents of the VBC model point to the ways in which it is theoretically beneficial to all stakeholders: patients receive higher quality care, payers cut costs, and providers can focus on care rather than worrying about financial repercussions. Supporters of VBC also claim that it is potentially less subject to abuse, as payments for providing quality care must be evidence-based.

There are some criticisms of the VBC model: For whom is the care of value? Are providers incentivized to provide higher quality care to patients, or for costing systems less money? Are system inequities being addressed or perpetuated? Are the needs of more challenging, medically compromised patients, who will likely require more frequent services, being met?

## The Challenges for VBC

Pediatric oral health faces considerable challenges in developing and implementing a VBC system. Given pediatric dentistry's large populations of patients covered by public insurance and with special needs, a VBC approach must take into account the individual needs of these patients, their families and their environments.

Medicaid's Innovation Accelerator Program (part of the Children's Oral Health Initiative Value-Based Payment Program) provides examples of implementing VBC into pediatric dentistry in view of specific populations. In this program, CMS provided support to Michigan, New Hampshire, and Washington, D.C., over the course of two years to design VBC Oral Health programs.<sup>7</sup> Each participating state had a different aim for its population. The District of Columbia aimed to increase preventive dental visits and improve case management and care coordination to ultimately decrease the number of Medicaid patient pediatric dental OR visits. In contrast, New Hampshire looked at delivery to care by expanding preventive pediatric dental practices to its local sites serving Women, Infants, and Children (**WIC**) programs. Michigan's objective was to improve preventive care among its Medicaid patients in the Healthy Kids Dental Program. While preliminary results await analysis, participants noted the difficulty of changing "a paradigm of care," the importance of stakeholders collectively agreeing to the quality measures, and the fact that any implementation will be an "iterative process that requires consistent evaluation."<sup>8</sup>

The field of dentistry faces challenges that differ from those in the medical VBC model, including distinctions in care delivery and poorly integrated software systems. However, VBC presents potential opportunities to positively change pediatric dentistry for both the provider and the patient, including ensuring high quality care for patients and remunerating providers for the quality of care they provide. VBC should incentivize dentists to provide a single standard of quality care to all child populations.



### Challenge 1. Measuring Value

Many, if not all, of the developed value measures lack input from diagnostic or clinical data sources, meaning that payers, rather than providers, determine what constitutes quality care.<sup>9,10</sup> The major limitation in these measures is that they speak more to program operations than population health. The Dental Quality Alliance (**DQA**), which develops performance and quality measures for oral health care delivery, has made great progress creating measures for payers to evaluate their programs using administrative and claims data. Frequently, these measures are simple calculations based on service utilization.<sup>11</sup> DQA measures can serve as a starting point for evaluating a VBC program, but more precise and focused measures, tailored to populations and subsystems, will be needed to adequately assess success of any VBC initiative immediately and over time.

### Challenge 2. Measuring Quality

Another potential issue with the VBC model is the way quality is assessed. For example, the CMS evaluated quality medical care by noting the number of readmissions rates for patients with heart failure, acute myocardial infarction, and pneumonia. Hospitals below the average readmissions rate were incentivized with a bonus, while those above the average readmissions rate were penalized with a fine. Studies found that safety-net hospitals were consistently more penalized than non-safety-net hospitals.<sup>12</sup> This is particularly troubling given that safety-net hospitals serve those most in need, for whom there are a variety of social determinants of health that could impact readmissions rate. In other words, readmission is not necessarily indicative of poor quality care, and payments can potentially be based on factors outside of the provider's control.

In pediatric dentistry, with close to 100 percent of providers seeing children with special health care needs, and with over two-thirds treating children covered by Medicaid, a similar conundrum exists.<sup>13</sup> Individualized, patient-centered care, tailored to manage chronic oral disease, restore function, and combat ongoing negative societal influences, often does not fit a data-driven model based on a less-affected population. For example, children at high risk for ECC may require more frequent dental visits than children with good overall oral health. How to fit the VBC model to pediatric dentistry's diverse population will be challenging, especially as the epidemic of early childhood caries persists.

### Challenge 3. Integrating Medical and Dental Systems

In the United States, the overall health care system has evolved differently from the oral health care system.<sup>14,15</sup>

Medical and dental care operate under different models of insurance, care delivery and reimbursement. Medical insurance is designed as “true” insurance; it is expected to prevent catastrophic losses in the event of significant medical disease. Dental insurance is designed primarily as a pre-paid benefit plan; new dental disease would rarely lead to catastrophic loss. In the case of an oral health condition that threatens overall health, the back-up coverage to prevent catastrophic loss is generally under a medical rather than a dental insurance plan.

Fee-for-service (**FFS**) payments have been the predominant reimbursement mechanism in dentistry for decades. This reimbursement is tied to Current Dental Terminology (**CDT**) codes. These codes are updated and/or revised annually, and they are mostly tooth, surface and material specific. Dentistry as a profession is made up of largely solo and small group practitioners,<sup>16,17</sup> so shifting away from the FFS model is a significant communication and logistical hurdle for VBC pilots to clear.

Most dentists work in smaller independently-owned practices. The average primary care medical practice has more than 10 physicians, and many have hospital affiliations.<sup>18</sup> The majority of dental practices are independent, single-doctor practices,<sup>16</sup> though this percentage is shrinking as small group practices become more common.

In terms of care delivery, primary medical care frequently involves in-depth interviewing, history-taking, and preventive counseling delivered by a combination of physicians, physician assistants, nurse practitioners, and nurses. Dental care, on the other hand, is largely a surgical profession. Although prevention has been the watchword of dentistry for over half a century, preventive procedures are frequently delegated to dental hygienists or dental assistants. This suggests that integrating VBC into the dental practice will necessarily look different than in the medical care delivery model that comprises large systems more adaptable to VBC concepts.

The widespread lack of integrated medical and dental records creates difficulties in value measurement and medical/dental care coordination. Progress has been made in integrated medical/dental record systems. For example, a program showing signs of promise is the American Dental Association’s Dental Experience and Research Exchange program, which could standardize quality assurance and potentially facilitate VBC-related actions. Having integrated records or developing standardized protocols for data-sharing could improve quality measurement<sup>2,3</sup> and subsequently facilitate the implementation of VBC. Unfortunately, these types of programs are still cost prohibitive for many private and community-based dental practices.

### Challenge 4. Addressing Oral Health Disparities

Racial, income, geographic, and insurance-based oral health disparities<sup>19,20,21</sup> present both pragmatic and ethical questions for VBC initiatives. Measuring performance among providers who care for children facing these disparities may widen gaps in access and in health. Performance measures and incentives must sufficiently acknowledge the existence of oral health disparities, so as not to perpetuate disparities or penalize practitioners who serve high-needs patients.

Dental caries has affected nearly 40 percent of America’s children for decades.<sup>22</sup> Marginal gains have been made in reducing untreated disease, but the overall disease remains highly prevalent.<sup>21</sup> The glacial pace of change in disease burden should temper optimism and plans for VBC initiatives. A risk for children’s oral health in the pursuit of a VBC-system lies in using untested outcomes versus outcomes established by professional organizations through study over time. For example, silver diamine fluoride (**SDF**) offers an additional weapon against dental caries, but does not restore the damage done by tooth decay. Using SDF application as an outcome equivalent to traditional restorative care, without rigorous and validation of its role, could be detrimental to children. Similarly, adoption of only surgical elimination of caries by extraction under general anesthesia, as is the approach in some European countries, ignores the role of function, occlusal guidance and contributing factors that perpetuate disease.



## Our Basis for Recommendations

The AAPD Pediatric Oral Health Research and Policy Center applied the Delphi technique with a panel of clinical, academic, and dental public health experts to develop a set of recommendations for implementing value-based care to improve pediatric oral health. (The Delphi technique is a qualitative research method designed to obtain the most reliable consensus of expert opinion. The technique is based on several rounds of questions posed to a set of experts on a particular issue. Each round builds on previous findings, allowing participants to reflect on the views of others and develop a consensus decision.)

Interested participants were selected based on any or all of the following: experience with managed care, exposure to or participation in value-based care, leadership in oral health infrastructure such as Medicaid or the payer industry, and training in public health and population concepts. The Delphi questions were based on existing theories and examples in medicine, and the findings were synthesized thematically.

The Delphi findings were correlated and a draft compiled and reviewed with input from the convened experts and a final draft reviewed by leadership and approved for distribution. (See Delphi table on Pages 14. and 15)

## 15 Recommendations

The successful application of VBC to pediatric dentistry requires attention to the dependent role of children and importance of families, scientific validity, recognition of health inequities, and realistic expectations in the midst of a caries epidemic.

A VBC approach to pediatric oral health should move care closer to the Triple Aim: higher quality of care, improved population health, and reduced health care costs.<sup>23,24</sup> For example, higher quality of care may mean timely dental visits without administrative delays and having more children screened, referred, and treated for dental disease who otherwise might not have access to dental care. Improved population health may include keeping children free from disease or minimizing the progression of existing disease through self-management. Achieving both of these aims would extend to lower per capita costs for dental care in the long term.

### 1 Recognize the difference between medicine and dentistry.

New VBC programs and systems must account for the differences between medicine and dentistry. The way care is delivered is different. How insurance operates is different. How providers are reimbursed is different. Thus, VBC programs cannot be directly translated or applied from medicine to dentistry.

Dentistry remains a loosely connected network of individual or small group practices with little functional ability to share data. Individual providers in dentistry do not have the same resources as medical health care systems to meet the requirements of VBC. Medicaid, with its low reimbursement rates, funds dental services for one third of patients in a typical pediatric dental practice. These structural limitations will affect adoption of VBC.

### 2 Protect the freedom of choice of providers for patient families.

A patient or family's ability to select their own provider is imperative. This requires networks of accessible participating providers, including both general and pediatric dentists. It is also essential that pilots and systems transcend the different settings where clinical care is provided, including academic institutions, federally qualified health centers, hospitals and private practices. Each venue serves different missions and visions, which can make adapting VBC to different venues challenging. A VBC process that forces families into a care system poorly suited to their needs is not in the best interests of children. For example, a family with a special needs child may need the expertise of a pediatric dentist. Especially for private practices, the various combinations of payer mix (publicly insured *versus* privately insured *versus* no insurance) ultimately may determine whether the provider participates in a VBC program. In states with Medicaid managed care systems, variable policies by dental administrators and selective participation by dentists can alter access to optimal providers and services, making VBC unworkable. The oral health of children will suffer if VBC programs fail to encourage dentists representing a wide spectrum of skills and venues to participate.



### 3 Work effectively with the current fee-for-service system.

The current dental care system is based almost completely on fee-for-service (FFS). A major obstacle to VBC initiatives will be overcoming this established custom of the dental care system.

Different payment mechanisms have been proposed for VBC in oral health.<sup>25</sup> Most mechanisms are rooted in the current FFS system. One option lowers the FFS base, but adds an incentive payment associated with how the provider performs against defined and agreed-upon quality measures. For example, CMS developed a series of hybrid models hoping to incentivize providers and health-care organizations to adopt a value-based approach. One such model is the FFS model with some reimbursements based on value. This model continues to pay providers based on the number of services rendered, but provides incentives for reporting data, making changes to infrastructure, and for quality performance.<sup>26</sup> In a medical version of this model, physicians might report the number of child patients receiving fluoride varnish in a particular month. The physicians would get small incentives for reaching and exceeding benchmark goals. Alternatively, reimbursements under this model might include updating office infrastructure, such as incorporating electronic medical records, which would ultimately lead to more efficient and effective care.

An alternative closer to true value-based payment involves shared savings and shared risk if savings are not realized. In these arrangements, providers are paid a FFS base, and if they can prove they reduced expenses associated with care, they get a proportioned bonus based on the saved amount. Providers can either earn back a small proportion of the savings (upside shared savings) or earn back a larger portion of the savings, but be liable to penalties if they do not meet certain targets (upside shared savings and downside risk). In this model, providers are incentivized to lower costs by earning back a portion of the “savings they generated.”<sup>25</sup>

When providers engage in the upside shared savings and downside risk model, providers owe payers if they do not meet certain targets. However, the incentive the provider receives in this model for reaching certain quality targets is higher than that of the upside-only model. Penalty-driven models may work in medical care due to dependence of systems on governmental reimbursement. In dental care, the effectiveness of penalties among independent providers remains to be demonstrated. A penalty-driven VBC model might actually have a negative effect on willingness to care for patients in this type of system. Since much dental disease is preventable with appropriate at-home preventive measures, dentists may question their responsibility for parents/guardians not following recommended oral health regimens.

### 4 Engage pediatric dental specialists in program design and assessment.

A health system is most likely to be successful when providers on the front lines of patient care have a strong voice in its development. In particular, pediatric dentists provide care to children with the highest risk and most severe dental disease. Children fitting these two categories are precisely the ones a VBC program or system should be designed to benefit most to reduce oral health disparities. Thus, engaging pediatric dental specialists in the design and assessment of VBC programs or systems is essential. One example of VBC integration into pediatric dentistry is its implementation at D4C Dental Brands, a pediatric dental and orthodontic network. In an effort to increase quality of care, the network designed agreed-upon quality measures and infrastructure to support data sharing. It also included education for its providers on recent clinical research. It saw a five percent decrease in pulpotomies, one of its original quality measure goals, in large part due to the fact that the quality measures were designed by pediatric dentists and orthodontists, as well as its data-sharing and education initiatives.<sup>27</sup>

### 5 Build program development upon a broad base of partnerships.

Stakeholders are key to the design of alternative payment mechanisms and successful implementation of new VBC programs.<sup>24</sup> Patients or their advocates, providers, payers, and the general public must buy in for VBC to be successful. State regulations and local politics may impose tangible and intangible limitations for what kind of VBC programs can be implemented. For example, school-based dental care, independent dental hygiene practice, and integration of medical and dental care may have unanticipated influences on viable VBC models.

## 6 Provide strong support for record systems and integration of information.

Record systems and information technology support are needed for VBC to be successful.<sup>33</sup> For example, a study through the AAPD Research and Policy Center showed that information from medical records can facilitate the identification of children at high risk for dental disease during oral health screenings by pediatric medical providers.<sup>28</sup>

An example of the successful integration of records systems is The Pediatric Care Network at Children's Hospital Colorado. It has implemented a VBC system that prioritizes data sharing and reimburses providers for providing quality care. Over a one-year period, the Network lowered costs by four percent and met six quality measures defined by Cigna, earning it high-quality scorecards from several insurance companies. The success of this pediatric network offers potential structures to be adopted in pediatric dentistry implementation of VBC.<sup>29</sup>

Currently, dental records lack interoperability with external systems, such as medical records or health information exchanges. This communication shortage can compromise how quality is measured for participating practices. In contrast, many medical practices use software programs that allow for communication across the provider network and with patients and hospital systems.



## 7 Tie incentives to metrics that reward providers for improved patient outcomes.

By altering which measures or populations are weighted more heavily in incentive payments, payers can reward provider performance based on overall program goals. Baseline metrics tied to incentives should reward providers for achieving and improving patient outcomes. The metrics for providers and beneficiaries should be calculated so that providers can be measured against themselves and against other providers. Continuous improvement and outcomes exceeding baseline targets should be rewarded. Further, non-financial incentives can be included in VBC programs. For example, providers who exceed their baseline metrics could be rewarded with more assigned beneficiaries as capacity allows.<sup>26</sup>

## 8 Offer incentives strategically targeted to quality and cost.

Incentives should be large enough to alter provider services directly related to increased quality of care and decreased cost of care. Targeted services might include disease management to mitigate risk and prevent disease progression, care coordination for timely referrals and treatment, or nutritional counseling that can be measured by changes in patient behaviors. Additionally, incentives should be directed as much at the high baseline performers as low baseline performers.<sup>32</sup> Without an enticing incentive, improvements in pediatric oral health outcomes may be difficult to achieve in a VBC model.

## 9 Base incentives more on higher value than lower costs.

Value occurs when health is optimized.<sup>33,34</sup> Thus, improvements in care delivery and oral health outcomes must drive VBC planning. Across all incentive structures payers and providers should recognize that value means more than simply reducing costs. Within the VBC medical model, providers can be penalized for failing to meet certain quality- or cost-related targets. In some cases, providers have to pay back the incentive they receive. This model will not work in dentistry and will likely cause provider attrition. Additionally, under a VBC model for dentistry, payers should consider that VBC incentives will not sufficiently compensate for low fees if dentists must use them to allocate resources towards procedures with which they disagree, such as incentivizing SDF versus treating severe caries in a hospital environment. Finally, in the case of pediatric dentists serving a diverse child population, the devotion of practice resources to case management must be considered in any VBC model application.

## 10 Support a Dental Home for all children.

Preventing disease and maintaining health should be primary targets of VBC and incentive strategies. The dental home concept, mirroring the medical home concept, provides a framework for prevention and intervention within the context of the doctor-patient relationship.<sup>35,36</sup> The dental home is more than a usual source of care; it is a comprehensive, coordinated, and continuously accessible relationship that provides care in family-centered and culturally sensitive ways. Evidence supporting the value of a dental home is positive, showing that early preventive dental visits, including the age one visit, may result in fewer disease-related treatments.<sup>14,37,38</sup>

Not only does a dental home offer prevention and treatment – and a place for families to call in the face of dental emergencies – but additional services for overall health. For example, nutritional and hygiene counseling are key components of anticipatory guidance. In addition, a referral may be necessary to facilitate or complete treatment.

Care coordination holds potential to help patients navigate referrals between generalists and specialists,<sup>39</sup> and improve access to care for children with special health care needs. Although pediatric and other dentists perform case management services in varying degrees, case management CDT codes are new, seldom utilized and not reimbursed in most cases.<sup>40</sup> A VBC-payment system will face obstacles without attention to adequate consideration of case management strategies, compensation for those services, and integration into data- and clinical care-record-keeping. The limited engagement of the general dental community in case management is an opportunity and a challenge to increase their participation in care of low-access communities. Within a health neighborhood,<sup>41</sup> dentists and medical colleagues can partner to improve outcomes, especially in areas or situations where access to care is difficult. As one example, fluoride varnish application in medical settings continues to be recommended by the U.S. Preventive Services Task Force,<sup>42</sup> particularly in areas with poor access to dental care. Here, too, care coordination has potential to improve patient outcomes.<sup>35,43</sup>

## 11 Ensure prevention performance metrics and incentives do not compromise restorative care.

Even though prevention may be the primary target of VBC, restorative care and disease treatment are equally important. Restorative care should be provided when it is available, desirable by the patient/family and dentist, delivered safely, supported by evidence, and/or indicated by disease progression.<sup>1</sup>

Effort must be taken to avoid creating dual standards of care – cheaper short-term solutions for some children and more effective long-term solutions for others. For example, a large filling may protect a child's decayed tooth for the time being, but a crown may offer protection for the life of the tooth. Moreover, any metrics must be sensitive to historic and systemic barriers to care that, day by day, prohibit families from seeking or receiving needed care. VBC should allow patient-centered care to address an individual's specific needs, while also improving population oral health.

## 12 Be grounded in transparency.

VBC programs should be grounded in transparency, especially as different incentive structures are implemented and performance measures are refined. In VBC, financial risk for the care provided must be shared by different stakeholders. How this risk is shared or assigned - who carries the risk and how much - should be easily identified, since this can have an impact on performance or outcomes.<sup>32</sup>

The process for evaluating performance, as well as how incentives will be distributed, must be clear to all stakeholders.<sup>44</sup> Patients, providers, and payers all have a stake in patient outcomes. Thus, the success of strategies, procedures and the performance of providers must be apparent to consumers.

Two important components of transparency for providers in the current system should translate into VBC. One is centralized credentialing, which has long been recommended to increase provider participation in Medicaid programs.<sup>35</sup> For example, the ADA Credentialing Service, provided through CAQH ProView, helps dental professionals maintain and share their credentials with multiple dental plans.<sup>45</sup>

The second is the practice of fair, peer-reviewed auditing based on currently accepted clinical guidelines. The importance of peer-to-peer review (i.e., specialist to specialist) using current best practices becomes even more important if provider performance is being measured and incentivized in VBC.

Optional provider training through local dental societies can give providers and payers transparent opportunities to learn from each other about how VBC can build on the existing system.





**13 Rely on evidence-based clinical guidelines for treatment and health outcomes.**

The dynamic between a payer-driven and profession-based standard of care must be reconciled in any viable VBC model. A solely cost-driven model does not address individual patient needs. Further, it risks the establishment of a dual standard of care, potentially aggravating current health inequities. The engagement of all stakeholders in design of a VBC model will help insure consideration of provider, payer, patient and health advocacy perspectives.

The use of evidence-based treatment guidelines and meaningful health outcomes is critical to dentist participation in VBC. A focus on VBC mechanisms, incentives, and performance measures may subvert the major reason many dentists became health care professionals. When dentists have to worry more about the mechanics of reimbursement and performance measurement than the care they provide, stress and burnout are sure to follow.<sup>46</sup> If VBC allows dentists to operate freely within the evidence base of clinical care, it will provide opportunities for dentists to practice patient-centered care to address an individual's specific needs, while also improving population oral health.

**14 Prioritize outcomes backed by scientific evidence and tracked longitudinally by patients.**

VBC programs should support oral health care transformations that aim to simultaneously increase access to care, measure outcomes, tie payment to those outcomes, and innovate how or where care is delivered.<sup>38</sup> Outcomes with strong scientific evidence and those that can be tracked by patients longitudinally should be prioritized.<sup>47</sup>

In the absence of evidence, cautious adaptations of outcomes in medicine may suffice. For example, hospital readmission rates are a common measure tracked in quality improvement studies. Multiple health systems have demonstrated reduced readmission rates through different interventions, such as using information technology for risk assessment and discharge planning, or integrating and coordinating post-discharge care.<sup>40</sup> A direct translation to dentistry likely does not exist due to differences in the severity of the associated morbidity for hospital readmission rates versus dental treatment typically provided in outpatient settings. Treatment plan completion, retreatment of same tooth, recurrent decay, recall attendance fidelity, and hospital emergency care-seeking are examples of dental outcomes that might be used in a VBC system.

Another potential strategy for measuring program innovation is tying provider performance to patient outcomes. In other words, finding ways to measure provider behaviors related to patient care,<sup>26</sup> which would influence incentive payments.<sup>48</sup> Such measures could evaluate whether providers are providing care aligned with clinical guidelines and best practices, and ultimately evaluate the effectiveness of VBC for pediatric oral health. Some examples include repeated general anesthesia for the same child, application of similar preventive therapy for children with varying levels of risk, and failure to use proven restorative measures resulting in repeat treatment of the same tooth.

**15 Rectify, not perpetuate, systemic barriers to care.**

Perhaps the most challenging part of designing a VBC program is creating one that does not perpetuate systemic barriers to care. If the plan does not acknowledge the treatment needs of at-risk patient populations, dentists practicing in safety-net clinics or treating higher caries-risk children are placed at severe disadvantages. In medicine, safety net hospitals serve the most vulnerable and complex populations—demographically, socially, and medically. These hospitals cannot be expected to perform at the same level as non-safety-net hospitals.<sup>49</sup> Moreover, adjusting the risk to account for these differences may create dual standards for care and quality measurement.<sup>40</sup>

Emerging evidence suggests that certain VBC incentive structures, particularly those using penalties, have serious potential to amplify disparities rather than address them. Surgeons with caseloads considered “high-minority” had worse outcomes than surgeons with “low-minority” caseloads, and thus paid a penalty on their reimbursement. This difference was exacerbated when poverty was superimposed.<sup>50</sup> Under the penalty incentive structure, providers are disincentivized from providing care to “at-risk” populations.

Pediatric dentists have traditionally cared for populations of children with special needs and high caries experience, as well as engaging in uncompensated case management and out-of-office care in hospitals. A VBC model will likely fail if it ignores the commitment of pediatric dentists to at-risk populations and the practice implications. Rather than adjusting risk for providers or hospitals that have disproportionate demographic caseloads, VBC programs could engage stakeholders from representative groups to select measures that reflect the patient experience while improving quality and health.<sup>31</sup>

## Conclusion

Regardless of payment model, the mission must be what is best for children. Pediatric dentists have evolved a care system that offers the same standard of care to all children, including underserved populations – those who are very young, have special health care needs or face financial challenges within their families. A VBC approach to pediatric oral health must offer a continuing single high standard of care, sustainability of a comprehensive care network, and an opportunity for an early dental home for all children.

The benefits and risks of VBC are emerging and may shape a different health care model. VBC presents potential opportunities to positively change pediatric dentistry for both the provider and the patient. These opportunities will be realized only through a recognition of the longstanding and likely persisting differences between dentistry and medicine – smaller independent practices, different payment systems, and separate insurance coverage. If well designed through the insights of shareholders, a VBC program can build upon the strengths of the existing system, maintain high quality care for patients, improve health for those in need, reduce costs and remunerate providers for the quality of care they provide to sustain the system of care.

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## Key Definitions for Value Based Care

### Accountable Care Organization (ACO)

ACOs are groups of providers who agree to be held accountable for the quality of care provided to their patients covered by Medicaid; this allows for better care coordination. ACOs are then rewarded by Centers for Medicaid Services for any savings they create as a result of care coordination.

### Alternative Payment Model

An Alternative Payment Model is a reimbursement method in which providers are not reimbursed under a Fee-For-Service model. Provider reimbursement is not based on the number of procedures completed, but on such specified criteria as the number of patients served, treatment outcomes or quality of care assessments.

### Bundled Payment

In a Bundled Payment, a group of providers is paid an agreed-upon amount for services for an episode of care. Under this model, providers assume risk for any additional costs, as well as share in the reward of any savings.

### Capitation

Capitation is a reimbursement model in which providers are paid for the number of patients served, often with some incentive rewarding quality of care.

### Coordinated Care Organization

Similar to an Accountable Care Organization (ACO) but community-based.

### Dental Maintenance Organization (DMO)

A Dental Maintenance Organization is a plan in which patients choose a primary care dentist from those who have contracts with their insurance company. These dentists are paid a fixed sum per patient for a specified time period and agree to provide care at a reduced cost to these patients. Patients require referrals for specialized treatment.

### Dental Service Organization (DSO)

A Dental Service Organization is a business which contracts with independent dental practices to provide necessary administrative aid.

### Direct Contracting

A system in which employers make a contract with a provider to provide services for their employees, instead of contracting with an insurance company.

### Fee-For-Service (FFS)

Fee For Service is the traditional approach to provider reimbursement in dental health care. Providers are paid for the specific services received by the patients; thus reimbursement is based on the number, type and complexity of procedures completed.

### Global Payment

In Global Payment, a group of providers are paid an agreed-upon amount for the entirety of a patient's care during a set period of time. This amount is paid prior to treatment and is not necessarily based on the quantity or type of services provided.

### Independent Practice Association (IPA)

In an Independent Practice Association, a provider is contracted to provide services to a particular group of HMO patients, but can also continue to treat their own set of patients who do not belong to the HMO plan.

### Managed Care

Managed Care is a system in which patients receive care from certain providers and organizations that hold contracts with their insurance companies. Typically, this system reimburses providers a fixed sum per patient for dental services during a specified time period, based on the premise that costs will be reduced by supporting a preventive approach to care. HMO and PPO plans are examples of managed care.

### Pay-for-Performance (P4P)

A reimbursement model in which providers are rewarded or penalized based on whether they achieve certain quality measures and/or outcomes.

### Population-Based Payment

Population-Based Payment is a form of capitation in which providers are reimbursed for the number of individuals they serve. Population-Based Payment can include quality metrics which impact risks/benefits, or it can be built on top of an existing fee-for-service structure in which there is no quality metric.

### Preferred Provider Organization (PPO)

A Preferred Provider Organization is a dental care plan in which providers enter into an agreement to give care to particular insurance holders at a reduced cost. Patients can choose from providers in their network.

### Value-Based Care (VBC) / Value-Based Purchasing

Value-Based Care is a reimbursement model in which providers are paid based not on the quantity of procedures or number of patients served, but on the quality of care provided as measured by pre-established measures and outcomes.

## Delphi Themes and Criteria Summary for Value-Based Care in Pediatric Dentistry

Key principle	Criteria
<b>Overall Requirements</b>	<ul style="list-style-type: none"> <li>• Explicitly targets 3 goals: better care for patients, improving population health, reducing healthcare costs</li> <li>• Protects the fiscal health of the pediatric dental care system</li> <li>• Engages the pediatric dental specialty in design and assessment</li> <li>• Accounts for the differences between medicine and dentistry</li> <li>• Addresses major problems in pediatric oral health</li> <li>• Emphasizes quality rather than cost in incentives</li> </ul>
<b>Framework Application</b>	<ul style="list-style-type: none"> <li>• Usable by general dentists, dental specialists, and various types of providers (i.e. academic, private practice, FQHCs, etc.)</li> <li>• Serves both commercial and governmental programs</li> <li>• Encourages participation in Medicaid/CHIP</li> </ul>
<b>Freedom of Choice</b>	<ul style="list-style-type: none"> <li>• Serves as a supplemental system, rather than a replacement of FFS</li> <li>• Provides patients/families, insurers and providers with the option of FFS; participation is voluntary</li> <li>• Provides data support or works within providers' current database systems</li> </ul>
<b>Incentive Strategies</b>	<ul style="list-style-type: none"> <li>• Uses both financial and non-financial incentives (i.e. assigning beneficiaries to higher-performing plans)</li> <li>• Incentivizes both reporting metrics and achieving outcomes</li> <li>• Aligns incentives for patient, provider, payers and purchasers</li> </ul>
<b>Patient Wellness</b>	<ul style="list-style-type: none"> <li>• Promotes the doctor-patient relationship through financial incentives</li> <li>• Encourages dental home concept; care supervised by a dentist</li> <li>• Emphasizes whole child perspective, maternal (oral) health, a culture of safety within the dental environment, and prevention, esp. early (age one) dental visits</li> <li>• Creates reasonable expectations/demands for families, relative to compliance and cost</li> <li>• Emphasizes prevention, but not at the expense of quality or availability of restorative treatment</li> </ul>

<b>Care Coordination</b>	<ul style="list-style-type: none"> <li>• Addresses infrastructure of care management (i.e. coordination of fees)</li> <li>• Promotes navigator/case management components</li> <li>• Encourages service to patients with special healthcare needs</li> <li>• Encourages care coordination between dental providers/specialists, and between medical and dental healthcare providers</li> </ul>
<b>Transparency</b>	<ul style="list-style-type: none"> <li>• Distributes shared risk and reward among stakeholders in a transparent and appropriate manner</li> <li>• Evaluates performance and outcomes transparently</li> <li>• Conducts provider audits in a fair peer-reviewed process based on current clinical guidelines</li> </ul>
<b>Provider Wellness</b>	<ul style="list-style-type: none"> <li>• Is attentive to dentist indebtedness, worker health, and burnout</li> </ul>
<b>Training</b>	<ul style="list-style-type: none"> <li>• Addresses gaps in VBC knowledge through <i>optional</i> training; does not require additional credentialing or education</li> </ul>
<b>Outcomes</b>	<ul style="list-style-type: none"> <li>• Offers advantages over the current fee-for-service existing system(s)</li> <li>• Supports innovation that results in better care for patients, improved population health, and reduced costs</li> <li>• Based on a successful model with positive health outcomes</li> <li>• Measures outcomes quantitatively in order to effectively improve health</li> <li>• Tracks performance over time to reward continued growth/consistently positive outcomes</li> <li>• Rewards continued growth/consistently positive outcomes</li> <li>• Is evidence-based and scientific</li> <li>• Heeds current professional guidelines for quality clinical care; is not a second standard of care</li> </ul>
<b>Socioeconomic Factors</b>	<ul style="list-style-type: none"> <li>• Includes different demographics and socio-economic groups; not exclusive to certain populations</li> <li>• Accounts for regional differences in patient populations, including social-economic factors and health status, in assessment of care outcomes</li> </ul>



# Value-Based Care in Pediatric Dentistry



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