

Individual Characteristics Associated with Receipt of Breast and Cervical Screening Services Among Women Enrolled in the Kansas National Breast and Cervical Cancer Early Detection Program (KS-NBCCEDP)

BACKGROUND

KS-NBCCEDP is a federally funded breast and cervical cancer screening program that provides free screening and diagnostic services to Kansas women 40 to 64 years old, under 225 percent of federal poverty and uninsured. The program enrolls approximately 7,800 eligible women each year but nearly one in four who enroll do not receive at least one KS-NBCCEDP service. This analysis seeks to identify the individual characteristics of enrolled women who receive services through the program compared to those who do not. Study findings aim to deepen our understanding of the women we serve and identify areas for intervention.

METHODS

KS-NBCCEDP enrollment and service use data are maintained in Catalyst, a cloud-based data management system. A data set containing 7,270 unique patient records were extracted from Catalyst for the period July 1, 2013 through June 30, 2014 for Kansas women meeting eligibility requirements. Least squares means and crude and adjusted odds ratios were computed using SAS/STAT version 9.3 software to compare women enrolled in KS-NBCCEDP who subsequently received services paid for by KS-NBCCEDP to those who did not. Statistical significance was indicated at the $\alpha=.05$ level. Individual characteristics assessed include age, race/ethnicity, population density, prior receipt of KS-NBCCEDP services, presence of breast symptoms, prior receipt of a mammogram or PAP test, referral source, household size, and drive time to provider. Drive time to provider was computed using the ArcGIS Network Analyst tool.

RESULTS

The odds of receiving program services were significantly lower among first-time enrolled women vs. women who historically received three or more KS-NBCCEDP services (OR= 0.47; 95% CI: 0.41-0.55); women living in urban vs. rural counties (OR=0.55; 95% CI: 0.41-0.74); and black (0.55; 95% CI: 0.45-0.66) or Hispanic (0.76; 95% CI: 0.67-.87) vs. white women. After controlling for potential confounders, the odds of receiving program services remained significantly lower for first time enrolled women (aOR=0.47, 95% CI= 0.41-0.54), urban women (aOR=0.58, 95% CI: 0.43-0.79), black women (aOR=0.62, 95% CI: 0.51-0.76), and Hispanic women (aOR=0.76; 95% CI= 0.67-0.88). Receipt of program services was not significantly associated with the presence of breast symptoms, prior mammogram or Pap screenings, drive time to provider, or age.

CONCLUSIONS

The KS-NBCCEDP program is using increased understanding of the women in the program to implement additional interventions to ensure that black and Hispanic women, women enrolling from urban areas, and women enrolling for the first time receive necessary breast and cervical cancer screening through the program (Figure 1). Multivariate regression and hierarchical regression analyses examining differences in provider-level characteristics of women who receive program services versus those who do not are currently underway.

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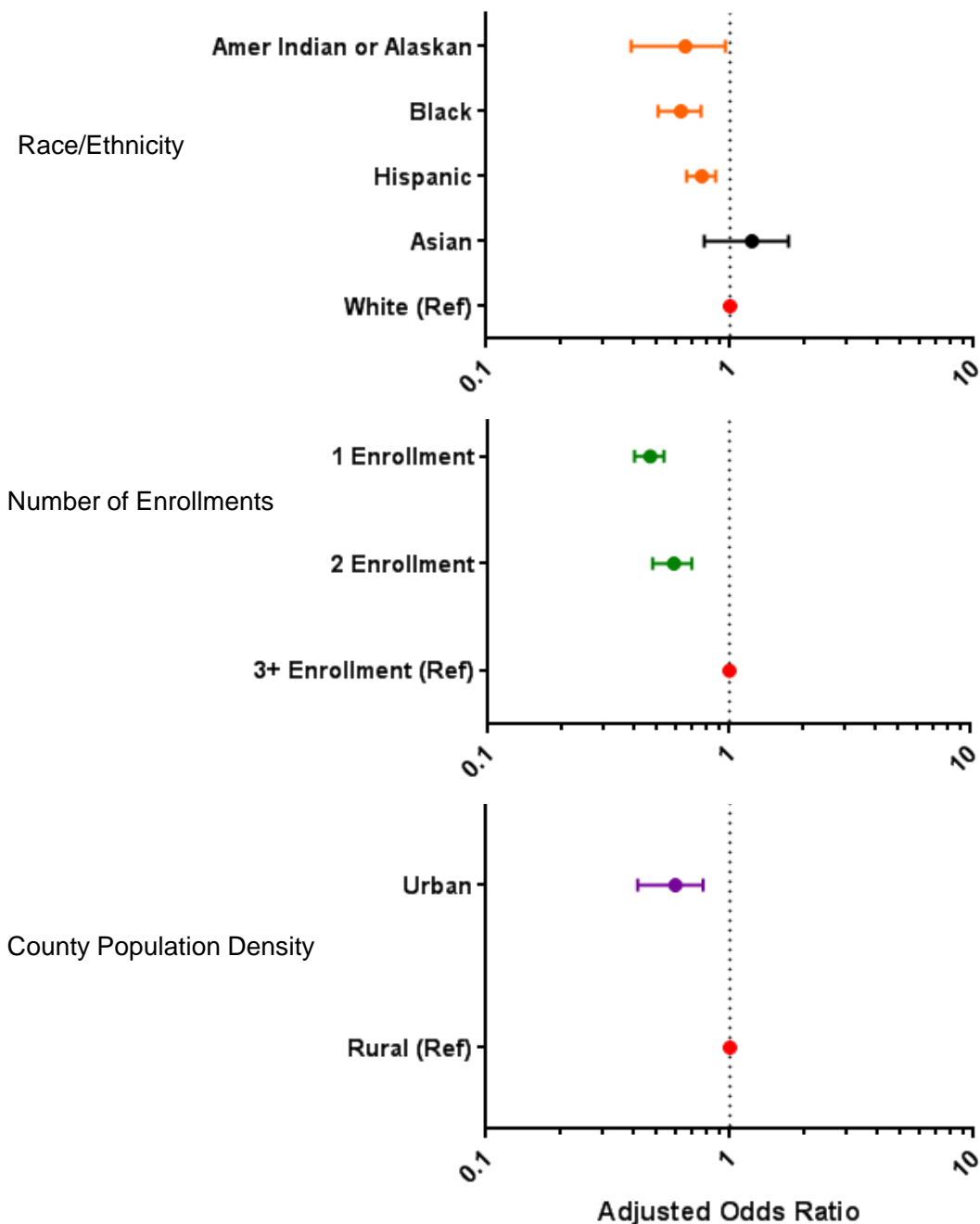


Figure 1: Adjusted odds ratios for receiving program services after enrollment, KS-NBCCEDP 2013/2014

Note: The final logistic regression model included the following variables: number of enrollments, referral source, race/ethnicity, and population density of county.

References:

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