MINNESOTA DEPARTMENT OF HEALTH

DISEASE CONTROL NEWSLETTER

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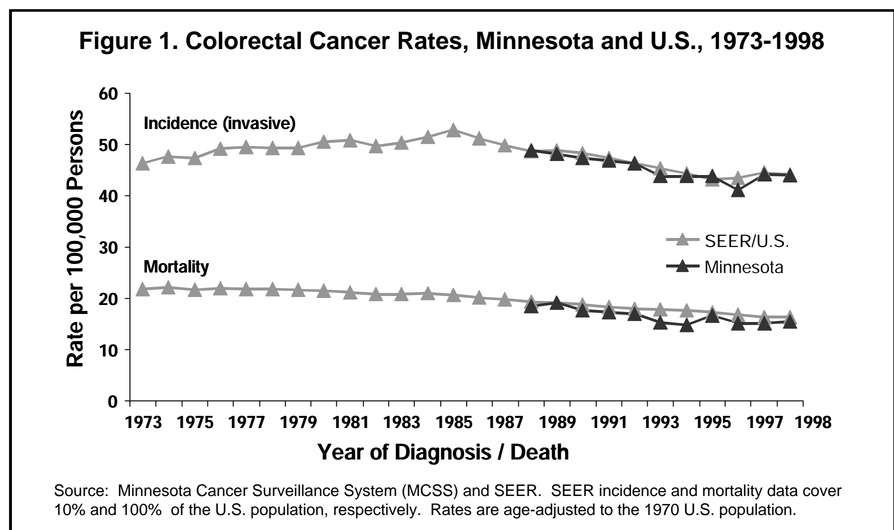
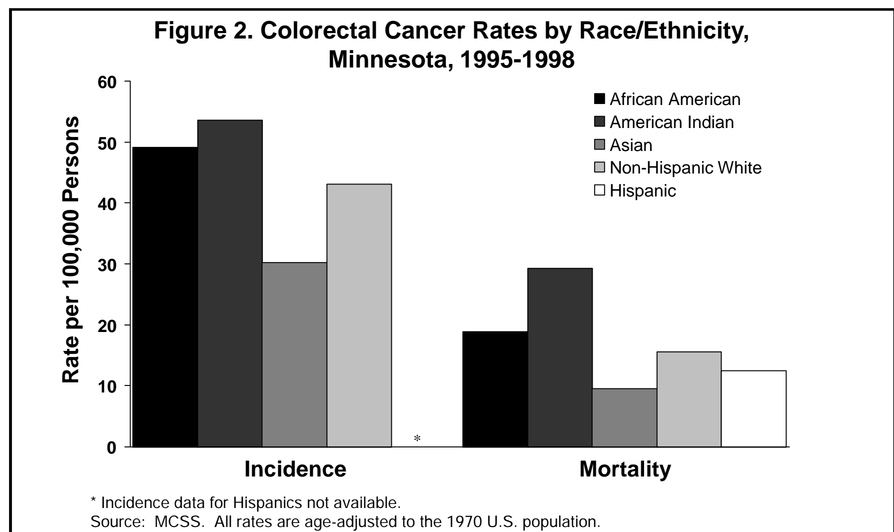
Colorectal Cancer in Minnesota

Each year in Minnesota, approximately 2,600 people are diagnosed with colorectal cancer and 950 die of the disease. More Minnesotans die of colorectal cancer than either breast or prostate cancer, partly because less than 40% of colorectal cancers are diagnosed at an early, highly treatable stage, compared to more than 70% of breast and prostate cancers.

Data from the national Surveillance, Epidemiology and End Results (SEER) program show that colorectal cancer incidence rates increased from the 1970s until 1985, when they began decreasing by nearly 2% per year until reaching a plateau in 1995. Mortality rates, however, declined steadily over the entire period.[1,2] Colorectal cancer incidence and mortality rates in Minnesota are comparable to those nationally (Figure 1).





Multiple factors have affected colorectal cancer rates. Increasing use of combination chemotherapy, recent declines in overall incidence, and reduced rates of late-stage disease have contributed to decreasing mortality. While increased screening may lead to an apparent short-term increase in incidence as tumors are diagnosed at an earlier stage, screening ultimately decreases incidence as precancerous lesions are identified and removed. Dietary and behavioral changes, such as increased intake of aspirin to prevent heart disease, also may be reducing underlying population risk factors for colorectal cancer.

The risk for colorectal cancer varies by race/ethnicity, with higher rates among African Americans and American Indians (Figure 2). Race-specific rates in Minnesota generally are similar to those reported nationally, although rates among American Indians in Minnesota are two to three times

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higher than those among American Indians in the southwestern U.S.[2]
The incidence of colorectal cancer in Minnesota also varies geographically (Figure 3). Among non-Hispanic whites, incidence rates are lowest in the Twin Cities metropolitan area and highest in west central and northwest Minnesota. Mortality rates vary less geographically, but also are lowest in the metropolitan area and higher in west central and northwest regions.

Screening

Since screening can identify and facilitate removal of precancerous lesions, many colorectal cancers are preventable. All persons aged 50 years or older should be screened for colorectal cancer. The Healthy People 2010 objective of reducing the national colorectal cancer mortality rate by 34% is achievable, and screening is critical to reaching this goal.

The U.S. Preventive Services Task Force, the American Cancer Society, and a consortium of American gastroenterology societies have endorsed several options for screening individuals at average risk for colorectal cancer (Table 1). The option chosen depends on patient and provider preferences, accessibility, cost, insurance coverage, and other factors.

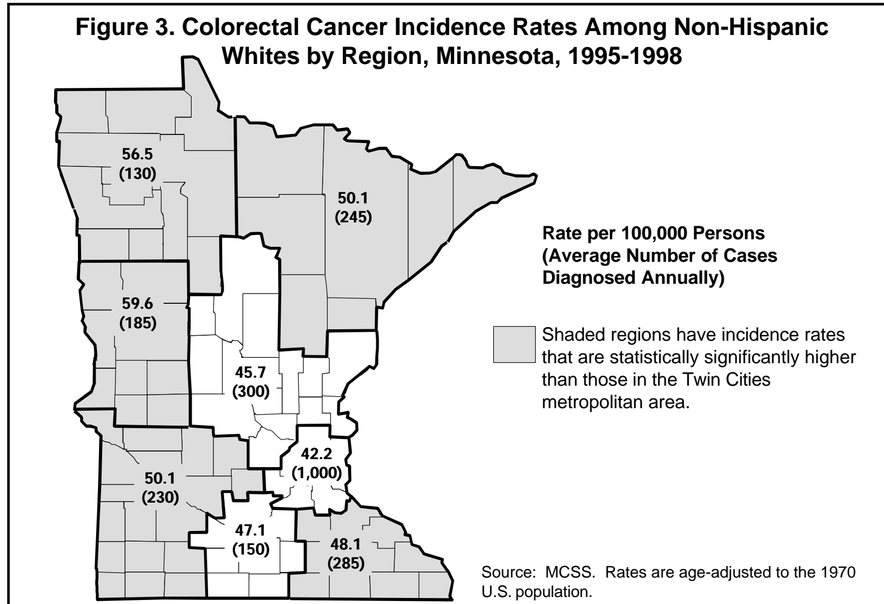
Despite broad consensus on the value of screening for colorectal cancer, less than half of adults aged 50 years or older are screened nationwide. Data from the Behavioral Risk Factor Surveillance System (BRFSS), an ongoing statewide telephone survey of Minnesota adults, indicate that in 1999, only 43% of respondents aged 50 years or older reported having had either fecal occult blood testing within the past year or flexible sigmoidoscopy within the last 5 years.

Another population-based estimate of colorectal cancer screening in Minnesota, the Wright County Colorectal Cancer Screening Project (WCCCSP), was conducted using a self-administered survey in five non-urban counties. The WCCCSP estimated that 55% of age-eligible adults had been screened. This percentage may be higher than that reported by BRFSS because WCCCSP defines screening more broadly (i.e., any of the screening modalities at the intervals recommended in the guidelines presented in Table 1).

Health plan data provide another estimate of colorectal cancer screening rates. Using medical claims data and medical record reviews, health plans in Minnesota report colorectal cancer screening rates of 30% to 55% of age-eligible adults per year.

Estimating colorectal cancer screening **continued on page 8...**

Figure 3. Colorectal Cancer Incidence Rates Among Non-Hispanic Whites by Region, Minnesota, 1995-1998



Source: MCSS. Rates are age-adjusted to the 1970 U.S. population.

Table 1. Colorectal Cancer Screening Guidelines for Average Risk Adults 50 Years of Age or Older*

Screening Test	Frequency
Fecal Occult Blood Test (FOBT)	annually
or	
Flexible Sigmoidoscopy (FS)	every 5 years
or	
FOBT and FS	annually (FOBT)/every 5 years (FS)
or	
Double Contrast Barium Enema	every 5 to 10 years
or	
Colonoscopy	every 10 years

*Individuals with a family history of colorectal cancer or polyps should begin screening at an earlier age determined in consultation with their physicians.

Antimicrobial Susceptibilities of Selected Pathogens, 2001

On the facing page is the *Antimicrobial Susceptibilities of Selected Pathogens, 2001* a.k.a. the Minnesota Department of Health (MDH) Antibiogram, a compilation of antimicrobial susceptibilities of selected pathogens submitted to MDH during 2001 in accordance with Minnesota Rule 4605.7040. Because only a select group of isolates is submitted to MDH, it is important to read the notes entitled "Sampling Methodology" and "Trends, Comments, and Other Pathogens."

We hope the MDH Antibiogram will serve as a useful "Thank You" for the work that laboratorians, infection control practitioners, and providers do to support public health in Minnesota. We appreciate your feedback on this initiative.

The MDH Antibiogram is available on the MDH web site (http://www.health.state.mn.us). Laminated copies can be ordered from: Antibiogram, Minnesota Dept. of Health, Acute Disease Investigation and Control Section, 717 Delaware St. SE, Minneapolis, MN 55414.

Antimicrobial Susceptibilities of Selected Pathogens, 2001

MINNESOTA MDH DEPARTMENT OF HEALTH

Sampling Methodology
- † all isolates tested
- * ~1 isolate tested per week at MDH
- ▲ ~10% sample of statewide isolates received at MDH
- ** all isolates tested from 7-county metropolitan area
- ✔ isolates from a normally sterile site

		Campylobacter spp. [1] *	*Salmonella* Typhimurium [2] †	Other *Salmonella* serotypes (non-typhoidal) [2] ▲	*Shigella* spp. ▲	*Neisseria gonorrhoeae* [3]	*Neisseria meningitidis* [4] †✔	Group A *Streptococcus* †✔	Group B *Streptococcus* [5] ✔	*Streptococcus pneumoniae* [6] **✔	*Mycobacterium tuberculosis* [7] †
	No. of Isolates Tested	55	164	38	46	123	27	174	220	304	195
		% Susceptible									
β-lactam antibiotics	amoxicillin									94	
	ampicillin		67	89	17			100	100		
	penicillin						96	100	100	77	
	cefuroxime sodium					100				82	
	cefotaxime						100	100	100	84	
	ceftriaxone		95	95	98	100	100				
	meropenem						100			84	
Other antibiotics	levofloxacin									99	
	ciprofloxacin	86[1]	100	100	100	100	100				
	chloramphenicol		74	97	91		100			97	
	clindamycin							99	86	97	
	erythromycin	96						98	73	80	
	gentamicin	96									
	tetracycline	40								90	
	trimethoprim/sulfamethoxazole		96	97	78		59			71	
	vancomycin							100	100	100	
TB antibiotics	ethambutol										98
	isoniazid										88
	pyrazinamide										97
	rifampin						100				96
	streptomycin										81

Trends, Comments and Other Pathogens

1	***Campylobacter* spp.**	Ciprofloxacin susceptibility was determined for all isolates received (n=882), rather than one isolate per week. Less than 52% of isolates from patients returning from foreign travel were susceptible to quinolones. Susceptibilities were determined using 2001 NCCLS breakpoints for *Enterobacteriaceae*. Susceptibility for erythromycin was based on an MIC ≤4 µg/ml.
2	***Salmonella* spp.**	Antimicrobial treatment for enteric salmonellosis generally is not recommended.
3	***Neisseria gonorrhoeae***	Isolates tested comprise 5% of total (2,666) cases reported. All isolates tested were susceptible to cefpodoxime, cefixime and spectinomycin. No decreased susceptibility to azithromycin was detected in 132 MN isolates tested through another surveillance system (GISP) using a CDC provisional breakpoint of 1.0 µg/ml.
4	***Neisseria meningitidis***	Provisional breakpoints from CDC. MIC ≤ 0.06 µg/ml to penicillin considered susceptible. In 2001, one isolate had intermediate susceptibility to penicillin (MIC of 0.12 µg/ml).
5	**Group B *Streptococcus* (GBS)**	95% (21/22) of early-onset infant, 100% (17/17) of late-onset infant, 50% (7/14) of maternal, and 80% (175/218) of other invasive GBS cases were tested. 89% (40/45) of infant and maternal case isolates were susceptible to clindamycin and 80% (36/45) were susceptible to erythromycin. All 220 isolates had an MIC of <0.5 µg/ml to cefazolin.
6	***Streptococcus pneumoniae***	7% (21/304) had intermediate susceptibility and 16% (48/304) were resistant to penicillin. In 2002, NCCLS cefotaxime and ceftriaxone breakpoints are changing for nonmeningitis pneumococcal isolates; reported above is the proportion of 2001 case isolates susceptible by meningitis breakpoints (intermediate=1.0 µg/ml, resistant ≥ 2.0 µg/ml); by nonmeningitis breakpoints (intermediate=2.0 µg/ml, resistant ≥ 4.0 µg/ml), 95% (288/304) of these isolates were susceptible. Isolates were screened for high-level resistance to rifampin at a single MIC; all were ≤ 2 µg/ml.
7	***Mycobacterium tuberculosis* (TB)**	National guidelines recommend initial four-drug therapy where resistance to isoniazid (INH) exceeds 4%. In MN, 12% of *M. tuberculosis* isolates were INH-resistant. Four cases of multi-drug resistant TB (resistant to INH and rifampin) were identified, all among foreign-born persons. However, the percentage of U.S.-born cases resistant to at least one drug increased from an average of 7% over the past 4 years to 26% in 2001. Eight of 10 drug-resistant U.S.-born cases in 2001 were resistant to streptomycin.
	Bordetella pertussis	All 117 isolates received were susceptible to erythromycin using provisional CDC breakpoints.
	***Escherichia coli* O157:H7**	Antimicrobial treatment for *E. coli* O157:H7 infection is not recommended.
	Methicillin Resistant *Staphylococcus aureus* (MRSA)	MRSA infections continue to be reported via 12 sentinel laboratories. Patients are interviewed to determine whether they have healthcare-associated risk factors. Of 107 known community-onset MRSA isolates from 2000 (data pending from 2001), 44% were susceptible to erythromycin, 82% to clindamycin, 79% to ciprofloxacin, 93% to tetracycline, 95% to trimethoprim/sulfamethoxazole, 97% to rifampin and 100% to vancomycin. Of healthcare-associated MRSA isolates collected in 2000 at these laboratories, 8% were susceptible to erythromycin, 20% to clindamycin, 15% to ciprofloxacin, 92% to tetracycline, 87% to trimethoprim/sulfamethoxazole, 94% to rifampin and 100% to vancomycin.

rates is hampered by lack of a standardized definition for compliance with screening guidelines. Such standards are being considered for inclusion in the Health Plan Employer Data and Information Set in order to more accurately measure screening rates.

Minnesota Colorectal Cancer Consortium

Regardless of the measure chosen, colorectal cancer screening rates in Minnesota are sub-optimal. Heightened interest and efforts are focused on this important public health issue. In March 2002, more than 60 health care practitioners, researchers, and public health professionals met at a summit sponsored by the Minnesota Colorectal Cancer Consortium to review the status of colorectal cancer screening in Minnesota and outline a statewide colorectal cancer control plan.

For more information about the consortium and the Minnesota Colorectal Cancer Summit 2002, visit http://www.cancer.umn.edu/coloncanceraware, or call the MDH Cancer Control Section at (612) 676-5500. Further information on colorectal cancer in Minnesota is available at http://www.health.state.mn.us/divs/dpc/cdee/mcss.htm.

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1. Howe HL, Wingo PA, Thun MJ, et al. Annual report to the nation on the status of cancer (1973 through 1998), featuring cancers with recent increasing trends. J Natl Cancer Inst 2001;93:824-42.
2. Reis LAG, Eisner MP, Kosary CL, et al (eds). SEER Cancer Statistics Review, 1973-1998. National Cancer Institute, Bethesda MD, 2001. Available online at http://seer.cancer.gov/publications/csr.

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The *Disease Control Newsletter* toll-free telephone number is 1-800-366-2597.