

COLORECTAL CANCER

Includes Invasive and Primary Cancer Only; Does Not Include Carcinoma In Situ, Metastatic Cancer or Endoscopic Polypectomy

Background

This case definition was developed by the Armed Forces Health Surveillance Branch (AFHSB) for the purpose of descriptive epidemiological reports on invasive cancers among active duty Service members.¹

Clinical Description

Colorectal cancer is cancer that occurs in the colon or rectum. The colon is the large intestine or large bowel. The rectum is the passageway that connects the colon to the anus. Colorectal cancer affects men and women of all racial and ethnic groups, and is most often found in people aged 50 years or older. In the United States, it is the third most common cancer for men and women.² The U.S. Preventive Services Task Force (USPTF) recommends “colorectal cancer screening using fecal occult blood testing, sigmoidoscopy, or colonoscopy in adults, beginning at age 50 years and continuing until age 75 years.” Evidence suggests that these methods are effective in detecting early-stage colon cancer and adenomatous polyps.³

Case Definition and Incidence Rules

For surveillance purposes, a case of colorectal cancer is defined as:

- *One hospitalization* with a case defining diagnosis of colorectal cancer (see ICD9 and ICD10 code lists below) in the *first* diagnostic position; or
- *One hospitalization with a V-code* indicating a radiotherapy, chemotherapy, or immunotherapy treatment procedure (see ICD9 and ICD10 code lists below) in the *first* diagnostic position; AND any case defining diagnosis of colorectal cancer (see ICD9 and ICD10 code lists below) in the *second* diagnostic position; or
- *Three or more outpatient medical encounters*, occurring *within a 90-day period*, with any of the case defining diagnoses of colorectal cancer (see ICD9 and ICD10 code lists below) in the *first or second* diagnostic position.

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¹ Armed Forces Health Surveillance Center. Incident diagnoses of cancers and cancer-related deaths, active component, U.S. Armed Forces, 2005-2014. *Medical Surveillance Monthly Report (MSMR)*. 2016 July; 23(7): 23-31.

² Colorectal (Colon) Cancer. Centers for Disease Control and Prevention. Available at: http://www.cdc.gov/cancer/colorectal/basic_info/index.htm. Accessed July 2019.

³ Screening for Colorectal Cancer. U.S. Preventive Services Task Force. Available at: <https://www.uspreventiveservicestaskforce.org/Page/Document/RecommendationStatementFinal/colorectal-cancer-screening2>. Accessed July 2019



Case Definition and Incidence Rules *(continued)*

Incidence rules:

For individuals who meet the case definition:

- The incidence date is considered the date of the first hospitalization or the first of the three or more outpatient medical encounters occurring within a 90-day period that includes a case defining diagnosis of colorectal cancer (see *Case Definition and Incidence Rule Rationale*).
- An individual is considered an incident case only *once per lifetime*.

Exclusions:

- None

Codes

The following ICD9 and ICD10 codes are included in the case definition:

Condition	ICD-10-CM Codes	ICD-9-CM Codes
Colorectal cancer	C18 (<i>malignant neoplasm of colon</i>)	153 (<i>malignant neoplasm of colon</i>)
	C18.0 (<i>malignant neoplasm of cecum</i>)	153.4 (<i>malignant neoplasm of cecum</i>)
	C18.1 (<i>malignant neoplasm of appendix</i>)	153.5 (<i>malignant neoplasm of appendix</i>)
	C18.2 (<i>malignant neoplasm of ascending colon</i>)	153.6 (<i>malignant neoplasm of ascending colon</i>)
	C18.3 (<i>malignant neoplasm of hepatic flexure</i>)	153.0 (<i>malignant neoplasm of hepatic flexure</i>)
	C18.4 (<i>malignant neoplasm of transverse colon</i>)	153.1 (<i>malignant neoplasm of transverse colon</i>)
	C18.5 (<i>malignant neoplasm of splenic flexure</i>)	153.7 (<i>malignant neoplasm of splenic flexure</i>)
	C18.6 (<i>malignant neoplasm of descending colon</i>)	153.2 (<i>malignant neoplasm of descending colon</i>)
	C18.7 (<i>malignant neoplasm of sigmoid colon</i>)	153.3 (<i>malignant neoplasm of sigmoid colon</i>)
C18.8 (<i>malignant neoplasm of overlapping sites of colon</i>)	153.8 (<i>malignant neoplasm of other specified sites of large intestine</i>)	
		<i>(continued on next page)</i>



	C18.9 (malignant neoplasm of colon, unspecified)	153.9 (malignant neoplasm of colon, unspecified)
	--	154 Malignant neoplasm of rectum and rectosigmoid junction
	C19 (malignant neoplasm of rectosigmoid junction)	- 154.0 (malignant neoplasm of rectosigmoid junction)
	C20 (malignant neoplasm of rectum)	- 154.1 (malignant neoplasm of rectum)
	C26.0 (malignant neoplasm of intestinal tract, part unspecified)	- 159.0 (malignant neoplasm of intestinal tract, part unspecified)

Procedures	ICD-10-CM Codes	ICD-9-CM Codes
Related treatment procedures (Radiotherapy, chemotherapy, immunotherapy)	Z51.0 (encounter for antineoplastic radiation therapy)	V58.0 (radiotherapy)
	Z51.1 (encounter for antineoplastic chemotherapy and immunotherapy)	V58.1 (encounter for chemotherapy and immunotherapy for neoplastic conditions)
	- Z51.11 (encounter for antineoplastic chemotherapy)	V58.11 (encounter for antineoplastic chemotherapy)
	- Z51.12 (encounter for antineoplastic immunotherapy)	V58.12 (encounter for antineoplastic immunotherapy)

Development and Revisions

- In September of 2015 the case definition was updated to include ICD10 codes.
- This case definition was developed in 2010 by the Armed Forces Health Surveillance Center (AFHSC) in collaboration with a working group of subject matter experts from the Office of the Assistant Secretary of Defense for Health Affairs (ASDHA), the United States Army Public Health Command (USAPHC) and the United States Military Cancer Institute. The case definition was developed based on reviews of the ICD9 codes, the scientific literature, and previous AFHSC analyses.
- This case definition was developed for a report on ten different invasive cancers. As such, the same case finding criteria are used for all types of cancer in the report. This broad application of a single case definition may affect the sensitivity and specificity in varying ways for the individual cancers. Furthermore, surgical treatment procedures such as hysterectomy, mastectomy, prostatectomy, and other procedures unique to certain types of cancer are not included in the code sets for individual cancers.

Case Definition and Incidence Rule Rationale

- This case definition is designed to capture cases of *invasive* colorectal cancer only. Carcinoma in situ is not included in this definition.
- Case finding criteria for this definition requires one hospitalization record with a case-defining ICD9 or ICD10 code for colorectal cancer in the *first* diagnostic position *unless* a code for a



related treatment procedure is in the *first* diagnostic position; then the case-defining ICD9 or ICD10 code for colorectal cancer is allowed in the *second* diagnostic position.

- The case finding criterion of *three or more outpatient medical encounters, within a 90-day period*, with a case defining diagnosis of colorectal cancer is used to identify cases that do not meet the other criteria in the definition. For outpatient encounters, the incident date is considered the first of the three encounters occurring within the 90-day period (e.g., if an individual has four colorectal cancer codes on 1 Jan 12, 1 Dec 15, 8 Dec 15, and 15 Dec 15, the incident date would be 1 Dec 15. 1 Jan 12 would be considered a screening encounter and dropped). Exploratory analysis of the Defense Medical Surveillance System (DMSS) data revealed that this criterion yielded optimal specificity.⁴ The period of 90 days was established to allow for the likelihood that “true” cases of colorectal cancer would have second and third encounters within that interval.
- For the purposes of counting new incident cases, AFHSB uses a once per lifetime incidence rule unless a specific timeframe is more appropriate and is specified (e.g., individuals may be counted as an incident case once every 365 days). Historically, a "once per surveillance period" incidence rule was used due to limited data in the Defense Medical Surveillance System (DMSS), but that is no longer necessary

Code Set Determination and Rationale

- This case definition was designed to capture cases of invasive colorectal cancer; therefore, the following codes for carcinoma in situ and endoscopic polypectomy are not included in the code set: ICD9 codes 230.3 (carcinoma in situ of the colon) and 230.4 (carcinoma in situ of the rectum); procedure codes 45.42 (endoscopic polypectomy of large intestine), 45.43 (endoscopic destruction of other lesion or tissue of large intestine), and 48.36 (endoscopic polypectomy of rectum).
- Codes ICD9 153.5/ ICD10 C18.1 (malignant neoplasm of appendix) is included in this code set. The code is included in the code set for colon cancer in both single level and multilevel clinical classifications software for ICD-9 developed by the Agency for Healthcare Research and Quality.⁵ Some investigators may choose to analyze cancer of the appendix independent from colon cancer.
- ICD9 code 159.0 (intestinal tract, part unspecified) is included in the code set based on the inclusion of the code in the Agency for Health Research and Quality’s clinical classification software ICD9 code set for “cancer of the colon.”⁶

Reports

AFHSB reports on colon cancer in the following reports:

- Periodic *MSMR* articles on cancers and cancer-related deaths.

⁴ Detailed information on this analysis is available through AFHSB *MSMR* staff; reference DMSS Requests #R080127, #R080159, #R090184, #R090302, #R090341, #R100181, and #R100303 (DoD Cancer Incidence), 2008-2009.

⁵Healthcare Cost and Utilization Project (HCUP). Clinical Classifications Software (CCS) for ICD-9-CM. <https://www.hcup-us.ahrq.gov/toolssoftware/ccs/ccs.jsp>. Accessed July 2019

⁶ Data Innovations – ICD-10-CM/PCS Resources). Agency for Healthcare Research and Quality. Available at: https://www.hcup-us.ahrq.gov/datainnovations/icd10_resources.jsp. Accessed July 2019.



Review

Jul 2019	Case definition reviewed and updated by the AFHSB Surveillance Methods and Standards (SMS) working group.
Sep 2015	Case definition reviewed and updated by the AFHSC Surveillance Methods and Standards (SMS) working group.
Jun 2012	Case definition reviewed and adopted by the AFHSC Surveillance Methods and Standards (SMS) working group.
Jun 2010	Case definition reviewed and adopted by the AFHSC <i>MSMR</i> staff.

Comments

None

