ISSN: 2755-9866

Journal of Health Statistics Reports

SCIENTIFIC Research and Community

Review Article

Open Access

Evaluating Health Literacy and the Intersection of Public Policy

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ABSTRACT

Health literacy (HL), is how people find, understand, and use information to make informed health-related decisions. HL is a determinant of individual and population health. This article examines the intersection of HL and public policy, and discusses how strategic policymaking can enhance HL and improve health outcomes. Drawing on theoretical frameworks such as Nutbeam's Model of Health Literacy, the Elaboration Likelihood Model, and the Theory of Planned Behavior, we explore how HL influences health behaviors, healthcare utilization, and patient engagement. We also review global policy initiatives, including national HL strategies in the European Union, Australia, China, and the United States. Case studies and public health campaigns, such those related to tobacco control and COVID-19 communication efforts, are analyzed to illustrate best practices and the effectiveness of policy. Despite progress, significant challenges persist, including health disparities, misinformation, and barriers to policy implementation. We conclude with recommendations to strengthen HL through education, accessibility, stakeholder collaboration, and media literacy. A systems-level approach is crucial for reducing health inequities and promoting informed decision-making across diverse populations.

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Received: July 02, 2025; **Accepted:** July 07, 2025; **Published:** July 17, 2025

Keywords: Collaboration, Education, Elaboration, Elaboration Likelihood Model, Health Literacy, Partnerships, Policymaking, Public Health, Theory of Planned Behavior

Evaluating Health Literacy and the Intersection of Public Policy

Health Literacy (HL) is the ability to find, understand, and use information to make informed decisions about one's health [1]. HL is more than reading prescription labels, accessing websites on the internet, or visiting a physician. The terminology encompasses the use of health systems, insurance, and critical thinking to reflect on the effects of past, present, and future behaviors that impact health outcomes.

Public policies actively shape how health information is shared and accessed, directly influencing the overall HL of populations [2]. By addressing determinants such as access to healthcare and health information, education and literacy, training for healthcare providers, and integrating HL into healthcare, public policy affects people's ability to actively engage with their healthcare and make informed decisions [3]. Health literacy is a critical determinant of public health outcomes, and effective public policy plays a key role in providing individuals and communities with access to health information and services.

Understanding the Importance of Health Literacy in Individual and Population Health

Nutbeam proposed a framework for health outcomes that categorizes HL into three levels: functional, interactive, and critical. Functional HL requires individuals to be able to read and comprehend health information [4]. Interactive HL requires cognitive engagement and active interaction with information. The highest level, critical HL, requires critical thinking to analyze and take action to address broader social and systemic health issues. Nutbeam argued that a comprehensive approach is necessary to address all facets of HL and improve public health outcomes [4]. The approach involves creating self-sufficiency and empowering individuals and communities to act on knowledge through personal communication and community-based outreach.

As discussed, higher HL is associated with better health outcomes and more efficient use of healthcare services [4]. In contrast, low HL strongly predicts reduced medication adherence, greater likelihood of hospital readmission, and elevated mortality rates [5,6]. Low levels of HL impact reduced capacity to follow medication regimens, interpret healthcare instructions, and self-manage chronic illnesses.

Theoretical Frameworks Supporting the Importance of Health Literacy and Public Policy

Factors influencing HL include, but are not limited to, education, socioeconomic status, and cultural barriers, which may impact attitudes, beliefs, and actions. Ajzen's Theory of Planned Behavior (TPB) provides a valuable framework for understanding how HL influences health-related behaviors [7]. According to TPB, intention, which is shaped by attitude, subjective norms, and perceived behavioral control, drives behavior. HL plays a key role in all three components: attitude toward the behavior, subjective norms, and perceived behavioral control. Individuals with higher HL are more likely to understand the benefits and risks of health behaviors (e.g., taking medications and attending screenings), leading to more informed and positive attitudes.

Health-literate individuals are often better equipped to interpret social and cultural expectations around health (e.g., advice from healthcare providers or community norms), which can influence their motivation to act in line with these expectations. HL enhances a person's confidence in their ability to navigate the

healthcare system, understand instructions, and make informed decisions, thereby increasing perceived control over health actions. Therefore, HL draws strength from each element of the TPB, which increases the likelihood that individuals will engage centrally with messaging through the Elaboration Likelihood Model (ELM) and form intentions, therefore, following through with behaviors that promote better health outcomes.

The Role of Elaboration in Health Literacy and Public Policy

In addition to access, comprehension, and usability, the cognitive process of elaboration plays a critical role in how individuals engage with and act upon health information. Elaboration refers to the extent to which individuals thoughtfully process and integrate information into existing knowledge structures [8]. Within the context of HL, elaboration can bridge the gap between understanding health content and making informed behavioral decisions, especially in environments saturated with conflicting or overly technical health messages.

ELM provides a valuable theoretical lens for understanding how individuals engage with health communication. The model describes two primary routes of information processing [8]. The central route, characterized by high elaboration and critical analysis, and the peripheral route, where decisions are made based on cues such as the attractiveness of the source or emotional appeal [8]. High-HL individuals are more likely to process health messages via the central route, leading to more stable attitudes and long-term behavior change [9]. Those with lower HL, on the other hand, may rely on peripheral cues due to limited cognitive resources, time, or confidence to analyze information deeply.

Elaboration has significant implications for health policy and public health campaigns. Public policies that prioritize simplified messages without considering how audiences cognitively elaborate on information may miss opportunities to support critical HL development. For example, multimedia campaigns or policy-driven public health interventions must consider not only readability but also the design of message features that provoke deeper cognitive engagement. Strategies presenting concrete examples, using analogies, and prompting reflection can encourage elaboration among broader populations, particularly when communicators tailor messages to the audience's baseline HL [10].

Furthermore, elaboration intersects with Ajzen's Theory of Planned Behavior (TPB), which is established as a framework for understanding HL and behavior change [7]. Elaborative processing can strengthen the antecedents of intention, such as, attitude, subjective norms, and perceived behavioral control, by facilitating the integration of new information with existing beliefs (Figure 1). For example, a well-elaborated understanding of vaccine efficacy and social responsibility can enhance subjective norms and perceived control, increasing intention to vaccinate.

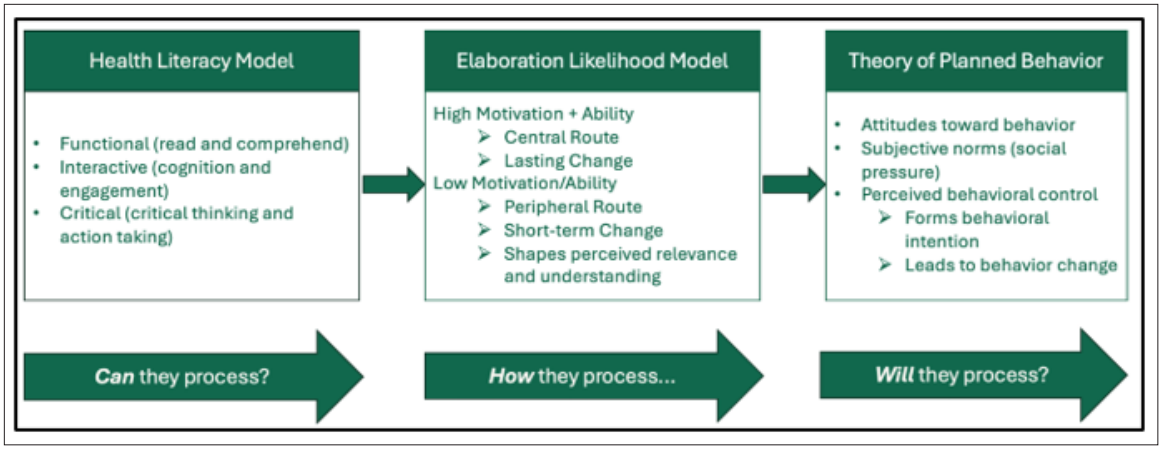

Figure 1: Theoretical Framework Interactions

Policy must therefore go beyond the provision of accurate health information; it must encourage environments that enable individuals to engage with information meaningfully, rather than relying on heuristics. Initiatives such as decision aids, interactive digital tools, and health education curricula designed with elaboration in mind represent practical pathways for fostering critical HL across diverse populations. Future HL policy should integrate cognitive processing theories, such as ELM, to better facilitate individual and holistic population engagement with health content.

The Role of Public Policy in Health Literacy

Policymakers play a crucial role in amplifying and supporting public health initiatives, such as HL. To improve levels of HL and overall health outcomes, countries around the globe have established national policies, strategies, or frameworks to address inadequate levels of HL. European Union (EU) countries with active policies include Austria, Ireland, Italy, Portugal, Spain, and the United Kingdom [11]. While some EU countries lack a national action plan or established policies, many have established agenda-setting goals or supporting vulnerable groups that may include non-governmental organizations or other working groups as stakeholders. Countries outside the EU with policies in place include Australia, China, and the United States.

The HEALIT4EU project identified HL policies or action plans across 16 countries in the European Union [12]. This study found that in the counties with policies or actions in place, the aims were to identify best practices, provide support for groups likely to have lower levels of HL, and to gain a deeper understanding of HL levels. Most plans included language promoting awareness and/or agenda setting [11].

The Healthy China 2030 initiative, introduced in 2016, is a national strategy that is comprehensive and designed to enhance population health and integrate health into all aspects of social and economic development [13]. This long-term plan shifts the national focus from disease treatment to prevention, aligning with global efforts. The strategy outlines 15 measurable targets to be achieved by 2030, including reductions in smoking rates, obesity, and chronic disease prevalence, as well as increased physical activity and life expectancy [13]. A core principle of the initiative is the "Health in All Policies" approach, which promotes cross-sector collaboration to address the broader determinants of health.

Healthy China 2030 also emphasizes complete life-cycle health management by strengthening preventive services and integrating care across all stages of life [13]. Community-based healthcare plays a central role, with the expansion of primary care and health services at the grassroots level to improve accessibility and responsiveness [13]. Additionally, the initiative promotes health literacy, encourages healthy behaviors, and supports workforce training and the dissemination of best practices through professional networks. Annual evaluations monitor progress, which utilize established performance indicators to guide continuous improvement. While the initiative marks a significant shift in public health policy, it faces implementation challenges, including financial constraints, institutional fragmentation, and the growing burden of noncommunicable diseases. Nevertheless, Healthy China 2030 represents a transformative vision that positions health as a shared societal responsibility and a pillar of national development.

Government Initiatives and Legislative Frameworks

In the United States, federal policies such as the Affordable Care Act and Healthy People 2030 have prioritized HL as a key determinant of health [1,14]. These initiatives recognize that promoting and improving the public's ability to access, understand, and use health information is essential for better health outcomes.

Policies Addressing Health Communication, Patient Education, and Accessibility

Public policy has also facilitated the development of tools and standards in the United States to improve health communication. An example is the CDC Clear Communication Index [15,16], an evidence-based tool that helps develop and assess public communication materials such as flyers or digital media advertisements for a broad audience. This tool helps to simplify complex health information, encourage and enhance patient education, and promote accessibility across varying literacy levels and cultural contexts.

The Role of Healthcare Providers, Schools, and Community Programs

Advancing HL relies on national policy and the engagement and implementation of healthcare systems, educational institutions, and local community organizations. Policies that foster collaboration between policy and practice are crucial in integrating HL promotion into clinical care, educational curricula, and public health initiatives. By equipping healthcare professionals, educators, and community leaders with tools and training, public policy can influence and ensure the effective implementation of HL efforts throughout society.

Challenges at the Intersection of Health Literacy and Public Policy

Although HL shapes outcomes and informs policymaking decisions, several challenges complicate efforts to improve HL through public policy (Figure 2). The first noted challenge is the vast disparity in HL levels among and between various demographic groups. Considerations, including socioeconomic status, education level, language proficiency, and cultural background, impact an individual's ability to find, understand, and utilize health information. These disparities impact health outcomes and pose challenges for broad policy initiatives to deliver information and support all populations effectively [17].

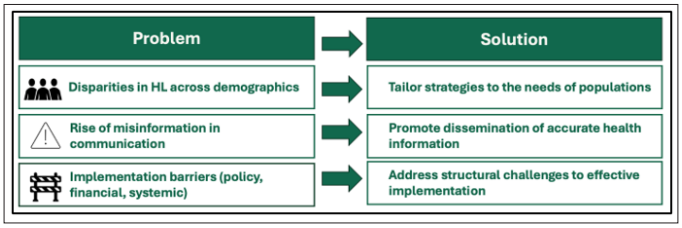

Figure 2: Challenges at the Intersection of Health

A second challenge is the dissemination of misinformation in digital health communication. While online platforms, including social media and websites, provide access to and rapid dissemination of information, they also offer opportunities to spread inaccurate, misleading, or harmful information that could impact health outcomes. Individuals from various populations may not recognize or be able to evaluate the credibility of these sources, which undermines public health efforts and reduces trust in evidence-based health information [18].

Finally, there are barriers to implementing policy. Even though policymakers and researchers work to develop effective HL policies, structural barriers often hinder implementation. Such barriers include politics, funding, and systemic challenges that can hinder the enactment or sustainability of programs to improve HL. These challenges emphasize the need for coordinated, systemic strategies that account for the complex nature of HL while addressing structural inequities in healthcare and the education systems [17].

Case Studies and Best Practices

Actual examples that highlight challenges and successes in integrating effective communication strategies into public health initiatives best illustrate the intersection of health literacy and public policy. Through case studies, recent policy responses reflective of global health crises, and international comparisons, effective practices and lessons for future initiatives are illustrated.

Successful Public Health Campaigns Enhancing Health Literacy

Effective models for advancing HL through policy include public health initiatives, such as anti-smoking campaigns and vaccination efforts. For example, tobacco control measures that utilize graphic warning labels and easily understandable educational materials have led to significant reductions in smoking rates across diverse population groups. These campaigns prioritized clarity, accessibility, and cultural relevance; key components of public HL that support informed choices and promote positive health behaviors [19].

International Comparisons

National HL policies vary globally. Countries including Australia, the Netherlands, Finland, Sweden, and the United Kingdom (UK) have developed strategies to incorporate HL into healthcare services, educational systems, and public outreach efforts. These approaches often include developing frameworks or standards to evaluate progress. These strategies demonstrate structured and

policy-led efforts to address systemic gaps in health understanding [20]. Additionally, their efforts demonstrate commitment and collaboration across various sectors to sustain HL initiatives.

Finland provides a case of successful curriculum integration with policy. Finnish law requires that educators who teach health education complete specialized university-level training with a focus on HL [21]. The institutionalism through law ensures that HL is embedded in the curriculum. The Finnish model demonstrates how legislative measures can elevate HL as a foundational competence within education systems, backed by rigorous teacher preparation and a supportive policy framework.

In 2014, the Australian Commission on Safety and Quality in Health Care (ACSQHC) released the National Statement on Health Literacy. Policy implementation occurs through standardized healthcare practices and is translated into localized, community-driven programs [22]. The effectiveness of this model hinges on culturally tailored design and evidence-informed scaling to ensure proper accessibility and equity in health communication.

The Swedish government addresses health disparities at the national, regional, and local levels. A key takeaway from the Health and Medical Services Act is that progress toward health equity is achievable when universal healthcare is combined with targeted policy efforts [23]. The country demonstrates the value of publicly funded access for all by ensuring that care is based on need, not income. Standardized clinical guidelines and coordinated care pathways are in place to promote consistency in treatment across regions. Additionally, decentralized service delivery allows local responsiveness while maintaining national standards. The policy addresses social and economic conditions that affect health outcomes through cross-sectoral initiatives.

Despite these strengths, however, Sweden continues to face challenges in ensuring equitable access to healthcare among lower-income groups, highlighting the ongoing need for data-driven resource allocation, performance monitoring, and tailored support for underserved populations.

In the UK, Scotland developed Making it Easy: A Health Literacy Action Plan for Scotland. This initiative positions HL not just as an individual responsibility but as a shared, systemic challenge, promoting cross-sector collaboration and robust evaluation to drive sustained, effective change [24]. Furthermore, the plan guides how stakeholders are encouraged to build capacity by training staff and sharing best practices, tools, and case studies across networks.

Covid-19 And the Role of Policy in Health Communication

The COVID-19 pandemic emphasized the importance of clear and trustworthy public health communication. Although government responses varied, those that prioritized transparent and targeted outreach in multiple languages were more effective in promoting health-protective behaviors. Alternatively, inconsistent messaging and misinformation underscored the gaps in policy preparation and public health communication. Essentially, the pandemic demonstrated that without HL, even thoughtfully designed policies are lacking in terms of public understanding and compliance [19,20].

Policy Recommendations for Enhancing Health Literacy

Improving HL requires a multifaceted approach to address systemic barriers and make health information accessible, reliable, and understandable. The following recommendations outline strategies for strengthening public health communication and fostering collaboration and informed decision-making across diverse populations.

Strengthen Health Education in Schools and Communities

Integrating HL into formal education curricula is crucial for equipping individuals with the knowledge and skills necessary to navigate the healthcare system effectively. Policies should support the inclusion of health topics in primary and secondary education, as well as adult education programs, emphasizing critical thinking, prevention, and the evaluation of health information. Community-based educational initiatives can further extend these efforts to underserved populations, fostering lifelong learning and HL development [25].

Improve Accessibility to Healthcare Information

To ensure that health information is usable across varying populations, policies must mandate the availability of materials in multiple languages, formats (e.g., print, audio, digital), and literacy levels. Inclusion requires adapting resources for individuals with disabilities and tailoring content to meet the specific cultural and linguistic needs of various communities. Improved accessibility expands the reach of public health messaging and helps reduce health disparities.

Encourage Collaboration Between Key Stakeholders

To create an effective HL policy, coordinated efforts across sectors must foster relationships and understanding. Ethnographic approaches suggest that meaningful collaboration between policymakers, educators, healthcare providers, and community leaders can reveal context-specific needs and lead to more responsive interventions [26]. Policies should incorporate incentives and promote partnerships and knowledge-sharing networks, integrating diverse perspectives and expertise into program design and implementation.

Address Misinformation Through Media Literacy and Regulation

The proliferation of health misinformation, particularly online, necessitates policy responses that emphasize media literacy and responsible content regulation. Educational policies should promote media literacy as part of the school curriculum and public awareness campaigns, enabling individuals to assess the reliability of health information critically. Additionally, regulatory frameworks must hold platforms accountable for disseminating false or misleading health content while supporting the visibility of evidence-based sources [25].

Summary

Health literacy is a critical social determinant of health that influences health outcomes [27]. It encompasses finding, understanding, and using information to make informed decisions that affect personal and public well-being [4]. Improving HL is not solely an individual responsibility; it requires systemic support through thoughtfully designed public policies, education, and community engagement [2,3]. While global efforts have led to the development of national strategies and best practices, persistent challenges such as health disparities, digital misinformation, and implementation barriers continue to hinder progress [11,12,17,5]. To close these gaps, health policies must promote accessibility, foster cross-sector collaboration, integrate HL education into curricula, and support evidence-based communication initiatives such as the CDC Clear Communication Index as demonstrated by case studies and international responses, especially during the COVID-19 pandemic [15,16,19,20,25,26].

HL is essential for effective communication, informed decision-making, and equitable health outcomes. Moving forward, sustained commitment to HL at the policy level is necessary to ensure that all individuals, regardless of background, are empowered to navigate health systems and lead healthier lives. Future HL policy should integrate cognitive processing theories like ELM and TPB better to facilitate individual and holistic population engagement with health content.

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