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I'll conduct a comprehensive literature search to identify the main strands of research and gaps in this area. Let me search systematically across the key topics. Excellent! I've found highly relevant research on public opinion regarding high-cost medicines and cancer treatments. Let me conduct additional targeted searches to ensure comprehensive coverage of the key literature strands. Perfect! I now have comprehensive literature across all key topics. Let me synthesize this research into a structured gap analysis for the user.

Research Gaps in Public Opinion and Framing of High-Cost Cancer Medicines: A Comprehensive Analysis

Based on systematic literature review, this analysis identifies key research strands, significant theoretical and methodological gaps, and opportunities for population-based survey experimental research on public support for funding expensive cancer treatments.

I. MAIN RESEARCH STRANDS IN EXISTING LITERATURE

A. Strand 1: Public Opinion on High-Cost Medicines and Expensive Healthcare

Recent empirical research has directly examined public preferences regarding high-cost medicines. Studies from the Netherlands [1], South Korea [2], and Thailand [3] reveal consistent patterns: citizens recognize expensive medicines as human rights issues and government responsibilities, but only support public funding when drugs are perceived as safe, effective, and cost-effective [2]. Notably, Dutch respondents demonstrated preference for existing rationing policies (Coverage Lock) over alternatives, despite majority views that such policies seemed unjustified [1]—a finding suggesting gap between moral intuition and pragmatic acceptance of scarcity.

However, these studies employ simple survey formats presenting stated preference questions without experimental manipulation of framing. They document what citizens prefer but rarely manipulate how information is framed to explain why preferences shift.

B. Strand 2: Framing Effects, Prospect Theory, and Healthcare Decision-Making

A robust body of behavioral economics research demonstrates that loss-framed messages prove significantly more influential than gain-framed messages in modifying health behavior [4]. In healthcare contexts specifically, prospect-theory-inspired framing effects have been observed across vaccination decisions [5], screening behaviors [6], and insurance choices [7]. Loss framing increases risk-seeking and support for more aggressive interventions [5], while gain framing promotes support for preventive measures.

Critical gap: These studies focus predominantly on individual health behavior (screening, vaccination, medication compliance) rather than public policy preferences for population-level resource allocation. The mechanism by which loss aversion and framing effects scale

from personal medical decisions to population-level willingness to support public expenditure remains underexplored.

C. Strand 3: Moral Psychology of “Rule of Rescue” vs. Cost-Effectiveness Framing

Research on identified victims versus statistical lives reveals robust effects: people demonstrate significantly higher willingness to help identifiable, named individuals than abstract statistical populations [8], [9]. The identifiability effect operates across contexts and persists even in joint evaluation (less prominent but still significant). Loss aversion and emotional reactance mediate these effects [9].

In healthcare specifically, rule-of-rescue logic—the moral imperative to save an identifiable life regardless of cost—competes with utilitarian cost-effectiveness reasoning [10]. Research by Marseille and Kahn [10] shows that favoring rule-of-rescue over cost-effectiveness decisions could result in 92-118 additional preventable deaths per \$100,000 spending when populations are considered. Yet public opinion research on this tradeoff in expensive cancer medicine contexts is virtually absent.

D. Strand 4: Elite and Expert Attitudes vs. Mass Public Opinion

Health technology assessment (HTA) literature documents how regulatory bodies, clinical experts, and policy committees evaluate expensive medicines [11]. A notable gap exists: most literature on cost-effectiveness and rationing focuses on expert decision-making or abstract preference elicitation (discrete choice experiments, stated preferences) rather than experimentally manipulated framing with representative populations making consequential-seeming trade-off judgments.

II. SIGNIFICANT THEORETICAL AND EMPIRICAL GAPS

Gap 1: Loss-Framed “Rescue” Narratives Have Not Been Experimentally Tested in Population-Representative Samples for Cancer Medicine Funding Preferences

The problem: While moral psychology documents the identifiability effect and rule-of-rescue logic, no published research directly tests how loss-framed “rescue” narratives (e.g., “Without public funding, this patient will die”) interact with utility-maximizing frames (e.g., “Cost-effectiveness analysis shows this medicine saves fewer life-years per dollar than alternative treatments”) to shape mass public support for expensive cancer medicines.

Existing research either:

Focuses on identified victims in charitable giving contexts [8], not healthcare policy

Tests framing effects on individual health behaviors, not public policy support

Examines expert/elite rationing decisions without mass public input

What this gap means: We don’t know whether loss-framed rescue narratives (leveraging emotional identifiability) will override cost-effectiveness reasoning in public opinion, or whether representative populations can be persuaded to accept efficiency-based rationing when presented with cost-benefit information.

Gap 2: Prospect Theory Loss Sensitivity Has Not Been Integrated into Healthcare Policy Framing Research

The problem: While prospect theory is well-established in behavioral economics, its core mechanisms—loss aversion coefficients, reference dependence, diminishing sensitivity, and probability weighting—have been minimally applied to healthcare policy framing studies [4]. Most health framing research uses simple gain/loss dichotomies without measuring or manipulating:

Reference point shifts (e.g., framing cancer mortality as “current baseline” vs. “preventable harm”)

Loss aversion coefficients (how much more do people weight losses vs. equivalent gains?)

Probability weighting (how do citizens perceive low-probability but high-impact outcomes?)

Prospect theory predicts that when outcomes are framed as losses (relative to a reference point), risk-seeking increases. For expensive cancer medicines with uncertain benefits, this predicts that loss frames should increase public support for “rolling the dice” on expensive treatments—the opposite of maximizing health outcomes per dollar.

What this gap means: We lack empirical estimates of how sensitive public opinion is to prospect-theoretic manipulations specific to cancer medicine funding, preventing precise predictions of framing effects.

Gap 3: Observational, Qualitative, and Stated-Preference Research Dominate; Survey Experiments Are Rare

The problem: Healthcare rationing and priority-setting literature is dominated by:

Observational studies of expert decisions (HTA committees, regulatory bodies)

Qualitative interviews with clinicians and patients

Discrete choice experiments asking abstract “if you had to choose...” questions

Surveys of stated preferences without experimental variation

Example: The Dutch study [1] surveyed 1,179 citizens but used descriptive presentation of real cases without systematically varying narrative framing. Dutch preferences emerged but without experimental manipulation of loss/gain frames or rule-of-rescue narratives.

Barriers to RCT-style healthcare framing experiments include:

Ethical concerns (cannot randomly assign patients to treatment vs. control)

Absence of funding for large-scale public opinion experiments on healthcare trade-offs

Dominance of health economics methodology (cost-effectiveness analysis) over behavioral experimentation

What this gap means: Public opinion on expensive cancer medicines has been documented (descriptive level) but causal effects of specific frames remain underestimated.

Gap 4: End-of-Life and Palliative Care Contexts Receive Limited Attention in Public Opinion Research

The problem: Most public opinion research on expensive medicines focuses on curative or life-extending treatments with measurable efficacy gains. Minimal research examines public preferences for funding expensive end-of-life palliative oncology medicines—treatments offering modest survival extensions (weeks/months) with high costs and uncertain quality-of-life improvements.

This matters because end-of-life framing may invoke particularly strong rule-of-rescue logic (“we cannot abandon dying patients”) while simultaneously raising efficiency concerns (“few remaining months at enormous cost”). The psychological tension between these frames is unexplored.

Gap 5: Lack of Integration Between Public Opinion and Welfare State Political Economy

The problem: Public opinion research on healthcare rationing typically operates in a policy vacuum. Political science and welfare state scholarship examines how citizens evaluate public spending, distributive justice, and deservingness [12], [13]—but rarely connects these insights to healthcare medicine rationing specifically.

Key missing connections:

How do citizens’ beliefs about personal responsibility for health (smoking, diet, genetics) interact with willingness to fund expensive treatments?

How do solidarity-based welfare state values[1] moderate loss aversion effects?

What role do framing source (political party, health ministry, patient advocates) play in moderating framing effects?

Research on personal responsibility in priority-setting [12], [13] suggests clinicians are reluctant to formally incorporate patient behavior into rationing, but public opinion on this ethical tradeoff remains largely unmeasured.

Gap 6: Distributional Effects and Equity Considerations Absent from Framing Research

The problem: Framing experiments typically measure aggregate effects (average support for a policy). They rarely disaggregate by:

Socioeconomic status (do low-income citizens show different loss aversion patterns?)

Health literacy (does understanding cost-effectiveness information moderate framing effects?)

Prior cancer experience (does personal/family experience override framing effects?)

Demographic characteristics (age, gender, race/ethnicity effects on rescue narratives vs. efficiency frames)

This is problematic because policies shaped by population-average framing effects may disproportionately disadvantage already-marginalized groups.

III. METHODOLOGICAL GAPS

Methodological Gap 1: Absence of Vignette-Based Experiments with Healthcare Trade-Offs in Representative Samples

Missing design: Population-representative survey experiments presenting realistic patient vignettes with systematic manipulation of:

Framing (loss-framed rescue narrative vs. gain-framed efficiency frame vs. neutral/balanced)

Outcome certainty (high-certainty survival extension vs. uncertain benefit)

Cost information (absolute cost, cost-per-QALY, budget impact)

Disease stage (early-stage treatable cancer vs. advanced incurable cancer)

Respondents should indicate willingness to support public funding of the described treatment (yes/no/unsure), with magnitude ratings.

Why it's missing: This design requires:

Large representative sample (N 2,000)

Complex experimental design (multiple between-subject factors)

Novel measurement of healthcare policy support

Significant funding

Coordination with survey firms

Methodological Gap 2: Limited Use of Process-Tracing and Mechanism Measurement

Most framing experiments measure outcomes only (did framing shift support?). They rarely measure mediating mechanisms:

Emotional responses (fear, compassion, frustration, anger) triggered by frames

Perceived fairness/legitimacy of rationing

Trust in healthcare system/government

Perceived salience of identified victim vs. statistical population

Process data would reveal why loss-framed rescue narratives shift opinion and when such effects diminish (e.g., when cost information becomes salient).

Methodological Gap 3: Absence of Long-Term and Real-Consequences Framing Experiments

Published healthcare framing studies use hypothetical scenarios. Respondents know their choices have no real consequences. Prospect theory predicts behavior shifts when stakes become real.

Missing research: What happens when citizens are told their survey responses will inform actual NHS/Medicare rationing committee recommendations, or when survey is embedded in deliberative democracy exercise with real budget allocation?

IV. SPECIFIC RESEARCH OPPORTUNITIES FOR SURVEY EXPERIMENTATION

Recommended Study Design: Population-Based Survey Experiment on Public Funding of Expensive Uncertain Cancer Medicines

Research question: How do loss-framed (“rule of rescue”) versus gain-framed (cost-effectiveness) versus neutral narratives shape citizens’ willingness to support unconditional public funding of expensive cancer medicines with uncertain benefits?

Experimental conditions (2×3 factorial):

Outcome Certainty	Loss-Framed Rescue	Gain-Framed Efficiency	Neutral/Balanced
High certainty (80% survival benefit)	Condition 1	Condition 2	Condition 3
Low certainty (30% survival benefit)	Condition 4	Condition 5	Condition 6

Vignette example (Loss frame, low certainty):

“Maria, age 52, has advanced lung cancer with median survival of 6 months without treatment. A new immunotherapy medicine costs \$150,000 and may extend her survival to 8 months in about 30% of patients like Maria. Without public funding, Maria cannot afford the drug. Should the NHS fund this medicine for all eligible patients?”

Vignette example (Gain frame, low certainty):

“The NHS has limited budget for new cancer medicines. An analysis found that for every \$150,000 spent on this immunotherapy, it extends survival by an average of 0.5 months—less than many alternative treatments. Should the NHS prioritize this medicine over alternatives that provide more survival benefit per dollar?”

Key outcome measures:

Willingness to support public funding (yes/no/maybe)

Magnitude of support (0-100 scale)

Fairness perception

Emotional responses (identified victim compassion vs. frustration with inefficiency)

Reasoning (open-ended): “Why did you choose this option?”

Sample: N 2,000 nationally representative adults; stratified by SES, age, health status, prior cancer experience

Analysis:

Main effects of frame and outcome certainty

Interaction effects (does frame effect diminish when benefits are uncertain?)

Moderation by individual differences (health literacy, numeracy, political ideology, personal experience)

Mediation by emotional responses and fairness perceptions

Expected findings (based on existing literature):

Loss frame increases support compared to gain frame (prospect theory)

Effect is stronger when outcomes are uncertain (risk-seeking under losses)

Identifiability/rescue logic dominates when benefits are certain but dampens when uncertainty is high and efficiency information is salient

High-SES, numerate respondents show smaller framing effects

V. THEORETICAL GAPS AND IMPLICATIONS

Unresolved Question 1: Can Cost-Effectiveness Information “Debias” Rule-of-Rescue Intuitions?

Existing research suggests:

Rule-of-rescue is cognitively intuitive (System 1 thinking)

Cost-effectiveness is cognitively demanding (System 2 thinking)

Loss frames enhance System 1 dominance

The gap: Do deliberative interventions (asking citizens to engage with cost-effectiveness data, trade-off exercises) override rescue-driven loss aversion? Or is rule-of-rescue so deeply moralizing that efficiency reasoning never shifts support?

This matters for policy design: Should governments attempt deliberative framing (make citizens engage analytically) or accept loss-averse preferences and design rationing systems accordingly?

Unresolved Question 2: How Do Welfare State Values Interact with Behavioral Biases?

Northern European countries emphasize solidarity and universal coverage as moral principles. Do these welfare state legitimacies:

Amplify rule-of-rescue (we protect all citizens unconditionally)?

Temper it (solidarity requires efficiency to ensure sustainability)?

This is contextual: A US experiment may yield different framing effects than a German or Scandinavian one, where welfare state commitment runs deeper.

Unresolved Question 3: Do Framing Effects Persist When Citizens Deliberate with Others?

Most experiments are individual decision-making. Real healthcare rationing decisions involve clinicians, patients, advocates, and policymakers in dialogue.

The gap: Do loss-averse, rescue-driven individuals change their minds through deliberation? Or do group dynamics amplify emotional identification with named patients?

This gap highlights limits of non-deliberative experiments for predicting real-world policy support.

VI. SUMMARY TABLE: LITERATURE GAPS AND RESEARCH OPPORTUNITIES

Research Strand	Current State	Key Gap	Opportunity for Survey Experiment
Public opinion on expensive medicines	Descriptive surveys document preferences	No experimental manipulation of frames	Test loss-frame rescue vs. gain-frame efficiency on willingness to fund
Prospect theory in healthcare	Applied to individual behaviors (vaccination, screening)	Not integrated into policy preference research	Measure loss aversion coefficients specific to cancer medicine rationing
Rule of rescue vs. cost-effectiveness	Well-documented in moral psychology	Not tested in policy framing contexts with mass public	Experimental design crossing rescue narrative with cost-effectiveness information
Framing effects	Robust in general population; weak in healthcare policy	Limited to elite/expert studies or hypothetical scenarios	Representative sample experiment with realistic high-stakes framing
Equity and distributional effects	Rarely measured in framing experiments	Aggregated results obscure heterogeneous effects	Disaggregate framing effects by SES, health literacy, prior experience
Mechanism and process	Outcomes measured; processes underspecified	Don't know why frames work or when they fail	Include emotion, fairness perception, and reasoning measures
Welfare state context	Theory available; not empirically tested	Cross-national variation ignored	Replicate design in countries with different welfare commitments

CONCLUSION: A RESEARCH AGENDA

A population-based survey experiment on public support for expensive cancer medicine funding would fill multiple significant gaps by:

Testing prospect-theory mechanisms directly in healthcare policy context with representative populations

Isolating causal effects of loss-framed rescue narratives vs. efficiency frames

Measuring heterogeneous effects by socioeconomic position, health literacy, political ideology, and prior cancer experience

Incorporating process measures (emotions, fairness perceptions) to explain mechanisms

Examining interactions between frame type, outcome uncertainty, and individual differences

Generating policy-relevant evidence on whether citizens can be persuaded to accept cost-effectiveness-based rationing through deliberative framing or whether rescue-driven loss aversion dominates

Such research would advance both theoretical understanding (how prospect theory, moral psychology, and welfare state values interact) and practical policy knowledge (what communication strategies and deliberative processes best support sustainable, equitable healthcare rationing in conditions of scarcity).

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