

# Improving Vaccination Documentation Rates Among Patients With Breast Cancer Through Patient Outreach

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**BACKGROUND:** Patients with cancer are at high risk for infection-related morbidity and mortality; vaccinations reduce this burden. In 2021, vaccination documentation rates were low at an academic medical center breast clinic.

**OBJECTIVES:** The purpose of this pilot quality improvement project was to evaluate an education intervention to increase vaccination documentation among patients with breast cancer.

**METHODS:** During a 16-week period, the 4 Pillars™ Practice Transformation Program was implemented. The oncology nurse navigator assessed and documented vaccination history, discussed recommendations with the provider, and recommended concurrent vaccinations. Within a two-week period, the oncology nurse navigator completed and documented vaccination follow-up via telephone.

**FINDINGS:** Vaccination follow-up and documentation for influenza, shingles, and pneumococcal vaccines increased substantially. Findings indicate that an education and outreach program can increase vaccination documentation rates among patients with breast cancer.

## KEYWORDS

vaccine; breast cancer; immunization; infection prevention; vaccination

## DIGITAL OBJECT IDENTIFIER

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**PATIENTS WITH CANCER FACE A HIGH RISK OF MORBIDITY AND MORTALITY** from infection. Immunization with appropriate vaccines can reduce infection risk (Denlinger et al., 2018; Grohskopf et al., 2022). As of February 2023, 54% of adults aged 65 years or older, who are at the greatest risk for mortality from influenza, had received the recommended influenza vaccine for the 2022–2023 influenza season (Centers for Disease Control and Prevention [CDC], 2024). In 2022, about 70% of qualified adults were vaccinated for pneumococcal disease, and only about 32% were vaccinated for shingles (herpes zoster) (U.S. Government Accountability Office, 2022). However, disparities are noted among high-risk individuals.

According to the 2019–2020 National Health Interview Survey, only about 24% of high-risk adults were vaccinated against pneumococcal disease (CDC, 2022b). About 40% of adults with cancer received the influenza vaccine during the 2016–2017 influenza season (Chang et al., 2021). Patients with breast cancer aged older than 65 years are less likely to receive the influenza vaccine than matched noncancer control patients (Denlinger et al., 2018). This deficiency was recognized as a problem at an outpatient breast clinic of a large comprehensive cancer center at the University of Maryland Medical Center in Baltimore, Maryland. A root cause analysis was performed. The vaccination follow-up and documentation deficiency cause was a lack of patient and healthcare staff vaccination communication, leading to inadequate documentation, follow-up, and, ultimately, missed opportunities for vaccination.

The authors used the Johns Hopkins Evidence-Based Practice Model for Nursing and Healthcare Professionals to evaluate multiple studies and to determine a comprehensive intervention to increase vaccination rates (Dang et al., 2022). One level I study showed that personal outreach with personalized education and reminders increased influenza and pneumococcal vaccination rates (Sanftenberg et al., 2021). One level II study found vaccination reminders through direct personal contact increased vaccination rates among a variety of vaccines (Jacobson Vann et al., 2018). Jaca et al. (2018) conducted a level III study that found that patient tracking, outreach, and education with nonprovider staff were effective in reducing missed opportunities to vaccinate and improving vaccination coverage in child and adult populations. The synthesis of evidence shows that key interventional