

# Prevalence of Low Cost-Related Health Literacy Among Colorectal Cancer Survivors: Findings From the Kentucky Cancer Registry

Jean S. Edward, PhD, RN, CPHE, Mary Kay Rayens, PhD, and Robin C. Vanderpool, DrPH

**BACKGROUND:** The lack of research on cost-related health literacy among colorectal cancer (CRC) survivors warrants further evaluation.

**OBJECTIVES:** The objective of this study was to examine prevalence of low literacy (health, cancer, and insurance literacy), and numeracy and their association with sociodemographic factors in a group of Kentucky CRC survivors.

**METHODS:** Based on data from the Kentucky Cancer Registry, this cross-sectional study evaluated survey results from January 2019 to November 2019 for the prevalence of low cost-related health literacy.

**FINDINGS:** Overall, 104 participants had adequate health literacy (77%) and cancer health literacy (71%). However, fewer CRC survivors had high numeracy (16%) and confidence in choosing and using health insurance (18%). Thirty-one percent reported competence in their ability to select a health insurance plan and use it to access timely and appropriate healthcare services. Those with lower levels of education or those enrolled in a public health insurance plan were more likely to have lower health literacy, insurance literacy, and numeracy.

## KEYWORDS

cost-related health literacy; health insurance literacy; numeracy; survivorship

## DIGITAL OBJECT IDENTIFIER

10.1188/22.CJON.413-420

**HEALTH LITERACY IS A COMPETENCY** that supports cancer survivors as they make complex treatment-based decisions when they are experiencing increased mental and physical stress (Samoil et al., 2021). Despite established research in the area of general health literacy, there is not enough evidence to establish the impact of cost-related health literacy, such as health insurance literacy and numeracy (the ability to understand and use numbers in daily life), on cancer survivors' financial and health outcomes (Williams et al., 2020; Zhao et al., 2019).

Health insurance literacy (HIL) refers to an individual's knowledge, ability, and confidence to find health insurance plans; evaluate plans to select the best one that meets their financial and health needs; and use the plan to access timely and appropriate healthcare services (Paez et al., 2014). Numeracy is closely associated with HIL as it relates to an individual's ability to understand and use numbers in everyday life, which influences their ability to calculate out-of-pocket costs and make appropriate decisions on selecting insurance plans that meet their financial needs. Most Americans struggle with understanding basic health insurance terms, such as deductible, copay, premium, co-insurance, and out-of-pocket maximum, and have trouble calculating out-of-pocket costs (Edward et al., 2019; Paez et al., 2014). An estimated 40% of insured Americans are enrolled in a high-deductible health plan and are less likely to engage in effective consumer behaviors, such as comparing prices or discussing costs with clinicians (Kullgren et al., 2018).

Adding to this health literacy burden are the increasing costs of cancer care, which are projected to increase from \$183 billion in 2015 to \$246 billion by 2030 (Mariotto et al., 2020). Colorectal cancer (CRC), the second most common cancer and second-leading cause of cancer-related deaths in the United States (National Center for Chronic Disease Prevention and Health Promotion, 2021), makes up about 12% of all cancer treatment costs (Mariotto et al., 2020). Despite screening availability for CRC, less than 40% of patients with CRC were diagnosed at an early stage. When CRC is late staged, advanced treatment options can be more costly (Surveillance, Epidemiology, and End Results Program, 2021). Without adequate levels of cost-related health literacy, CRC survivors are not able to fully appreciate the financial and health implications of insurance plans considering their costs