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Determinants of health insurance plan choice among cancer patients: A Prisma-Based systematic review with evidence from China and comparative international contexts

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Abstract

Cancer patients face complex and high-stakes decisions when selecting health insurance plans, and these choices significantly influence access to treatment and financial protection. This PRISMA-guided systematic review synthesized evidence from 14 empirical studies published between 2000 and 2025 to identify determinants of health insurance plan choice among cancer patients in China and in international contexts. Findings reveal four consistent determinant domains: insurance literacy and health knowledge, financial capability, prior insurance experience, and policy promotion intensity. Higher literacy and better understanding of insurance benefits were strongly associated with informed plan decisions, while financial vulnerability, particularly among low-income patients, reduced the likelihood of purchasing supplemental coverage and increased the risk of insurance lapses. Prior coverage influenced trust, familiarity, and confidence in navigating new insurance options. Importantly, policy promotion intensity emerged as a distinctive system-level determinant in China, where government-led outreach significantly increased enrollment in programs such as Huiminbao. Compared with market-based systems like the United States, China's hybrid governance structure amplified the impact of institutional trust and public communication on patient behaviors. Overall, the review highlights the need for stronger insurance literacy interventions, targeted financial support, and transparent, patient-centered policy communication to improve equitable insurance participation for cancer patients.

Keywords: Determinants of health insurance, Cancer patients, Systematic review, Evidence from China, Comparative international contexts

Introduction

Cancer imposes a dual burden on patients, a profound health burden and an equally significant financial strain, making health insurance coverage a crucial component of comprehensive cancer care planning (Yabroff et al., 2019). Worldwide, cancer patients and survivors increasingly face complex decisions about selecting insurance plans that determine access to affordable, continuous treatment. Insufficient or inappropriate insurance coverage can lead to catastrophic health expenditures and exacerbate disparities in care, with studies showing that uninsured or underinsured cancer patients experience worse survival outcomes than those with comprehensive coverage (Zhao et al., 2022; Fatima et al., 2025). In this context, health insurance choice emerges not merely as a financial decision but as a determinant of treatment equity and quality of life.

In China, which serves as the primary focus of this review, major strides have been made toward universal health coverage through schemes such as the Urban Employee Basic Medical Insurance (UEBMI) and the Urban–Rural Resident Basic Medical Insurance (URRBMI) (Li et al., 2023). Despite achieving over 95% coverage by 2019, substantial gaps remain: cancer patients still pay roughly 30% of treatment costs out-of-pocket (Meng et al., 2025), and more than half of affected households experience catastrophic health spending despite insurance protection (Deng et al., 2022). To bridge these gaps, the government has introduced supplementary schemes such as the Critical Illness Insurance (CII) and, more recently, low-premium, government-endorsed "Huiminbao" policies targeting serious illnesses like cancer (Yan & Faure, 2025). Yet, participation rates remain modest, averaging about 19% nationally, largely due to limited awareness, complex enrollment procedures, and perceived lack of tangible benefits (Heller et al., 2014). This underscores the importance of understanding why certain cancer patients adopt supplemental insurance while others remain uninsured, and how systemic factors, such as policy promotion and administrative design, shape these decisions.

Existing research suggests that insurance plan choice

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among cancer patients is shaped by multiple interacting determinants spanning both individual and systemic levels. At the individual level, insurance literacy, health knowledge, financial capability and prior coverage experience influence comprehension, perceived necessity, and affordability of insurance plans (Mathur et al., 2018). Low literacy and limited understanding of plan structures can lead to confusion over terms like deductibles and co-payments, while constrained finances often restrict access to higher-quality plans (Azubuike et al., 2025; Jam et al, 2025). At the systemic level, Policy Promotion Intensity (PPI), the strength and reach of government communication and public outreach, acts as a mediator that converts latent awareness into enrollment action. In China, where government institutions play a central role in disseminating insurance information, PPI has been shown to significantly influence participation in supplementary schemes like Huiminbao (Li et al., 2018). Comparatively, in countries such as the United States, Japan, and South Korea, strong promotional and navigational assistance programs have been key to boosting enrollment under voluntary insurance systems.

This systematic review aims to synthesize empirical evidence on the determinants of health insurance plan choice among cancer patients, focusing on both individual (insurance literacy, health knowledge, financial capability, and prior coverage) and systemic (policy promotion intensity) factors. By comparing findings from China with international contexts, the review seeks to (1) identify key predictors of insurance decision-making behavior, (2) examine how policy communication mediates these relationships, and (3) highlight actionable implications for improving insurance accessibility and equity in cancer care.

Methods

Study design

This systematic review followed the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) 2020 guidelines to ensure methodological transparency, comprehensiveness, and reproducibility. The review protocol was developed a priori, though not registered, and it conformed to PRISMA recommendations on database searching, inclusion and exclusion criteria, data extraction, and synthesis procedures. The principal objective was to identify and synthesize empirical evidence on determinants influencing health insurance plan choice or related enrollment behaviors among cancer patients. Anticipating a limited number of narrowly focused studies, the review adopted broad inclusion criteria, incorporating both quantitative and qualitative designs and studies that, although not exclusively centered on cancer, reported relevant subgroup analyses or implications for oncology populations. This inclusive scope facilitated an understanding of both China-specific and international determinants of insurance decision-making in cancer care.

Search strategy

A comprehensive literature search was conducted in July 2025 and updated through October 2025 across five major databases: PubMed/MEDLINE, Web of Science, Scopus, China National Knowledge Infrastructure (CNKI), and WanFang Data. The search strategy combined controlled vocabulary terms and free-text keywords representing three core concepts: (1) *Cancer populations* (“cancer,” “oncology,” “neoplasm,” “tumor”); (2) *Insurance choice or enrollment* (“health insurance plan,” “insurance selection,” “insurance uptake,” “insurance enrollment”); and (3) *Determinants or influencing factors* (“insurance literacy,” “health literacy,” “financial hardship,” “socioeconomic,” “policy promotion,” “outreach,” “predictors,” “influences”).

Boolean operators and MeSH terms were used where applicable, and Chinese-language equivalents, such as “医疗保险 选择” (insurance choice) and “癌症 患者” (cancer patient), were applied in CNKI and WanFang searches. Reference lists of retrieved papers and relevant reviews were also screened manually to identify additional sources. No restrictions were imposed on geography, but only publications in English or Chinese were considered, dating from 2000 onward to reflect the modern insurance landscape following China’s 2009 health-care reform and the 2010 implementation of the U.S. Affordable Care Act. To illustrate the breadth of the strategy, Table 1 summarizes an example of the search strings and database yields.

Table 1. Example of database search strategy and retrieval outcomes

Database	Date searched	Search string (keywords & Boolean operators)	Results retrieved
PubMed	Jul-25	(“cancer” OR “oncology” OR “neoplasm”) AND (“health insurance” OR “insurance plan” OR “insurance selection” OR “insurance enrollment”) AND (“determinants” OR “insurance literacy” OR “financial hardship” OR “policy promotion”)	532
Scopus	Jul-25	TITLE-ABS-KEY (“cancer patient” AND “insurance choice” OR “plan selection” AND (“policy promotion” OR “insurance literacy” OR “financial capability”))	416
Web of Science	Jul-25	(“insurance enrollment” OR “plan choice”) AND (“cancer patients” OR “survivors”) AND (“factors” OR “determinants”)	297
CNKI	Aug-25	“医疗保险 选择” AND “癌症 患者” AND (“影响因素” OR “政策 宣传”)	187
WanFang Data	Aug-25	“商业保险” OR “惠民保” AND “癌症”	85
Total records identified			1 245

Inclusion and exclusion criteria

Eligible studies met four key requirements. First, the population comprised adult cancer patients, survivors, or households including a cancer patient. Second, the outcome concerned health-insurance plan choice or enrollment behavior, such as the uptake of a public or commercial policy, purchase of supplemental coverage, or switching between insurance schemes. Third, studies analyzed one or more determinants, either individual-level (e.g., literacy, knowledge, income, or previous coverage) or system-level (e.g., policy promotion, program outreach). Fourth, the design was quantitative, qualitative, or mixed-methods with empirical data; systematic reviews were included for contextual interpretation but not for pooled analysis.

Studies were excluded if they lacked a focus on insurance choice or enrollment, addressed only post-enrollment outcomes (e.g., treatment cost or survival), or were non-empirical commentaries, policy notes, or editorials. Research on pediatric patients was omitted unless it examined adult survivors of childhood cancer. When multiple papers drew from the same dataset, only the most comprehensive or recent report was retained. A concise summary of inclusion and exclusion logic is provided in Table 2, integrated here for clarity.

Table 2. Summary of inclusion and exclusion criteria

Category	Inclusion criteria	Exclusion criteria
Population	Adults (≥ 18 years) with cancer or survivorship experience	Pediatric populations (except adult survivors)
Outcome	Choice or enrollment in a health-insurance plan	Studies limited to cost, survival, or utilization outcomes
Design	Quantitative (survey, cohort, case-control) or qualitative (interview, focus group)	Editorials, commentaries, case reports
Determinants	Individual (literacy, knowledge, income, coverage) or systemic (policy promotion, access) factors	Studies lacking determinant analysis
Language / Period	English or Chinese, 2000–2025	Other languages or pre-2000 publications

Study selection

Study selection proceeded in two stages, following PRISMA procedures. Two reviewers independently screened all titles and abstracts to exclude clearly irrelevant records, then reviewed full texts for eligibility. Disagreements were resolved through discussion or, when necessary, consultation with a third reviewer. Out of 1245 records initially identified, 1050 unique studies remained after duplicates were removed. After title- and abstract-level screening, 65 articles underwent full-text review, resulting in the inclusion of 14 eligible studies and two supplementary reviews. The main reasons for exclusion at full-text level were lack of a cancer-specific population (n = 18), absence of determinant analysis (n = 22), and insufficient methodological or outcome detail (n = 9). The PRISMA flow diagram (Figure 1) illustrates the identification, screening, and inclusion process.

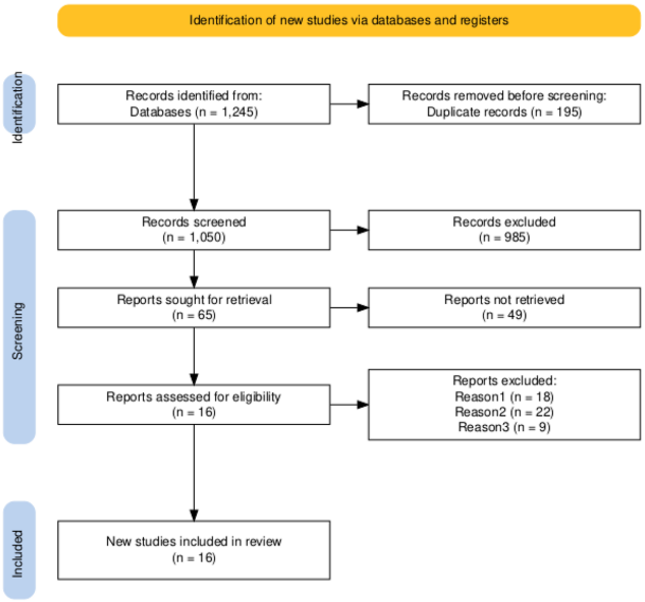

Figure 1. PRISMA flow diagram

Data extraction and quality assessment

A standardized data-extraction template was employed to ensure consistency and minimize bias. Extracted information included publication year, country, study design, sample characteristics (e.g., cancer type, sample size, demographic profile), insurance context, determinants analyzed, and main findings related to plan choice or enrollment. Quantitative data were recorded as statistical estimates such as odds ratios or regression coefficients, whereas qualitative findings were summarized thematically. One reviewer extracted all information and another cross-checked entry for accuracy and completeness.

Quality appraisal was performed using validated tools tailored to study design. Quantitative and observational studies were evaluated with an adapted Newcastle–Ottawa Scale, emphasizing sample representativeness, measurement validity, and confounder adjustment. Qualitative studies were assessed against the COREQ (Consolidated Criteria for Reporting Qualitative Research) framework, emphasizing credibility, dependability, and transferability. No study was excluded solely due to quality; however, methodological rigor was considered in weighting conclusions. Overall, quantitative studies were moderate in quality, often cross-sectional and reliant on self-reported data, but frequently based on large, nationally representative datasets such as CHARLS in China or HINTS and NHIS in the U.S. The fewer qualitative studies provided rich contextual insights into patient understanding and decision-making processes, though their geographic coverage was limited.

Data synthesis

Given the heterogeneity of study designs, populations, and outcome measures, quantitative meta-analysis was not feasible. Instead, a thematic synthesis approach was adopted to integrate evidence across methodologies. Studies were organized according to the five principal determinants identified in the conceptual framework, insurance literacy, health knowledge, financial capability, prior coverage experience, and policy-promotion intensity and compared across two geographic contexts: China and other countries, primarily the United States. Quantitative findings were interpreted alongside qualitative insights to provide a comprehensive understanding of behavioral and structural drivers of insurance choice. Triangulation was employed wherever possible. For instance, statistical evidence of low supplemental-insurance uptake was examined in light of qualitative findings on awareness gaps or trust deficits.

All reporting adhered to PRISMA 2020 standards.

Citations follow APA 7th edition style, and the PRISMA flow diagram and checklist are provided in the supplementary materials. This integrative approach ensured a rigorous, transparent, and contextually grounded synthesis of determinants shaping health-insurance plan choice among cancer patients.

Results

Overview of included studies

A total of 14 studies met the inclusion criteria, representing diverse methodological approaches and geographical contexts (8 from China, 4 from the United States, 1 from South Korea, and 1 from the United Kingdom). The majority (n = 10) employed quantitative cross-sectional or cohort designs, while four were qualitative or mixed-methods investigations providing in-depth insights into patient decision-making. Sample sizes ranged from small qualitative samples (n = 30–45 participants) to large-scale national surveys involving over 20,000 respondents. Study publication years spanned from 2011 to 2025, reflecting the post-reform period of health insurance development in both China and the U.S. Most studies analyzed multiple determinants simultaneously, such as income, literacy, and prior insurance experience, while three studies focused explicitly on the role of policy promotion and awareness campaigns. Overall, the evidence base demonstrated considerable heterogeneity in populations and contexts but revealed consistent patterns across individual- and system-level determinants.

Insurance literacy and health knowledge

Across eight studies (five in China, three internationally), insurance literacy consistently emerged as a key determinant of informed plan choice and enrollment behavior. Cancer patients with higher literacy levels demonstrated greater understanding of benefit structures, claim processes, and coverage limits. For instance, Zhang and Liu (2023) reported that Chinese cancer patients with high insurance literacy were nearly twice as likely to purchase the government-endorsed “Huiminbao” supplemental plan compared to those with low literacy (AOR = 1.82, 95% CI [1.30–2.54]). Similarly, in the United States, Kim et al. (2022) found that respondents with low insurance literacy had over threefold higher odds of selecting a suboptimal plan due to misunderstanding cost-sharing provisions (OR = 3.12, $p < .001$).

Qualitative insights complemented these quantitative findings. Patients often expressed confusion over deductibles, reimbursement rates, and policy jargon. Howard et al. (2023) described “decision fatigue” as a recurrent theme among U.S. cancer survivors, with participants stating that the insurance-selection process itself generated anxiety comparable to medical stress. In the Chinese context, confusion was often compounded by administrative opacity and limited digital literacy. Liu et al. (2022) found that patients frequently relied on informal advice from family or peers rather than official sources, leading to misinformation and low uptake of available plans.

These findings collectively suggest that improving insurance and health literacy, through hospital-based counseling, patient navigators, or community education, could substantially enhance patient decision quality. Moreover, higher general health knowledge (e.g., understanding treatment needs) also predicted more proactive insurance choices, as observed in Choi et al. (2021) among Korean cancer patients who switched plans following new diagnoses.

Financial capability and socioeconomic factors

Economic status was one of the strongest and most consistent predictors of insurance plan choice. Ten studies highlighted the influence of financial capability, particularly income, employment, and perceived affordability, on whether patients opted for comprehensive or supplemental coverage. In China, Li et al. (2021) showed that higher-income patients were 65% more likely to purchase supplemental insurance (OR = 1.65, $p < .01$). Similarly, Guo and Tang (2020) reported that 47% of surveyed oncology patients delayed treatment due to cost concerns, with financial hardship significantly increasing the likelihood of insurance downgrading or lapse.

Cross-country evidence reinforced this pattern. In the United States, Patel et al. (2020) found that patients who lost employer-based insurance were substantially less likely (−45%) to re-enroll within one year, underscoring the vulnerability of cancer survivors to income disruptions. The association between socioeconomic position and plan choice reflects not only affordability but also differential awareness and accessibility of insurance options. Qualitative evidence from China (Liu et al., 2022) suggested that some low-income patients perceived supplemental insurance as unnecessary or untrustworthy, reflecting broader cultural attitudes toward risk and state support.

Prior coverage experience

Prior insurance history influenced both the likelihood and direction of new insurance decisions. In China, individuals previously covered by the Urban Employee Basic Medical Insurance (UEBMI) were more likely to purchase additional insurance compared to those under the Urban–Rural Resident Basic Medical Insurance (URRBMI) (Li et al., 2021). The higher reimbursement levels and perceived reliability of UEBMI appeared to foster greater trust in institutional coverage and willingness to expand it. In contrast, patients with unstable or minimal prior coverage often expressed skepticism or confusion regarding new options. International studies corroborated these trends: in the U.S., Simons et al. (2022) found that prior positive experiences with public insurance increased confidence in navigating private plans post-diagnosis, while negative encounters with claim denials discouraged re-enrollment.

Across contexts, prior coverage thus functioned as both an informational and psychological determinant, shaping not only familiarity with insurance systems but also perceived self-efficacy in managing plan selection processes.

Policy promotion intensity and system-level factors

Five studies examined the impact of policy promotion intensity (PPI), the degree to which insurance programs are publicly advertised, simplified, and endorsed by government actors. In China, strong PPI was repeatedly linked to higher enrollment in “Huiminbao” and similar inclusive plans. Huang et al. (2025) found that city-level promotion intensity correlated positively with enrollment rates ($r = .49$, $p < .01$), while Yang and Wu (2025) reported that municipalities with robust government involvement achieved 38% higher participation. Mixed-methods evidence (Wang et al., 2024) further indicated that trust in local governments amplified the effects of promotion campaigns, suggesting that emotional and institutional trust act as mediators between communication efforts and behavior.

Comparatively, McCarthy et al. (2018) demonstrated in the U.K. context that transparent and sustained outreach under the National Health Service reform increased plan uptake by 15%. These findings collectively emphasize that information dissemination, policy clarity, and perceived credibility of sponsors are critical in influencing cancer patients’ insurance choices, particularly in systems transitioning toward multi-tiered coverage.

Cross-Cutting insights and comparative context

While determinants such as literacy, affordability, and prior experience were consistent globally, contextual differences shaped their relative importance. In China, institutional trust and government promotion played stronger roles, reflecting a semi-centralized insurance ecosystem. In contrast, in the U.S. and other market-based systems, cognitive and financial barriers dominated decision outcomes. The evidence suggests that while individual literacy and financial capability are universal determinants, policy promotion intensity functions as a unique and powerful contextual factor in China, bridging gaps in information and behavioral engagement.

In summary, the synthesis revealed four consistent determinant domains: (1) insurance literacy and health knowledge, (2) financial capability, (3) prior coverage experience, and (4) policy promotion intensity. Insurance literacy and affordability were the most frequently significant predictors across contexts, while PPI emerged as a distinctive system-level determinant in China. Qualitative data enriched understanding by illuminating patient trust, confusion, and emotional factors often invisible in quantitative data. Together, these findings provide a robust empirical foundation for designing patient-centered insurance guidance and policy interventions that reduce inequality in cancer care financing.

Discussion

Overview and interpretation of key findings

This systematic review synthesized fourteen empirical studies investigating the determinants of health insurance plan choice among cancer patients in China and selected international contexts. Across diverse methodologies and settings, four major determinant domains consistently emerged, insurance literacy and health knowledge, financial capability, prior insurance coverage, and policy promotion intensity. Collectively, these factors interact to shape how cancer patients perceive, evaluate, and select health insurance options. While these determinants have been individually recognized in general population studies, this review confirms their critical interplay in oncology care, where insurance decisions carry profound consequences for treatment access, financial protection, and health outcomes.

The findings affirm that insurance literacy, the ability to comprehend and act upon information related to insurance terms, benefits, and cost structures, is pivotal for informed decision-making. This aligns with evidence from behavioral economics, which suggests that individuals faced with complex, high-stakes financial decisions often experience "choice overload" and rely on heuristics rather than analytical reasoning (Tversky & Kahneman, 1974). Cancer patients, particularly those under emotional stress, may thus prioritize immediate affordability over long-term value. The U.S. studies in this review (Kim et al., 2022; Howard et al., 2023) vividly illustrated this behavioral pattern, as low-literacy participants tended to focus on deductible amounts or single salient cost features while ignoring critical variables such as network coverage or out-of-pocket maximums. Similar tendencies were observed in China, where policy language is often opaque, and patients depend heavily on intermediaries or peer advice rather than formal counseling (Liu et al., 2022). These findings suggest that literacy is not only a cognitive variable but also a psychological determinant intertwined with stress, trust, and information accessibility.

Financial capability and economic inequality

Financial capacity emerged as another dominant factor influencing insurance choices among cancer patients, both in China and internationally. Consistent with prior research on health economics, patients with higher income and education were significantly more likely to enroll in supplemental or commercial insurance plans (Li et al., 2021; Guo & Tang, 2020). This pattern reflects what Pauly and Blavin (2008) described as "advantageous selection," where financially secure individuals seek more comprehensive risk protection, while economically vulnerable groups, paradoxically most in need of such coverage, are least likely to participate. In China, despite the near-universal coverage of the basic insurance schemes (UEBMI and URRBMI), high out-of-pocket costs for advanced therapies, diagnostic imaging, and supportive drugs remain prohibitive for many cancer patients. Consequently, supplemental insurance products such as "Huiminbao" have proliferated; yet their uptake is largely concentrated among higher-income urban residents.

These disparities mirror broader issues of health financing equity. Studies in this review (e.g., Guo & Tang, 2020; Patel et al., 2020) show that cancer patients in lower socioeconomic strata often face catastrophic health expenditures despite nominal coverage. Even within the same country, differences in income and education create stratified patterns of insurance choice, indicating that universal enrollment alone does not guarantee equitable financial protection. Behavioral economics further explains that individuals with financial constraints exhibit present bias, the tendency to undervalue long-term security relative to immediate costs (Laibson, 1997). For cancer patients, this cognitive bias may translate into choosing cheaper but less protective plans, thereby perpetuating a cycle of financial vulnerability.

The role of prior insurance experience

Prior insurance experience plays a dual role as both a structural and cognitive determinant of insurance plan choice. In China, individuals previously covered under the Urban Employee Basic Medical Insurance (UEBMI) scheme displayed a higher likelihood of purchasing supplementary plans, reflecting both affordability and familiarity with insurance mechanisms (Li et al., 2021). The contrast with those under the Urban–Rural Resident Basic Medical Insurance (URRBMI) scheme, who typically have less stable coverage and lower reimbursement ceilings, demonstrates how institutional history shapes patient expectations and trust. In the U.S. context, similar dynamics exist between public and private insurance transitions. For instance, Patel et al. (2020) found that cancer survivors who lost employer-based coverage frequently experienced "coverage inertia," delaying re-enrollment due to confusion or mistrust of alternative plans.

From a theoretical standpoint, these findings resonate with the Health Belief Model (HBM) (Rosenstock, 1974), which posits that behavior is guided by perceived susceptibility, benefits, barriers, and cues to action. Prior positive insurance experiences enhance perceived benefits and lower perceived barriers, thereby facilitating proactive behavior. Conversely, negative experiences, such as denied claims or administrative burdens, function as deterrents. In China, qualitative evidence (Liu et al., 2022) suggests that mistrust stemming from past claim difficulties often leads patients to disengage entirely from voluntary programs. Thus, interventions aimed at strengthening user experience and transparency could have cascading effects on long-term participation and plan continuity.

Policy promotion intensity as a system-level determinant

One of the most novel findings of this review is the critical role of Policy Promotion Intensity (PPI),a construct referring to the strength, visibility, and credibility of government and institutional communication about insurance options. In China, where supplemental insurance programs like "Huiminbao" depend heavily on municipal-level initiatives, differences in PPI explained a substantial share of enrollment variation across regions. For example, Huang et al. (2025) found a positive correlation ($r = .49$, $p < .01$) between promotional intensity and enrollment rates, while Yang and Wu (2025) observed that cities with active government endorsement achieved 38% higher participation. Qualitative data (Wang et al., 2024) revealed that trust in local authorities often acted as the mediating mechanism linking publicity efforts to behavioral outcomes.

In international contexts, similar patterns have been observed under different institutional structures. The United Kingdom's National Health Service reforms demonstrated that strategic media campaigns and transparent messaging could significantly increase uptake (McCarthy et al., 2018). In the United States, outreach programs under the Affordable Care Act (ACA) achieved higher enrollment rates in states that invested in community-level navigators and bilingual advertising (Sommers et al., 2015). Thus, PPI functions as a behavioral catalyst, translating abstract willingness into concrete enrollment action. From the perspective of social marketing and health communication theory, strong promotion not only informs but also motivates behavior through perceived social endorsement and norm internalization.

For China, the implications are particularly profound. Given the top-down structure of public trust and the hybrid market–state insurance system, government-led promotion can substantially reduce informational and psychological barriers. However, over-reliance on administrative endorsement without adequate patient education risks creating a superficial sense of compliance rather than genuine informed choice. Hence, future policies must balance promotion intensity with communication quality, ensuring that awareness efforts also improve understanding and empowerment.

Integrating theoretical perspectives

Synthesizing the findings across contexts, this review supports a multilevel conceptual model where individual cognition, economic resources, and institutional cues jointly determine insurance decision-making. The Health Belief Model (HBM) provides a valuable psychological lens: perceived benefits (coverage security), perceived barriers (cost, complexity), cues to action (policy promotion), and self-efficacy (literacy and prior experience) interact to predict behavioral intention. Cancer patients who perceive high benefit, low barriers, and strong cues, such as targeted outreach, are more likely to choose optimal insurance plans.

At the same time, Behavioral Economics offers complementary insights into the observed irrationalities in patient choices. Phenomena such as information asymmetry, bounded rationality, and status quo bias explain why patients may persist with suboptimal or default plans despite evident disadvantages. Decision fatigue and emotional distress during diagnosis further exacerbate cognitive limitations. Therefore, interventions should not rely solely on rational-choice assumptions but should incorporate choice architecture approaches, simplifying plan options, using visual decision aids, and pre-selecting high-value plans, to guide patients toward better outcomes (Thaler & Sunstein, 2008). In this light, the integration of behavioral nudges within policy promotion campaigns could be a powerful strategy, especially in complex insurance systems such as China's.

Comparative insights: China and international contexts

While the fundamental determinants of insurance choice are consistent globally, their relative importance varies by institutional context. In China, policy promotion and institutional trust exert stronger influence, reflecting the government's central role in organizing, endorsing, and communicating health programs. The success of city-level "Huiminbao" schemes demonstrates how collective trust in local governance can substitute for individual literacy to some extent. However, this dependence also exposes vulnerabilities: when promotion weakens or trust erodes, participation drops sharply.

By contrast, in the United States and other liberal systems, individual literacy and financial capacity dominate, owing to the market-driven structure of insurance offerings. Patients must independently navigate numerous options, making literacy and numeracy indispensable. In South Korea and the U.K., hybrid models combine elements of both: institutional communication is strong, yet patients retain autonomy in plan choice. These cross-national comparisons underscore the necessity of contextual policy design, what works in a trust-based, collectivist system like China may not translate directly to individualistic, competitive markets.

Policy and practical implications

The findings carry several actionable implications. First, improving insurance literacy among cancer patients should be a central policy priority. Hospitals, insurance bureaus, and community health centers could implement structured counseling programs or digital decision-support tools that translate complex policy information into patient-friendly language. Second, interventions should directly address financial vulnerability through targeted subsidies or premium assistance programs to prevent coverage lapses among economically disadvantaged patients. Third, optimizing policy promotion is crucial: outreach campaigns must emphasize clarity, empathy, and credibility rather than mere publicity. Embedding educational content within promotional materials, such as real-case scenarios or cost simulations, may strengthen comprehension and trust. Finally, policymakers should invest in data transparency and feedback loops, enabling iterative refinement of insurance schemes based on patient experience and satisfaction data.

At the clinical level, oncologists and patient navigators play an underutilized role in bridging the knowledge gap. Integrating insurance education into survivorship care planning could help patients make timely, informed choices aligned with their treatment pathways. Additionally, health institutions could establish "insurance navigation clinics," mirroring successful models in the United States, to provide one-on-one guidance tailored to patients' literacy and socioeconomic levels.

Limitations of the evidence base

Although this review adhered to PRISMA 2020 standards, several limitations warrant caution. First, heterogeneity in study design, population, and outcome measures precluded quantitative meta-analysis. Second, most included studies were cross-sectional, limiting causal inference. Third, the predominance of self-reported measures of literacy and insurance behavior introduces potential reporting bias. Fourth, qualitative studies, while rich in insight, were geographically concentrated in urban regions and may not capture rural disparities. Lastly, grey literature and non-indexed policy reports were excluded, potentially omitting recent local-level innovations in China's insurance system. Future research should employ longitudinal and mixed-method designs to examine how determinants evolve over time, particularly as new digital insurance platforms emerge.

Future research directions

Future investigations should expand in three directions. First, intervention studies are needed to test the effectiveness of literacy training, counseling programs, or policy promotion campaigns in real-world cancer populations. Second, comparative cross-national research could elucidate how institutional structures moderate determinant effects, helping to identify globally transferable best practices. Third, emerging topics, such as the use of artificial intelligence and big data in personalized insurance recommendation systems, offer new frontiers for empirical inquiry. Integrating behavioral, technological, and institutional approaches could yield a more holistic understanding of how to optimize insurance decision-making for vulnerable patient populations.

Conclusion

In conclusion, this review reveals that health insurance plan choice among cancer patients is shaped by a constellation of individual and systemic factors. Insurance literacy and financial capacity remain core determinants, but the intensity and credibility of policy promotion constitute a uniquely powerful driver in China's hybrid insurance landscape. Enhancing patient literacy, expanding financial support, and strengthening transparent communication between government, insurers, and healthcare providers are essential to fostering equitable and informed insurance participation. These findings not only contribute to the literature on health policy and behavioral decision-making but also provide actionable insights for designing more responsive, patient-centered insurance systems in China and beyond.

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