Examining Healthcare Access for Individuals from Diverse Demographics: An Analysis Using Andersen's Model of Health Services Use

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Abstract

The relative ease for an individual to access healthcare is a direct contributor towards an individuals health outcomes. Accessibility can be shaped by many factors, including socioeconomic and individual health literacy elements. This research utilizes Andersen's Model of Health Services Use to explore the differences in healthcare access among four groups (ranging from high to low access) analyzed from a subset of a larger study, 296 participants were recruited from three different clinics to include both urban and rural communities. It also classifies variables that affect healthcare access into categories of predisposing, enabling, and need factors. An ANOVA analysis revealed that race (White, $p = .006$; Native Hawaiian/Pacific Islander, $p < .001$), substance use (smoking, $p = .021$; alcohol intake, $p = .042$; drug consumption, $p < .001$), and health literacy (functional, $p = .016$; communicative, $p = .001$; critical, $p = .014$; overall, $p < .001$) were factors that did significantly affect perceived access. Other demographic factors like age ($p = .667$), gender ($p = .085$), and education level ($p = .086$) did not show significant association with access. These results indicate that differences in access are influenced not just by systemic obstacles, but also through individual-level circumstances like substance use behavior. These results highlight the need for interventions to overcome distinct obstacles to access, especially in the case of racially marginalized individuals and those who are less health-literate. Future research should explore policy-driven solutions that integrate health education initiatives with structural reforms to improve equitable healthcare access.

Introduction

Access to health care is one of the main determinants of health outcomes and remains a long-standing problem in the United States. Access is influenced by a number of factors as outlined in Anderson's Behavioral Model of Health Services Utilization. The model categorizes determinants as predisposing factors (e.g., social structure, demographics), enabling factors (e.g., health care resources, income), and need factors (e.g., perceived and evaluated health status) (Andersen & Davidson, 2007). Health literacy is another key facet of healthcare access. As described in Nutbeam's model, health literacy extends beyond basic reading skills to include the ability to critically analyze and communicate health information (Zegers et al., 2020). Limited health literacy has been linked to delayed care-seeking behaviors, decreased treatment adherence, and higher hospitalization rates (Berkman et al., 2011). Additionally, racial and socioeconomic disparities, along with stigma—especially in those with substance use disorders—exacerbate access problems (Khatri & Aronowitz, 2021). Such problems can be remedied only through an improved understanding of the social and structural factors at play, highlighting the need for policies promoting both healthcare accessibility and health literacy.

Methods and Materials

The study utilized 27-item survey responses that evaluated key access factors, categorized as:

- **Enabling**: Cost, comfort
- **Need**: Acuity (perception of health urgency)
- **Predisposing**: Convenience, confidence

Health literacy was measured using the FCCHL tool, which consists of 14 items designed to assess an individual's ability to critically evaluate and communicate health information. The three subscales—functional, communicative, and critical literacy—were evaluated using a Likert scale, with higher scores indicating lower literacy levels.

Statistical Analysis

ANOVA tests were conducted to examine differences across access groups, with significance set at $\mathbf{p < 0.05}$.

Results

Demographic Factors and Access to Care

Variable	F-Value	p-Value	Significance
Age	0.899	0.667	Not Significant
Gender	1.328	0.085	Not Significant
Race			
- White	1.680	0.006	Significant
- Black/African American	1.327	0.086	Not Significant
- American Indian/Alaska Native	0.758	0.882	Not Significant
- Native Hawaiian/Pacific Islander	2.075	<0.001	Significant
- Asian	0.599	0.985	Not Significant
- Unknown/Other	1.327	0.086	Not Significant
Education Level	1.327	0.086	Not Significant
Smoking	1.522	0.021	Significant
Alcohol Use	1.428	0.042	Significant
Drug Use	2.006	<0.001	Significant

Health Literacy and Access to Care

Variable	F-Value	p-Value	Significance
Functional Health Literacy	1.556	0.016	Significant
Communicative Health Literacy	1.869	0.001	Significant
Critical Health Literacy	1.570	0.014	Significant
Total Health Literacy	1.885	<0.001	Significant

Conclusion

Healthcare access is shaped by a combination of individual and systemic factors, as outlined in Andersen's Behavioral Model of Health Services Utilization. The present research highlights the dominant role of enabling, predisposing, and need-based factors in determining healthcare access, particularly in vulnerable populations.

Findings:

The findings support prior research showing that systemic barriers and health literacy inequities are contributing factors for decreased use of healthcare services. Health literacy, measured by the Functional, Communicative, and Critical Health Literacy (FCCHL) tool, was the main determinant of healthcare access.

- Lower levels of communicative and critical health literacy were highly correlated with reduced access to care, and this suggests that having the ability to navigate health information is as significant as structural and economic resources.
- Additionally, racial disparities were also observed since White and Native Hawaiian/Pacific Islander populations showed outstanding variations in access, suggesting potential greater systemic differences.

Impact:

The findings underscore the necessity of targeted policy interventions to increase the accessibility of care, including education programs for the health literacy improvement as well as system reform to reduce cost and administrative barriers. By addressing these inequalities, the healthcare systems can move towards a balanced model in which all individuals of all socioeconomic statuses are able to access the care that they need.

References

Andersen, R. M., & Davidson, P. L. (2007). Improving Access to Care in America: Individual and Contextual Indicators. In R. M. Andersen, T. H. Rice, & G. F. Kominski (Eds.), *Changing the U.S. health care system: Key issues in health services policy and management* (3rd ed., pp. 3–31). Jossey-Bass.

Andersen, R. M. (1973). Health services utilization: Framework and review. *Health Services Research, 8*(3), 184-199.

Artiga, S., & Hinton, E. (2018). Beyond health care: The role of social determinants in promoting health and health equity. *Kaiser Family Foundation.*

Babitsch, B., Gohl, D., & von Lengerke, T. (2012). Re-revisiting Anderson's Behavioral Model of Health Services Use: A systematic review of studies from 1998–2011. *GMS Psycho-Social Medicine, 9*, Doc11.

Berkman, N. D., Sheridan, S. L., Donahue, K. E., Halpern, D. J., & Crotty, K. (2011). Low health literacy and health outcomes: An updated systematic review. *Annals of Internal Medicine, 155*(2), 97-107.

Khatri, U. G., & Aronowitz, S. V. (2021). Considering the harms of our habits: The impact of drug policy on health care access. *New England Journal of Medicine, 384*(2), e4.

Zegers, C. A., Gonzales, K., Smith, L. M., Pullen, C. H., De Alba, A., & Fiandt, K. (2020). The psychometric testing of the functional, communicative, and critical health literacy tool. *Patient Education and Counseling, 103*(9), 2347-2352. https://doi.org/10.1016/j.pec.2020.05.019