SPECIAL ISSUE | ARTICLE
https://doi.org/10.1071/AH24017

Australian Health Review

Experiences and learnings from developing and implementing a co-designed value-based healthcare framework within Victorian public oral health sector

Shalika Hegde[A,*] (*BDS, MHP, MPH, Director, Health Informatics*), Susan McKee[A] (*RN, BSC (HMS), MBA, GAICD, Chief Executive Officer*), Deborah Cole[B] (*BDS, GDHA, MBA, GAICD, Independent Health Care Consultant*) and Zoe Wainer[C] (*BMBS, PhD, MPH, FCHSM, AFRACMA, GAICD, Deputy Secretary, Public Health*)

For full list of author affiliations and declarations see end of paper

***Correspondence to:**
Shalika Hegde
Dental Health Services Victoria, Melbourne, Vic., Australia
Email: Shalika.hegde@dhsv.org.au

Received: 17 January 2024
Accepted: 29 February 2024
Published: 28 March 2024

Cite this: Hegde S *et al.* (2024) Experiences and learnings from developing and implementing a co-designed value-based healthcare framework within Victorian public oral health sector. *Australian Health Review* **48**(2), 134–141. doi:10.1071/AH24017

ABSTRACT

Objective. This study aimed to describe the development and implementation of a co-designed value-based healthcare (VBHC) framework within the public dental sector in Victoria. **Methods.** A mixed-method study was employed. Explorative qualitative design was used to examine patient, workforce and stakeholder perspectives of implementing VBHC. Participatory action research was used to bring together qualitative narrative-based research and service design methods. An experience-based co-design approach was used to enable staff and patients to co-design services. Quantitative data was sourced from Titanium (online patient management system). **Results.** Building a case for VBHC implementation required intensive work. It included co-designing, collaborating, planning and designing services based on patient needs. Evidence reviews, value-stream mapping and development of patient reported outcomes (PROMs) and patient reported experience measures (PREMs) were fundamental to VBHC implementation. Following VBHC implementation, a 44% lower failure to attend rate and 60% increase in preventive interventions was reported. A higher proportion of clinicians worked across their top scope of practice within a multi-disciplinary team. Approximately 80% of services previously provided by dentists were shifted to oral health therapists and dental assistants, thereby releasing the capacity of dentists to undertake complex treatments. Patients completed baseline International Consortium for Health Outcomes Measurement PROMs ($n = 44{,}408$), which have been used for social/clinical triaging, determining urgency of care based on risk, segmentation and tracking health outcomes. Following their care, patients completed a PREMs questionnaire ($n = 15{,}402$). Patients agreed or strongly agreed that: the care they received met their needs (87%); they received clear answers to their questions (93%); they left their visit knowing what is next (91%); they felt taken care of during their visit (94%); and they felt involved in their treatment and care (94%). **Conclusion.** The potential for health system transformation through implementation of VBHC is significant, however, its implementation needs to extend beyond organisational approaches and focus on sustaining the principles of VBHC across healthcare systems, policy and practice.

Keywords: co-design, equity, health outcomes, health systems, models of care, patient-centred care, population health, PREMs, PROMs, value-based healthcare, VBHC.

Introduction

People who access public dental care tend to have more disease and fewer teeth than the general population; they are less likely to access services and may receive care that is not

Special Issue: Value-Based Healthcare

always focused on achieving better health outcomes.[1] Unlike other areas of health care, access to public dental services is not universal.[2] Due to finite resources allocated to the public dental sector, access is restricted using eligibility criteria.[1] In 2021, Victoria's population was 6.5 million, as reported by the national census.[3] An estimated 2.45 million Victorians are eligible for public dental services, which is 40% of the population,[1] and approximately one in four eligible people access public dental services.[1]

Oral disease is a key marker of disadvantage, with greater levels of oral disease experienced by people on low incomes, dependent older people, Aboriginal and Torres Strait Islander peoples, rural dwellers, people with disability and immigrant groups from culturally and linguistically diverse backgrounds.[1,4]

Oral diseases are among the most common preventable health condition contributing to rising rates of healthcare costs.[5] Expenditure on oral diseases is ranked second highest after cardiovascular disease.[6] In 2019–20, approximately A$9.5 billion was spent on dental care, with most of the expenditure associated with treatment of preventable oral diseases.[7]

Public dental care in Australia operates under fee-for-service funding which incentivises outputs rather than outcomes.[8] It is funded via a mix of state and Commonwealth funding, including individual co-payments.[8] The available funding is not adequate for all eligible individuals to access services in a single year. Oral health systems, similar to general health, are struggling to meet the demands of population growth, aging population, increasing life expectancy, rising rates of chronic disease, higher consumer expectations and increasing costs of providing care.[8,9] Within the finite healthcare budgets, health systems can no longer sustain delivering services the way they have in the past.

In 2016–17, the Victorian Auditor-General's Office and Productivity Commission assessed the efficiency and effectiveness of public dental services in Victoria and Australia. They recommended that fundamental reform is required to improve public dental services with a shift in focus from treatment provision to a more patient-centred model aimed at prevention, early intervention and improving health outcomes.[8,9]

Value-based healthcare (VBHC) has been widely recognised as central to these reforms. A VBHC approach to health care provides a patient-centric way to design and manage health systems.[10] It reflects the seminal work of Porter and Teisberg and is defined as improving patient health outcomes without raising costs, or lowering costs without compromising outcomes, or both.[11] The Council of Australian Governments Heads of Agreement signed between the Commonwealth, State and Territory governments for the 2020–25 National Health Agreement makes specific provision for collaborative work to be undertaken among states and jurisdictions to implement a VBHC approach in health care.[12]

Setting

Dental Health Services Victoria (DHSV) the lead public oral health agency in Victoria, operating under the above-described service delivery context, initiated the development and implementation of a novel, co-designed VBHC framework. In designing the framework, our core hypothesis was; inequities in oral health outcomes for population are driven by systems that are not responsive to consumer needs. To overcome inequities in access to care and meaningfully improve health outcomes at an appropriate cost for people disproportionately impacted by poor health, we need to implement VBHC and fund interventions that deliver the best health outcomes for patients and population.

The objective of this paper is to describe the experiences and learnings from developing and implementing a co-designed VBHC framework within the Victorian public oral health sector.

Methods

A mixed-method study employing the below methods was used. Each development phase called for unique methods. Quantitative data was sourced from Titanium (online patient management system).

We undertook a rapid and purposeful literature review on the application of the VBHC concept within healthcare settings. The selection of VBHC articles was narrowed to studies with explicit reference to Porter and Teisberg's work.

Phenomenology was used to explore current patient experiences of receiving care and current staff experiences of delivering care, and to identify how VBHC implementation could improve patient experience of receiving care and staff experience of delivering care.

Experience-based co-design was used to enable patients, consumers and staff to co-design services.

Participant consent

The research was undertaken with appropriate informed consent of participants.

Sampling

Convenience sampling was used to identify established community and advocacy groups representing priority populations eligible for public dental care. Key informants from the priority population assisted in determining the sampling frame and pilot testing the interview guides. Cultural safety protocols relevant to each priority group were discussed with key informants and recommendations were incorporated into interviews and focus group sessions. Light refreshments were provided to participants along with a A$20

grocery voucher as a thank you gesture for their time and contribution.

Ethics approval was received from the Department of Health, Human Research Ethics Committee (DoH-HREC03-18) and the Austin Health Human Research Ethics Committee (HREC-EC00204).

Results

Phase 1: development of a co-designed VBHC framework

Our journey to move towards a high-value healthcare service began by reviewing the literature on VBHC with particular focus on the VBHC agenda proposed by Lee and Porter in 'The Strategy That Will Fix Health Care'.[13]

We adapted Lee and Porter's VBHC agenda and co-designed a novel VBHC framework and contextualised it to the public oral health operating environment (Fig. 1). Our VBHC framework was co-designed with consumers, key stakeholders within government, tertiary education, policy, research, and funding sectors (n = 66).

The framework was primarily developed to guide the implementation and adoption of VBHC within the public health sector. DHSV's co-designed framework (Fig. 1) comprises 10 core elements that are interdependent and mutually reinforcing. In designing the VBHC framework, we ensured that its principles are applicable at both patient and population levels. With consumer engagement and codesign at the centre, the framework captures the fundamentals of service delivery models (implementing models that improve outcomes across the life course; implementing

Fig. 1. Dental Health Services Victoria's Co-designed VBHC framework.

models that improve population health outcomes), in addition to: building workforce culture and capability; measuring outcomes that matter to patients; understanding, managing and measuring costs; implementing funding models that incentivises outcomes; imbedding data analytics, evaluation and research; scaling and expanding service excellence and building enabling ICT platforms and systems.

Phase 2: value stream mapping

Value stream mapping is defined as a lean continuous improvement tool that employs step-by-step flowchart documentation.[14] Stakeholders ($n = 62$) who participated in value stream mapping included consumers ($n = 8$); clinical ($n = 18$) and administrative staff ($n = 9$); senior management ($n = 11$); external stakeholders ($n = 16$) from the Government, Victorian Department of Health, funders, private insurance providers and community dental agencies. Participants were engaged in value stream mapping of the current patient journey, care pathways and service delivery models. They compared the current state of service delivery to a future VBHC state and identified the system level enablers, barriers and pain points to this transition (Table 1).

Phase 3: development of VBHC principles

The principles of VBHC were identified through literature review and evidence on interventions that improved health outcomes. A set of six VBHC principles were identified by consumers, stakeholders and service providers as important enablers of a VBHC framework and its implementation (Table 2).

Phase 4: development of patient reported outcome measures (PROMs)

To develop PROMs, we collaborated with the International Consortium for Health Outcomes Measurement (ICHOM). Two senior representatives and two consumers nominated by the DHSV participated in an international working group of 22 members comprising patient advocates, researchers, clinicians, policymakers and public health experts, representing 10 countries.[27]

The ICHOM PROMs covers oral health measures (general oral health, physiological status and psychological functioning); socio-economic and behavioural determinants (oral hygiene, fluoride, plaque, sugar consumption, alcohol and tobacco use, illicit drug use, medical conditions, pregnancy, education, employment and financial level); clinical measures (disease and condition status, disease staging, treatment type, complications); and moderating factors (age, sex, ethnicity).[27]

Following the development of PROMs, we led a consumer validation and evaluation study in Australia. Patients and consumers ($n = 129$) were recruited through open invitation for participation via consumer forums, networks, advocacy groups and community dental agencies. We further piloted and refined the ICHOM PROMs based on consumer input.

In collaboration with relevant subject matter experts ($n = 12$), evidence review and a desk top audit of clinical records ($n = 100$), a risk based algorithm and weighting was developed for specific ICHOM PROM questions to enable social and clinical triaging based on risk assessment.

Phase 5: development of patient reported experience measures (PREMs)

We adopted the Australian Hospital Patient Experience Question Set (AHPEQS) developed by the Australian Commission on Quality and Safety in Health Care.[28] The AHPEQS is primarily designed for use in hospital settings. To develop a PREMs set for the public dental sector, a working group comprising clinicians, researchers, co-design experts and consumers ($n = 12$) reviewed the list of AHPEQS questions. Nine questions were selected for potential use in the public dental sector. These questions were consumer tested and piloted using a co-design process.

Phase 6: implementation of VBHC proof of concept

In October 2018, we implemented a VBHC proof of concept at the Royal Dental Hospital of Melbourne and tested the feasibility of implementing VBHC within the public dental sector.

Table 1. Value stream mapping current and future state.

Current state of healthcare service delivery	VBHC – future state of healthcare service delivery
Working in silos – in our 'professional patches'	Working as a real team – coordinated and integrated care
Care is disease focused	Care is prevention focused
Clinicians in control	Consumers in control
Fee-for-service funding model	Alternative funding model that optimises the principles of VBHC
Volume and productivity focused	Value and health outcome focused
Demand management	Risk management
Variable service delivery	Unwarranted variation identified and reduced

Table 2. VBHC principles and evidence informed rationale.

Principles of VBHC	Evidence informed rationale
Care is designed with and around person	Care that is responsive to the preferences, needs and values of consumers; placing the person at the centre of all we do is the core of patient centred care.[11,15]
The right care is provided, to the right person, at the right time, in the right location, by the right provider	Through the right workforce skill mix, we are ensuring that care is rationalised according to need, not rationed on a 'first come, first served basis', thereby more people with higher needs can be proportionally prioritised for care. Utilising the right workforce skill mix ensures that 'the right number of people, with the right skill sets, are in the right place, at the right time, to provide the right services to the right people'.[16]
Value is used to measure effective and efficient resource utilisation and outcomes that matter most to the patient	Determining how to use the finite public health resources to improve outcomes in the most efficient, effective, equitable and sustainable way is fundamental to the success of a potential public dental funding formula and achieving value.[17] To create a sustainable healthcare system, investment in cost-effective services that provide high-value care and better health outcomes is needed.[8] This needs to be balanced with disinvestment in low-value services that do not improve health outcomes.[18]
Continuous measurement is utilised to improve care and remove unwarranted variation	There are wide unwarranted variations in health care across services and regions, with no clear relationship between the costs associated with providing health care and the health outcomes delivered.[19–21] Identifying and acting on unwarranted variation is critical to achieving equity and ensuring that high value care is available to all.[22]
Prevention and early intervention are prioritised at an individual and population level	A population health approach to preventing oral disease improves outcomes for the entire population and reduces inequalities between population groups.[8] A preventive approach to oral health care is widely recognised as the most cost-effective approach to improving oral health outcomes at both individual and population level.[9]
Care is integrated, coordinated and based on risk	Poor oral health shares common risk factors with chronic disease such as cardiovascular disease,[23] diabetes[24] and chronic respiratory disease.[25] Optimising patient outcomes and health equity requires an integrated oral and general healthcare system.[9] Evidence shows that integrated care is likely to reduce cost and improve health outcomes.[26]

Results from the proof of concept showed a higher level of preventive service provision compared with the primary care clinic operating under the traditional model of care. Compared to the traditional model, the VBHC model showed a 44% lower 'failure to attend' rate and a 36% higher preventive service utilisation. A higher proportion of clinicians worked across their top scope of practice within a multi-disciplinary team. Approximately 80% of services previously provided by dentists were shifted to oral health therapists and dental assistants, thereby releasing capacity of dentists to undertake complex treatments.

Patients and their families were actively involved throughout the care cycle. Motivational interviewing and tailored interventions, provided through coaching sessions, contributed to high levels of patient engagement. Participants reported that adopting a co-design method enabled patients and clinicians to become shared decision makers in achieving value and driving improved outcomes.

PROMS and PREMs

Ongoing data collection and tracking long-term PROMs and PREMs are critical to support ongoing change and continuous improvement in health service and patient care. Currently, 44,408 patients have completed the baseline PROMs; follow-up PROMs will be collected as patients commence their care journey. We have been using PROMs for social and clinical triaging, determining urgency of care based on risk factors, segmentation and tracking long-term health outcomes. PROMs have been a useful tool for undertaking needs assessment, providing tailored coaching sessions and preventive care, assigning care pathways based on risk scores and patient goal formulation. PROMs have now been rolled-out across public dental agencies in Victoria, to track long term outcomes across the whole state.

Approximately 15,402 patients have completed PREMs after receiving their care. Results show that patients agreed or strongly agreed that: the care they received met their needs (87%); they received clear answers to their questions (93%); they left their visit knowing what is next (91%); they felt taken care of during their visit (94%); and they felt involved in their treatment and care (94%).

Stakeholder perception of enablers and barriers to VBHC implementation

A qualitative enquiry was used to identify perceptions of enablers and barriers for implementing VBHC. Findings from this evaluation have been published separately.[29]

Timely communication

Participants noted the importance of ongoing and clear communication in facilitating change. Timely communication through team huddles, organisation-wide town halls

and meetings provided certainty and assurance to staff. Conversely, communication silos were identified as an obstacle to VBHC implementation.

Workforce champions

Having workplace champions as 'change agents' facilitated early adoption of VBHC. As 'change agents' they created a positive workforce culture and facilitated successful uptake of new practices and processes required for VBHC implementation. However, team cultures that were change averse and overly hierarchical experienced challenges collaborating and participating in the change process. This was particularly evident if the change required questioning the 'status quo'.

> Dentistry is hierarchical in structure, this has to be broken down … under VBHC, every team member is a value-add … making a meaningful contribution to patient care. (Participant INS 7)

Co-designing care with patients

Co-designing and identifying ways patients and clinicians can work together increased collaboration. Patients were invited to team huddles to share their experiences of receiving care.

> We need to listen to our patients to know what is important to them … it is a relationship-based care. (Participant INS 3)

Certain participants expressed concerns that co-designing means less clinical autonomy.

> Co-design is not something we are used to … how can we make clinical decisions without our clinical autonomy. (Participant ISH 16)

Shared decision making

Effective clinical leadership was considered an important driver for shared decision making and championing patient involvement in their own care. Implementing shared decision making tools and training were seen as critically important but notably lacking.

> We need more training on shared decision making … and endorsement from clinical leaders to implement shared decision making tools. (Participant INS 13)

A few staff misunderstood the concept of shared decision making; they confused it with providing service information to patients and answering patient questions.

> We practice shared decision making … we provide information to patients, take them through our roles, responsibilities and the care they will be getting. (Participant INS 16)

Workforce skill-mix

Using the right workforce skill-mix and reorientating the roles of team members enabled them to work across their full scope of practice.

> When dentists are performing more complex dentistry, we as coaches feel rewarded by supporting patient's self-care and behaviour change. (Participant INS 10)

Implementing VBHC

Participants felt that there is varying understanding of the concept of VBHC, and varying perception of what value is.

> I'm not confident in applying VBHC, what does 'value' really mean … cost? (Participant INS 1)

> … I understand patient outcomes are important, but so are clinical outcomes, so how is value defined for clinicians? (Participant SLM 16)

Discussion

The concept of VBHC has gained significant momentum internationally and in Australia; however, full scale implementation of VBHC is yet to be attained. While using implementation science methodology enabled our understanding of the factors that facilitated or impeded VBHC implementation, our experience showed that innovation projects have multiple interdependencies and cannot be delivered in a linear fashion. Existing studies support this and points out that implementation of VBHC is not linear and the process moves forwards and backwards, sometimes with interruptions.[30]

Central to our VBHC implementation is consumer engagement and co-design. Studies show that involving consumers in health service planning offers significant benefits including increased efficiencies in health systems,[31] improved health outcomes,[32] reduced costs and increased consumer trust, satisfaction and compliance with treatment regimens.[33,34] Co-designing and agreeing on outcomes that matter to patients presents a significant opportunity to identify and address equity issues.[22] This contrasts with traditional approaches where decisions about equity occur at a macro-level, but not typically at program design, implementation and delivery level.[22]

While consumer involvement is critical, clinical leadership is just as important in VBHC implementation. Clinician engagement and consumer involvement in their own care is enhanced through a shared decision making process.[35] Shared decision making is a process of involving consumers in making informed and preference-based decisions about

their care and treatment.[35] While effective clinical leadership is critical to ensuring a high performing healthcare system that consistently provides high value care and improved health outcomes, studies point out that clinical leadership is not the exclusive domain of any particular professional groups, rather all members of the healthcare team are equally responsible for clinical leadership.[36,37]

A major barrier in successful implementation of VBHC in Australia is that the components of VBHC are being implemented individually and not as part of a coordinated and integrated strategy involving all tiers of government, healthcare providers and consumers.[10,38] We observed that implementation of VBHC needs to take a systemic approach to integrate its principles into service models; it requires all actors within the healthcare system to work collaboratively. Additionally, VBHC has a high level of interpretative variability and a common conceptualisation of VBHC is important for successful implementation.[38]

Practice implications

Our VBHC journey required a fundamental shift in the way oral health services are provided under a fee-for-service funding. It required an organisation-wide cultural shift, and good change management and clinical leadership. Strong collaboration with consumers, workforce and government enabled the adoption and scale-up of VBHC. Taking an incremental approach to implementation by starting small, demonstrating success and scaling-up, allowed us to build the necessary VBHC support system, gain momentum and bring patients and workforce along on the journey.

DHSV, through the evidence generated from VBHC implementation, has rapidly mobilised its leadership position and is influencing relevant policy and practice reforms to enable a VBHC authorising environment in Australia.

Conclusion

The potential for health system transformation through implementation of VBHC is significant, however, its implementation needs to extend beyond organisational approaches and focus on sustaining the principles of VBHC across healthcare systems, policy and practice.

References

1 Victorian Auditor-General's Office. Access to Public Dental Services in Victoria. VAGO: Victoria; 2016.
2 Productivity Commission. Introducing Competition and Informed User Choice into Human Services: Reforms to Human Services, Report No. 85. Canberra; 2017. Available at https://www.pc.gov.au/inquiries/completed/human-services/reforms/report
3 Australian Bureau of Statistics. Snapshot of Victoria. 2022. Available at https://www.abs.gov.au/articles/snapshot-vic-2021 [cited 16 2023].
4 Costa SM, Martins CC, Bonfim Mde L, *et al.* A systematic review of socioeconomic indicators and dental caries in adults. *Int J Environ Res Public Health* 2012; 9(10): 3540–3574. doi:10.3390/ijerph9103540
5 Australia's National Oral Health Plan 2015–2024. Healthy Mouths, Healthy Lives: Australia's National Oral Health Plan 2015–2024. 2015. Available at https://www.health.gov.au/resources/publications/healthy-mouths-healthy-lives-australias-national-oral-health-plan-2015-2024?language=en
6 Australian Institute of Health and Welfare. Australia's health 2014, in Australia's health no. 14. Cat. no. AUS 178. 2014. Australian Institute of Health and Welfare: Canberra; 2014
7 Australian Institute of Health Welfare. Oral health and dental care in Australia. Australian Institute of Health Welfare: Canberra; 2023.
8 Productivity Commission. Introducing Competition and Informed User Choice into Human Services: Reforms to Human Services Draft. Productivity Commission: Canberra; 2017.
9 Victorian Auditor-General's Office. Access to Public Dental Services in Victoria. Victorian Auditor-General's Office: Melbourne; 2016.
10 Woolcock K. Value based health care: setting the scene for Australia. Vol. 31. Deeble Institute of Health Policy Research; 2019.
11 Porter ME, Teisberg EO. Redefining competition in health care. *Harv Bus Rev* 2004; 82: 64–76.
12 Council of Australian Governments. Heads of Agreement between the Commonwealth and the States and Territories on public hospital funding and health reform. 2018. Available at https://federation.gov.au/about/agreements/heads-agreement-between-commonwealth-and-states-and-territories-public-hospital
13 Lee T, Porter M. The strategy that will fix healthcare. Vol. 91. Harvard Business Review Boston; 2013.
14 Henrique DB, Rentes AF, Godinho Filho M, *et al.* A new value stream mapping approach for healthcare environments. *Prod Plann Control* 2016; 27(1): 24–48. doi:10.1080/09537287.2015.1051159
15 Porter ME, Teisberg EO. Redefining health care: creating value-based competition on results. Harvard Business Press; 2006.
16 Lopes MA, Almeida ÁS, Almada-Lobo B. Handling healthcare workforce planning with care: where do we stand? *Hum Resour Health* 2015; 13(1): 38. doi:10.1186/s12960-015-0028-0
17 Hegde S, Haddock R. Re-orienting funding from volume to value in public dental services. Vol. 32. Deeble Institute of Health Policy Research; 2019.
18 McCreanor V, McCreanor VJC. Active disinvestment in low-value care in Australia will. *Circulation* 2002; 106(4): 516–520.
19 Australian Commission on Safety and Quality in Health Care and Australian Institute of Health and Welfare. The Third Australian Atlas of Healthcare Variation. Sydney: ACSQHC; 2018
20 Buchan HA, Duggan A, Hargreaves J, *et al.* Health care variation: time to act. *Med J Aust* 2016; 205(S10): S30–S33. doi:10.5694/mja15.01360
21 Bradley EH, Canavan M, Rogan E, *et al.* Variation in health outcomes: the role of spending on social services, public health, and health care, 2000–09. *Health Aff* 2016; 35(5): 760–768. doi:10.1377/hlthaff.2015.0814
22 Verhoeven A, Woolcock KK, Thurecht L, Haddock R, Flynn A, *et al.* Can value-based health care support health equity? *Acad Med* 2020; 88(11): 1619–1623.
23 Bahekar AA, Singh S, Saha S, *et al.* The prevalence and incidence of coronary heart disease is significantly increased in periodontitis: a meta-analysis. *Am Heart J* 2007; 154: 830–7. doi:10.1016/j.ahj.2007.06.037
24 Kinane D, Bouchard P. on behalf of group E of the European Workshop on Periodontology. Periodontal diseases and health: consensus report of the Sixth European Workshop on Periodontology. *J Clin Periodontol* 2008; 35(8): 333–7. doi:10.1111/j.1600-051X.2008.01278.x
25 Azarpazhooh A, Leake JL. Systematic review of the association between respiratory diseases and oral health. *J Periodontol* 2006; 77(9): 1465–82. doi:10.1902/jop.2006.060010
26 Rocks S, Berntson D, Gil-Salmerón A, *et al.* Cost and effects of integrated care: a systematic literature review and meta-analysis. *Eur J Health Econ* 2020; 21(8): 1211–1221. doi:10.1007/s10198-020-01217-5
27 Riordain RN, Glick M, Mashhadani S, *et al.* Developing a standard set of patient-centred outcomes for adult oral health–an

international, cross-disciplinary consensus. *Int Dent J* 2021; 71(1): 40–52. doi:10.1111/idj.12604
28 Jones CH, Woods J, Brusco NK, *et al.* Implementation of the Australian Hospital Patient Experience Question Set (AHPEQS): a consumer-driven patient survey. *Aust Health Rev* 2021; 45(5): 562–569. doi:10.1071/AH20265
29 Raymond K, Hegde S. Dental Health Services Victoria: Journey to Value Based Healthcare. Vol. 7. Deeble Institute of Health Policy Research; 2020.
30 Nelson HJ, Pienaar C, McKenzie K, *et al.* Development of the Australian hospital patient experience question set for parents. *Collegian* 2023; 30(2): 213–221. doi:10.1016/j.colegn.2022.09.003
31 Grøndahl VA, Karlsson I, Hall-Lord ML, *et al.* Quality of care from patients' perspective: impact of the combination of personal-related and external objective care conditions. *J Clin Nurs* 2011; 20: 2540–2551. doi:10.1111/j.1365-2702.2011.03810.x
32 Gallan AS, Jarvis CB, Brown SW, *et al.* Customer positivity and participation in services: an empirical test in a health care context. *J Acad Mark Sci* 2012; 41: 338–356. doi:10.1007/s11747-012-0307-4
33 Frow P, Nenonen S, Payne A, *et al.* Managing co-creation design: a strategic approach to innovation. *Br J Manag* 2015; 26: 463–483. doi:10.1111/1467-8551.12087
34 Kohler G, Sampalli T, Ryer A, *et al.* Bringing Value-Based Perspectives to Care: Including Patient and Family Members in Decision-Making Processes. *Int J Health Policy Manag* 2017; 6(11): 661–668. doi:10.15171/ijhpm.2017.27
35 Dimopoulos-Bick T, Osten R, Shipway C, *et al.* Shared decision making implementation: a case study analysis to increase uptake in New South Wales. *Aust Health Rev* 2019; 43(5): 492–499. doi:10.1071/AH18138
36 Howieson B, Thiagarajah T. What is clinical leadership? A journal-based meta-review. *Int J Clin Leadersh* 2011; 17(1): 7.
37 Daly J, Jackson D, Mannix J, *et al.* The importance of clinical leadership in the hospital setting. *J Healthc Leadersh* 2014; 17: 75–83. doi:10.2147/JHL.S46161
38 van Staalduinen DJ, van den Bekerom P, Groeneveld S, *et al.* The implementation of value-based healthcare: a scoping review. *BMC Health Serv Res* 2022; 22(1): 270. doi:10.1186/s12913-022-07489-2

Data availability. Data cannot be shared for ethical or privacy reasons.

Conflicts of interest. The authors declare that they have no conflicts of interest.

Declaration of funding. This research did not receive any specific funding. Public dental services in Victoria are funded by the Department of Health Victoria.

Acknowledgements. DHSV acknowledges its consumers, patients, workforce and community dental agencies for their contribution and efforts in implementing the VBHC initiative. DHSV recognises its critical partners, stakeholders and collaborators for their input. DHSV acknowledges the important role of the Victorian Department of Health as the funder of public dental services in Victoria.

Author affiliations
[A]Dental Health Services Victoria, Melbourne, Vic., Australia.
[B]Independent Consultant.
[C]Department of Health Victoria, Melbourne, Vic., Australia.