Wellmont Cancer Institute

Community Needs Assessment
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Mission
We deliver superior health care with compassion.

Vision
We will deliver the best health care anywhere.

Values
   Integrity
   Respect
   Compassion
   Empowerment
   Innovation
Methodology

Community Profile

<table>
<thead>
<tr>
<th>Services</th>
<th>Service Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>Volume</td>
<td>Patient Origin</td>
</tr>
</tbody>
</table>

Disparities

A. The counties we serve rank among the lowest in Tennessee and Virginia in several categories related to health and wellness.

B. Our region faces cultural and economic hurdles that influence our collective health status.

C. The uninsured and underinsured are vulnerable populations.

Needs

1. Focus on cancer prevention and screening
2. Focus on reducing the financial burden on patients
3. Focus on improving outcomes with an emphasis on survival and behavior modification

Priorities & Resources

1.1. Lung and breast cancer screening
2.1. Patient assistance fund
3.1. Structured survivorship

1.2. Hereditary colon cancer
2.2. Cost of chemotherapy
3.2. Promotion of healthy eating habits by patients after treatment

1.3. Skin cancer screening
2.3. Heightened awareness of financial counseling program
3.3. Promotion of exercise therapy by patients after treatment

Recommended Action

1.1. Develop lung nodule clinic and a breast center screening demonstration project
2.1. Develop innovative ways of creating ongoing support of patient assistance fund
3.1. Compile documented care plans for every patient that finishes treatment

1.2. Deliver a hereditary colon cancer workshop
2.2. Expand 340B program scope and access
3.2. Develop resources to support healthy eating for patients after treatment

1.3. Commit to skin cancer screening with mouth and throat
2.3. Explore ways to maximize utility of financial counselors
3.3. Develop resources to promote exercise therapy for patients after treatment
Purpose

Purpose of Assessment

This community needs assessment serves a threefold purpose:

1. To identify cancer-related needs, cancer health disparities and gaps in cancer-related resources within the Wellmont Cancer Institute’s service area

2. To provide the building blocks for continually improving our patient navigation program

3. To complete a community needs assessment within the three-year Commission on Cancer survey cycle. This cycle spans 2014-2016.
About the Wellmont Cancer Institute

The Wellmont Cancer Institute is the leading cancer care provider in Northeast Tennessee and Southwest Virginia. It is composed of three cancer centers, hospital inpatient cancer services and five Wellmont Medical Associates Oncology & Hematology locations.

Wellmont Health System is a not-for-profit system formed in 1996 with the merger of Holston Valley Medical Center and Bristol Regional Medical Center. Both hospitals’ cancer programs were first surveyed and accredited in the early 1980s. Since then, they have been successfully reaccredited every three years by the American College of Surgeons’ Commission on Cancer (CoC).

These hospital cancer programs, supporting services and clinics have grown steadily since their initial accreditations. The Southwest Virginia Cancer Center in Norton is scheduled for its initial survey in 2016.

With the integration of the women’s breast centers, an elevated focus on standardizing cancer care across Wellmont and acclaim for the area’s largest cancer research program and largest group of integrated oncologists and hematologists in the area, the Wellmont Regional Cancer Network became the Wellmont Cancer Institute in 2010.

Representing a comprehensive regional network, the cancer institute covers the entire cancer care continuum, diagnosing and treating more cancers than any other provider in Northeast Tennessee or Southwest Virginia. The academic centers in Nashville and Memphis are the only providers in Tennessee that treat more cancers annually.

The cancer institute’s focus is customer service, quality, improved access and reduced cost of cancer care to its patients. All cancer institute physicians and staff contribute to Wellmont’s Healing Environment philosophy, commitment to curing disease and enhancing the patient experience.
Our cancer centers:

J.D. and Lorraine Nicewonder Cancer Center
Bristol Regional Medical Center
1 Medical Park Blvd. • Bristol, TN
423-844-2360

Christine LaGuardia Phillips Cancer Center
Holston Valley Medical Center
130 West Ravine Road • Kingsport, TN
423-224-5500

Southwest Virginia Cancer Center
671 Hwy. 58 East • Norton, VA
276-679-5874

Our breast centers:

Comprehensive Breast Center in Kingsport
103 W. Stone Drive • Kingsport, TN
423-224-3176

Leonard Family Comprehensive Breast Center in Bristol
1 Medical Park Blvd.
Bristol, TN
423-844-5600

Wellmont Breast Center in Johnson City
316 Marketplace Blvd., Suite 20
Johnson City, TN
423-433-6390

Volunteer Parkway Imaging Center in Bristol
1230 Volunteer Parkway • Bristol, TN
423-764-2566
Wellmont Medical Associates Oncology & Hematology

Practices and Locations

Tennessee
1 Medical Park Blvd. • Bristol, TN
Phone: 423-844-5600
Sue Prill, MD
Certified by the American Board of Clinical Oncology

378 Marketplace Blvd, Suite 10
Johnson City, TN
Phone: 423-928-3020
Paul Kramer, MD
Certified by the American Board of Obstetrics &
Gynecology, specialty in gynecologic oncology
Jamal Maatouk, MD
Certified by the American Board of Internal Medicine, specialty in medical oncology
Myra Blankenship, FNP-BC, APRN

4485 W. Stone Drive, Suite 200
Kingsport, TN
Phone: 276-578-8500
Fadi Abu-Shahin, MD
Certified by the American Board of Internal Medicine, specialty in medical oncology
Marco DaSilva, MD
Certified by the American Board of Internal Medicine, specialty in medical oncology
Edwin McElroy, MD
Certified by the American Board of Internal Medicine, specialty in medical oncology and hematology
Ibrahim Nakhoul, MD
Certified by the American Board of Internal Medicine, specialty in medical oncology and hematology
Asheesh Shipstone, MD
Certified by the American Board of Internal Medicine, specialty in medical oncology and hematology
Paige Goforth, PA
Nancy Smith, NP-C, AOCNP
Wendy Vogel, FNP, AOCNP

Women’s Cancer Services
Paul Kramer, MD
Certified by the American Board of Obstetrics &
Gynecology, specialty in gynecologic oncology
Donna McDonald, CNM

Virginia
349 Island Road • Bristol, VA – New in 2015
Phone: 276-469-4200
Alton Blow Jr., MD
Certified by the American Board of Internal Medicine, specialty in medical oncology
Suzanne Patton, MD
Certified by the American Board of Internal Medicine, specialty in medical oncology
Pierre Ryan, MD
Certified by the American Board of Internal Medicine, specialty in medical oncology and hematology
Harsha Vardhana, MD
Certified by the American Board of Internal Medicine, specialty in medical oncology
Kathy Sharp, MSN, FNP-BC, AOCNP, CCO

671 Highway 58E • Norton, VA
Phone: 276-679-5874
Richard Cambarari, MD
Certified by the American Board of Internal Medicine, specialty in medical oncology
Hayan Moualla, MD
Certified by the American Board of Internal Medicine, specialty in medical oncology and hematology
With a strong competitive advantage, Wellmont is positioned to be the region’s high-quality, low-cost health care provider. With cancer centers in Kingsport, Johnson City and Bristol, as well as in the Virginia cities of Norton and Bristol, our service area covers hundreds of miles in the heart of central Appalachia.

The cancer institute’s service area includes:

**Virginia**
- City of Bristol
- City of Norton
- Buchanan County
- Dickenson County
- Lee County
- Russell County
- Scott County
- Smyth County
- Sullivan County
- Tazewell County
- Washington County
- Wise County

**Tennessee**
- City of Bristol
- Carter County
- Greene County
- Hancock County
- Hawkins County
- Johnson County
- Sullivan County
- Unicoi County
- Washington County
## Cancer Patient Origin

<table>
<thead>
<tr>
<th>County, State</th>
<th>Cancer Patients</th>
<th>%Total</th>
<th>%Cumulative</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sullivan, Tennessee</td>
<td>2,329</td>
<td>33%</td>
<td>33%</td>
</tr>
<tr>
<td>Hawkins, Tennessee</td>
<td>710</td>
<td>10%</td>
<td>44%</td>
</tr>
<tr>
<td>Wise, Virginia</td>
<td>550</td>
<td>8%</td>
<td>51%</td>
</tr>
<tr>
<td>Bristol, Virginia</td>
<td>475</td>
<td>7%</td>
<td>58%</td>
</tr>
<tr>
<td>Scott, Virginia</td>
<td>379</td>
<td>5%</td>
<td>64%</td>
</tr>
<tr>
<td>Lee, Virginia</td>
<td>325</td>
<td>5%</td>
<td>68%</td>
</tr>
<tr>
<td>Washington, Tennessee</td>
<td>319</td>
<td>5%</td>
<td>73%</td>
</tr>
<tr>
<td>Washington, Virginia</td>
<td>305</td>
<td>4%</td>
<td>77%</td>
</tr>
<tr>
<td>Russell, Virginia</td>
<td>278</td>
<td>4%</td>
<td>81%</td>
</tr>
<tr>
<td>Dickenson, Virginia</td>
<td>203</td>
<td>3%</td>
<td>84%</td>
</tr>
<tr>
<td>Smyth, Virginia</td>
<td>193</td>
<td>3%</td>
<td>87%</td>
</tr>
<tr>
<td>Buchanan, Virginia</td>
<td>152</td>
<td>2%</td>
<td>89%</td>
</tr>
<tr>
<td>Tazewell, Virginia</td>
<td>149</td>
<td>2%</td>
<td>91%</td>
</tr>
<tr>
<td>Norton City, Virginia</td>
<td>108</td>
<td>2%</td>
<td>93%</td>
</tr>
<tr>
<td>Greene, Tennessee</td>
<td>102</td>
<td>1%</td>
<td>94%</td>
</tr>
<tr>
<td>Carter, Tennessee</td>
<td>78</td>
<td>1%</td>
<td>95%</td>
</tr>
<tr>
<td>Harlan, Kentucky</td>
<td>42</td>
<td>1%</td>
<td>96%</td>
</tr>
<tr>
<td>Johnson, Tennessee</td>
<td>40</td>
<td>1%</td>
<td>97%</td>
</tr>
<tr>
<td>Unicoi, Tennessee</td>
<td>32</td>
<td>0%</td>
<td>97%</td>
</tr>
<tr>
<td>Hancock, Tennessee</td>
<td>31</td>
<td>0%</td>
<td>97%</td>
</tr>
<tr>
<td>Letcher, Kentucky</td>
<td>23</td>
<td>0%</td>
<td>98%</td>
</tr>
<tr>
<td>All Other</td>
<td>152</td>
<td>2%</td>
<td>100%</td>
</tr>
<tr>
<td><strong>Grand Total 2011-13</strong></td>
<td><strong>6,975</strong></td>
<td><strong>100%</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>

Compiled by the Wellmont Cancer Institute Cancer Registry based on new cases submitted to the National Cancer Database.
### Volume by Cancer Type

<table>
<thead>
<tr>
<th>Cancer Site</th>
<th>New Patients</th>
<th>%Total</th>
<th>%Cumulative</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lung</td>
<td>1,499</td>
<td>21%</td>
<td>21%</td>
</tr>
<tr>
<td>Breast</td>
<td>1,300</td>
<td>19%</td>
<td>40%</td>
</tr>
<tr>
<td>Colon/Rectum</td>
<td>508</td>
<td>7%</td>
<td>47%</td>
</tr>
<tr>
<td>Uterus Corpus and Uterus nos</td>
<td>440</td>
<td>6%</td>
<td>54%</td>
</tr>
<tr>
<td>Prostate</td>
<td>416</td>
<td>6%</td>
<td>60%</td>
</tr>
<tr>
<td>Hodgkins/Non-Hodgkins Lymphoma</td>
<td>297</td>
<td>4%</td>
<td>64%</td>
</tr>
<tr>
<td>Brain/Spinal Cord</td>
<td>253</td>
<td>4%</td>
<td>68%</td>
</tr>
<tr>
<td>Pancreas</td>
<td>212</td>
<td>3%</td>
<td>71%</td>
</tr>
<tr>
<td>Skin Melanoma</td>
<td>206</td>
<td>3%</td>
<td>74%</td>
</tr>
<tr>
<td>Urinary Bladder</td>
<td>186</td>
<td>3%</td>
<td>76%</td>
</tr>
<tr>
<td>Thyroid</td>
<td>180</td>
<td>3%</td>
<td>79%</td>
</tr>
<tr>
<td>Kidney</td>
<td>163</td>
<td>2%</td>
<td>81%</td>
</tr>
<tr>
<td>Esophagus</td>
<td>78</td>
<td>1%</td>
<td>82%</td>
</tr>
<tr>
<td>Larynx</td>
<td>72</td>
<td>1%</td>
<td>83%</td>
</tr>
<tr>
<td>Oropharynx</td>
<td>54</td>
<td>1%</td>
<td>84%</td>
</tr>
<tr>
<td>Lip/Oral Cavity</td>
<td>47</td>
<td>1%</td>
<td>85%</td>
</tr>
<tr>
<td>Liver</td>
<td>47</td>
<td>1%</td>
<td>85%</td>
</tr>
<tr>
<td>Stomach</td>
<td>41</td>
<td>1%</td>
<td>86%</td>
</tr>
<tr>
<td>Soft Tissue Sarcoma</td>
<td>39</td>
<td>1%</td>
<td>87%</td>
</tr>
<tr>
<td>Esophagus</td>
<td>28</td>
<td>0%</td>
<td>87%</td>
</tr>
<tr>
<td>All Other</td>
<td>909</td>
<td>13%</td>
<td>100%</td>
</tr>
</tbody>
</table>

| Grand Total 2011-13                             | 6,975        | 100%   | 100%        |

Compiled by the Wellmont Cancer Institute Cancer Registry based on new cases submitted to the National Cancer Database.
Consistent with National Trends

**Females**  
**United States**

<table>
<thead>
<tr>
<th>Cancer Sites</th>
<th>Count</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>All Sites</td>
<td>3,287,681</td>
<td>100.0%</td>
</tr>
<tr>
<td>Breast</td>
<td>951,494</td>
<td>28.9%</td>
</tr>
<tr>
<td>Lung &amp; Bronchus</td>
<td>439,564</td>
<td>13.4%</td>
</tr>
<tr>
<td>Colon &amp; Rectum</td>
<td>315,498</td>
<td>9.6%</td>
</tr>
<tr>
<td>Uterus Corpus &amp; Uterus nos</td>
<td>196,114</td>
<td>6.0%</td>
</tr>
<tr>
<td>Thyroid</td>
<td>133,382</td>
<td>4.1%</td>
</tr>
</tbody>
</table>

**Males**  
**United States**

<table>
<thead>
<tr>
<th>Cancer Sites</th>
<th>Count</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>All Sites</td>
<td>3,533,120</td>
<td>100.0%</td>
</tr>
<tr>
<td>Prostate</td>
<td>986,615</td>
<td>27.9%</td>
</tr>
<tr>
<td>Lung &amp; Bronchus</td>
<td>509,221</td>
<td>14.4%</td>
</tr>
<tr>
<td>Colon &amp; Rectum</td>
<td>331,772</td>
<td>9.4%</td>
</tr>
<tr>
<td>Bladder</td>
<td>226,709</td>
<td>6.4%</td>
</tr>
<tr>
<td>Melanomas of the Skin</td>
<td>160,374</td>
<td>4.5%</td>
</tr>
</tbody>
</table>

\[^1\] Complied by the North American Association of Central Cancer Registries based on cases included in the combined incidence for the United States.
Services We Provide

The four most common cancers – lung, colon/rectum, prostate and breast – make up half of all cases in the United States.

Unfortunately, our area has some of the nation’s highest rates for smoking, obesity, physical inactivity and alcohol use. These high-risk behaviors, in addition to low rates of recommended screenings, such as mammograms, colonoscopies and prostate exams, have led to high cancer rates in our service area.

We have extensive experience treating:

- Bladder and testicular cancers
- Brain and spine cancers
- Breast cancer
- Bone cancer
- Cervical cancer
- Colon cancer
- Head and neck cancers, such as throat and tongue cancers
- Lung cancer
- Lymphoma, both Hodgkin’s and non-Hodgkin’s
- Ovarian cancer
- Pancreatic cancer
- Prostate cancer
- Skin cancer
- Stomach cancer

Core services include:

- Chemotherapy
- Clinical trials and research
- Genetic testing
- Gynecologic oncology
- Hormone therapy
- Interventional pulmonology
- Nutritional counseling
- Radiation therapy
- Surgical oncology
- Diagnostic testing
- Gastroenterology
- Hematologic oncology
- Neurosurgery
- Interventional radiology
- Oncology rehabilitation
- Pain management
- Palliative care and hospice
- Psychosocial support
- Spiritual support
- Survivorship support
Program distinctions and Centers of Excellence include:

- Seventeen medical oncologists
- Four radiation oncologists
- Targeted therapy and tumor testing services
- Tailored treatment plans
- Treatment conferences
- Lung cancer center of excellence
- Breast cancer center of excellence
- Breast imaging center of excellence
- Patient navigators
- Clinical trials

- Genetics counselor
- TrueBeam STx with Brainlab stereotactic radiosurgery system
- Trilogy linear accelerator
- CyberKnife robotic radiosurgery system
- daVinci surgical system
- Video-assisted thoracoscopic surgery
- Commission on Cancer accreditation
- Electromagnetic navigational bronchoscopy
- National Accreditation Program for Breast Centers
The National Cancer Institute defines cancer health disparities as adverse differences in incidence, prevalence, mortality, survivorship and the burden of cancer or related health conditions that exist among specific populations in the United States. Nationally, from 2007–2011, Tennessee ranked 20th in cancer incidence and seventh in cancer deaths.1 Virginia ranks 45th in cancer incidence and 27th in cancer deaths.2

Contributing to the complexity of ranks and ratings are factors such as race, ethnicity, geography, gender, age, and socioeconomic status.3 Some differences in rates are known, but the identity of specific factors that cause disparities and how these factors are interrelated is not well understood.

A. The counties we serve rank among the lowest in Tennessee and Virginia in several categories related to health and wellness.

Based on data collected by the Robert Wood Johnson Foundation and the University of Wisconsin Population Health Institute, our counties rank among the worst in Tennessee and Virginia in several categories, notably in tobacco use, diet and exercise and quality of care, which is defined in those rankings primarily as having access to regular health screenings. These results are validated by several additional sources.

Many of these rankings are likely tied to those counties’ equally low rankings in several socioeconomic categories such as education, employment and income.
The patients and community leaders interviewed for Wellmont Health System’s needs assessment overwhelmingly believe the access to and quality of local health care is more than adequate. And the quality of the health services provided by Wellmont and other health providers in the region is generally ranked very high, as confirmed by several third-party ratings agencies, as well as publicly reported data.

Clearly, a gap exists between the availability of health services and the disease outcomes that result primarily from modifiable or preventable behaviors. Efforts to promote healthier lifestyles and improve access are critical to improving cancer control in our service area.

B. Our region faces cultural and socioeconomic hurdles that influence our collective health status.

Our service area is steeped in heritage and rich in natural beauty. Unfortunately, many of our traditions aren’t particularly healthy. Traditional southern cooking, for example, is not good for our waistlines or our hearts. Similarly, evidence suggests how, what and how much we eat affects our risk of cancer.

And while the importance of the tobacco industry to our region’s development cannot be denied, tobacco use has serious health implications, especially with regard to lung disease and cancer. Not only is our region one of the highest utilizers of tobacco, lung cancers tend to be diagnosed in later stages.

We want our region to be a great place to live – and live well. So efforts to improve our health status will need to take into account the historical, cultural and environmental factors that influence our health.

For our region – cancer education, awareness and prevention are strategic, but difficult to measure areas for improvement. Moreover, these efforts alone can’t effectively improve health status or cancer outcomes. Old habits are hard to break, and lifestyles are hard to change. That’s why early detection is vitally important and should be emphasized.

C. The uninsured and underinsured are vulnerable populations.

As is the case throughout the country, the uninsured and underinsured populations we serve are at increased health risk, in part due to a lack of primary and preventive care. In turn, those populations can become significant financial concerns when they seek care in high-cost settings like emergency departments with little, if any, ability to pay for those services. The costs of cancer care can be especially crippling because most of the expenses, especially for chemotherapy drugs, are simply unaffordable.
Regional Cancer Care Needs

Identifying and matching cancer health disparities with gaps in cancer-related resources allows us to prioritize needs. It is important to note that disparities in cancer care can exist along the entire cancer care continuum— from primary prevention, to screenings and diagnosis, to treatment and follow-up services. Furthermore, disparities may be more pronounced in one or more areas of the continuum— at prevention or follow up, for example.

In summary, service area disparities noted in the previous section include:

- High rates of tobacco use, inactivity and obesity
- Low rankings in education, employment and income
- Unfavorable disease outcomes that, arguably, stem from modifiable or preventable behaviors
- Presentation of late-stage lung cancers
- High rate of uninsured and underinsured, compounded by the financial strains of cancer care

While one survey cycle is too short to address all disparities and needs, our goal is to continuously improve the navigation program by identifying gaps annually using the needs assessment as a road map or guide. The cancer institute must simplify and prioritize its most pressing needs or gaps. This is to ensure efforts to improve, enhance or correct the opportunities identified are manageable and span the full oncology service line. Consequently, the cancer institute has identified three focus areas that should guide program planning over the next three years.

1. Focus on cancer prevention and screenings

It’s no secret, the earlier we detect and diagnose cancer of any type, the better the outcome and chances of survival. It’s also suggested that early detection lowers the cost of care.

But is survival our best indicator? Though it can be difficult to change behaviors and lifestyle, we can improve the allocation of resources to focus on prevention and early detection, as opposed to treatment, if more screening is, in fact, recommended.

The efficacy of cancer screenings is often debated. In fact, there are several sources of bias that indicate cancer screenings save lives. The most popular is lead time bias where, unfortunately, there can be a perception of longer life after detection due to diagnosing more cases earlier.

More evidence is needed, but what we do know is a person’s relative risk of dying improves when the use of low-dose CT— or LDCT— is compared to chest X-ray for lung cancers. Also, relative risk for breast cancer mortality is lower for those who have screening mammography compared to those who do not.

In general, instead of looking solely at survival, we should focus on reducing mortality.
Improved screening

Given that lung and breast cancers are our top two tumor types, we must enhance our screening efforts. In addition to increasing survival, treatment of patients in later stages of cancer is simply more expensive than treatment in earlier stages. As evidenced in the National Institutes of Health— or NIH—Center to Reduce Cancer Health Disparities Report, overall costs are generally highest for Stages II and III and lower for in situ, Stage I and Stage IV.

For example, one analysis of cancer-related total Medicare payments, which includes only those 65 years of age and older for up to 25 years after the date of colon cancer diagnosis, reveals the long-term costs for Stage II are higher ($34,400) compared to long-term costs for Stage IV ($29,400). However, while initial cancer care costs are higher for patients with Stage IV diagnoses, long-term costs are higher for patients with Stage II diagnoses due to the additional continuing care costs that accumulate over the longer average survival period.8

### Cancer-Related Treatment Cost of Colorectal Cancer

<table>
<thead>
<tr>
<th>Stage</th>
<th>Without Unrelated Costs</th>
</tr>
</thead>
<tbody>
<tr>
<td>In Situ</td>
<td>$28,000</td>
</tr>
<tr>
<td>Stage 1</td>
<td>$32,700</td>
</tr>
<tr>
<td>Stage 2</td>
<td>$34,400</td>
</tr>
<tr>
<td>Stage 3</td>
<td>$41,600</td>
</tr>
<tr>
<td>Stage 4</td>
<td>$29,400</td>
</tr>
</tbody>
</table>

The 2012 Milliman Actuarial Analysis shows the effects of LDCT lung cancer screening on outcomes and cost.

Based on historical trends of lung cancer diagnosis by stage, the cancer institute can improve the percent of patients treated in earlier stages, which should simultaneously lower the overall cost of cancer care.

**The Milliman study demonstrates:**

- **LDCT screening would shift detection from late stages to early stages, resulting in more lung cancer survivors.**
- **LDCT screening would save lives at a lower cost compared to routine screenings for other cancers.**

In fact, studies have shown lung screenings have the lowest cost compared to other cancer screening tests.9

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**Shift in Stage of Diagnosis Due to CT Screening**

<table>
<thead>
<tr>
<th>Stage</th>
<th>Change in number of lung cancer patients diagnosed by Stage 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>434%</td>
</tr>
<tr>
<td>B</td>
<td>-25%</td>
</tr>
<tr>
<td>C</td>
<td>-93%</td>
</tr>
</tbody>
</table>

Shift in Stage of Diagnosis Due to CT Screening

Analysis of lung cancer patient volumes at an academic medical center that sees 5,508 new patients per year; calculations based on 463 new diagnoses of lung cancer.

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---

**Screening Cost Effectiveness**

<table>
<thead>
<tr>
<th>Screening</th>
<th>Cost per life-year saved</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lung CT</td>
<td>$11–26K</td>
</tr>
<tr>
<td>Cervical</td>
<td>$50–75K</td>
</tr>
<tr>
<td>Breast</td>
<td>$31–51K</td>
</tr>
<tr>
<td>Colorectal</td>
<td>$18–28K</td>
</tr>
</tbody>
</table>

Source: Pyenson B et al., “An Actuarial Analysis Shows That Offering Lung Cancer Screening as an Insurance Benefit Would Save Lives at Relatively Low Cost,” Health Affairs 31(4); Oncology Roundtable interviews and analysis.
The Wellmont Cancer Institute supports prevention through early-detection services. The cancer institute also believes it is the right thing to do when understanding disparities that characterize our service area.

### WCI Lung Diagnoses by Stage

<table>
<thead>
<tr>
<th>Stage</th>
<th>CY11-13</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>1%</td>
</tr>
<tr>
<td>1</td>
<td>23%</td>
</tr>
<tr>
<td>2</td>
<td>7%</td>
</tr>
<tr>
<td>3</td>
<td>5%</td>
</tr>
<tr>
<td>4</td>
<td>64%</td>
</tr>
</tbody>
</table>

Source: WCI Cancer Registry

2. **Focus on reducing the financial burden on patients**

An Institute of Medicine – iom report, “Care Without Coverage: Too Little, Too Late,” demonstrated uninsured patients with breast, colorectal or prostate cancer are in poorer health and tend to die prematurely compared to insured patients, primarily due to delayed diagnosis. For example, an uninsured woman with breast cancer faces a 30–50 percent greater risk of dying than an insured woman, and an uninsured person with colorectal cancer has a 50 percent greater chance of dying compared to someone who has private insurance.\(^{11}\)

This trend is also true for other cancers. The NIH Center to Reduce Cancer Health Disparities report suggests having lower numbers of insured patients leads to unstable connections to care, disruptions in care and higher costs due, in part, to cost-related issues and the lack of a primary care provider.

Finally, even for low-income individuals who are insured, cost-sharing and out-of-pocket expenses compromise effective medical care. Based on these assumptions, it could be argued high numbers of uninsured and underinsured patients in our immediate service area correlate to delayed diagnosis and higher mortality.

Fortunately, the cancer institute has not experienced compromised care due to patients’ insurance. As a not-for-profit organization, Wellmont serves all patients, regardless of their ability to pay. However, Wellmont’s percentage of self-pay and indigent patients continues to grow rapidly.

Therefore we see significant financial strains across the entire oncology population, and the costs of chemotherapy and medications in particular are escalating rapidly.

3. **Focus on improving outcomes with an emphasis on survival and modifying behavior**

A lot of attention has been given to the concept of survivorship during the past five years.

Cancer programs across the country and population health management models are increasingly concerned with improving mortality rates and extending life beyond a diagnosis of cancer in a qualitative way.

The National Cancer Institute defines survivorship as focusing on patients’ health and life after cancer treatment. Beyond diagnosis and treatment, survivorship also covers the physical, psychosocial and economic aspects of cancer patients’ lives. And it touches on issues related to their ability to get health care and follow-up treatment, the late effects
of treatment, second cancers and quality of life. Family members, friends and caregivers are also considered part of the survivorship experience.12

Our interest in and focus on survivorship stems from:

- Feedback from our patients
- Poor community health and wellness profiles due to regional patterns of risky behavior
- The fact that modifying behavior improves outcomes
- Disparity in provider and patient follow-up along our cancer care continuum

Once treatment has ended, patient engagement varies greatly.

However, a combination of factors may result in disparities in treatment. Most differences are perhaps due to the distinct characteristics of each patient. Every patient has different circumstances or diseases, preferences or personality traits, and varying levels of support.

At one end of the spectrum are patients actively engaged in their post-treatment journey. For some, a persistent family member will seek out the provider and ask questions such as:

- “What comes next?”
- “At Year 2, should we do something differently?”
- “What about Year 5?”
- “Year 10?”
- “What about diet and exercise?”
- “What about financial support?”

These are important questions for which every patient deserves answers, regardless of their socioeconomic status, personal circumstances or level of engagement.
Therefore, providers must work to ensure all patients benefit from consistent, structured follow-up based on their particular circumstances and receive appropriate care planning for the rest of their lives.

Studies have shown cancer patients across the country tend to receive less direction and support after their treatment has been completed. Moreover, resources are more heavily distributed at the beginning of and during treatment than the end.

Our own patient navigation model reflects this pattern. Resources tend to be focused on treatment because of the complexity and multidisciplinary nature of cancer care.

However, we have found the end of treatment is arguably when the most support and resources are needed. The completion of treatment is a milestone, not an endpoint. The journey through—or fight to beat and outlive—cancer is perpetual. We must help patients understand the lifestyle choices and behaviors, as well as create care plans specific to each one’s circumstance and disease.

The cancer institute’s focus on survivorship is simply the right thing to do for patients and their families. Any effort to modify bad habits, improve lifestyle and remove barriers after treatment will improve a person’s quality of life, and we encourage all cancer institute patients to engage and actively participate in their post-treatment care plans.

Living long is the result of living well. At the Wellmont Cancer Institute, we encourage all patients to live well, especially after they’ve finished their treatment.
Priority and Resource Profile

Priorities & Resources

Nurse navigator roles and responsibilities are dependent upon tumor type, care settings and each navigator’s expertise and physician relationships.

We have five dedicated nurse navigators and one clinical nurse specialist, each with an average of 10 years experience. Each hospital oncology program has a dedicated lung and breast navigator.

A number of opportunities were identified by our navigators, many of which have already been addressed or committed to this year.

The consensus among our navigators regarding disparities was reinforced by:

- The cancer care needs revealed by the community profile
- The hospital needs assessment Wellmont conducted in 2013

For the most part, interviews with our cancer care nurse navigators indicated the cancer institute is extremely proficient at diagnosis and treatment. However, they noted screening and follow up need greater emphasis.

To move forward with improving our screening and follow-up practices we will undoubtedly need our navigators’ involvement and expertise.

To summarize, there is a perception that disparities along the cancer institute’s continuum of care are greatest at screening or early detection and post-treatment follow up. Therefore, our priorities and improvement efforts over the next three years should be focused on these phases of care.

1.1. Lung and breast cancer screening

Lung and breast cancer are prevalent in our region. Treatment outcomes have improved, but incidence and mortality rates remain higher than desired.

There is overwhelming evidence supporting LDCT lung screening for patients meeting certain high-risk criteria, as its radiation exposure is lower than traditional mammography. For lung patients, tomosynthesis is now being discussed as an even lower-cost alternative. Not only were cancer detection results for tomosynthesis similar to those of LDCT, researchers also noted a three-fold improvement of tomosynthesis over chest X-ray.

Additionally, the effective radiation dose of a tomosynthesis scan is roughly 0.13 mSv, compared to an effective dosage of 2 mSv for an LDCT scan. This approach is better for patients concerned about radiation exposure. Additionally, a tomosynthesis scan can cost a fifth of what an LDCT scan costs on the same health insurance plan.13

To more effectively diagnose and treat lung conditions or cancers, an effective lung nodule or screening program is vital. The lung nodule clinic is complemented by technologies including video-assisted thorascopic surgery, the da Vinci robotic surgery system and electromagnetic navigational bronchoscopy, also known as SuperD.
The clinical efficacy of breast cancer is proven, but we strive to better maximize its potential. In 2003, we met the Healthy People target to increase to 70 percent the proportion of women aged 40 and older who have had a mammogram within the past two years. We met this target in 2003, but the rate dropped to 67 percent in 2005 and remained there through 2010.

New targets recommended by Healthy People 2020 are limited to women ages 50–74. The 2008 baseline for this age group was 74 percent. Healthy People 2020 calls for a 10 percent improvement to 81 percent. Locally, mammogram rates trail the national average; Tennessee has some work to do. Fortunately, similar to lung screening, we have the technological and staffing resources in place to influence and measure improvement.

1.2. Hereditary colon cancer

In recent years, the cancer institute has seen more pronounced growth in colorectal cancers than any other type of cancer. It is now the fourth largest treated site reported in the tumor registry.

Though this increase in colorectal cases cannot be explained at this time, there have been significant recent scientific advancements regarding tumor testing and genetic predisposition for colorectal cancers that allow us to deal with this cancer proactively. In fact, with the only on-site genetics counselor and genetics testing program in the region, we are positioned to effectively deal with this cancer before it even starts. (Illustration 1)

<table>
<thead>
<tr>
<th>Screening &amp; Risk Factors: Women’s Health (2012)</th>
<th>Tennessee</th>
<th>USA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Had a mammogram in the past two years, ages 50–74</td>
<td>77.0</td>
<td>78.7</td>
</tr>
</tbody>
</table>
1.3. Skin cancer screening

Over the past three years, the cancer institute has committed to a mouth and throat cancer screening during the Food City 500 at Bristol Motor Speedway, one of NASCAR’s most celebrated and well-attended racing events. The justification for the screening is largely based on:

- The right target market or audience (high tobacco users/low income)
- Low cost to screen and marginal resources involved
- Quick and easy delivery
- Immediate feedback and results

The impact and community benefit of this event has been recognized and has proven its worth. The same concept could easily be applied to skin cancer screening. Skin cancer is another cancer type that can be arguably eradicated by modifying behavior. Based on cancer registry volumes, melanoma ranks eighth on the priority index and is now tied with breast and gynecologic cancers. (Illustration 2)

No cancer or effort to curb the incidence of cancer is more creditable or carries more weight than another. However, we do operate under resource limitations that require us to commit to things that can be justified in terms of cost, quality and outcomes. Recognizing this need, we would commit to a skin cancer screening in tandem with our annual mouth and throat cancer screening as both opportunities meet the same justification criteria.

2.1. Patient Assistance Fund

There has been a tremendous grassroots effort by the cancer institute over the last three years to financially assist patients who meet certain needs criteria. With a focus on psychosocial support, the cancer institute employed masters-prepared social workers dedicated solely to our oncology patients to monitor distress.

A cancer institute quality study kicked off in 2012 focused on the effective integration of supportive and psychosocial services into our oncology service line. With the hiring of dedicated social workers, a process was defined to integrate and monitor on-site distress and referral for the provision of psychosocial services. The National Comprehensive Cancer Network distress screening tool was incorporated into our electronic medical record to evaluate our patients’ levels of distress and the areas they most need assistance.

These support staff are vital to delivering comprehensive quality care but we are not compensated for it. Thorough cost/benefit analysis is necessary to sustain them. In a 2014 survey published by the Association of Community Cancer Centers – or ACCC –, one of the trends highlighted was the financial strain of support staff. It is simply cost prohibitive for most programs to commit resources to nurse navigators, social workers, genetics counselors, registered dieticians, survivorship programming, physical rehabilitation programming, support groups, financial counselors, palliative care and other ancillary services.
In fact, the ACCC found one of the newest trends is programs spending just as much or more on support staff as on medications. In most cases, the cost of medications is reimbursed but not the cost of key support staff. (Illustration 3)

We confirmed the No. 1 stressor in our patient population is financial burden. Phase II of this process, which evolved into one of our 2013 performance improvement projects, was to validate the work our social workers perform by demonstrating whether our average patient distress rating was improving from the beginning of treatment to the end of treatment.

Illustration 4 shows financial assistance to be our highest referral request.

The patient assistance fund was created to help reduce the financial burdens our patients face. The study later profiled how assistance funds were being used. Clearly, medication assistance is a growing need, and financial assistance in general continues to grow quarterly.

The cancer institute reports patient assistance fund growth and usage to the cancer committee each quarter, as seen in Illustration 5.

Detailed in Illustration 6 is the average spend per month by quarter. The Wellmont Cancer Institute is on track to give patients over $70,000 in financial assistance in 2014.

The ACCC reports similar trends nationally. The majority of programs today also have a philanthropic process to help patients with unmet financial needs. The cancer institute consistently develops creative ways to meet the ongoing need for support. (Illustration 7)
<table>
<thead>
<tr>
<th>Cancer Site</th>
<th>CY11</th>
<th>CY12</th>
<th>CY13</th>
<th>Grand Total</th>
<th>Vol. Rank</th>
<th>CY11-13% Change</th>
<th>% Change Rank</th>
<th>Total Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>Colon/rectum</td>
<td>136</td>
<td>186</td>
<td>186</td>
<td>508</td>
<td>3</td>
<td>37%</td>
<td>6</td>
<td>1</td>
</tr>
<tr>
<td>Uterus corpus &amp; uterus nos</td>
<td>135</td>
<td>136</td>
<td>169</td>
<td>440</td>
<td>4</td>
<td>25%</td>
<td>8</td>
<td>2</td>
</tr>
<tr>
<td>Thyroid</td>
<td>46</td>
<td>64</td>
<td>70</td>
<td>180</td>
<td>11</td>
<td>52%</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Breast</td>
<td>406</td>
<td>397</td>
<td>497</td>
<td>1,300</td>
<td>2</td>
<td>22%</td>
<td>11</td>
<td>4</td>
</tr>
<tr>
<td>Pancreas</td>
<td>54</td>
<td>85</td>
<td>73</td>
<td>212</td>
<td>8</td>
<td>35%</td>
<td>7</td>
<td>5</td>
</tr>
<tr>
<td>Lung</td>
<td>471</td>
<td>493</td>
<td>535</td>
<td>1,449</td>
<td>1</td>
<td>14%</td>
<td>16</td>
<td>7</td>
</tr>
<tr>
<td>Melanoma of the skin</td>
<td>65</td>
<td>63</td>
<td>78</td>
<td>206</td>
<td>9</td>
<td>20%</td>
<td>12</td>
<td>8</td>
</tr>
<tr>
<td>Stomach</td>
<td>9</td>
<td>19</td>
<td>13</td>
<td>41</td>
<td>18</td>
<td>44%</td>
<td>4</td>
<td>9</td>
</tr>
<tr>
<td>Kidney</td>
<td>48</td>
<td>56</td>
<td>59</td>
<td>163</td>
<td>12</td>
<td>23%</td>
<td>10</td>
<td>10</td>
</tr>
</tbody>
</table>

**Illustration 1**

<table>
<thead>
<tr>
<th>Cancer Site</th>
<th>Grand Total</th>
<th>Volume Quartile</th>
<th>1 year %Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Breast</td>
<td>1,300</td>
<td>1</td>
<td>25%</td>
</tr>
<tr>
<td>Melanoma of the skin</td>
<td>206</td>
<td>1</td>
<td>25%</td>
</tr>
<tr>
<td>Uterus corpus &amp; uterus nos</td>
<td>440</td>
<td>1</td>
<td>25%</td>
</tr>
<tr>
<td>Hodgkins/Non-Hodgkins Lymphoma</td>
<td>297</td>
<td>1</td>
<td>18%</td>
</tr>
<tr>
<td>Prostate</td>
<td>416</td>
<td>1</td>
<td>11%</td>
</tr>
<tr>
<td>Lung</td>
<td>1,499</td>
<td>1</td>
<td>9%</td>
</tr>
<tr>
<td>Colon/rectum</td>
<td>508</td>
<td>1</td>
<td>0%</td>
</tr>
</tbody>
</table>
Social Work Referrals

<table>
<thead>
<tr>
<th>Referral requests</th>
<th>Number of referrals</th>
<th>Percent of referrals</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spiritual and religious assistance</td>
<td>3</td>
<td>1%</td>
</tr>
<tr>
<td>Medical supplies</td>
<td>3</td>
<td>1%</td>
</tr>
<tr>
<td>Advanced directives</td>
<td>11</td>
<td>2%</td>
</tr>
<tr>
<td>Medication assistance</td>
<td>12</td>
<td>2%</td>
</tr>
<tr>
<td>Insurance assistance</td>
<td>30</td>
<td>7%</td>
</tr>
<tr>
<td>Transportation</td>
<td>37</td>
<td>8%</td>
</tr>
<tr>
<td>Declined help</td>
<td>37</td>
<td>8%</td>
</tr>
<tr>
<td>Emotional support</td>
<td>53</td>
<td>12%</td>
</tr>
<tr>
<td>Financial assistance</td>
<td>105</td>
<td>23%</td>
</tr>
<tr>
<td>Referral</td>
<td>167</td>
<td>36%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>458</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>


Patient Assistance Fund – 2014 YTD

$27,742.43

- Gas Cards: 27%
- Electric Bill: 42%
- Gas Bill: 1%
- Utilities: 5%
- Medications: 6%
- Rent / Mortgage: 13%
- Car: 2%
- Phone: 1%
- Home Health: .25%
- Lodging: .5%
- Medical Supplies: 1%

Illustration 5
2.2. Cost of chemotherapy

As mentioned, chemotherapy is the most costly component of care across the entire health system. If there are any barriers to compliance (the cost of oral chemotherapy, for example), patients and outcomes suffer. Patients routinely need financial assistance to complete treatment, even those who are fully insured.

The cancer institute will work to create an environment where the cost of medications is curbed, and savings are passed on directly to our patients, such as The Federal 340B Drug Discount Program.

Illustration 8

2.3. Heightened awareness of financial counseling

The cancer institute can’t emphasize enough the importance of patients’ peace of mind regarding their ability to pay for treatment.

Out-of-pocket expenses often determine adherence to treatment plans for oncology patients. Cancer costs have rapidly grown in recent years due to more advanced treatment options and increasing drug prices. Annual costs for cancer care are about $107 billion, which accounts for 20 percent of all health care costs. These statistics reflect why there is a need for financial advocacy in oncology.

According to a new study from Duke University, the average cancer patient pays $1,266 out of pocket every month for care. It has been proven patients with higher copayments were 70 percent more likely to stop taking their cancer treatment and 42 percent more likely to skip doses. In addition to copays and coinsurance/out-of-pocket responsibilities, most chemotherapy given today requires additional medications to help control the side effects of treatment.
These can cost another $2–300 per month. This is where financial advocacy is critical for oncology patients.

We have found the majority of patients are not aware that financial counseling services are available to them or what they entail. Financial advocates can help patients in many ways, such as getting prior authorization from their insurance companies, confirming medical necessity, finding assistance with foundations, obtaining pharmaceutical copay cards and applying for free drugs for qualifying patients.

Improving awareness and adding more structure to financial counseling services will ease the burden and, ultimately, improve outcomes. By helping patients obtain assistance and/or improving awareness of their options for assistance, financial burdens will decrease, resulting in improved adherence to treatment plans. (Illustrations 9 and 10)

3a. Structured survivorship program

Survivorship care plans – or scps – are no longer just a buzzword in oncology. We understand the need to focus on the health and life of a person with cancer after treatment. Today, survivorship is a gap in most programs, even academic centers. As mentioned previously, key support staff who are vital to effective delivery of comprehensive cancer care are, unfortunately, a tremendous financial burden because their services are not currently reimbursed. Nevertheless, the cancer institute is blessed to provide these services at no additional cost to the patient. However, there is more work to do with survivorship programming. (Illustration 11)

$ FINANCIAL ADVOCACY—
a Growing Field

- Ninety percent of programs now offer financial assistance services.
- Eight-four percent of programs have financial specialists on staff; 26 percent have hired reimbursement specialists. Only 10 percent report using nurse navigators and 6 percent report using social workers to perform these services.
- Only 14 percent of programs use third-party commercial financial assistance specialists that charge for services.

Illustration 9

Often debated is whose responsibility is it to create, deliver and monitor the scp for each patient. Is it best for the oncology specialist, the primary care physician, the physician extender or a nurse specialist to manage? What about the format, content and delivery of the scp? What is manageable and not too overwhelming for both the provider and the patient? Of the litany of survivorship care plan resources available to providers, which one is the best? Should this process be limited to certain tumor types?

The March/April 2013 issue of ca: A Cancer Journal for Clinicians, “Lost in Translation” article made 10 recommendations that focused on improving quality of life for survivors. Few cancer programs adopted the recommendations, mostly because doing so would have required new staffing and education they could not afford. It was reported that only 43 percent of nci cancer centers deliver scps to their breast or colorectal cancer survivors and, of that 43 percent, none had plans that included all of the components recommended by the Institute of Medicine – or iom – report.

The number of survivors will continue to grow at such a rate that oncologists cannot keep pace, so it’s inevitable that more primary care physicians will be involved in the long-term follow up care of cancer patients. The need for scps cannot be denied; the hurdle is the feasibility of implementing them.

3b. Promote healthy eating for patients post treatment

Dietitians encourage patients to make healthy choices to help prevent all types of cancer. The American Institute for Cancer Research has guidelines for these healthy choices, which include eating a healthy, plant–based diet, limiting alcohol consumption, achieving and maintaining a healthy body weight and becoming and remaining physically active. Additionally, obesity has been linked to a higher risk for certain types of cancer, so weight maintenance is very important.

Over the past year, with the hiring of two registered dietitians dedicated solely to the cancer service line, there have been numerous improvements in managing patients’ nutrition. In addition to sharpening our referral process, the cancer institute initiated a recipe of the month at all locations in October 2014, for patients, family members and caregivers.
We also initiated a nutrition supplement sample program at our cancer centers. Dietitians can order supplement samples and provide those to patients to see what the patients would like to try while under treatment. The next advancement is to focus more on registered dietitian services post-treatment. Currently they’re limited to patients undergoing treatment.

3c. Promote exercise therapy for patients post-treatment

Cancer survivors’ daily activities are often limited due to pain, cancer-related fatigue and musculoskeletal impairments. Patients experiencing these limitations can benefit from exercise, especially after completing cancer treatment.

Rehabilitation professionals are also key to helping these patients adopt a healthy lifestyle. Many times, cancer survivors believe they cannot participate in an exercise program because of the physical limitations they have developed. A rehabilitation provider can design an individualized exercise prescription that may improve the survivor’s capabilities and can also be performed in spite of any limitations that may be present.

Cancer-related fatigue – or CRF – is reported as the most common and distressing side effect of cancer treatment, affecting 70–100 percent of the cancer population. CRF is defined as a distressing, persistent, subjective sense of physical, emotional and/or cognitive tiredness or exhaustion related to cancer or cancer treatment that is not proportional to recent activity and interferes with normal daily function.21

Exercise has also been shown to reduce CRF. Those who become weak or deconditioned should be referred to rehabilitation to achieve their maximum functional status.22

Cochrane Review found exercise was statistically more effective than control in treating CRF.23-24 Guidelines for CRF from the NCCN include maintaining an optimal level of activity, endurance and resistance training, as well as considering physical or occupational therapy.25

Illustration 12

1.1. Develop lung nodule clinic and breast cancer screening demonstration project

Our need and justification for a structured lung screening or nodule clinic is clear: It saves lives and reduces costs. The cancer institute is in early program development and will spend the next planning period initiating and promoting this value-added service.

With a new electronic medical record and with supportive/consenting employees, Wellmont could take the lead in bridging the gap compared to state mammography rates. One possible demonstration project could be an employer-sponsored plan applicable to women of the appropriate age for screening and employed by Wellmont. The goal would be 100 percent annual breast screening compliance of all enrollees. The cancer institute could facilitate this grassroots campaign next October to move the needle on mammography rates and breast cancer awareness.

1.2. Hereditary colon cancer workshop

The primary goal is to prevent colon cancer in families with a hereditary predisposition (who have, approximately, an 80 percent lifetime risk). Individuals with a known genetic hereditary colon cancer mutation and their families will be invited to attend two educational meetings within a one-year planning horizon. The goal would be, after providing focused education, to determine the change in their understanding of risk and to collect information about changes in behavior, such as scheduling a colonoscopy, choosing to do genetic testing, implementing diet recommendations or sharing genetic risk with relatives. This project will serve as a catalyst to develop colorectal cancer support group that currently does not exist in our region.

1.3. Commit to skin cancer screening with annual mouth and throat cancer screening

The September/October 2014 issue of Oncology Issues outlined a business model for community skin cancer screenings. The cancer institute’s long-term goal is to employ something similar in our community. In the near term, resources are immediately available to add the skin cancer screening to our mouth and throat cancer screening effort at Bristol Motor Speedway.

2.1. Develop innovative ways of creating ongoing support for our patient assistance fund

The cancer institute will annually commit to developing new philanthropic cash flows to support the patient assistance fund. We will look for a stream as impactful and seamless as the employee giving campaign, which generated $64,239.59 for the cancer patient assistance fund in 2014.

2.2. Expand 340B program scope and access

In this planning period, the cancer institute will perform the due diligence required to uncover drug cost savings to pass on to our patients. Our 340B strategy will continue to focus on passing savings directly to our patients.
2.3. Explore ways to maximize the utilization of financial counselors

The September/October 2014 edition of Oncology Issues highlighted the complexity of financial navigation but, more importantly, challenged traditional concepts of delivering financial counseling services. Over the planning period, the cancer institute wants to assess how we deliver financial counseling and advance the program into an effective next-generation financial navigation service. Initially, our new patient packets will include an overview of the financial services and assistance offered by our financial counselors. Moreover, every patient will see a financial counselor at their first office visit or chemotherapy education visit and before any new treatment plan is started.

3.1. Compile documented care plans for every patient who finishes treatment

The cancer institute does not want its patients finishing treatment without understanding clearly what their next steps should be. Preliminary planning is underway among cancer institute nurse practitioners to deliver structured care plans to every patient who finishes treatment. Over the course of the entire planning period, we will evolve our currently documented care plans for each patient to reflect a comprehensive clinic model that truly supports survivors.

3.2. Develop resources to support healthy eating for patients after treatment

At all cancer institute locations, patients are followed closely during treatment by registered dietitians who are readily accessible to help manage nutrition. After treatment is completed, patients and family members are encouraged to contact the oncology dietitians in case nutrition problems arise. Additionally, the cancer institute maintains cancer support groups whereby dietitians routinely discuss nutrition topics. However, more post-treatment work needs to be done. Over the next planning period, dietitians will elevate their involvement in post-treatment services and work with cancer institute nurse practitioners to develop a clinic that will address all survivorship needs.

3.3. Develop resources to promote exercise therapy for patients after treatment

Since crf is one of the most prevalent side effects of cancer treatment, and exercise is such a strong component in treating crf, it would be beneficial for the cancer institute to develop a structured rehabilitation program especially for survivors who have completed cancer treatment and are struggling with limitations to their daily activities or involvement in the community due to crf.

This program would also assist survivors in maintaining a healthy lifestyle. Over the planning period, the cancer institute will work with rehabilitation to identify a setting, referral process, evaluation method, plan of care, treatment frequency and program duration. Cancer survivors may sometimes be hesitant to begin exercising, especially independently and/or in a community gym. The cancer institute is positioned to move this concept forward to complement the survivorship program.
In the United States, melanoma is the fifth-most common cancer in men and the seventh in women. It is also the most commonly fatal form of skin cancer. Estimates for 2014 suggest 76,100 invasive melanomas will be diagnosed in the United States, and melanoma could claim 9,710 lives.

The incidence of melanoma is increasing faster than any other potentially preventable cancer in the country. There are four major subtypes for the disease: superficial spreading (the most common), lentigomaligna, nodular melanoma and acrallentiginous (the least common).

The optimal technique for lesions suspected to be melanoma is an excisional biopsy with a 1–2 mm rim of normal-appearing skin radially, along with a cuff of subdermal fat. The definitive surgical treatment for a non-metastatic disease is wide local excision down to the deep fascia. Lymphatic mapping and sentinel lymph node biopsy are indicated for melanomas with a thickness of at least 0.75 mm and in those with high-risk features regardless of the thickness.

Patients with positive sentinel lymph node biopsy should have a completion lymph node dissection. These patients should also be considered for adjuvant therapy with interferon alpha for one year if life expectancy is more than 10 years, in the absence of serious comorbidities.

The primary systemic therapy approaches for patients with metastatic melanoma are immunotherapy (high-dose interleukin 2, Ipilimumab) and target therapy. The two modalities have not been compared to each other in randomized trials. The appropriate choice and sequence of treatments is based on the extent of disease, performance status, comorbidities and molecular characteristics of the tumor. Chemotherapy is not generally very effective in this disease, but can be used in some cases.

Radiation therapy rarely has a role in the primary management for melanoma. It can also be used as adjuvant therapy after surgery for patients with high risk of recurrence such as positive margins or lymph node involvement, but this approach has not been shown to improve overall survival.

Five-year survival rates for people with melanoma depend on the stage of the disease at the time of diagnosis. Survival rates decline steadily as the tumor thickness and disease stage increase. Most patients with thin Stage I lesions
can expect prolonged disease-free survival—and even cure—while those with thicker, later stage lesions (e.g., > 2.0 mm) are more likely to die from metastatic disease. On an individual basis, a man’s lifetime risk of dying from melanoma is 0.36 percent, compared to 0.21 percent for women.

The cancer institute’s melanoma outcomes are consistent with national trends and standards. Between 2008 to 2012, 340 melanoma cases were diagnosed; 199 cases were male and 141 were female (Illustration 1a). More than half the cases were in patients 60 years old and older (Illustration 1b).

More than half the cases were diagnosed at early stages (Stage 0 and Stage 1) (Illustration 2).
The most common site of the disease was the upper limbs, accounting for about a third of the cases. The vast majority of cases were treated with wide local excision, and the guidelines for lymphatic mapping were applied. The scope for surgical treatment and regional lymph node management is illustrated in the graph below (Illustration 3 and 4).

Of the patients diagnosed with metastatic melanoma, fewer than half could be treated with systemic therapy due to variable factors, including comorbidities.

The number of patients with Stage 4 disease who received immunotherapy or any of the new target therapies (like ipilimumab, vemurafenib, dabrafenib or trametinib) was as follows:

20 Stage 4 patients between 2008–2012
- Eleven had no further treatment (not recommended, comorbidities, age, etc.)
- Five received Temodar
- Two received Interferon (one of which received treatment at both Holston Valley Medical Center and Bristol Regional Medical Center, which was reported for both facilities)
- One received Venurufinib

The five-year overall survival for all stages is illustrated in Illustration 5).
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