

Understanding Barriers to Colon Cancer Screening in Kentucky

Jennifer L. Redmond, DrPH; Sarojini Kanotra, PhD, MPH; Seth Siameh, MPH (c);
Jessica Jones, DrPH (c), MSW; Becki Thompson, RN, CDE; Sue Thomas-Cox, RN, CCM

BACKGROUND

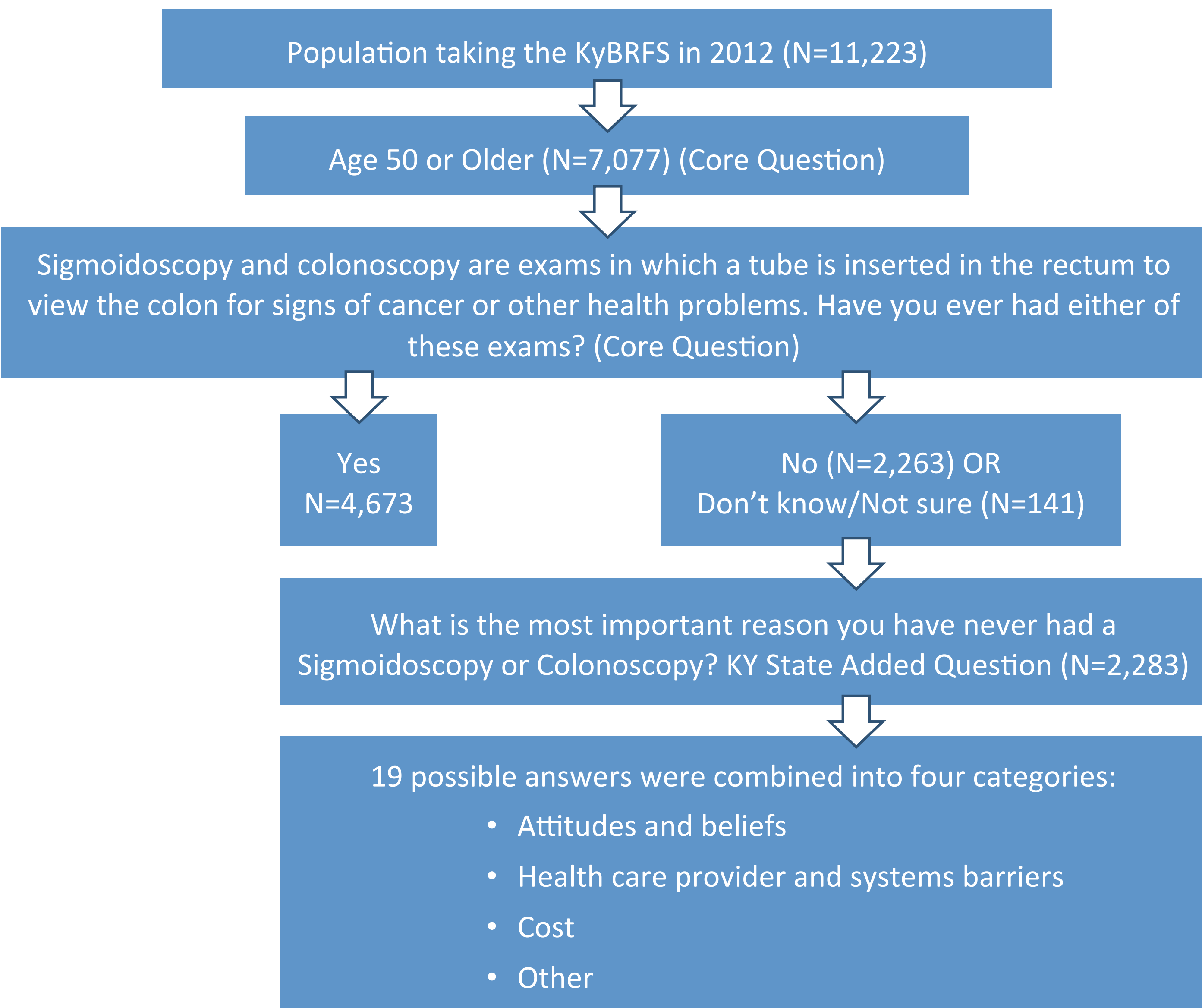
- Statewide and local efforts in Kentucky have focused on increasing colon cancer screening since 2004.
- Screening rates for colon cancer utilizing sigmoidoscopy/colonoscopy increased from 34.7% in 1999 to 63.7% in 2008 according to Kentucky's Behavioral Risk Factor Survey (1).
- Colon cancer incidence and mortality declined by 22% from 2001-2010 (2).
- Literature shows that barriers to colon cancer screening can be classified by:
 - Individual-level barriers
 - Negative emotions (fear, uncomfortable) (3,4)
 - Lack of knowledge, education and awareness (5-7)
 - Lack of self efficacy
 - Interpersonal/health care provider and systems barriers
 - Lack of provider recommendations/suggestions (8-10)
 - No doctors nearby
 - Cost barriers
 - Cost, lack of insurance, transportation, no time off work (3,11)

RESEARCH OBJECTIVE

- This research attempts to understand the current barriers to colon cancer screening in Kentucky for those who have NEVER had a sigmoidoscopy/colonoscopy and are 50 years of age or older.

METHODS

- In both 2008 and 2012, Kentucky included a state-added question to the Colorectal Cancer Screening section of the Kentucky Behavioral Risk Factor Survey (KyBRFS) (1).



ANALYSIS

- Prevalence estimates for barriers were calculated using raking weights and stratified by:
 - Race, gender, education, income, and health insurance coverage
- Logistic regression was used to estimate odds ratios (ORs) for barriers to screening.

RESULTS

Kentucky Adults aged 50 years or older who have ever had a Sigmoidoscopy or Colonoscopy, by Demographic Characteristics, 2012 KyBRFS

	Yes	No
	% (95% CI)	% (95% CI)
All Adults (age 50+)	65.9 (64.2 – 67.6)	34.1 (32.4 – 35.8)
Gender		
Male	63.3 (60.4 – 66.2)	36.7 (33.8 – 39.6)
Female	68.2 (66.1 – 70.2)	31.8 (29.8 – 33.9)
Race/Ethnicity		
White/non-Hispanic	66.4 (64.6 – 68.2)	33.6 (31.8 – 35.4)
Black/non-Hispanic	63.4 (55.2 – 71.6)	36.6 (28.4 – 44.8)
Education		
<High school	55.2 (50.4 – 60.0)	44.8 (40.0 – 49.6)
≥ High School	68.8 (67.0 – 70.6)	31.2 (29.4 – 33.0)
Income		
≤ \$24,999	58.6 (55.4 – 61.8)	41.4 (38.2 – 44.6)
\$25,000-\$49,000	69.6 (66.1 – 73.0)	30.4 (27.0 – 33.9)
≥ \$50,000	70.1 (67.0 – 73.2)	29.9 (26.8 – 33.0)
Health Insurance		
Yes	69.5 (67.8 – 71.2)	30.5 (28.8 – 32.2)
No	30.0 (24.2 – 35.8)	70.0 (64.2 – 75.8)

Barriers Grouped by Demographic Characteristics

	Attitudes and Beliefs	Health Care Providers and Systems	Cost	Other Barriers
	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)
All Adults (age 50+)	62.4 (59.2 – 65.5)	15.9 (13.5 – 18.2)	11.7 (9.5 – 14.0)	10.0 (8.1 – 12.0)
Gender				
Male	60.7 (55.6 – 65.7)	15.6 (11.8 – 19.3)	13.8 (9.8 – 17.8)	10.0 (6.9 – 13.0)
Female	64.0 (60.3 – 67.7)	16.2 (13.4 – 19.0)	9.7 (7.6 – 11.7)	10.1 (7.6 – 12.7)
Race/Ethnicity				
White/non-Hispanic	64.5 (61.3 – 67.7)	14.9 (12.7 – 17.1)	10.9 (8.6 – 13.2)	9.6 (7.6 – 11.6)
Black/non-Hispanic	44.3 (31.1 – 57.5)	15.9 (6.0 – 25.7)	21.2 (8.2 – 34.1)	18.6 (6.3 – 31.0)
Education				
<High school	53.4 (46.1 – 60.8)	16.5 (10.8 – 22.1)	15.4 (9.5 – 21.2)	14.7 (9.6 – 19.9)
≥ High School	65.9 (62.6 – 69.1)	15.4 (13.1 – 17.8)	10.4 (8.2 – 12.6)	8.3 (6.4 – 10.2)
Income				
≤ \$24,999	55.9 (50.8 – 60.9)	16.7 (13.0 – 20.5)	16.9 (13.1 – 20.6)	10.5 (7.4 – 13.7)
\$25,000-\$49,000	62.0 (55.0 – 68.9)	17.6 (12.9 – 22.2)	14.5 (8.1 – 20.9)	5.9 (2.9 – 9.0)
≥ \$50,000	69.5 (63.7 – 75.4)	15.5 (10.3 – 20.6)	4.7 (2.0 – 7.5)	10.3 (6.7 – 13.9)
Health Insurance				
Yes	66.8 (63.5 – 70.1)	16.6 (14.0 – 19.3)	5.0 (3.6 – 6.5)	11.5 (9.2 – 13.9)
No	43.0 (34.9 – 51.1)	12.5 (7.7 – 17.3)	40.8 (32.5 – 49.1)	3.7 (1.3 – 6.0)

Demographic Variables Associated with Barriers

	Attitudes and Beliefs	Health Care Providers and Systems	Cost	Other Barriers
	OR (95% CI)	OR (95% CI)	OR (95% CI)	OR (95% CI)
Gender				
Male	Reference	Reference	Reference	Reference
Female	1.15 (0.89 – 1.50)	1.05 (0.74 – 1.48)	0.67 (0.45 – 1.01)	1.02 (0.66 – 1.57)
Race/Ethnicity				
White/non-Hispanic	Reference	Reference	Reference	Reference
Black/non-Hispanic	0.44 (0.25 – 0.76)*	1.08 (0.51 – 2.30)	2.19 (0.98 – 4.91)	0.57 (0.18 – 1.81)
Education				
<High school	Reference	Reference	Reference	Reference
≥ High School	1.68 (1.21 – 2.33)*	0.93 (0.59 – 1.45)	0.64 (0.39 – 1.06)	0.52 (0.33 – 0.84)*
Income				
≤ \$24,999	0.56 (0.39 – 0.79)*	1.10 (0.68 – 1.76)	4.07 (2.09 – 7.92)*	1.03 (0.62 – 1.71)
\$25,000-\$49,000	0.72 (0.48 – 1.07)	1.16 (0.70 – 1.93)	3.41 (1.54 – 7.57)*	0.55 (0.28 – 1.07)
≥ \$50,000	Reference	Reference	Reference	Reference
Health Insurance				
Yes	Reference	Reference	Reference	Reference
No	0.38 (0.26 – 0.54)*	0.72 (0.45 – 1.15)	13.0 (8.25 – 20.48)*	0.29 (0.15 – 0.59)*

OR = Odds Ratio; these are crude or unadjusted odds ratios

*Statistically Significant Association [$p < 0.05$]

LIMITATIONS

- In 2012, information about barriers to blood stool testing (FOBT and FIT testing) was not gathered.
 - Blood stool tests' efficacy has been established in the literature (12) and is promoted to uninsured Kentuckians through the Kentucky Colon Cancer Screening Program (KCCSP).
- It is unknown if cognitive testing was done on this question to ensure survey participants' comprehension.
 - Was also a state-added question in New Mexico and Utah

CONCLUSIONS

- There are significant differences in barriers based on educational status, race, income and insurance status that need to be addressed to increase screening.
- Those with higher education, income and who are White have the highest attitude and belief barriers.
- Those with lower education, income and who are non-White have the highest cost barriers.

IMPLICATIONS FOR PUBLIC HEALTH

- Implementation of expanded Medicaid and the Affordable Care Act in Kentucky may address some of the cost and health plan barriers.
- Consider the audience and most common barriers when developing and/or tailoring interventions to increase colon cancer screening.
- Combine interventions that would address multiple types of barriers.
 - Attitudes and beliefs
 - Health Care Provider recommendations and access
 - Cost, including transportation and insurance coverage

FUNDING AND REFERENCES

- Funding for the state added survey question was provided by the CDC Preventive Health and Health Services Block Grant.

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