

Health Insurance Literacy And Its Implications For Access To Care: A Systematic Literature Review

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Abstract: *The United States (US) has one of the most complicated healthcare finance systems in the world. Health insurance is a complex financial product that requires a high level of literacy (HIL) and continuous engagement. Understanding and addressing the health insurance literacy of adult consumers' in the US is a crucial endeavor in this ever-changing healthcare environment. HIL is the degree of knowledge, ability, and confidence needed to find and evaluate health insurance plans, select the best one to meet their needs, and utilize it once enrolled. This systematic literature review aimed to determine whether the use of educational interventions for health insurance literacy among adult minorities and those living at a low socioeconomic status improves access to and care utilization. A search transpired using the PubMed/Medline and Complementary Index academic databases following the Preferred Reporting Items for Systematic Reviews and Meta-Analyses guidelines. Data from 20 relevant articles were meticulously analyzed using screening criteria that revolved around the research question, and five themes emerged during the process. The themes included the effectiveness of educational interventions to improve literacy, the significance of choosing and navigating insurance plans effectively, the impact of HIL on access to care, the impact of HIL on the utilization of care and the impact of HIL on the effective use of healthcare services and health insurance. The findings of this study imply that health insurance literacy educational interventions can improve the health insurance literacy of adult minorities and those of low socioeconomic status and ultimately increase their access to and utilization of care.*

Keywords—health insurance literacy; access to care; utilization of care; educational interventions

1. INTRODUCTION

Health insurance literacy (HIL) is the degree of knowledge, ability, and confidence needed to find and evaluate health insurance plans, select the best one to meet their needs, and utilize the plan once enrolled.¹⁷

The United States has one of the most complicated healthcare finance systems globally speaking, which is compounded by seemingly constant reforms.⁹ Reform, designed to improve access to care, has charged the consumer with locating and selecting health insurance. Health insurance is one of the most complicated purchase decisions a person can make.⁹ Finding, sorting through the many options, and choosing a health insurance plan can be a daunting task for consumers that highlights the importance of health insurance literacy.¹⁷

Obtaining health insurance offers the potential to increase access to and improve the utilization of healthcare services. Since the approval of the Affordable Care Act, the uninsured rate has decreased significantly. As such, health insurance is available to many people who had never had the option before. Despite this, many remain uninsured.²⁵ This discrepancy might be attributable to low health insurance literacy. American consumers, in particular minorities and those of low socioeconomic status, have significant difficulties selecting, understanding, and using health insurance resulting in barriers to selection and ultimately to needed healthcare.² Health insurance navigation struggles take a toll on the consumers' health and financial wellness and affect the cost of health plans across the board.⁹

It is unknown whether health insurance literacy educational intervention is associated with increased access to care for minorities and those of low socioeconomic status. Thus, this systematic literature review aims to determine whether the use of educational interventions for health insurance literacy among adult minorities and those living at a low socioeconomic status improves access to and the utilization of care.

2. METHODS

The literature search process utilized the Preferred Reporting Items for Systematic Reviews and Meta-Analysis (PRISMA) guidelines. PRISMA guidelines include searching for relevant studies, screening for inclusion and exclusion criteria, data extraction based on the screening for criteria, synthesis of the data to identify key themes, and reporting the findings.^{15, 16} The process used for selecting the articles included in this review is illustrated in Figure 1. The authors utilized Google Scholar to narrow the topic choice, and then conducted a systematic search using the PubMed and the Complementary Index research databases. Google Scholar was purposefully excluded due to an excessive amount of irrelevant results while using broader search terms. Studies and reviews published between the years 2015 and 2020 were included to capture the most current material on the topic. A Boolean search transpired using broad search terms with Boolean search operators included. The key terms used in the search included health insurance literacy, access to care, minorities, low socio-economic status, and educational interventions. The initial search returned 344 results combined.

2.1 EXCLUSION CRITERIA

Filters were applied to both PubMed and Complementary Index to exclude articles outside of the selected study time frame of 2015-2020, and those not included in academic peer-reviewed journals. The application of additional filters transpired to include full text only and to return results only in the English language. These filters excluded 247 articles.

One reviewer screened the remaining 97 articles and determined whether or not the articles were relevant to the study. The exclusion process was completed manually and removed an additional 77 articles. Of the articles excluded, most were explicitly related to health literacy and its effects on health and treatment choices. The screening criteria used focuses around the research question; does the use of educational interventions for health insurance literacy among adult minorities and those living at a low socioeconomic status improve access to care and utilization of care? Articles not relevant to this objective were excluded. The final sample was 20 articles.

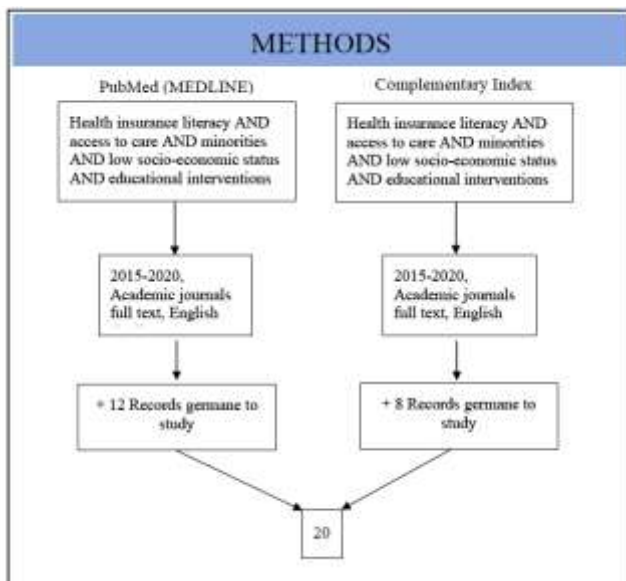


Fig. 1. Literature Review Process

3. RESULTS

The broad term search criteria produced a comprehensive sampling of the literature. The author carefully reviewed a total of 20 articles for common themes. Table 1 provides a detailed summary of the articles.

An affinity matrix illustrates the frequency of mention or the discussion of a particular topic. For this review, the authors constructed an affinity matrix that identifies the occurrences of common themes in the literature relative to the use of HIL educational interventions at increasing access to and utilization of care for adult minorities and those of low socioeconomic status. Table 2 displays this data. Overall

there were five recurrent themes throughout the literature. In total, there were 63 mentions of relevant information in the articles about HIL educational interventions, access to and utilization of care, and health insurance navigation.

A total of nine out of 20 (45%) articles reported on the effectiveness of educational interventions to improve literacy from the research findings.^{2, 3, 5, 7, 12, 17, 20, 21, 22} 18 out of 20 (90%) articles reported the significance of choosing and navigating insurance plans effectively.^{1, 2, 3, 4, 5, 6, 7, 9, 10, 11, 12, 17, 18, 19, 20, 21, 22, 24} 12 out of 20 (60%) articles made reference to the impact of HIL on access to care.^{1, 2, 3, 7, 9, 12, 17, 18, 19, 20, 22, 23} 13 out of 20 (65%) articles indicated that HIL had some impact on utilization of care.^{1, 2, 3, 7, 9, 12, 13, 17, 18, 19, 20, 22, 23} 11 out of 20 (55%) articles suggested that HIL has some impact on the effective use of healthcare services and health insurance.^{1, 2, 3, 4, 7, 12, 17, 19, 20, 22, 23}

4. DISCUSSION

Since the passage of the Patient Protection and Affordable Care Act (ACA) in 2010, the increased number of available plans and the complexity of cost-sharing features that often change annually has created a critical issue regarding health insurance literacy in the United States.^{3, 19} Numerous researchers have concluded that US consumers' health insurance literacy is critically low, with only 4-14% of subjects assessed having a basic understanding of health insurance. More alarming is this literacy deficit is significantly more prevalent in lower socioeconomic groups.¹⁹ Additionally, Paez et al. reports that those with lower levels of health insurance literacy are characteristically younger, are often minorities, have lower income and education levels, and utilize health care less frequently.³ As such, these vulnerable populations face numerous difficulties in choosing and using health insurance.^{2, 9}

In this systematic review, the authors aimed to determine if the use of educational interventions for health insurance literacy among adult minorities and those living at a low socioeconomic status could improve access to and the utilization of care? The research revealed and outlined in Table 2, reveals five common attributes found throughout the literature. These attributes collectively support the assertion that educational interventions can improve the health insurance literacy of adult minorities and those of low socioeconomic status and increase access to and utilization of care for those populations.

Attribute 1, the effectiveness of HIL educational intervention appears to be relatively understudied; thus, only 45 percent of the articles in this review substantiates the effectiveness of educational interventions in improving health insurance literacy.^{2, 3, 5, 7, 12, 17, 20, 21, 22} Brown et al. state that effective health insurance literacy education can

resolve many challenges and help consumers make purchase decisions.⁵ They determined in their review of the educational literacy intervention known as Smart Choice Health Insurance Program[®], that it is effective at increasing consumer self-confidence and ability to purchase health insurance irrespective of socioeconomic status, age, race, or gender.⁵ Additionally, Patel et al. evaluated Insuring Good Health Intervention – an educational website focused on eligibility enrollment and navigation and concluded that it demonstrated positive influences on the enrollment rates in low-income, diverse racial/ethnic communities.²⁰ Due to the lack of studies, more research is necessary to fully substantiate this attribute on its own.

In stark contrast to the percentage of articles touting the effectiveness of educational interventions, 90 percent of the articles reviewed validate, health insurance literacy's significance in the consumers' ability to choose and navigate insurance plans effectively.^{1, 2, 3, 4, 5, 6, 7, 9, 10, 11, 12, 17, 18, 19, 20, 21, 22, 24} Ali et al. found that the urban African American participants of their study found difficulty choosing an insurance plan that was most appropriate for their needs and found it hard to comprehend and use their coverage.² Additionally, Edward et al. found that Spanish speaking minority Latinos/Hispanic with low health insurance literacy levels faced significant barriers when navigating through and enrolling in health insurance.⁹ Improving health insurance literacy is an important part of addressing the persistent health disparities in minority communities.² As such, a better understanding of how educational interventions can assist minority communities with health care literacy and navigation needs is needed.²¹

Of the articles reviewed, 60 percent reveal that health insurance literacy has an impact on access to care;^{1, 2, 3, 7, 9, 12, 17, 18, 19, 20, 22, 23} And, 65 percent of the articles reviewed confirm an impact on utilization of care.^{1, 2, 3, 7, 9, 12, 13, 17, 18, 19, 20, 22, 23} Having limited health insurance literacy leaves many susceptible and in danger of forgoing necessary care effectively diminishing access to health care services.¹ Additionally, from a population health perspective, limited health insurance literacy results in much less efficient use of health care services to include delaying care for chronic conditions, not having a regular source of care, or not utilizing preventive care.¹ Additionally, health education and health insurance literacy are associated with increased healthcare utilization. Therefore, health insurance literacy is crucial for engagement in healthcare services because it minimizes the cost barrier to utilization.¹² As such, an overall understanding of health insurance is essential for accessing timely and appropriate health care services.¹ Similarly, 55 percent of the articles reviewed reference the impact of HIL on the effective use of healthcare services and health insurance.^{1, 2, 3, 4, 7, 12, 17, 19, 20, 22, 23} Health insurance literacy places a focus on how customers interact with health insurance. In contrast, an insufficient understanding of health

insurance inhibits users from making informed choices and appropriately using their coverage when accessing health care services.¹

Health insurance is a very complex financial product that requires a high level of literacy and continuous engagement.^{5, 19} Therefore, understanding and addressing the health insurance literacy of United States adult consumers' is a crucial endeavor in this ever-changing healthcare environment.² The attributes identified in this review, collectively, validate the author's contentions that health insurance literacy educational interventions can improve the health insurance literacy of adult minorities and those of low socioeconomic status and ultimately increase their access to and utilization of care.

Apart from the findings above, this review had some limitations: practical time constraints, the exclusion of non-English language articles, the search strategies used, and the subjective nature of the reviewers. This review was conducted over 12 weeks. The review excluded non-English language articles that eliminated certain publications from the review.

The literature review utilized a preliminary search strategy using Google Scholar first. An additional search strategy occurred using PubMed and Complementary index academic databases for examining peer-reviewed journal articles. The search was keyword guided. Using different terminology while searching the academic databases might have produced additional articles not captured in the present study. The last limitation is the subjective nature of the reviewer of the articles. There exists a potential for different interpretations of the articles.

To curtail the limitations above, the author followed the PRISMA based systematic review guidelines and protocols.^{15, 16} We filtered the information collected, starting at 344 articles from the PubMed and Complementary index academic databases until there was no additional information obtainable to advance these ideas. A review of each article occurred, along with a determination of whether the article aligned with the research question. The author then read each article and determined whether the article aligned with the research question. Notwithstanding the limitations of this study, educational interventions can improve the health insurance literacy of adult minorities and those of low socioeconomic status and increase access to and the utilization of care for these populations.

Future researchers can use the results of this literature review as a basis for possibly conducting a mixed-method study. Researchers should consider incorporating data collection processes with qualitative and quantitative surveys to further support the efficacy of HIL educational interventions in these and other vulnerable populations. Also,

policymakers could use these results as a steppingstone to develop policies related to a nationwide plan to increase the

health insurance literacy of all consumers in the United States.

Table 1: Summarized findings of the literature

Title	Findings
Health Insurance Literacy Among International College Students. <i>Journal of International Students</i> ¹	The study findings show a need for universities to develop a plan to integrate international college students in the U.S health system, which includes the need to improve health insurance literacy.
Addressing Health Insurance Literacy Gaps in an Urban African American Population: A Qualitative Study ²	A study of the health insurance literacy needs post-Affordable Care Act in a predominantly African American community in West Louisville, Kentucky, where many gained health insurance coverage for the first time. The study assesses ways of assisting residents with navigating the healthcare system and utilizing their health insurance coverage. The study explores using alternative, HIL educational methods, which may be better received and more successfully used by the community.
Building Health Insurance Literacy: Evidence from the Smart Choice Health Insurance™ Program ³	This article uses data on health insurance literacy from participants in the Smart Choice Health Insurance™ program. The study sought to understand sociodemographic and environmental variables that predict initial health insurance literacy. The findings highlight the importance of considering sociodemographic characteristics in program design and delivery of educational efforts to achieve gains in literacy for a range of consumers.
Tobacco use and health insurance literacy among vulnerable populations: implications for health reform ⁴	This article details the study of the relationship between tobacco users and health insurance literacy. Tobacco users, along with the uninsured, and minorities are among those most likely to suffer from low health literacy. The authors collected data from 631 lower-income, minority, rural residents of Virginia and assessed their health insurance literacy using four factual questions about the coverage options presented to them.
Smart Choice Health Insurance®: A New, Interdisciplinary Program to Enhance Health Insurance Literacy ⁵	An evaluation of the Smart Choice Health Insurance® consumer education program, using the definition of health insurance literacy, a review of the literature, and appropriate theoretical frameworks. The results of the study reveal a statistically significant increase in health insurance literacy, and confidence in choosing health insurance upon completion of the Smart Choice Health Insurance® program.
What Extension Professionals Say About Teaching Health Insurance: Results from a Nationwide Survey ⁶	This article evaluates the results of a nationwide survey on the teaching of health insurance by extension educators. The study revealed that finance educators were the most likely extension educators teaching health insurance. However, overall extension educators are not comfortable teaching health insurance topics and wanted more professional development around the subject.
Breaking Health Insurance Knowledge Barriers Through Games: Pilot Test of Health Care America ⁷	This study designed and tested an interactive news game aimed at improving health insurance knowledge. The authors developed the game using scenarios and included entry-level information using national news stories, local personal accounts, and health insurance company information. A total of 72 participants completed in-person, individual gaming sessions, and completed a survey before and after.
The impact of health and health insurance literacy on access to care for Hispanic/Latino communities ⁹	This study assesses the impact of health literacy and health insurance literacy on health insurance status and access to health care services for Hispanic and Latino communities in Massachusetts. Health literacy and HIL are closely tied to insurance status and access to health care for these communities, indicating a need for enhanced public health efforts to improve knowledge and awareness around navigating health care systems.
Racial Differences in Awareness of the Affordable Care Act and Application Assistance Among Low-Income Adults in Three Southern States	This paper explores two potential reasons for racial or ethnic differences in ACA enrollment. Latinos may be less likely than other groups to apply and enroll in health insurance, and therefore have the highest uninsured rate in the United States. The authors surveyed 3000 low-income U.S. citizens (aged 19-64) in 3 states and found that Latinos had significantly lower levels of ACA awareness relative to other groups.
Health insurance literacy and awareness of the Affordable Care Act in a vulnerable Hispanic population ¹¹	This cross-sectional study examines the association between HIL and ACA knowledge. The authors conducted 681 in-person interviews with participants at a community health event near the Texas-Mexico border. The analysis revealed that low ACA knowledge was associated with little confidence in choosing health insurance plans. The study concludes that promoting HIL is an essential step towards improving healthcare access.
Health insurance literacy and health service utilization among college students ¹²	This study aimed to determine the relationship between health insurance knowledge, self-efficacy, and student healthcare utilization. The study contends that college students have scant knowledge and self-efficacy regarding health insurance.

Table Continues

Can Health Literacy Boost Health Services Utilization in the

This study tests whether health literacy boosts health services utilization in the context of expanded access to health insurance. The study determined that health literacy cannot adequately explain why people fail to access preventive services even when they

Title	Findings
Context of Expanded Access to Health Insurance? ¹³	have health insurance.
Efficacy of an online video to promote health insurance literacy among students ¹⁷	This study describes the production and evaluation of an online video explaining health insurance to 30 university students in France using semi-structured interviews. Results indicated that students had remarkably improved knowledge about health insurance after viewing the video. This study highlights the importance of using innovative digital communication tools to promote health insurance literacy.
Health insurance literacy: A mixed methods study of college students ¹⁸	The study examines the health insurance literacy or the ability to use health insurance of college students effectively. The authors used an online questionnaire to test students' knowledge of commonly encountered health insurance terms and their ability to apply that knowledge.
Examining Antecedents of Health Insurance Literacy: The Role of Locus of Control, Cognitive Style, and Financial Knowledge ¹⁹	This article examines the relationship between consumer psychographics, financial knowledge, and demographics with health insurance literacy. Results indicate that locus of control, cognitive style, and consumer's economic confidence is an indicator of their health insurance literacy.
Insuring Good Health: Outcomes and Acceptability of a Participatory Health Insurance Literacy Intervention in Diverse Urban Communities ²⁰	This study evaluates the efficacy of the Insuring Good Health Intervention, a website, and video series designed to improve engagement with health insurance and the ACA. The study concludes that Insuring Good Health has potential as a consumer engagement tool to reduce disparities in health insurance coverage and care-seeking.
Use of Storytelling to Increase Navigation Capacity Around the Affordable Care Act in Communities of Color ²¹	This article describes the formation of Insure Detroit, a community-based participatory (CBPR), and the development of Insuring Good Health, a multimedia, health technology-focused intervention, and an evaluation plan for the intervention. The article concludes that a CBPR approach can develop media-based health communications to address health insurance literacy. It also highlights that this approach can result in interventions that can resonate well with communities of color.
Young Adults Changing Insurance Status: Gaps in Health Insurance Literacy ²²	This study examines health insurance literacy gaps that can hinder access to timely care when changing insurance. The study is based in California because the state has the largest population of adults ages 18–34, the largest minority population, and significant socioeconomic diversity.
Association Between Health Insurance Literacy and Avoidance of Health Care Services Owing to Cost ²³	The objective of the study was to assess the association between health insurance literacy and self-reported avoidance of health care services relative to cost. This study suggests that lower health insurance literacy is associated with more significant avoidance of both preventive and non-preventive healthcare.
Health Insurance Literacy: Disparities by Race, Ethnicity, and Language Preference ²⁴	This study looks at health insurance literacy from the racial and ethnic disparity viewpoint. The study concludes that low HIL affects racial/ethnic minorities disproportionately and recommends an education a campaign coupled with point-of-care health insurance navigation support and efforts to simplify health insurance design to enhance the value of insurance for all.

Table 2: Frequency of occurrence in the literature

Benefits	Occurrences	Instances of Attributes (n)	Percentage (%)
Effectiveness of educational interventions to improve literacy	2, 3, 5, 7, 12, 17, 20, 21, 22	9	45%
Significance in the ability to choose and navigate insurance plans effectively	1, 2, 3, 4, 5, 6, 7, 9, 10, 11, 12, 17, 18, 19, 20, 21, 22, 24	18	90%
Impact of HIL on access to care	1, 2, 3, 7, 9, 12, 17, 18, 19, 20, 22, 23	12	60%
Impact HIL on utilization of care	1, 2, 3, 7, 9, 12, 13, 17, 18, 19, 20, 22, 23	13	65%
Impact of HIL on effective use of healthcare services and health insurance	1, 2, 3, 4, 7, 12, 17, 19, 20, 22, 23	11	55%

5. CONCLUSION

Given the findings of this literature review, low health insurance literacy has significant implications on access to and the utilization of health care services among minorities and those of low socioeconomic standing. Improving the health insurance literacy of the US consumer can potentially enhance the utilization of health care services and garner better health outcomes and possibly enhance public health as a whole. Consequently, finding ways to intervene and counter the effects of low health insurance literacy demands the attention of policymakers, clinicians, and other stakeholders.

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