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PARADIGMS, MEMES AND COST-EFFECTIVENESS CLAIMS IN HEALTH TECHNOLOGY ASSESSMENT

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Abstract

Decision models in health technology assessment, particularly those relying on reference case simulations, fail to meet standards of truth and scientific rigor; the lack truth value. This epistemic failure is not incidental but intentional, reflecting a systemic disregard for the principles of normal science and fundamental measurement. These models, built on unverifiable assumptions, produce cost-effectiveness claims that are inherently non-evaluable and lack empirical grounding. By failing the demarcation test between science and non-science, they undermine the integrity of health technology assessments. This deliberate indifference to scientific standards aligns with Harry Frankfurt's concept of "bullshit," where the intent is not to convey truth but to obscure it under the guise of methodological sophistication. The result is a proliferation of imaginary claims that cannot be reproduced or evaluated empirically, diverting attention from credible, evaluable, and replicable evidence required for informed decision-making. This critique underscores the urgent need to reform health technology assessment practices to align with the principles of scientific inquiry. To address this, the paper examines the distinction between a paradigm and a meme as foundational to health technology assessment. It argues that the embrace of the latter has institutionalized meaningless decision models and their cost-effectiveness claims. The failure to recognize that any credible value claim must be unidimensional, linear, interval, and invariant highlights a systemic departure from scientific principles. These standards are essential. Failure means the claim is not evaluable. This is most clearly seen in the interval measurement requirement: unless a value claim has constant relative differences, it cannot support parametric statistical analysis. By enshrining non-evaluable models, the field perpetuates not pseudoscience but a program thar endorses bullshit claims where the truth value of claims is of no interest. An analytical framework where there is neither interest in reporting nor concealing the truth. The only interest is in getting away with recommendations for pricing and product access.

INTRODUCTION

In the world of health economics, the pursuit of cost-effectiveness assessments is increasingly dominated by the use of reference case models that attempt to quantify the value of interventions in a way that supports policy and market decisions. These models, often based on speculative assumptions, have become the cornerstone for determining the cost-effectiveness of new therapies. However, while these models may appear scientifically grounded, they often fall short of the epistemic standards required for genuine scientific paradigms. Instead of representing a rigorous, testable framework of knowledge, they are more akin to memes—ideas or systems of thought that spread through society not because they are true, but because they are compelling, easily replicated, and serve a specific purpose. This paper aims to explore the difference between

paradigms and memes, focusing particularly on how the latter can create alternative realities that promote cost-effectiveness models detached from the reality of empirical evidence, ultimately producing what can only be described as bullshit.

The concept of a paradigm, as outlined by philosopher Thomas Kuhn, refers to a set of shared assumptions, methods, and standards that guide scientific inquiry and progress [1]. Paradigms are marked by their commitment to evidence, testability, and falsifiability, where knowledge is built upon a foundation of rigorous validation and refinement. In contrast, memes represent a different kind of cultural transmission—ideas or practices that spread because they are catchy, convincing, or strategically beneficial, rather than because they are demonstrably true. Cost-effectiveness models that rely on untested assumptions about patient behavior, long-term outcomes, and healthcare utilization function in much the same way. They are perpetuated not by their truth or scientific robustness, but because they support a system of decision-making in health policy and economics, creating a narrative that serves the interests of pharmaceutical companies, policymakers, and other stakeholders. By examining how these memes of cost-effectiveness have proliferated, this paper argues that they undermine the epistemic integrity of health economics, offering an alternative reality that functions more as bullshit than as legitimate scientific knowledge.

PARADIGMS AND THE EVOLUTION OF OBJECTIVE KNOWLEDGE

In philosophy of science, Karl Popper's perspective on the evolution of objective knowledge is grounded in his theory of falsifiability [2]. Popper argued that for a theory to be considered scientific, it must make predictions that can be tested and potentially proven false. In contrast to earlier philosophical views that saw scientific knowledge as cumulative and always progressing toward truth, Popper's view suggests that knowledge evolves through a process of conjecture and refutation, where theories are constantly challenged and improved upon. Paradigms, as described by Thomas Kuhn, play a critical role in Popper's conception of scientific evolution, serving as frameworks within which theories are tested, critiqued, and refined. However, for Popper, the strength of paradigms lies not in their ability to consolidate knowledge, but in their capacity to be subjected to rigorous falsification.

Popper did not view paradigms as fixed or static entities. Instead, he saw them as provisional frameworks that guide scientific inquiry, providing a set of assumptions and methods that are accepted by the scientific community at a given time. These paradigms are essential for organizing knowledge and directing research, but they are always vulnerable to being overturned by new evidence or more rigorous theories. In Popper's view, the evolution of objective knowledge occurs when established paradigms are challenged by anomalies—empirical findings that cannot be explained by the current paradigm. Such anomalies force scientists to confront the limitations of their existing theories, leading to new conjectures or the replacement of the paradigm itself. Paradigms, then, are not the end point of scientific progress but are stepping stones in the ongoing process of refining and expanding objective knowledge.

Paradigms provide the context in which hypotheses are formed, and it is through the testing of these hypotheses that science advances. Unlike Kuhn, who emphasized the stability of paradigms during periods of "normal science," Popper argued that the scientific community should always

remain open to the possibility of paradigm shifts. For Popper, the true evolution of objective knowledge lies in the relentless challenge to prevailing paradigms and the willingness to replace them with better, more falsifiable theories. This dynamic process ensures that science progresses not by accumulating verified truths but by continuously refining and improving our understanding of the world through critical examination and empirical testing. Thus, paradigms serve as the scaffolding for the scientific method but must always be ready to be dismantled when they no

Value claims developed within a paradigmatic framework are mind-independent, rooted in objective standards that transcend individual or collective biases. Such claims rely on measurement structures that are unidimensional, linear, interval, and invariant, ensuring their validity and reproducibility across contexts. By adhering to the principles of normal science and fundamental measurement, paradigmatic value claims establish a foundation of empirical rigor, reflecting real-world phenomena rather than subjective interpretations or mind-dependent claims. This objectivity contrasts sharply with meme-driven approaches, which are contingent on constructed narratives and lack grounding in universal scientific standards.

As such, they are diametrically opposed to the motto of the Royal Society, *Nullius in verba*—"Take nobody's word for it"—enshrined in its Royal Charter granted in 1662. Meme-driven approaches in health technology assessment rely on subjective assumptions and unverifiable constructs, effectively asking stakeholders to accept claims on faith rather than evidence. This rejection of the empirical rigor established during the scientific revolution of the 17th century marks a profound departure from the principles of objectivity and reproducibility that define modern science [3]. In contrast, paradigmatic value claims align with these principles, insisting on adherence to measurable, mind-independent standards that uphold the legacy of scientific inquiry.

FAITH, BELIEF AND THE MEME

In Richard Dawkins' seminal work *The Selfish Gene*, he introduced the concept of the "meme" as a unit of cultural evolution [4]. A meme is an idea, behavior, or style that spreads within a culture, evolving over time through imitation, regardless of its truth or rationality. Dawkins' theory posits that memes, like genes, propagate based on their ability to replicate themselves, not necessarily because they are accurate or beneficial. A meme does not require evidence or reason for its existence; it is maintained by faith or social conformity. In this sense, a meme can represent belief systems, traditions, or practices that become ingrained in culture without being subjected to scrutiny or rational evaluation.

In the context of health technology assessment (HTA), it is possible to view certain practices and models, such as the use of Quality-Adjusted Life Years (QALYs), as part of a meme that thrives more on social adherence than on empirical rigor. Evidence is created within a social community; there is no such thing as the scientific method. The health technology assessment meme is a belief system in which faith in particular methodologies—like cost-effectiveness models or QALY-based measures—can take precedence over their objective validity. These models and concepts are often revered not for their scientific merit, but because they are institutionalized within the frameworks that govern health policy and decision-making. This creates a feedback loop where these beliefs are maintained and passed on within the professional community, regardless of their empirical limitations or conceptual flaws.

For members of the HTA meme, the reverence of tools like QALYs can be seen as a form of faith-based commitment. QALYs, despite being criticized for their oversimplification of patient experience and their reliance on abstract, subjective utility measures that fail standards of fundamental measurement, are widely accepted as a standard for comparing health interventions. This veneration of QALYs can appear absurd to an outsider aware of fundamental measurement standards, particularly when the construct fails to meet the necessary criteria for scientific measurement, such as unidimensionality or validity. Likewise, the widespread use of complex, assumption-driven cost-effectiveness models, despite their inherent limitations and the problem of induction—where past data is improperly generalized to predict future outcomes—suggests that HTA professionals place their faith in these models without fully confronting their shortcomings.

This devotion to abstract concepts without regard for their empirical foundations mirrors the essence of a meme maintained by faith. The health technology assessment meme does not require evidence or reason to continue propagating; instead, it thrives because of its entrenchment within institutional and professional norms. Members of this meme may even view their unquestioning commitment as a positive virtue, a sign of their loyalty to the process and the system. In doing so, they venerate certain mysteries—such as the exact value of a QALY or the accuracy of cost-effectiveness models—without engaging critically with the underlying assumptions, rendering them an unassailable part of the belief system that defines their practice. To an observer with a clear understanding of scientific standards, this might appear as an absurd, unreasoning devotion to constructs that fall far short of true scientific rigor. Yet mysteries, not only as a cornerstone of faith, reinforce it. As Dawkins notes *It is not a virtue to solve mysteries. Rather we should enjoy them, even revel in their insolubility* [5]. In an extreme form Dawkin's notes Tertullian *Certum est quia impossibile est* (It is certain because it is impossible).

RELATIVISTIC ALTERNATIVE REALITY

One defense of the alternative reality created by the health technology assessment (HTA) meme could be framed using the sociological approach of the UK Strong Program. According to this perspective, belief systems, whether they are scientific, cultural, or ideological, are inherently valid within the social communities that uphold them. This view posits that knowledge is not simply "discovered" through objective standards or empirical evidence, but is instead "created" within a social context. Knowledge, in this sense, is constructed through the interactions of a community, shaped by the group's shared beliefs, values, and institutions. The Strong Program emphasizes that no belief system should be dismissed based on external epistemic standards, as all systems of knowledge are valid within their own social and cultural frameworks. From this standpoint, the practices and models within HTA—including tools like QALYs and assumption-driven cost-effectiveness models—are seen as legitimate, not because they adhere to universal scientific standards, but because they are accepted and maintained by a particular professional community.

In the context of HTA, the alternative reality defined by the meme is upheld not through rigorous evidence but through social consensus, rhetoric, and authority. Those who adhere to the HTA meme do not rely on empirical testing or falsifiability in the way that Popper would advocate for scientific theories; instead, their belief in the validity of QALYs and other methodologies is sustained by the collective authority of the HTA community. This community, which includes policymakers, health economists, and practitioners, collectively reinforces the belief in these

models, effectively creating a dominant transmission framework that shapes how knowledge about cost-effectiveness is understood and communicated. The strength of this framework lies in its power to define what is considered credible and acceptable knowledge within the field, regardless of whether the claims it generates hold up to scrutiny against objective standards of measurement or scientific rigor; as evidenced by a leading textbook and the promotion of the CHEERS 2022 guidelines for creating mind-dependent reference case models for publication in leading journals as imaginary claims [6] [7] [8].

Critics of this approach might argue that the reliance on social consensus and authority leads to a distortion of knowledge, allowing flawed or unsubstantiated models to persist. However, defenders of the UK Strong Program's perspective would counter that the validity of a belief system is determined by its internal coherence and the degree to which it serves the interests and needs of the community that subscribes to it. In this sense, the HTA meme, with its reliance on constructs like QALYs and cost-effectiveness models, can be seen as functioning effectively within its own epistemic boundaries, even if it falls short of universal scientific standards. This sociological defense shifts the focus away from external evaluations of truth and towards an understanding of how knowledge is created, transmitted, and maintained within the confines of a particular professional and social group.

A CULT BY ANY OTHER NAME

A "cult" can be defined as a social group or belief system that operates around a set of doctrines or practices that are held to be true without question by its members. These doctrines are often maintained by strong internal rhetoric, authority, and community cohesion, rather than by empirical evidence or external verification. Cults tend to function in environments where dissent or critical inquiry is discouraged, and where the belief system becomes so ingrained that members accept it as a reality without the need for superior or external evidence. Within this framework, a cult thrives on its ability to create a self-contained worldview that is reinforced by its own internal logic and authority.

The health technology assessment (HTA) meme can be likened to a cult in that its premises are accepted by those within the community without significant challenge or appeal to superior evidence. Central to this belief system are models like reference case cost-effectiveness analyses, which assume certain methodologies (such as the use of QALYs and cost-effectiveness thresholds) as valid without needing to prove their accuracy through empirical testing or critical scrutiny. These premises are widely accepted within the HTA community, and the resulting cost-effectiveness claims are taken as truth by its members, largely because they conform to the rhetorical structures and authority figures that govern the field. In this way, HTA operates within its own self-sustaining bubble, where ideas are perpetuated by the community's authority, rather than through independent validation or refutation.

One of the most striking features of this cult-like structure is its rejection of the Royal Society model of scientific inquiry, which emphasizes the need for rigorous empirical evidence and independent verification. The Royal Society model operates on the assumption that knowledge should be built on objective, mind-independent reality—that is, knowledge claims must be verified by objective evidence that exists independently of the minds that generate them. In contrast, the

HTA meme rejects this model by treating its core concepts, like QALYs and reference case models, as mind-dependent realities. These constructs are treated as valid simply because the community accepts them, not because they have been subjected to rigorous empirical testing or independent verification.

Within the HTA meme, appeals to superior evidence are not made in the same way that they would be in other scientific communities. Instead, the validity of claims is upheld by the authority of the community and its established methodologies, which are perpetuated through professional norms, educational programs, and institutional support. This means that evidence is often constructed to fit the predefined frameworks of the meme, rather than being discovered through open-ended empirical inquiry. In this sense, the HTA community, much like a cult, creates a mind-dependent reality that is insulated from the scrutiny of external evidence or alternative viewpoints, allowing its premises to go unquestioned within its own domain.

While both memes and cults share some similarities, they are not identical, and cults can be seen as a more authoritarian and rigid form of meme. The key distinction lies in the level of control and authority exerted within the group and the degree to which the belief system demands unquestioning adherence. While all cults may be considered memes in a broad sense (as they propagate specific belief systems), not all memes are cults. The defining feature of a cult is its authoritarian structure, where belief and behavior are more rigidly controlled, and dissent is suppressed. Memes, in contrast, are more flexible and can exist in a less coercive, more open-ended environment.

CONSTANT RELATIVE DIFFERENCES

The interval standard, defined by a measurement system with constant relative differences, is the cornerstone of scientific rigor in assessing outcomes. Its absence in health technology assessment (HTA) represents a critical failure undermining the credibility of reported claims. Measurements with constant relative differences ensure that changes across the scale are meaningful, comparable, and independent of the sample or context. This property is essential for accurate evaluation and decision-making, yet it is glaringly absent in HTA practices that rely on percentages to communicate therapy responses.

Percentages, while intuitively appealing, are inherently non-linear. Differences in percentages do not reflect consistent relative differences, leading to distorted interpretations of outcomes and invalid comparisons. A therapy with a reported 20% improvement is not equivalent to another with a 20% improvement at a different baseline; such representations are mathematically flawed and scientifically misleading. This insistence on percentages reflects a misunderstanding of measurement principles, compromising the ability to draw valid inferences or replicate findings.

Logits, derived from the Rasch model, are the only measures that satisfy the interval standard [9]. They provide a linear scale with invariant properties, ensuring that a unit change has the same meaning across the scale. The Rasch model's integration of respondent ability and item difficulty produces measures that are not only mathematically sound but also suitable for parametric analyses, making them indispensable for HTA.

The reliance on percentages in HTA is not a harmless simplification but a fundamental error that erodes scientific validity. Only by adopting logits, grounded in the Rasch framework, can HTA achieve the measurement precision necessary for credible value claims. Insistence on this standard is not optional—it is the only path to restoring rigor and trust in the assessment of health technologies. If for no other reason the HTA meme fails because it fails to address the concept of measurement. The flawed acceptance of non-interval metrics, where utility and preference scores are the classic example together with disease specific measures that transform counts to percentages are simply non-acceptable and cannot support parametric statistical analysis.

REFERENCE CASE COST-EFFECTIVENESS CLAIMS

Reference case cost-effectiveness claims in pharmacoeconomics fall short of the epistemic standards of a true scientific paradigm because they rely on speculative models, assumptions, and simulations that cannot be directly evaluated or empirically validated. In the philosophy of science, paradigms are expected to meet criteria of rigorous, testable, and reproducible evidence. They operate within a framework of falsifiability, meaning that claims made within the paradigm can be tested against reality and potentially proven wrong, thereby advancing knowledge. Reference case cost-effectiveness modeling, however, evades these requirements, operating in a space that lacks accountability to empirical data, making it more aligned with pseudoscience than with a scientific paradigm.

At the heart of the issue is the reliance on assumption-driven models to generate cost-effectiveness estimates. These models create an illusion of precision by producing specific numerical outcomes, but the data inputs are often based on hypothetical constructs rather than observable or testable phenomena. For instance, reference case models frequently employ assumptions about patient behavior, adherence, healthcare utilization, and future outcomes that may not have any empirical basis. These assumptions are woven into black box complex simulations that, while they may appear sophisticated, do not adhere to scientific standards of evidence. This is because their outcomes cannot be validated through real-world observation or reproduced by independent researchers using different methods. As such, reference case modeling lacks the epistemic rigor necessary to claim paradigm status.

But there is a more substantive reason for rejecting simulation models out of hand: they fail to meet the standards for fundamental measurement in assuming ordinal scores have interval status. Put simply, the models and their claims fail to see the imperative of constant relative differences. A failure that is endemic to the HTA meme. As far as reference case models are judged they represent 30 wasted years in HTA.

Paradigms in science are supposed to evolve by confronting and resolving anomalies, revising models, and refining methods as new data becomes available as well addressing the concept of measurement. Reference case models, however, often sidestep this process by operating within fixed assumptions that are rarely updated in response to real-world data. Rather than evolving through empirical challenge and refinement, these models persist because they serve a practical, though not scientific, purpose—namely, to provide false (we might say frivolous) cost-effectiveness claims that support product pricing and market access. This entrenched approach

prevents meaningful scientific progress and stifles an honest engagement with the limitations and uncertainties inherent in estimating cost-effectiveness for healthcare interventions.

The result is a system in which the appearance of rigor masks a foundational absence of genuine scientific inquiry. Reference case modeling fails to meet the epistemic standards of a paradigm because it does not generate falsifiable hypotheses, it does not adapt or refine its methods based on empirical refutation, and it values the generation of plausible outcomes over the pursuit of truth. Rather than contributing to scientific knowledge, reference case cost-effectiveness claims create an alternative reality detached from the standards of a true scientific paradigm, prioritizing strategic objectives over genuine discovery and evidence-based understanding.

COST-EFFECTIVENESS AND BULLSHIT

Reference case cost-effectiveness claims in pharmacoeconomics exemplify what philosopher Harry Frankfurt calls "bullshit." In his essay *On Bullshit*, Frankfurt argues that bullshit is distinct from lying because the bullshitter is indifferent to the truth [10]. Lying involves a deliberate attempt to mislead by presenting false information, while bullshit involves a lack of concern for whether what is being said is true or false, as long as it serves the speaker's purpose. Reference case cost-effectiveness modeling, in this sense, can be seen as a deliberate program of bullshit because it prioritizes creating an impression of scientific rigor and precision, regardless of whether the assumptions and outputs actually align with reality. This extends of course to the failure to meet the standards of fundamental measurement

The principal issue with reference case cost-effectiveness claims is that they are built on assumptions that cannot be empirically tested or validated. These models are constructed using highly speculative inputs—such as future healthcare utilization patterns, patient adherence rates, and long-term clinical outcomes—that are not grounded in real-world evidence. While these models may generate precise, seemingly authoritative estimates of cost-effectiveness, they cannot be meaningfully validated or falsified through empirical data. The creators of these models know this, and their primary concern is not whether the assumptions are accurate, but whether the models will produce numbers that are acceptable to decision-makers, such as health economists, policymakers, or payers. The objective is not truth-seeking, but rather the creation of an illusion of certainty to support product pricing and market access decisions. A failure in truth seeking that extends to measurement and inattention to the required interval standards for accurate measurement.

This lack of concern for truth is a hallmark of bullshit. The modelers do not engage with the real, messy uncertainties of healthcare economics; instead, they craft an alternative version of reality that serves the immediate needs of manufacturers and stakeholders. They generate cost-effectiveness estimates that are plausible enough to be persuasive, but they do so without testing or refining their assumptions based on actual data. By relying on these models, they avoid the need to confront the fundamental gaps in evidence that exist at the time of product launch, opting instead for creating a tidy narrative that seems to answer pressing policy questions about value and cost-effectiveness. The output of the model is not designed to reflect reality but to conform to a desired outcome.

The perverse intent behind creating these reference case claims is tied to the pressures of the pharmaceutical industry to justify the pricing of new drugs. Pharmaceutical companies, often under pressure to secure market access and reimbursement, have a vested interest in making their products appear cost-effective, even if the supporting data is insufficient. These claims are designed to be "believable"—in the sense that they sound plausible to non-experts, like health policymakers or payers, who may not have the expertise to critically analyze the assumptions and methods behind the models. The goal is not to advance scientific understanding or to provide transparent, verifiable evidence but to create a convincing narrative that can influence decision-makers and facilitate favorable pricing and reimbursement decisions.

This process is not merely a failure to meet scientific standards; it is a systematic evasion of the fundamental principles of scientific inquiry. The creators of these models do not intend to deceive in the same way that outright liars do, but their indifference to the truth leads them to craft narratives that serve a particular agenda. The epistemic standards of science demand that claims be testable, falsifiable, and grounded in evidence, but reference case cost-effectiveness claims are designed to avoid these standards, making them more akin to bullshit than to genuine scientific work. In this way, reference case modeling serves as a strategic tool for advancing a particular narrative; one that often bears little relationship to the uncertain and complex reality of healthcare economics.

Reference case models in health technology assessment exemplify a fundamental affront to the principles of measurement. The deliberate selection of composite ratios or metrics, such as cost-effectiveness, ignores the foundational contributions of Stevens and others in the field of measurement theory [11]. By bundling disparate elements into both numerator and denominator, these models construct metrics that lack unidimensionality, linearity, and invariance, violating the requirements for meaningful measurement. This design choice ensures that such metrics are inherently immune to falsification; a core characteristic of both memes and cults. These bundled metrics, often presented as universal truths, are constructed to persist unchallenged for decades, further insulating them from empirical scrutiny. By eschewing the principles of fundamental measurement and the potential for falsification, reference case models abandon the scientific rigor demanded by normal science, perpetuating claims that are neither credible nor evaluable, and ultimately eroding trust in health technology assessment.

Given the centrality of patient-reported outcomes (PROs) in health technology assessment (HTA), the failure to address the transformation of subjective observations into interval-level measurements represents a significant oversight. PROs inherently reflect latent constructs, such as quality of life or treatment satisfaction, which cannot be directly observed but manifest through subjective responses. Properly measuring these constructs requires adherence to rigorous frameworks capable of creating linear, interval scales; notably the Rasch measurement model. However, the dominant approach in HTA disregards this necessity, favoring simplistic aggregation or ordinal scoring that lacks scientific validity.

Rasch measurement theory offers the unique capacity to transform subjective data into objective, interval-level measures [9]. It does so by integrating item difficulty and respondent ability within a probabilistic framework, ensuring that the resulting scale meets the demands of fundamental measurement. Despite its proven applicability and robust theoretical foundation, Rasch modeling

remains largely neglected in HTA. This neglect reflects an unwillingness to embrace the scientific rigor required for meaningful evaluation, instead favoring methods that are expedient but ultimately non-evaluable. By ignoring Rasch standards, HTA compromises the credibility of PRO claims, perpetuating reliance on flawed metrics that fail to capture the true impact of therapies. Addressing this gap is critical to ensuring PROs contribute valid and reliable evidence in decision-making.

REJECTING THE MEME

Challenging and ultimately overturning the health technology assessment (HTA) meme is not only necessary but urgent. The current HTA framework, deeply entrenched in health systems, is a millstone around the assessment of value claims and their impact on healthcare delivery. The reliance on cost-effectiveness analysis (CEA) and constructs like QALYs has created a system that oversimplifies complex health outcomes, disregards patient preferences, and rests on assumptions that are often highly uncertain, disconnected from real-world evidence or just false. This framework not only fails to provide meaningful insights into the truth value of health interventions but also distorts decision-making by forcing health systems to adopt approximations that don't reflect reality. If we continue to accept this framework, we are perpetuating an illusion of evidence that misguides resource allocation and healthcare policies.

Overturning the HTA meme requires dismantling its foundational assumptions and offering more relevant alternatives. The current models focus on assumptions about cost-effectiveness that are often disconnected from actual outcomes, leaving critical gaps in evidence that remain unaddressed. These gaps are typically defended as "necessary" for decision-making, yet they mask the inability of these models to capture the complexities of real-world healthcare. Rather than clinging to this flawed approach, we need to advocate for models that are driven by real-world data, patient-centered outcomes, and transparent, reproducible evidence. Models should be grounded in what actually happens in healthcare settings, rather than hypothetical scenarios constructed from dubious assumptions. It’s time to challenge the idea that cost-effectiveness claims based on unproven models should drive policy decisions; especially when these claims hold little relevance to actual patient experiences.

The HTA meme also thrives on its social authority, where the beliefs and practices within the community are regarded as the final word on evidence. Apostasy is frowned upon. This authority shields it from meaningful scrutiny, but this should not be allowed to continue. A strong critique is needed to demand more rigorous standards, where evidence is not created through consensus or rhetorical dominance but discovered through transparent, empirical research. It needs to shake off the mantle of bullshit. Health technology assessments should be based on real data and robust methods, not built on the shaky foundation of unverified assumptions. We need to push for a shift in focus, from theoretical, model-driven assumptions to evidence that reflects actual health outcomes.

Ultimately, we cannot afford to accept the status quo. The HTA bullshit meme is outdated and counterproductive, and it perpetuates a culture of unquestioned authority and unverified claims that limit the potential for real innovation in healthcare decision-making. We must reject the current system and demand that health technology assessment be overhauled. There is no reason

to be stuck with a framework that fails to provide the actionable insights that health systems need. Only through aggressive, persistent challenge can we move toward a future where value claims are assessed rigorously, transparently, and in ways that truly benefit patients.

CONCLUSIONS

The dominant commitment to bullshit in reference claims within HTA may come as a surprise to many, but it is, in fact, endemic to the alternative reality created by the HTA meme. This alternative reality, built on assumption-driven models and hypothetical constructs like QALYs, allows for the generation of claims over generations that are detached from meaningful, real-world evidence. Rather than being guided by rigorous, empirical research, these claims are sustained by authority, rhetoric, and a culture that values belief over truth. The result is a system that promotes a distorted version of reality, where the true impact of health interventions is obscured, and decisions are made based on flawed assumptions rather than data that accurately reflects patient outcomes and resource utilization.

The challenge now is to recognize this for what it is: a self-sustaining, authoritative system that has become disconnected from the core principles of evidence-based decision-making. Overturning this system requires not just criticism but a bold, concerted effort to dismantle the flawed meme at its core. We must reject the comforting but misleading assumptions that underpin HTA and demand claims that are transparent, evidence-driven, and patient-centered. Until this happens, the pervasive commitment to bullshit in HTA will continue to undermine the credibility of health technology assessments and its ability to guide meaningful policy and resource decisions.

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