

## Abstract

**Title:** The association between low health literacy and attitudes, behaviors and knowledge that influence engagement in cancer screening and prevention activities

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**Background:** Health literacy is a complex, multifaceted phenomenon. While health literacy has historically been measured using instruments that assess reading and numeracy, comprehension of spoken information is also important. The purpose of this study was to identify adults with low health literacy using a multi-dimensional assessment of health literacy and to explore whether low health literacy was associated with variables likely to affect engagement in cancer prevention and screening activities.

**Methods:** A random sample of English speaking adults aged 40-70 were invited to participate from: Kaiser Permanente Georgia, Hawaii, Colorado, and Fallon Community Health Plan Massachusetts. The Cancer Message Literacy Test-Listening, the Cancer Message Literacy Test-Reading, and the Lipkus Numeracy Scale were all used to assess aspects of health literacy. We also assessed self-efficacy, provider trust, and fatalism. Participants self-reported demographic data, health seeking behavior, and media use.

**Results:** Out of 1074 adults, 48% were white, 73% were educated beyond high school, and 53% rated their health as very good or excellent. Compared to others, adults with low health literacy were more likely to avoid physician visits ( $p < .001$ ), more fatalistic about cancer ( $p < .001$ ), had less familiarity and knowledge about common cancer screening tests ( $p < .001$ ), and were less likely to seek health information from sources other than physicians ( $P = .001$ ).

**Conclusions:** In this population of insured adults, we identified differences among adults with low health literacy which may impact their engagement in cancer prevention and screening activities. These findings have important implications for health care interactions and public health communication. Understanding the reasons for these beliefs and behaviors may suggest ways to target and tailor communication for this vulnerable population.