Public Reporting of Outcomes

2012 Colon Cancer Analysis

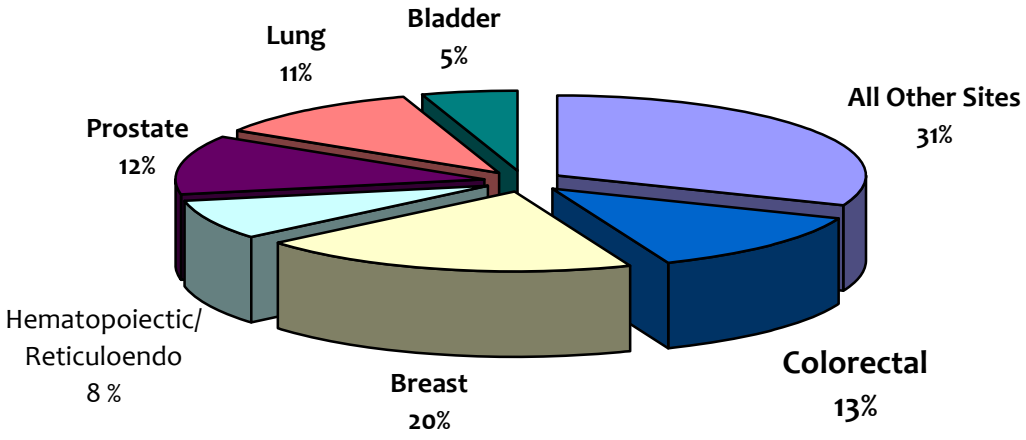
Including 2011 Cancer Registry Statistical Review & 2010 CP3R Colorectal Cancer Results

Colorectal cancer is the most preventable visceral cancer and its incidence makes it one of the most important. It affects over one million people worldwide annually. Colorectal cancer (CRC) is the third most commonly diagnosed cancer, as well as the third leading cause of cancer death in both men and women in the US. In 2012, the American Cancer Society estimates there will be approximately 143, 460 newly diagnosed colorectal cases. Unfortunately, it is anticipated that 51,690 patients will loose their life to this disease, accounting for 9 percent of all cancer deaths. The good news is colorectal cancer incidence rates have been decreasing for most of the past 2 decades, which has largely been attributed to increases in the use of colorectal cancer screening tests. If colorectal cancer is diagnosed early, the disease is curable with surgery.

In 2011, colorectal cancer was overall the third most common malignancy diagnosed and treated at ECHN. Figure 1 shows the distribution of the colorectal cases in the oncology population of ECHN.

Due to the common nature of this malignancy and the potential benefits derived from both early diagnosis and appropriate therapy, we have chosen colorectal cancer as the focus of the 2012 Eastern Connecticut Health Network Public Reporting of Outcomes/Annual Site Analysis. In addition, the American College of Surgeons, Commission on cancer encourages hospitals, treatment centers and facilities to improve the quality of patient care through a variety of improvement programs. One of the latest revisions to the program standards includes patient outcomes. The goal is to ensure that evaluation and treatments conform to evidence-based national treatment guidelines. ECHN is very proud to share our patient outcome results in this report. Analyses of the two areas collected by the American College of Surgeons indicate ECHN exceeds the national and state average.

Figure 1: 2011 ECHN Distribution of Cancer by Organ Site



Symptoms associated with colorectal cancer may also be caused by other conditions. The clinical presentation of patients varies from no symptoms, to anemia, abdominal pain or discomfort, change in bowel habits, rectal bleeding, blood in the stool or unexplained weight loss. Early stage patients do not typically have symptoms; therefore, screening is usually necessary to detect early colorectal cancer. Due to an increase in colorectal cancer in younger adults in recent years, timely evaluation of symptoms consistent with colorectal cancer in adults under age 50 is especially important.

The primary risk factor for colorectal cancer is age. On average, more than 90 percent of cases are diagnosed in individuals over the age of 50. A personal or family history of colorectal cancer, polyps or inflammatory bowel disease increases colorectal cancer risk. Other risk factors include smoking, alcohol consumption, obesity, physical inactivity, a diet high in fat and/or red meat, as well as inadequate intake of fruits and vegetables.

The American Cancer Society, the U.S. Preventive Task Force, the American College of Physicians and the American College of Gastroenterologists all have made similar, although not identical, recommendations concerning screening for colorectal cancer. Please discuss with your doctor whether you are at average or high risk for colorectal cancer and which screening test and schedule is most appropriate for you. Screening options include but are not limited to colonoscopy, flexible sigmoidoscopy, double contrast barium enema, fecal occult blood test or fecal immunochemical test.

Screening can result in the detection and removal of colorectal polyps before they become cancerous, as well as the detection of cancer that is at an early stage. Thus, screening reduces mortality both by decreasing incidence and by detecting a higher proportion of cancers at early, more treatable stages.

Overall, colon and rectal cancer are very treatable and in many cases, curable. However, it is important that patients regularly see their primary care physician and adhere to screening guidelines.

ECHN Focus on Colorectal Cancer

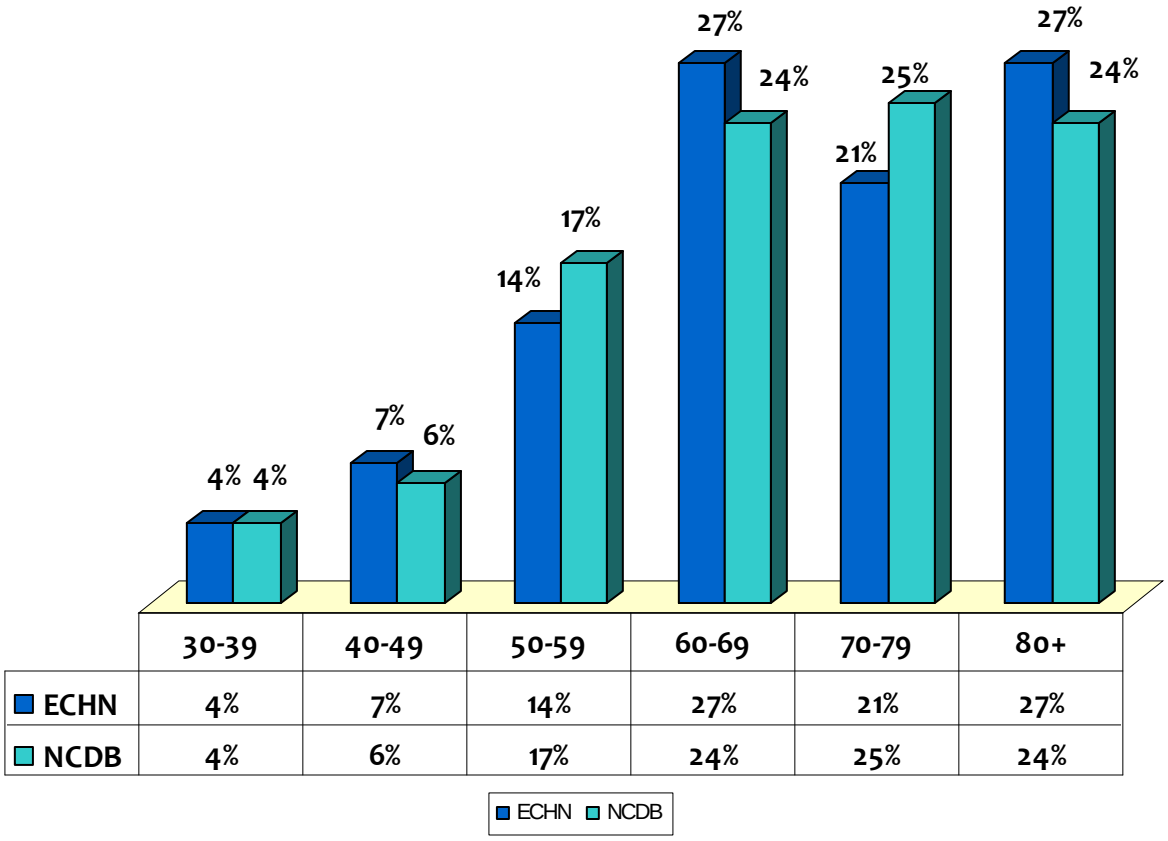
This study represents an analysis of 116 new cases of colorectal cancer diagnosed and/or receiving first course of treatment at Eastern Connecticut Health Network (ECHN) during the time period of January 1, 2011 and December 31, 2011. Colorectal cancer represents 13 percent of the total cases diagnosed and/or treated at ECHN during this timeframe. Consistent with trends over the past five years, colorectal cancer is one of the top four sites. It is the third most common site in males (after prostate and lung) and females (breast and lung) in which an average 91 cases have been diagnosed and/or treated annually.

For the purpose of this study, colon cancers were defined as those malignancies arising from the following sites: cecum, ascending colon, hepatic flexure, transverse colon, splenic flexure, descending colon, sigmoid and rectosigmoid. Rectal cancer was limited to cancers found in the rectum. To examine trends in the pattern of care and outcome of colon and rectal cancer cases seen at ECHN, we have elected to compare our data with the most current data available using National Cancer Data Base (NCDB) Benchmark reports on colorectal cancer as reported to the NCDB by Comprehensive Community Hospital Cancer Programs. Colon and rectal cancer survival has been reported by the NCDB separately since clinical management and outcomes of these two cancers are different.

Age

As stated previously, the primary risk factor for colorectal cancer is age. Of the 116 new cases of colorectal cancer diagnosed and treated at ECHN in 2011, 89 percent of the patients were age 50 or older. The majority of patients diagnosed with colorectal cancer were ages 60 or greater (63 percent). These data are consistent with national data and screening recommendations that indicate routine screening should begin at age 50 or younger if individual risk factors apply.

Figure 2: 2011 Colorectal Cancer Age at Diagnosis



	30-39	40-49	50-59	60-69	70-79	80+
ECHN	4%	7%	14%	27%	21%	27%
NCDB	4%	6%	17%	24%	25%	24%

Gender Ratio

The overall distribution of colorectal cancer cases by gender show similar proportions for females (51 percent) and males (49 percent). Looking just at colon cancer, females with colon cancer slightly outnumbered males (52 percent vs. 48 percent). A trend in the opposite direction was seen for rectal cancer, where males outnumbered females (57 percent vs. 43 percent).

Site of Disease

Figure 3: Distribution of ECHN Colorectal Cancers by Site of Disease

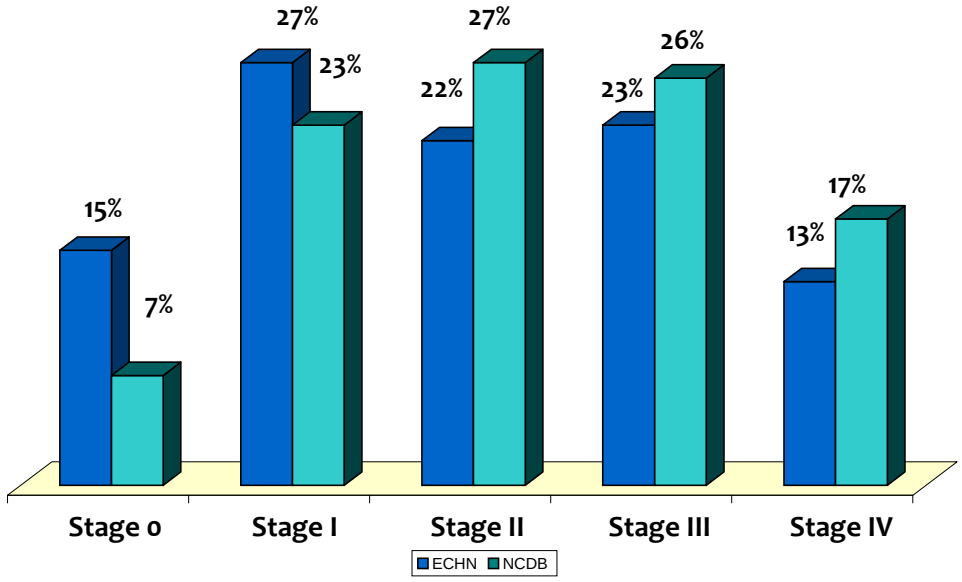
Cecum	Ascending	Hepatic Flexure	Transverse	Splenic Flexure	Descending	Sigmoid	Rectosigmoid	Rectum
17%	12%	3%	9%	2%	6%	19%	6%	26%

Overall sigmoid (19 percent) and rectal (26 percent) cancers were most common. If the number of sigmoid and rectosigmoid cases of colorectal cancer were combined, approximately one-fourth of all cases could be found within the reach of the sigmoid-scope. When one then adds the cases of rectal cancer, over 51 percent of cases could be discovered this way. However, quite obviously, cancers of the cecum (17 percent), ascending colon (12 percent), transverse colon (9 percent) and hepatic flexure tumors (3 percent) are clearly missed by this technique.

Right side cancers (cecum, ascending colon, hepatic flexure and transverse) tend to increase with age, while left side disease (sigmoid colon, rectosigmoid and rectum) decrease with age. Thus with increasing age there is an increasing proportion of colorectal cancers in the part of the colon not accessible by the sigmoidoscope. This suggests the need for colonoscopy as a screening tool with advancing age in order to diagnosis these tumors at an earlier stage.

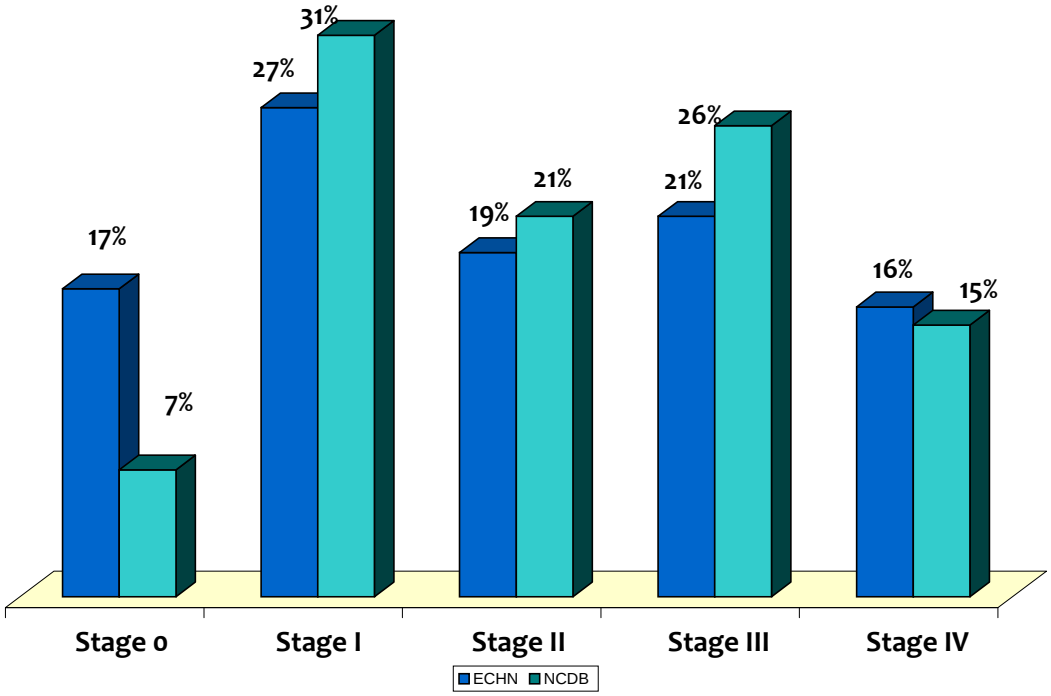
AJCC TNM Stage at Diagnosis

Figure 4: 2011 Colon Cancer Stage at Diagnosis



The higher percentage of earlier stage cases at ECHN suggests screening may be better than the national average.

Figure 5: 2011 Rectal Cancer Stage at Diagnosis



An examination of stage at diagnosis reveals overall 64 percent of colon cancer patients diagnosed at ECHN were Stage 0, I or II, and 63 percent of rectal cancer patients were diagnosed in Stages 0, I or II compared to 57% and 59% nationally. Unfortunately, 13 percent of colon cancer patients and 16 percent of rectal cancer patients presented with advanced metastatic disease (Stage IV). Though these statistics are in keeping with national trends, it is apparent that increased efforts are needed to reach more of our patients with regular screening examinations for colon and rectal cancer. Earlier detection of colorectal cancer will result in improved survival rates for our patients.

Treatment

Data from Eastern Connecticut Health Network (ECHN) and the NCDB consistently demonstrates that surgery remains the primary treatment for colon and rectal cancer. In colon cancer, the second most common treatment modality is combined surgery and chemotherapy, while in rectal cancer, multimodality treatment with surgery, radiation and chemotherapy is the next most common treatment modality.

It should be noted that 5 percent of colon cancer patients and 8 percent of rectal cancer patients received no cancer directed therapy, owing to patient and physician preferences for patients that are most appropriately managed by symptomatic or supportive care due to their advanced stage or presence of co-morbid medical conditions.

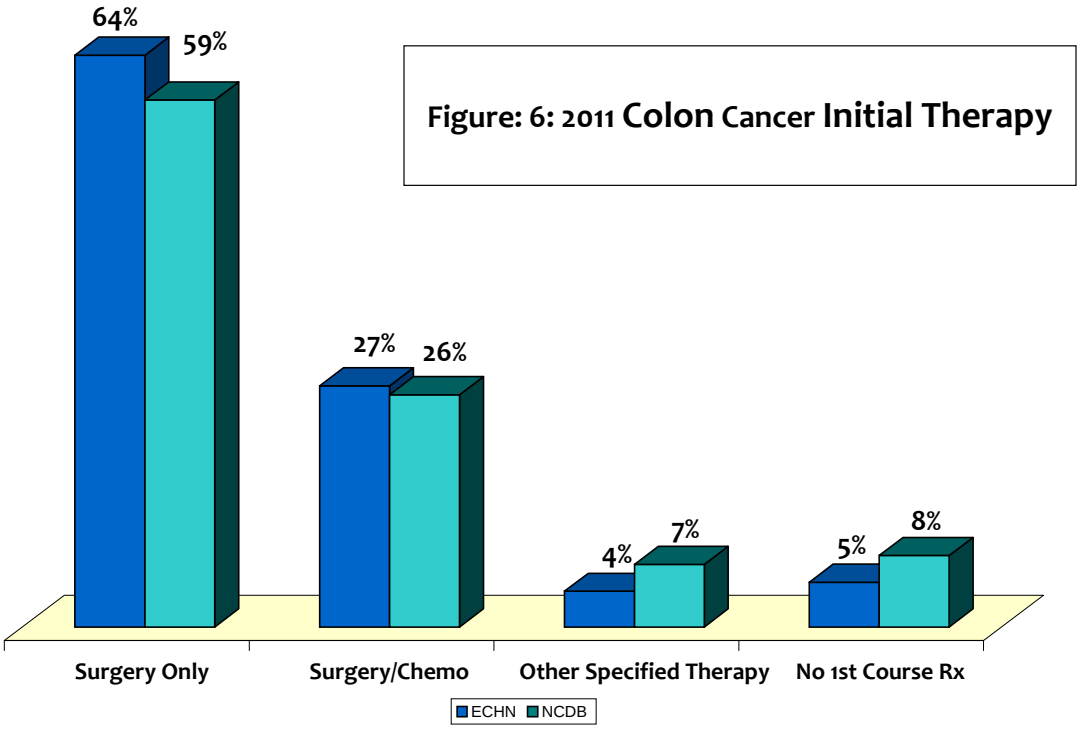


Figure: 6: 2011 Colon Cancer Initial Therapy
64%
59%
27%
26%
4%
7%
5%
8%
Surgery Only
Surgery/Chemo
Other Specified Therapy
No 1st Course Rx
ECHN
NCDB

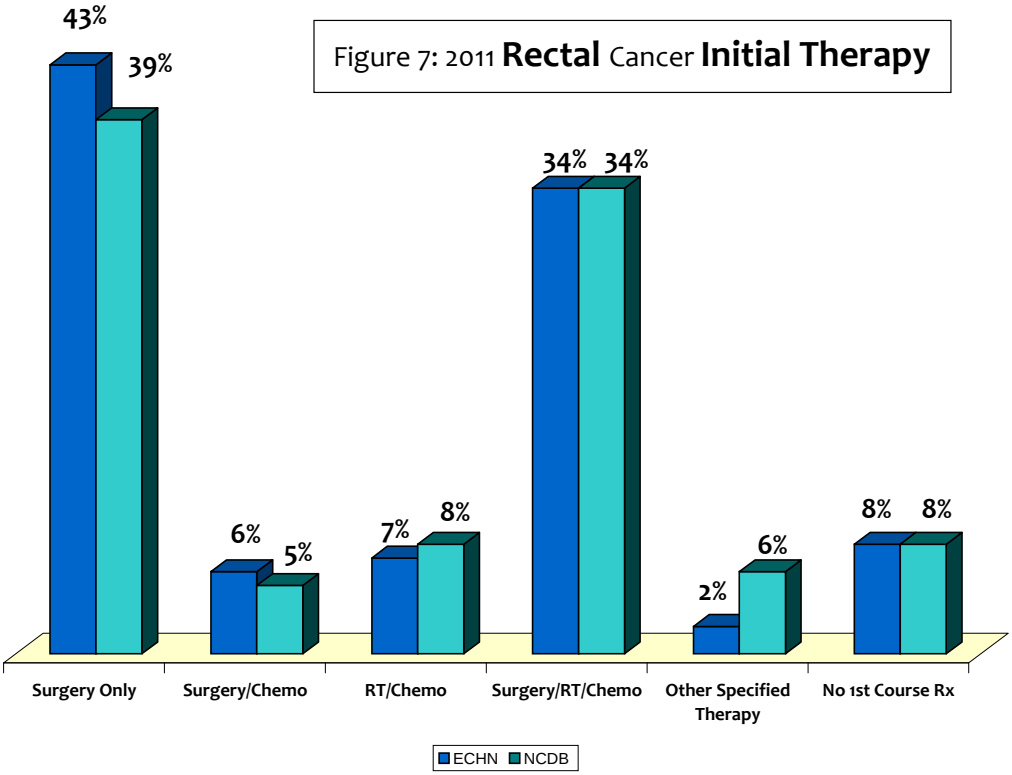
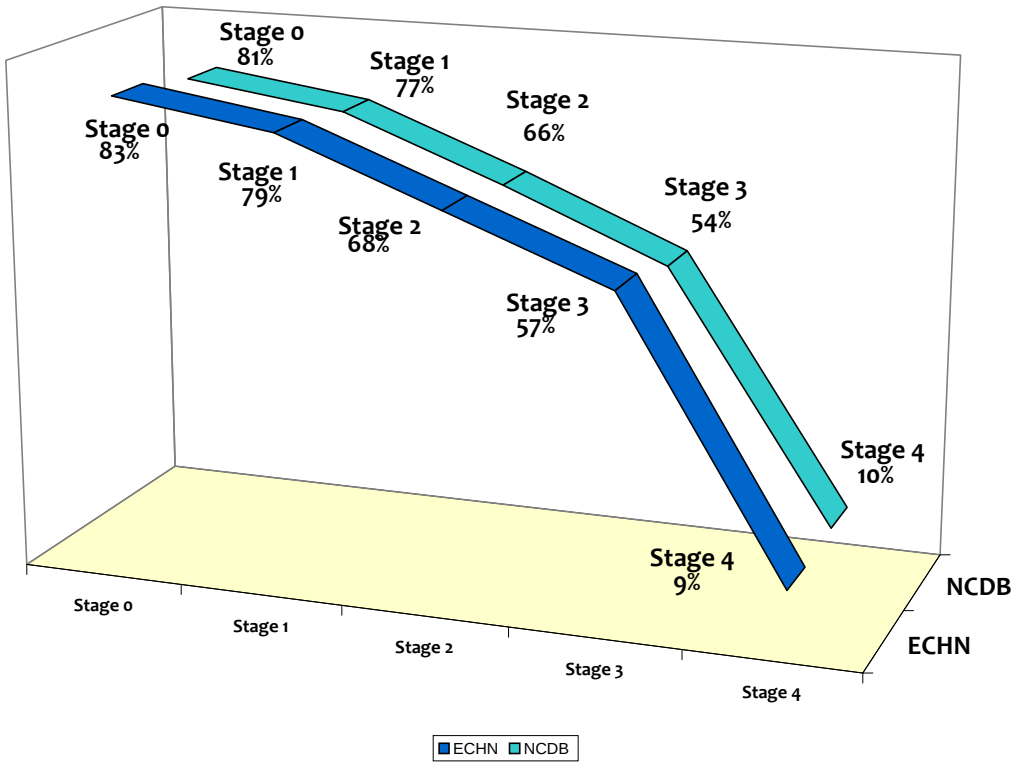


Figure 7: 2011 Rectal Cancer Initial Therapy
43%
39%
6%
5%
7%
8%
34%
34%
2%
6%
8%
8%
Surgery Only
Surgery/Chemo
RT/Chemo
Surgery/RT/Chemo
Other Specified Therapy
No 1st Course Rx
ECHN
NCDB

Colon Cancer Survival

ECHN and NCDB survival rates are compared for Stages 0, I, II, III and IV for colon cancer patients in Figure 8. The observed five-year survival rates were relatively equivalent for colon cancer patients. As stated previously, when colon cancer is detected at an earlier stage, survival is much higher. The survival rates for Stage I patients demonstrate 77 percent of NCDB and 79 percent of ECHN patients compared to Stage IV patients survival rates of 10 percent for the NCDB and 9 percent for ECHN patients. Cure rates are clearly related to early diagnosis and treatment.

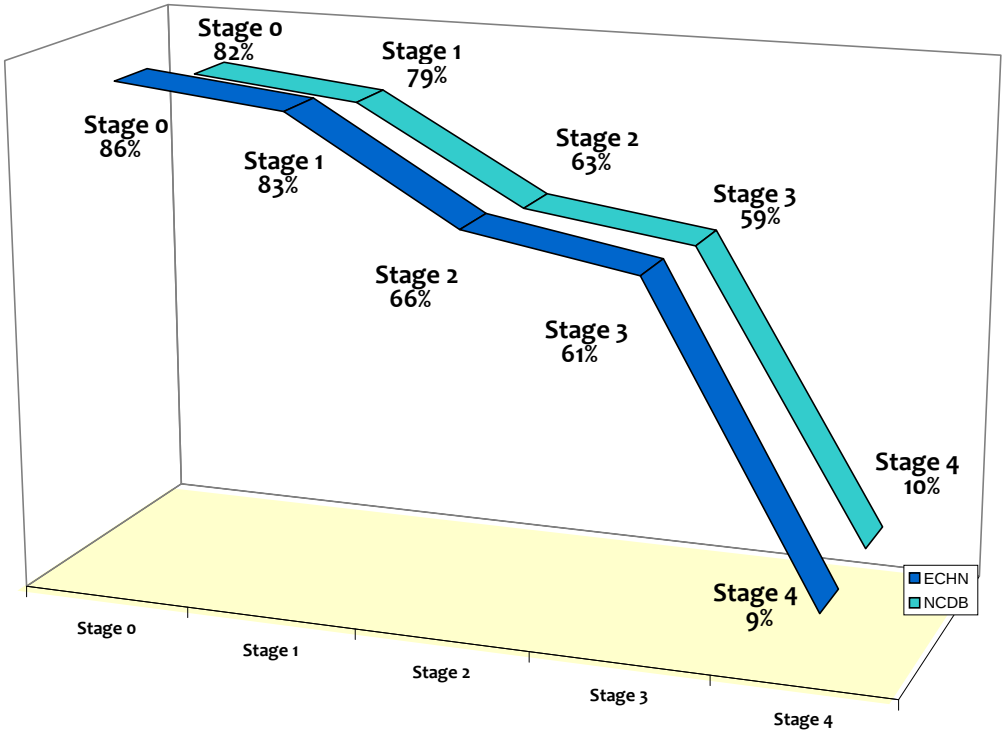
Figure 8: Colon Cancer Survival Data



Rectal Cancer Survival

Comparison of five year observed survival rates for ECHN and NCDB rectal cancer patients showed similar outcomes as seen in Figure 9. Stage III patients at ECHN survived 61 percent as compared to the NCDB at 59 percent. Improved survival in stages I, II and III may reflect combined modality therapy (surgery, radiation and chemotherapy). As with most cancers, when colon cancer is detected at an early, localized stage, the survival is much higher.

Figure 9: Rectal Cancer Survival Data



The American College of Surgeons, Commission on Cancer
2010 Cancer Program Practice Profile Reports (CP3R) Colon Cancer Outcomes

Cancer Care over the last 50 years has evolved from a primary focus on local disease to a sophisticated, multidisciplinary approach, The outlook for people afflicted with cancer, as well as the impact of treatment on quality of life, has improved dramatically.

The American College of Surgeons, Commission on cancer encourages hospitals, treatment centers and facilities to improve the quality of patient care through a variety of improvement programs. One of the latest revisions to the program standards includes patient outcomes. The goal is to ensure that evaluation and treatments conform to evidence-based national treatment guidelines. These are based on well recognized prognostic indicators.

Between January 1, 2011 and December 2011, 116 patients were diagnosed with colon cancer and treated at our institution. One hundred eleven out of the one hundred sixteen underwent surgical resection. We reviewed their records with special attention on the following:

- Pre-op CEA (blood test)
- Pre-op CT scan
- Circumferential margin
- MSI (microsatellite instability) status
- 12 or more regional lymph nodes removed and examined
- Consideration for adjuvant chemotherapy within four months of surgery for Stage III or high risk Stage II in patients under the age of 80 years old

The last two indicators are part of the national Quality Forum (NQF) and are collected by the American College of Surgeons. Performance rates shown in the tables below provide our cancer program with an indication of our performance relative to our state and national peers. Our results indicate that our nodal retrieval rate of greater than 12 was 100%, which exceeds the national and state average. In terms of use of adjuvant chemotherapy, our cancer program offered chemotherapy to 100% of our patients, which again exceeds the national and state average.

In conclusion, our cancer program results and performance are above state and national averages.

At least 12 regional lymph nodes are removed and pathologically examined for resected colon cancer. [12RLN]	Diagnosis Year: 2010	
	Perf. Rate	**95% CI**
My Cancer Program	**100** %	[100 - 100]
My State (CT)	**84.4** %	[81.4 – 87.4]
My Census Region (New England)	**87.1** %	[85.6 – 88.6]
My ACS Division (New England)	**87.1** %	[85.6 – 88.6]
My CoC Program Type (COMP)	**86.4** %	[85.9 – 86.9]
Adjuvant chemotherapy is considered or administered within 4 months (120 days) of diagnosis for patients under the age of 80 with AJCC Stage III (lymph node positive) colon cancer. **[ACT]**	Diagnosis Year: 2010	
	Perf. Rate	**95% CI**
My Cancer Program	**100** %	[100 - 100]
My State (CT)	**95.3** %	[91.6 - 99]
My Census Region (New England)	**95.9** %	[94.1 – 97.7]
My ACS Division (New England)	**95.9** %	[94.1 – 97.7]
My CoC Program Type (COMP)	**91.3** %	[90.5 – 92.1]

In Conclusion

Overall, the diagnosis, treatment and outcomes of colon and rectal cancer at ECHN and the NCDB are relatively similar. There appears to be consistency and stability in age, gender, AJCC stage at diagnosis, treatment and survival in both groups. ECHN out performs stage and national averages for quality measures.

Colorectal cancer continues to be a disease seen frequently in our country, state and community. Cure rates are clearly related to early diagnosis and treatment. We must all, physicians and patients alike, be committed to aggressive screening to achieve better results. The continued monitoring of trends in the patterns of care of colon and rectal cancer at ECHN to national patterns will ensure that our patients continue to receive the best possible care. We at Eastern Connecticut Health Network will continue our commitment to providing our community with the most advanced cancer care available.

Respectfully submitted,

Amanda Ayers, MD, Colorectal Surgeon