

Towards implementing value-based healthcare in Dubai: a qualitative framework analysis

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Abstract

Background

Value-based healthcare (VBHC) aims to shift health systems from activity-based delivery toward outcomes that matter to patients relative to cost. Dubai has introduced several VBHC-relevant building blocks, including regulatory quality initiatives, condition-specific clinical guidelines and standards, a health information exchange platform, and case-based reimbursement. However, the conditions under which these assets can support a credible transition toward outcome-informed purchasing remain underexplored in Middle Eastern mixed public-private health systems. This study examined how key healthcare stakeholders in Dubai understand the practical conditions, tensions, and sequencing required to implement VBHC, and used these accounts to develop a context-specific theory of change.

Methods

A qualitative study was conducted using semi-structured interviews with 17 stakeholders across regulatory, payer, provider, administrative, and advisory roles. Participants were purposively sampled to capture maximum variation across the Dubai healthcare system. Thematic analysis combined deductive coding informed by established VBHC domains with inductive coding of stakeholder accounts. Data were charted in a framework matrix to interpret similarities, differences, and disconfirming accounts across stakeholder groups. Reporting was guided by the Consolidated Criteria for Reporting Qualitative Research.

Results

The analysis generated four interdependent implementation mechanisms. First, data quality was framed as a trust and accountability issue rather than only a technical infrastructure challenge. Second, clinical standardisation was viewed as necessary for outcome measurement but dependent on clinician legitimacy and ownership. Third, payment reform was understood as a staged transition beyond activity- and case-based reimbursement, requiring risk adjustment, transparency, and piloting before stronger financial incentives are introduced. Fourth, patient-reported outcomes and experience measures were seen as essential but insufficiently institutionalised within routine care, performance monitoring, and purchasing decisions.

Conclusions

Dubai has significant assets for VBHC development, but these are unlikely to yield value-based care unless integrated through a sequenced implementation strategy. The proposed theory of change positions trusted data governance, clinically legitimate measurement, staged payment reform, and patient-reported value as mutually dependent conditions for credible VBHC implementation. Future research should test this programme theory in selected clinical conditions and examine its effects on provider behaviour, patient outcomes, equity, and expenditure.

1. Background

Value-based healthcare (VBHC) has been proposed as a way of reorganising health systems around outcomes that matter to patients relative to the costs of achieving them. Porter defined VBHC as a framework for restructuring healthcare delivery around patient value, measured as health outcomes achieved per unit cost [1]. This approach shifts attention away from activity, throughput, and fragmented service delivery towards clinically meaningful, sustainable, and outcome-oriented care. Its logic is also consistent with the Triple Aim, which emphasises improving care quality, improving population health, and reducing costs [2]. However, VBHC implementation is not simply a technical or financial reform. It depends on whether health-system actors trust the data, accept the legitimacy of outcome measures, perceive payment incentives as fair, and can incorporate patient-reported value into routine care and accountability.

From a value perspective, equity is not limited to access to services. It also concerns whether different population groups can achieve comparable outcomes and receive responsive care from the health system [3]. International comparisons often distinguish between procedural equity, which relates to fairness in access and care processes, and substantive equity, which concerns differences in outcomes and quality of care [4, 5]. VBHC is relevant to this distinction because it redirects policy attention from what services are delivered to what outcomes are achieved, for whom, and at what cost. These concerns are particularly important in mixed public-private systems, where regulators, payers, providers, administrators, and advisors may hold different views about accountability, reimbursement risk, clinical autonomy, and data use.

The implementation of VBHC requires coordinated changes across measurement, payment, care delivery, and organisational culture. Payment systems that reward volume may conflict with models that seek to incentivise quality, patient experience, and measurable health outcomes [6, 7]. The literature also emphasises the importance of patient-centred outcomes, integrated practice units, time-driven activity-based costing, bundled payment models, and transparent measurement across the care continuum [8–10]. Yet these components are difficult to implement together. Outcome measurement requires reliable clinical and financial data; payment reform requires risk adjustment and trust between payers and providers; and patient-centred care requires that patient-reported outcomes and experience measures are not treated as optional additions but as part of the operating model. Health authorities in the Middle East, including Dubai, have shown growing interest in adopting selected VBHC components, but the practical conditions required for implementation have been insufficiently examined [11–13].

The Middle East provides an important regional context for studying VBHC implementation because several health systems are moving beyond coverage expansion and activity-based purchasing towards models that link quality, outcomes, and reimbursement. Developments in the Kingdom of Saudi Arabia and Abu Dhabi, UAE, illustrate this policy direction through initiatives that seek to introduce value-based payment, pay-for-quality mechanisms, and more

systematic quality measurement while maintaining provider participation and service capacity [14, 15]. Within this regional trajectory, Dubai is a relevant case because the Dubai Health Authority (DHA) has governance functions that are directly connected to VBHC implementation. Established under Law No. 14 of 2021, which amended Law No. 6 of 2018, DHA is the primary public entity responsible for health governance and strategic oversight across the emirate [16]. Its mandate across public and private healthcare delivery, provider licensing, quality and safety regulation, health expenditure oversight, health data systems, and evidence-based practice creates institutional conditions that are central to VBHC. These include defining measurable outcomes, standardising care expectations, governing health data, and shaping the rules through which payment, performance, and accountability can be linked to value.

Dubai's financing and delivery landscape further increases the policy relevance of VBHC. In 2023, health spending reached US\$6 billion, equivalent to 5.2% of GDP and a 3.45% increase from 2022; 39% was financed by the government and 61% through private sources [17]. This mixed financing structure means that VBHC implementation cannot rely on public-sector policy alone. It requires alignment among regulators, payers, providers, administrators, and patients around data credibility, clinical standards, reimbursement rules, and patient-reported value. Over the past decade, Dubai has introduced several reforms and infrastructure elements relevant to VBHC, including universal health coverage, diagnosis-related group reimbursement, targeted support for low-income patient groups, and system-level initiatives to strengthen clinical and data standardisation [18–21]. More recent initiatives further strengthen the measurement and data foundations of VBHC. EJADAH seeks to unify clinical practice guidelines, key performance indicators, and clinical reporting, while NABIDH supports the exchange of medical records across healthcare providers [22, 23]. These initiatives are important VBHC building blocks, but they do not by themselves constitute a mature value-based system unless linked to credible outcome measurement, risk adjustment, patient-reported outcomes, transparent data governance, and payment mechanisms that reward value rather than activity alone.

Existing VBHC literature has emphasised outcome measurement, integrated care, patient-reported outcomes, and payment reform. Less is known about how stakeholders in Middle Eastern mixed public-private health systems interpret the practical conditions required for VBHC implementation. This study addresses that gap by examining how regulators, payers, providers, administrators, and consultants in Dubai explain the readiness conditions, implementation tensions, and sequencing required for VBHC reform.

2. Methods

This qualitative study examined how healthcare stakeholders across regulatory, payment, care delivery, administrative, and advisory roles understood the conditions required to implement VBHC in Dubai. The study addressed three research questions: (i) How do key stakeholders in Dubai's healthcare system explain the conditions that make VBHC implementable? (ii) What tensions do stakeholders identify across data governance, clinical standardisation, payment reform, and patient involvement? (iii) How can these stakeholder accounts inform a context-specific theory of change for VBHC implementation in Dubai? Because VBHC implementation is shaped by context-specific factors, including regulation, financing, data infrastructure, organisational culture, and professional practice, qualitative methods were used to generate an in-depth interpretation of stakeholder accounts [24].

2.1. Study Design and analytical orientation

The study used qualitative thematic framework analysis to examine stakeholder accounts of VBHC implementation in Dubai. Framework analysis was selected because the study addressed an applied health policy question, drew on predefined concepts from VBHC theory, and required systematic comparison across stakeholder groups. Porter's established VBHC domains were used as sensitising concepts rather than as a fixed coding structure [25]. These domains included integrated care, cost attribution, outcome measurement, payment incentives, clinical standardisation, and patient-centredness. Inductive coding was retained where participants' accounts challenged, extended, or reframed these domains.

Data were collected through semi-structured interviews and analysed using an integrated deductive-inductive coding approach. NVivo 14 Pro was used to organise transcripts, codes, and coded extracts; it was not treated as the analytical method and did not generate themes. The study is reported in accordance with the Consolidated Criteria for Reporting Qualitative Research (COREQ) [26].

2.2. Sampling adequacy

Participants were recruited using purposive maximum-variation sampling to capture perspectives from stakeholders involved in regulation, payment, care delivery, administration, and health-system advisory work. Eligible participants were adults with current or recent professional experience in Dubai's healthcare sector and direct exposure to health financing, quality measurement, clinical governance, insurance, health information systems, or VBHC-related initiatives.

Recruitment aimed to include at least two participants from each major stakeholder category where feasible. Potential participants were contacted by email and received an information sheet and consent form before participation. Of 25 invited stakeholders, 17 agreed to participate. The final sample included regulators, public and private payers, providers, administrators in finance, quality or operations, and management consultants (Table 1). Participant characteristics are reported by broad stakeholder category rather than by exact job title to reduce the risk of deductive disclosure, given the sample's seniority and the small policy community it represents.

Table 1
Participant characteristics by stakeholder category

Stakeholder category	Number of participants	Sector contribution	Analytical contribution to the scope of the study
Regulators	4	4 from the public sector	Policy stewardship, quality regulation, care standardisation, health information exchange, governance, change management and implementation governance.
Payers	3	1 from the public sector vs 2 from the private sector	Claims data, reimbursement design, outcome metrics, risk management, and payer-provider contracting.
Providers	2	1 from the public sector vs 1 private	Clinical delivery, standardised pathways, professional autonomy, engaging patients, and operational consequences of outcome-linked reimbursement.
Administrators	5	1 from the public sector vs 4 from the private sector	Quality, finance, operations, leadership engagement, resource constraints, and workflow implementation.
Consultants	3	3 from the private sector	Market analysis, benchmarking, transformation design, and translation between policy, payer, and provider perspectives.
Total	17	7 from the public vs 10 from the private sector	Purposive maximum-variation sample across regulation, payment, delivery, administration, and advisory roles.

Sample adequacy was assessed using information power rather than statistical representativeness [27]. The sample was considered sufficient because the study had a focused aim, participants held specialised knowledge of Dubai's healthcare system, interviews generated detailed accounts of VBHC implementation, and the analysis compared clearly defined stakeholder categories. During the final interviews, no new implementation mechanisms were identified, although participants continued to provide additional examples within existing categories.

2.3. Data collection and research reflexivity

Data were collected between June and October 2024 using a semi-structured interview guided by a questionnaire (Appendix A). The guide covered participants' understanding of VBHC, perceptions of Dubai's readiness, data and technology requirements, clinical pathway standardisation, payment reform, patient-reported measures, and perceived implementation risks. Interviews were conducted in private settings, lasted approximately 30 to 60 minutes, and involved only the participant and interviewer. All interviews were audio-recorded with consent, transcribed, de-identified, and checked against the recordings for accuracy. No repeat interviews were conducted.

The interviewing authors had clinical and health policy backgrounds and professional familiarity with Dubai's healthcare system. This insider position supported contextual understanding and access to senior stakeholders, but it also created potential risks of shared assumptions, social desirability bias, and over-interpretation of policy language. To address this, reflexive notes were recorded after interviews and during transcription to document assumptions, unexpected statements, and possible influences of prior professional knowledge. A second author reviewed the coding framework and thematic interpretation, with particular attention to areas where the data did not fully support the emerging explanation. Examples of reflexive notes are provided in Appendix B.

2.4. Data Analysis

Analysis followed five stages of framework analysis: familiarisation, initial coding, development of an analytical framework, indexing and charting, and interpretation (Appendix C). First, transcripts and reflexive notes were read repeatedly to identify preliminary issues and to become familiar with the data. Second, an initial coding framework was developed using VBHC implementation domains as deductive categories, including outcome measurement, cost attribution, integrated care, data infrastructure, payment incentives, clinical standardisation, and patient-centredness. Third, inductive codes were added where participants raised issues not adequately captured by the initial framework, including distrust of data use, fear of punitive reimbursement, unclear accountability for outcomes, and concern that guideline compliance could replace patient-centred care.

The coding framework was refined through discussion among the authors after reviewing early coded transcripts. The remaining transcripts were then indexed in NVivo using the revised framework. This approach was consistent with an integrated deductive-inductive coding strategy, in which predefined concepts guide initial coding while inductive analysis allows new categories to emerge from the data [28, 29].

Coded data were charted into a framework matrix, with stakeholder groups as cases and analytical categories as columns. The matrix was used to compare similarities, differences, and disconfirming accounts across stakeholder groups. Convergent accounts were defined as areas where stakeholder groups described similar implementation conditions; divergent accounts were areas where stakeholders interpreted the same issue differently; and negative cases were accounts that challenged or qualified the emerging interpretation.

Final themes were developed by interpreting relationships among categories rather than by counting how often codes appeared. Frequency data were retained only as a descriptive audit aid in the supplementary material and were not used as evidence of thematic importance, consistent with cautions about replacing qualitative meaning and context with numerical summaries [30, 31]. The final analytical themes were then used to develop a theory of change by mapping each theme to implementation mechanisms, activities, assumptions, risks, intermediate outcomes, and intended long-term impact. The full code-mapping approach and descriptive coding audit are provided in Appendix D.

Several strategies are used to strengthen trustworthiness in qualitative studies [32]. Of these, credibility was supported through purposive maximum-variation sampling, the use of direct quotations, the comparison of convergent and divergent accounts, the consideration of negative cases, and the

discussion of the coding framework among the authors. Dependability was supported by maintaining an audit trail of coding decisions, framework revisions, and analytic memos. Confirmability was supported through reflexive memoing and explicit distinction between empirical findings, literature-informed interpretation, and policy recommendations. Transferability was supported by a description of Dubai's healthcare financing, regulatory environment, data infrastructure, and mixed public-private delivery context.

3. Results

Participants' accounts were coded using a combined deductive-inductive thematic analysis framework. This process yielded 14 inductive codes, which were ultimately grouped into four themes (Fig. 1). The key elements supporting this analysis framework were the selected participants' quotes (Appendix E) and interviewers' reflexive notes. We present these themes as mechanisms rather than as ranked enablers and challenges, as participants rarely described data, payment, clinical practice, and patient involvement as separate issues. Instead, they described a sequence in which trustworthy data enables credible measurement, credible measurement enables acceptance of payment reform, and clinical and patient engagement determine whether VBHC is perceived as quality improvement or as administrative control. The four themes were (i) Data quality as a trust and accountability mechanism, (ii) Clinical legitimacy and standardisation of care provision, (iii) Payment reform as a staged transition beyond activity-based reimbursement, and (iv) Patient-reported value as an institutionalised component of VBHC.

3.1. Data quality as a trust and accountability mechanism

Participants described data quality as the foundation of VBHC, but not simply because better IT systems are needed. Across stakeholder groups, data quality was linked to trust, accountability, and the perceived fairness of future reimbursement decisions. Payers emphasised that outcome-linked reimbursement would not be credible if claims, clinical documentation, and outcome fields were incomplete or inconsistently coded. Providers, however, were concerned that imperfect data could be used punitively, especially if performance comparisons failed to account for case mix, patient complexity, or variation in documentation capacity.

Regulators viewed NABIDH and EJADAH as important infrastructure, but participants suggested that interoperability alone would not solve the problem unless outcome definitions, coding rules, audit processes, and data-use agreements were standardised. In this sense, the data challenge was not only technical. It was a governance problem: stakeholders needed confidence that data would be accurate, comparable, risk-adjusted, and used for improvement rather than only for denial of payment.

Since the coding audit served solely as a descriptive check, the interpretation of this theme depends on how participants connect data quality with trust, accountability, and the perceived fairness of reimbursement decisions. There was a balanced view on whether the theme is merely an implementation challenge. A participating payer specifically stated, *"The biggest challenge is the need for standardised data across the healthcare system. Data-sharing issues and interoperability also hinder the ability to collect comprehensive outcome data."* While this generally explains the data challenge, a senior regulator added, *"While the initiative focuses more on successes, there's an implication that collaboration and comprehensive data integration may still present challenges"*. However, the level of financial investment required for such advanced technology to ensure high-quality data, governance, and interoperability may mark this major theme almost equally as a strong policy enabler. For that, another regulator stated that *"Dubai's government has supported healthcare innovation and created an enabling environment for VBHC. The regulatory frameworks encouraging data-sharing, transparency, and innovative reimbursement models will help drive VBHC implementation."*

3.2. Clinical legitimacy and standardisation of care provision

Participants consistently argued that VBHC could not be implemented through regulation or insurer requirements alone. Clinical engagement was described as necessary because standardised pathways, outcome measures, and adherence to guidelines would affect professional autonomy and daily workflow. Several participants supported EJADAH-style standardisation, but they also warned that guidelines could become a compliance exercise if clinicians perceived them as payer-driven cost control rather than clinically meaningful quality improvement. Regulator 2 described EJADAH as a unifying tool, saying, *"The EJADAH system is a great tool for introducing unified management of various conditions and activities, such as prevention, diagnosis, and treatment, to ensure a holistic approach to patient care."* Administrator 2 was quoted as stating, *"In my previous organisation, the most challenging part was to engage physicians in the care implementation process."* In addition to the participants' quotes, this major theme was identified during the coding audit as merely a policy enabler rather than an implementation challenge. However, it might also provoke resistance if introduced without clinical ownership or appropriate justification. Participants suggested that VBHC would be more acceptable if clinicians, hospital leaders, and decision-makers were all involved in defining the value behind condition-specific outcomes, selecting PROMs and CROMs, reviewing exceptions, and interpreting performance data before payment consequences are introduced.

3.3. Payment reform beyond activity-based reimbursement

Participants did not describe payment reform as a simple shift from a case-based payment model, such as DRGs, to any other VBHC model, whether pay-for-quality or bundle payment. Dubai's DRG model was better perceived by participants - as per the OECD [33] - as activity-based reimbursement rather than pure fee-for-service. As all hospitals are mandated to utilise the DRGs system, it rewards activity volume, coding intensity, and throughput, unless paired with quality safeguards and outcome monitoring, which remains uncommon. Therefore, the relevant policy question is not whether Dubai should move from DRG to VBHC, but how Dubai can evolve from activity- and case-based purchasing toward outcome-informed reimbursement, while maintaining its current business-oriented leadership. Provider 2 stated clearly that *"Hospital management and decision makers misunderstand VBHC as a non-revenue-generating approach and showed huge resistance to implementation."* Consultant 2 also stated, *"The most critical challenge for implementing VBHC in Dubai is the difficulty of looking past immediate business concerns such as profitability—both from payers and providers."*

Participants differed in how quickly payment incentives should be linked to outcomes. Some viewed financial incentives as essential to change provider behaviour. For example, a payer stated, “As an insurer, our organisation *can be instrumental in developing and promoting payment models that reward healthcare providers based on the quality and outcomes of care rather than the quantity of services provided.*” Others warned that premature pay-for-quality mechanisms could intensify disputes if data are incomplete, case-mix adjustment is weak, or providers believe that measures are being used mainly to reduce claims expenditure or to game the system. For example, a provider quote was as diverse as “*The payment scheme, for the long-term care services, is bonded only for payment per diem, not as per the quality outcomes, which implies a risky transition road.*” This suggests that payment reform should be sequenced through pilots in selected conditions, with transparent risk adjustment, shared governance of indicators, and a learning phase before penalties or bonuses are applied. Stakeholders’ interpretations clearly indicate that this major theme is regarded primarily as an implementation challenge.

3.4. Patient-reported value as under-institutionalised

Participants supported the idea that VBHC should reflect outcomes that matter to patients, but patient-reported measurement appeared less developed than structure and process KPIs. PROMs and PREMs were often discussed as desirable future components rather than as embedded tools for payment, service redesign, or shared decision-making. This matters because a VBHC programme that relies mainly on clinical process indicators may improve standardisation without necessarily capturing patient-defined value.

This major theme was interpreted equally as both a policy enabler and an implementation challenge. And that was because many participants identified several barriers to using PROMs, including limited routine collection of outcome data, uncertainty about which instruments to use across languages and conditions, and a lack of clarity about how patient-reported data should influence reimbursement or provider accountability. In that specific context, Administrator 1 stated that “*getting patient feedback on outcomes remained another challenge.*” The implication is that Dubai’s VBHC policy should treat PROMs and PREMs as core infrastructure rather than optional patient engagement tools.

4. Discussion

This study clearly contributes a context-specific explanation of VBHC implementation readiness in Dubai. Instead of viewing policy enablers and implementation challenges as separate issues, the findings indicate that stakeholders see the implementation of VBHC as a sequential process rather than separate or parallel efforts. Dubai has several relevant building blocks, including clinical KPI initiatives (EJADAH), health information exchange infrastructure (NABIDH), and experience with DRG-based reimbursement. However, participants’ accounts indicate that outcome-linked payment depends on prior resolution of data credibility, clinical legitimacy, risk adjustment, and patient-reported measurement. The central contribution of this study is therefore not a generic list of VBHC barriers, but an empirically informed programme theory explaining why certain reforms may need to precede others, illustrated in the theory of change (ToC) model.

4.1. Principal conceptualisation for implementing VBHC

The developed ToC model conceptualises VBHC implementation in Dubai as a sequenced programme theory rather than a linear policy checklist. Its central proposition is that outcome-informed purchasing cannot be introduced credibly unless prior implementation conditions are met: trusted data governance, clinically legitimate standardisation, staged payment reform, and routine incorporation of patient-reported value (Table 2). This interpretation builds on the original empirical design, which used interviews with regulators, payers, providers, administrators, and consultants to examine how different system actors understood the implementation requirements for VBHC in Dubai. The model, therefore, treats the interview-derived enablers and barriers (inductive codes and major themes) not as separate variables to be ranked but as interdependent mechanisms that, if applied in sequence, can shape whether VBHC becomes governable, professionally acceptable, and operationally feasible. In this sense, data quality is positioned as more than an information technology issue; it is the enabling condition for fair benchmarking, risk adjustment, auditability, and payer-provider trust. Similarly, clinical pathways, CROMs, PROMs, PREMs, and EJADAH-linked indicators and pathways are not framed as technical instruments alone but as tools whose legitimacy depends on clinician ownership and transparent rules for interpreting and using performance data. The original model already identified activities, outcomes, assumptions, associated risks and intended impact, including EJADAH clinical guidelines, CROM/PROM submission, interoperable information systems linked to NABIDH, stakeholder education, outcome-based reimbursement, benchmarking, and dedicated implementation resources. The ToC model with all the above-mentioned elements makes the causal assumptions connecting these elements explicit.

Table 2
Theory of change of VBHC programme implementation

Major Themes	Mechanisms	Activities	Outcomes	Assumptions	Risks	Impact
Theme 1: Data quality as a trust and accountability mechanism	Step 1: Data must be trusted before it can be used for payment.	Define outcome data dictionary	Agreed outcome definition (overcome a challenge)	Stakeholders will accept benchmarking only if the data is comparable, complete, and adequately governed.	Claims disputes, gaming, rejection of outcome-linked payment, or selective documentation.	Improved alignment between outcomes, cost, and reimbursement, Future empirical evaluation shall be required for: (i) the level of reduction in low-value care associated with VBHC implementation, (ii) the level of reduction of health expenditure associated with VBHC implementation.
		Define and streamline data audit rules	Risk-adjustment rules (policy enabler)			
		Conduct case-mix adjustments	Approved audit process (policy enabler)			
		Build a data-use governance system across EJADAH, NABIDH, payers, and providers	Governance framework to support implementation			
Theme 2: Clinical legitimacy and Standardisation of care provision	Step 2: Standardisation of care provision requires clinical legitimacy.	Establish condition-specific clinician panels to develop an integrated practice unit (IPUs)	A value stream model (policy enabler) for every medical condition, inclusive of full clinical requirements and costs.	Clinicians engage at an administrative level for streamlining value.	Compliance-only behaviour, workarounds, and resistance.	
		Co-design pathways, exceptions, CROMs, PROMs, PREMs, and review rules.	Clinician-endorsed pathway and indicator sets (policy enabler)	Clinicians' compliance when measures are clinically meaningful and professionally owned.		
Theme 3: Payment reform as a staged transition beyond activity-based reimbursement	Step 3: Payment reform must be studied for impact and sequenced using adequate management process.	Co-design and pilot outcome-informed reimbursement models (whether quality incentives or bundles) in selected conditions, with transparent risk adjustment, evaluation criteria, and dispute-resolution rules.	Study for impact analysis on each payment model (overcome a challenge) Define scale-up criteria after pilot evaluation, including indicators, risk adjustment, incentive rules, and dispute-resolution processes (overcome a challenge)	Providers will accept incentives if pilots start with learning, transparency, and risk adjustment rather than punishment.	Risk selection, under-provision, coding intensity, and payer-provider mistrust.	
		Pilot outcome-informed reimbursement in selected conditions before scaling penalties or bonuses.	Pilot contracts with transparent evaluation and dispute-resolution rules (overcome a challenge)			
Theme 4: Patient-reported value as an institutionalised component	Step 4: Patient value must be operationalised through benchmarked measures and appropriate feedback mechanisms	Embed benchmarked PROMs and PREMs in routine care pathways, patient portals, language adaptations, and feedback dashboards.	PROM/PREM completion workflows and feedback loops (policy enabler to overcome a challenge)	VBHC will not be patient-centred unless patient-reported data influence care and purchasing decisions.	VBHC becomes a provider-payer KPI exercise rather than a patient-centred reform.	

Most discussion on VBHC argues that its main effect is to offer a comprehensive explanation for the decline in health expenditure; however, the ToC indicates that the primary impact should be enhanced alignment among outcomes, costs, and reimbursement, potentially leading to a reduction in low-value care and health expenditure, which is a hypothesis for future empirical validation. The model's logic is that Dubai's existing VBHC-related assets can generate system-level value only if implementation follows a staged pathway: (i) agreeing common data definitions, audit rules, risk-adjustment methods, and data-sharing governance; (ii) co-designing condition-specific pathways and outcome measures with clinicians; (iii) piloting outcome-informed

reimbursement before applying strong financial penalties or incentives; and (iv) embedding patient-reported outcome and experience measures into routine care and feedback systems. The expected early outcomes are therefore intermediate implementation achievements rather than indicators of full VBHC maturity: improved data accuracy, agreed outcome measures, enhanced stakeholder understanding, initial adoption of outcome-linked reimbursement in pilot settings, interoperable data systems, provider alignment with patient-centred care, and routine patient follow-up data.

Accordingly, the ToC is best understood as a programme theory linking stakeholder-identified implementation conditions to plausible pathways of change. It does not treat data governance, clinician engagement, payment reform, and patient-reported measurement as isolated policy components, but as mutually dependent conditions that shape whether VBHC can be implemented credibly in Dubai. The model suggests that implementation is likely to be weakened when these conditions are misaligned: unreliable or poorly governed data may undermine benchmarking and intensify payer-provider disputes; limited clinician ownership may reduce standardised pathways to administrative compliance; premature financial incentives may encourage risk selection, coding intensity, or mistrust; and weak integration of PROMs and PREMs may shift attention away from patient-defined value towards institutional performance indicators. The ToC therefore provides an empirically informed explanation of implementation sequencing, identifying the assumptions, dependencies, and risks that should guide future VBHC pilots and evaluation in Dubai. This interpretation aligns with the revised manuscript's framing of the ToC as a staged implementation model grounded in stakeholder accounts and connected to the four analytical themes.

4.2. Contribution from literature

Assessing the proposed ToC model against Dubai's healthcare landscape shows clear alignment with the study findings and the broader VBHC literature, including Porter and Teisberg's foundational work in *Redefining Health Care* [10]. The emphasis on data and technology as key enablers reflects a core VBHC principle: outcome data must be collected, analysed, and made transparent to improve patient care [5]. In Dubai, stakeholders likewise emphasised the need for reliable, interoperable data infrastructure to track outcomes, benchmark performance, and support clinical and financial integration. This reinforces the importance of investing in health information technology as a prerequisite for VBHC implementation [34].

"Stakeholders' engagement," as one of the inductive codes mapped to the second theme, aligns closely with Porter's argument that providers, patients, payers, and policymakers must work towards the shared goal of improving value and outcomes [5]. Dubai stakeholders highlighted the importance of training programmes and patient education initiatives to build awareness, foster collaboration, and prioritise patient outcomes and satisfaction [35]. Similarly, participants emphasised the need for clear government policy and regulatory frameworks, consistent with the literature showing that health systems struggle to move away from or modify DRG-based reimbursement without supportive policy direction [36].

The contests identified in Dubai, particularly those related to change management and cultural barriers, also align with the VBHC literature. Porter and Lee [25] describe the difficulty of shifting entrenched organisational cultures from activity- and case-based reimbursement toward outcome-informed purchasing. Dubai participants similarly emphasised the need for leadership, strategic vision, accountability, and structured change management to support this transition [37, 38]. Because engagement is central to overcoming resistance to change [39], this finding is particularly relevant where cultural barriers remain significant.

The EJADAH initiative's training activities aim to raise awareness among stakeholders, particularly patients. Population health programmes can further strengthen patients' understanding of value, but their effectiveness depends on appropriate IPU and care delivery value chains for each medical condition [40, 41]. These programmes also require integrated digital systems that enable accurate data exchange and organisational learning. As Dubai's central health information exchange platform, NABIDH is central to this function, but its value depends on interoperable systems across providers and payers.

The ToC model also underscores the importance of hospital leadership buy-in, transparent outcome reporting, and payment reform. Quality incentives can be applied only when stakeholders agree on measurable outcomes tied to consumables, preventive care, provider qualifications, and multidisciplinary care. Although participants identified policy and roadmap development as key needs, these should be treated as the final outputs of an action plan that uses enablers to overcome barriers. Overall, the ToC model should be treated as a context-specific programme theory for sequencing VBHC pilots in Dubai. Its assumptions require empirical testing before the model can be used as the basis for wider policy adoption.

4.3. Strengths and limitations

The mechanisms extend existing VBHC literature in three ways. (i) They show that stakeholders experience data quality as a governance and trust issue, not merely as a technical infrastructure gap. (ii) They show that clinical standardisation can enable VBHC while also threatening professional autonomy if introduced as payer-led compliance. (iii) They suggest that payment reform in Dubai should be framed as a movement from activity- and case-based purchasing toward outcome-informed purchasing, rather than as a simple replacement of fee-for-service.

The results of reviewing the literature against the proposed ToC should also be interpreted with caution. VBHC may not reduce expenditure if outcome measurement generates new administrative costs, if providers code more intensively, or if incentives encourage avoidance of complex patients. Pay-for-performance schemes have historically produced mixed results, particularly where measures are narrow or incentives crowd out professional motivation. A Dubai VBHC policy should therefore avoid assuming that financial incentives alone will improve value. It should prioritise risk adjustment, auditability, patient-reported outcomes, and safeguards against gaming.

Nevertheless, the study did not include patients or family members. Therefore, the findings on patient-reported value are based on stakeholders' perspectives rather than direct patient accounts. Future research should examine how patients in Dubai define value, how they experience the collection of PROMs and PREMs, and whether patient-reported measures influence care decisions.

5. Conclusions

This study examined how healthcare stakeholders in Dubai understand the conditions required for implementing VBHC in a mixed public-private health system. The findings suggest that Dubai has several important assets for VBHC development, including regulatory attention to quality, condition-specific KPI development through EJADAH, NABIDH, and experience with DRG-based reimbursement. However, the central finding is that these assets do not automatically produce value-based care. Their contribution depends on whether they are connected through a credible sequence of governance, measurement, clinical engagement, payment reform, and patient-reported value.

This study's main contribution is to reconceptualise VBHC implementation in Dubai as a phased system transformation, rather than merely adopting isolated technical tools. Stakeholder insights highlight that trustworthy data is essential for credible outcome measurement. Clinically valid measures are necessary before providers embrace standardised pathways. Payment reform depends on risk adjustment, transparency, and staged pilot testing. Additionally, patient-reported outcomes and experience measures must be integrated early on to ensure VBHC remains centred on patient value. Without this proper sequencing, VBHC risks becoming a performance-management exercise for providers and payers rather than a true patient-focused reform.

The proposed ToC offers a context-specific programme theory for moving from readiness to implementation. It identifies the assumptions, dependencies, and risks that should guide future VBHC pilots in Dubai: data must be comparable and governed fairly; clinicians must be involved in defining pathways and exceptions; outcome-linked reimbursement should begin through evaluated pilots rather than immediate system-wide mandates; and PROMs and PREMs should be built into routine care pathways, dashboards, and purchasing decisions. This provides a practical but testable foundation for policy development.

Future research should move beyond stakeholder perception and examine the implementation of this programme theory in selected clinical conditions. Mixed-methods and longitudinal studies may be needed to assess whether outcome-informed reimbursement changes provider behaviour, improves patient outcomes, reduces unwarranted variation, protects equity, and reduces expenditure over time. Further research should also include patients and families directly, since patient-reported value cannot be fully understood through system stakeholders alone. Comparative studies across the UAE and other regional health systems could clarify which elements of VBHC implementation are context-specific and which may be transferable across Middle Eastern health systems.

Abbreviations

COREQ
Consolidated Criteria for Reporting Qualitative Research
CROM
Clinical reported outcome measure
DHA
Dubai Health Authority
DRG
Diagnosis-related group
EJADAH
A unified set of clinical pathways, guidelines and KPIs developed by DHA.
GDP
Gross domestic product
IPU
Integrated practice unit
KPI
Key performance indicator
NABIDH
Network and Analysis Backbone for Integrated Dubai Health
NVivo
Qualitative data analysis software used to organise coded data
OECD
Organisation of Economic Co-operation and Development
PREM
Patient-reported experience measure
PROM
Patient-reported outcome measure
ToC
Theory of change
UAE
United Arab Emirates
USD
United States Dollars

Declarations

Ethics approval and consent to participate

- The authors declare that this study involved Human Participants and was planned, conducted, and reported in accordance with the World Medical Association (WMA) Declaration of Helsinki and using the Consolidated Criteria for Reporting Qualitative Research (COREQ)
- The ethical review application for this study was reviewed and approved by the Research Ethics Committee of the Department of Health Policy in the London School of Economics and Political Science (application reference number 377180).
- All individuals who participated in the study or provided information gave written informed consent prior to their participation.

Consent for publication

Not applicable. No identifiable individual participant data are presented. Participants consented to the use of anonymised interview data in research outputs

Availability of data materials

The datasets generated and/or analysed during the current study are available (after removing all personal identification information) in a cloud folder ("Generated and analysed dataset"), which can be accessed at: Generated and analysed dataset

Competing interests

The authors declare no Conflicts of Interest.

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Authors' Contribution

YE contributed to conceptualisation, data collection, data curation, formal analysis, investigation, methodology, project administration, validation, visualisation, and writing (original draft, review & editing). SA contributed to data collection, data curation, formal analysis, investigation, methodology, supervision, validation, and writing (review & editing). All authors read and approved the final manuscript and are accountable for their contributions. The corresponding author is the one who takes primary responsibility for communication with the journal during the manuscript submission, peer review, and publication process.

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Both authors hold master's degrees in health policy from the London School of Economics and Political Science, Department of Health Policy. They are clinicians by background and have practised in clinical settings as well as in health administration and consulting in Dubai, UAE, for the past decade.

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Figures

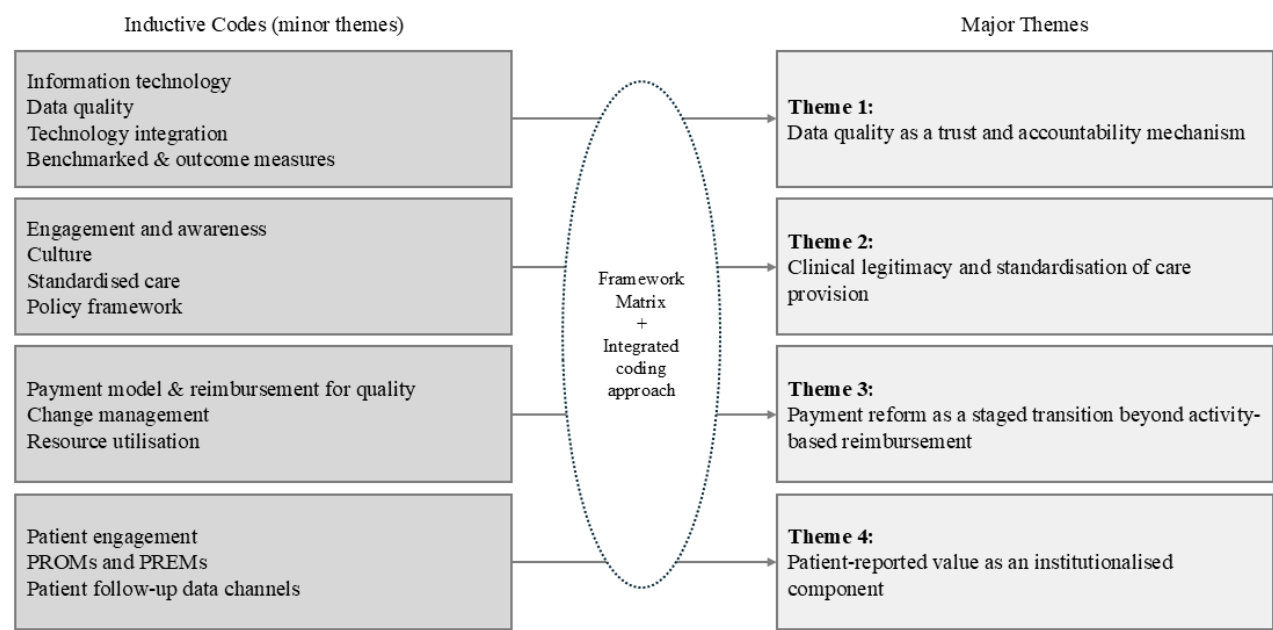


Figure 1

Mapping inductive codes to major themes

The illustration shows how inductive codes from stakeholder interviews were combined into four analytical themes using an integrated deductive-inductive coding approach and a framework matrix. These themes represent implementation mechanisms rather than ranking enablers and barriers: data quality as a trust- and accountability-building mechanism; clinical legitimacy and standardisation of care; payment reform as a phased transition away from activity-based reimbursement; and patient-reported value as an embedded element of VBHC.

Supplementary Files

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