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ISPOR Report

Applying Health Economics and Outcomes Research Methods in Value-Based Healthcare Implementation: An ISPOR Special Task Force Report

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ABSTRACT

Objectives: Value-Based Healthcare (VBHC) aims to improve patient outcomes relative to the costs of delivering care; yet, its implementation has often evolved separately from the methodological rigor of Health Economics and Outcomes Research (HEOR). This ISPOR Special Task Force report provides good practice recommendations for integrating HEOR methods into VBHC implementation to enhance analytic transparency, patient-centeredness, and value measurement across healthcare systems.

Methods: A mixed-methods approach combined a targeted literature review (109 studies), semistructured interviews with 24 international experts, and a structured survey of a 9-member Expert Advisory Board. The review covered conceptual, white, and empirical articles exploring intersections between VBHC and HEOR, whereas qualitative inputs identified methodological gaps and opportunities for synergy.

Results: Two-thirds of empirical VBHC studies applied HEOR methods—primarily cost analyses—yet, comprehensive economic evaluations were rare. Experts emphasized that HEOR's strengths in incentive design, costing methodologies, and outcomes evaluation could advance VBHC implementation. Conversely, VBHC's focus on patient-centered outcomes can help HEOR evolve toward greater relevance and impact. The Special Task Force developed actionable recommendations and an "IMPACT" checklist to guide the integration of HEOR methods into VBHC design, implementation, and evaluation.

Conclusions: HEOR provides a robust methodological foundation for VBHC by improving measurement of outcomes, costs, and value across care pathways. Aligning these disciplines can foster transparent, evidence-based, and patient-centered healthcare transformation and supporting sustainable, high-value health systems worldwide.

Keywords: health economics and outcomes research, value-based healthcare.

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Highlights

- Value-based healthcare (VBHC) and health economics and outcomes research (HEOR) have evolved largely independently. Despite advances in both fields, the implementation of VBHC remains challenging and subject to heterogeneous experimentation, mainly because of variability in how outcomes, costs, and value are defined and measured.
- Although the majority of empirical VBHC studies applied some form of HEOR methods, primarily cost analyses, comprehensive economic evaluations were rare. HEOR's strengths in incentive design, costing methodologies, and outcomes evaluation can advance VBHC implementation. Conversely, VBHC's focus on patient-centered outcomes can help HEOR evolve toward greater relevance and impact.
- Aligning HEOR and VBHC can foster transparent, evidence-based, and patient-centered healthcare transformation and supporting sustainable, high-value health systems worldwide.

Introduction

Around the world, healthcare systems are facing significant challenges in addressing ever-increasing spending while looking to improve the health of populations and individuals by tackling inequities in access and unexplained variation in outcomes achieved.[1,2] The burden of disease is rising, driven by aging populations and noncommunicable diseases, such as depression, heart disease, and obesity becoming more prominent everywhere also in younger populations. Preventative, disease modifying, and sometimes curative interventions are developed at increasing pace and promise better health outcomes, often at increasing cost. In response, there is growing interest in refocusing healthcare delivery and decision making around patient outcomes to improve effectiveness and efficiency of care and reduce inequalities in the outcomes of care.[3] This strategy, often referred to as value-based healthcare (VBHC), is characterized by healthcare delivery and decision making centered around patient outcomes over the costs needed to deliver these across a cycle of care.[4,5] It offers a promising approach by prioritizing patient- and family-centered outcomes, rather than cost-reductions, and argues that better health outcomes promote long-term economic sustainability.[6] VBHC implies that incentives are redirected from rewarding volume of healthcare services to the value of care delivered from the perspective of patients and society.[7]

As VBHC has grown in popularity at the policy and local level, it has done so independently from the field of health economics and outcomes research (HEOR). However, achieving the goals laid out by VBHC requires robust tools and methodologies, such as those provided by HEOR and implementation science. According to ISPOR HEOR considers effectiveness, cost, and health-related

quality of life to equip decision makers with the information needed to make choices that benefit as many people as possible.[8] HEOR is often used in the context of health technology assessment (HTA), a multidisciplinary process that uses explicit methods to determine the value of a health technology at different points in its lifecycle. The purpose is to inform decision making around price, coverage and reimbursement of health technologies to promote an equitable, efficient, and high-quality health system.[9]

VBHC primarily focuses on "outcomes that matter to patients," prioritizing patient-centered measures that directly reflect the experiences and priorities of individuals receiving care. In contrast, HEOR encompasses a broader scope, evaluating impacts on patients, healthcare systems, and society more broadly. Although both frameworks share an emphasis on improving healthcare outcomes, VBHC is centered on optimizing benefits specifically from the patient's perspective across the entire care continuum, whereas HEOR serves as an array of methodologies (eg, comparative effectiveness research, economic evaluation) to evaluate a wider range of healthcare impacts for diverse stakeholders.

Several international organizations, such as the Harvard Business School or the World Economic Forum have produced foundational frameworks to understand VBHC and the elements needed for its successful application.[4,10] Others, such as the European Commission, have provided positions on defining value in VBHC[11] and organizations, such as the International Consortium for Health Outcomes Measurements, have significantly progressed the VBHC field by setting global standards for outcomes measurement. On the cost side, the Time-Driven Activity-Based Costing Consortium has recently been formed to introduce standardized frameworks to measure costs for specific clinical conditions worldwide.[12,13] Regarding implementation, there has been widespread reporting of local VBHC programs and the benefits they have driven, such as the Martini Klinik in Germany, Diabeter in The Netherlands and Saudi Arabia, or the Basel University hospital in Switzerland. At the national level, VBHC inspired national policies are on the rise with countries such as Australia, Wales, and Singapore making great strides toward adopting a "High-Value Care" agenda at scale.[14]

Despite the advances of these organizations, the implementation of change in healthcare, including VBHC concepts, remains challenging and subject to heterogeneous experimentation,[15-26] mainly due to variability in the understanding of the term "value" between societies; some societies focus on thorough cost-effectiveness evaluations, whereas others view value in terms of improved quality at fixed expenditures (eg, out-of-pocket costs). The concept of a VBHC framework by Porter et al[4] introduced a common language around value to unify goals achieved through health policy reform and through health system transformation.[27] This framework was further articulated in Porter's 2010 article *"What is Value in Health Care?"*[28] and reinforced by clinicians such as Lee in *"Putting the Value Framework to Work."*[29]

This approach emerged alongside widespread recognition that the US health system faced structural deficits in quality, cost, and patient outcomes. The National Academy of Medicine catalyzed this recognition in its landmark report *Crossing the Quality Chasm* (2001)[30] and continued to shape the dialog through workshop proceedings such as *Value in Health Care: Accounting for Cost, Quality, Safety, Outcomes, and Innovation*[31] and *The Healthcare Imperative: Lowering Costs and Improving Outcomes*.[32] These reports echoed the need for improved evidence, coordinated care delivery—and aligned incentives—concepts now central to value-based healthcare. Subsequent policy initiatives, such as the Alternative Payment Model Framework, developed through the Health Care Payment Learning and Action Network under the guidance of Centers for Medicare and Medicaid Services (CMS) Innovation Center (CMMI), provided practical pathways for operationalizing the value agenda across public and private payers.

This manuscript explores the intersection of VBHC and HEOR, highlighting their potential synergies and proposing actionable recommendations to improve VBHC implementation practices. ISPOR is in a unique position to address these points and, in doing so, enhance healthcare systems' understanding of VBHC as a strategy to improve their effectiveness and resilience. This dovetails with ISPOR's new Vision and Strategic Plan 2030, which seeks to expand the definition and use of value in decision making, taking a "Whole Health" perspective and elevate the perspective of HEOR from single technology assessment to health systems. Closer involvement and engagement of HEOR in VBHC is an important opportunity to achieve that vision.

Problem Statement

As large-scale VBHC initiatives are adopted around the world, they aim to align care delivery with how people are helped and supported to improve health. This contrasts with care delivery aligned to the performance of facilities, how medical specialties are defined, or how current reimbursement (eg, fee-for-service) and resource allocation work. When care delivery is structured around improving health, there is a whole new array of potential opportunities to offer high-value care at scale. However, there is a need for tools and methods to assess the change brought by VBHC initiatives. To do so requires a common understanding of the determinants of value, how to measure outcomes and costs, and what tools should be deployed in the pursuit. On the one hand, HEOR can play a critical role in identifying those initiatives which deliver better outcomes and sustainable costs. On the other hand, HEOR can provide the information needed by decision makers to effectively drive healthcare system innovation toward VBHC. To do so requires a clearer role of HEOR in relation to VBHC implementation, which this manuscript will attempt to provide.

One overlooked opportunity for synergy between HEOR and VBHC is the identification and mitigation of "defects in value,"[33-35] that is, avoidable sources of waste, harm, inequity, and inefficiency that detract from overall system performance. Defects in value often arise from misaligned incentives, outdated workflows, and lack of outcome transparency. HEOR tools, including cost-effectiveness analysis, budget impact modeling, and return-on-investment frameworks, can be used to quantify the burden of these value defects and evaluate the impact of redesign strategies aimed at eliminating them.

This ISPOR Special Task Force (STF) worked to deliver guidance on good practices in VBHC implementation, as well as methodological guidance on how to effectively use existing HEOR tools to drive VBHC initiatives forward. VBHC implementation seldom considers state-of-the-art HEOR tools and there is little mention of the field in published HEOR literature. Conversely, HEOR advances are often not communicated in a way that is available and relevant for VBHC practitioners; therefore, a bridge is needed. In addition to concrete recommendations, we developed an "IMPACT" framework that may help VBHC practitioners using the tools and experiences of HEOR experts in the design and implementation of VBHC projects.

The scope of this ISPOR STF Report is to pragmatically synthesize existing literature with expert perspectives into consensus-based recommendations, building upon existing work

including that of other ISPOR groups (eg, task force on the use of health preference research to inform decision making). It takes as a starting point existing definitions (without explicitly adjucating between them), insights and learnings from experiments in VBHC.[15-26] Themes such as the development, verification, and validation of consensus outcomes standards, which is central to the work of organizations such as International Consortium for Health Outcomes Measurements and the Core Outcome Measures in Effectiveness Trials Initiative, are already addressed by other organizations and therefore will be excluded in this report.

Methods

We undertook a pragmatic mixed-methods approach to identify academic and practitioner viewpoints of where HEOR methods and concepts intersect with VBHC, including a targeted literature review, semistructured interviews with key experts, and an Expert Advisory Board survey with selected experts. This multifaceted approach allowed us to compile a robust catalog of insights, which informed the development of our good practice recommendations.

We adopted the Porter-Teisberg definition of VBHC as a conceptual framework for our approach, which defines value as a function of the change in health outcomes achieved per incremental cost. This model has been extended and operationalized in various settings. For example, Teisberg et al[6] proposed a strategic implementation framework focused on care delivery redesign and outcome measurement. National scale efforts, including the Health Care Payment Learning and Action Network Alternative Payment Model framework and initiatives by the National Academy of Medicine, have likewise advanced value-based transformation by supporting multipayer alignment, promoting care equity, and embedding continuous learning into healthcare delivery systems.[36-38]

Literature Review

The main objective was to synthesize salient (although not necessarily exhaustive) knowledge across the VBHC and HEOR domains, to better understand their interplay. Three types of articles were considered for inclusion:

(1) Conceptual articles discussing and comparing VBHC and HEOR: these were included to provide relevant background information and understanding of conceptual similarities and differences between VBHC and HEOR.
(2) White articles on VBHC implementation and evaluation: these were included to provide the relevant context and understanding of current (best) practices and challenges in implementing and evaluating VBHC to which HEOR might potentially provide helpful approaches, methodologies, or insights (and vice versa).
(3) Empirical articles reporting outcomes of (implementation of) specific multicomponent VBHC interventions: these were included to understand what specific research methods and outcomes were used and reported on in peer-reviewed articles describing the results of specific multicomponent VBHC interventions.

PubMed (for empirical and conceptual articles) and Google (for white papers) were searched for articles published after the year 2000 to capture a sample of articles that describes research methods and outcomes of both mature and more recent VBHC interventions. The searches were performed between September 2022 and September 2023.

For conceptual and white papers, we used relevant articles known to the STF members as a starting point for bibliographic and citation searches.[4,39-43] For empirical articles, rather than developing and performing a de novo systematic review which was out of scope for the purpose of this report, we included a subset of articles from 2 comprehensive systematic reviews[44,45] that were recently published at the time of starting this special taskforce and that contained the type of empirical studies we were aiming to review. The subsets included articles reporting on the application (rather than concept or development) of multi- (rather than single-) component VBHC interventions[19] and bundled-payment type (rather than simple pay-for-performance) VBHC models[20] to reflect more comprehensive and integrated VBHC interventions.

Separate data extraction forms were developed for each type of article. Data were extracted by 5 authors (J.G., H.M., E.L., F.G., and L.S.) and recorded in Excel®.

For empirical articles, a data extraction form was implemented in SurveyMonkey (by K.L.). Examples of data extracted from empirical articles include the VBHC components of the intervention, design of the study, whether and what specific types of outcomes (eg, clinical outcomes, patient-reported outcomes) and costs (eg, medical costs, patient costs, productivity costs) were measured, and whether any form of HEOR was applied (albeit not necessarily called as such, eg, a comparative analysis of costs and effects.). The data extraction form is provided in Appendix Table 1. Results of empirical articles were analyzed descriptively (see Figs 1 and 2).

For the conceptual and white papers, the main data extracted were the key insights reported (open text). These data were analyzed qualitatively based on deliberation between the authors.

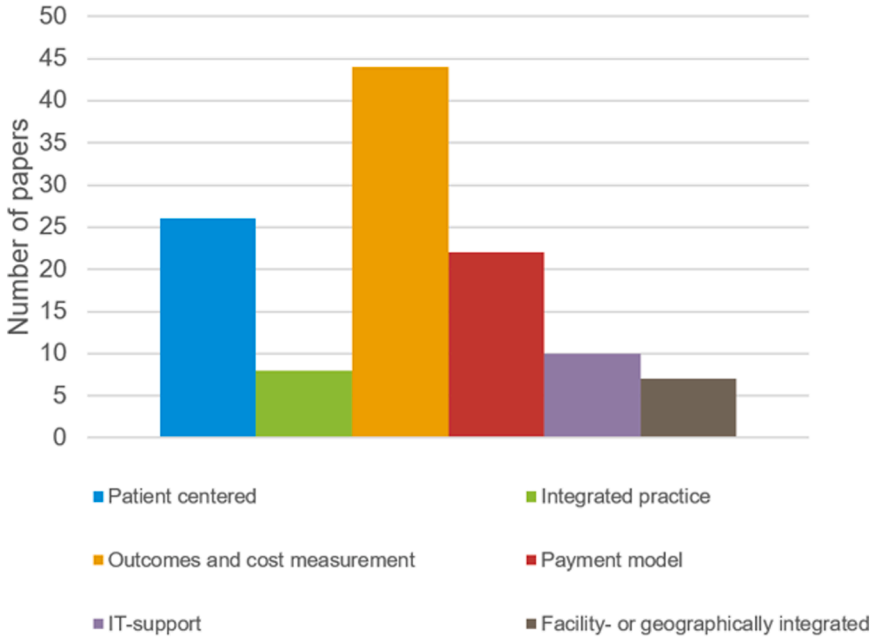
Expert Interviews

Interviews were held with a range of experts from various backgrounds, such as academia, clinical decision makers, government decision makers, pharmaceutical professionals, trade association representatives, and management consultants, from various geographies, including Brazil, Belgium, Malaysia, The Netherlands, Portugal, Spain, Sweden, Switzerland, the United Kingdom, and the United States. The interviews were semi-structured to allow for an exploratory dialog with stakeholders while intending to gather qualitative insights into concepts, problems, and opportunities for HEOR to support the implementation of VBHC. All interviews were conducted by 2 authors (1 interviewer and 1 note-taker), using a topic guide and data extraction form (open text). The main topics included, but were not limited to, the following: patient centricity, measurement of costs and outcomes, leadership, benchmark and growth, managing on value, VBHC and HTA, and implementation.

Expert Advisory Board

A group of 9 experts was invited by the STF based on their (1) topical knowledge, (2) previous publications and communications about the topic, (3) global (geographic) representation, (4) availability to respond to inquiries by the STF. The objective of the Expert Advisory Board was to hone the shared principles between VBHC and HEOR, such as evidence-based decision making and patient-centered outcome measurement, while also identifying areas where their frameworks diverge. Advisory Board experts were then surveyed for their agreement with a set of draft recommendations using a 5-point Likert scale (1 = strongly disagree; 5 = strongly agree), as well as open text to provide further comments and suggestions. Based on the responses we

Figure 1. Components of VBHC interventions in empirical articles.



refined the recommendations on the use of HEOR to support VBHC implementation, as well as learnings from VBHC that HEOR should consider in supporting its implementation.

Results

Literature Review

We included 109 articles, of which 10% conceptual articles, 29% white papers, and 61% empirical articles. This comprehensive review brought to light the intersection of VBHC and HEOR, or lack thereof. It also highlighted areas requiring further exploration to refine the methodologies that support effective healthcare delivery/outcomes assessment. A summary of evidence is provided below and further interpretation thereof in the following sections.

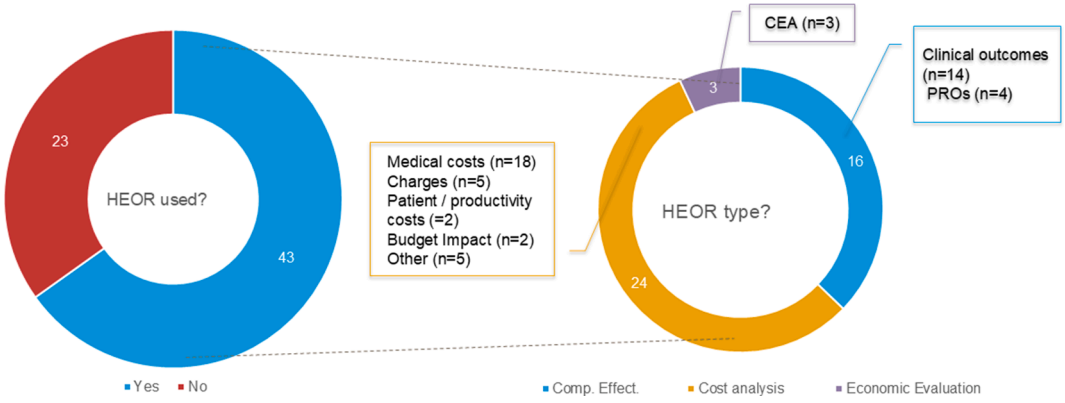
The most common components of the VBHC initiatives reported in empirical articles are cost and outcomes measurement, patient centeredness, and the presence of a payment model, such as bundled payments (Fig. 1). VBHC-enabling IT-platforms, practice units integrated around a medical condition, and integration of services across facilities or geographic areas are less frequently reported.

About two-thirds of the empirical articles report using some form of HEOR (Fig. 2). For the majority this involves some form of cost analysis, followed by comparative effectives analysis. A small number of articles include an economic evaluation in the form of a cost-effectiveness analysis.

Interviews

A total of 24 interviews were held. Characteristics of interviewees (ie, professional background, organization, and

Figure 2. Usage of HEOR and types of costs and outcomes measured in empirical articles.



Note the number of articles adds up to >66 because some articles report on >1 type of HEOR method.

country) are shown in Appendix Table 2. Below we describe the results structured by the main topics discussed.

Topic 1: Bridging VBHC and HEOR: the role of methodologies and evidence

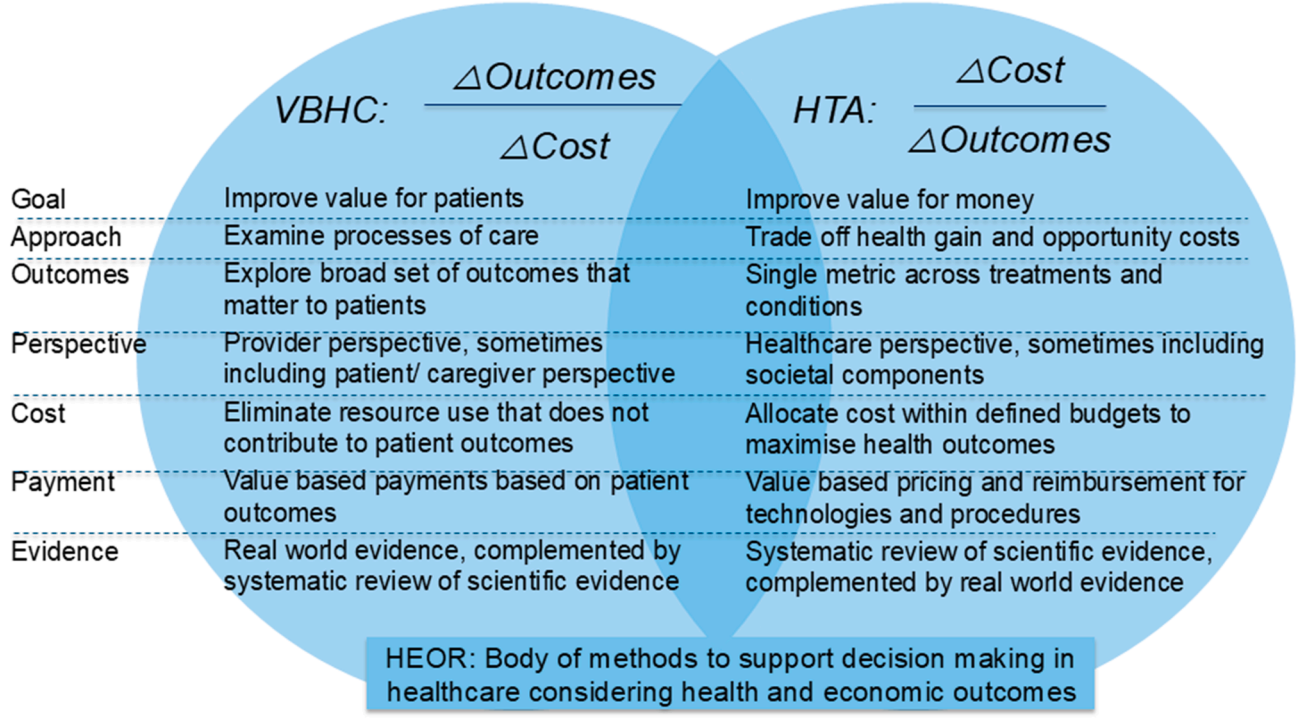
The fields of VBHC and HEOR have developed largely independently. Although HEOR provides a body of tools and methods to support the assessment of outcomes and costs, VBHC practitioners often consider HEOR to be primarily targeted toward HTA, resource allocation, pricing and coverage. It was acknowledged that HEOR methods could be utilized more broadly if they were described and applied in full cycles of care rather than from a technology perspective. At the same time experts interviewed in this study noted that VBHC has developed their own sets of methods that could also be used in HEOR/HTA. They emphasize that VBHC prioritizes improving value for patients, placing it in the numerator, whereas HTA focuses on value for money, placing the cost in the numerator (see Fig. 3). "Outcomes" in VBHC are very specifically focused on those that "matter to patients," whereas HTA takes a broader perspective of "impact for patients, healthcare and society" that considers outcomes from the perspectives of clinicians, providers and carers, family members, and the broader population.

VBHC achieves its goal by examining and optimizing processes of care across the full course of treatment. The objective is to achieve better health outcomes, reduce complications and avoid unnecessary procedures (waste), all of which often result in lower costs. Although this can include the introduction of new technologies and structures of care, the focus is on improving patient outcomes in an existing setting. HTA makes allocation decisions about whether to cover and pay for new technologies, processes, and procedures, and must consider them in the context of other treatment options across all conditions. Both VBHC and HTA require consideration of opportunity cost, and the tradeoffs between current and future treatment options in the face of uncertainty around long-term outcomes and cost.

VBHC considers outcomes to be multi-faceted and meaningful in patients' and families' lives, during and after the full care pathway. These measures can range from disease specific outcomes (eg, 5-year survival, readmissions) to universal measures of quality that incorporate considerations for equity, efficiency, etc (eg, waiting times, accessibility, and satisfaction). On the other hand, HTA typically aggregates health gains (for patients and recently also caregivers) into a composite measure of survival and health-related quality of life (ie, health utility) such as quality-adjusted life-years (QALYs) and disability-adjusted life-years, which facilitate direct comparisons between different health conditions and technologies for the sake of resource allocation within predefined risk pools. However, these standard measures of clinical effectiveness may miss other meaningful outcomes, such as ability to work, social functioning, and caregiver burden. In chronic disease or disability contexts, patients may prioritize stability and support rather than traditional clinical improvements, which translate into a value framework that varies from conventional approaches to CEA.

One promising development to address these gaps in the measurement of clinical effectiveness is the concept of Patient-Centered Core Impact Sets (PC-CIS),[46] proposed by portion of ISPOR's constituency. PC-CIS expands beyond traditional Core Outcome Sets to include a wider range of patient-prioritized impacts, such as financial strain, emotional well-being, social participation, and caregiver effects, which are often omitted in economic evaluations. Integrating PC-CIS into HEOR frameworks can help better align assessments with the outcomes that matter most to patients, thus enhancing the relevance and legitimacy of VBHC to HEOR as a multidisciplinary science Notwithstanding the relevance of patient preferences in HEOR, cost-effectiveness analyses—a subset of HEOR often used to inform HTA—consider population preferences in healthcare budget allocation decisions,

Figure 3. Commonalities and differences between VBHC and HTA and the role of HEOR.



whereas VBHC appropriately focuses on patient preferences and experiences with healthcare delivery.

In VBHC, the cost perspective is typically that of a healthcare provider/hospital or health system. HTA usually takes a healthcare sector perspective as defined by the US Panel on Cost-effectiveness in Health and Medicine, which encompasses transactional costs between the provider, payer, and patient, and can also include some societal components, such as out-of-pocket expenses. It considers the changes in resource use and cost of the segment of care affected by the respective treatment approach and ignores those costs that are presumed not affected.

VBHC and HTA both rely on evidence from clinical trials, observational studies, and real-world experience to ground their findings. VBHC typically starts from the actual clinical experience and complements this with randomized prospective studies using patient outcomes and scientific literature.[47,48] Although HTA is often conducted at the time when a new technology is introduced into clinical practice, in which most of the available evidence comes from pivotal clinical studies, the use of real-world evidence is increasing, eg, to construct external controls in case of accelerated approval based on single-arm studies, or "coverage with evidence development" approaches to reduce uncertainty around longer term outcomes.

Although recognizing that VBHC and HTA have different purposes, different inputs, and different scope of analyses, there are nonetheless commonalities: both approaches aim to improve the health of individuals and ensure the financial resilience of healthcare systems. VBHC and HTA promote transparency of what is happening within healthcare and improve accountability. In our work, we identified them as complementary in that improving outcomes that matter to patients should be the primary objective of any endeavor in healthcare while understanding how to optimize collective investments in healthcare is a critical means to achieve this objective in constrained financial environments.

Topic 2: What can HEOR contribute to the implementation of VBHC?

(1) Incentive Design and Payment Models

A transition to VBHC implies that we not only transform healthcare delivery but also evolve incentive structures so that they reward the desired transformation. Perhaps given VBHC's focus on care delivery and implementation, we found limited crossover between VBHC and HEOR in our literature review; yet, we identified a number of areas where HEOR could support a role for VBHC in guiding the design of novel incentive structures.

- HEOR to identify incentives that enable value-based healthcare delivery: coupled with analyses of the new incentive structures that VBHC innovators are using, HEOR's strengths in incentive design could have powerful contributions to VBHC.
- Learnings from HEOR and outcomes-based payment models: recognizing the need for structural innovation (integrated practice units, care solutions designed to remove current silo boundaries, etc), HEOR can provide methodological guidance on incentives design and learnings from real-world experience on outcomes-based contracting. HEOR can also model the breakeven points where incentives (eg, pay-for-performance, alternative payment models) should kick in to remain sustainable for health system design.
- HEOR thought leadership and incentive design: Lastly, the HEOR community, through its thought leadership, could accelerate the adoption of value-based incentives by joining forces with VBHC leaders in engaging policymakers to create the needed changes in structures and in resource allocation.

(2) HEOR and VBHC supporting Cost Analysis and Transparency

As seen in the literature, much of the implementation of VBHC has centered around outcomes measurement and subsequent improvements but less attention has been given to value-based costing in publications. Leveraging HEOR methods to expand the methodological toolkit and standardize its deployment for simplicity and user-friendliness can enable broader implementation of value-based costing. Of note, we did not conduct a specific literature search for healthcare accounting journals where several of these examples may be published.

- HEOR techniques for comprehensive cost analysis in VBHC: HEOR techniques can facilitate understanding of the cost of entire care cycles (eg, HEOR microcosting techniques can give cost insights into specific procedures, personnel time, and resources in a given pathway). Also, comparison of microcosting with Time-Driven Activity-Based Costing analyses would be helpful to uncover similarities and differences and seek to define a common set of useful standards to deploy across both fields of research.
- Transparency on costs, charges, and prices: VBHC analyses are often conducted from the perspective of the respective facility or healthcare system. Being clear on the relevant cost perspective is important because in healthcare, costs, charges, reimbursements, and prices are often mistakenly discussed as one and the same.
- Establishing trust: measuring accurate cost information and making it transparent increases trust. With the holistic patient perspective of VBHC covering the full cycle of care, we could achieve better alignment on priorities and targets across stakeholder groups for the benefit of patients and system performance. This lays the basis for agreements on reimbursement strategies with payers, suppliers, etc.

(3) Enhancing Methods and Data in VBHC through HEOR

HEOR frequently uses the QALY as a single index of health utility that combines the key outcomes duration and quality of life. As a result, HEOR analysis may miss other meaningful patient outcomes and experiences. Quite often, these variables are averaged thereby masking important differences between segments of patients. There are multiple areas of synergies between VBHC and HEOR:

- HEOR can bring rigor to VBHC methods to enhance the granularity, precision and ultimately credibility of outcomes and experiences specific and important to different patient populations (eg, looking at the HEOR academic literature on preference studies). For example, comparing a value-based outcomes measurement in inpatient care (eg, 30-day readmission) is not comparable to a value-based outcomes measurement in chronic disease management (eg days of work missed).[49] The development of universal measures of patient preference in HEOR, such as QALYs, offer apples-to-apples comparisons of separate health interventions between cohorts and settings.
- There is, however, some pushback to the use of these universal measures of health utility in VBHC based on the lack of sensitivity of QALYs for patients with disabilities.[50] As a result, major programs investing in VBHC including the Patient-Centered Outcomes Research Institute and the Medicare Drug Price Negotiation Program are funded under legislative mechanisms that prohibit the use of QALYs.[51,52] Notwithstanding

this, VBHC can leverage HEOR methods to develop measures of health utility and clinical effectiveness that are representative to a broader spectrum of stakeholders.

Although this report aimed to emphasize how HEOR methods can support VBHC implementation, VBHC can help expand the integration of patients' perspectives into the discipline of HEOR and can complement value measures, such as those included in a QALY. Integration can particularly benefit emerging HEOR methods that incorporate multiple value elements into HTA (besides simply costs and QALYs) that decision makers can weigh based on the preferences of the local communities they serve, for example, Generalized Risk-Adjusted Cost-Effectiveness, which is a method in economic modeling that aims to reduce some shortcomings of the QALY, and introduces nonconstant returns in health in the creation of utility, as well as controls for non-risk-neutral decision making (eg, incorporating value of hope, insurance value, disease severity, and health equity); Health Years in Total, which is a utility measure that also incorporates health equity; Equal Value of Life Years Gained, which intends to overcome equity issues in use of the QALY by providing all patients equal QALY values; and Multi-Criteria Decision Analysis (MCDA), which assesses value using mixed-methods.[53]

Survey

All 9 advisory board experts completed the survey on the proposed recommendations, with no items skipped. The range of average scores per recommendation ranged between 4.00 and 4.33 showing strong agreement with each individual recommendation. Aggregated across the set of recommendations, respondents' "agreement" and "strong agreement" averaged 86% (range 78%-89%) showing limited variability in responses. Table 1[54] shows the resulting STF's recommendations for HEOR to support VBHC implementation.

Discussion

This report explored that HEOR and VBHC (Fig. 3) have distinct, but related, objectives and paths, showing that there are synergies between the 2 that can be leveraged to (1) support the implementation of VBHC and (2) improve patient-centeredness of HEOR (and thus be more relevant to VBHC implementation). By recognizing the strengths of each approach, stakeholders can capitalize on the advantages provided by HEOR's methodological rigor and VBHC's patient-centric focus. This should ultimately result in enhanced patient outcomes while improving the sustainability and efficiency of health systems.

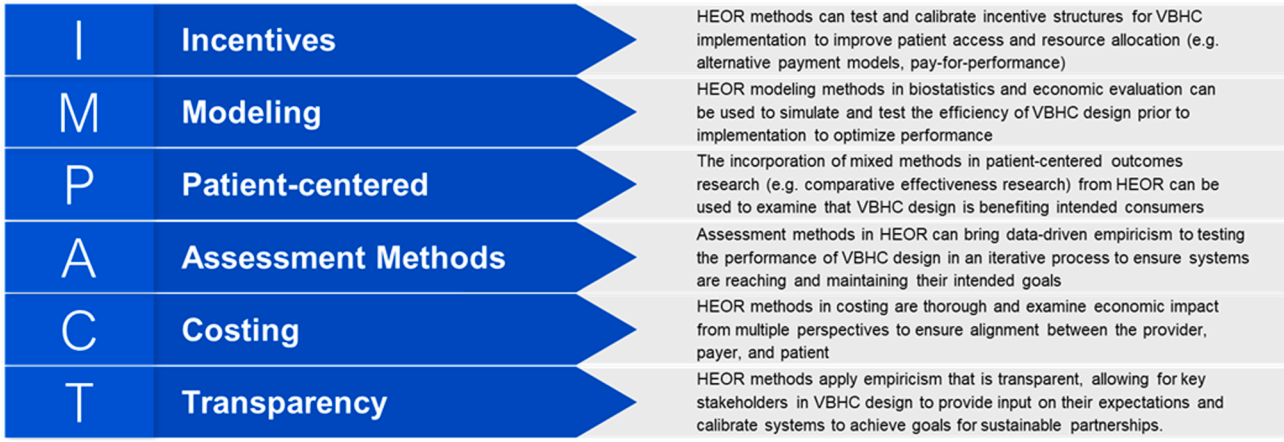
This STF report has several strengths and limitations. Importantly it integrated insights from the academic and gray literature with perspectives from a diverse group of senior experts engaged in VBHC design, implementation, and evaluation and/or HEOR. Its mixed-methods and consensus-based approach reflects the aim to synthesize knowledge and surface areas of convergence and disagreement and provide forward-looking guidance. The

Table 1. Recommendations.

(1) VBHC implementation can benefit from HEOR approaches to increase analytic rigor, transparency and consistency to its value assessment:
- (a) HEOR can support the development of standard outcome sets used in VBHC (eg, those of ICHOM), which aim to cover the full patient pathway, incorporation of PROMs/PREMs and support outcomes-based contracting.
- (b) Retrospective/prospective studies establishing a baseline measurement of outcomes and costs pre-implementation and compare with after implementation (and/or include a direct comparator), ensuring that changes are measurable and meaningful.
- (c) The cost perspective taken in VBHC (payer, provider, or societal) and the methodology used to estimate costs (eg, claims or financial data) should be clearly reported.
- (d) Experience from HEOR micro-costing and statistical cost-analysis techniques can help inform and complement the ongoing development of VBHC costing methods such as TDABC to provide detailed insights into specific resource use within treatment pathways, enhancing the understanding of costs throughout entire care cycles. This would also be valuable for HTA, especially with regard to the measurement of costs as part of outcomes-based contracts.
- (e) HEOR methodologies such as patient preference studies and multi-criteria-decision analysis (MCDA) can provide rigorous approaches to combine patient outcomes with cost considerations, without necessarily reducing outcomes and costs to a single metric, such as a quality-adjusted life-year (QALY).
- (f) VBHC can further address uncertainties in its evidence base with robust sensitivity analyses, particularly when results inform decisions about patient care pathways.
- (g) VBHC Implementation studies could follow the example of HEOR reporting guidelines (eg, Consolidated Health Economic Evaluation Reporting Standards [CHEERS], Husereau et al[54]) to ensure transparency, comparability, and reproducibility of its results including both outcomes and costs.
- (h) Economic evaluation frameworks, such as Generalized Risk-Adjusted Cost-Effectiveness (GRACE), Equal Value of Life Years Gained (evLYG), Health Years in Total (HYT), and Multi-Criteria Decision Analysis (MCDA), should be used to capture a broader array of value elements, including patient preferences, health equity, and psychological impacts.[53] These approaches can identify the costs and opportunity costs of persistent value defects—such as avoidable readmissions, adverse safety events, overuse of low-value interventions, and administrative friction.
- (i) HEOR tools should also be deployed to measure the impact of removing specific defects in value (eg, using budget impact analysis, return-on-investment modeling, and real-world evidence collection) to demonstrate gains from defect mitigation strategies.

(2) HEOR (and HTA specifically) could benefit from VBHC expertise to adopt a more patient-centric approach:
- (a) Utilize insights from VBHC to broaden HEOR methods and HTA practices to encompass entire care pathways, thus assessing the impact and value of interventions more holistically.
- (b) Apply patient-centered principles from VBHC to explore new areas of inquiry in HTA, eg, enhancing approaches to eliminate healthcare inequities or projects on sustainability.
- (c) Prioritize internationally agreed "outcomes that matter to patients," eg, as those defined by ICHOM, to enable better alignment across assessment models and stakeholder groups in the healthcare system.
- (d) Incorporate VBHC's patient-centric perspective on outcomes used in HTA practices, enhancing the focus on patient-reported outcomes and using real-world data.
- (e) HEOR evaluations that integrate the concept of value defects can provide HTA with a framework to capture not only the clinical efficacy and cost-effectiveness of technologies but also their ability to reduce systemic inefficiencies. This includes quantifying the avoided harms, system-level waste, and productivity losses stemming from unaddressed value defects.

Figure 4. IMPACT Framework. Key considerations for incorporating value assessment methods from HEOR into VBHC design and implementation for sustainable health systems.



targeted literature review was pragmatic rather than systematic, and the expert inputs were purposively selected rather than representative. Many of the recommendations are therefore normative, reflecting collective expert judgment. These features are intrinsic to the purpose of this STF report and should be interpreted accordingly.

Conclusions

The field of HEOR offers methodological approaches that can benefit VBHC design and implementation. The data-driven nature and transparency of HEOR's empiricism ensures that the models and analytics undertaken are high predictive of actual health outcomes that might emerge in VBHC implementation. This transparency can also ensure buy-in from multiple stakeholders that may be required for sustainable investment in VBHC, including providers, payers, and patients.

Yet, to realize the full promise of VBHC, we must confront the defects that are embedded in how we deliver care today. These defects in value[35] undermine the moral and economic foundations of health systems.[55] From preventable complications to redundant diagnostics to inequitable access to services,[56] each defect is a missed opportunity to deliver better outcomes at lower cost. HEOR provides the tools to expose and quantify these defects, and to model the impact of their phasing-out on system-wide performance.[52]

In the same way that quality improvement once taught us to see variation as a signal for redesign, economic evaluation can now help us see defects in value as actionable levers for transformation from inefficient healthcare delivery systems to VBHC systems. Techniques such as budget impact analysis, return-on-investment modeling,[51] CEA,[57] and novel measures of value (eg, Generalized Risk-Adjusted Cost-Effectiveness, Health Years in Total)[58,59] can inform where interventions are most needed and which yield the highest social return. In this way, HEOR supports not only decisions about technologies or therapies but also the redesign of care processes and the structures that support them.

Value-based healthcare, when viewed through this dual lens of patient-centered outcomes and eliminating defects in value can deliver on its promise to humanize medicine, optimize resource use, and restore trust in our systems.

For this reason, we developed the "IMPACT" framework to guide VBHC experts in the incorporation of HEOR methods to best achieve a successful marriage of the 2 disciplines (Fig. 4). Importantly, it is not a reporting standard or evaluative scorecard, and it is not expected that any single VBHC initiative will or even should use all methods listed. Instead, it is meant to support considerations of how key HEOR methods can be used to support VBHC in delivering high-value care to individuals in their communities.

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REFERENCES

1. Boyce SH. The NHS is broken: we need to change how our healthcare system works and join the 21st century. *Emerg Med J*. 2023;40(2):155.
2. Breathett K, Manning KD. Catalyzing restructure of a broken health care system. *Circ, Cardiovasc Qual Outcomes*. 2024;17(2):e010009.
3. Mishra V, Golnoush S, Ahmad A, et al. Health inequalities during COVID-19 and their effects on morbidity and mortality. *J Healthc Leadersh*. 2021;13:19–26.
4. Porter ME, Teisberg EO, Redefining Health Care. *Creating Value-Based Competition on Results*. Brighton, MA: Harvard Business Review Press; 2006.
5. van Staalduinen DJ, van den Bekerom P, Groeneveld S, Kidanemariam M, Stiggelbout AM, van den Akker-van Marle ME. The implementation of value-based healthcare: a scoping review. *BMC Health Serv Res*. 2022;22(1):270.
6. Teisberg E, Wallace S, O'Hara S. Defining and implementing value-based health care: a strategic framework. *Acad Med*. 2020;95(5):682–685.
7. Porter ME, Kaplan RS. How to pay for health care. *Harv Bus Rev*. 2016;94(7-8):88–98, 100, 134.
8. Health Economics and Outcomes Research (HEOR). HEOR explained. https://www.ispor.org/heor-explained/. Accessed August 8, 2025.
9. O'Rourke B, Oortwijn W, Schuller T, International Joint Task Group. The new definition of health technology assessment: a milestone in international collaboration. *Int J Technol Assess Health Care*. 2020;36(3):187–190.
10. World Economic Forum (WEF). Value in healthcare: Laying the foundation for health system transformation. https://www.weforum.org/publications/value-in-healthcare-laying-the-foundation-for-health-system-transformation/; 2017.
11. Directorate-General for Health and Food Safety. Defining Value in 'Value-Based Healthcare'. Opinion by Expert Panel on Effective Ways of Investing in Health (EXPH). European Commission. Accessed April 7, 2026 https://op.europa.eu/en/publication-detail/-/publication/d7087e5e-ac2b-11e9-9d01-01aa75ed71a1; 2019.
12. Etges AP, Urman RD, Geubelle A, Kaplan R, Polanczyk CA. Cost standard set program: moving forward to standardization of cost assessment based on clinical condition. *J Comp Eff Res*. 2022;11(17):1219–1223.
13. Leusder M, Porte P, Ahaus K, van Elten H. Cost measurement in value-based healthcare: a systematic review. *BMJ Open*. 2022;12(12):e066568.
14. Global Innovation Hub for Improving Value in Health. Transitioning to high-value health systems in G20+countries. Health Systems Innovation Lab Harvard University. Accessed April 7, 2026 https://hsph.harvard.edu/wp-content/uploads/2024/10/HVHS-G20-Study_-Global-Innovation-Hub.pdf; 2023.
15. Pollock RE. Value-based health care: the MD Anderson experience. *Ann Surg*. 2008;248(4):510–516.
16. Kaplan RS, Porter ME. How to solve the cost crisis in health care. *Harv Bus Rev*. 2011;89(9):46–52, 54, 56-61.
17. Lee VS, Kawamoto K, Hess R, et al. Implementation of a value-driven outcomes program to identify high variability in clinical costs and outcomes and association with reduced cost and improved quality. *JAMA*. 2016;316(10):1061–1072.
18. Nilsson K, Bååthe F, Andersson AE, Wikström E, Sandoff M. Experiences from implementing value-based healthcare at a Swedish University Hospital – a longitudinal interview study. *BMC Health Serv Res*. 2017;17(1):169.
19. Nilsson K, Bååthe F, Erichsen Andersson A, Sandoff M. The need to succeed - learning experiences resulting from the implementation of value-based healthcare. *Leadersh Health Serv (Bradf Engl)*. 2018;31(1):2–16.
20. Colldén C, Hellström A. Value-based healthcare translated: a complementary view of implementation. *BMC Health Serv Res*. 2018;18(1):681.
21. van Egdom LSE, Lagendijk M, van der Kemp MH, et al. Implementation of value based breast cancer care. *Eur J Surg Oncol*. 2019;45(7):1163–1170.
22. Hernandez A, Kaplan RS, Witkowski ML, Faison III CF, Porter ME. Navy medicine introduces value-based health care. *Health Aff*. 2019;38(8):1393–1400.
23. Redondo P, Ribeiro M, Lopes M, Borges M, Gonçalves FR. Holistic view of patients with melanoma of the skin: how can health systems create value and achieve better clinical outcomes? *Ecancermedicalscience*. 2019;13:959.
24. Koff E, Lyons N. Implementing value-based health care at scale: the NSW experience. *Med J Aust*. 2020;212(3):104–106.e1.
25. Engels N, Bos WJW, Bruijn A, et al. Santeon's lessons from a decade of implementing value-based health care. *NEJM Catal*. 2024;5(1):CAT-23.
26. Krohwinkel A, Mannerheim U, Rognes J, Winberg H. Value-Based Healthcare in Theory and Practice. Leading Health Care. Accessed April 7, 2026 https://leadinghealthcare.se/wordpress/wp-content/uploads/2021/08/LHC_VBHC-Policy-Brief_210629.pdf; 2021.
27. Bauer MS, Kirchner J. Implementation science: what is it and why should I care? *Psychiatry Res*. 2020;283:112376.
28. Porter ME. What is value in health care? *N Engl J Med*. 2010;363(26):2477–2481.
29. Lee TH. Putting the value framework to work. *N Engl J Med*. 2010;363(26):2481–2483.
30. *Institute of Medicine, Committee on Quality of Health Care in America.* Crossing the Quality Chasm: A New Health System for the 21st Century. Washington, DC: National Academies Press; 2001.
31. Institute of Medicine. *Value in Health Care: Accounting for Cost, Quality, Safety, Outcomes, and Innovation: Workshop Summary*. Washington, DC: The National Academies Press; 2010:286.
32. Institute of Medicine. *The Healthcare Imperative: Lowering Costs and Improving Outcomes: Workshop Series Summary*. Washington, DC: The National Academies Press; 2010:852.
33. Dietz DW, Padula WV, Zheng H, Monson JRT, Pronovost PJ. Improving value in surgery: opportunities in rectal cancer care. A surgical perspective. *Ann Surg*. 2023;277(6):e1193–e1196.
34. Dietz DW, Padula WV, Zheng H, Pronovost PJ. Costs of defects in surgical care: a call to eliminate defects in value. *Catal Non-Issue Content*. 2021;2(6):305.
35. Pronovost PJ, Urwin JW, Beck E, et al. Making a dent in the trillion-dollar problem: toward zero defects. *NEJM Catal*. 2021;2(1):1064.
36. Cortese DA, Landman N, Smoldt RK. *The first step toward value-based health care. NAM perspectives. Commentary.*. Washington, DC: NAM Perspectives; 2012.
37. Serota SP. *Value-based care: learnings to shape the future of health care*. Washington, DC: NAM Perspectives; 2013.
38. Lee J, Anise A. Multi-payer alignment on ValueBased care. In: *Discussion Proceedings National Academy of Medicine*; 2022. https://nam.edu/publications/multi-payer-alignment-on-value-based-care/. Accessed April 7, 2026.
39. Tsevat J, Moriates C. Value-based health care meets cost-effectiveness analysis. *Ann Intern Med*. 2018;169(5):329–332.
40. Walraven J, Jacobs MS, Uyl-de Groot CA. Leveraging the similarities between cost-effectiveness analysis and value-based healthcare. *Value Health*. 2021;24(7):1038–1044.
41. Okunade O, Arora J, Haverhals A, Niessen L. *Collaborating for value: the Sanation Hospitals in The Netherlands*. Boston, MA: International Consortium for Health Outcomes Measurement (ICHOM); 2017.
42. European Institute of Innovation and Technology Health (EITHealth). Implementing Value-Based Health Care in Europe: Handbook for Pioneers. In: Katz G, ed. *Munich: European Institute of Innovation and Technology Health (EITHealth)*. 2020.
43. Lüdtke L, Lavoie B, Schroer D, Gerecke G, Deerberg-Wittram J. Why Every Medtech Company Needs a Value-Based Strategy. BCG. Accessed March 11, 2026 https://www.bcg.com/publications/2017/health-care-why-every-medtech-company-needs-value-based-strategy; 2017.

44. Vijverberg JRG, Daniels K, Steinmann G, et al. Mapping the extent, range and nature of research activity on value-based healthcare in the 15 years following its introduction (2006-2021): a scoping review. *BMJ Open*. 2022;12(8):e064983.
45. Leao DLL, Cremers H-P, van Veghel D, Pavlova M, Groot W. The impact of value-based payment models for networks of care and transmural care: a systematic literature review. *Appl Health Econ Health Policy*. 2023;21(3):441–466.
46. Perfetto EM, Love TR, Oehrlein EM, et al. A blueprint to advance patient-centered Core impact sets. *Health Affairs Forefront*. 2022. https://doi.org/10.1377/forefront.20220610.963313.
47. Fröbert O, Lagerqvist B, Olivecrona GK, et al. Thrombus aspiration during ST-segment elevation myocardial infarction. *N Engl J Med*. 2013;369(17):1587–1597.
48. Segers M, Behndig A, Biggelaar F, et al. The European registry of quality outcomes for cataract and refractive surgery: benefits and lessons of a multinational registry. *NEJM Catal*. 2024;10(16):5.
49. Padula WV, Lee KKH, Pronovost PJ. Using economic evaluation to illustrate value of care for improving patient safety and quality: choosing the right method. *J Patient Saf*. 2021;17(6):e568–e574.
50. Padula WV, Sculpher MJ. Ideas About Resourcing Health Care in The United States: can economic evaluation achieve meaningful use? *Ann Intern Med*. 2021;174(1):80–85.
51. Padula WV, McQueen RB. Expanding the role of the Patient-Centered Outcomes Research Institute: reauthorization and facilitating value assessments. *Appl Health Econ Health Policy*. 2019;17(6):757–759.
52. Goldman D, Grogan J, Lakdawalla D, et al. Mitigating the Inflation Reduction Act's Adverse Impacts on the Prescription Drug Market. Schaeffer Center White Paper Series. Accessed April 7, 2026 https://schaeffer.usc.edu/wp-content/uploads/2024/10/2023.04_Schaeffer-White-Paper_Mitigating-Adverse-Impacts-of-the-IRA.pdf; 2023.
53. Padula WV, Kolchinsky P. Can generalized cost-effectiveness analysis leverage meaningful use of novel value elements in pharmacoeconomics to inform medicare drug price negotiation? *Value Health*. 2024;27(8):1100–1107.
54. Husereau D, Drummond M, Augustovski F, et al. Consolidated Health Economic Evaluation Reporting Standards (CHEERS) 2022 explanation and elaboration: a report of the ISPOR Cheers II good practices task force. *Value Health*. 2022;25(1):10–31.
55. Padula WV, Duffy MP, Yilmaz T, Mishra MK. Integrating systems engineering practice with health-care delivery. *Health Syst*. 2014;3(3):159–164.
56. Dietz DW, Padula WV, Zheng H, Pronovost PJ. Costs of defects in surgical care: a call to eliminate defects in value. *NEJM Catal Innov Care Deliv*. 2021;2(6).
57. Garber AM, Phelps CE. Economic foundations of cost-effectiveness analysis. *J Health Econ*. 1997;16(1):1–31.
58. Lakdawalla DN, Phelps CE. Health technology assessment with diminishing returns to health: the generalized risk-adjusted cost-effectiveness (GRACE) approach. *Value Health*. 2021;24(2):244–249.
59. Basu A, Carlson J, Veenstra D. Health years in total: a new health objective function for cost-effectiveness analysis. *Value Health*. 2020;23(1):96–103.