Colorectal Cancer in Idaho 2002-2004

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Colorectal Cancer in Idaho, 2002-2004

• Fast facts:

- Colorectal cancer is the second leading cause of cancer death in Idaho and the U.S.
- It is largely preventable with screening and the removal of pre-cancerous polyps.
- There is currently no program in Idaho to specifically address awareness, prevention and early detection of colorectal cancer.



CDRI Registry of Idaho

Colorectal Cancer in Idaho, 2002-2004

- Presentation includes information on:
 - Risk Factors (BRFSS & YRBSS)
 - Screening (BRFSS)
 - Incidence (CDRI & SEER)
 - Survival (CDRI & SEER)
 - Mortality (CDRI & SEER)





Risk Factors - Data Sources

- YRBSS
 - Youth Risk Behavior Surveillance System
 - School-based health survey of public high school students in Idaho. Conducted by the Idaho Department of Education with assistance from Idaho Division of Health and CDC.
- BRFSS
 - Behavioral Risk Factor Surveillance System
 - Phone-based health survey of adults aged 18+.
 Conducted by Idaho Division of Health under cooperative agreement with CDC.





Presentation Format

- Population Prevalence
- Probability (Odds Ratios)
- Maps
 - Crude (Population Prevalence)
 - Adjusted (Odds Ratios)





Prevalence

- In epidemiology, the prevalence of a disease or condition is defined as:
 - the total number of persons with the disease/condition in a specified population at a specified time
 - and/or

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 the ratio of the number of cases of the disease/condition to the total population size at a specified time (<u>percentage</u>, rate).



Odds Ratio

- The odds are a way of representing probability, especially familiar for betting.
- Example: the odds that a single throw of a die will produce a six are 1 to 5, or 1/5.
- The odds is the ratio of the probability that the event of interest occurs to the probability that it does not.

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 This is often estimated by the ratio of the number of times that the event of interest occurs to the number of times that it does not.



Odds Ratio Review



- Odds of Disease among Exposed = 20/30 = .667
- Odds of Disease among non-Exposed = 10/100 = .1
- Odds Ratio = 6.67

Cancer Data Registry of Idaho

CDRI

- Odds of Exposure among Cases = 20/10 = 2.0
- Odds of Exposure among Controls = 30/100 = 0.3
- Odds Ratio = 6.67



Odds Ratio Review

- These are the SAME numerical ratios.
- This property makes the odds ratio a useful indicator of the strength of relationships, for both case-control and cohort studies.





Physical Activity: 30+ Min Moderate 5+ Days/Wk or 20+ Min Vigorous 3+ Days/Wk Men and Women Aged 18+ Goal: 65%

		Percent	95% Confidence	Rounded 2005	Number	Insuff.	# To Reach	
Overall	Ν	Phys Act	Interval	Population	Phys Act	Phys Act	Goal	
Yes	5290	58.0%	56.3% - 59.8%	951,000	552,000	399,000	67,000	
		Percent	95% Confidence	Rounded 2005	Number	Insuff.	# To Reach	
Race/Ethnicity	Ν	Phys Act	Interval	Population	Phys Act	Phys Act	Goal	
Non-Hispanic White	4790	59.1%	57.2% - 60.9%	827,000	488,000	338,000	50,000	
Hispanic	289	46.0%	37.1% - 54.9%	80,000	37,000	43,000	16,000	
Native American	82	57.1%	44.3% - 69.8%	14,000	8,000	6,000	2,000	
Other	120	60.9%	49.2% - 72.6%	28,000	17,000	11,000	2,000	
		Percent	95% Confidence	Rounded 2005	Number	Insuff.	# To Reach	
Age Group	Ν	Phys Act	Interval	Population	Phys Act	Phys Act	Goal	
18-24	319	64.5%	57.7% - 71.3%	150,000	97,000	53,000	1,000	
25-34	818	60.4%	56.3% - 64.5%	173,000	104,000	68,000	8,000	
35-44	927	62.8%	59.1% - 66.6%	178,000	112,000	66,000	4.000	
45-54	1129	59.0%	55.5% - 62.5%	181,000	107,000	74,000	11,000	
55-64	935	52.0%	48.1% - 55.8%	128,000	67,000	62,000	17,000	
65+	1162	46.7%	43.3% - 50.1%	142,000	66,000	76,000	27,000	
							\sim	
		Percent	95% Confidence	Rounded 2005	Number	Insuff.	# To Reach	
Sex	Ν	Phys Act	Interval	Population	Phys Act	Phys Act	Goal	
Male	2047	59.9%	57.1% - 62.8%	478,000	287,000	192,000	25,000	
Female	3243	56.1%	54.0% - 58.3%	473,000	265,000	207,000	42,000	
			Temale 3243 30.176 34.076 30.376 473,000 203,000 207,000 42,000					
		Percent	95% Confidence	Rounded 2005	Number	Insuff.	# To Reach	
Health Insurance	N	Percent Phys Act	95% Confidence Interval	Rounded 2005 Population	Number Phys Act	Insuff. Phys Act	# To Reach Goal	
Health Insurance Yes	N 4444	Percent Phys Act 58.7%	95% Confidence Interval 56.8% - 60.6%	Rounded 2005 Population 770,000	Number Phys Act 452,000	Insuff. Phys Act 318,000	# To Reach Goal 49,000	
Health Insurance Yes No	N 4444 832	Percent Phys Act 58.7% 54.9%	95% Confidence Interval 56.8% - 60.6% 49.7% - 60.0%	Rounded 2005 Population 770,000 176,000	Number Phys Act 452,000 97,000	Insuff. Phys Act 318,000 80,000	# To Reach Goal 49,000 18,000	
Health Insurance Yes No	N 4444 832	Percent Phys Act 58.7% 54.9%	95% Confidence Interval 56.8% - 60.6% 49.7% - 60.0%	Rounded 2005 Population 770,000 176,000	Number Phys Act 452,000 97,000	Insuff. Phys Act 318,000 80,000	# To Reach Goal 49,000 18,000	
Health Insurance Yes No	N 4444 832	Percent Phys Act 58.7% 54.9% Percent	95% Confidence Interval 56.8% - 60.6% 49.7% - 60.0% 95% Confidence	Rounded 2005 Population 770,000 176,000 Rounded 2005	Number Phys Act 452,000 97,000 Number	Insuff. Phys Act 318,000 80,000 Insuff.	# To Reach Goal 49,000 18,000 # To Reach	
Health Insurance Yes No Household Income	N 4444 832 N	Percent Phys Act 58.7% 54.9% Percent Phys Act	95% Confidence Interval 56.8% - 60.6% 49.7% - 60.0% 95% Confidence Interval	Rounded 2005 Population 770,000 176,000 Rounded 2005 Population	Number Phys Act 452,000 97,000 Number Phys Act	Insuff. Phys Act 318,000 80,000 Insuff. Phys Act	# To Reach Goal 49,000 18,000 # To Reach Goal	
Health Insurance Yes No Household Income Less than \$15,000	N 4444 832 N 573	Percent Phys Act 58.7% 54.9% Percent Phys Act 53.7%	95% Confidence Interval 56.8% - 60.6% 49.7% - 60.0% 95% Confidence Interval 47.2% - 60.1%	Rounded 2005 Population 770,000 176,000 Rounded 2005 Population 92,000	Number Phys Act 452,000 97,000 Number Phys Act 49,000	Insuff. Phys Act 318,000 80,000 Insuff. Phys Act 43,000	# To Reach Goal 49,000 18,000 # To Reach Goal 11,000	
Health Insurance Yes No Household Income Less than \$15,000 \$15,000 - \$24,999	N 4444 832 N 573 961	Percent Phys Act 58.7% 54.9% Percent Phys Act 53.7% 52.1%	95% Confidence Interval 56.8% - 60.6% 49.7% - 60.0% 95% Confidence Interval 47.2% - 60.1% 47.6% - 56.5%	Rounded 2005 Population 770,000 176,000 Rounded 2005 Population 92,000 157,000	Number Phys Act 452,000 97,000 Number Phys Act 49,000 82,000	Insuff. Phys Act 318,000 80,000 Insuff. Phys Act 43,000 75,000	# To Reach Goal 49,000 18,000 # To Reach Goal 11,000 21,000	
Health Insurance Yes No Household Income Less than \$15,000 \$15,000 - \$24,999 \$25,000 - \$34,999	N 4444 832 N 573 961 750	Percent Phys Act 58.7% 54.9% Percent Phys Act 53.7% 52.1% 58.3%	95% Confidence Interval 56.8% - 60.6% 49.7% - 60.0% 95% Confidence Interval 47.2% - 60.1% 47.6% - 56.5% 53.3% - 63.3%	Rounded 2005 Population 770,000 176,000 Rounded 2005 Population 92,000 157,000 134,000	Number Phys Act 452,000 97,000 Number Phys Act 49,000 82,000 78,000	Insuff. Phys Act 318,000 80,000 Insuff. Phys Act 43,000 75,000 56,000	# To Reach Goal 49,000 18,000 # To Reach Goal 11,000 21,000 9,000	
Health Insurance Yes No Household Income Less than \$15,000 \$15,000 - \$24,999 \$25,000 - \$34,999 \$35,000 - \$49,999	N 4444 832 573 961 750 937	Percent 58.7% 54.9% Percent Phys Act 53.7% 52.1% 58.3% 59.1%	95% Confidence Interval 56.8% - 60.6% 49.7% - 60.0% 95% Confidence Interval 47.2% - 60.1% 47.6% - 56.5% 53.3% - 63.3% 54.9% - 63.3%	Rounded 2005 Population 770,000 176,000 Rounded 2005 Population 92,000 157,000 134,000 172,000	Number Phys Act 452,000 97,000 Number Phys Act 49,000 82,000 78,000 102,000	Insuff. Phys Act 318,000 80,000 Insuff. Phys Act 43,000 75,000 56,000 71,000	# To Reach Goal 49,000 18,000 # To Reach Goal 11,000 21,000 9,000 11,000	
Health Insurance Yes No Household Income Less than \$15,000 \$15,000 - \$24,999 \$25,000 - \$34,999 \$35,000 - \$49,999 \$50,000+	N 4444 832 N 573 961 750 937 1572	Percent Phys Act 58.7% 54.9% Percent Phys Act 53.7% 52.1% 58.3% 59.1% 63.7%	95% Confidence Interval 56.8% - 60.6% 49.7% - 60.0% 95% Confidence Interval 47.2% - 60.1% 47.6% - 56.5% 53.3% - 63.3% 54.9% - 63.3%	Rounded 2005 Population 770,000 176,000 Rounded 2005 Population 92,000 157,000 134,000 172,000 305,000	Number Phys Act 452,000 97,000 Number Phys Act 49,000 82,000 78,000 102,000 194,000	Insuff. Phys Act 318,000 80,000 Insuff. Phys Act 43,000 75,000 56,000 71,000 111,000	# To Reach Goal 49,000 18,000 # To Reach Goal 21,000 9,000 11,000 4,000	
Health Insurance Yes No Household Income Less than \$15,000 \$15,000 - \$24,999 \$25,000 - \$34,999 \$35,000 - \$49,999 \$50,000+	N 4444 832 N 573 961 750 937 1572	Percent 58.7% 54.9% Percent Phys Act 53.7% 52.1% 58.3% 58.3% 63.7%	95% Confidence Interval 56.8% - 60.6% 49.7% - 60.0% 95% Confidence Interval 47.2% - 60.1% 47.6% - 56.5% 53.3% - 63.3% 54.9% - 63.3% 60.8% - 66.6%	Rounded 2005 Population 770,000 176,000 Rounded 2005 Population 92,000 157,000 134,000 172,000	Number Phys Act 452,000 97,000 Number Phys Act 49,000 82,000 78,000 102,000 194,000	Insuff. Phys Act 318,000 80,000 Insuff. Phys Act 43,000 75,000 56,000 71,000 1111,000	# To Reach Goal 49,000 18,000 # To Reach Goal 11,000 21,000 9,000 11,000 4,000	
Health Insurance Yes No Household Income Less than \$15,000 \$15,000 - \$24,999 \$25,000 - \$34,999 \$35,000 - \$49,999 \$50,000+	N 4444 832 N 573 961 750 937 1572	Percent Phys Act 58.7% 54.9% Percent Phys Act 53.7% 52.1% 58.3% 59.1% 63.7% Percent	95% Confidence Interval 56.8% - 60.6% 49.7% - 60.0% 95% Confidence Interval 47.2% - 60.1% 47.6% - 56.5% 53.3% - 63.3% 54.9% - 63.3% 60.8% - 66.6% 95% Confidence	Rounded 2005 Population 770,000 176,000 Rounded 2005 Population 92,000 157,000 134,000 172,000 305,000 Rounded 2005	Number Phys Act 452,000 97,000 Number Phys Act 49,000 82,000 78,000 102,000 104,000 Number Number	Insuff. Phys Act 318,000 80,000 Insuff. Phys Act 43,000 75,000 56,000 71,000 111,000 Insuff.	# To Reach Goal 49,000 18,000 # To Reach Goal 11,000 21,000 9,000 11,000 4,000 # To Reach	
Health Insurance Yes No Household Income Less than \$15,000 \$15,000 - \$24,999 \$25,000 - \$34,999 \$35,000 - \$49,999 \$50,000+ Education	N 4444 832 573 961 750 937 1572 N	Percent Phys Act 58.7% 54.9% Percent Phys Act 53.7% 52.1% 58.3% 59.1% 63.7% Percent Phys Act	95% Confidence Interval 56.8% - 60.6% 49.7% - 60.0% 95% Confidence Interval 47.2% - 60.1% 47.6% - 56.5% 53.3% - 63.3% 54.9% - 63.3% 60.8% - 66.6% 95% Confidence Interval	Rounded 2005 Population 770,000 176,000 Rounded 2005 Population 92,000 157,000 134,000 172,000 305,000 Rounded 2005 Population	Number Phys Act 452,000 97,000 Number Phys Act 49,000 82,000 78,000 102,000 194,000 Number Phys Act	Insuff. Phys Act 318,000 80,000 Insuff. Phys Act 43,000 75,000 56,000 71,000 111,000 Insuff. Phys Act	# To Reach Goal 49,000 18,000 # To Reach Goal 11,000 21,000 9,000 11,000 4,000 # To Reach Goal	

Source: 2005 BRFSS data provided by BHPVS, analyzed by CDRI.

63.8%

1474

College Grad

Note: Estimated 2005 population based on 2005 BRFSS weights. Category totals are not equal due to differential missing data patterns. Population numbers are rounded to the nearest 1,000. Number to screen to reach goal rounded up to nearest 1,000.

267,000

170,000

97,000

4,000

60.7% - 66.8%

* In 2005, Idaho ranked 12th among states (1st = best) in the proportion of adults who engaged in moderate or vigorous physical activity for the prescribed durations and frequencies.



Physical Activity Men and Women Aged 18+ Aggregated BRFSS Data 2001-2005 Results from Multilevel Logistic Regression Modeling

Odds Ratios and 95% Confidence Intervals for Fixed Parameters

Main Effect	OR	95% CI
Age v		
18-24	2.45	2.09 - 2.88
25-34	1.76	1.55 - 1.99
35-44	1.53	1.35 - 1.72
45-54	1.23	1.09 - 1.38
55-64	1.07	0.95 - 1.22
65+	1.00	
Sex		
Male	1.14	1.06 - 1.22
Female	1.00	
Deee/Ethnicity		
Non-Hispanic White	1 13	0.80 - 1.43
Hispanic	0.74	0.55 - 0.99
Native American	1.03	0.71 - 1.49
Other	1.00	
Health Insurance		-
Ves	0.96	0.86 - 1.07
No	1.00	0.00 1.07
Household Income		
Less than \$15,000	1.00	
\$15,000 - \$24,999	1.22	1.07 - 1.38
\$25,000 - \$34,999	1.40	1.23 - 1.61
\$35,000 - \$49,999 \$50,000 -	1.02	1.42 - 1.85
φ 0 0,000+	1.93	1.09 - 2.20
Education		
Not College Grad	1.00	
College Grad	1.15	1.06 - 1.25
Year of Survey		
2001	0.98	0.90 - 1.07
2003	1.03	0.94 - 1.12
2005	1.00	

Variation (on Logit Scale) in Screening Between Counties, Before and After Taking Into Account Individual-Level Covariates, Idaho, 2001-2005

Before Adjustment	After	Percent Change
0.0352	0.0247	-29.8%



Physical Activity: 30+ Min Moderate 5+ Days/Wk or 20+ Min Vigorous 3+ Days/W Men and Women Aged 18+ Aggregated BRFSS Data 2001-2005

Physical Activity: 30+ Min Moderate 5+ Days/Wk or 20+ Min Vigorous 3+ Days/Wk Men and Women Aged 18+ Aggregated BRFSS Data 2001-2005



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Youth Physical Activity

By 2010 Increase to 80% the percentage of idaho high school students who accumulate 30 minutes or more per day of moderate physical activity on five or more days of the week or participate in 20 minutes or more of vigorous physical activity on three or more days of the week.

Source: 2005 Idaho Youth Risk Behavior Survey

	N	%	95% C I	Total Population*	Number of Physically Active Youth	Number of students needing to increase
2005 Idaho total	1,434	73.0%	70.5% - 75.5%	66,700	48,691	4,669
Sex						
Male	694	78.3%	75.1% - 81.5%	32,300	25,291	549
Female	735	67.6%	63.0% - 72.2%	34,200	23,119	4,241
Ethnicity						
Hispanic	150	70.2%	61.3% - 79.1%	7,000	4,914	686
White	1,088	73.6%	71.0% - 76.2%	50,600	37,242	3,238
Grade						
9th	263	75.3%	70.8% - 79.8%	12,200	9,187	573
10th	345	78.4%	74.1% - 82.7%	16,000	12,544	256
11th	493	68.8%	63.8% - 73.8%	22,900	15,755	2,565
12th	323	68.7%	61.3% - 76.2%	15,000	10,305	1,695

*Based on weighted sample values; data were weighted by grade and sex to represent Idaho public school students in grades 9 through 12.





Body Mass Index: Neither Overweight Nor Obese (BMI<25.0) Men and Women Aged 18+ Goal: 45%

		Percent	95% Confidence	Rounded 2005	Number	Over-	# To Reach
Overall	N	OK Weight	Interval	Population	OK Weight	Weight	Goal
Yes	5439	38.6%	36.8% - 40.4%	970.000	375.000	595.000	62.000

		Percent	95% Confidence	Rounded 2005	Number	Over-	# To Reach
Race/Ethnicity	Ν	OK Weight	Interval	Population	OK Weight	Weight	Goal
Non-Hispanic White	4953	38.9%	37.0% - 40.7%	853,000	332,000	522,000	53,000
Hispanic	262	40.1%	30.4% - 49.8%	69,000	28,000	42,000	4,000
Native American	87	24.7%	14.2% - 35.2%	15,000	4,000	11,000	3,000
Other	129	36.1%	25.3% - 46.9%	30,000	11,000	19,000	3,000

		Percent	95% Confidence	Rounded 2005	Number	Over-	# To Reach
Age Group	Ν	OK Weight	Interval	Population	OK Weight	Weight	Goal
18-24	316	59.2%	52.1% - 66.4%	144,000	86,000	59,000	-
25-34	818	42.1%	38.1% - 46.2%	173,000	73,000	100,000	5,000
35-44	941	34.6%	30.9% - 38.2%	180,000	62,000	118,000	19,000
45-54	1134	29.1%	26.1% - 32.2%	184,000	54,000	131,000	30,000
55-64	955	30.9%	27.4% - 34.3%	131,000	40,000	91,000	19,000
65+	1275	38.2%	35.1% - 41.4%	157.000	60.000	97.000	11.000

		Percent	95% Confidence	Rounded 2005	Number	Over-	# To Reach
Sex	Ν	OK Weight	Interval	Population	OK Weight	Weight	Goal
Male	2159	29.2%	26.3% - 32.0%	492,000	144,000	349,000	78,000
Female	3280	48.4%	46.2% - 50.6%	478,000	231,000	247,000	-

		Percent	95% Confidence	Rounded 2005	Number	Over-	# To Reach
Health Insurance	Ν	OK Weight	Interval	Population	OK Weight	Weight	Goal
Yes	4599	37.6%	35.8% - 39.4%	794,000	299,000	495,000	59,000
No	826	43.5%	38.1% - 48.8%	171,000	74,000	97,000	3,000

Males							
		Percent	95% Confidence	Rounded 2005	Number	Over-	# To Reach
Household Income	Ν	OK Weight	Interval	Population	OK Weight	Weight	Goal
Less than \$15,000	154	44.1%	30.2% - 58.0%	37,000	17,000	21,000	1,000
\$15,000 - \$24,999	393	31.1%	24.7% - 37.5%	82,000	25,000	56,000	12,000
\$25,000 - \$34,999	323	33.5%	24.3% - 42.7%	72,000	24,000	48,000	<u>9.0</u> 00
\$35,000 - \$49,999	404	20.5%	15.8% - 25.3%	92,000	19,000	73,000	23,000
\$50,000+	736	26.4%	22.4% - 30.4%	176,000	46,000	129,000	33,000

Females							
		Percent	95% Confidence	Rounded 2005	Number	Over-	# To Reach
Household Income	Ν	OK Weight	Interval	Population	OK Weight	Weight	Goal
Less than \$15,000	433	45.3%	39.1% - 51.5%	54,000	24,000	30,000	-
\$15,000 - \$24,999	626	46.4%	41.4% - 51.3%	82,000	38,000	44,000	-
\$25,000 - \$34,999	437	48.8%	42.5% - 55.0%	62,000	30,000	32,000	-
\$35,000 - \$49,999	541	46.6%	41.3% - 52.0%	81,000	38,000	43,000	-
\$50,000+	873	50.5%	46.5% - 54.5%	139,000	70,000	69,000	-

Source: 2005 BRFSS data provided by BHPVS, analyzed by CDRI.

Note: Estimated 2005 population based on 2005 BRFSS weights. Category totals are not equal due to differential missing data patterns. Population numbers are rounded to the nearest 1,000. Numbers to reach goal rounded up to nearest 1,000.

* In 2005, Idaho ranked 25th among states (1st = best) in the proportion of adults who were neither overweight nor obese (body mass index < 25.0).





Body Mass Index: Neither Overweight Nor Obese (BMI<25.0) Men and Women Aged 18+ Aggregated BRFSS Data 2003-2005 Results from Multilevel Logistic Regression Modeling

Odds Ratios and 95% Confidence Intervals for Fixed Parameters

Main Effect	OR	95% CI
Age, y	2 00	2 2 2 2 2 2 2
25-34	2.00 1.22	2.30 - 3.30
35-44	1.02	0.89 - 1.13
45-54	0.80	0.71 - 0.90
55-64	0.69	0.60 - 0.78
65+	1.00	0.000 0.000
Dooo/Ethnicity		
Non Hispopia White	0 70	0.62 1.00
Hispanic White	0.79	0.62 - 1.00
Nativo Amorican	0.09	0.44 - 0.60
Other	1.00	0.55 - 0.71
Other	1.00	
Health Insurance		
Yes	0.92	0.82 - 1.02
No	1.00	
Sex and Income		-
M- Less than \$15.000	1.00	
M- \$15,000 - \$24,999	0.90	0.70 - 1.14
M- \$25,000 - \$34,999	0.83	0.65 - 1.06
M- \$35,000 - \$49,999	0.72	0.56 - 0.91
M- \$50,000+	0.69	0.55 - 0.87
F- Less than \$15,000	1.43	1.14 - 1.80
F- \$15,000 - \$24,999	1.54	1.24 - 1.93
F- \$25,000 - \$34,999	1.76	1.40 - 2.22
F- \$35,000 - \$49,999	1.63	1.29 - 2.04
F- \$50,000+	2.34	1.88 - 2.93
Education		
Not College Grad	1.00	
College Grad	1.30	1.19 - 1.41
Year of Survey		
2003	1.06	0.97 - 1.16
2004	1.06	0.97 - 1.15
2005	1.00	

Variation (on Logit Scale) in Screening Between Counties, Before and After Taking Into Account Individual-Level Covariates, Idaho, 2003-2005

Before Adjustment	After	Percent Change
0.0331	0.0277	-16.2%



Body Mass Index: Neither Overweight Nor Obese Men and Women Aged 18+ Aggregated BRFSS Data 2003-2005

Body Mass Index: Neither Overweight Nor Obese Men and Women Aged 18+ Aggregated BRFSS Data 2003-2005



Colorectal Cancer Screening: Colonoscopy or Sigmoidoscopy Within Previous 5 Years Men and Women Aged 50+ Goal: 50%

		Percent	95% Confidence	Rounded 2004	Number	Not	# to Screen To
Overall	Ν	Screened	Interval	Population	Screened	Screened	Reach Goal
Yes	2428	38.0%	35.7% - 40.3%	365,000	139,000	227,000	44,000

		Percent	95% Confidence	Rounded 2004	Number	Not	# to Screen To
Age Group	Ν	Screened	Interval	Population	Screened	Screened	Reach Goal
50-54	517	24.4%	20.1% - 28.7%	92,000	22,000	69,000	24,000
55-64	850	35.8%	32.1% - 39.6%	124,000	44,000	80,000	18,000
65+	1061	48.1%	44.4% - 51.8%	149,000	72,000	77,000	3,000

		Percent	95% Confidence	Rounded 2004	Number	Not	# to Screen To
Sex	Ν	Screened	Interval	Population	Screened	Screened	Reach Goal
Male	942	39.3%	35.6% - 42.9%	170,000	67,000	103,000	19,000
Female	1486	36.8%	34.0% - 39.7%	195,000	72,000	123,000	26,000

		Percent	95% Confidence	Rounded 2004	Number	Not	# to Screen To
Health Insurance	Ν	Screened	Interval	Population	Screened	Screened	Reach Goal
Yes	2209	40.5%	38.1% - 43.0%	331,000	134,000	197,000	32,000
No	211	12.7%	8.1% - 17.4%	33,000	4,000	29,000	13,000

		Percent	95% Confidence	Rounded 2004	Number	Not	# to Screen To
Household Income	Ν	Screened	Interval	Population	Screened	Screened	Reach Goal
Less than \$15,000	282	34.6%	28.1% - 41.0%	32,000	11,000	21,000	5,000
\$15,000 - \$24,999	514	37.3%	32.2% - 42.5%	73,000	27,000	46,000	10,000
\$25,000 - \$34,999	358	39.8%	33.9% - 45.7%	54,000	21,000	33,000	6,000
\$35,000 - \$49,999	375	36.1%	30.5% - 41.7%	61,000	22,000	39,000	9,000
\$50,000+	579	39.7%	35.0% - 44.4%	100,000	40,000	61,000	11,000

		Percent	95% Confidence	Rounded 2004	Number	Not	# to Screen To
Education	Ν	Screened	Interval	Population	Screened	Screened	Reach Goal
Not College Grad	1811	36.5%	33.9% - 39.1%	263,000	96,000	167,000	36,000
College Grad	612	41.8%	37.1% - 46.5%	102,000	42,000	59,000	9,000

Source: 2004 BRFSS data provided by BHPVS, analyzed by CDRI.

Note: Estimated 2004 population based on 2004 BRFSS weights. Category totals are not equal due to differential missing data patterns. Population numbers are rounded to the nearest 1,000. Number to screen to reach goal rounded up to nearest 1,000.

* In 2004, Idaho ranked 42nd among states (1st = best) in the proportion of adults aged 50+ who have ever had a sigmoidoscopy or colonoscopy.



Colonoscopy or Sigmoidoscopy Within Previous 5 Years Men and Women Aged 50+ Aggregated BRFSS Data 1997-2004 Results from Multilevel Logistic Regression Modeling

Odds Ratios and 95% Confidence Intervals for Fixed Parameters

Main Effect	OR	95% CI
Age, y 50-54 55-64 65+	0.37 0.67 1.00	0.32 - 0.42 0.60 - 0.75
Sex Male Female	1.17 1.00	1.07 - 1.29
Health Insurance Yes No	2.34 1.00	1.87 - 2.94
Household Income Less than \$15,000 \$15,000 - \$24,999 \$25,000 - \$34,999 \$35,000 - \$49,999 \$50,000+	1.00 1.16 1.30 1.30 1.45	1.00 - 1.34 1.11 - 1.53 1.10 - 1.54 1.22 - 1.72
Education Not College Grad College Grad	1.00 1.12	1.00 - 1.25
Year of Survey 1997 1999 2001 2002 2004	0.55 0.64 0.74 0.85 1.00	0.48 - 0.64 0.56 - 0.74 0.64 - 0.85 0.74 - 0.97

Variation (on Logit Scale) in Screening Between Counties, Before and After Taking Into Account Individual-Level Covariates, Idaho, 1997-2004

Before Adjustment	After	Percent Change
0.0712	0.0625	-12.1%

Variation (on Logit Scale) in Screening Between Counties, Before and After Taking Into Account County-Level # of Facilities Offering Colonoscopy, Idaho, 1997-2004

Before Adjustment After Percent Change 0.0625 0.0431 -31.1%





Colorectal Cancer Screening: Colonoscopy or Sigmoidoscopy Within Previous 5 Years Men and Women Aged 50+ Aggregated BRFSS Data 1997-2004

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Colorectal Cancer Screening: Colonoscopy or Sigmoidoscopy Within Previous 5 Years Men and Women Aged 50+ Aggregated BRFSS Data 1997-2004





Colorectal Cancer Screening: Blood Stool Test Within Previous 2 Years Men and Women Aged 50+ Goal: 33%

		Percent	95% Confidence	Rounded 2004	Number	Not	# to Screen To
Overall	N	Screened	Interval	Population	Screened	Screened	Reach Goal
Yes	2407	21.8%	19.9% - 23.8%	362,000	79,000	283,000	41,000
		Percent	95% Confidence	Rounded 2004	Number	Not	# to Screen To
Age Group	Ν	Screened	Interval	Population	Screened	Screened	Reach Goal
50-54	509	13.2%	9.7% - 16.7%	90,000	12,000	78,000	(18,000
55-64	841	24.8%	21.4% - 28.2%	123,000	30,000	92,000	11,000
65+	1057	24.6%	21.5% - 27.8%	149,000	37,000	113,000	13,000
		Percent	95% Confidence	Rounded 2004	Number	Not	# to Screen To
Sex	Ν	Screened	Interval	Population	Screened	Screened	Reach Goal
Male	933	21.1%	18.0% - 24.2%	169,000	36,000	133,000	21,000
Female	1474	22.5%	20.0% - 25.0%	193,000	43,000	150,000	21,000
		Percent	95% Confidence	Rounded 2004	Number	Not	# to Screen To
		1 01 00110					
Health Insurance	N	Screened	Interval	Population	Screened	Screened	Reach Goal
Health Insurance Yes	N 2189	Screened 22.4%	Interval 20.3% - 24.5%	Population 328,000	Screened 74,000	Screened 254,000	Reach Goal 35,000
Health Insurance Yes No	N 2189 210	Screened 22.4% 16.3%	Interval 20.3% - 24.5% 10.1% - 22.4%	Population 328,000 33,000	Screened 74,000 5,000	Screened 254,000 27,000	Reach Goal 35,000 6,000
Health Insurance Yes No	N 2189 210	Screened 22.4% 16.3%	Interval 20.3% - 24.5% 10.1% - 22.4%	Population 328,000 33,000	Screened 74,000 5,000	Screened 254,000 27,000	Reach Goal 35,000 6,000
Health Insurance Yes No	N 2189 210	Screened 22.4% 16.3% Percent	Interval 20.3% - 24.5% 10.1% - 22.4% 95% Confidence	Population 328,000 33,000 Rounded 2004	Screened 74,000 5,000 Number	Screened 254,000 27,000 Not	Reach Goal 35,000 6,000 # to Screen To
Health Insurance Yes No Household Income	N 2189 210 N	Screened 22.4% 16.3% Percent Screened	Interval 20.3% - 24.5% 10.1% - 22.4% 95% Confidence Interval	Population 328,000 33,000 Rounded 2004 Population	Screened 74,000 5,000 Number Screened	Screened 254,000 27,000 Not Screened	Reach Goal 35,000 6,000 # to Screen To Reach Goal
Health Insurance Yes No Household Income Less than \$15,000	N 2189 210 N 283	Screened 22.4% 16.3% Percent Screened 19.8%	Interval 20.3% - 24.5% 10.1% - 22.4% 95% Confidence Interval 14.6% - 25.0%	Population 328,000 33,000 Rounded 2004 Population 32,000	Screened 74,000 5,000 Number Screened 6,000	Screened 254,000 27,000 Not Screened 26,000	Reach Goal 35,000 6,000 # to Screen To Reach Goal 5,000
Health Insurance Yes No Household Income Less than \$15,000 \$15,000 - \$24,999	N 2189 210 N 283 510	Screened 22.4% 16.3% Percent Screened 19.8% 22.3%	Interval 20.3% - 24.5% 10.1% - 22.4% 95% Confidence Interval 14.6% - 25.0% 17.8% - 26.7%	Population 328,000 33,000 Rounded 2004 Population 32,000 72,000	Screened 74,000 5,000 Number Screened 6,000 16,000	Screened 254,000 27,000 Not Screened 26,000 56,000	Reach Goal 35,000 6,000 # to Screen To Reach Goal 5,000 8,000
Health Insurance Yes No Household Income Less than \$15,000 \$15,000 - \$24,999 \$25,000 - \$34,999	N 2189 210 N 283 510 356	Screened 22.4% 16.3% Percent Screened 19.8% 22.3% 23.2%	Interval 20.3% - 24.5% 10.1% - 22.4% 95% Confidence Interval 14.6% - 25.0% 17.8% - 26.7% 18.2% - 28.2%	Population 328,000 33,000 Rounded 2004 Population 32,000 72,000 54,000	Screened 74,000 5,000 Number Screened 6,000 16,000 12,000	Screened 254,000 27,000 Not Screened 26,000 56,000 41,000	Reach Goal 35,000 35,000 6,000 # to Screen To Reach Goal 5,000 5,000 8,000 6,000 6,000
Health Insurance Yes No Household Income Less than \$15,000 \$15,000 - \$24,999 \$25,000 - \$34,999 \$35,000 - \$49,999	N 2189 210 N 283 510 356 375	Screened 22.4% 16.3% Percent Screened 19.8% 22.3% 23.2% 19.7%	Interval 20.3% - 24.5% 10.1% - 22.4% 95% Confidence Interval 14.6% - 25.0% 17.8% - 26.7% 18.2% - 28.2% 15.1% - 24.3%	Population 328,000 33,000 Rounded 2004 Population 32,000 72,000 54,000 61,000	Screened 74,000 5,000 Number Screened 6,000 16,000 12,000 12,000	Screened 254,000 27,000 Not Screened 26,000 56,000 41,000 49,000	Reach Goal 35,000 6,000 9,000 # to Screen To Reach Goal 5,000 5,000 6,000 6,000 6,000 9,000 6,000 6,000 9,000 6,000
Health Insurance Yes No Household Income Less than \$15,000 \$15,000 - \$24,999 \$25,000 - \$34,999 \$35,000 - \$49,999 \$50,000+	N 2189 210 N 283 510 356 375 569	Screened 22.4% 16.3% Percent Screened 19.8% 22.3% 23.2% 19.7% 22.0%	Interval 20.3% - 24.5% 10.1% - 22.4% 95% Confidence Interval 14.6% - 25.0% 17.8% - 26.7% 18.2% - 28.2% 15.1% - 24.3% 17.9% - 26.1%	Population 328,000 33,000 Rounded 2004 Population 32,000 72,000 54,000 61,000 98,000	Screened 74,000 5,000 Number Screened 6,000 16,000 12,000 12,000 22,000	Screened 254,000 27,000 Not Screened 26,000 56,000 41,000 49,000 77,000	Reach Goal 35,000 6,000 6,000 9,000 8,000 6,000 9,000 9,000 11,000
Health Insurance Yes No Household Income Less than \$15,000 \$15,000 - \$24,999 \$25,000 - \$34,999 \$35,000 - \$49,999 \$50,000+	N 2189 210 N 283 510 356 375 569	Screened 22.4% 16.3% Percent Screened 19.8% 22.3% 23.2% 19.7% 22.0%	Interval 20.3% - 24.5% 10.1% - 22.4% 95% Confidence Interval 14.6% - 25.0% 17.8% - 26.7% 18.2% - 28.2% 15.1% - 24.3% 17.9% - 26.1%	Population 328,000 33,000 Rounded 2004 Population 32,000 72,000 54,000 61,000 98,000	Screened 74,000 5,000 Number Screened 6,000 16,000 12,000 12,000 22,000	Screened 254,000 27,000 Not Screened 26,000 56,000 41,000 49,000 77,000	Reach Goal 35,000 6,000 6,000 # to Screen To Reach Goal 5,000 8,000 6,000 9,000 11,000

		Percent	95% Confidence	Rounded 2004	Number	Not	# to Screen To
Education	Ν	Screened	Interval	Population	Screened	Screened	Reach Goal
Not College Grad	1796	20.7%	18.5% - 22.9%	261,000	54,000	207,000	33,000
College Grad	606	25.0%	20.8% - 29.3%	100,000	25,000	75,000	8,000

Source: 2004 BRFSS data provided by BHPVS, analyzed by CDRI.

Note: Estimated 2004 population based on 2004 BRFSS weights. Category totals are not equal due to differential missing data patterns. Population numbers are rounded to the nearest 1,000. Number to screen to reach goal rounded up to nearest 1,000.

* In 2004, Idaho ranked 45th among states (1st = best) in the proportion of adults aged 50+ who had a blood stool test within the previous two years.



Blood Stool Test Within Previous 2 Years Men and Women Aged 50+ Aggregated BRFSS Data 1997-2004 Results from Multilevel Logistic Regression Modeling

Odds Ratios and 95% Confidence Intervals for Fixed Parameters

Main Effect	OR	95% CI
Age, y 50-54 55-64 65+	0.47 0.86 1.00	0.41 - 0.55 0.77 - 0.97
Sex Male Female	0.70 1.00	0.63 - 0.78
Health Insurance Yes No	1.85 1.00	1.46 - 2.35
Household Income Less than \$15,000 \$15,000 - \$24,999 \$25,000 - \$34,999 \$35,000 - \$49,999 \$50,000+	1.00 1.31 1.42 1.50 1.58	1.11 - 1.53 1.19 - 1.69 1.25 - 1.80 1.31 - 1.90
Education Not College Grad College Grad	1.00 1.20	1.06 - 1.35
Year of Survey 1997 1999 2001 2002 2004	1.26 1.13 1.20 1.22 1.00	1.08 - 1.47 0.96 - 1.32 1.03 - 1.41 1.05 - 1.42

Cancer Data Registry of Idaho

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Variation (on Logit Scale) in Screening Between Counties, Before and After Taking Into Account Individual-Level Covariates, Idaho, 1997-2004







Colorectal Cancer Screening: Blood Stool Test Within Previous 2 Years Men and Women Aged 50+ Aggregated BRFSS Data 1997-2004

Bounda

Bonner

Lata

Cleareste

Valler

Elmon

0

Twin Falls

50

Owyhee

CCAL

Colorectal Cancer Screening: Blood Stool Test Within Previous 2 Years Men and Women Aged 50+ Aggregated BRFSS Data 1997-2004



Comprehensive Cancer Alliance for Idaho

Colorectal Cancer in Idaho, 2002-2004, Invasive Cases Numbers of Cases, Age-adjusted and Crude Rates

	Rates			
Geography	Adjusted	Crude	Cases	Person-Years
Health District 1	51.3	55.8	317	567,966
Health District 2	40.2	47.2	142	301,038
Health District 3	50.6	47.3	303	640,379
Health District 4	45.8	37.7	418	1,109,708
Health District 5	43.6	45.7	229	500,889
Health District 6	30.4	27.1	129	475,239
Health District 7	39.5	32.7	166	508,201
State of Idaho	44.4	41.8	1,714	4,103,420
SEER Whites 2003	49.6	49.8	29,577	59,360,369
SEER All Races 2003	50.1	47.3	36,022	76,177,809

Rates are per 100,000 person-years.

Age-adjusted rates use the 2000 U.S. standard.



CDRI Cancer Data Registry of Idaho



CDRI













Colorectal Cancer in Idaho, 2002-2004, Mortality Numbers of Deaths, Age-adjusted and Crude Rates

	Rates			
Geography	Adjusted	Crude	Deaths	Person-Years
Health District 1	19.5	21.1	120	567,966
Health District 2	14.9	17.6	53	301,038
Health District 3	15.0	17.8	51	286,124
Health District 4	14.9	11.9	132	1,109,708
Health District 5	16.1	16.8	84	500,889
Health District 6	12.8	11.6	55	475,239
Health District 7	14.0	11.2	57	508,201
State of Idaho	15.6	14.6	601	4,103,420
US Whites 2003	18.5	20.1	47,572	236,281,936
US All Races 2003	19.0	19.2	55,783	290,788,976

Rates are per 100,000 person-years.

Age-adjusted rates use the 2000 U.S. standard.



CDRI Cancer Data Registry of Idaho

Questions/Comments



