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Health Insurance Literacy Alone Is Not Enough: The Added Explanatory Value of System Perceptions for Insurance-Related Outcomes in Israel, A Cross-Sectional Survey Study

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Research Article

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Abstract

Background

Accurately measuring health insurance literacy is critical for informing policy in increasingly complex health systems. However, commonly used measures such as the Health Insurance Literacy Measure primarily capture self-reported confidence and behaviors and may not fully reflect how individuals understand and engage with insurance systems. This study examined the explanatory performance of the Health Insurance Literacy Measure across distinct self-reported insurance-related outcomes and assessed whether perceived system clarity and complexity provided additional explanatory value.

Methods

A cross-sectional online survey was conducted in Israel among a nationally stratified sample of 511 adults. Health insurance literacy was assessed using the 21-item Health Insurance Literacy Measure. Perceived clarity and perceived complexity of the insurance system were assessed as separate variables. Linear and logistic regression models compared the explanatory performance of the Health Insurance Literacy Measure alone with models that additionally included both system-perception variables.

Results

The Health Insurance Literacy Measure explained a substantial proportion of variation in self-assessed understanding ($R^2 \approx 0.31$) but had limited explanatory power for self-reported coverage knowledge and insurance use. Adding perceived clarity and complexity modestly improved model fit for self-reported knowledge of insurance coverage and private insurance use, with McFadden's R^2 increasing from approximately 0.02–0.03 to 0.06. Perceived complexity was positively associated with both outcomes, whereas perceived clarity was negatively associated with them.

Conclusions

The Health Insurance Literacy Measure alone provides an incomplete basis for understanding insurance-related knowledge and use. Perceptions of system clarity and complexity provided additional explanatory information for selected outcomes, suggesting that policy-relevant assessment of health insurance literacy should consider both individual capabilities and experiences of the insurance system.

Background

Health insurance literacy (HIL) has emerged as a critical construct in health policy and health services research, reflecting individuals' ability to obtain, understand, and use information related to health

insurance. Adequate HIL is associated with improved decision-making, more appropriate plan selection, and better alignment between coverage and healthcare needs. Conversely, limited HIL has been linked to suboptimal insurance choices, financial burden, and reduced access to care [1, 2]. As health systems become more complex and incorporate multiple layers of coverage, the ability of individuals to navigate insurance arrangements becomes increasingly important.

Beyond its role in individual decision-making, the way HIL is measured has implications for health policy. Measurement approaches influence how population needs are identified, how interventions are targeted, and how their effectiveness is evaluated. In other areas of health policy, survey bias and measurement error have been shown to affect policy-relevant conclusions [3], suggesting that similar concerns may apply when HIL is assessed using incomplete indicators.

The Health Insurance Literacy Measure (HILM) is among the most widely used instruments for assessing individuals' ability to choose and use health insurance. Originally validated in the United States, it focuses on self-reported confidence and behaviors, and has demonstrated good reliability and construct validity across multiple settings [4–6]. Subsequent adaptations in European contexts, including the Netherlands and Switzerland, have confirmed its internal consistency and cross-cultural applicability, while also highlighting the need for contextual adjustments [5, 6]. Beyond validation, research from the Netherlands has examined how HIL relates to the process and perceived outcomes of choosing a health insurance policy, highlighting the importance of evaluating literacy measures against meaningful insurance decisions [7].

More recent work has expanded the measurement landscape by developing comprehensive tools that capture additional dimensions of HIL beyond self-reported confidence and behavior [8]. Despite its widespread use, however, the HILM remains primarily focused on individual-level knowledge, confidence, and behavioral capacities, with limited attention to the broader system-level context in which insurance decisions are made.

Existing research shows that perceived HIL does not necessarily reflect actual knowledge or use. Individuals often report moderate confidence while experiencing substantial difficulty understanding coverage, costs, and decision pathways [2, 9]. Qualitative evidence further suggests that individuals with low HIL may rely on simplifying strategies, familiar options, or external assistance when choosing insurance, underscoring the role of the decision environment alongside individual literacy [10].

These findings suggest that current measurement approaches may not fully capture how individuals interact with health insurance systems. Health-related behaviors are shaped not only by individual knowledge but also by system perceptions. This broader perspective is supported by evidence showing that patient-level health literacy and system-level health literacy attributes make distinct contributions to patient-reported outcomes [11].

The Risk Perception Attitude framework highlights how risk perceptions and efficacy beliefs may influence health insurance information-seeking [12]. Qualitative research has likewise identified

structural and informational barriers that constrain individuals' ability to understand and use their coverage [13]. Existing HILM-based research has generally focused on individual confidence and behaviors, with less attention to perceptions of system clarity and complexity that may also be relevant to insurance-related knowledge and use.

Contemporary measurement practice often involves adding context-specific or supplemental items to enhance relevance and comprehensiveness. A methodological example from another area of health measurement is provided by Klassen et al. [14], who expanded the BREAST-Q by developing new items and scales based on qualitative data and subsequently evaluating their psychometric properties. Such approaches, however, require careful empirical validation, as added items may not form coherent scales. These limitations are not only methodological but also policy-relevant. When measurement tools fail to capture how individuals actually interact with health insurance systems, they risk providing an incomplete basis for policy design. As a result, interventions may overemphasize individual knowledge while overlooking system-level factors that may shape insurance-related decisions and use.

The Israeli health system provides a particularly relevant context in which to examine these questions. Israel combines universal statutory health coverage with multiple voluntary layers of supplementary and private insurance. All residents are entitled to a publicly financed basket of services delivered through health funds, yet many individuals also hold supplementary insurance through these funds and, in many cases, additional private commercial insurance. As a result, the system is layered and overlapping, requiring individuals to distinguish between different types of coverage, eligibility rules, and reimbursement mechanisms. This structure makes individuals' perceptions of the system particularly relevant.

Over the past decade, Israeli policymakers have implemented initiatives to improve accessibility and public understanding, including linguistic adaptations, digital platforms, and regulatory efforts to enhance transparency. However, these efforts remain fragmented and are not systematically evaluated using comprehensive measurement tools. This complexity underscores the importance of measurement approaches that can capture both individual capabilities and system-level experiences.

The present study addresses this gap by examining the extent to which HILM scores account for variation across distinct self-reported insurance-related outcomes, including perceived understanding, perceived difficulty, knowledge of insurance coverage, and insurance use. It further assesses whether perceived system clarity and complexity provide additional explanatory value beyond HILM. By doing so, the study evaluates the empirical boundaries of HILM and contributes to the development of more comprehensive approaches to measuring health insurance literacy.

Unlike our previous work, which focused on the development and validation of a broader HIL instrument, the present study does not propose a new scale. Instead, it examines the empirical boundaries of HILM by testing whether perceived system clarity and complexity provide explanatory information beyond HILM across distinct insurance-related outcomes.

Methods

This study employed a cross-sectional design to examine associations between HIL, system perceptions, and self-reported insurance-related outcomes among Israeli adults. Data were collected in April 2026 using an online survey. Participants were recruited through a nationally stratified online panel (iPanel), designed to approximate key demographic characteristics of the adult population in Israel. Stratification was based on age, gender, geographic region, and population sector. Within each stratum, participants were randomly selected using computerized probability-based sampling procedures to achieve proportional representation.

Data collection was conducted by Midgam Research and Consulting, a leading Israeli research firm. According to institutional guidelines, ethical approval was not required for anonymous survey research involving members of the general public. As is common in panel-based surveys, response rates could not be calculated; however, quota targets were achieved and data completeness was ensured.

The survey instrument included the full 21-item HILM, which assesses four dimensions: confidence in choosing insurance, behavior related to choosing insurance, confidence in using insurance, and behavior related to using insurance. The Hebrew version used in the present study was based on a previously translated and culturally adapted version developed and validated in Israel using established forward–backward translation procedures and psychometric evaluation [8]. In addition, two items were included to capture perceptions of system characteristics: perceived clarity of the health insurance system and perceived complexity of the system. These items were conceptualized as distinct constructs rather than a unified scale.

Outcome variables included both subjective and behavioral measures. Subjective outcomes consisted of self-assessed understanding of health insurance, difficulty understanding insurance rights, and difficulty making insurance-related decisions. Behavioral and knowledge-related outcomes included self-reported knowledge of personal insurance coverage and self-reported use of supplementary and private health insurance.

Descriptive statistics were calculated for all study variables. Internal consistency of the HILM and its subscales was assessed using Cronbach's alpha, and item-level statistics were examined to evaluate scale performance. Given the conceptual distinction between system perception variables, these items were not combined into a composite scale.

To examine associations between literacy, system perceptions, and outcomes, a series of regression models were estimated. Linear regression models were used for continuous outcomes, and logistic regression models were used for binary outcomes. For each outcome, four model specifications were compared: (1) HILM alone, (2) HILM with perceived clarity, (3) HILM with perceived complexity, and (4) HILM with both system perception variables (referred to as the expanded model). Model performance was assessed using R^2 and adjusted R^2 for linear models, and McFadden's R^2 for logistic models. Model fit was further evaluated using Akaike Information Criterion (AIC), with lower values indicating better fit.

Models were estimated without adjustment for socio-demographic variables, as the primary aim was to compare measurement frameworks rather than to identify independent predictors. All analyses were conducted using R statistical software. Statistical significance was set at $p < 0.05$.

Results

Study population

The study sample included 511 participants. The sample was approximately balanced by gender (51.1% women). The mean age was 48 years (median = 46), with representation across all age groups (range: 21–85 years). Most participants reported good self-rated health, with responses clustering in the upper range of the scale. Approximately one quarter (25.6%) reported having a chronic illness.

Most participants reported Hebrew as the primary language spoken at home (79.3%), followed by Arabic (13.7%). Most were married or living with a partner (65.4%), and 70.1% reported having children. Over half of the sample (50.3%) held an academic degree, and 67.7% were employed. Most participants were Israeli-born (83.0%). Additional demographic characteristics of the study population are presented in Table 1. Overall, the demographic profile of the sample was broadly consistent with national population characteristics in Israel, including the relatively high proportion of individuals with post-secondary and academic education.

Overall, participants demonstrated moderate levels of HIL, with a mean HILM score of 2.48 (SD = 0.57) on a 1–4 scale. Behavioral dimensions of HIL, particularly behaviors related to using insurance, were generally higher than confidence-based dimensions. Perceptions of the health insurance system suggested relatively low perceived clarity (M = 1.97, SD = 0.72) and relatively high perceived complexity (M = 2.88, SD = 0.84), both measured on 1–4 scales, with higher scores reflecting greater perceived clarity or complexity, respectively. Despite reporting moderate levels of self-assessed understanding of health insurance (M = 5.17, SD = 2.20 on a 1–10 scale), participants also reported relatively high levels of difficulty in understanding insurance rights and making insurance-related decisions. In addition, 84.3% of respondents reported knowing their insurance coverage, and 60.2% indicated prior use of private health insurance. Full descriptive statistics and scale ranges for all study variables are presented in Table 2.

Predicting Subjective Outcomes, Knowledge and Behavior

Table 3 summarizes results of logistic and linear regression models. Higher HILM scores were associated with a greater likelihood of reporting private insurance use, with odds ratios ranging from approximately 1.9 to 2.6. The inclusion of system perception variables improved model performance, with McFadden's R^2 increasing from approximately 0.02 to 0.06. Both perceived clarity and perceived complexity were significant predictors. Perceived complexity was positively associated with self-reported private insurance use, whereas perceived clarity was negatively associated with it.

In logistic regression models, HILM was a strong and consistent predictor of self-reported knowledge of insurance coverage. Higher HILM scores were associated with substantially greater odds of reporting knowledge of one's insurance coverage, with odds ratios ranging from approximately 2.3 to 3.0. The inclusion of system perception variables improved the model performance, with McFadden's R^2 increasing from approximately 0.03 to 0.06 and AIC values decreasing. Both perceived clarity and perceived complexity were statistically significant predictors, but in opposite directions. Higher perceived complexity was associated with a greater likelihood of reporting knowledge of one's insurance coverage, whereas higher perceived clarity was associated with a lower likelihood of knowledge.

Linear regression analyses showed that HILM was a strong predictor of self-assessed understanding, explaining approximately one-third of the variance ($R^2 \approx 0.31$). Higher HILM scores were associated with substantially higher levels of perceived understanding. The inclusion of system perception variables did not improve model performance. Changes in R^2 were negligible and AIC values did not decrease, and neither perceived clarity nor perceived complexity was statistically significant.

For both difficulty understanding insurance rights and difficulty making insurance decisions, HILM was statistically significant, but the overall explanatory power of these models was limited ($R^2 \approx 0.04$). The addition of system perception variables did not improve model fit, and neither clarity nor complexity emerged as significant predictors.

Across outcomes, a consistent pattern emerged: HILM was a strong predictor of self-assessed understanding but had limited explanatory power for difficulty-related outcomes. For self-reported knowledge of insurance coverage and private insurance use, models that included HILM together with perceived clarity and complexity showed modest improvements in fit relative to HILM alone, although overall explanatory power remained limited. These patterns are illustrated in Fig. 1.

The HILM and its four subscales demonstrated high internal consistency. Perceived clarity and perceived complexity were assessed as distinct single-item variables and were therefore not evaluated as a unified scale. These variables remained conceptually distinct from the HILM while providing additional explanatory information for selected self-reported insurance outcomes.

Discussion

The present study examined the empirical boundaries of HILM by assessing its explanatory performance across distinct self-reported insurance outcomes and testing the additional contribution of system perceptions. The findings revealed a consistent pattern: HILM accounted for a substantial proportion of variation in self-assessed understanding but provided limited explanatory coverage across the other insurance-related outcomes. Perceived clarity and complexity improved model fit for self-reported coverage knowledge and private insurance use, suggesting that HILM scores alone may not fully capture system-related experiences associated with insurance knowledge and use.

Consistent with prior research, HILM demonstrated high internal consistency and strong predictive power for self-assessed understanding. This aligns with validation studies across multiple contexts, which have shown that HILM is a reliable instrument for assessing perceived capabilities and confidence related to health insurance [5, 6, 15]. However, the present findings reinforce growing evidence that HILM may primarily capture perceived capabilities rather than the broader range of self-reported knowledge and use outcomes relevant to insurance navigation.

Prior studies have documented gaps between perceived understanding and actual insurance use [9], as well as persistent difficulties in navigation even among individuals with moderate literacy [2]. In line with this pattern, HILM in the current study strongly predicted perceived understanding but had limited explanatory power for knowledge, behavior, and difficulty.

A central contribution of this study is showing that system perceptions provide additional explanatory value for outcomes extending beyond perceived understanding, specifically self-reported knowledge of insurance coverage and private insurance use. Adding perceived clarity and complexity improved model fit for these outcomes, suggesting that system perceptions captured information not fully reflected in HILM scores, although the overall explanatory power of the models remained limited. These findings suggest that capturing individuals' interactions with health insurance systems requires extending measurement beyond individual-level literacy to include perceptions of system characteristics.

This interpretation is consistent with theoretical frameworks emphasizing the role of system characteristics in shaping behavior. For example, Koh [12], extending the Risk Perception Attitude framework, highlights how efficacy beliefs and system perceptions influence information-seeking as a self-protective strategy. Within this perspective, system characteristics may shape information seeking and engagement, although the direction and mechanisms of these associations remain uncertain.

These findings have implications that extend beyond measurement. They suggest that commonly used indicators of HIL may provide an incomplete basis for policy decisions, particularly when used to guide interventions aimed at improving access, reducing financial burden, or optimizing insurance utilization. More broadly, research in other areas of healthcare financing and health-system performance has shown that measurement choices can influence policy-relevant conclusions [3, 16]. The present findings suggest that similar caution may be warranted when HIL measures are used to inform interventions or population-level assessments.

The opposite directions observed for perceived complexity and perceived clarity require cautious interpretation. Higher perceived complexity was associated with greater self-reported knowledge of insurance coverage and greater reported use of private insurance, whereas higher perceived clarity was associated with lower levels of both outcomes. These findings should not be interpreted as evidence that complexity promotes insurance engagement or that clarity reduces it. Rather, several non-mutually exclusive explanations may account for this pattern.

First, reverse causality is possible. Individuals who have used private insurance or attempted to understand their coverage may have become more aware of the system's complexity through repeated interactions with insurers, providers, reimbursement procedures, or overlapping coverage arrangements. Second, the findings may reflect an exposure effect, whereby individuals with greater need to activate insurance benefits encounter more layers of the system and therefore report both greater knowledge and greater perceived complexity. Third, perceived clarity and perceived complexity may not represent opposite ends of a single continuum. Respondents may have evaluated different aspects of the insurance system when answering each item, for example, the clarity of basic coverage information versus the complexity of reimbursement procedures or overlapping insurance arrangements. Because each construct was assessed using a single item, the present study cannot determine whether these associations reflect substantive mechanisms, differential item interpretation, or both. The observed pattern should therefore be considered hypothesis-generating and examined using multi-item measures and longitudinal or qualitative designs.

These findings highlight that subjective understanding, perceived difficulty, knowledge, and behavior represent distinct dimensions of HIL. Importantly, the contribution of system perception variables was outcome-specific. While they significantly improved prediction for knowledge and behavior, they did not contribute to explaining perceived understanding or difficulty.

This pattern suggests that different dimensions of HIL are driven by distinct mechanisms. In particular, neither HILM nor system perceptions were sufficient to explain why individuals report difficulty navigating insurance, pointing to the role of additional structural and contextual factors. Qualitative evidence supports this interpretation, indicating that administrative complexity, cost uncertainty, and fragmented information environments limit individuals' ability to translate knowledge into effective action, even when literacy levels are adequate [2, 13]. These findings underscore the limitations of viewing HIL as a purely individual attribute and support a more ecological perspective that incorporates both individual capabilities and system characteristics. A similar pattern has been observed in broader health literacy research, in which individual literacy and system-level attributes contributed independently to patient-reported outcomes [11].

The institutional structure of the Israeli health system may provide relevant context for these findings. Israel combines universal public coverage with supplementary health-fund insurance and private commercial insurance, creating overlapping layers of coverage, eligibility rules, and reimbursement procedures. Individuals who interact more frequently with supplementary or private insurance may therefore encounter greater administrative and informational complexity while simultaneously developing greater familiarity with their coverage. However, the cross-sectional design does not allow us to determine whether perceived complexity preceded greater knowledge and use, or emerged as a consequence of greater exposure to the insurance system. The findings should therefore be interpreted as evidence of an association between system perceptions and insurance-related outcomes, rather than as evidence that complexity itself promotes engagement.

Beyond its empirical findings, this study contributes to an ongoing methodological discussion regarding the modification and extension of validated measurement instruments. Traditional psychometric standards emphasize the importance of preserving the integrity of validated tools. However, in practice, health research frequently involves the addition of context-specific or supplemental items to existing instruments in order to enhance their relevance and comprehensiveness. As an example from another field of health measurement, Klassen et al. [14] expanded the BREAST-Q by developing and validating new items and scales based on qualitative evidence. More broadly, contemporary measurement research increasingly recognizes the need to refine and extend existing tools to better capture complex constructs in diverse contexts [17].

Within this framework, the present study can be understood as an example of structured measurement expansion rather than modification in the traditional sense. The addition of system perception variables does not alter the original HILM items, but rather supplements them with conceptually distinct dimensions that capture aspects of the system not addressed by the original instrument. At the same time, the findings highlight an important caveat: added items must be evaluated carefully, as they may not form coherent scales. In the present study, the poor internal consistency of the system perception items indicates that they should be treated as separate variables rather than a unified construct, reinforcing the importance of conceptual clarity in measurement expansion.

From a policy perspective, these findings highlight the need to move beyond interventions that focus solely on improving individual knowledge or skills. While educational initiatives remain important, they are unlikely to be sufficient in complex, multi-layered insurance environments. Instead, policy efforts should also address system-level characteristics, including clarity of information, navigability of coverage options, and transparency of entitlements. Incorporating system perception measures into routine population surveys may provide policymakers with more actionable insights into where and how interventions are needed. This suggests that policymakers relying on standard HIL measures may overestimate individuals' ability to navigate insurance systems and underestimate the need for system-level reforms.

Although this study is situated within the Israeli healthcare system, the findings are relevant to other settings characterized by layered or complex insurance arrangements. Similar challenges arise in both universal systems with supplementary coverage and market-based systems with multiple plan options, where individuals are required to navigate overlapping sources of coverage. As such, the need for measurement approaches that integrate individual and system-perception variables is likely to extend beyond the Israeli context.

Several limitations should be considered. First, all outcome measures were based on self-report, including knowledge of insurance coverage and use of private insurance, which may not fully reflect objective behavior. Second, the cross-sectional design precludes conclusions about temporal ordering. Greater knowledge and insurance use may shape perceptions of clarity and complexity, rather than result from them. Third, perceived clarity and perceived complexity were each assessed using a single item.

These items may capture distinct aspects of the insurance system and may also be interpreted differently across respondents. Future studies should develop multi-item measures of system perceptions and examine their dimensionality, construct validity, and prospective associations with insurance-related behavior. Finally, the findings are situated within a specific healthcare system context and may not generalize directly to systems with different institutional structures.

Conclusion

The findings suggest that HILM scores alone do not fully account for variation across distinct self-reported insurance-related outcomes. Relying exclusively on HILM scores may therefore overlook variation associated with individuals' perceptions of system clarity and complexity. Future measurement research should examine whether validated multi-item assessments of system perceptions can complement established HIL measures by capturing not only what individuals know, but also how health insurance systems are perceived, understood, and experienced in practice. Such an approach may provide a more policy-relevant foundation for improving access, equity, and effective system navigation.

Abbreviations

HIL
Health insurance literacy
HILM
Health Insurance Literacy Measure
AIC
Akaike information criterion
R^2
Coefficient of determination

Declarations

Ethics approval and consent to participate: he legal advisor to the Assuta Medical Centers Helsinki Committee determined that formal ethical approval was not required for this anonymous survey of adults from the general population. Participants were members of an established online survey panel and voluntarily chose whether to participate in the study. Before beginning the survey, participants were provided with information about the purpose of the study, the voluntary nature of participation, the confidentiality and anonymity of their responses, and their right to discontinue participation at any time. Completion and submission of the survey were considered to indicate informed consent to participate. The study was conducted in accordance with applicable institutional guidelines and regulations.

Consent for publication: Not applicable.

Availability of data and materials: The datasets generated and analysed during the current study are available from the corresponding author upon reasonable request.

Competing interests: The author declares no competing interests.

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Author's contributions: RR: Conceptualization, Methodology, Formal analysis, Investigation, Data curation, Writing, original draft, Writing, review and editing, Visualization, and Project administration. The author read and approved the final manuscript.

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Tables

Table 1. Sample Characteristics (N = 511)

Variable	N (%)
Gender	
Women	261 (51.1)
Men	250 (48.9)
Age group	
21–34	148 (29.0)
35–54	194 (38.0)
55+	169 (33.1)
Born in Israel	
Yes	424 (83.0)
No	78 (15.3)
Self-rated health	
Low (1–4)	44 (8.6)
Moderate (5–7)	148 (29.0)
High (8–10)	310 (60.7)
Reported chronic illness	131 (25.6)
Language spoken at home	
Hebrew	405 (79.3)
Arabic	70 (13.7)
Other	27 (5.3)
Family status	
Married/partnered	334 (65.4)
Having Kids	358 (70.1)
Education & **Employment**	
Academic	257 (50.3)
Employed	346 (67.7)

Variables with multiple categories were collapsed to improve interpretability.

Table 2. Descriptive Statistics of Study Variables

Variable	Mean	SD	Scale
HILM total	2.48	0.57	1–4
Confidence – choosing	2.28	0.66	1–4
Behavior – choosing	2.50	0.66	1–4
Confidence – using	2.34	0.71	1–4
Behavior – using	2.91	0.71	1–4
System clarity (higher = more clear)	1.97	0.72	1–4
System complexity (higher = more complex)	2.88	0.84	1–4
Self-assessed understanding	5.17	2.20	1–10
Difficulty understanding insurance rights	5.47	2.37	1–10
Difficulty making insurance decisions	5.46	2.44	1–10
Self-reported knowledge of coverage (%)	84.3%	–	Binary
Self-reported use of private health insurance (%)	60.2%	–	Binary

Table 3. Explanatory Models for Subjective, Knowledge, and Behavioral Outcomes

Outcome	Model	HILM (OR)	Clarity (OR)	Complexity (OR)	McFadden R^2	AIC
Knowledge of own insurance coverage	HILM	2.31***	–	–	0.03	426
	+ Clarity	3.08***	0.62*	–	0.05	422
	+ Complexity	2.26***	–	1.42*	0.05	422
	HILM + clarity + complexity	2.96***	0.65*	1.38*	**0.06**	419
Reported use of private health insurance	HILM	1.94***	–	–	0.02	663
	+ Clarity	2.68***	0.58***	–	0.04	651
	+ Complexity	1.99***	–	1.61***	0.05	647
	HILM + clarity + complexity	2.59***	0.64**	1.52***	**0.06**	640
Outcome	**Model**	**HILM (β)**	**Clarity (β)**	**Complexity (β)**	**R^2**	**AIC**
Self-assessed understanding of health insurance	HILM	2.15***	–	–	0.31	2032
	+ Clarity	2.13***	0.05	–	0.31	2034
	+ Complexity	2.15***	–	−0.08	0.31	2034
	HILM + clarity + complexity	2.14***	0.03	−0.07	0.31	2036
Difficulty understanding insurance rights	HILM	0.79***	–	–	0.04	2277
	HILM + clarity + complexity	0.85***	−0.10	0.17	0.04	2279
Difficulty understanding insurance decisions	HILM	0.89***	–	–	0.04	2303
	HILM + clarity + complexity	0.94***	−0.08	−0.10	0.04	2307

Odds ratios (OR) are presented for logistic regression models and unstandardized coefficients (β) for linear regression models. * p < .05, ** p < .01, *** p < .001

Figures

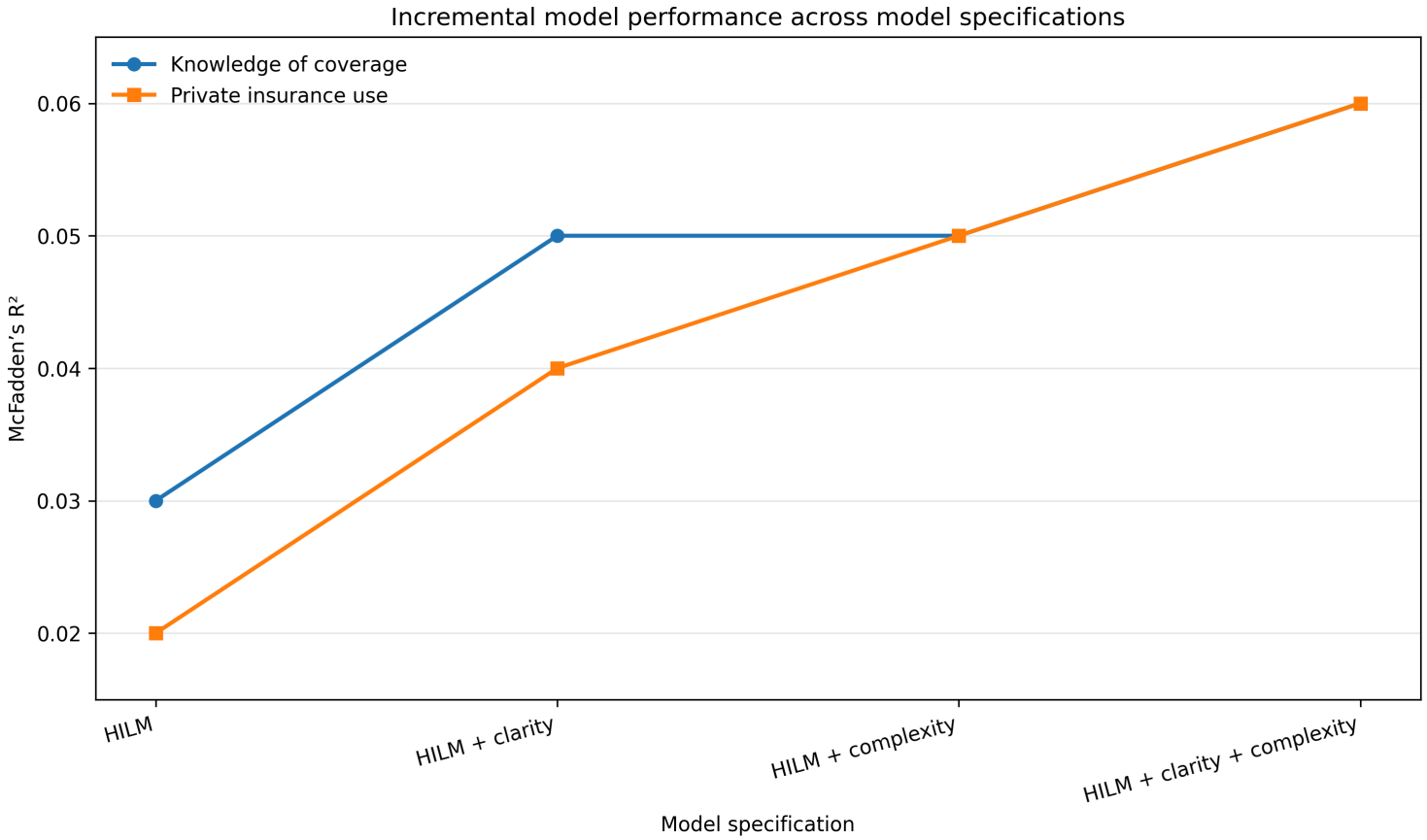


Figure 1

Incremental model performance for self-reported insurance knowledge and private insurance use.

The figure presents McFadden's R^2 across model specifications for self-reported knowledge of insurance coverage and private insurance use. Models including perceived clarity and perceived complexity showed improved fit relative to HILM alone.

Supplementary Files

This is a list of supplementary files associated with this preprint. Click to download.

- SupplementaryMaterial1HealthInsuranceLiteracyQuestionnaireEnglish.pdf