

Cancer Knowledge, Risk Perception, and Physician Avoidance in Appalachia

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Statement of the Problem

Appalachians experience increased rates of cancer incidence and mortality and high-risk health behaviors. Additionally, Appalachians are often characterized by lower socioeconomic status, geographic isolation, and cultural beliefs such as fatalism.

Purpose

The purpose of this project is to describe cancer knowledge and risk perceptions of Appalachians as compared to non-Appalachians including: likelihood of developing cancer; cancer-related worry; prevention and screening perceptions; and physician avoidance. Examining cancer knowledge and perceptions can inform education strategies aimed at addressing disparities in this geographic region.

Methods

Data Source
2008 Health Information National Trends Survey (HINTS)

Data Collection and Sample
January 2008 through April 2008
Dual-Frame Design (n=7,674)
List-Assisted Random Digital Dial (RDD) (n=4,092)
Mail Survey (n=3,582)

Response Rates
RDD Household Screener = 42.4%
RDD Extended Interview = 57.2%
Mail Household = 40%

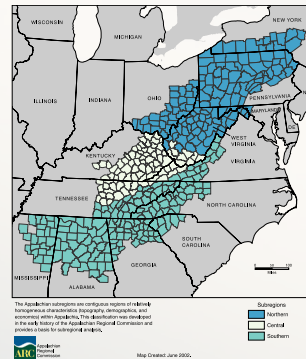
New Variable
Through a special request of the NCI HINTS team, the researchers obtained a re-coded HINTS 2008 dataset which contained a newly created dichotomous “Appalachia” variable. Westat matched Federal Information Processing Standard (FIPS) Codes for US counties and independent cities identified by the Appalachian Regional Commission (ARC) as Appalachian to the telephone exchanges (area code and first three digits of the phone number) used in the RDD sample and the five-digit zip codes in the mailed survey sample.

Survey Items
Sociodemographic variables and smoking status; Likelihood of developing cancer; Cancer worry; Cancer perceptions; Physician avoidance

Statistical Analysis

SUDAAN was used to calculate population estimates. Cross tabulations and chi-square statistics were used to compare differences among Appalachian and non-Appalachian responses. Results with $p \leq 0.05$ were considered statistically significant.

Subregions in Appalachia



Results

Table 1. HINTS Sample Based on New Appalachian Variable

	Appalachian	Non-Appalachian	Total
Sample size	629	7045	7674
Population size	19,404,480	206,208,886	225,613,367
Percentage	8.6%	91.4%	100.0%

Table 2. Sociodemographics and Smoking Status

	Appalachian		Non-Appalachian		p-value
	n	%	n	%	
Sex					0.276
Male	246	51.71	2723	48.3	
Female	383	48.29	4313	51.7	
Age Group					0.150
18-34	91	29.91	1022	30.91	
35-49	129	26.97	1701	29.82	
50-64	209	24.83	2242	22.96	
65-74	116	11.07	1073	8.15	
75+	77	7.22	932	8.16	
Ethnicity / Race					0.000
Hispanic	11	1.66	611	13.88	
Non-Hispanic (NH) White	503	85.49	4942	67.76	
NH Black	47	9.38	640	11.67	
NH American Indian/Alaskan Native	6	1.35	55	0.4	
NH Asian/Pacific Islander	4	0.85	213	4.98	
Multi-Race	13	1.28	133	1.32	
Household Income					0.013
Less than \$20,000	113	18.99	1029	19.93	
\$20,000 to < \$35,000	111	21.96	945	16.19	
\$35,000 to < \$50,000	64	11.74	809	14.19	
\$50,000 to < \$75,000	95	21.3	1108	18.88	
\$75,000 to < \$100,000	54	12.62	721	11.77	
\$100,000 or more	75	13.4	1191	19.04	
Education					0.007
Less than 12 years	71	14.27	612	13.87	
High School Graduate	203	34.55	1601	25.79	
Some College	154	30.99	2038	35.2	
Graduate	171	20.19	2466	25.14	
Health Care Coverage					0.039
Yes	551	87.07	6115	82.26	
No	67	12.93	811	17.74	
Smoking Status					0.039
Current	122	27.14	1138	20.9	
Former	175	26.14	2063	25.26	
Never	312	46.72	3543	53.85	

Figure 1. Perceived Risk of Developing Cancer

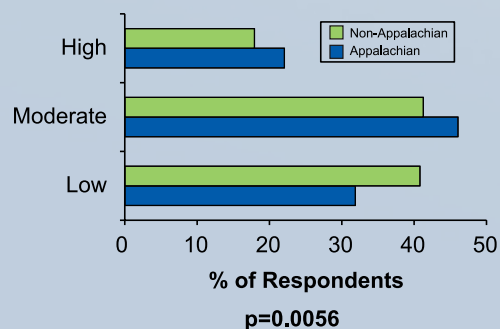


Figure 2. Perceived Worry About Cancer

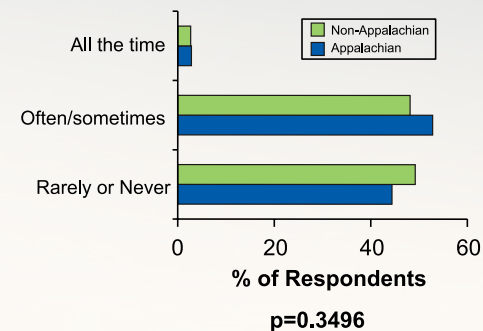


Figure 3. Physician Avoidance

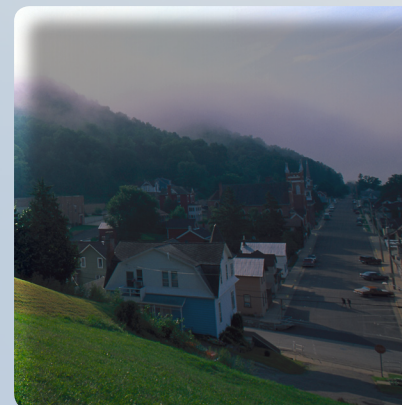
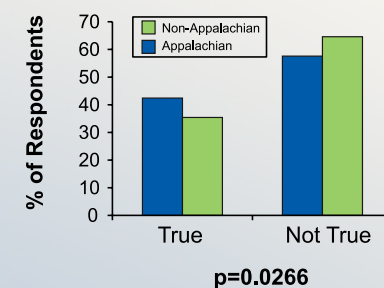


Table 3. Cancer Perceptions

	Appalachian		Non-Appalachian		p-value
	n	%	n	%	
When I think of cancer, I automatically think of death.					0.018
Agree	384	67.77	3915	60.99	
Disagree	218	32.23	2788	39.01	
Cancer is most often caused by a person's behavior or lifestyle.					0.780
Agree	287	51.08	3220	50.13	
Disagree	313	48.92	3450	49.87	
Getting checked regularly for cancer helps find cancer when it's easy to treat.					0.355
Agree	568	93.27	6369	94.61	
Disagree	32	6.73	339	5.39	
People can tell they might have cancer before being diagnosed.					0.015
Agree	330	57.79	3314	50.15	
Disagree	260	42.21	3212	49.85	
Cancer is an illness that when detected early can typically be cured.					0.259
Agree	508	81.99	5716	84.58	
Disagree	94	18.01	943	15.42	
It seems like almost everything causes cancer.					0.003
Agree	342	62.97	3365	54.12	
Disagree	255	37.03	3273	45.88	
Prevention of cancer is not possible.					0.925
Agree	159	28.34	1689	28.06	
Disagree	442	71.66	4972	71.94	
There are so many recommendations about preventing cancer that it's hard to know which ones to follow.					0.285
Agree	458	77.92	4916	75.18	
Disagree	137	22.08	1739	24.82	

Table 4. Reasons for Physician Avoidance

	Appalachian		Non-Appalachian		p-value
	n	%	n	%	
I avoid seeing my doctor because I feel uncomfortable when my body is being examined.					0.323
Agree	87	38.29	678	33.37	
Disagree	120	61.71	1401	66.63	
I avoid seeing my doctor because I fear I may have a serious illness.					0.389
Agree	94	39.31	689	35.39	
Disagree	114	60.69	1385	64.61	
I avoid seeing my doctor because it makes me think about dying.					0.098
Agree	40	19	261	13.54	
Disagree	167	81	1803	86.46	

Conclusions

Based on study findings, many Appalachian HINTS respondents worry about cancer and automatically associate death with the disease. Misperceptions exist among Appalachians regarding the causes and curability of cancer and avoidance of doctors is prevalent in this population. Development of cancer education interventions to increase knowledge and awareness may help dispel negative cancer beliefs in Appalachia.