

Determinants Of Healthcare Service Utilization By The Elderly: An Integrative Literature Review Of Physical Accessibility, Information Technology Access, Healthcare Costs, And Family Social Support

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Abstract

Population ageing makes health service utilization among older adults a strategic public service issue. The 2025 Intercensal Population Survey (SUPAS) recorded that older persons account for 11.97% of Indonesia's population, yet nearly half of older adults reporting health complaints do not use formal health services. This study analyzes the determinants of health service utilization among older adults in terms of physical accessibility, access to information technology, and health costs, and examines the role of family social support as a moderating variable. An integrative literature review was combined with a descriptive analysis of secondary data from Statistics Indonesia, the Ministry of Health, and official reports. Articles published in 2016–2026 were retrieved from Google Scholar, Garuda, PubMed Central, and DOAJ, purposively selected, and synthesized thematically. The findings show that (1) shorter travel time and lower transport costs increase the likelihood of facility use; (2) internet use is positively associated with outpatient care, while the digital divide among older adults remains wide; (3) health insurance ownership is the most consistent enabling factor, although indirect costs remain a barrier; and (4) family social support may buffer the negative effects of access barriers, but the evidence is inconsistent due to differing measurements. This review proposes a conceptual model with four testable propositions and recommends integrated elderly health service policies that combine outreach services, digital assistance, financial protection, and stronger family involvement.

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Keywords: *older adults; health service utilization; accessibility; digital divide; family social support*

INTRODUCTION

Indonesia has entered a phase of population aging. Statistics Indonesia (BPS) records that the proportion of the population aged 60 and older rose from 8.43% in 2015 to 12% in 2024, with an elderly dependency ratio of 17.76 (BPS, 2024). Results from the 2025 Inter-Censal Population Survey (SUPAS) confirm this trend: out of a total population of 284.67 million, 11.97% are elderly (Katadata, 2026). This proportion is projected to continue rising, reaching approximately one-fifth of the population by 2045 (BPS, 2024).

The growing number of elderly individuals has direct consequences for public service systems, particularly healthcare. The elderly constitute a group with a high burden of non-communicable diseases and multimorbidity; consequently, their need for healthcare services is routine and ongoing (World Health Organization [WHO], 2015). However, this high level of need is not always matched by service utilization. An analysis of the National Socio-Economic Survey (Susenas) data in East Java reveals that 49.6% of elderly individuals experiencing health complaints did not seek outpatient care, citing reasons such as self-medication, a perceived lack of necessity, and financial constraints (Ahmad & Barikha, 2022). National data also indicates that only about half of the elderly holding health insurance coverage actually utilize outpatient services (Rahardja et al., 2024).

From a public administration perspective, low service utilization among the group most in need points to an issue regarding equity of access. The New Public Service paradigm positions citizens—including the elderly—as individuals to be served responsively, rather than merely as targets of programs (Denhardt & Denhardt, 2000). The government has responded through the National Health Insurance (JKN) program, elderly-friendly Community Health Centers (Puskesmas) and Integrated Service Posts (Posyandu) for the elderly (Minister of Health Regulation No. 67 of 2015), the National Strategy on Aging (Presidential Regulation No. 88 of 2021), and the digital-based health service transformation outlined in Law No. 17 of 2023 concerning Health. The effectiveness of these policies is largely determined by the extent to which the elderly can access services physically, digitally, and financially.

The most widely used theoretical framework for explaining health service utilization is Andersen's (1995) Behavioral Model of Health Services Use, which categorizes determinants into



predisposing, enabling, and need factors. Concepts of access proposed by Penchansky and Thomas (1981) and Levesque et al. (2013) complement this model by emphasizing dimensions such as geographic accessibility, availability, and cost affordability. In Indonesia, empirical studies have confirmed the roles of travel time (Ipa et al., 2023; Megatsari et al., 2023), health insurance coverage (Madyaningrum et al., 2018; Ahmad & Barikha, 2022), and internet usage (Rahardja et al., 2024) in service utilization by the elderly.

However, there are three research gaps. First, most studies examine access factors in isolation, failing to provide a comprehensive picture of how physical, digital, and financial barriers interact. Second, information technology access is a relatively new addition to the list of determinants, even though public health services are increasingly reliant on digital channels such as online registration and the Mobile JKN application. Third, the role of family social support is generally positioned as an independent variable rather than as a factor that can strengthen or weaken the influence of access barriers (i.e., a moderating factor). Conflicting findings—such as the observation that elderly individuals living with family are actually less likely to seek outpatient care (Rahardja et al., 2024)—highlight the need for a more rigorous conceptual analysis.

Addressing this gap, this study aims to: (1) synthesize scientific evidence regarding the impact of physical accessibility, information technology access, and healthcare costs on healthcare service utilization among the elderly; (2) examine the role of family social support as a moderating variable; and (3) formulate a conceptual model, along with research propositions and implications for public service policy. Theoretically, this study extends the application of the Andersen model by incorporating digital dimensions and moderation mechanisms. Practically, the findings provide a foundation for formulating more inclusive healthcare policies for the elderly.

LITERATURE REVIEW

1. Andersen's Behavioral Model of Health Services Use

Andersen's model explains that health service utilization is influenced by three groups of factors. Predisposing factors encompass demographic characteristics, social structures, and health beliefs. Enabling factors include personal, family, and community resources that allow an individual to access services, such as income, insurance, and facility availability. Need factors encompass health conditions that are either perceived by the individual or assessed by health professionals (Andersen, 1995; Andersen & Newman, 2005). Subsequent developments added



contextual characteristics—specifically, the environmental and health system conditions surrounding the individual (Andersen, 2008; Babitsch et al., 2012). In this study, physical accessibility, information technology access, and healthcare costs are positioned as enabling factors, while family social support is positioned as a family resource capable of modifying the strength of the relationship between enabling factors and service utilization.

2. The Concept of Health Service Access

Penchansky and Thomas (1981) defined access as the degree of fit between the patient and the service system, comprising five dimensions: availability, accessibility (geographic reach), affordability, accommodation, and acceptability. Levesque et al. (2013) expanded this into a patient-centered access framework by linking provider-side dimensions with the patient's ability to perceive, seek, reach, pay for, and engage with services. This framework is particularly relevant for the elderly, as declines in mobility, literacy, and financial capacity simultaneously reduce their ability to access services. In developing countries, Peters et al. (2008) demonstrated that geographic and financial barriers are the primary causes of access disparities among the poor.

3. Public Administration Perspective

Healthcare services for the elderly constitute a form of basic public service that the state is obligated to guarantee. The New Public Service paradigm asserts that public administrators have a duty to serve citizens, foster shared public interests, and pay attention to vulnerable groups (Denhardt & Denhardt, 2000). Within this framework, low service utilization is viewed not merely as an issue of individual behavior, but also as an indicator of public service performance and equity. Service quality dimensions—such as reliability, responsiveness, and empathy (Parasuraman et al., 1988)—also determine whether the elderly are willing to use the services again.

4. Study Variables

Physical accessibility refers to the ease with which the elderly can reach healthcare facilities; it is measured by distance, travel time, transportation availability and cost, and the elderly-friendliness of physical infrastructure. Transportation barriers have been shown to cause delayed care, missed appointments, and irregular medication use (Syed et al., 2013).

Information technology access refers to the ability of the elderly to obtain and use devices, internet networks, and digital health services—such as online registration, health information, and telemedicine. The concept of the "digital divide" distinguishes between disparities in physical access, skills, and actual usage (van Dijk, 2020). Digital health literacy among



the elderly is influenced by age, education, cognitive status, and social support (Wang & Luan, 2022).

Healthcare costs encompass direct costs (out-of-pocket expenses for examinations and medication) and indirect costs (transportation, time, and lost income for caregivers). Indicators of financial protection include health insurance coverage and the incidence of catastrophic health expenditure (Fattah et al., 2023).

Family social support refers to the assistance provided by family members to the elderly in the form of emotional, instrumental, informational, and appraisal support (House, 1981). The buffering hypothesis posits that social support protects individuals from the negative effects of stress or adversity; thus, conceptually, social support functions as a moderator (Cohen & Wills, 1985). A moderator is defined as a variable that alters the direction or strength of the relationship between an independent variable and a dependent variable (Baron & Kenny, 1986).

Healthcare service utilization refers to the use of formal health facilities by the elderly—including outpatient care, inpatient care, and promotive or preventive services such as the Integrated Health Post for the Elderly (Posyandu Lansia)—within a specific period.

RESEARCH METHODS

1. Research Design

This study employs an integrative literature review design—a method that combines findings from studies with diverse designs (quantitative, qualitative, and systematic reviews) to generate new understanding and a conceptual framework regarding a specific phenomenon (Torraco, 2005; Whitemore & Knafl, 2005). This design was selected because the study aims to construct a conceptual model and research propositions rather than quantitatively estimate the magnitude of an effect (Snyder, 2019). The study is complemented by a descriptive analysis of official secondary data to illustrate the context of the elderly population in Indonesia.

2. Data Sources

The data consist of two types. First, scholarly journal articles retrieved via Google Scholar, Garuda (Garba Rujukan Digital), PubMed, and DOAJ. Second, secondary data from official publications, namely *Statistik Penduduk Lanjut Usia* (Elderly Population Statistics) 2024 and 2025 (BPS, 2024, 2025), results from SUPAS 2025, the *Survei Kesehatan Indonesia* (Indonesian Health Survey) 2023 (Ministry of Health, 2023), and WHO reports (2015, 2021).

3. Search Strategy



The search utilized a combination of the following keywords and Boolean operators:

- English: ("older adults" OR "elderly" OR "aged") AND ("health service utilization" OR "healthcare use" OR "outpatient") AND ("accessibility" OR "travel time" OR "distance" OR "internet" OR "digital" OR "telehealth" OR "cost" OR "insurance" OR "family support" OR "social support")
- Indonesian: ("lansia" OR "lanjut usia") AND ("pemanfaatan pelayanan kesehatan" OR "posyandu lansia" OR "berobat jalan") AND ("jarak" OR "aksesibilitas" OR "teknologi informasi" OR "biaya" OR "jaminan kesehatan" OR "dukungan keluarga")

4. Inclusion and Exclusion Criteria

Table 1. Inclusion and exclusion criteria.

Aspect	Inclusion criteria	Exclusion criteria
Population	Older adults (≥ 60 years) or samples with an older adult subgroup analyzed separately.	General population excluding the elderly subgroup analysis
Topic	Discussing at least one determinant: physical accessibility, access to information technology, healthcare costs/coverage, or family support.	Not related to the utilization of health services
Publication type	Empirical articles or systematic reviews in reputable journals (indexed in SINTA, DOAJ, Scopus, or PubMed)	Opinion pieces, editorials, and conference abstracts without full papers
Period	Published 2016–2026; references to classical theories are exempt from the date limit.	Published before 2016 for empirical articles
Language	Indonesia or England	Other languages
Access	The full text is accessible.	The full text is not available.

5. Article Selection

Article selection was conducted in stages and using a purposive approach. Titles and abstracts from the search results were first reviewed to assess their relevance to the four study variables; subsequently, the full texts of relevant articles were read to ensure alignment with the inclusion criteria. Priority was given to studies utilizing national-scale data or large samples,

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studies conducted in Indonesia, and relevant international systematic reviews. This process yielded 15 key studies that formed the basis of the synthesis (Table 2), supplemented by theoretical literature and policy documents as supporting references. Consistent with the nature of an integrative review, this study did not aim to capture every existing publication but rather the most relevant evidence for constructing a conceptual model (Whittemore & Knafl, 2005).

6. Data Extraction and Analysis

Data from each article were extracted into a matrix detailing the author, year, location, design, sample, variables studied, and key findings. Analysis was performed using thematic synthesis (Braun & Clarke, 2006), mapped to four themes corresponding to the study variables. The synthesis results were then used to formulate a conceptual model and research propositions.

RESEARCH RESULT

1. Study Characteristics

The synthesized studies are dominated by analyses of large-scale national survey data (Susenas and Riskesdas) using cross-sectional designs, complemented by community-based studies and international systematic reviews. Table 2 summarizes the key studies and their main findings.

Table 2. Summary of synthesized key studies

Penulis (tahun)	Lokasi dan data	Sampel	Variabel kunci	Temuan utama
Rahardja et al. (2024)	Indonesia, Susenas 2020	29,905 elderly	Internet, health insurance, housing arrangements	Elderly individuals without internet access are 1.36 times more likely to forgo outpatient care; those without insurance coverage are 1.64 times more likely to do so.



Aslan et al. (2024)	International meta- ethnography	10 studies	E-health services	Low digital literacy, complex app design, and support networks determine adoption.
Xie et al. (2024)	Tiongkok, CLASS 2018	Community- dwelling older adults	Social isolation	Isolation from family reduces the use of primary care services.
Aisyah et al. (2024)	Majene, West Sulawesi	Elderly residents in the Community Health Center (Puskesmas) service area	Family support	Family support is associated with the utilization of the Integrated Health Post for the Elderly (Posyandu Lansia).
Megatsari et al. (2023)	East Java, national survey	25.034 elderly	Travel time, insurance	A travel time of ≤10 minutes increases the likelihood of visiting the community health center.
Ahmad & Barikha (2022)	East Java, Susenas 2017	6,511 elderly	Economic status, insurance coverage, employment	49.6% of the elderly reported not seeking outpatient care; health coverage and economic status were significant factors



Wang & Luan (2022)	International coverage study	Digital health literacy study	Digital health literacy	Research on digital literacy among the elderly is in its early stages; it is influenced by education, cognition, and support
Wulandari et al. (2019)	Indonesia, Riskesdas 2013	199,653 elderly	Socioeconomic status	Higher economic status correlates with higher hospital utilization
Wulandari & Laksono (2019)	East Java, Riskesdas 2013	25,813 elderly	Urban–rural area	There is an urban–rural disparity in the utilization of community health centers (Puskesmas)
Terfa et al. (2019)	Jimma, Ethiopia	Community-dwelling older adults	Morbidity, socioeconomic factors	Elderly individuals with multimorbidity are more likely to use modern health services
Pandey et al. (2019)	United States, Medicare	Medicare beneficiaries	Marital status	Marital status influences service utilization patterns
Madyaningrum et al. (2018)	Indonesia, national survey	elderly	Health insurance, economic status	Individuals with health coverage are more likely to seek outpatient care



Higuchi et al. (2018)	Japan, JAGES	23,079 elderly	Social support	Instrumental support reduces unmet service needs
Valtorta et al. (2018)	Systematic review	Study on older adults	Social relationships	The relationship between social support and service utilization is inconsistent
Boachie (2017)	Ghana	Older adults with hypertension	Age, insurance, wealth	Insurance and wealth influence outpatient care utilization

2. Profile of the Elderly and Healthcare Service Utilization in Indonesia

Secondary data reveal three mutually reinforcing conditions. First, the elderly population continues to grow, and Indonesia has surpassed the 10% threshold for the elderly population share (BPS, 2024; Katadata, 2026). Second, economic dependency among the elderly is high: the elderly dependency ratio stands at 17.76, and the majority of the elderly rely on income from other household members to meet their living needs (BPS, 2024). Third, a significant gap remains between needs and service utilization. The majority of elderly individuals experiencing health complaints opt for self-treatment; furthermore, in 2020, only about half of the elderly possessing health insurance utilized outpatient services, despite health insurance coverage among the elderly having reached 73.59% (Rahardja et al., 2024). The *Statistics on the Elderly Population 2025* publication, based on the March 2025 National Socio-Economic Survey (Susenas), can be used to update these figures (BPS, 2025).

These conditions indicate that the issue of service utilization by the elderly is not merely a matter of program availability. Barriers arise at the intersection of the elderly's capabilities and the way services are delivered, as outlined in the access framework proposed by Levesque et al. (2013).



3. Physical Accessibility and Service Utilization

Evidence from Indonesia consistently shows that shorter travel times increase service utilization. Elderly individuals in East Java who can reach a community health center (puskesmas) within 10 minutes or less are more likely to utilize services compared to those requiring more time (Megatsari et al., 2023). In the Maluku archipelago, residents with a travel time to the hospital of 30 minutes or less were 1.79 times more likely to utilize hospital services (Ipa et al., 2023). Studies on the urban poor have also identified travel time and transportation costs as determinants of hospital utilization (Laksono et al., 2020), while a national analysis revealed regional disparities influenced by travel time and type of residence (Laksono et al., 2023).

For the elderly, physical barriers are multifaceted. Beyond distance, they face declining mobility, limited public transportation, and facilities that are not yet elderly-friendly. International research indicates that transportation barriers lead to missed appointments and delayed care, particularly among low-income groups and those with chronic illnesses (Syed et al., 2013). Urban-rural disparities in the elderly's use of community health centers (Wulandari & Laksono, 2019) suggest that the unequal distribution of facilities remains a service governance issue. Findings by Ahmad and Barikha (2022)—showing that the elderly frequently seek treatment at private doctor or midwife practices operating in the evening—further demonstrate that accommodation dimensions, such as service hours, are just as important as distance.

4. Information Technology Access: Opportunities and the Digital Divide

Digitalization creates both new opportunities and new barriers. Rahardja et al. (2024) found that elderly individuals who do not use the internet were 1.36 times more likely to forgo outpatient care. However, internet usage among the elderly remains very low: only about 7% of elderly individuals with poor health status use the internet, even though the proportion of elderly internet users rose from 1.98% in 2016 to 11.44% in 2020. Low levels of education and limited internet infrastructure in rural areas exacerbate this gap.

International studies elucidate the mechanisms behind this disparity. A meta-ethnography by Aslan et al. (2024) identified ten themes determining the adoption of e-health services by the elderly, including digital literacy, interface design, access to devices and the internet, and support networks. Elderly individuals tend to have negative experiences with online services when social support is limited and applications are difficult to use. Digital health literacy among the elderly is influenced by education, cognitive condition, and social support (Wang &



Luan, 2022), while their readiness to adopt health technology is also determined by perceived benefits and prior experience (Heart & Kalderon, 2013; Vroman et al., 2015).

In the context of public services, these findings are significant because digital channels—such as online registration and the Mobile JKN app—are increasingly becoming the primary entry points for services. Without alternative channels or assistance, digitalization risks creating new forms of exclusion for the elderly, aligning with van Dijk's (2020) concepts of the second-level (skills) and third-level (benefits) digital divide.

5. Healthcare Costs and Financial Protection

Health insurance coverage is the most consistent enabling factor identified in the literature. Elderly individuals with health insurance are more likely to seek outpatient care (Madyaningrum et al., 2018; Ahmad & Barikha, 2022), whereas those without insurance are 1.64 times more likely to forgo outpatient treatment (Rahardja et al., 2024). Economic status also plays a role: the higher the socioeconomic status of the elderly, the higher the hospital utilization (Wulandari et al., 2019), consistent with findings in other countries (Boachie, 2017; Park, 2014). Socioeconomic disparities in healthcare utilization in Indonesia are also evident across all age groups (Mulyanto et al., 2019).

However, health insurance coverage has not eliminated the entire financial burden. While JKN-participating households experience catastrophic health expenditures less frequently, out-of-pocket payments continue to burden JKN participants and the poorest households, particularly in rural areas and when utilizing private facilities (Fattah et al., 2023). For the elderly, indirect costs—such as transportation and the time lost by caregivers who must leave work—are often more significant than the medical costs themselves (Laksono et al., 2020). Evidence indicating that JKN membership among the poor is influenced by education levels (Putri et al., 2023)—and that government insurance has not yet been fully effective in encouraging hospital utilization among the urban poor (Wulandari et al., 2023)—underscores the need for policies that go beyond mere expansion of coverage (Shrestha, 2021).

6. Family Social Support as a Moderator

The literature indicates that family support plays a crucial yet complex role. At the community level, various studies have found a link between family support and elderly participation in *Posyandu Lansia* (integrated health posts for the elderly)—for instance, through



family members escorting them, reminding them of schedules, and providing motivation (Aisyah et al., 2024). In Japan, elderly individuals receiving instrumental support experience fewer unmet service needs—an effect even greater than that of household income, particularly among low-income groups (Higuchi et al., 2018). In China, isolation from family reduces primary healthcare utilization among the elderly (Xie et al., 2024).

The findings of Higuchi et al. (2018) specifically supports the buffering function of social support: instrumental support is most beneficial for older adults facing financial constraints. This aligns with the buffering hypothesis proposed by Cohen and Wills (1985), which posits that social support protects individuals particularly when stress or barriers are high. Conceptually, families can compensate for barriers to access by transporting older adults to distant facilities (physical accessibility), assisting with online registration (technological access), and covering indirect costs (healthcare expenses).

However, empirical evidence is inconsistent. A systematic review by Valtorta et al. (2018) found no consistent relationship between social support and outpatient service utilization after controlling for health needs. In Indonesia, older adults living with family are actually slightly less likely to seek outpatient care (Rahardja et al., 2024), and findings regarding marital status vary across studies (Pandey et al., 2019; Ahmad & Barikha, 2022). These inconsistencies likely stem from differences in measurement. Living arrangements reflect only structural support, whereas functional support—such as assistance with transportation, information, and costs—has not been captured in national surveys. Families may also substitute for certain formal service functions—such as caring for older adults at home or purchasing medication—thereby reducing visits to healthcare facilities. Consequently, examining the moderating role of family support requires multidimensional instruments to measure functional support.

7. Conceptual Model and Research Propositions

Based on the synthesis above, this study formulates a conceptual model positioning physical accessibility, information technology access, and healthcare costs as enabling factors influencing healthcare service utilization among older adults, with family social support acting as a moderator (Figure 1). This model integrates Andersen's (1995) framework and the access concepts proposed by Levesque et al. (2013), and the buffering hypothesis of Cohen and Wills (1985).



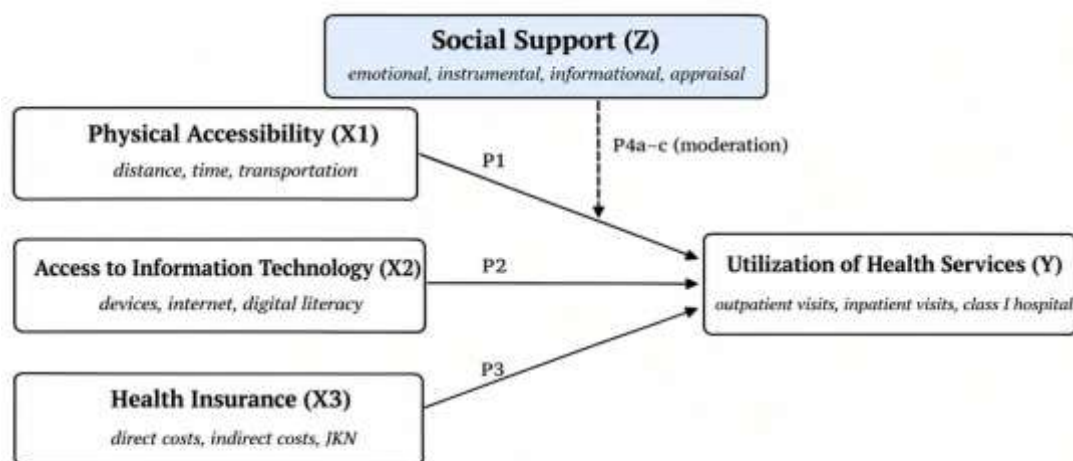


Figure 1. Conceptual model of determinants of healthcare service utilization by the elderly.

Three enabling factors directly influence service utilization (P1–P3), while family social support is hypothesized to mitigate the negative impact of barriers across these three pathways (P4).

The propositions proposed for empirical testing are as follows:

- P1: Better physical accessibility (short distance, short travel time, and available, affordable transportation) increases healthcare service utilization among the elderly.
- P2: Better access to information technology (device ownership, internet access, and digital literacy) increases healthcare service utilization among the elderly.
- P3: Lower healthcare cost burdens—whether direct or indirect—increase healthcare service utilization among the elderly.
- P4: Family social support moderates the influence of physical accessibility (P4a), information technology access (P4b), and healthcare costs (P4c) on service utilization; specifically, the negative impact of access barriers is weaker among elderly individuals with high levels of family support.

8. Public Service Policy Implications

The study's findings lead to four interconnected policy recommendations:

1. **Bringing services physically closer.** Local governments and community health centers (Puskesmas) need to expand outreach services—such as home care, mobile health clinics, and the integration of elderly-specific integrated health posts (Posyandu Lansia) with chronic disease screening—particularly in rural and archipelagic areas. Facilities must also meet elderly-friendly standards and offer more flexible service hours.
2. **Inclusive digitalization.** Every digital channel must be accompanied by an equivalent offline channel and supported by staff or community volunteers acting as digital guides. The design of public service applications, including Mobile JKN, needs to take into account the visual, cognitive, and literacy limitations of the elderly.
3. **Comprehensive financial protection.** In addition to maintaining JKN enrollment among the elderly, policies need to reduce indirect costs—for instance, through subsidies or transportation assistance for impoverished seniors and by strengthening services at government facilities to prevent the elderly from being driven toward high-cost private facilities.
4. **Strengthen the role of families as service partners.** Programs providing support to families of the elderly—such as the *Bina Keluarga Lansia* (Elderly Family Development) initiative and training for community health volunteers—can enhance instrumental and informational support. Data collection systems also need to identify seniors living alone or with minimal family support as priority targets for outreach services.

CONCLUSION

This integrative literature review concludes that healthcare service utilization among the elderly in Indonesia is determined by concurrent barriers to access. Physical accessibility—specifically travel time and transportation costs—is consistently associated with service utilization. While access to information technology is positively associated with outpatient service utilization, low internet usage and digital literacy levels mean that service digitalization risks widening existing disparities. Health insurance coverage is arguably the most significant factor, yet indirect costs remain a tangible obstacle. Family social support—particularly instrumental support—has the potential to mitigate these barriers, though the evidence remains inconsistent, as most studies have focused solely on structural support. This review presents a conceptual model and four propositions that can be empirically tested.



Recommendations

For policymakers: Central and regional governments, health agencies, community health centers (Puskesmas), and BPJS Kesehatan need to develop integrated healthcare policies for the elderly. These should include outreach services, inclusive digital channels that incorporate support systems, protection against indirect costs, and programs to strengthen the role of the family.

For future research: Empirical studies should test this conceptual model using primary data and moderation analysis—such as Moderated Regression Analysis or PLS-SEM—while measuring family support in a functional and multidimensional manner. Longitudinal designs and qualitative studies are also needed to understand the mechanisms underlying inconsistent findings.

Limitations

This study has several limitations. First, most of the evidence stems from cross-sectional studies, meaning that causal relationships cannot be established. Second, the search was limited to articles in Indonesian and English with accessible full texts. Third, the study did not utilize primary data; therefore, the formulated propositions require empirical testing. Fourth, the selection of studies for this integrative review was purposive, meaning there is no guarantee that all relevant publications were included.

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