The Personal and Financial Value of an Organized Colorectal Cancer Screening Program

Colorado Cancer Coalition

Ian Kahn MPH, Ryan Kerr and Scott Wilson
AGENDA

BACKGROUND ON CRC
- Colorectal Cancer Task Force
- CRC in Colorado
- Prevention is Key

CRC IN THE WORKPLACE
- Direct Costs
- Indirect Costs
- Bottom Line Impact

CHANGE THE OUTCOME
- Workplace Examples
- Take Action
Colorectal Cancer in Colorado

CRC is the 2nd leading cause of cancer death among men and women combined.

As of 2016, there are over 17,099 survivors living in Colorado.

A woman has a 1 in 25 chance of getting CRC in their lifetime.

A man has a 1 in 21 chance of getting CRC in their lifetime.

Source: Colorado Central Cancer Registry, 2017
Colorectal Cancer in Colorado

30% of the CRC survivors in Colorado are under the age of 65.

CRC incidence is **Decreasing** for individuals over 50.

CRC incidence is **Increasing** for individuals under 50.

Source: Colorado Central Cancer Registry, 2017
90% The 5-year survivability rate when detected in early stage

60% The percentage of new CRC cases diagnosed in later stage

Stages of Colon Cancer:

- **Polyp**: Most colon cancers develop from these noncancerous growths.
- **In Situ**: Cancer has formed, but is not yet growing inside the colon or rectum walls; nearby tissue unaffected.
- **Local**: Cancer is now growing in the colon or rectum walls.
- **Regional**: Growth beyond the colon or rectum walls and into tissue or lymph nodes.
- **Distant**: Cancer has spread to other parts of the body such as liver or lungs.

Source: American Cancer Society
The average cumulative total healthcare costs over the 4-year period following diagnosis (by stage)

- **Local**: $132K
- **Regional**: $295K
- **Distant**: $618K

*Source: Am J Manag Care. 2015;21(7):E430-438*
1 in 3 Eligible Coloradans are NOT up-to-date with screening

Screening Recommendations*

*The full version of the USPSTF Screening Guidelines is included in the appendix

Average Risk

Family History

50

45

Sources: USPSTF (United States Preventive Services Task Force) Colorado Central Cancer Registry, 2017
The Best Test Is The One That Gets Done

38% Colonoscopy Only

69% Offer Multiple Screening Options

I was 48
Stage IV
*never too young*
CLEAR PET SCAN

8 MONTHS NED

APRIL 2018
IN REMISSION!

ONGOING TREATMENT

$8,000 per week!
2018 WELLNESS CONNECT PROGRAM

- Annual Physical Exam (Wellness Exam) - $150 wellness incentive
- Colonoscopy (Colon Cancer Screening) - $50 wellness incentive
- Mammogram (Breast Cancer Screening) - $50 wellness incentive
- PAP (Cervical Cancer Screening) - $50 wellness incentive
3 Keys to Creating a Cancer Screening-Friendly Culture

1. Adopt 80% by 2018
2. Educate employees
3. Engage your insurance provider
In just 2 years, screening rates have increased from 58% to 72%.
Watch Your Health – Submit Annual Screening Cards for colon cancer

We’ll enter you in a drawing for an Apple Watch

Submit a FIT Kit to win a Fitbit

SOURCE: "EMPLOYER STRATEGIES FOR SUCCESS" ACS WEBINAR ON NCCRT.COM BY: SHELLEY MACALLISTER, MSW
Colorectal Cancer Task Force

Shared Goal: Reaching 80% Screened for Colorectal Cancer by 2018

Background
Colorectal cancer is a major public health problem in the United States. It is the second leading cause of cancer death, and a cause of considerable morbidity and mortality. It is estimated that 135,000 adults are diagnosed with colorectal cancer each year, and that over 50,000 will die of the disease. Early detection and screening are key to reducing the death rate from colorectal cancer. The national goal is to reach 80% of the population screened by 2018.

Commitment
Our organizations stand united in the belief that colorectal cancer is a major public health problem. We have committed to apply these principles in a manner that provides access to care as well as care that is delivered the first time. The goal is to reduce the number of deaths from colorectal cancer.

SIGN HERE

Cancer prevention and screening keeps your staff healthy and makes business sense

- Cancer is the second leading cause of death in New York State.
- Cancer screening can help detect cancer early, when treatment is most successful.
- Research has shown that offering designated time off for cancer screenings increases employee screening rates.
- A business can realize a return on investment for this policy. A cancer diagnosis is estimated to cost a business more than $1,600 annually per employee in lost productivity.
- Employers may realize a healthier workforce and reduce spending on worker compensation and disability costs, replacement costs for ill or injured employees who are absent, and recruitment and training costs for new employees.
- The sooner policies are implemented, the sooner businesses will realize the savings and a healthier workforce.

RESOURCE: www.health.ny.gov/diseases/cancer/educational_materials
Colorectal Cancer Task Force

Dress In Blue Day™

2018 Denver Undy RunWalk
Saturday, June 23rd 2018
For more information...


or
cocolorectalcancertaskforce@gmail.com

Colorado Cancer Coalition
Q & A

ACKNOWLEDGEMENTS

Jaione Axpe
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Weez Altomari (Undy Run)
Colorado Department of Public Health (CDPHE)
Kieu Vu (CDPHE)
Christi Cahill (CDPHE)
National Colorectal Cancer Roundtable (NCCRT)
Colorectal Cancer Alliance
American Cancer Society


Colorado Central Cancer Registry, 2017


Colorectal Cancer Facts and Figures 2017 - 2019; American Cancer Society
APPENDIX
## Screening Recommendations

<table>
<thead>
<tr>
<th>Population</th>
<th>Adults aged 50 to 75 y</th>
<th>Adults aged 76 to 85 y</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recommendation</td>
<td>Screen for colorectal cancer starting at age 50 y.</td>
<td>The decision to screen for colorectal cancer is an individual one.</td>
</tr>
<tr>
<td></td>
<td>Grade: A</td>
<td>Grade: C</td>
</tr>
</tbody>
</table>

**Source:** "USPSTF Recommendation Statement: Screening for Colorectal Cancer." [JAMANetwork.com](http://www.jamanetwork.com).
## Screening Recommendations

<table>
<thead>
<tr>
<th>Risk Assessment</th>
<th>For the vast majority of adults, the most important risk factor for colorectal cancer is older age. Other associated risk factors include family history of colorectal cancer, male sex, and black race.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Screening Tests</td>
<td>There are numerous screening tests to detect early-stage colorectal cancer, including stool-based tests (gFOBT, FIT, and FIT-DNA), direct visualization tests (flexible sigmoidoscopy, alone or combined with FIT; colonoscopy; and CT colonography), and serology tests (SEPT9 DNA test). The USPSTF found no head-to-head studies demonstrating that any of these screening strategies are more effective than others, although they have varying levels of evidence supporting their effectiveness, as well as different strengths and limitations.</td>
</tr>
<tr>
<td>Starting and Stopping Ages</td>
<td>The USPSTF concluded that the evidence best supports a starting age of 50 y for the general population. The age at which the balance of benefits and harms of colorectal cancer screening becomes less favorable varies based on a patient’s life expectancy, health status, comorbid conditions, and prior screening status. The USPSTF does not recommend routine screening for colorectal cancer in adults 86 y and older.</td>
</tr>
<tr>
<td>Treatment and Interventions</td>
<td>Treatment of early-stage colorectal cancer generally consists of local excision or simple polypectomy for tumors limited to the colonic mucosa or surgical resection (via laparoscopy or open approach) with anastomosis for larger, localized lesions.</td>
</tr>
<tr>
<td>Balance of Benefits and Harms</td>
<td>The USPSTF concludes with high certainty that the net benefit of screening for colorectal cancer is substantial. The USPSTF concludes with moderate certainty that the net benefit of screening for colorectal cancer in adults aged 76 to 85 y who have been previously screened is small. Adults who have never been screened are more likely to benefit. Screening is most appropriate for those healthy enough to undergo treatment and those without comorbid conditions that significantly limit their life expectancy.</td>
</tr>
<tr>
<td>Other Relevant USPSTF Recommendations</td>
<td>The USPSTF has made a recommendation on aspirin use for the primary prevention of cardiovascular disease and colorectal cancer in average-risk adults. This recommendation is available on the USPSTF website (<a href="http://www.uspreventiveservicestaskforce.org">http://www.uspreventiveservicestaskforce.org</a>).</td>
</tr>
</tbody>
</table>

Table 1. Costs Associated With Colonoscopy and Treatment of CRC

<table>
<thead>
<tr>
<th>Description</th>
<th>Sample Size*</th>
<th>Average Cost Per Patient* ($)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Colonoscopy</td>
<td></td>
<td></td>
</tr>
<tr>
<td>With removal of polyps</td>
<td>124,187</td>
<td>2488</td>
</tr>
<tr>
<td>Without removal of polyps</td>
<td>107,034</td>
<td>1858</td>
</tr>
<tr>
<td>Local CRC</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0-12 months from diagnosis</td>
<td>1775</td>
<td>50,273</td>
</tr>
<tr>
<td>13-24 months from diagnosis</td>
<td>1264</td>
<td>23,808</td>
</tr>
<tr>
<td>25-36 months from diagnosis</td>
<td>890</td>
<td>24,869</td>
</tr>
<tr>
<td>37-48 months from diagnosis</td>
<td>310</td>
<td>33,440</td>
</tr>
<tr>
<td>Regional CRC</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0-12 months from diagnosis</td>
<td>1002</td>
<td>151,276</td>
</tr>
<tr>
<td>13-24 months from diagnosis</td>
<td>703</td>
<td>55,652</td>
</tr>
<tr>
<td>25-36 months from diagnosis</td>
<td>460</td>
<td>52,640</td>
</tr>
<tr>
<td>37-48 months from diagnosis</td>
<td>136</td>
<td>35,255</td>
</tr>
<tr>
<td>Distant CRC</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0-12 months from diagnosis</td>
<td>288</td>
<td>193,592</td>
</tr>
<tr>
<td>13-24 months from diagnosis</td>
<td>134</td>
<td>155,551</td>
</tr>
<tr>
<td>25-36 months from diagnosis</td>
<td>51</td>
<td>134,562</td>
</tr>
<tr>
<td>37-48 months from diagnosis*</td>
<td>0</td>
<td>134,562</td>
</tr>
</tbody>
</table>

CRC indicates colorectal cancer.
*For CRC costs, this represents the sample size at the beginning of the period.
*For CRC costs, this represents the annual cost adjusted for mortality.
*Insufficient sample size; assumed to have the same average cost as months 25-36.
Source: Authors’ analysis of Truven Health MarketScan Research Databases 2007-2011, costs trended to 2013.
Cumulative Total Health Spending and OOP Cost

Figure 3 presents a cumulative view of total healthcare spending for cancer patients. Over the 47-month period following diagnosis, patients who we could track had average cumulative total healthcare costs of $101,000 for breast cancer, $165,000 for colorectal cancer, and $282,000 for lung cancer. The cumulative figures by month since diagnosis are represented in the left axis using solid lines. Patient OOP costs are shown as dashed lines using the right axis. Relative to total average spending of $101,000 to $282,000 for the 4 year period, the patient OOP of $7,500 to $11,000 suggests that ESI provides substantial protection to many patients.

We note that patient contributions to premium would be in addition to the patient OOP costs. Premium contributions averaged approximately $1,100 per employee per year for single coverage, and over $5,000 for family coverage in 2016. Patients may face other costs not reflected in these data such as travel expenses and loss of income.
The average monthly spending per patient spiked immediately following diagnosis: to as high as $25,000 in the month of diagnosis from less than $2,000 in prior months. Spending declined but did not return to the pre-diagnosis level in subsequent months.

We analyzed the components of healthcare spending for cancer patients in Figures 2a-2c. The population of surviving cancer patients received care and access to an array of services in the four years after diagnosis:

- Hospital inpatient,
- Radiation therapy (including related outpatient and professional services),
- Chemotherapy, chemotherapy administration, and related drugs (including related outpatient and professional services),
- Other, non-chemotherapy, non-supportive drugs,
- Facility services other than inpatient (excluding professional, chemotherapy and radiation therapy), and
- Other professional services.
<table>
<thead>
<tr>
<th>MONTHS FROM DIAGNOSIS</th>
<th>0</th>
<th>5</th>
<th>11</th>
<th>17</th>
<th>23</th>
<th>29</th>
<th>35</th>
<th>41</th>
<th>47</th>
</tr>
</thead>
<tbody>
<tr>
<td>LUNG CANCER</td>
<td>$37,621</td>
<td>$99,062</td>
<td>$139,958</td>
<td>$172,213</td>
<td>$200,580</td>
<td>$225,270</td>
<td>$248,163</td>
<td>$265,725</td>
<td>$282,147</td>
</tr>
<tr>
<td>COLORECTAL CANCER</td>
<td>$24,555</td>
<td>$62,355</td>
<td>$87,316</td>
<td>$103,993</td>
<td>$118,372</td>
<td>$131,762</td>
<td>$143,722</td>
<td>$154,450</td>
<td>$165,080</td>
</tr>
<tr>
<td>BREAST CANCER</td>
<td>$13,323</td>
<td>$39,647</td>
<td>$55,084</td>
<td>$64,297</td>
<td>$71,960</td>
<td>$79,339</td>
<td>$86,646</td>
<td>$94,186</td>
<td>$101,401</td>
</tr>
<tr>
<td><strong>CUMULATIVE PATIENT OUT-OF-POCKET COST</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LUNG CANCER</td>
<td>$2,918</td>
<td>$4,299</td>
<td>$5,489</td>
<td>$6,648</td>
<td>$7,747</td>
<td>$8,848</td>
<td>$9,794</td>
<td>$10,588</td>
<td>$11,180</td>
</tr>
<tr>
<td>COLORECTAL CANCER</td>
<td>$2,180</td>
<td>$3,273</td>
<td>$4,113</td>
<td>$4,973</td>
<td>$5,744</td>
<td>$6,534</td>
<td>$7,274</td>
<td>$7,938</td>
<td>$8,442</td>
</tr>
<tr>
<td>BREAST CANCER</td>
<td>$1,795</td>
<td>$2,825</td>
<td>$3,588</td>
<td>$4,329</td>
<td>$5,011</td>
<td>$5,741</td>
<td>$6,400</td>
<td>$7,017</td>
<td>$7,531</td>
</tr>
</tbody>
</table>
# Colorectal Cancer Awareness

## Sample Social Media Messaging

<table>
<thead>
<tr>
<th>Facebook Ideas</th>
<th>Twitter Ideas</th>
</tr>
</thead>
<tbody>
<tr>
<td>March is Colorectal Cancer Month, a time to spread awareness. Colorectal cancer is cancer that occurs in the colon or rectum. It is the second leading cancer killer in the U.S., but it doesn't have to be. Start conversations through a blue porch light, and see the importance of screening here: <a href="http://bit.ly/2tv7gfr">http://bit.ly/2tv7gfr</a></td>
<td>It's #ColorectalCancerMonth! CRC's the 2nd leading cancer killer in the US. It doesn't have to be. #GetScreened <a href="http://bit.ly/2tv7gfr">http://bit.ly/2tv7gfr</a></td>
</tr>
<tr>
<td>There are several different ways to screen for polyps or colorectal cancer. Colorectal cancer screening is recommended for men and women aged 50 and older. Talk to your doctor about which test is right for you. Read here for more info on screening: <a href="http://bit.ly/2FFBn8y">http://bit.ly/2FFBn8y</a></td>
<td>There are several ways to screen for #ColorectalCancer Talk to your doc and #GetScreened hhttp://bit.ly/2FFBn8y</td>
</tr>
</tbody>
</table>
To learn more about the program and to find a clinic near you, visit http://bit.ly/1orlv97

If you live in Southeast Colorado, text ENDCANCER TO 21333 to join the pilot text messaging campaign.